

# ENGINEERING SPECIFICATION

SECURITY NOTATION

SPEC. NO. IT7517800

L

CAGE CODE 55939

REV LTR

| REV LTR | TEST NO. | SPECIFICATION    |   |                                                                                                                                                          | PROCEDURE  |   |                                                                                                           | SPECIFICATION    |
|---------|----------|------------------|---|----------------------------------------------------------------------------------------------------------------------------------------------------------|------------|---|-----------------------------------------------------------------------------------------------------------|------------------|
|         |          | OPR LIMITS       | C | TEST DESCRIPTION                                                                                                                                         | SWITCH POS | C | WORK STEPS                                                                                                | MFG LIMITS       |
| L       | 22.5     | 2AAAAAAA<br>0000 |   | Verify the data words were received without errors.<br><br>Apply ARINC 429 signal to Air Data #1 429 bus (P1A-7H/7J) and Air Data #1 575 bus (P1-6H/6J). |            |   | The two data words on the PC display shall be as specified.<br><br>Type on the PC:<br>"<ESC>"<br>"AR 4 H" | 2AAAAAAA<br>0000 |
| L       | 22.6     | 2AAAAAAA<br>0000 |   | Verify the data words were received without errors.<br><br>Apply ARINC 429 signal to Control Data Port A bus (P1A-7A/7B).                                |            |   | The two data words on the PC display shall be as specified.<br><br>Type on the PC:<br>"<ESC>"<br>"AR 5 H" | 2AAAAAAA<br>0000 |
| L       | 22.7     | 2AAAAAAA<br>0000 |   | Verify the data words were received without errors.<br><br>Apply ARINC 429 signal to Maintenance Data Input bus (P1B-6A/6B).                             |            |   | The two data words on the PC display shall be as specified.<br><br>Type on the PC:<br>"<ESC>"<br>"AR 6 H" | 2AAAAAAA<br>0000 |
| L       | 22.8     | 2AAAAAAA<br>0000 |   | Verify the data words were received without errors.<br><br>Apply ARINC 429 signal to Mode S Address Input bus (P1B-3F/3G).                               |            |   | The two data words on the PC display shall be as specified.<br><br>Type on the PC:<br>"<ESC>"<br>"AR 7 H" | 2AAAAAAA<br>0000 |
| L       | 22.9     | 2AAAAAAA<br>0000 |   | Verify the data words were received without errors.<br><br>Apply ARINC 429 signal to Air Data #2 429 bus (P1B-5A/5B) and Air Data #2 575 bus (P1-5C/5D). |            |   | The two data words on the PC display shall be as specified.<br><br>Type on the PC:<br>"<ESC>"<br>"AR C H" | 2AAAAAAA<br>0000 |

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|                           |                  |               |                   |                                                                                                                           | CAGE CODE 55939     |   | REV LTR                                                                                                    |                  |  |
| EV TR                     | TEST NO.         | SPECIFICATION |                   |                                                                                                                           | PROCEDURE           |   |                                                                                                            | SPECIFICATION    |  |
|                           |                  | OPR LIMITS    | C                 | TEST DESCRIPTION                                                                                                          | SWITCH POS          | C | WORK STEPS                                                                                                 | MFG LIMITS       |  |
| 22.10                     | 2AAAAAAA<br>0000 |               |                   | Verify the data words were received without errors.<br><br>Apply ARINC 429 signal to Control Data Port B bus (PIA-7E/7F). |                     |   | The two data words on the PC display shall be as specified.<br><br>Type on the PC:<br>"<ESC>"<br>"AR D H"  | 2AAAAAAA<br>0000 |  |
| 22.11                     | 2AAAAAAA<br>0000 |               |                   | Verify the data words were received without errors.<br><br>Apply ARINC 429 signal to PDL Data Input bus (J1-1/2).         |                     |   | The two data words on the PC display shall be as specified.<br><br>Type on the PC:<br>"<ESC>"<br>"AR E H"  | 2AAAAAAA<br>0000 |  |
| 22.12                     | 2AAAAAAA<br>0000 |               |                   | Verify the data words were received without errors.<br><br>Apply ARINC 429 signal to ADS Input bus (PIB-6J/7K).           |                     |   | The two data words on the PC display shall be as specified.<br><br>Type on the PC:<br>"<ESC>"<br>"AR 10 H" | 2AAAAAAA<br>0000 |  |
| 22.13                     | 2AAAAAAA<br>0000 |               |                   | Verify the data words were received without errors.<br><br>Apply ARINC 429 signal to ADL Data Input bus (PIA-6C/6D).      |                     |   | The two data words on the PC display shall be as specified.<br><br>Type on the PC:<br>"<ESC>"<br>"AR 11 H" | 2AAAAAAA<br>0000 |  |
| 22.14                     | 2AAAAAAA<br>0000 |               |                   | Verify the data words were received without errors.<br><br>Apply ARINC 429 signal to PDL Data Input bus (J1-1/2).         |                     |   | The two data words on the PC display shall be as specified.<br><br>Type on the PC:<br>"<ESC>"<br>"AR 12 H" | 2AAAAAAA<br>0000 |  |

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NO.** IT7517800

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**CAGE  
CODE** 55939**REV LTR**

| REV<br>LTR | TEST<br>NO. | SPECIFICATION    |                                                                                                                                                                                                                                                                                                        | PROCEDURE  |                                                                                                                                                                                                                                                          | SPECIFICATION    |
|------------|-------------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
|            |             | OPR LIMITS       | C TEST DESCRIPTION                                                                                                                                                                                                                                                                                     | SWITCH POS | C WORK STEPS                                                                                                                                                                                                                                             | MFG LIMITS       |
| L          | 22.<br>15   | 2AAAAAAA<br>0000 | Verify the data words<br>were received without<br>errors.<br><br>Transmit ARINC 429 words<br>at default transmitter<br>speeds.<br><br>Set the ARINC 429 test<br>set receive default<br>labels.<br><br>Connect ARINC 429 test<br>set (receiver) input to<br>COMM A/B Output to ADLP<br>bus (P1B-5E/5F). |            | The two data words on<br>the PC display shall<br>be as specified.<br><br>Type on the PC:<br>"<ESC>"<br>"AL 55555555"<br><br>Set JC AIR to receive<br>label 252<br><br>Connect the ARINC 429<br>test set (receiver)<br>input to DATA LINK OUT<br>A/B bus. | 2AAAAAAA<br>0000 |
|            | 22.<br>16   | D55555           | Verify ARINC 429 data is<br>received correctly.<br><br>Connect ARINC 429 test<br>set (receiver) input to<br>XT Coordination bus<br>(P1A-5G/5H).                                                                                                                                                        |            | The ARINC test set<br>Data shall be as<br>specified.<br><br>Connect the ARINC 429<br>test set (receiver)<br>input to XT COORD A/B<br>bus.                                                                                                                | D55555           |
|            | 22.<br>17   | D55555           | Verify ARINC 429 data is<br>received correctly.<br><br>Connect ARINC 429 test<br>set (receiver) input to<br>COMM C/D Output to ADLP<br>bus (P1A-2E/2F).                                                                                                                                                |            | The ARINC test set<br>Data shall be as<br>specified.<br><br>Connect the ARINC 429<br>test set (receiver)<br>input to COM C/D OUT<br>A/B bus.                                                                                                             | D55555           |
|            | 22.<br>18   | D55555           | Verify ARINC 429 data is<br>received correctly.<br><br>Connect ARINC 429 test<br>set (receiver) input to<br>DGPS Data Output bus<br>(P1A-2G/2H).                                                                                                                                                       |            | The ARINC test set<br>Data shall be as<br>specified.<br><br>Connect the ARINC 429<br>test set (receiver)<br>input to DGPS OUT A/B<br>bus.                                                                                                                | D55555           |

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| REV LTR | TEST NO. | SPECIFICATION |   |                                                                                         | PROCEDURE  |   |                                                                            | SPECIFICATION |
|---------|----------|---------------|---|-----------------------------------------------------------------------------------------|------------|---|----------------------------------------------------------------------------|---------------|
|         |          | OPR LIMITS    | C | TEST DESCRIPTION                                                                        | SWITCH POS | C | WORK STEPS                                                                 | MFG LIMITS    |
| K       | 22.19    | D55555        |   | Verify ARINC 429 data is received correctly.                                            |            |   | The ARINC test set Data shall be as specified.                             | D55555        |
|         | 5        |               |   | Connect ARINC 429 test set (receiver) input to PDL Data Output bus (J1-8/9).            |            |   | Connect the ARINC 429 test set (receiver) input to PDL OUT bus.            |               |
| L       | 22.20    | D55555        |   | Verify ARINC 429 data is received correctly.                                            |            |   | The ARINC test set Data shall be as specified.                             | D55555        |
|         | 15       |               |   | Connect ARINC 429 test set (receiver) input to ADL Data Output bus (PIA-6E/6F).         |            |   | Connect the ARINC 429 test set (receiver) input to ADL OUT bus.            |               |
| L       | 22.21    | D55555        |   | Verify ARINC 429 data is received correctly.                                            |            |   | The ARINC test set Data shall be as specified.                             | D55555        |
|         | 25       |               |   | Set the ARINC 429 test set to default label.                                            |            |   | Set JC AIR to receive low speed data.                                      |               |
|         | 30       |               |   | Connect ARINC 429 test set (receiver) input to Maintenance Data Output bus (PIB-6C/6D). |            |   | Connect the ARINC 429 test set (receiver) input to MAINT DATA OUT A/B bus. |               |
| L       | 22.22    | D55555        |   | Verify ARINC 429 data is received correctly.                                            |            |   | The ARINC test set Data shall be as specified.                             | D55555        |
|         | 35       |               |   | Set unit to default mode                                                                |            |   | Type on PC "<ESC>"                                                         |               |
|         | 40       |               |   |                                                                                         |            |   |                                                                            |               |
|         | 45       |               |   |                                                                                         |            |   |                                                                            |               |

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|---------------------------|--|----------|-------------------|---------------|---------------------|---|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------|--|------------|--|
| REV LTR                   |  | TEST NO. |                   | SPECIFICATION |                     |   | PROCEDURE       |                                                                                                                                                                                                                                                                                                                                                                             |           | SPECIFICATION                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |            |  |            |  |
|                           |  |          |                   | OPR LIMITS    |                     | C |                 | TEST DESCRIPTION                                                                                                                                                                                                                                                                                                                                                            |           | SWITCH POS                                                                                                                                                                                                                                                                                                                                                              |  | C                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  | WORK STEPS |  | MFG LIMITS |  |
| L                         |  | 23.0     |                   |               |                     |   |                 | <u>LOAD OPERATIONAL SOFTWARE</u><br><br>Set up MTS Panel/MTS Adaptor switches for loading software.<br><br>Connect the ARINC 429 Test set to the Control Panel Input Port B and transmit valid control data to the unit.<br><br>Connect the TCAS TX and XT busses to inhibit logging TCAS errors.<br><br>Turn power to the unit OFF<br><br>Wait 10 seconds for a COLD start |           | Test Setup #1<br><br>429 Test Set<br>Label= 016<br>Parity= ODD<br>Rate= 50ms<br>Data= 000000<br><br>MTS Adaptor<br>for -20xxx and -65xxx units only.<br>ALTTYPE SEL A: DOWN<br>ALTTYPE SEL B: DOWN<br>GILHAM ALT 1 C4: DOWN<br>GILHAM ALT 2 C4: DOWN<br><br>MTS Panel<br>115VAC: OFF<br><br>MTS Adaptor<br>115VAC: OFF<br><br>MTS Adaptor (DC UNITS ONLY)<br>28VDC: OFF |  | <u>LOAD OPERATIONAL SOFTWARE</u><br><br>Set switches on MTS Panel and MTS Adaptor to settings in Table #7-3.<br><br>Connect the ARINC 429 Test signal (transmitter) output to CTRL DATA B inputs<br><br>On the MTS, connect the following signals:<br>XT COORD A to TX COORD A<br>XT COORD B to TX COORD B<br><br>115VAC on MTS Panel<br><br>115VAC on MTS Adaptor Panel<br><br>+27.5 Vdc to unit<br><br>Wait at least 10 seconds before re-applying power to unit. |  |            |  |            |  |

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| ENGINEERING SPECIFICATION |          |               | SECURITY NOTATION |                                                    | SPEC. NO. IT7517800                         |   | K                                                                                                                                      |               |
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|                           |          |               |                   |                                                    | CAGE CODE 55939                             |   | REV LTR                                                                                                                                |               |
| REV LTR                   | TEST NO. | SPECIFICATION |                   |                                                    | PROCEDURE                                   |   |                                                                                                                                        | SPECIFICATION |
|                           |          | OPR LIMITS    | C                 | TEST DESCRIPTION                                   | SWITCH POS                                  | C | WORK STEPS                                                                                                                             |               |
|                           |          |               |                   | Turn power to the unit ON                          | MTS Panel<br>115VAC: ON                     |   | 115VAC on MTS Panel                                                                                                                    |               |
|                           |          |               |                   |                                                    | MTS Adaptor<br>115VAC: ON                   |   | 115VAC on MTS Adaptor Panel                                                                                                            |               |
|                           |          |               |                   |                                                    | MTS Adaptor<br>(DC UNITS ONLY)<br>28VDC: ON |   | DC UNITS ONLY (-55xxx to -99xxx)<br>+27.5 Vdc to unit                                                                                  |               |
|                           |          |               |                   | Upload operational software using CMT port.        |                                             |   | Type on PC:<br>"UL<RET>" (upload)<br>Select "Send File" icon on toolbar from Procomm.<br>Select appropriate file to send.<br>Select OK |               |
|                           |          |               |                   | Wait unit software upload completes.               |                                             |   | Wait until software upload completes (percent complete = 100% and x-modem window closes)                                               |               |
|                           |          |               |                   | Remove PDL Link A to execute operational software. | MTS Adaptor<br>PDL LINK A: 0                |   | Turn PDL LINK A to OFF to execute operational code.                                                                                    |               |
|                           |          |               |                   | Clear the maintenance computer setting             |                                             |   | Type on PC: "CM<ret>".<br>wait a minimum of 5 seconds.                                                                                 |               |
|                           |          |               |                   | Clear the flight ID setting                        |                                             |   | Type on PC: "CF<ret>".<br>wait a minimum of 5 seconds.                                                                                 |               |

|           |  |                   |  |             |  |      |  |
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| <b>ENGINEERING SPECIFICATION</b> |          |               | <b>SECURITY NOTATION</b> |                                                                         | <b>SPEC. NO.</b> IT7517800<br><b>CAGE CODE</b> 55939 |               | <b>REV LTR</b><br>L                                                                                                                                                     |            |
|----------------------------------|----------|---------------|--------------------------|-------------------------------------------------------------------------|------------------------------------------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| REV LTR                          | TEST NO. | SPECIFICATION |                          | PROCEDURE                                                               |                                                      | SPECIFICATION |                                                                                                                                                                         |            |
|                                  |          | OPR LIMITS    | C                        | TEST DESCRIPTION                                                        | SWITCH POS                                           | C             | WORK STEPS                                                                                                                                                              | MFG LIMITS |
| L                                | 23.1     | PASS          |                          | Clear the maintenance log.                                              |                                                      |               | Type on PC:<br>"CL"<br>Verify the message "Maintenance Log Cleared" is displayed.                                                                                       | PASS       |
|                                  | 23.2     | PASS          |                          | Verify no errors are present.                                           |                                                      |               | Wait for approximately 30 seconds. Verify no "Storing New Error" messages have been displayed since the maintenance log was cleared.                                    | PASS       |
|                                  | 23.3     | PASS          |                          | Press the front panel test button and verify no errors are present.     |                                                      |               | Press the "PUSH TO TEST" button on the front panel of the unit. Verify that all LED's turn on, and after several seconds all LED's turn off except the "XPDR PASS" LED. | PASS       |
|                                  | 23.4     | PASS          |                          | Verify no errors are stored.                                            |                                                      |               | Verify no "Storing New Error" messages or "Finding Error" messages are displayed.                                                                                       | PASS       |
|                                  |          |               |                          | Read the software part numbers, hardware part number and serial number. |                                                      |               | Type on PC:<br>"PN"                                                                                                                                                     |            |
| <b>Honeywell</b>                 |          |               | <b>SECURITY NOTATION</b> |                                                                         | <b>SUPPLEMENTS</b>                                   |               | 69<br><b>PAGE</b>                                                                                                                                                       |            |

|                                  |      |                 |                          |                      |                                                                                                 |                         |                                                                                                                          |                      |
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| <b>ENGINEERING SPECIFICATION</b> |      |                 | <b>SECURITY NOTATION</b> |                      | SPEC. NO. IT7517800                                                                             |                         | L                                                                                                                        |                      |
|                                  |      |                 |                          |                      | CAGE CODE 55939                                                                                 |                         |                                                                                                                          |                      |
| <b>REV LTR</b>                   |      |                 |                          |                      |                                                                                                 |                         |                                                                                                                          |                      |
| <b>REV LTR</b>                   |      | <b>TEST NO.</b> |                          | <b>SPECIFICATION</b> |                                                                                                 | <b>PROCEDURE</b>        |                                                                                                                          | <b>SPECIFICATION</b> |
|                                  |      |                 |                          | <b>OPR LIMITS</b>    | <b>C</b>                                                                                        | <b>TEST DESCRIPTION</b> | <b>SWITCH POS</b>                                                                                                        | <b>C</b>             |
| L                                | 23.5 | PASS            |                          |                      | Check the BOOT Software Part Number and CRC are correct for the unit part number and mod level. |                         | Find the entry in Table #8-1, BOOT Software, which corresponds to the unit's dash number and minimum hardware mod level. | PASS                 |
| L                                | 23.6 | PASS            |                          |                      | Check the OPER Software Part Number and CRC is correct for the units part number and mod level. |                         | Verify the BOOT SW and CRC in the table matches the BOOT SW and CRC on the PC display.                                   | PASS                 |
| L                                | 23.7 | PASS            |                          |                      | Check that the COMP CRC is correct for the units part number and mod level.                     |                         | Find the entry in Table #8-2, OPER Software, which corresponds to the unit's dash number and software mod letter.        | PASS                 |
| L                                | 23.8 | PASS            |                          |                      | Check that the XLNX CRC is correct for the units part number and mod level.                     |                         | Verify the OPER SW and CRC in the table matches the OPER SW and CRC on the PC display.                                   | PASS                 |
|                                  |      |                 |                          |                      |                                                                                                 |                         | Verify from Table #8-2, the COMP CRC in the table matches the XLNX CRC on the PC display.                                | PASS                 |
|                                  |      |                 |                          |                      |                                                                                                 |                         | Verify from Table #8-2, the XLNX CRC in the table matches the XLNX CRC on the PC display.                                | PASS                 |

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|---------|----------|---------------|---|-----------------------------------------------------------------------------------|----------------------------|---|------------------------------------------------------------------------------|---------------|
|         |          | OPR LIMITS    | C | TEST DESCRIPTION                                                                  | SWITCH POS                 | C | WORK STEPS                                                                   | MFG LIMITS    |
|         | 23.9     | PASS          |   | Check the Hardware Part Number is correct for the unit part number and mod level. |                            |   | Verify the HARDWARE PN display matches the hardware part number of the unit. | PASS          |
|         | 23.10    | PASS          |   | Check the Serial Number of the unit is correct.                                   |                            |   | Verify the SERIAL NUM display matches the serial number of the unit.         | PASS          |
|         |          |               |   | Turn power to the unit off.                                                       | MTS Panel<br>115VAC: OFF   |   | 115VAC on MTS Panel                                                          |               |
|         |          |               |   |                                                                                   | MTS Adaptor<br>115VAC: OFF |   | 115VAC on MTS Adaptor Panel                                                  |               |
|         |          |               |   |                                                                                   | MTS Adaptor<br>28VDC: OFF  |   | +27.5 Vdc to unit                                                            |               |
|         |          |               |   | Set up MTS Panel/MTS Adaptor for normal operation.                                |                            |   | Set switches on MTS Panel and MTS Adaptor to settings in Table #1.           |               |

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| <b>ENGINEERING<br/>SPECIFICATION</b>                                                                                                                                                         | <b>SECURITY NOTATION</b> | <b>SPEC.<br/>NO.</b> IT7517800 | <b>REV LTR</b>      |
|                                                                                                                                                                                              |                          | <b>CAGE<br/>CODE</b> 55939     |                     |
| <b>REV LTR</b> SEE FIRST PAGE FOR PROPRIETARY OR DATA RIGHTS NOTATIONS.                                                                                                                      |                          |                                |                     |
| <div data-bbox="129 441 162 1743">10<br/>15<br/>20<br/>25<br/>30<br/>35<br/>40<br/>45</div> <div data-bbox="545 976 1099 1037"><b>APPENDIX A<br/>XS-950 SOFTWARE LOADING PROCEDURE</b></div> |                          |                                |                     |
| <b>Honeywell</b>                                                                                                                                                                             | <b>SECURITY NOTATION</b> | <b>SUPPLEMENTS</b>             | <b>A-0<br/>PAGE</b> |

|                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                        |             |
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| ENGINEERING<br>SPECIFICATION                                                                                                 | SECURITY NOTATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | SPEC.<br>NO. IT7517800 | M           |
|                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | CAGE<br>CODE 55939     |             |
| REV<br>LTR                                                                                                                   | SEE FIRST PAGE FOR PROPRIETARY OR DATA RIGHTS NOTATIONS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                        |             |
| <div>5</div> <div>10</div> <div>15</div> <div>20</div> <div>25</div> <div>30</div> <div>35</div> <div>40</div> <div>45</div> | <p>1.0 <u>INTRODUCTION</u></p> <p>The XS-950 Data Link Mode S Transponder module contains FLASH EPROM memory which contains the Boot and Operational code. The contents of the memory is electrically programmable and erasable, and may be modified without removal of the IC's from the CCA's. The unit's operational code may be loaded without opening the unit through the ARINC 615 front panel connector.</p> <p>The XS-950 has 5 FLASH EPROM memory IC's which are contained on the A2 Processor CCA (7517826). One of the IC's (U61) contains the BOOT Program Code. The other 4 IC's (U24, U28, U40, U49) contain Operational (OPER) code OR Bench test code for factory testing. The function of the BOOT program is to allow the operational code's FLASH memory to be programmed through the ARINC 615 front panel connector. The ARINC 615 front panel connector contains an ARINC 429 bus for programming using a ARINC 615 Portable Data Loader (PDL), and an RS-232 port for programming using a PC with a terminal emulation program such as PROCOMM.</p> |                        |             |
|                                                                                                                              | <p>2.0 <u>SOFTWARE LOADING PROCEDURE</u></p> <p>When an A2 Processor CCA is initially manufactured, purchased from stock, or FLASH EPROM IC's are replaced, the CCA is unprogrammed. The following procedure MUST be used when bringing the unit up to an operational state:</p> <ol style="list-style-type: none"> <li>1. Load BOOT Software using BOOT SOFTWARE LOADING procedure.</li> <li>2. Load Product Test Software (for calibration and IT) using OPERATIONAL SOFTWARE LOADING procedure.</li> <li>3. Calibrate Unit (EEPROM and Transmitter CCA) using procedure in Appendix B</li> <li>4. Final Test unit and load valid OPERATIONAL code (performed as part of IT test steps).</li> </ol> <p>NOTE: Do not attempt to transmit replies until after the RF alignment procedure in Appendix B has been performed to avoid possible transmitter damage.</p>                                                                                                                                                                                                         |                        |             |
| Honeywell                                                                                                                    | SECURITY NOTATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | SUPPLEMENTS            | A-1<br>PAGE |

| ENGINEERING<br>SPECIFICATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | SECURITY NOTATION | SPEC.<br>NO. IT7517800 | -<br><br>REV LTR |    |                      |    |                             |    |                        |    |                |     |                     |     |               |     |                |     |              |     |              |     |          |     |             |     |             |     |  |  |  |
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| REV LTR SEE FIRST PAGE FOR PROPRIETARY OR DATA RIGHTS NOTATIONS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                   |                        |                  |    |                      |    |                             |    |                        |    |                |     |                     |     |               |     |                |     |              |     |              |     |          |     |             |     |             |     |  |  |  |
| <div> <div>3.0</div> <div>BOOT SOFTWARE LOADING PROCEDURE</div> <p>The BOOT software must be loaded using a Processor Boot Fixture (T336096-901), and a PC which has a terminal emulator such as PROCOMM. Perform the following procedure to load BOOT software into the unit:</p> <ol style="list-style-type: none"> <li>Remove the unit's outside slip-on cover (if attached). Loosen the two zeus fastners (cam-locks) located on the back of the box near the Arinc 600 connector. Slide the cover off the chassis assembly.</li> <li>With power removed from the unit, attach a 60-pin ribbon cable (P/N 7516226-1) to A2 Processor CCA connector A2J3 (test connector), and to connector P1 on the Processor BOOT Fixture.</li> <li>Secure a good ground between the chassis of the Processor BOOT Fixture and the chassis of the XS-950 transponder (or the MTS mount which the transponder is in) using a low impedance connection such as a copper or brass strip of metal. This is important, as the lack of a good ground may cause the BOOT Software load to fail.</li> <li>Set the switch settings on the Processor BOOT Fixture to the following positions:</li> </ol> <table border="0"> <thead> <tr> <th>Switch Name</th> <th>Position</th> </tr> </thead> <tbody> <tr><td>S1 VPP ON</td><td>ON</td></tr> <tr><td>S2 VPP TO BOOT FLASH</td><td>ON</td></tr> <tr><td>S3 VPP TO OPER FLASH BBLOCK</td><td>ON</td></tr> <tr><td>S4 SWAP BOOT ADDRESSES</td><td>ON</td></tr> <tr><td>S5 SELECT UART</td><td>OFF</td></tr> <tr><td>S6 SELECT FLUKE ROM</td><td>OFF</td></tr> <tr><td>S7 +5V RAM ON</td><td>OFF</td></tr> <tr><td>S8 GAL PROGRAM</td><td>OFF</td></tr> <tr><td>S9 RESET CPU</td><td>OFF</td></tr> <tr><td>S10 XMIT/RCV</td><td>RCV</td></tr> <tr><td>S11 XMIT</td><td>BOT</td></tr> <tr><td>S12 RECEIVE</td><td>DIS</td></tr> <tr><td>S13 RECEIVE</td><td>BOT</td></tr> </tbody> </table> </div> | Switch Name       | Position               | S1 VPP ON        | ON | S2 VPP TO BOOT FLASH | ON | S3 VPP TO OPER FLASH BBLOCK | ON | S4 SWAP BOOT ADDRESSES | ON | S5 SELECT UART | OFF | S6 SELECT FLUKE ROM | OFF | S7 +5V RAM ON | OFF | S8 GAL PROGRAM | OFF | S9 RESET CPU | OFF | S10 XMIT/RCV | RCV | S11 XMIT | BOT | S12 RECEIVE | DIS | S13 RECEIVE | BOT |  |  |  |
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| S1 VPP ON                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | ON                |                        |                  |    |                      |    |                             |    |                        |    |                |     |                     |     |               |     |                |     |              |     |              |     |          |     |             |     |             |     |  |  |  |
| S2 VPP TO BOOT FLASH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | ON                |                        |                  |    |                      |    |                             |    |                        |    |                |     |                     |     |               |     |                |     |              |     |              |     |          |     |             |     |             |     |  |  |  |
| S3 VPP TO OPER FLASH BBLOCK                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ON                |                        |                  |    |                      |    |                             |    |                        |    |                |     |                     |     |               |     |                |     |              |     |              |     |          |     |             |     |             |     |  |  |  |
| S4 SWAP BOOT ADDRESSES                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | ON                |                        |                  |    |                      |    |                             |    |                        |    |                |     |                     |     |               |     |                |     |              |     |              |     |          |     |             |     |             |     |  |  |  |
| S5 SELECT UART                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | OFF               |                        |                  |    |                      |    |                             |    |                        |    |                |     |                     |     |               |     |                |     |              |     |              |     |          |     |             |     |             |     |  |  |  |
| S6 SELECT FLUKE ROM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | OFF               |                        |                  |    |                      |    |                             |    |                        |    |                |     |                     |     |               |     |                |     |              |     |              |     |          |     |             |     |             |     |  |  |  |
| S7 +5V RAM ON                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | OFF               |                        |                  |    |                      |    |                             |    |                        |    |                |     |                     |     |               |     |                |     |              |     |              |     |          |     |             |     |             |     |  |  |  |
| S8 GAL PROGRAM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | OFF               |                        |                  |    |                      |    |                             |    |                        |    |                |     |                     |     |               |     |                |     |              |     |              |     |          |     |             |     |             |     |  |  |  |
| S9 RESET CPU                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | OFF               |                        |                  |    |                      |    |                             |    |                        |    |                |     |                     |     |               |     |                |     |              |     |              |     |          |     |             |     |             |     |  |  |  |
| S10 XMIT/RCV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | RCV               |                        |                  |    |                      |    |                             |    |                        |    |                |     |                     |     |               |     |                |     |              |     |              |     |          |     |             |     |             |     |  |  |  |
| S11 XMIT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | BOT               |                        |                  |    |                      |    |                             |    |                        |    |                |     |                     |     |               |     |                |     |              |     |              |     |          |     |             |     |             |     |  |  |  |
| S12 RECEIVE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | DIS               |                        |                  |    |                      |    |                             |    |                        |    |                |     |                     |     |               |     |                |     |              |     |              |     |          |     |             |     |             |     |  |  |  |
| S13 RECEIVE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | BOT               |                        |                  |    |                      |    |                             |    |                        |    |                |     |                     |     |               |     |                |     |              |     |              |     |          |     |             |     |             |     |  |  |  |
| Honeywell                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | SECURITY NOTATION | SUPPLEMENTS            | A-2<br>PAGE      |    |                      |    |                             |    |                        |    |                |     |                     |     |               |     |                |     |              |     |              |     |          |     |             |     |             |     |  |  |  |

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| ENGINEERING<br>SPECIFICATION | SECURITY NOTATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | SPEC.<br>NO.      | IT7517800   | K<br><br>REV LTR |
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| REV<br>LTR                   | SEE FIRST PAGE FOR PROPRIETARY OR DATA RIGHTS NOTATIONS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |             |                  |
| 5                            | <p>5. Connect the serial port of a PC to the ARINC 615 PDL port (using the MTS or an equivalent cable). Set the PC according to the setup in Table #7-8.</p> <p>6. Apply power to the unit. Typing a "&lt;CR&gt;" on the PC should cause the transponder to echo a "INVALID COMMAND" text if the Processor is operating correctly.</p> <p>7. Type the following text on the PC:</p> <p style="padding-left: 40px;">"UL&lt;ret&gt;" (Upload command)<br/>Select "Send File" icon on toolbar from Procomm<br/>Select appropriate boot file<br/>Select OK</p> <p>8. Wait until the Percent Complete = 100% and Xmodem window closes. If the load is unsuccessful, the file transfer program will abort with an error message.</p> <p>9. Remove power from the unit and remove the ribbon cable from the A2J3 connector. The BOOT Program has been loaded.</p> |                   |             |                  |
| 10                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                   |             |                  |
| 15                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                   |             |                  |
| K                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                   |             |                  |
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| 25                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                   |             |                  |
| 30                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                   |             |                  |
| 35                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                   |             |                  |
| 40                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                   |             |                  |
| 45                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                   |             |                  |
| Honeywell                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | SECURITY NOTATION | SUPPLEMENTS | A-3<br>PAGE      |

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| ENGINEERING<br>SPECIFICATION                                                                                                                                 |                                                                                                                                                                  | SECURITY NOTATION | SPEC.<br>NO. | IT7517800 | K           |
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| REV<br>LTR                                                                                                                                                   | SEE FIRST PAGE FOR PROPRIETARY OR DATA RIGHTS NOTATIONS.                                                                                                         |                   |              |           |             |
| K<br>5<br><br>10<br><br>A<br>15<br><br>20<br><br>K<br>25<br>K<br>K<br><br>K<br>30<br><br>35<br><br>40<br><br>45                                              | 4.0 <u>OPERATIONAL SOFTWARE LOADING PROCEDURE</u>                                                                                                                |                   |              |           |             |
|                                                                                                                                                              | The following procedure may be used to load either OPERATIONAL (flight code) or Product Test code (factory test and troubleshooting).                            |                   |              |           |             |
|                                                                                                                                                              | 1. Remove power from the unit.                                                                                                                                   |                   |              |           |             |
|                                                                                                                                                              | 2. Connect the serial port of a PC to the ARINC 615 PDL port (using the MTS or an equivalent cable). Set the PC according to the setup in Table #7-8.            |                   |              |           |             |
|                                                                                                                                                              | 3. Set the PDL LINK A on the MTS (or equivalent cable harness) to ON mode to allow for software programming. Set the MTS switch settings according to Table 7-3. |                   |              |           |             |
|                                                                                                                                                              | 4. Apply power to the unit. Typing a "<CR>" on the PC should cause the transponder to echo a "INVALID COMMAND" text if the Processor is operating correctly.     |                   |              |           |             |
|                                                                                                                                                              | 5. Type the following text on the PC:                                                                                                                            |                   |              |           |             |
|                                                                                                                                                              | "UL<ret>"            (Upload command)                                                                                                                            |                   |              |           |             |
|                                                                                                                                                              | Select "Send File" icon on toolbar from Procomm                                                                                                                  |                   |              |           |             |
|                                                                                                                                                              | Select appropriate boot file                                                                                                                                     |                   |              |           |             |
| Select OK                                                                                                                                                    |                                                                                                                                                                  |                   |              |           |             |
| 6. Wait until the Percent Complete = 100% and Xmodem window closes. If the load is unsuccessful, the file transfer program will abort with an error message. |                                                                                                                                                                  |                   |              |           |             |
| 7. Set the PDL LINK A to OFF, the program should transition to OPERATIONAL or PRODUCT TEST code.                                                             |                                                                                                                                                                  |                   |              |           |             |
| Honeywell                                                                                                                                                    |                                                                                                                                                                  | SECURITY NOTATION | SUPPLEMENTS  |           | A-4<br>PAGE |

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| <b>ENGINEERING<br/>SPECIFICATION</b>              |                                                                 | <b>SECURITY NOTATION</b> | <b>SPEC.<br/>NO.</b> IT7517800 | -                   |
|                                                   |                                                                 |                          | <b>CAGE<br/>CODE</b> 55939     |                     |
|                                                   |                                                                 | <b>REV LTR</b>           |                                |                     |
| <b>REV<br/>LTR</b>                                | <b>SEE FIRST PAGE FOR PROPRIETARY OR DATA RIGHTS NOTATIONS.</b> |                          |                                |                     |
| 5<br>10<br>15<br>20<br>25<br>30<br>35<br>40<br>45 | <p>APPENDIX B<br/>XS-950 CALIBRATION PROCEDURE</p>              |                          |                                |                     |
| <b>Honeywell</b>                                  |                                                                 | <b>SECURITY NOTATION</b> | <b>SUPPLEMENTS</b>             | <b>B-0<br/>PAGE</b> |

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| REV<br>LTR                   | SEE FIRST PAGE FOR PROPRIETARY OR DATA RIGHTS NOTATIONS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                        |                  |
|                              | <p>1.0 <u>INTRODUCTION</u></p> <p>The XS-950 Data Link Mode S Transponder module uses computer (electronic) adjustments for most of the circuitry which requires calibration. Computer adjustments are preferable to mechanical adjustments (potentiometers, variable capacitors and inductors) because they can be performed automatically by a computer remotely (without the unit opened up), and are inherently more reliable.</p> <p>With the exception of several variable capacitors on the Transmitter CCA, all adjustments are performed from the CMT terminal (RS-232) using the Bench Test software, which is also used for most of the IT and HASS screening. Calibration constants for parameters are stored in EEPROM memory on the A2 Processor CCA. The parameters in EEPROM have an error detection means, so that a loss of data will be detected by the computer. A loss of calibration data could result in invalid transponder operation.</p> <p>2.0 CALIBRATION PROCEDURE</p> <p>The following calibration procedure should be performed in the following order to insure consistent results from the calibration. When a calibration command is executed, the new data is automatically saved in the EEPROM memory.</p> |                        |                  |
| Honeywell                    | SECURITY NOTATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | SUPPLEMENTS            | B-1<br>PAGE      |

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| <b>REV<br/>LTR</b>                   | <b>SEE FIRST PAGE FOR PROPRIETARY OR DATA RIGHTS NOTATIONS.</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                |                     |
|                                      | <p><b>2.1 Calibration Test Setup</b></p> <p>The following test setup is required prior to performing the calibration procedure:</p> <ol style="list-style-type: none"><li>1. Set up MTS and associated equipment per TEST SETUP #1 in section 7.1.</li><li>2. If RF transmitter alignment is required (paragraph 2.3), the unit must be disassembled to gain access to the outside of the transmitter assembly. Use the following procedure to disassemble the unit:<ol style="list-style-type: none"><li>a. Remove the unit's outside slip-on cover (if attached). Loosen the two zeus fastners (cam-locks) located on the back of the box near the Arinc 600 connector. Slide the cover off the chassis assembly.</li><li>b. Remove the 11 screws securing the Processor CCA (A2) to the Transmitter assembly (A3). Without disconnecting the ribbon cable or the wire harness from the Power Supply, attach the Processor CCA to the snap post and bracket on the front plate of the transponder. The four tuning holes in the transmitter cover are now visible.</li></ol></li><li>3. Insert the unit in the MTS mount, and connect the 53 pin MTS circular connector to the ARINC 615 front panel PDL connector.</li></ol> <p><b>NOTE:</b> Prior to the calibration procedure, valid BOOT and Product Test software must be loaded into the unit. See Appendix A for software loading instructions.</p> <p>Do not attempt to transmit replies until after the RF alignment procedure in section 2.3 has been performed to avoid possible transmitter damage.</p> |                                |                     |
| <b>Honeywell</b>                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>SECURITY NOTATION</b>       | <b>SUPPLEMENTS</b>  |
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| REV<br>LTR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | SEE FIRST PAGE FOR PROPRIETARY OR DATA RIGHTS NOTATIONS. |                   |              |           |                  |
| <div>2.2 <u>Initialize EEPROM and Calibration with Default Data</u></div> <div>5<br/>This step puts in default CALIBRATION data in the EEPROM memory. It also<br/>clears other sections of EEPROM memory, including the maintenance log. The<br/>command should be used when the unit is initially built, a replacement<br/>Processor CCA is used, or the EEPROM memory has been replaced.</div> <div>10<br/><u>CMT Command</u><br/>EEINIT&lt;CR&gt;</div> <div>15<br/><u>CMT Display</u><br/>&lt;status&gt;      A PASS status should be displayed if the maintenance log<br/>cleared. A FAIL status indicates a memory problem.</div> <div>20<br/>If it is desired to only set the CALIBRATION data in EEPROM to default<br/>values, the following command may be used in place of the "EEINIT" command.</div> <div>25<br/><u>CMT Command</u><br/>CSDEF&lt;CR&gt;</div> <div>30<br/><u>CMT Display</u><br/>&lt;status&gt;      A PASS status should be displayed if the maintenance log<br/>cleared. A FAIL status indicates a memory problem.</div> <div>35</div> <div>40</div> <div>45</div> |                                                          |                   |              |           |                  |
| Honeywell                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                          | SECURITY NOTATION | SUPPLEMENTS  |           | B-3<br>PAGE      |

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| <div style="display: flex;"> <div style="width: 40px; text-align: center;">           5<br/>10<br/>15<br/>20<br/>25<br/>30<br/>35<br/>40<br/>45         </div> <div> <p>2.3 <u>RF Alignment - Transmitter Peak Power and Rise Time</u></p> <p>To reduce the risk of damaging the Transmitter driver and final transistors upon initial power up and to insure proper calibration of pulse width, the Transmitter must be aligned for peak power and rise time prior to any other calibration. The unit must be disassembled to the level listed in paragraph 2.1 to perform this alignment.</p> <ol style="list-style-type: none"> <li>With a Johanson tuning tool 8777 or equivalent, turn the tuning slug in each trimmer capacitor approximately 10 turns counter clockwise or until the tuning slug is near the top of the trimmer capacitor barrel.</li> <li>With the oscilloscope connected to the S1403 XMTR Detector, connect the Top Transponder RF cable to the S1403 RF Connector.<br/>C MENU: 1<br/>ANT B: ON</li> <li>Instruct the transponder to generate 50 Long Mode S replies out of the top antenna port by typing the appropriate command through the CMT terminal.<br/><u>CMT Command</u><br/>XREP T L 50&lt;CR&gt;</li> <li>While observing the XMTR PWR WATTS display on the IFR ATC-1400, adjust trimmer capacitors C50 and C46 for maximum power out of the transponder. See A3 Transmitter CCA drawing 7517835 for capacitor locations. Including cable losses, the power out of the transponder shall be 400 to 630 watts (56 to 58 dBm).</li> <li>Locate the first detected RF pulse of the Long Mode S reply on the oscilloscope. Adjust C43 and C702 for maximum output power and a pulse rise time of approximately 50 to 75 nanoseconds. Verify that a pulse in the middle and at the end of the Long Mode S reply meets the requirements specified above.</li> <li>Repeat steps 4 and 5 as required to meet the rise time and output power specification for all the pulses in the Long Mode S reply.</li> </ol> </div> </div> |                   |                        |                  |
| Honeywell                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | SECURITY NOTATION | SUPPLEMENTS            | B-4<br>PAGE      |

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| 5                                | <b>2.4 <u>Xmtr Pulse Width Calibration</u></b>                                                                                                                                                                                                                                                                     |                          |                               |                  |
| 10                               | <b><u>S1403</u></b><br>Connect the oscilloscope to S1403 XMTR Detector.<br>Connect the Top Transponder RF Cable to the S1043 RF Connector.<br>C MENU: 1<br>ANT B: ON                                                                                                                                               |                          |                               |                  |
| 15                               | <b><u>CMT Command</u></b><br>XREP T L 50<CR>                                                                                                                                                                                                                                                                       |                          |                               |                  |
| 20                               | Repeat the following procedure until the pulse width of the 1st pulse of the Mode S reply (50% to 50% voltage point) is set to between 460 nsec and 510 nsec:                                                                                                                                                      |                          |                               |                  |
| 25                               | <b><u>CMT Command</u></b><br>CSXPW <parameter><CR><br>CRD                                                                                                                                                                                                                                                          |                          |                               |                  |
| 30                               | <b><u>CMT Display</u></b><br>CALIBRATION memory data                                                                                                                                                                                                                                                               |                          |                               |                  |
| 35                               | <b><u>NOTE:</u></b> The pulse width is increased by DECREASING the <parameter> number and decreased by INCREASING the <parameter>. Changing the <parameter> by 1 changes the pulse width by 42 nsec. The <parameter> is entered and displayed in hexadecimal. <parameter> range: 0=maximum width, F=minimum width. |                          |                               |                  |
| 40                               |                                                                                                                                                                                                                                                                                                                    |                          |                               |                  |
| 45                               |                                                                                                                                                                                                                                                                                                                    |                          |                               |                  |
| <b>Honeywell</b>                 |                                                                                                                                                                                                                                                                                                                    | <b>SECURITY NOTATION</b> | <b>SUPPLEMENTS</b>            | <b>B-5 PAGE</b>  |

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| 2.5                          | <u>Top/Bottom MTL Autocal</u><br><br>The cable loss for the RF cable in dB at 1030MHz should be programmed in the S1403 CMENU: 1 RFLvl adjustment prior to the start of the calibration.<br><br><u>S1403</u><br>C MENU: 1<br>ANT B: OFF<br>FUNC: 1 ATC (ATCRBS Only)<br>RFLvl: +CABLE LOSS (dB)<br><br><u>ATC 1400A</u><br>PRF/SQTR: 500<br>XPDR MODE: A<br>RF LEVEL: -76dBm<br>Connect RF CABLE to TOP antenna jack on XS-950<br><br><u>CMT Command</u><br>CSTAUTO<cr><br><br><u>CMT Display</u><br><status> <value><br><br>The status should indicate the status of the test. A PASS status should be displayed if the calibration passed. A FAIL status indicates a calibration problem.<br><br><u>ATC 1400A</u><br>Connect RF CABLE to BOTTOM antenna jack on XS-950<br><br><u>CMT Command</u><br>CSBAUTO<CR><br><br><u>CMT Display</u><br><status> <value><br><br>The status should indicate the status of the test. A PASS status should be displayed if the calibration passed. A FAIL status indicates a calibration problem.<br><br><u>CMT Command</u><br>XON 1<CR><br><br>Set unit to reply to interrogations |                        |                  |
| Honeywell                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | SECURITY NOTATION      | SUPPLEMENTS      |

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## 2.6 ATCRBS Reply Delay

### ATC 1400A

RF LEVEL: -67dBm

PRF/SQTR: 100

Repeat the following procedure until the RpDly: display on the S1403 reads an AVERAGE value of 3.10 micro-seconds. The current value which is set in EEPROM may be read by the "CRD" command.

### CMT Command

CSATCRD <parameter>

CRD

### CMT Display

CALIBRATION memory data

**NOTE:** The RpDly: is increased by INCREASING the <parameter>, and is decreased by DECREASING the <parameter>. Changing the ATCRBS REPLY DELAY by 1 changes the delay by 42 nsec. The <parameter> is displayed and entered in hexadecimal. <parameter> range: 0=minimum delay, 3F=maximum delay

## 2.7 ALLCALL Reply Delay

### ATC 1400A

PRF/SQTR: 100

### S1403

C MENU: 1

PUNC: 4 ACL (ATCRBS/Mode S All-Call)

Repeat the following procedure until the RpDly: display on the S1403 reads an AVERAGE value of 128.000 micro-seconds:

### CMT Command

CSALLRD <parameter>

CRD

### CMT Display

CALIBRATION memory data

**NOTE:** The RpDly: is increased by INCREASING the <parameter>, and is decreased by DECREASING the <parameter>. Changing the ALLCALL REPLY DELAY by 1 changes the delay by 42 nsec. The <parameter> is displayed and entered in hexadecimal. <parameter> range: 0=minimum delay, FF=maximum delay

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| 5                            | 2.8 <u>SPR Window Delay</u>                                                                                                                                                                                                                                                                                                                              |                   |  |                        |  |                  |
| 10                           | <u>S1403</u><br>C MENU: 1<br>FUNC: 2 SEQ (Mode S Only)<br>SPR Dv: $\pm 0.05$ AND $\pm 0.20$                                                                                                                                                                                                                                                              |                   |  |                        |  |                  |
| 15                           | Repeat the following procedure until the %Reply:S on the S1403 is 0% when SPR Dv is -0.20 and +0.20, and is 100% when SPR Dv is -0.05 and +0.05:                                                                                                                                                                                                         |                   |  |                        |  |                  |
| 20                           | <u>S1403</u><br>SPR Dv: -0.20    Check %Reply:S<br>SPR Dv: -0.05    Check %Reply:S<br>SPR Dv: +0.05    Check %Reply:S<br>SPR Dv: +0.20    Check %Reply:S                                                                                                                                                                                                 |                   |  |                        |  |                  |
| 25                           | <u>CMT Command</u><br>CSSPRD <parameter><br>CRD                                                                                                                                                                                                                                                                                                          |                   |  |                        |  |                  |
| 30                           | <u>CMT Display</u><br>CALIBRATION memory data                                                                                                                                                                                                                                                                                                            |                   |  |                        |  |                  |
| 35                           | <u>NOTE:</u> The position of the SPR window relative to the start of the P6 pulse is increased by DECREASING the <parameter>, and is decreased by INCREASING the <parameter>. Changing the SPR DELAY by 1 changes the position by 42 nsec. The <parameter> is displayed and entered in hexadecimal. <parameter> range: 0=maximum delay, 3F=minimum delay |                   |  |                        |  |                  |
| 40                           | At the end of the procedure, reset the S1403 to the following condition:                                                                                                                                                                                                                                                                                 |                   |  |                        |  |                  |
| 45                           | <u>S1403</u><br>C MENU: 1<br>SPR Dv: CAL                                                                                                                                                                                                                                                                                                                 |                   |  |                        |  |                  |
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| 5<br>10<br>15<br>20<br>25<br>30<br>35<br>40<br>45 | <p style="text-align: center;">APPENDIX C<br/>XS-950 OPERATIONAL BITE</p> |                        |                  |
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|                                  | <p><b>1.0 Monitor Fault Logging</b></p> <p>The transponder's operational code contains a continuous performance monitor and self-test monitor. The continuous performance monitor function will monitor critical system parameters and record faults which are found during normal operation.</p> <p>The self-test monitor function is activated upon command from the system controller, external discrete input, front panel test switch, maintenance computer or a power-on cold start. The self-test monitor will exercise various system functions, record faults found, and annunciate the results of the test.</p> <p>The faults recorded by the performance monitor or self-test monitor will be contained in a non-volatile maintenance log.</p> <p><b>2.0 Monitor Fault Summary</b></p> <p>The following table lists a summary of the fault codes which may be contained in the maintenance log, and their description.</p> |                          |                            |                 |
| <b>Honeywell</b>                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>SECURITY NOTATION</b> | <b>SUPPLEMENTS</b>         | <b>C-1 PAGE</b> |

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| Code | Description                              | TCAS<br>Fail | Disc | Stby | Front<br>Panel<br>Lamps |
|------|------------------------------------------|--------------|------|------|-------------------------|
| 2000 | Operational software CRC failure         | Y            | Y    | Y    | XPDR                    |
| 2001 | Compatibility data CRC failure           |              |      |      |                         |
| 2002 | XILINX data CRC failure                  | Y            | Y    | Y    | XPDR                    |
| 2003 | BOOT software CRC failure                | Y            | Y    |      | XPDR                    |
| 2004 | Calibration CRC failure                  | Y            | Y    | Y    | XPDR                    |
| 2005 | Watchdog reset                           |              |      |      |                         |
| 2006 | RAM software CRC failure                 | Y            | Y    | Y    | XPDR                    |
| 2007 | Program voltage error, normal operation  |              |      |      |                         |
| 2008 | Program voltage error, program operation |              |      |      |                         |
| 2009 | XILINX/RF ASIC monitor failure           | Y            | Y    | Y    | XPDR                    |
| 200A | RAM test failure                         | Y            | Y    |      | XPDR                    |
| 200C | XILINX/RF ASIC selftest failure          | Y            | Y    | Y    | XPDR                    |
| 200D | ARINC transmit selftest failure          |              |      |      |                         |
| 200E | ARINC receive selftest failure           |              |      |      |                         |
| 200F | TCAS Timer failure                       |              |      |      |                         |
| 2800 | TCAS Bus failure                         | Y            |      |      |                         |
| 2801 | ARINC 429/575 Altitude Bus #1 failure    | Y            | Y    |      | ALT                     |
| 2802 | ARINC 429/575 Altitude Bus #2 failure    | Y            | Y    |      | ALT                     |

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|----|-------------|-----------------------------------------------|----------------------|-------------|-------------|----------------------------------|
|    | <b>Code</b> | <b>Description</b>                            | <b>TCAS<br/>Fail</b> | <b>Disc</b> | <b>Stby</b> | <b>Front<br/>Panel<br/>Lamps</b> |
| 5  | 2803        | ADLP COMM A/B Bus failure                     |                      |             |             |                                  |
|    | 2804        | ADLP COMM C/D Bus failure                     |                      |             |             |                                  |
| 10 | 2805        | Control Panel Bus A failure                   | Y                    | Y           | Y           | CTRL                             |
|    | 2806        | Control Panel Bus B failure                   | Y                    | Y           | Y           | CTRL                             |
| 15 | 2807        | Maintenance Computer Bus failure              |                      |             |             |                                  |
|    | 2808        | Discrete Output Monitor Xpdr Fail #1 failure  |                      |             |             |                                  |
| 20 | 2809        | Discrete Output Monitor Xpdr Fail #2 failure  |                      |             |             |                                  |
|    | 280A        | Discrete Output Monitor Altitude Fail failure |                      |             |             |                                  |
| 25 | 280B        | Discrete Output Monitor Spare                 |                      |             |             |                                  |
|    | 280C        | Fan Monitor                                   |                      |             |             |                                  |
| 30 | 280E        | Invalid Mode-S Address                        | Y                    | Y           |             | XPDR                             |
|    | 280F        | Mutual Suppression Bus failure                |                      |             |             |                                  |
| 35 | 2810        | Gilham Altitude #1 failure                    | Y                    | Y           |             | ALT                              |
|    | 2811        | Gilham Altitude #2 failure                    | Y                    | Y           |             | ALT                              |
| 40 | 2812        | Gilham Altitude compare failure               | Y                    | Y           |             | ALT                              |
|    | 2813        | Synchro Altitude #1 failure                   | Y                    | Y           |             | ALT                              |
| 45 | 2814        | Synchro Altitude #2 failure                   | Y                    | Y           |             | ALT                              |

|                                      |                          |                                |   |
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|    | Code | Description                                 | TCAS<br>Fail | Disc | Stby | Front<br>Panel<br>Lamps |
|----|------|---------------------------------------------|--------------|------|------|-------------------------|
| 5  | 2815 | Mode-S Address Change                       |              |      |      |                         |
|    | 2816 | Flight ID Bus Failure                       |              |      |      |                         |
| 10 | 2817 | WOW Failure                                 |              |      |      |                         |
|    | 3000 | Forward Power failure<br>Bottom antenna     | Y            | Y    |      | XPDR                    |
| 15 | 3001 | Forward Power failure Top<br>antenna        | Y            | Y    |      | XPDR                    |
|    | 3002 | Synthesizer Lock detect<br>failure          |              |      |      |                         |
| 20 | 3003 | VCO Tune voltage error                      |              |      |      |                         |
|    | 3004 | Local Oscillator output<br>level failure    |              |      |      |                         |
| 25 | 3005 | Top Pin diode, RX state<br>failure          |              |      |      |                         |
|    | 3006 | Top Pin diode, TX state<br>failure          |              |      |      |                         |
| 30 | 3007 | Bottom Pin diode, RX state<br>failure       |              |      |      |                         |
|    | 3008 | Bottom Pin diode, TX state<br>failure       |              |      |      |                         |
| 35 | 3009 | Mode-S self interrogation<br>bottom failure |              |      |      |                         |
|    | 300A | Mode-S self interrogation<br>top failure    |              |      |      |                         |
| 40 | 300B | ATCRBS self interrogation<br>bottom failure |              |      |      |                         |
| 45 | 300C | ATCRBS self interrogation<br>top failure    |              |      |      |                         |

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|    | Code | Description                       | TCAS<br>Fail | Disc | Stby | Front<br>Panel<br>Lamps |
|----|------|-----------------------------------|--------------|------|------|-------------------------|
| 5  | 3800 | Bottom antenna monitor failure    |              |      |      | BOT<br>ANT              |
| 10 | 3801 | Top antenna monitor failure       |              |      |      | TOP<br>ANT              |
| 15 | 3802 | TCAS Dispatch Failure Bottom      | Y            | Y    |      |                         |
| 20 | 3803 | TCAS Dispatch Failure Top         | Y            | Y    |      |                         |
| 25 | 4000 | Power Supply +66V failure         |              |      |      |                         |
| 30 | 4001 | Power Supply +36V failure         |              |      |      |                         |
| 35 | 4002 | Power Supply +28V failure         |              |      |      |                         |
| 40 | 4003 | Power Supply +15V failure         |              |      |      |                         |
| 45 | 4004 | Power Supply -5V failure          |              |      |      |                         |
|    | 4005 | Power Supply -15V failure         |              |      |      |                         |
|    | 4006 | Power Supply -150V failure        |              |      |      |                         |
|    | 4007 | Temperature out of range          |              |      |      |                         |
|    | 4008 | Pulse Modulator voltage error     |              |      |      |                         |
|    | 4009 | Envelope Modulator voltage error  |              |      |      |                         |
|    | 4800 | Unexpected Power Supply Interrupt |              |      |      |                         |
|    | F000 | Software Fault                    |              |      |      |                         |

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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | CAGE<br>CODE 55939     |                  |               |                      |                    |             |              |            |      |      |      |      |                 |                                                                                                            |  |  |  |              |                                            |  |  |  |
| REV<br>LTR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | SEE FIRST PAGE FOR PROPRIETARY OR DATA RIGHTS NOTATIONS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                        |                  |               |                      |                    |             |              |            |      |      |      |      |                 |                                                                                                            |  |  |  |              |                                            |  |  |  |
| <div style="text-align: center;">3.0 Detailed Fault Description</div> <div style="text-align: center;">The following sections lists the detailed description for the faults and the associated tests which produced the faults.</div> <div style="text-align: center;">Flash EPROM Memory</div> <div style="text-align: center;">The performance monitor continuously checks the Flash EPROM Memory in the transponder. The transponder computes a CRC for each region in the Flash EPROM Memory, and compares the computed CRC against the CRC which is programmed in the Flash EPROM for that region.</div> | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 20%;">Memory Region</th> <th style="width: 20%;">Operational Software</th> <th style="width: 20%;">Compatibility Data</th> <th style="width: 20%;">XILINX Data</th> <th style="width: 20%;">Boot Program</th> </tr> <tr> <td>Fault Code</td> <td>2000</td> <td>2001</td> <td>2002</td> <td>2003</td> </tr> <tr> <td>Fault Parameter</td> <td colspan="4"> [Prog][Calc], where:<br/> [Prog]<br/> Programmed CRC in memory (2 bytes)<br/> [Calc]<br/> Calculated CRC (2 bytes) </td> </tr> <tr> <td>Fault Limits</td> <td colspan="4">Single occurrence of comparison mis-match.</td> </tr> </table> |                        |                  | Memory Region | Operational Software | Compatibility Data | XILINX Data | Boot Program | Fault Code | 2000 | 2001 | 2002 | 2003 | Fault Parameter | [Prog][Calc], where:<br>[Prog]<br>Programmed CRC in memory (2 bytes)<br>[Calc]<br>Calculated CRC (2 bytes) |  |  |  | Fault Limits | Single occurrence of comparison mis-match. |  |  |  |
| Memory Region                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Operational Software                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Compatibility Data     | XILINX Data      | Boot Program  |                      |                    |             |              |            |      |      |      |      |                 |                                                                                                            |  |  |  |              |                                            |  |  |  |
| Fault Code                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 2000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 2001                   | 2002             | 2003          |                      |                    |             |              |            |      |      |      |      |                 |                                                                                                            |  |  |  |              |                                            |  |  |  |
| Fault Parameter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | [Prog][Calc], where:<br>[Prog]<br>Programmed CRC in memory (2 bytes)<br>[Calc]<br>Calculated CRC (2 bytes)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                        |                  |               |                      |                    |             |              |            |      |      |      |      |                 |                                                                                                            |  |  |  |              |                                            |  |  |  |
| Fault Limits                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Single occurrence of comparison mis-match.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                        |                  |               |                      |                    |             |              |            |      |      |      |      |                 |                                                                                                            |  |  |  |              |                                            |  |  |  |
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### Calibration EEPROM Memory

The performance monitor continuously checks the portion of the EEPROM memory which contains calibration data. The transponder computes a CRC for the EEPROM Memory, and compares the computed CRC against the CRC which is programmed in the EEPROM at the time the unit was calibrated.

|                    |                                                                                                                    |
|--------------------|--------------------------------------------------------------------------------------------------------------------|
| Fault Code         | 2004                                                                                                               |
| Fault<br>Parameter | [Prog][Calc], where:<br><br>[Prog]<br>Programmed CRC in memory (2 bytes)<br><br>[Calc]<br>Calculated CRC (2 bytes) |
| Fault Limits       | Single occurrence of comparison mis-match.                                                                         |

### Watchdog Monitor

The performance monitor contains a watchdog monitor which resets the microprocessor in the event that the software program does not execute correctly. When the microprocessor is reset, the transponder determines if the reset was due to a watchdog reset by checking the watchdog circuit. A watchdog fault will be declared if a watchdog reset has occurred AND the system is in a warm start condition.

|                    |                                                     |
|--------------------|-----------------------------------------------------|
| Fault Code         | 2005                                                |
| Fault<br>Parameter | None, set to zero                                   |
| Fault Limits       | Watchdog occurred and system was in warm start mode |

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**RAM Software CRC Monitor**

The performance monitor performs a CRC test of operational software which is loaded into RAM. If the computed CRC does not agree with the CRC calculated at the time the software is copied into RAM, a fault is declared.

|                 |                                                                                                                                             |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| Fault Code      | 2006                                                                                                                                        |
| Fault Parameter | [Prog] [Calc] where,<br><br>[Prog]<br>CRC calculated at the time the software is copied (2 bytes)<br><br>[Calc]<br>Calculated CRC (2 bytes) |
| Fault Limits    | Single occurrence of fault condition                                                                                                        |

**Flash Program Voltage Monitor**

The performance monitor tests the flash memory program voltage according to the following requirements:

- a. When in normal operation, the monitor checks that the flash program voltage does not exceed the limit for non-program mode operation.
- b. When in flash program mode, if the program operation fails and the voltage is not within specified limits a fault is logged.

|                 |                                                                    |                                              |
|-----------------|--------------------------------------------------------------------|----------------------------------------------|
| Fault Type      | Flash Program voltage fault in normal operation.                   | Flash Program voltage fault in program mode. |
| Fault Code      | 2007                                                               | 2008                                         |
| Fault Parameter | +12V Vpp voltage on flash memory device, units = 0.1VDC (2 bytes). |                                              |
| Fault Limits    | >+6.5V is a fault                                                  | <+10.4V or >+13.6V is a fault                |

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### XILINX/RF ASIC Monitor

The performance monitor performs the following tests to the XILINX ASIC and RF ASIC devices to verify the devices are operational:

- The XILINX\_DONE discrete from the XILINX ASIC is monitored to verify the device is operational.
- A write/read test to the internal XILINX ASIC register is performed to verify the device is operational.
- During a squitter operation, data written to the transmit register on the RF ASIC is read back to verify the data is correct.

|                 |                                                                                                                                                                                                                                                                                                                       |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fault Code      | 2009                                                                                                                                                                                                                                                                                                                  |
| Fault Parameter | <p>[RF RAM] [Xilinx Write/Read] [Xilinx_Done], where:</p> <p>[Xilinx Write/Read] (1 byte)</p> <p>1 = XILINX write/read fault</p> <p>0 = no fault</p> <p>[Xilinx_Done] (1 byte)</p> <p>1 = Xilinx_Done fault</p> <p>0 = no fault</p> <p>[RAM] (1 byte)</p> <p>1 = RF ASIC RAM readback failure</p> <p>0 = no fault</p> |
| Fault Limits    | Single occurrence of fault condition                                                                                                                                                                                                                                                                                  |

### ARINC 429 TCAS Bus Monitor

The performance monitor detects failures in receiving bus data from TCAS. If TCAS is not installed as part of the transponder system, the TCAS bus monitor will always pass.

|                 |                                |
|-----------------|--------------------------------|
| Fault Code      | 2800                           |
| Fault Parameter | None, set to zero              |
| Fault Limits    | No bus data received from TCAS |

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### ARINC 429/575 Altitude Bus Monitor

The performance monitor detects failures in receiving bus data from ARINC 429 or ARINC 575 altitude sources. If the transponder is not configured for ARINC 429 or ARINC 575 Altitude Sources, the monitor will always pass. The fault code logged is based on the altitude source selected by the Alt Data Source Select input. An altitude fault for the non-selected altitude source will not be logged.

|                    |                                                                                                              |                            |
|--------------------|--------------------------------------------------------------------------------------------------------------|----------------------------|
| Fault Type         | Altitude Source #1 Invalid                                                                                   | Altitude Source #2 Invalid |
| Fault Code         | 2801                                                                                                         | 2802                       |
| Fault<br>Parameter | [Source] (1 byte) where:<br>0 = Strapped for ARINC 429 Data Source<br>1 = Strapped for ARINC 575 Data Source |                            |
| Fault Limits       | No valid altitude received (label 203)                                                                       |                            |

### ARINC 429 ADLP Bus Monitor

The performance monitor will monitor the status of the ARINC 429 COMM A/B ADLP and COMM C/D ADLP data busses. If the Transponder is not configured for an ADLP installed, the monitor will always pass.

|                    |                              |                   |
|--------------------|------------------------------|-------------------|
| Fault Type         | COMM A/B ADLP Bus            | COMM C/D ADLP Bus |
| Fault Code         | 2803                         | 2804              |
| Fault<br>Parameter | None, set to zero            |                   |
| Fault Limits       | No data received on ADLP bus |                   |

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### ARINC 429 Control Panel Bus Monitor

The performance monitor will check the status of the ARINC 429 Control Panel Port A or Control Panel Port B data busses. Only the port which is selected by the Control Data Port Select discrete input will be monitored.

|                 |                                     |                              |
|-----------------|-------------------------------------|------------------------------|
| Fault Type      | Control Panel Port A Invalid        | Control Panel Port B Invalid |
| Fault Code      | 2805                                | 2806                         |
| Fault Parameter | None, set to zero.                  |                              |
| Fault Limits    | No control panel label 016 received |                              |

### ARINC 429 Maintenance Bus Monitor

The performance monitor will check the status of the ARINC 429 Maintenance Bus.

|                 |                                            |
|-----------------|--------------------------------------------|
| Fault Code      | 2807                                       |
| Fault Parameter | None, set to zero                          |
| Fault Limits    | No data received from maintenance computer |

### Discrete Output Monitor

The performance monitor will check the status of the discrete outputs for an over-current condition.

|                 |                                                |              |               |              |
|-----------------|------------------------------------------------|--------------|---------------|--------------|
| Discrete Output | Xpdr Fail #1                                   | Xpdr Fail #2 | Altitude Fail | Reserved Out |
| Fault Code      | 2808                                           | 2809         | 280A          | 280B         |
| Fault Parameter | None, set to zero                              |              |               |              |
| Fault Limits    | Output in over-current condition for 1 second. |              |               |              |

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### Fan Current Monitor

The performance monitor will check the Fan Driver for an over-current condition.

|                 |                                                       |
|-----------------|-------------------------------------------------------|
| Fault Code      | 280C                                                  |
| Fault Parameter | None, set to zero.                                    |
| Fault Limits    | Fan Driver in an over-current condition for 1 second. |

### Invalid Mode S Address Monitor

The performance monitor will check the Mode S Address, and if it consists of all zeros or all ones, a fault will be declared.

|                 |                          |
|-----------------|--------------------------|
| Fault Code      | 280E                     |
| Fault Parameter | Mode-S Address (3 bytes) |
| Fault Limits    | Invalid address          |

### Mutual Suppression Monitor

The mutual suppression input is checked after a squitter transmission is generated to verify that a mutual suppression was asserted during the test. If the transponder is in standby, the monitor is inhibited from operation.

|                 |                                                           |
|-----------------|-----------------------------------------------------------|
| Fault Code      | 280F                                                      |
| Fault Parameter | None, set to zero.                                        |
| Fault Limits    | No mutual suppression asserted for 5 consecutive samples. |

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### Gilham Altitude Input Monitor

The performance monitor will check the status of the Gilham Altitude Inputs.

| Fault Type         | Altitude Source #1<br>Invalid                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Altitude Source #2<br>Invalid | Altitude Compare<br>Invalid |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|-----------------------------|
| Fault Code         | 2810                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 2811                          | 2812                        |
| Fault<br>Parameter | [Compare][Source][Altitude Source 1][Altitude Source 2],<br>where:<br><br>[Compare] (1 Byte)<br>0 Compare Enabled<br>1 Compare Disabled<br><br>[Source] (1 Byte)<br>0 Altitude Source #1 Selected<br>1 Altitude Source #2 Selected<br><br>[Altitude Source 1] (2 Bytes), Gilham 11 Wire Input:<br>D2 (bit 10), D4, A1, A2, A4, B1, B2, B4, C1, C2, C4<br>(bit 0)<br><br>[Altitude Source 2] (2 Bytes), Gilham 11 Wire Input:<br>D2 (bit 10), D4, A1, A2, A4, B1, B2, B4, C1, C2, C4<br>(bit 0) |                               |                             |
| Fault Limits       | Invalid C-Bit combination or Compare Failure per system requirements.                                                                                                                                                                                                                                                                                                                                                                                                                          |                               |                             |

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**Synchro Altitude Input Monitor**

The performance monitor will check the status of the Synchro Altitude Inputs.

| Fault Type      | Synchro Altitude Source #1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Synchro Altitude Source #2 |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| Fault Code      | 2813                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 2814                       |
| Fault Parameter | [Valid][Code][Course V <sub>xx</sub> ][Course V <sub>xx</sub> ][Fine V <sub>xx</sub> ][Fine V <sub>xx</sub> ],<br>where:<br><br>[Valid] (1 Byte):<br>0 Synchro Altitude Flag Invalid<br>1 Synchro Altitude Flag valid<br><br>[Code] (1 Byte):<br>1 (Synchro Out of Range)<br>2 (Synchro Voltage Error)<br><br>[Course V <sub>xx</sub> ] (1 Byte):<br>Course V <sub>xx</sub> Voltage on A2 CCA, U52, Units = 0.1VDC, 2's complement.<br><br>[Course V <sub>xx</sub> ] (1 Byte):<br>Course V <sub>xx</sub> Voltage on A2 CCA, U52, Units = 0.1VDC, 2's complement.<br><br>[Fine V <sub>xx</sub> ] (1 Byte):<br>Fine V <sub>xx</sub> Voltage on A2 CCA, U52, Units = 0.1VDC, 2's complement.<br><br>[Fine V <sub>xx</sub> ] (1 Byte):<br>Fine V <sub>xx</sub> Voltage on A2 CCA, U52, Units = 0.1VDC, 2's complement. |                            |
| Fault Limits    | Synchro Flag, Invalid Altitude, or Invalid Synchro voltages.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                            |

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**Mode S Address Change Monitor**

The performance monitor will check the Mode S Address, and if it changes form the value read at initialization, a fault will be declared.

|                 |                                                                                                                                                             |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fault Code      | 2815                                                                                                                                                        |
| Fault Parameter | [New Address][Original Address], where:<br>[New Address] (3 bytes):<br>Address read by monitor<br>[Original Address] (3 bytes):<br>Address read at Power Up |
| Fault Limits    | Address miscompare for 5 consecutive reads                                                                                                                  |

**ARINC 429 Flight ID Bus Monitor**

The performance monitor will check the status of the ARINC 429 Flight ID Bus.

|                 |                                      |
|-----------------|--------------------------------------|
| Fault Code      | 2816                                 |
| Fault Parameter | None, set to zero                    |
| Fault Limits    | No flight ID received when installed |

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### RF Forward Power

The performance monitor will check the forward power on the top and bottom antenna ports independently after a squitter reply is initiated. If the output power in either antenna is too low, the appropriate RF channel will be declared as failed. If the transponder is in standby mode, the monitor will be inhibited from operating.

| Antenna         | Bottom                                                                                                                                                                 | Top  |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| Fault Code      | 3000                                                                                                                                                                   | 3001 |
| Fault Parameter | [Forward Power]<br><br>[Forward Power] (2 bytes)<br>Forward power measured in Volts DC at<br>P1-12 (top) and P1-10 (Bottom) on A-4<br>Power Supply CCA. Units = 0.1VDC |      |
| Fault Limits    | < 0.7V is a fault condition.                                                                                                                                           |      |

### Local Oscillator Synthesizer Monitor

The performance monitor shall check the 1090MHz Local Oscillator Synthesizer Lock Detect signal.

|                 |                                                                                        |
|-----------------|----------------------------------------------------------------------------------------|
| Fault Code      | 3002                                                                                   |
| Fault Parameter | VCO Synthesizer Lock Detect at P1-33 on A-4 Power Supply CCA (2 bytes). Units = 0.1VDC |
| Fault Limits    | <2.0V is a fault condition.                                                            |

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### Local Oscillator VCO Voltage Monitor

The performance monitor shall check the 1090MHz VCO Tuning Voltage signal.

|                 |                                                                                               |
|-----------------|-----------------------------------------------------------------------------------------------|
| Fault Code      | 3003                                                                                          |
| Fault Parameter | VCO Tuning Voltage measured at U6-7 on A-3 Transmitter/Receiver CCA (2 bytes). Units = 0.1VDC |
| Fault Limits    | <1.0V or >11.0V                                                                               |

### Local Oscillator Level Monitor

The performance monitor shall check the 1090MHz Local Oscillator Level and generate an fault if it is out of tolerance.

|                 |                                                                                               |
|-----------------|-----------------------------------------------------------------------------------------------|
| Fault Code      | 3004                                                                                          |
| Fault Parameter | Local Oscillator Voltage measured at P1-37 on A-4 Power Supply CCA (2 bytes). Units = 0.1VDC. |
| Fault Limits    | <0.5V or >4.0V is a fault.                                                                    |

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### Pin Diode Monitor

The performance monitor will check the Top and Bottom PIN diode voltages. The PIN diode voltages will be monitored during a squitter transmission when the diodes are in a known state. The Top and Bottom PIN diode voltages will be monitored in both the ON (Receive) and OFF (Transmit) state. If the transponder is in standby, the Bottom and Top PIN diodes will be monitored for the ON state only.

| Fault Type      | Top PIN ON                                                       | Top PIN OFF     | Bot PIN ON     | Bot PIN OFF     |
|-----------------|------------------------------------------------------------------|-----------------|----------------|-----------------|
| Fault Code      | 3005                                                             | 3006            | 3007           | 3008            |
| Fault Parameter | PIN Diode Voltage in units of 0.1 VDC, 2's complement (2 bytes). |                 |                |                 |
| Fault Limits    | <-30V or >+30V                                                   | <-190V or >-90V | <-30V or >+30V | <-190V or >-90V |

### RF Receiver Monitor

The performance monitor checks the status of the RF Receiver Channels according to the following requirements:

- Prior to a squitter operation, the monitor will generate a self-test interrogation which modulates the RF receiver circuitry.
- The monitor will generate 100 interrogations per channel (a total of 200 interrogation for a dual antenna installation, or 100 interrogations for a single antenna installation), and will alternate interrogation types so that both Mode S hardware interrupts are generated.
- For Mode S interrogations the monitor will fail the top or bottom antenna channel if less than 5 valid interrogations out of every 100 are not received, and at least one interrogation for each Mode S hardware interrupt is not received.
- For ATRBS Interrogations, the monitor shall fail the top or bottom antenna channel if less than 5 valid interrogations out of every 100 are not received, and at least one Mode A and Mode C interrogation is not received.

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|                 |                                                                                                                                                                |                        |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| Fault Type      | RF Bottom Receiver Mode S                                                                                                                                      | RF Top Receiver Mode S |
| Fault Code      | 3009                                                                                                                                                           | 300A                   |
| Fault Parameter | [Mode S Int0][Mode S Int1]<br><br>[Mode S Int0] (1 byte)<br>Number of failures per 50 tests.<br><br>[Mode S Int1] (1 byte)<br>Number of failures per 50 tests. |                        |
| Fault Limits    | Per (c)                                                                                                                                                        |                        |

|                 |                                                                                                                                                                                        |                        |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| Fault Type      | RF Bottom Receiver ATCRBS                                                                                                                                                              | RF Top Receiver ATCRBS |
| Fault Code      | 300B                                                                                                                                                                                   | 300C                   |
| Fault Parameter | [ATCRBS ACL Mode A][ATCRBS ACL Mode C]<br><br>[ATCRBS ACL Mode A] (1 byte)<br>Number of failures per 50 tests.<br><br>[ATCRBS ACL Mode C] (1 byte)<br>Number of failures per 50 tests. |                        |
| Fault Limits    | Per system requirements                                                                                                                                                                |                        |

#### Antenna Monitor

The performance monitor will check the DC resistance to ground on the top and bottom antenna ports independently. If the measurement indicates an open circuit condition, the appropriate antenna will be declared as failed.

|                 |                                                                                                                     |      |
|-----------------|---------------------------------------------------------------------------------------------------------------------|------|
| Antenna         | Bottom                                                                                                              | Top  |
| Fault Code      | 3800                                                                                                                | 3801 |
| Fault Parameter | Antenna Continuity test measured at P1-16 (top) or P1-14 (bottom) on A-2 Power Supply CCA (2 bytes). Units = 0.1VDC |      |
| Fault Limits    | > 2.5 V is a fault condition.                                                                                       |      |

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**Power Supply Voltages**  
  
The performance monitor will check the DC voltages generated by the system power supply. The following voltages are monitored.

|                 |                                                                     |                |                |                |
|-----------------|---------------------------------------------------------------------|----------------|----------------|----------------|
| Voltage         | +66 VDC                                                             | +39 VDC        | +28 VDC        | +15 VDC        |
| Fault Code      | 4000                                                                | 4001           | 4002           | 4003           |
| Fault Parameter | Power Supply Voltage in units of 0.1 VDC, 2's complement (2 bytes). |                |                |                |
| Fault Limits    | < 45V or > 75V                                                      | < 33V or > 45V | < 22V or > 34V | < 12V or > 18V |

|                 |                                                                     |                   |                    |                |
|-----------------|---------------------------------------------------------------------|-------------------|--------------------|----------------|
| Voltage         | -5 VDC                                                              | -15 VDC           | -150 VDC           | +33 VDC        |
| Fault Code      | 4004                                                                | 4005              | 4006               | 400A           |
| Fault Parameter | Power Supply Voltage in units of 0.1 VDC, 2's complement (2 bytes). |                   |                    |                |
| Fault Limits    | < -6V or > - 3.5V                                                   | < -18V or > - 12V | < -180V or > -100V | < 25V or > 41V |

|                  |                          |                    |                      |
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### Ambient Temperature Monitor

The performance monitor will check the internal system temperature. The temperature monitor will log a fault under the following environmental conditions:

|                 |                                                                                  |
|-----------------|----------------------------------------------------------------------------------|
| Fault Code      | 4007                                                                             |
| Fault Parameter | Temperature in units of 0.1 Degree Centigrade, 2's complement (2 bytes).         |
| Fault Limits    | (Deg C) <-75 or >+120 generates a fault<br>(Deg C) >-70 and <+115 clears a fault |

### Pulse and Envelope Modulation Monitor

The performance monitor will check the Pulse Modulation and Envelope Modulation voltages. The Pulse Modulation and Envelope Modulation voltages will be monitored during a squitter transmission when the signals are in a high (ON) state.

| Fault Type      | Pulse Modulator                                                                | Envelope Modulator                                                             |
|-----------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------|
| Fault Code      | 4008                                                                           | 4009                                                                           |
| Fault Parameter | Voltage Measured at P1-32 on A4 Power Supply CCA (2 bytes).<br>Units = 0.1 VDC | Voltage Measured at P1-36 on A4 Power Supply CCA (2 bytes).<br>Units = 0.1 VDC |
| Fault Limits    | <+18V or >+35V is a fault                                                      | <+18V or >+35V is a fault                                                      |

### Unexpected Cold Start

The performance monitor will log this error is a Cold Start is executed and the aircraft is in the airborne state.

|                 |                         |
|-----------------|-------------------------|
| Fault Code      | 4800                    |
| Fault Parameter | None, set to zero       |
| Fault Limits    | Per system requirements |

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### Software Fault Monitor

The 80960 Microprocessor in the transponder may generate an internal software fault from a number of conditions. If the internal fault occurs, a software event shall be recorded for that fault.

|                 |                                                                                                                                                                                                                                                                                                                                               |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fault Code      | F000                                                                                                                                                                                                                                                                                                                                          |
| Fault Parameter | <p>[Fault Type][Fault Subtype][RIP] where,</p> <p>[Fault Type] (1 Byte)<br/>Contains fault type field generated by 80960.</p> <p>[Fault Subtype] (1 Byte)<br/>Contains fault subtype field generated by 80960.</p> <p>[RIP] (4 Bytes)<br/>Contains the return address (Return Instruction Pointer) to the code which generated the fault.</p> |
| Fault Limits    | Single occurrence of fault condition                                                                                                                                                                                                                                                                                                          |

### RAM Memory

The self-test monitor will perform a write/read test of RAM memory to verify the RAM memory is operational. The RAM memory test will be performed after a cold start power interrupt.

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fault Code      | 200A                                                                                                                                                                                                                                                                                                                                                                                                              |
| Fault Parameter | <p>[Address][Device #3][Device #2][Device #1][Device #0], where:</p> <p>[Address] (4 Bytes)<br/>Address of first memory location which failed.</p> <p>[Device #n] (1 Byte each)<br/>Number of failures found in each memory device (maximum 255).</p> <p>[Device #0] RAM Device for D0-D7<br/>[Device #1] RAM Device for D8-D15<br/>[Device #2] RAM Device for D16-D23<br/>[Device #3] RAM Device for D24-D31</p> |
| Fault Limits    | Single occurrence of comparison mis-match.                                                                                                                                                                                                                                                                                                                                                                        |

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# **XILINX/RF ASIC Monitor**

The self-test monitor will perform the following tests in to the XILINX ASIC and RF ASIC devices to verify the devices are operational.

- The XILINX\_DONE discrete from the XILINX ASIC will be monitored to verify the device is operational.
- A write/read test to the internal XILINX ASIC register will be performed to verify the device is operational.
- The monitor will generate a squitter reply with the DELM register in the XILINX ASIC set to 2 segments, and verify that the XILINX ASIC requests a DMA operation, and that the correct data was transferred into the RF ASIC transmit registers by the DMA operation.
- The monitor will perform a write/read test to the RAM memory in the RF ASIC.

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fault Code      | 200C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Fault Parameter | <p>[RF RAM][DMA][Xilinx Write/Read][Xilinx_Done], where:</p> <p>[Xilinx Write/Read] (1 byte)<br/>1 = XILINX write/read fault<br/>0 = no fault</p> <p>[Xilinx_Done] (1 byte)<br/>1 = Xilinx_Done fault<br/>0 = no fault</p> <p>[DMA] (1 byte)<br/>2 = No DMA operation requested<br/>1 = Data not transferred correctly by DMA operation.<br/>0 = no fault</p> <p>NOTE: The fault codes shall be prioritized in numerical order (highest to lowest)</p> <p>[RF RAM] (1 byte)<br/>1 = RAM Write/Read test fault<br/>0 = no fault</p> |
| Fault Limits    | Single occurrence of fault condition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

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# ARINC 429 Transmitter Monitor

The self-test monitor will perform an internal ARINC 429 transmitter to receiver channel loop-back test to verify the ARINC 429 transmitter channels are operational:

- The monitor will check each ARINC 429 transmitter channel by setting the ARINC 429 receiver channel for a loop-back to the transmitter, and verifying that a label which is transmitted by the ARINC 429 transmitter is received by the receiver.  
NOTE: This will disrupt the normal receiver function momentarily while the test is being performed.

- The monitor will check that an interrupt was generated by the transmission and reception, and that the appropriate transmitter/receiver flags were set/cleared.

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fault Code      | 200D                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Fault Parameter | <p>[Test] [DL] [DGPS] [Maint] [TCAS] [COM C/D] [COM A/B], where:</p> <p>[ ] corresponds to the transmitter channel tested (1 nibble)</p> <p>4 = no interrupt generated<br/> 3 = transmit flag failure<br/> 2 = receive flag failure<br/> 1 = receive data invalid<br/> 0 = no fault</p> <p>NOTE: The fault codes shall be prioritized in numerical order (highest to lowest)</p> <p>[COM A/B] ASIC #1, Channel A<br/> [COM C/D] ASIC #1, Channel B<br/> [TCAS] ASIC #1, Channel C<br/> [Maint] ASIC #1, Channel D<br/> [DGPS] ASIC #2, Channel A<br/> [DL] ASIC #2, Channel B<br/> [Test] ASIC #2, Channel C</p> |
| Fault Limits    | Single occurrence of fault condition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

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## ARINC 429 Receiver Monitor

The self-test monitor will perform an internal ARINC 429 test transmitter channel to ARINC 429 receiver channels loop-back test to verify the ARINC 429 receiver channels and ARINC 429 receiver buffers are operational:

- The monitor will set the ARINC 429 receiver buffers for test operation and transmit a label on the ARINC 429 Test transmitter output. The monitor will verify that the label was received on each receiver channel.  
NOTE: This will disrupt the normal receiver function momentarily while the test is being performed.

- The monitor will check that the appropriate receiver flags were set.

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fault Code      | 200E                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Fault Parameter | <p>[PDL][ADL][ADS][Control B][ADC 2][Mode S][Maint]<br/>[Control A][ADC 1][Flight ID][TCAS][COM C/D][COM A/B]</p> <p>where:</p> <p>[ ] corresponds to the receiver channel tested (1 nibble)<br/> 4 = no interrupt generated<br/> 3 = unused (reserved for transmit flag failure)<br/> 2 = receive flag failure<br/> 1 = receive data invalid<br/> 0 = no fault</p> <p>NOTE: The fault codes shall be prioritized in numerical order (highest to lowest)</p> <p>[COM A/B] ASIC #1, Channel A0<br/> [COM C/D] ASIC #1, Channel A1<br/> [TCAS] ASIC #1, Channel A2<br/> [Flight ID] ASIC #1, Channel A3<br/> [ADC 1] ASIC #1, Channel A4<br/> [Control A] ASIC #1, Channel A5<br/> [Maint] ASIC #1, Channel A6<br/> [Mode S] ASIC #1, Channel A7<br/> [ADC 2] ASIC #1, Channel B4<br/> [Control B] ASIC #1, Channel B5<br/> [ADS] ASIC #2, Channel A0<br/> [ADL] ASIC #2, Channel A1<br/> [PDL] ASIC #2, Channel A2</p> |
| Fault Limits    | Single occurrence of fault condition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

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| 5<br>10<br>15<br>20<br>25<br>30<br>35<br>40<br>45 | <b>TCAS Timer</b><br><br>The self-test monitor will perform a test of TCAS 2MSEC timer which is contained in the UART to verify that the timer is operational and that an interrupt is generated.                                                                                              |                                                        |             |              |            |      |                 |                   |              |                                                        |
|                                                   | <table border="1"> <tr> <td>Fault Code</td> <td>200F</td> </tr> <tr> <td>Fault Parameter</td> <td>None.</td> </tr> <tr> <td>Fault Limits</td> <td>Single occurrence of interrupt not generated by timer.</td> </tr> </table>                                                                   |                                                        |             |              | Fault Code | 200F | Fault Parameter | None.             | Fault Limits | Single occurrence of interrupt not generated by timer. |
|                                                   | Fault Code                                                                                                                                                                                                                                                                                     | 200F                                                   |             |              |            |      |                 |                   |              |                                                        |
|                                                   | Fault Parameter                                                                                                                                                                                                                                                                                | None.                                                  |             |              |            |      |                 |                   |              |                                                        |
|                                                   | Fault Limits                                                                                                                                                                                                                                                                                   | Single occurrence of interrupt not generated by timer. |             |              |            |      |                 |                   |              |                                                        |
|                                                   | <b>Weight on Wheels Miscompare</b><br><br>This monitor will be checked only checked when a self test request is received from an Airbus or McDonnell Maintenance computer. The weight on wheels miscompare monitor will compare the air/ground status with that from the maintenance computer. |                                                        |             |              |            |      |                 |                   |              |                                                        |
|                                                   | <table border="1"> <tr> <td>Fault Code</td> <td>2817</td> </tr> <tr> <td>Fault Parameter</td> <td>None, set to zero</td> </tr> <tr> <td>Fault Limits</td> <td>Single occurrence of miscompare.</td> </tr> </table>                                                                             |                                                        |             |              | Fault Code | 2817 | Fault Parameter | None, set to zero | Fault Limits | Single occurrence of miscompare.                       |
|                                                   | Fault Code                                                                                                                                                                                                                                                                                     | 2817                                                   |             |              |            |      |                 |                   |              |                                                        |
|                                                   | Fault Parameter                                                                                                                                                                                                                                                                                | None, set to zero                                      |             |              |            |      |                 |                   |              |                                                        |
|                                                   | Fault Limits                                                                                                                                                                                                                                                                                   | Single occurrence of miscompare.                       |             |              |            |      |                 |                   |              |                                                        |
|                                                   |                                                                                                                                                                                                                                                                                                |                                                        |             |              |            |      |                 |                   |              |                                                        |
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# 4.0 Fault Log Data Format

For each fault which is logged in memory, the following data parameters shall be contained with the fault. The units and data ranges for each data parameter is defined in the following list. Each fault shall be logged in a 64 byte block; each data field describes the byte location where it is logged in the block (0 = first byte in block, 63 = last byte in block). Any undefined or unused bits shall be set to zero.

Byte 0 Fault Type MSB  
Byte 1 Fault Type LSB

Fault Type (code) (Units = none, Range = 0 to FFFF Hex). Contains a code for the type of fault which has occurred. Fault codes are defined using the following code to aid troubleshooting:

| Fault Code Subfield | Description of Field                                                                                                                                                                                                                                                                             |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Bits 15-12          | Probable assembly where fault occurred/was detected:<br>1 = A1 Interconnect Assembly<br>2 = A2 Processor Assembly<br>3 = A3 Transmitter/Receiver Assembly<br>4 = A4 Power Supply/Modulator Assembly<br>5 = A5 ARINC 629 Auxiliary Assembly<br>6 = Flight Leg Change Marker<br>F = Software Event |
| Bit 11              | Probable error source:<br>0 = Internal to transponder unit.<br>1 = External to transponder unit.                                                                                                                                                                                                 |
| Bits 10-0           | Fault code.                                                                                                                                                                                                                                                                                      |

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| <div style="display: flex;"> <div style="flex: 1; padding-right: 10px;"> <div style="text-align: right; margin-bottom: 10px;">REV<br/>LTR</div> <div style="margin-top: 10px;">5</div> <div style="margin-top: 10px;">10</div> <div style="margin-top: 10px;">15</div> <div style="margin-top: 10px;">20</div> <div style="margin-top: 10px;">25</div> <div style="margin-top: 10px;">30</div> <div style="margin-top: 10px;">35</div> <div style="margin-top: 10px;">40</div> <div style="margin-top: 10px;">45</div> </div> <div style="flex: 4;"> <p>Byte 17 Aircraft ID First Character<br/>through</p> <p>Byte 23 Aircraft ID Seventh Character</p> <p>Byte 24 Aircraft ID Eighth Character / Aircraft Type</p> <p>Byte 25 Aircraft ID Ninth Character / Fleet Identification</p> <p>Aircraft Tail Number (Aircraft ID) from maintenance computer, Labels 301, 302, and 303. Airbus and Douglas use seven characters, Boeing uses nine characters. The data field shall contain the contents of bits 11 to 17 (characters 1, 4, and 7), bits 18 to 24 (characters 2 and 5 for Airbus and Douglas, characters 2, 5, and 8 for Boeing), and bits 25 to 31 (characters 3 and 5 for Airbus and Douglas, characters 3, 5, and 9 for Boeing) of each label. For Airbus only, bits 11 to 16 of Label 304 shall be placed in Byte 24 and bits 18 to 21 shall be placed in Byte 25. If label 304 is not present in the system, the data fields shall be set to all ones. If no maintenance computer is present in the system, all the bytes shall be set to all ones.</p> <p>Byte 26 Aircraft Flight Number First Character<br/>through</p> <p>Byte 35 Aircraft Flight Number Tenth Character</p> <p>Aircraft Flight Number from maintenance computer, Labels 233, 234, 235, 236, (Boeing and Airbus), 237 (Airbus), and 361 (Douglas). For Airbus and Boeing, the data field shall contain the contents of bits 11 to 17 (characters 1, 3, 5, 7, and 9) and bits 19 to 25 (characters 2, 4, 6, 8, and 10) of each label. Bytes 34 and 35 (character 9 and 10) shall be set to all ones for Boeing. For Airbus, if label 237 is not present in the system, the data fields for that label shall be set to all ones. For Douglas, all characters are extracted from label 261 as BCD data and converted to ASCII by adding 0x30 (ASCII 0). The first character is extracted from bit 26 to 29, the second character is extracted from bits 22 to 25, the third character is extracted from bits 18 to 24, and the fourth character is extracted from bits 14 to 17. The fields for characters 5 through 10 shall be set to all ones. If no maintenance computer is present in the system, the data fields shall be set to all ones.</p> <p>Byte 36 Aircraft Command Code</p> <p>Aircraft command code from maintenance computer, Label 227, bits 25 to 31. If no maintenance computer is present in the system, the data field shall be set to all ones.</p> </div> </div> | <div style="display: flex; justify-content: space-between; align-items: center; padding: 5px;"> <div style="font-size: 24pt; font-weight: bold;">Honeywell</div> <div>SECURITY NOTATION</div> <div>SUPPLEMENTS</div> <div>C-30<br/>PAGE</div> </div> |                        |                  |  |



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| 5                                    | Byte 55 Current Power On Count MSB<br>Byte 56 Current Power On Count LSB<br>Current power-on count (Units = none, Range = 0 to FFFF Hex).                                                                                                             |                          |                                |                      |
| 10                                   | Byte 57 Time since Power On MSB<br>Byte 58 Time since Power On LSB<br>Time Since power-on (Units = 0.1 Hours, Range = 0 to FFFF Hex, 6553.5 hours).                                                                                                   |                          |                                |                      |
| 15                                   | Byte 59 Source of Test<br>When a fault is logged, the transponder shall log the source of the test which found the fault. The following type of tests are defined:                                                                                    |                          |                                |                      |
| 20                                   | 1 Continuous Performance Monitor<br>2 Power On Initiated Selftest<br>3 Control Panel Initiated Selftest<br>4 Functional Test Discrete Initiated Selftest<br>5 Front Panel Test Switch Initiated Selftest<br>6 Maintenance Computer Initiated Selftest |                          |                                |                      |
| 25                                   |                                                                                                                                                                                                                                                       |                          |                                |                      |
| 30                                   |                                                                                                                                                                                                                                                       |                          |                                |                      |
| 35                                   |                                                                                                                                                                                                                                                       |                          |                                |                      |
| 40                                   |                                                                                                                                                                                                                                                       |                          |                                |                      |
| 45                                   |                                                                                                                                                                                                                                                       |                          |                                |                      |
| <b>Honeywell</b>                     |                                                                                                                                                                                                                                                       | <b>SECURITY NOTATION</b> | <b>SUPPLEMENTS</b>             | <b>C-32<br/>PAGE</b> |

2.52±.02

2.13±.02

.90±.01



.396±.010

1.385±.010



CO 103921 SH 2 OF 3

CO 103921 SH 2 OF 3

R .06±.01  
6 PLACES

**HONEYWELL INC. XS-950S/I**

**DATA LINK TRANSPONDER**

**HARDWARE**

P/N 7519350- [REDACTED]

S/N [REDACTED]

WT [REDACTED] Lbs

DATE INSP. # [REDACTED]

DO-160D ENV CAT [(A2)(F2)Y]BBB  
[(SCLMY)XXXXXXZEAZIRRR]A3E3DXXA  
TSO-C112 CL043,121,F11

FCC ID GB8XS-950

H/W MOD

|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| A  | B  | C  | D  | E  | F  | G  | H  | J  | K  | L  | M  | N  | P  | R  | S  | T  | U  |
| V  | W  | Y  | Z  | AA | AB | AC | AD | AE | AF | AG | AH | AJ | AK | AL | AM | AN | AP |
| AR | AS | AT | AU | AV | AW | AY |    |    |    |    |    |    |    |    |    |    |    |

BUS. & COMMUTER AVN SYS DIV  
PHOENIX AZ USA

FSCM 55939

DO-160D ENV CAT [(A2)(F2)Y]BBB  
[(SCLMY)XXXXXXZEAZIRRR]A3E3DXXA  
TSO-C112 CL043,121,F11

FCC ID GB8XS-950

H/W MOD A B C D E F G H J K L M N

**NOT APPROVED FOR CIVILIAN  
USE, FOR MILITARY USE ONLY**

FIGURE 56. 7021570-45

GT7021570-45

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SIZE  
A

CAGE CODE  
55939

DRAWING NO.

7021570

REV  
AM

SCALE 2/1

SHEET 58

2.52±.02

2.13±.02

.90±.01



.396±.010

1.385±.010



**HONEYWELL INC. XS-950S/I**

**DATA LINK TRANSPONDER**

**HARDWARE**

P/N 7519350-

S/N

WT

Lbs

DATE INSP. #

**SOFTWARE**

DO-178B

LEVEL B

S/W MOD

|    |    |    |    |    |   |    |   |
|----|----|----|----|----|---|----|---|
| A  | B  | C  | D  | E  | F | G  | H |
| J  | K  | L  | M  | N  | P | R  | S |
| T  | U  | V  | W  | Y  | Z | AA |   |
| AB | AC | AD | AE | AF |   |    |   |
| AG | AH | AJ | AK | AL |   |    |   |
| AM | AN | AP | AR | AS |   |    |   |
| AT | AU | AV | AW | AY |   |    |   |

DO-1600 ENV CAT ((A2)(F2)Y)BBB  
(UF)(SCLMY)EXXXXXZIBZ(AZZ)(RRR)(A3E3DCXA  
ISO-C112 CL043,121,F11

FCC ID GB8XS-950

H/W MOD

|    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |
|----|----|----|----|----|----|----|----|----|----|----|----|----|---|---|---|---|---|
| A  | B  | C  | D  | E  | F  | G  | H  | J  | K  | L  | M  | N  | P | R | S | T | U |
| V  | W  | Y  | Z  | AA | AB | AC | AD | AE | AF | AG | AH | AJ |   |   |   |   |   |
| AK | AL | AM | AN | AP | AR | AS | AT | AU | AV | AW | AY |    |   |   |   |   |   |

BUS. & COMMUTER AVN SYS DIV  
PHOENIX AZ USA

FSCM 55939

DO-1600 ENV CAT ((A2)(F2)Y)BBB  
(SCLMY)EXXXXX(AE)RRR(A3E3DCXA  
T80-C112 CL043,121,F11

FCC ID GB8XS-950

H/W MOD A B C D E F G H J K L M N

**NOT APPROVED FOR CIVILIAN  
USE, FOR MILITARY USE ONLY**

FIGURE 57. 7021570-46

GT7021570-46

CO.103927 SH 3 OF 3

CO.103927 SH 3 OF 3

R .06±.01  
6 PLACES

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CAGE CODE

55939

DRAWING NO.

7021570

REV

AM

SCALE

2/1

SHEET

59

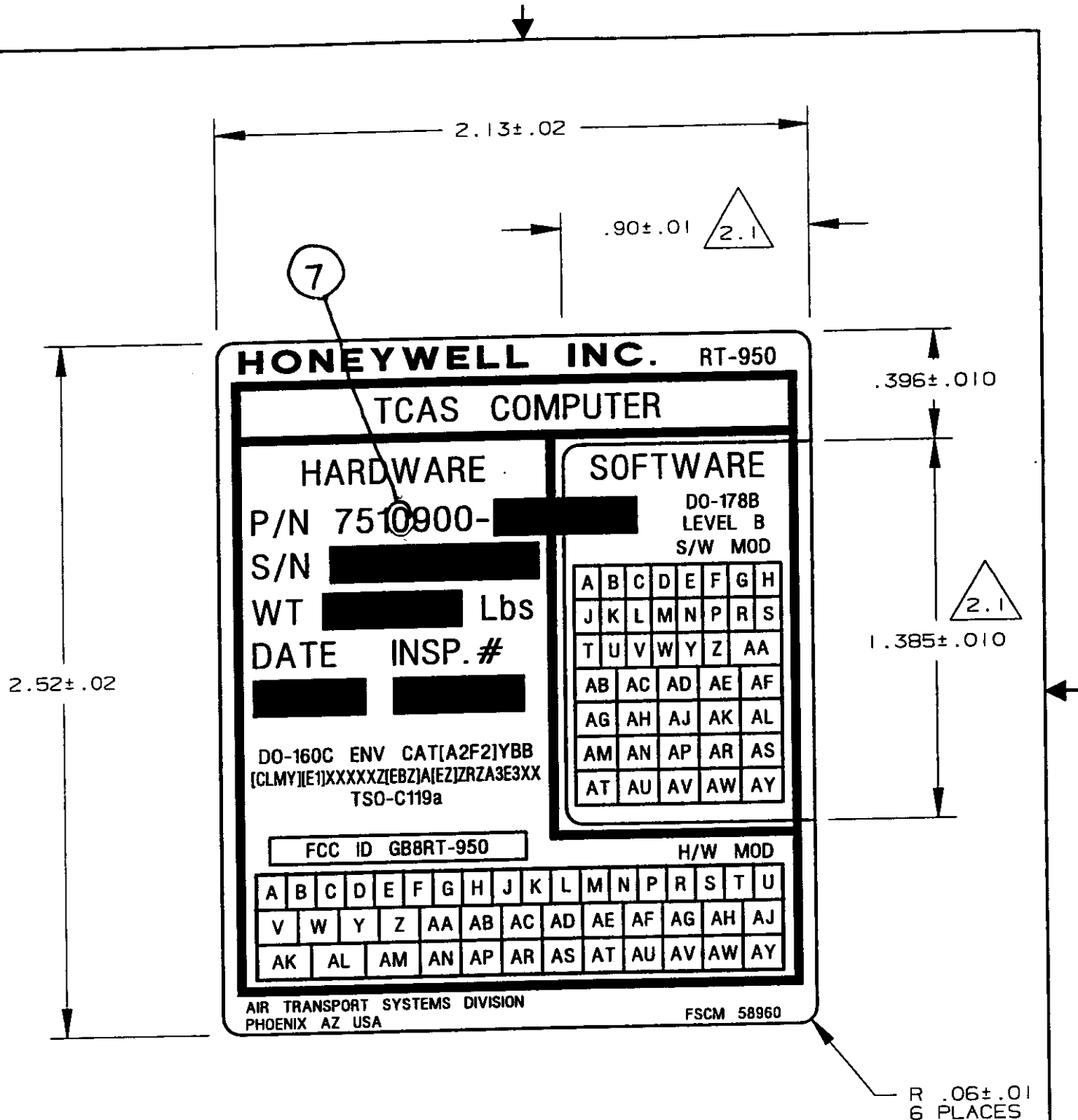
COMPUTER GENERATED

|            |           |              |                            |                    |                    |
|------------|-----------|--------------|----------------------------|--------------------|--------------------|
| 7021570-54 | FIGURE 65 | GT7021570-54 | RT-950 HDWR<br>S/W LEVEL B | (BLACK) 1.2.1.1    | (ALUMINUM) 1.2.2.2 |
| 7021570-55 | FIGURE 66 | GT7021570-55 | RT-951 HDWR<br>S/W LEVEL B | (ALUMINUM) 1.2.1.2 | (BLACK) 1.2.2.1    |
| 7021570-56 | FIGURE 67 | GT7021570-56 | S/W LEVEL B                | (BLACK) 1.2.1.1    | (ALUMINUM) 1.2.2.2 |
| 7021570-57 | FIGURE 68 | GT7021570-57 | S/W LEVEL B                | (ALUMINUM) 1.2.1.2 | (BLACK) 1.2.2.1    |
| 7021570-58 | FIGURE 69 | GT7021570-58 | S/W LEVEL B                | (BLACK) 1.2.1.1    | (ALUMINUM) 1.2.2.2 |
| 7021570-59 | FIGURE 70 | GT7021570-59 | S/W LEVEL B                | (ALUMINUM) 1.2.1.2 | (BLACK) 1.2.2.1    |

CO103913 SHEET 2 OF 15

7021570

DWG NO. SH

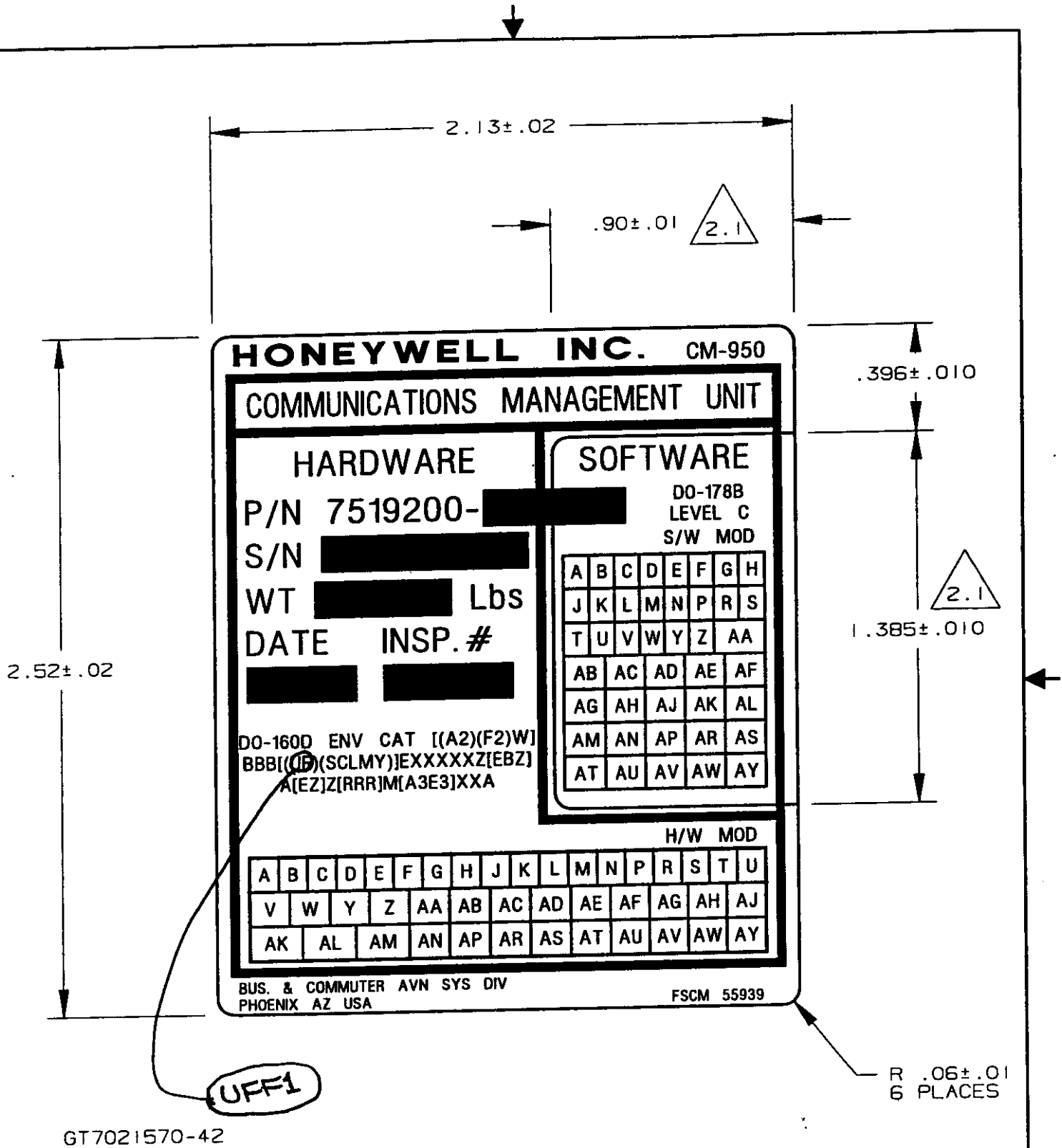


GT7021570-23

CO. 103913 SH 3 OF 15

FIGURE 23. 7021570-23

|           |                                                                                                                                                         |       |           |             |          |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----------|-------------|----------|
| Honeywell | SEE FIRST SHEET FOR CONTRACT NUMBER. USE OR DISCLOSURE OF INFORMATION ON THIS SHEET IS SUBJECT TO THE RESTRICTIONS ON THE FIRST SHEET OF THIS DOCUMENT. | SIZE  | CAGE CODE | DRAWING NO. | REV      |
|           |                                                                                                                                                         | A     | 55939     | 7021570     | AM       |
|           |                                                                                                                                                         | SCALE | 2/1       |             | SHEET 25 |



CO. 103913 SH 4 OF 15

FIGURE 53. 7021570-42

|                  |                                                                                                                                                                           |       |           |             |       |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----------|-------------|-------|
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|                  |                                                                                                                                                                           | A     | 55939     | 7021570     | AM    |
|                  |                                                                                                                                                                           | SCALE | 2/1       |             | SHEET |

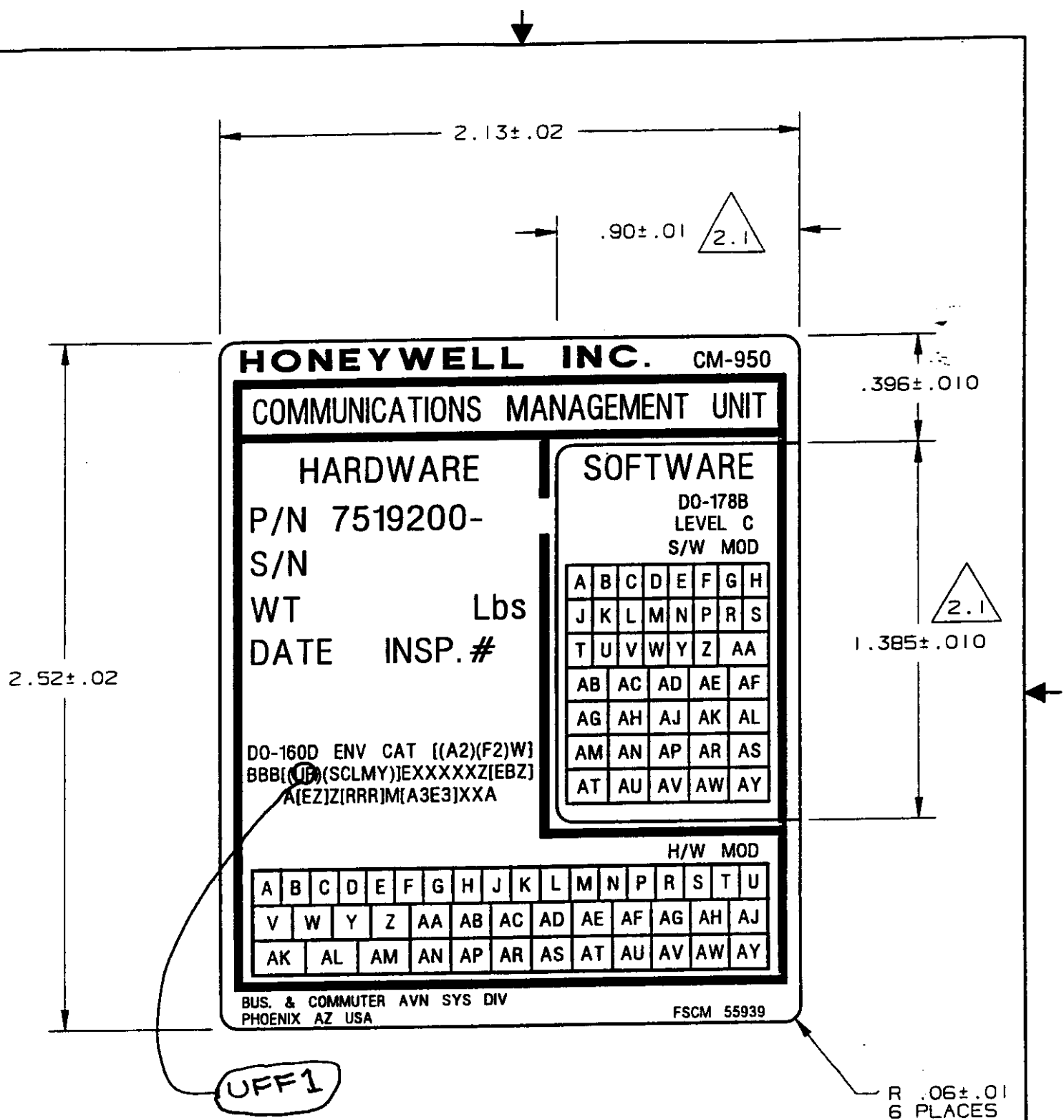


FIGURE 54. 7021570-43

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CAGE CODE

55939

DRAWING NO.

7021570

REV

AM

SCALE

2/1

SHEET

56

GT REV 10-91

2.13±.02

.90±.01

2.1

.396±.010

2.1

1.385±.010

2.52±.02

**HONEYWELL INC. XS-950S/I****DATA LINK TRANSPONDER****HARDWARE**

P/N 7519350- [REDACTED]

S/N [REDACTED]

WT [REDACTED] Lbs

DATE INSP.# [REDACTED]

**SOFTWARE**

DO-178B

LEVEL B

S/W MOD

|    |    |    |    |    |   |    |   |
|----|----|----|----|----|---|----|---|
| A  | B  | C  | D  | E  | F | G  | H |
| J  | K  | L  | M  | N  | P | R  | S |
| T  | U  | V  | W  | Y  | Z | AA |   |
| AB | AC | AD | AE | AF |   |    |   |
| AG | AH | AJ | AK | AL |   |    |   |
| AM | AN | AP | AR | AS |   |    |   |
| AT | AU | AV | AW | AY |   |    |   |

DO-160D ENV CAT [(A2)(F2)Y]BBB  
 [(F)(SCLMY)EXXXXXZAEZ(RRR)B(A3E3)XXA  
 TSO-C112 CL043,121,F11

FCC ID GB8XS-950

H/W MOD

|    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |
|----|----|----|----|----|----|----|----|----|----|----|----|----|---|---|---|---|---|
| A  | B  | C  | D  | E  | F  | G  | H  | J  | K  | L  | M  | N  | P | R | S | T | U |
| V  | W  | Y  | Z  | AA | AB | AC | AD | AE | AF | AG | AH | AJ |   |   |   |   |   |
| AK | AL | AM | AN | AP | AR | AS | AT | AU | AV | AW | AY |    |   |   |   |   |   |

BUS. & COMMUTER AVN SYS DIV  
 PHOENIX AZ USA

FSCM 55939

DO-160D ENV CAT [(A2)(F2)Y]BBB  
 (SCLMY)EXXXXXZAEZ(RRR)B(A3E3)XXA  
 TSO-C112 CL043,121,F11

FCC ID GB8XS-950

H/W MOD A B C D E F G H J K L M N

**NOT APPROVED FOR CIVILIAN  
 USE, FOR MILITARY USE ONLY**

FIGURE 56. 7021570-45

GT7021570-45

R .06±.01  
6 PLACES

CO. 103913 SH COFIS

AT

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CAGE CODE

55939

DRAWING NO.

7021570

REV

AM

SCALE

2/1

SHEET

58

COMPUTER GENERATED

DWG NO.

2.52±.02

2.13±.02

.90±.01



.396±.010

1.385±.010



CO. 103913 SH 7 OF 15

R .06±.01  
6 PLACES

HONEYWELL INC. XS-950S/1

DATA LINK TRANSPONDER

HARDWARE

P/N 7519350-

S/N

WT

Lbs

DATE

INSP.#

SOFTWARE

DO-178B

LEVEL B

S/W MOD

|    |    |    |    |    |   |    |   |
|----|----|----|----|----|---|----|---|
| A  | B  | C  | D  | E  | F | G  | H |
| J  | K  | L  | M  | N  | P | R  | S |
| T  | U  | V  | W  | Y  | Z | AA |   |
| AB | AC | AD | AE | AF |   |    |   |
| AG | AH | AJ | AK | AL |   |    |   |
| AM | AN | AP | AR | AS |   |    |   |
| AT | AU | AV | AW | AY |   |    |   |

DO-160D ENV CAT ((A2)(F2)Y)BBB  
[SCLMY]EXXXXXZ[BZ]AZZ[RRR]B(A3E3)XXA  
TSO-C112 CL043,121,F11

FCC ID GBBXS-950

H/W MOD

|    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |
|----|----|----|----|----|----|----|----|----|----|----|----|----|---|---|---|---|---|
| A  | B  | C  | D  | E  | F  | G  | H  | J  | K  | L  | M  | N  | P | R | S | T | U |
| V  | W  | Y  | Z  | AA | AB | AC | AD | AE | AF | AG | AH | AJ |   |   |   |   |   |
| AK | AL | AM | AN | AP | AR | AS | AT | AU | AV | AW | AY |    |   |   |   |   |   |

BUS. & COMPUTER AVN SYS DIV  
PHOENIX AZ USA

FSCM 55939

DO-160D ENV CAT ((A2)(F2)Y)BBB  
[SCLMY]EXXXXXZ[BZ]AZZ[RRR]B(A3E3)XXA  
TSO-C112 CL043,121,F11

FCC ID GBBXS-950

H/W MOD A B C D E F G H J K L M N

NOT APPROVED FOR CIVILIAN  
USE, FOR MILITARY USE ONLY

FIGURE 57. 7021570-46

GT7021570-46

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CAGE CODE

55939

DRAWING NO.

7021570

REV

AM

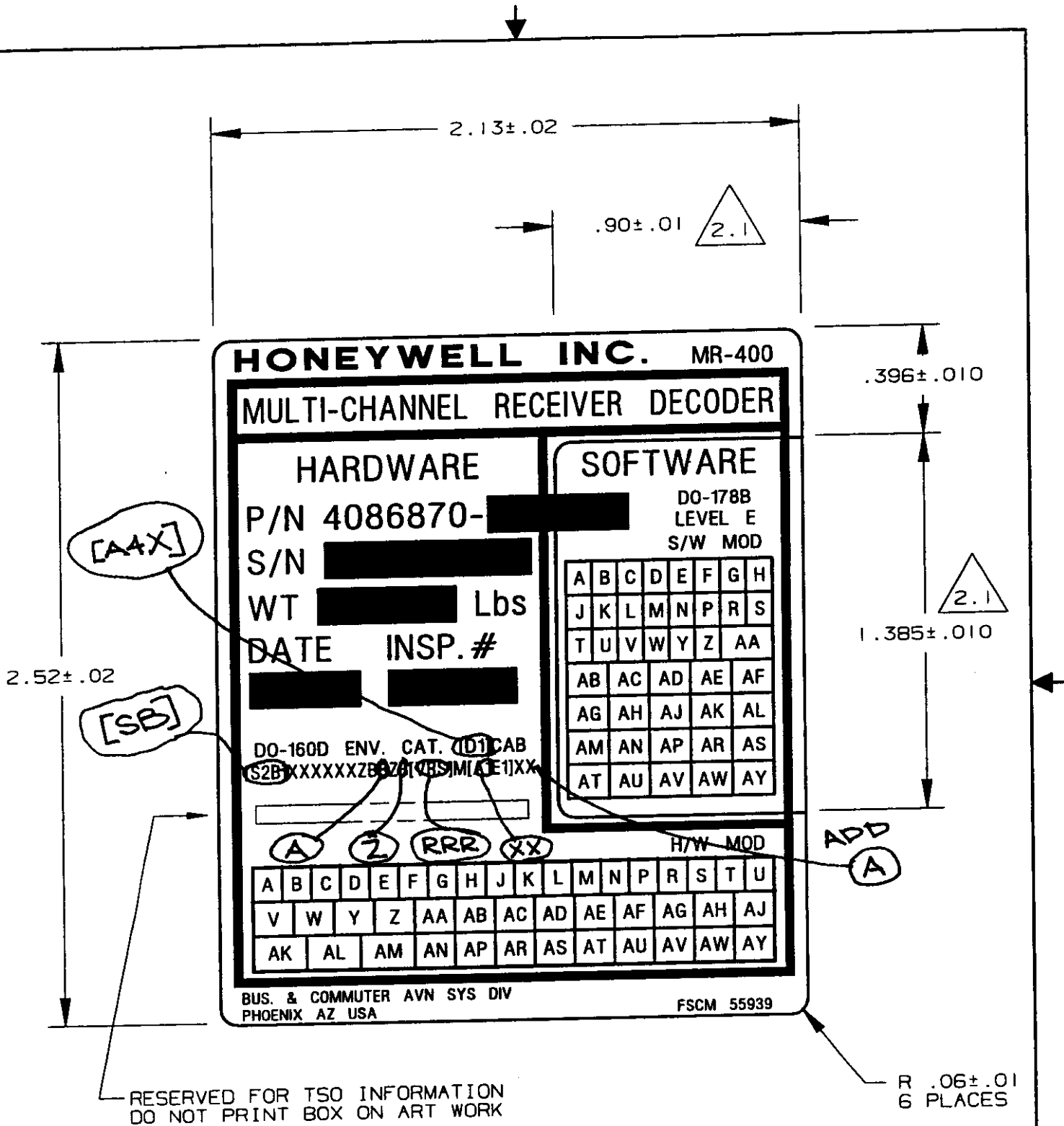
SCALE

2/1

SHEET

59

ST  
DWG NO.



GT7021570-47

CO.103913 SH8 OF 15

FIGURE 58. 7021570-47

|                  |                                                                                                                                                                           |           |           |             |     |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------|-------------|-----|
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|                  |                                                                                                                                                                           | A         | 55939     | 7021570     | AM  |
|                  |                                                                                                                                                                           | SCALE 2/1 | SHEET 60  |             |     |

5231-031 (ANSI Y14.1-1980) HONEYWELL INC.  
(REV 3-87)

COMPUTER GENERATED

GT REV 10-91



2.13±.02

.90±.01



7

**HONEYWELL INC. RT-950**

**TCAS COMPUTER**

**HARDWARE**

P/N 7510900- [REDACTED]

S/N [REDACTED]

WT [REDACTED] Lbs

DATE INSP.# [REDACTED]

DO-160C ENV CAT[A2F2]YBB  
[CLMY][E1]XXXXXXZ[EBZ]A[EZ]ZRZA3E3XX  
TSO-C1192

FCC ID GB8RT-950

**SOFTWARE**

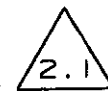
DO-178B

LEVEL B

S/W MOD

|    |    |    |    |    |   |    |   |
|----|----|----|----|----|---|----|---|
| A  | B  | C  | D  | E  | F | G  | H |
| J  | K  | L  | M  | N  | P | R  | S |
| T  | U  | V  | W  | Y  | Z | AA |   |
| AB | AC | AD | AE | AF |   |    |   |
| AG | AH | AJ | AK | AL |   |    |   |
| AM | AN | AP | AR | AS |   |    |   |
| AT | AU | AV | AW | AY |   |    |   |

.396±.010



1.385±.010

2.52±.02

AIR TRANSPORT SYSTEMS DIVISION  
PHOENIX AZ USA

FSCM 58960

6

R .06±.01  
6 PLACES

GT7021570-23

CO.103913 SH 1 OF 15

ADD THIS SHEET

FIGURE 23. 7021570-23

65

54

CHG

AT

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SIZE  
**A**

CAGE CODE  
**55939**

DRAWING NO.

**7021570**

REV

**AM**

SCALE **2/1**

SHEET

**25**

COMPUTER GENERATED

HONEYWELL INC. RT-951

TCAS COMPUTER

HARDWARE  
P/N 7517900-  
S/N  
WT Lbs  
DATE INSP.#

SOFTWARE

DO-178B  
LEVEL B  
S/W MOD

|    |    |    |    |    |   |    |   |
|----|----|----|----|----|---|----|---|
| A  | B  | C  | D  | E  | F | G  | H |
| J  | K  | L  | M  | N  | P | R  | S |
| T  | U  | V  | W  | Y  | Z | AA |   |
| AB | AC | AD | AE | AF |   |    |   |
| AG | AH | AJ | AK | AL |   |    |   |
| AM | AN | AP | AR | AS |   |    |   |
| AT | AU | AV | AW | AY |   |    |   |

DO-160C ENV CAT(A2F2)YBB  
[CLMY][E1]XXXXXZ[EBZ]A[EZ]ZRZA3E3XX  
TSO-C119

FCC ID GB8RT-950

H/W MOD

|    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |
|----|----|----|----|----|----|----|----|----|----|----|----|----|---|---|---|---|---|
| A  | B  | C  | D  | E  | F  | G  | H  | J  | K  | L  | M  | N  | P | R | S | T | U |
| V  | W  | Y  | Z  | AA | AB | AC | AD | AE | AF | AG | AH | AJ |   |   |   |   |   |
| AK | AL | AM | AN | AP | AR | AS | AT | AU | AV | AW | AY |    |   |   |   |   |   |

AIR TRANSPORT SYSTEMS DIVISION  
PHOENIX AZ USA

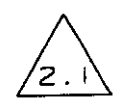
FSCM 58960

2.13±.02

.90±.01



.396±.010



1.385±.010

2.52±.02

R .06±.01  
6 PLACES

ADD THIS SHEET

GT7021570-24

CO. 63913 SH 11 OF 15  
FIGURE 24. 7021570-24

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SIZE

A

CAGE CODE

55939

DRAWING NO.

7021570

REV

AM

SCALE

2/1

SHEET

26



TSO C119b

ADD THIS SHEET

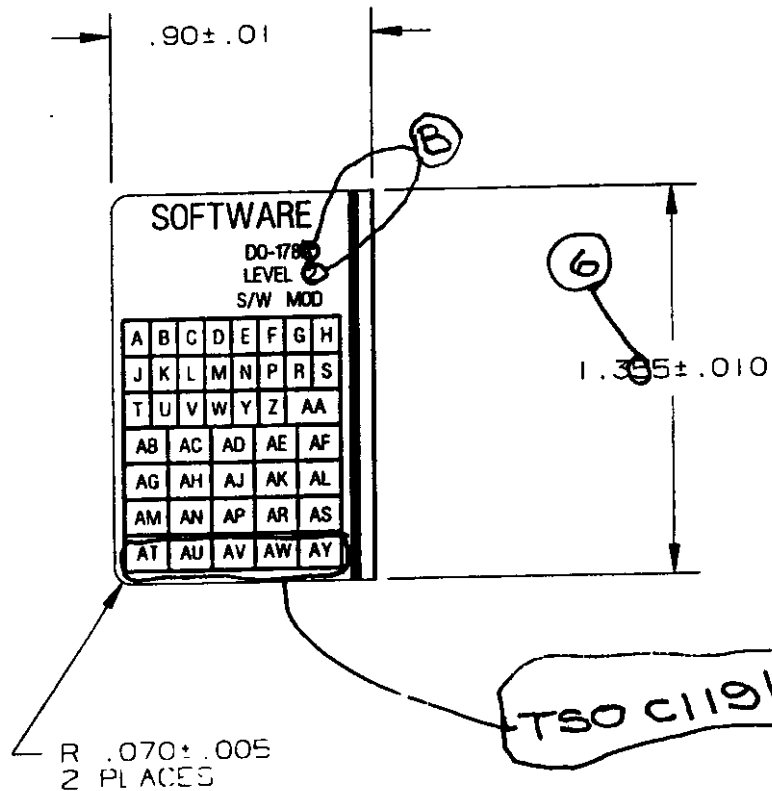
AT

56

⑥

GT REV 10-91

COMPUTER GENERATED



CO-102913 SH13 OF 15

GT7021570-9

57

68

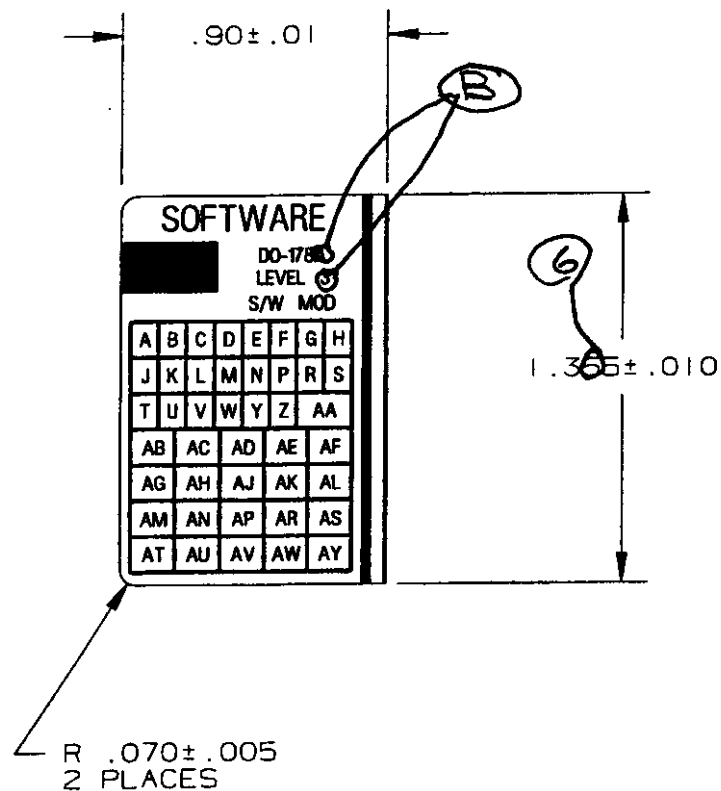
FIGURE 9 7021570-9

ADD THIS SHEET

AT

|           |                                                                                                                                                         |       |           |             |     |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----------|-------------|-----|
| Honeywell | SEE FIRST SHEET FOR CONTRACT NUMBER. USE OR DISCLOSURE OF INFORMATION ON THIS SHEET IS SUBJECT TO THE RESTRICTIONS ON THE FIRST SHEET OF THIS DOCUMENT. | SIZE  | CAGE CODE | DRAWING NO. | REV |
|           |                                                                                                                                                         | A     | 55939     | 7021570     | 1   |
|           |                                                                                                                                                         | SCALE | SHEET     |             | 11  |

SK  
DWG NO.



CO. 103913 SH 14 OF 15

GT7021570 (B)

58

69

FIGURE (B)

7021570-B

ADD THIS SHEET

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CAGE CODE

55939

DRAWING NO.

7021570

REV

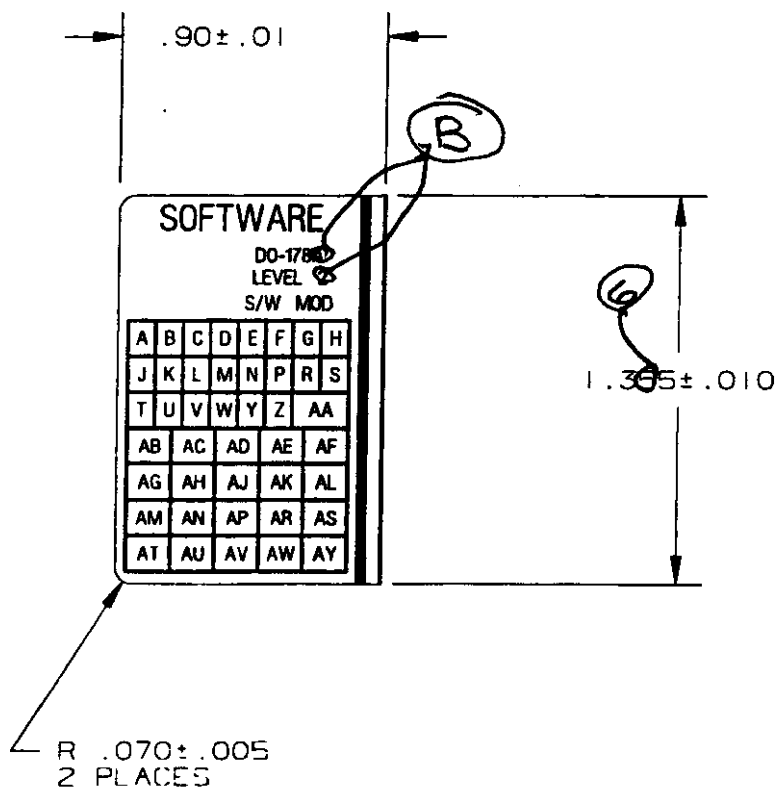
1

SCALE

SHEET

10

COMPUTER GENERATED



CO-103913 SH 50F15

GT7021570-9

FIGURE 9. 7021570-9

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SIZE

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SCALE

CAGE CODE

55939

DRAWING NO.

7021570

REV

9

SHEET

18

COMPUTER GENERATED



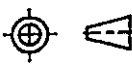
|                         |               |    |   |                                     |  |
|-------------------------|---------------|----|---|-------------------------------------|--|
| DWG NO.                 | 7021570       | SH | 1 | FOR REVISION RECORD, SEE LAST SHEET |  |
| FOR HONEYWELL REFERENCE |               |    |   |                                     |  |
| DPA NO.                 | A14738        |    |   |                                     |  |
| PRODUCT LINE NO.        | 5111          |    |   |                                     |  |
| AW/PS ANALYSIS EB       | 7516081       |    |   |                                     |  |
| APPLICATION             |               |    |   |                                     |  |
| NEXT ASSY               | USED ON (SYS) |    |   |                                     |  |
| 7516100                 | 7516100       |    |   |                                     |  |
| 7516240                 | 7516240       |    |   |                                     |  |
| 7516250                 | 7516250       |    |   |                                     |  |
| 7517800                 | 7517800       |    |   |                                     |  |
| 7516251                 | 7516251       |    |   |                                     |  |

# CREATING FIGURES:

THE FIGURES IN THIS DOCUMENT NEED TO BE CREATED USING HELVETICA CONDENSED, EXCEPT FOR HONEYWELL INC. WHICH WILL BE HELVETICA BOLD.

# PRINTING INSTRUCTIONS:

THE FIGURES IN THIS DOCUMENT NEED TO BE PRINTED OUT ON A HP LASERJET (POSTSCRIPT) (600 DPI OR HIGHER). A POSTSCRIPT FILE HAS BEEN GENERATED IN GRAYTECH USING THE POSTSCRIPT B SIZE, SCALE 1, KEY IN COORDINATES (0, 0),

|                                                                                                                             |         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |          |                                                                |           |             |               |    |    |    |    |    |       |       |       |       |       |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |   |   |   |    |    |    |    |     |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |   |   |   |   |    |    |    |    |    |    |   |    |     |       |       |  |  |  |    |    |    |    |   |   |   |   |   |   |   |   |   |       |       |  |  |  |
|-----------------------------------------------------------------------------------------------------------------------------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------------------------------------------------------------|-----------|-------------|---------------|----|----|----|----|----|-------|-------|-------|-------|-------|--|--|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|-------|----|----|----|----|----|----|----|----|----|----|----|----|----|-------|-------|--|--|--|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|-------|-------|--|----|----|----|----|----|----|----|----|----|----|----|----|----|-------|-------|--|--|--|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|-------|-------|--|----|----|----|----|----|----|----|----|----|----|----|----|----|-------|-------|--|--|--|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|-------|-------|--|--|--|----|----|----|----|----|----|----|----|----|----|----|----|----|-------|-------|--|--|--|----|----|----|----|----|----|---|---|---|----|----|----|----|-----|-------|-------|--|--|--|----|----|----|----|----|----|----|----|----|----|----|----|----|-------|-------|--|--|--|----|---|---|---|---|----|----|----|----|----|----|---|----|-----|-------|-------|--|--|--|----|----|----|----|---|---|---|---|---|---|---|---|---|-------|-------|--|--|--|
| OPERATIONAL NOTE<br><b>SPECIFICATION</b><br><b>CONTROL DRAWING</b>                                                          |         | <table border="1"> <tr> <td></td><td></td><td>AR</td><td>AR</td><td>AR</td><td>AR</td><td>AR</td><td>AR</td><td>AR</td><td>AR</td><td>AR</td><td>AR</td><td>AR</td><td>AR</td><td>AR</td><td>AR</td><td>REV</td><td>SHEET</td> </tr> <tr> <td>78</td><td>77</td><td>76</td><td>75</td><td>74</td><td>73</td><td>72</td><td>71</td><td>70</td><td>69</td><td>68</td><td>67</td><td>66</td><td>SHEET</td><td>INDEX</td><td colspan="3"></td> </tr> <tr> <td>AP</td><td>AP</td><td>AM</td><td>AM</td><td>AM</td><td>AM</td><td>AM</td><td>AM</td><td>AM</td><td>AM</td><td>AM</td><td>AM</td><td>AM</td><td>AM</td><td>REV</td><td>SHEET</td><td>INDEX</td><td></td> </tr> <tr> <td>65</td><td>64</td><td>63</td><td>62</td><td>61</td><td>60</td><td>59</td><td>58</td><td>57</td><td>56</td><td>55</td><td>54</td><td>53</td><td>SHEET</td><td>INDEX</td><td colspan="3"></td> </tr> <tr> <td>AF</td><td>AF</td><td>AM</td><td>AM</td><td>AM</td><td>AM</td><td>AM</td><td>AM</td><td>AM</td><td>AM</td><td>AM</td><td>AM</td><td>AF</td><td>AF</td><td>REV</td><td>SHEET</td><td>INDEX</td><td></td> </tr> <tr> <td>52</td><td>51</td><td>50</td><td>49</td><td>48</td><td>47</td><td>46</td><td>45</td><td>44</td><td>43</td><td>42</td><td>41</td><td>40</td><td>SHEET</td><td>INDEX</td><td colspan="3"></td> </tr> <tr> <td>AC</td><td>AM</td><td>AM</td><td>AM</td><td>AM</td><td>AM</td><td>AM</td><td>AM</td><td>AM</td><td>AM</td><td>AM</td><td>AM</td><td>AM</td><td>REV</td><td>SHEET</td><td>INDEX</td><td colspan="3"></td> </tr> <tr> <td>39</td><td>38</td><td>37</td><td>36</td><td>35</td><td>34</td><td>33</td><td>32</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>SHEET</td><td>INDEX</td><td colspan="3"></td> </tr> <tr> <td>AM</td><td>AM</td><td>AM</td><td>AM</td><td>AM</td><td>AM</td><td>M</td><td>K</td><td>K</td><td>AM</td><td>AM</td><td>AM</td><td>AM</td><td>REV</td><td>SHEET</td><td>INDEX</td><td colspan="3"></td> </tr> <tr> <td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td><td>16</td><td>15</td><td>14</td><td>SHEET</td><td>INDEX</td><td colspan="3"></td> </tr> <tr> <td>AM</td><td>—</td><td>—</td><td>—</td><td>—</td><td>AM</td><td>AM</td><td>AM</td><td>AM</td><td>AM</td><td>AM</td><td>N</td><td>AR</td><td>REV</td><td>SHEET</td><td>INDEX</td><td colspan="3"></td> </tr> <tr> <td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>SHEET</td><td>INDEX</td><td colspan="3"></td> </tr> </table> |          |                                                                |           |             |               |    |    |    |    |    |       |       |       |       |       |  |  | AR | AR | AR | AR | AR | AR | AR | AR | AR | AR | AR | AR | AR | AR | REV | SHEET | 78 | 77 | 76 | 75 | 74 | 73 | 72 | 71 | 70 | 69 | 68 | 67 | 66 | SHEET | INDEX |  |  |  | AP | AP | AM | AM | AM | AM | AM | AM | AM | AM | AM | AM | AM | AM | REV | SHEET | INDEX |  | 65 | 64 | 63 | 62 | 61 | 60 | 59 | 58 | 57 | 56 | 55 | 54 | 53 | SHEET | INDEX |  |  |  | AF | AF | AM | AM | AM | AM | AM | AM | AM | AM | AM | AM | AF | AF | REV | SHEET | INDEX |  | 52 | 51 | 50 | 49 | 48 | 47 | 46 | 45 | 44 | 43 | 42 | 41 | 40 | SHEET | INDEX |  |  |  | AC | AM | AM | AM | AM | AM | AM | AM | AM | AM | AM | AM | AM | REV | SHEET | INDEX |  |  |  | 39 | 38 | 37 | 36 | 35 | 34 | 33 | 32 | 31 | 30 | 29 | 28 | 27 | SHEET | INDEX |  |  |  | AM | AM | AM | AM | AM | AM | M | K | K | AM | AM | AM | AM | REV | SHEET | INDEX |  |  |  | 26 | 25 | 24 | 23 | 22 | 21 | 20 | 19 | 18 | 17 | 16 | 15 | 14 | SHEET | INDEX |  |  |  | AM | — | — | — | — | AM | AM | AM | AM | AM | AM | N | AR | REV | SHEET | INDEX |  |  |  | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | SHEET | INDEX |  |  |  |
|                                                                                                                             |         | AR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | AR       | AR                                                             | AR        | AR          | AR            | AR | AR | AR | AR | AR | AR    | AR    | AR    | REV   | SHEET |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |   |   |   |    |    |    |    |     |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |   |   |   |   |    |    |    |    |    |    |   |    |     |       |       |  |  |  |    |    |    |    |   |   |   |   |   |   |   |   |   |       |       |  |  |  |
| 78                                                                                                                          | 77      | 76                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 75       | 74                                                             | 73        | 72          | 71            | 70 | 69 | 68 | 67 | 66 | SHEET | INDEX |       |       |       |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |   |   |   |    |    |    |    |     |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |   |   |   |   |    |    |    |    |    |    |   |    |     |       |       |  |  |  |    |    |    |    |   |   |   |   |   |   |   |   |   |       |       |  |  |  |
| AP                                                                                                                          | AP      | AM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | AM       | AM                                                             | AM        | AM          | AM            | AM | AM | AM | AM | AM | AM    | REV   | SHEET | INDEX |       |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |   |   |   |    |    |    |    |     |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |   |   |   |   |    |    |    |    |    |    |   |    |     |       |       |  |  |  |    |    |    |    |   |   |   |   |   |   |   |   |   |       |       |  |  |  |
| 65                                                                                                                          | 64      | 63                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 62       | 61                                                             | 60        | 59          | 58            | 57 | 56 | 55 | 54 | 53 | SHEET | INDEX |       |       |       |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |   |   |   |    |    |    |    |     |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |   |   |   |   |    |    |    |    |    |    |   |    |     |       |       |  |  |  |    |    |    |    |   |   |   |   |   |   |   |   |   |       |       |  |  |  |
| AF                                                                                                                          | AF      | AM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | AM       | AM                                                             | AM        | AM          | AM            | AM | AM | AM | AM | AF | AF    | REV   | SHEET | INDEX |       |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |   |   |   |    |    |    |    |     |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |   |   |   |   |    |    |    |    |    |    |   |    |     |       |       |  |  |  |    |    |    |    |   |   |   |   |   |   |   |   |   |       |       |  |  |  |
| 52                                                                                                                          | 51      | 50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 49       | 48                                                             | 47        | 46          | 45            | 44 | 43 | 42 | 41 | 40 | SHEET | INDEX |       |       |       |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |   |   |   |    |    |    |    |     |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |   |   |   |   |    |    |    |    |    |    |   |    |     |       |       |  |  |  |    |    |    |    |   |   |   |   |   |   |   |   |   |       |       |  |  |  |
| AC                                                                                                                          | AM      | AM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | AM       | AM                                                             | AM        | AM          | AM            | AM | AM | AM | AM | AM | REV   | SHEET | INDEX |       |       |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |   |   |   |    |    |    |    |     |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |   |   |   |   |    |    |    |    |    |    |   |    |     |       |       |  |  |  |    |    |    |    |   |   |   |   |   |   |   |   |   |       |       |  |  |  |
| 39                                                                                                                          | 38      | 37                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 36       | 35                                                             | 34        | 33          | 32            | 31 | 30 | 29 | 28 | 27 | SHEET | INDEX |       |       |       |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |   |   |   |    |    |    |    |     |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |   |   |   |   |    |    |    |    |    |    |   |    |     |       |       |  |  |  |    |    |    |    |   |   |   |   |   |   |   |   |   |       |       |  |  |  |
| AM                                                                                                                          | AM      | AM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | AM       | AM                                                             | AM        | M           | K             | K  | AM | AM | AM | AM | REV   | SHEET | INDEX |       |       |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |   |   |   |    |    |    |    |     |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |   |   |   |   |    |    |    |    |    |    |   |    |     |       |       |  |  |  |    |    |    |    |   |   |   |   |   |   |   |   |   |       |       |  |  |  |
| 26                                                                                                                          | 25      | 24                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 23       | 22                                                             | 21        | 20          | 19            | 18 | 17 | 16 | 15 | 14 | SHEET | INDEX |       |       |       |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |   |   |   |    |    |    |    |     |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |   |   |   |   |    |    |    |    |    |    |   |    |     |       |       |  |  |  |    |    |    |    |   |   |   |   |   |   |   |   |   |       |       |  |  |  |
| AM                                                                                                                          | —       | —                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | —        | —                                                              | AM        | AM          | AM            | AM | AM | AM | N  | AR | REV   | SHEET | INDEX |       |       |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |   |   |   |    |    |    |    |     |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |   |   |   |   |    |    |    |    |    |    |   |    |     |       |       |  |  |  |    |    |    |    |   |   |   |   |   |   |   |   |   |       |       |  |  |  |
| 13                                                                                                                          | 12      | 11                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 10       | 9                                                              | 8         | 7           | 6             | 5  | 4  | 3  | 2  | 1  | SHEET | INDEX |       |       |       |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |   |   |   |    |    |    |    |     |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |   |   |   |   |    |    |    |    |    |    |   |    |     |       |       |  |  |  |    |    |    |    |   |   |   |   |   |   |   |   |   |       |       |  |  |  |
| 7021569                                                                                                                     | REF DWG | CONTRACT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |          | <b>Honeywell</b> <b>BUSINESS AND COMMUTER AVIATION SYSTEMS</b> |           |             |               |    |    |    |    |    |       |       |       |       |       |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |   |   |   |    |    |    |    |     |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |   |   |   |   |    |    |    |    |    |    |   |    |     |       |       |  |  |  |    |    |    |    |   |   |   |   |   |   |   |   |   |       |       |  |  |  |
| ITEM CODE (PER EB699384)                                                                                                    | V       | DRAWN BY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | DATE     | <b>PLATE, IDENTIFICATION</b>                                   |           |             |               |    |    |    |    |    |       |       |       |       |       |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |   |   |   |    |    |    |    |     |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |   |   |   |   |    |    |    |    |    |    |   |    |     |       |       |  |  |  |    |    |    |    |   |   |   |   |   |   |   |   |   |       |       |  |  |  |
| INTERPRET DIMENSIONS AND TOLERANCES PER ANSI Y14.5M-1982. UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES; TOLERANCES: |         | L. WHISLER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 94-02-09 |                                                                |           |             |               |    |    |    |    |    |       |       |       |       |       |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |   |   |   |    |    |    |    |     |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |   |   |   |   |    |    |    |    |    |    |   |    |     |       |       |  |  |  |    |    |    |    |   |   |   |   |   |   |   |   |   |       |       |  |  |  |
| ANGLE ±                                                                                                                     |         | DESIGNED BY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | DATE     |                                                                |           |             |               |    |    |    |    |    |       |       |       |       |       |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |   |   |   |    |    |    |    |     |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |   |   |   |   |    |    |    |    |    |    |   |    |     |       |       |  |  |  |    |    |    |    |   |   |   |   |   |   |   |   |   |       |       |  |  |  |
| 2 PL DEC ±                                                                                                                  |         | G. BEILER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 94-03-02 |                                                                |           |             |               |    |    |    |    |    |       |       |       |       |       |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |   |   |   |    |    |    |    |     |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |   |   |   |   |    |    |    |    |    |    |   |    |     |       |       |  |  |  |    |    |    |    |   |   |   |   |   |   |   |   |   |       |       |  |  |  |
| 3 PL DEC ±                                                                                                                  |         | APPROVED FOR MFG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | DATE     |                                                                |           |             |               |    |    |    |    |    |       |       |       |       |       |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |   |   |   |    |    |    |    |     |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |   |   |   |   |    |    |    |    |    |    |   |    |     |       |       |  |  |  |    |    |    |    |   |   |   |   |   |   |   |   |   |       |       |  |  |  |
| THIRD ANGLE PROJECTION                                                                                                      |         | APPROVED FOR QE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | DATE     |                                                                |           |             |               |    |    |    |    |    |       |       |       |       |       |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |   |   |   |    |    |    |    |     |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |   |   |   |   |    |    |    |    |    |    |   |    |     |       |       |  |  |  |    |    |    |    |   |   |   |   |   |   |   |   |   |       |       |  |  |  |
|                                          |         | APPROVED FOR ENGRG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | DATE     |                                                                |           |             |               |    |    |    |    |    |       |       |       |       |       |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |   |   |   |    |    |    |    |     |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |   |   |   |   |    |    |    |    |    |    |   |    |     |       |       |  |  |  |    |    |    |    |   |   |   |   |   |   |   |   |   |       |       |  |  |  |
| DWG CLASS                                                                                                                   | A       | J. GHER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 94-02-25 |                                                                |           |             |               |    |    |    |    |    |       |       |       |       |       |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |   |   |   |    |    |    |    |     |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |   |   |   |   |    |    |    |    |    |    |   |    |     |       |       |  |  |  |    |    |    |    |   |   |   |   |   |   |   |   |   |       |       |  |  |  |
| FIRST USED ON                                                                                                               | 7516100 | APPROVED FOR ENGRG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | DATE     | SIZE                                                           | CAGE CODE | DRAWING NO. | REV           |    |    |    |    |    |       |       |       |       |       |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |   |   |   |    |    |    |    |     |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |   |   |   |   |    |    |    |    |    |    |   |    |     |       |       |  |  |  |    |    |    |    |   |   |   |   |   |   |   |   |   |       |       |  |  |  |
|                                                                                                                             |         | T. EUROPA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 94-03-01 | A                                                              | 55939     | 7021570     | AR            |    |    |    |    |    |       |       |       |       |       |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |   |   |   |    |    |    |    |     |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |   |   |   |   |    |    |    |    |    |    |   |    |     |       |       |  |  |  |    |    |    |    |   |   |   |   |   |   |   |   |   |       |       |  |  |  |
|                                                                                                                             |         | APPROVED FOR PM&P                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | DATE     | SCALE                                                          | NONE      | UNIT WT     | SHEET 1 OF 76 |    |    |    |    |    |       |       |       |       |       |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |     |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |    |    |    |    |    |   |   |   |    |    |    |    |     |       |       |  |  |  |    |    |    |    |    |    |    |    |    |    |    |    |    |       |       |  |  |  |    |   |   |   |   |    |    |    |    |    |    |   |    |     |       |       |  |  |  |    |    |    |    |   |   |   |   |   |   |   |   |   |       |       |  |  |  |

1. REQUIREMENTS

1.1 MATERIAL. ADHESIVE BACKED ALUMINUM FOIL PER P7015502, OR ADHESIVE BACKED METALLIZED POLYESTER PER 7006940.

1.2 COLOR. SEE TABLE I FOR APPLICABILITY.

1.2.1 BACKGROUND

1.2.1.1 BLACK MATTE SURFACE PER FED-STD-595, COLOR 37038.

1.2.1.2 NATURAL ALUMINUM, MATTE SURFACE.

1.2.1.3 METALLIZED POLYESTER.

1.2.2 CHARACTERS AND LINES

1.2.2.1 BLACK MATTE SURFACE PER FED-STD-595, COLOR 37038.

1.2.2.2 NATURAL ALUMINUM, MATTE SURFACE.

1.2.2.3 BLACK, THERMAL PRINTED.

1.3 ARTWORK

1.3.1 SEE TABLE I FOR APPLICABILITY.

1.4 LABEL CONSTRUCTION. LABELS MAY BE EITHER CONSTRUCTED OF PREPRINTED ADHESIVE BACKED ALUMINUM FOIL OR A COMPUTER GENERATED/COMPUTER PRINTED ADHESIVE BACKED METALLIZED POLYESTER. EITHER TYPE OF LABEL MUST CONFORM TO THE APPROPRIATE FIGURE AND TABLE INFORMATION.

2. 4 ID PLATES PER LINER. ID PLATES TO BE IN VERTICAL ORDER WHERE APPLICABLE.

2.1 DIE CUT SOFTWARE LABEL PER DIMENSIONS. DO NOT REMOVE SOFTWARE LABEL FROM LINER WHERE APPLICABLE.

3. APPLICATION INFORMATION (FOR REFERENCE)

3.1 INSTALL IDENTIFICATION PLATES PER M7015353.

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DRAWING NO.

**7021570**

REV

**N**

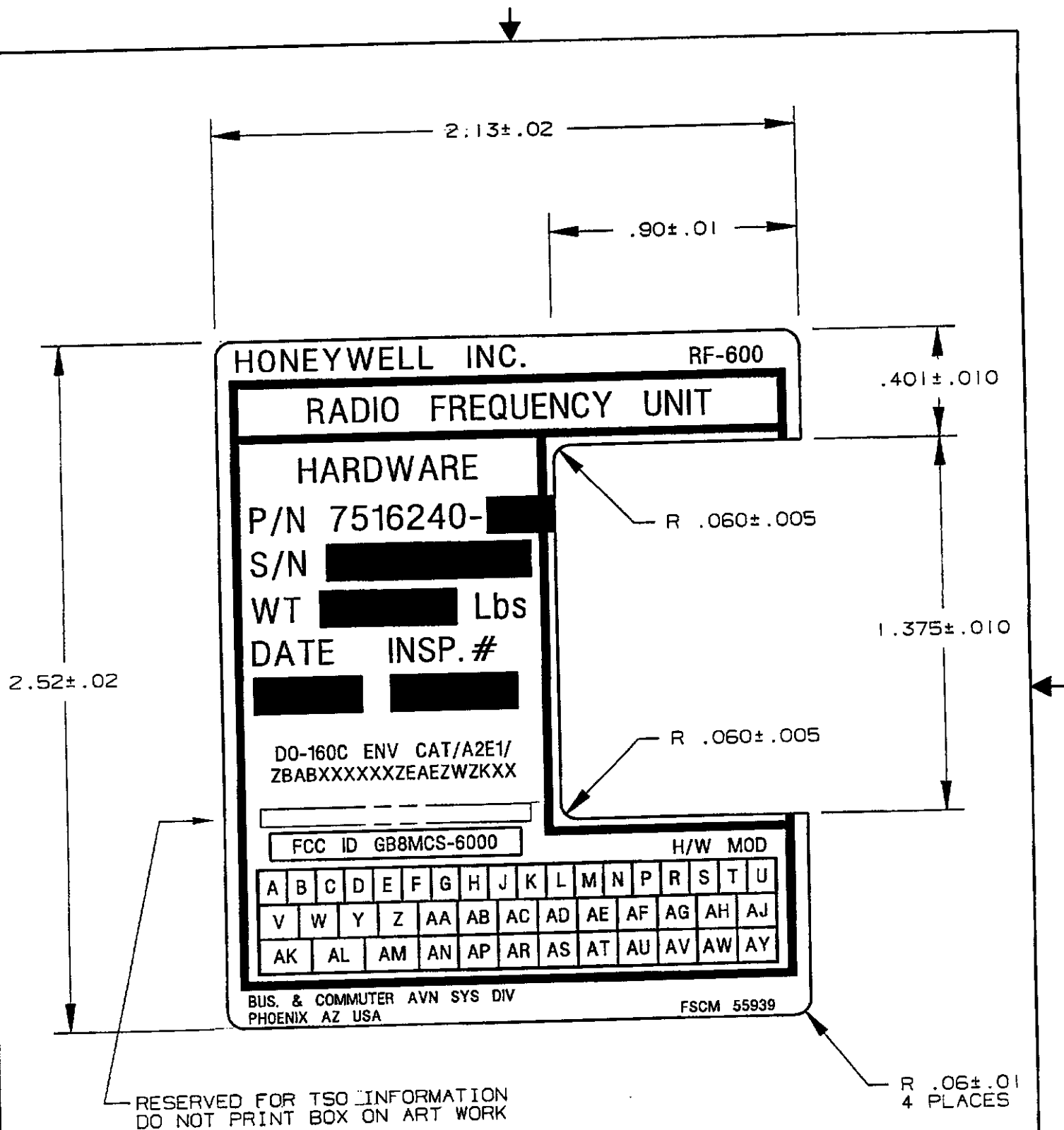
SCALE

**NONE**

UNIT WT

SHEET

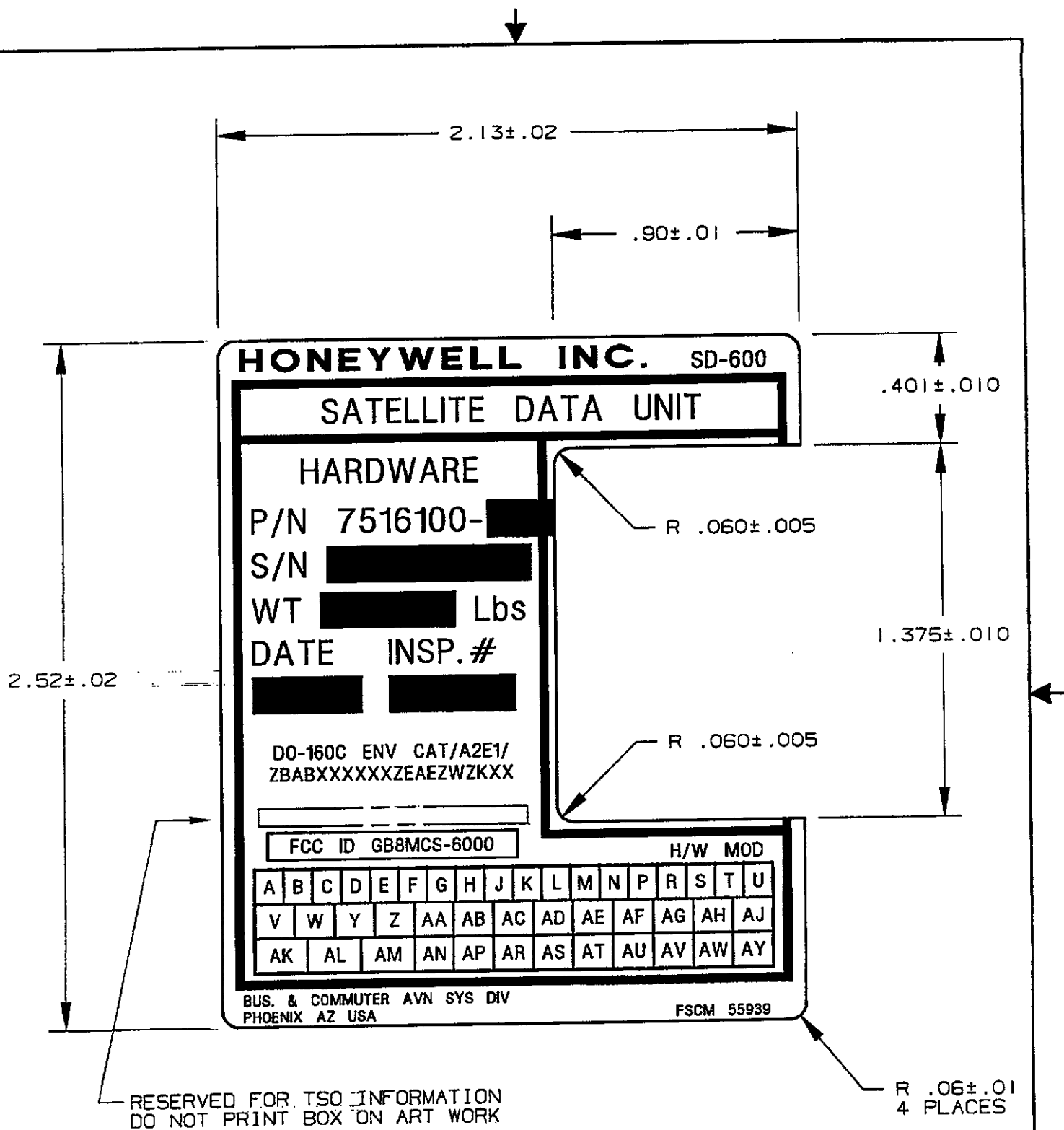
**2**



GT7021570-1

FIGURE 1. 7021570-1

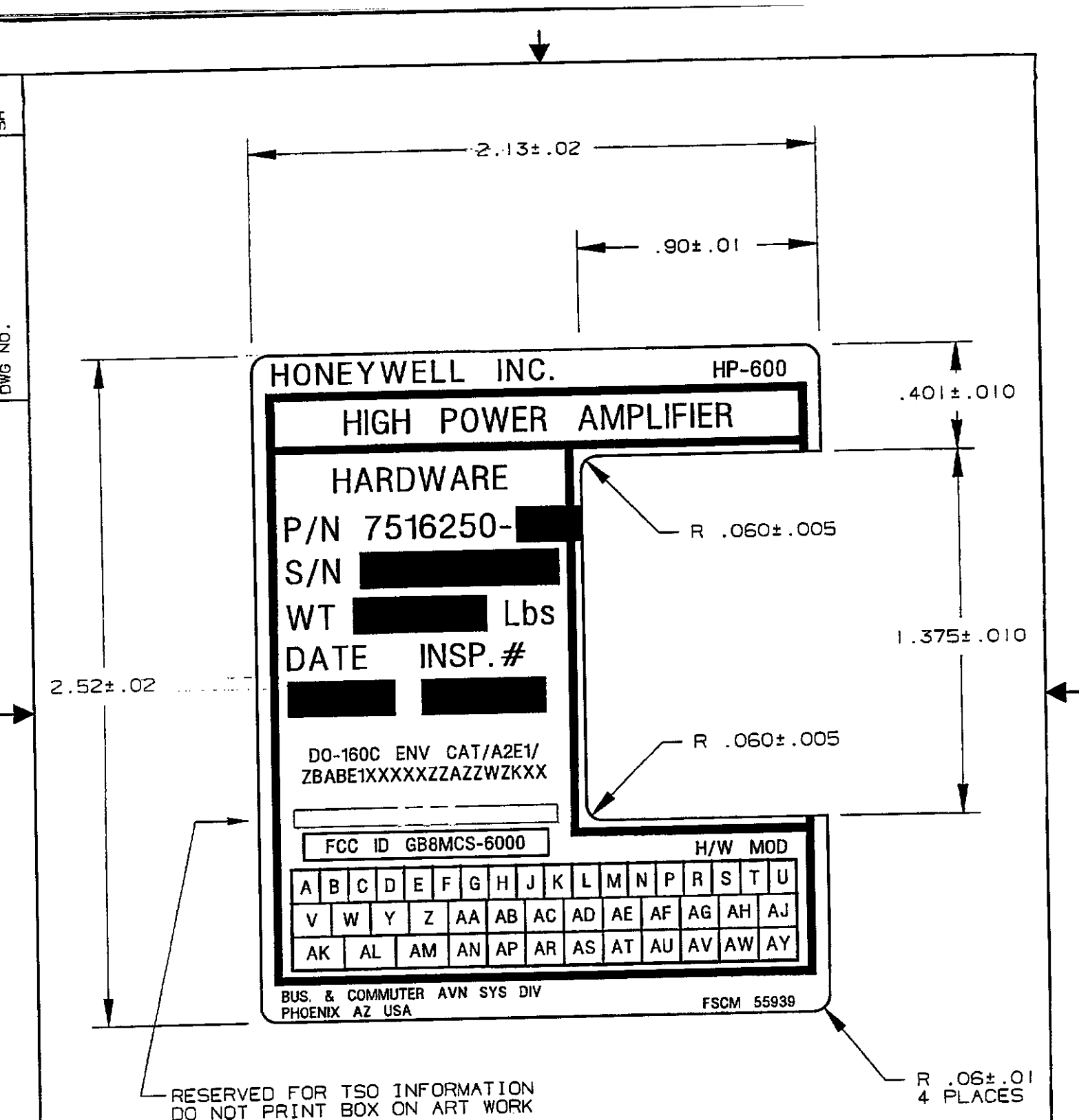
|           |                                                                                                                                                                           |           |           |             |     |
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|           |                                                                                                                                                                           | SCALE 2/1 | SHEET 3   |             |     |



GT7021570-2

FIGURE 2. 7021570-2

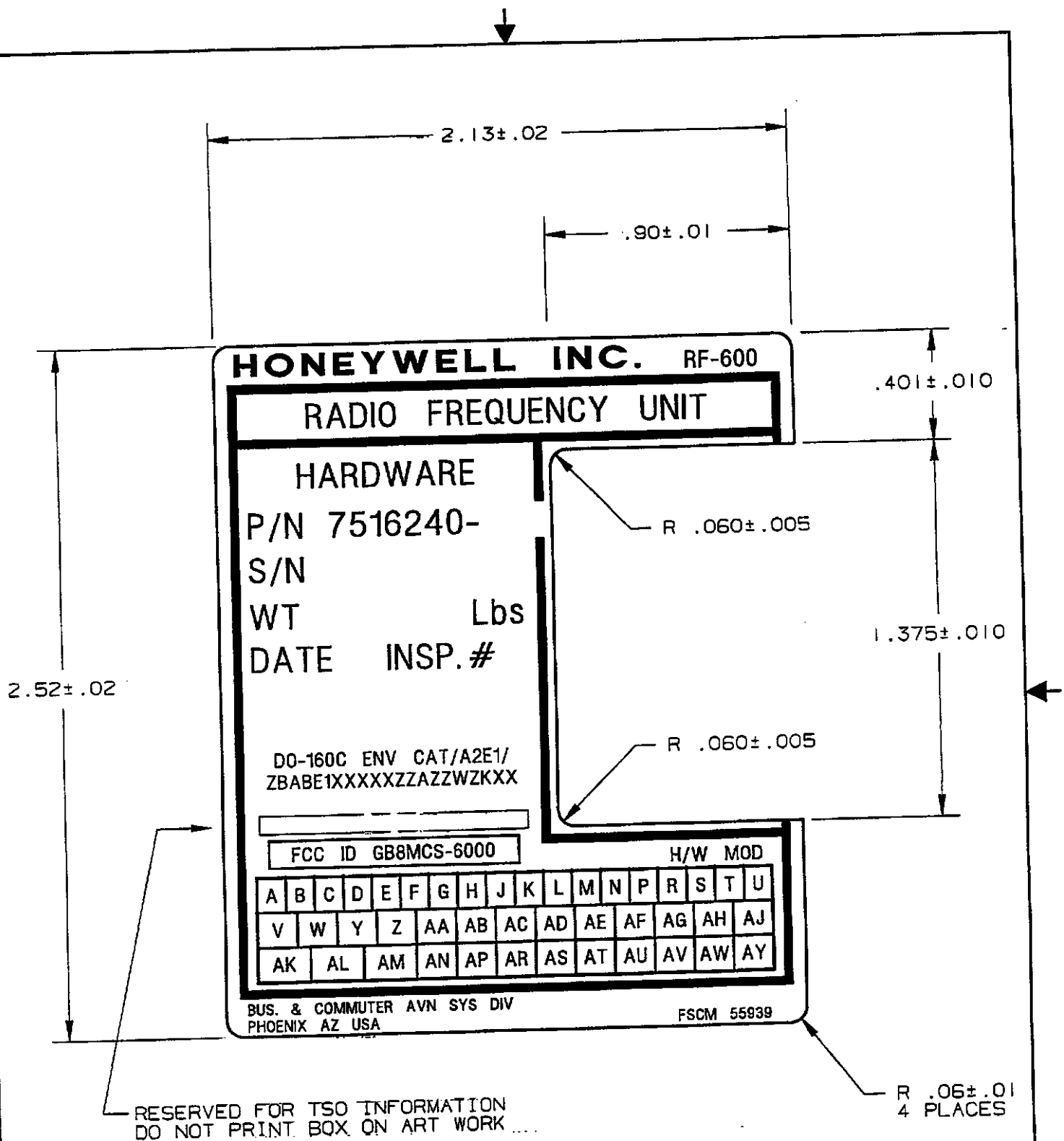
|                  |                                                                                                                                                         |       |           |             |     |
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|                  |                                                                                                                                                         | SCALE | SHEET     |             |     |
|                  |                                                                                                                                                         | 2/1   | 4         |             |     |



GT7021570-3

FIGURE 3. 7021570-3

|           |                                                                                                                                                         |       |           |             |     |
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|           |                                                                                                                                                         | A     | 55939     | 7021570     | AM  |
|           |                                                                                                                                                         | SCALE | SHEET     |             |     |
|           |                                                                                                                                                         | 2/1   | 5         |             |     |



GT7021570-4

FIGURE 4. 7021570-4

|                  |                                                                                                                                                                           |                  |                           |                               |                  |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|---------------------------|-------------------------------|------------------|
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|                  | SCALE <b>2/1</b>                                                                                                                                                          | SHEET <b>6</b>   |                           |                               |                  |
|                  | COMPUTER GENERATED                                                                                                                                                        |                  |                           |                               |                  |

GT REV 10-91

2.52 ± .02

2.13 ± .02

.90 ± .01

**HONEYWELL INC.** SD-600

**SATELLITE DATA UNIT**

**HARDWARE**

P/N 7516100-

S/N

WT Lbs

DATE INSP.#

DO-160C ENV CAT/A2E1/  
ZBABE1XXXXZZAZZWZKXX

FCC ID GB8MCS-6000

H/W MOD

|    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |
|----|----|----|----|----|----|----|----|----|----|----|----|----|---|---|---|---|---|
| A  | B  | C  | D  | E  | F  | G  | H  | J  | K  | L  | M  | N  | P | R | S | T | U |
| V  | W  | Y  | Z  | AA | AB | AC | AD | AE | AF | AG | AH | AJ |   |   |   |   |   |
| AK | AL | AM | AN | AP | AR | AS | AT | AU | AV | AW | AY |    |   |   |   |   |   |

BUS. & COMMUTER AVN SYS DIV  
PHOENIX AZ USA

FSCM 55939

.401 ± .010

1.375 ± .010

R .060 ± .005

R .060 ± .005

R .06 ± .01  
4 PLACES

RESERVED FOR TSO INFORMATION  
DO NOT PRINT BOX ON ART WORK

GT7021570-5

FIGURE 5. 7021570-5

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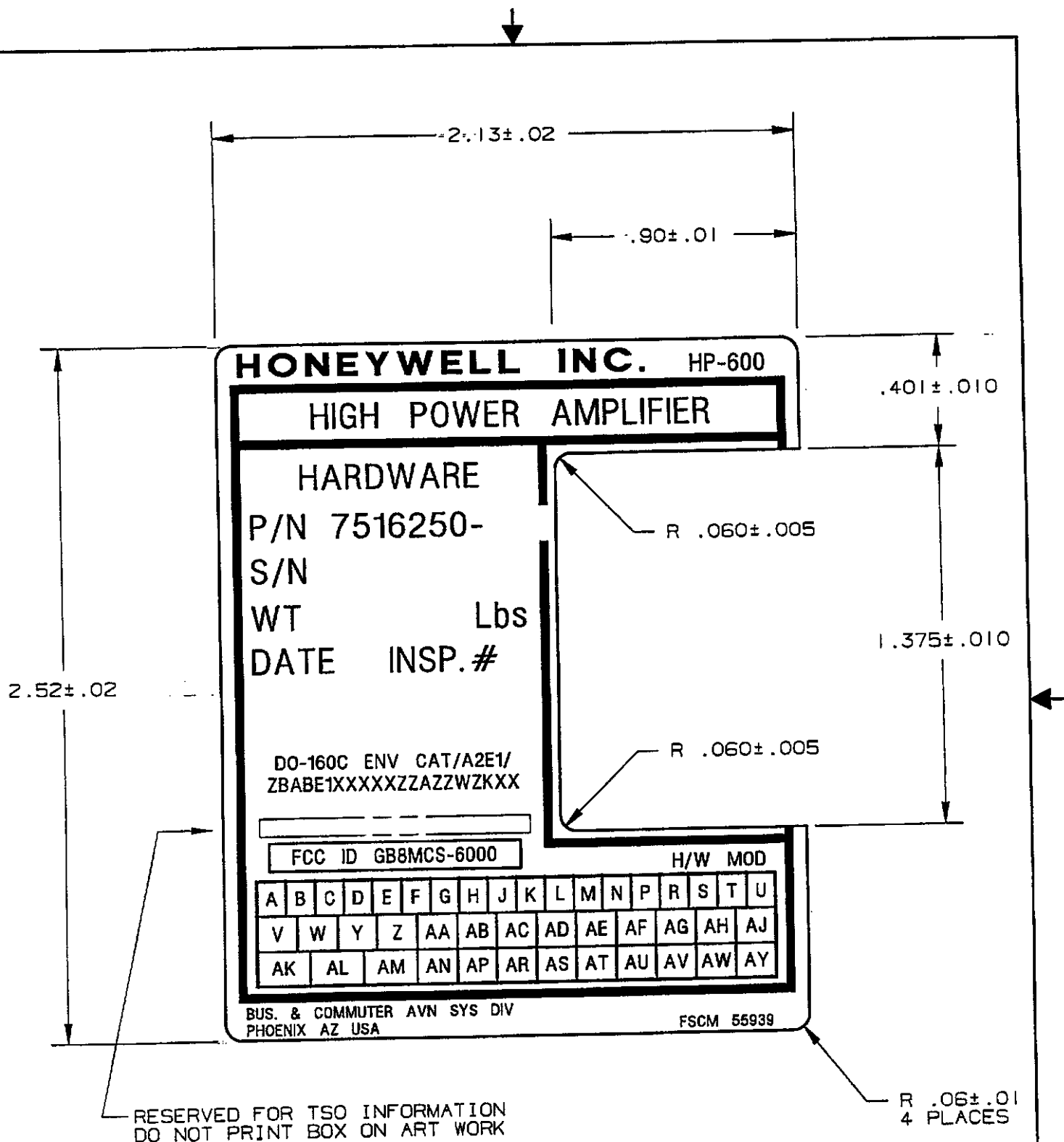
SCALE 2/1

SHEET

7

COMPUTER GENERATED

DWG NO.



GT7021570-6.

FIGURE 6. 7021570-6

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AM

SCALE

2/1

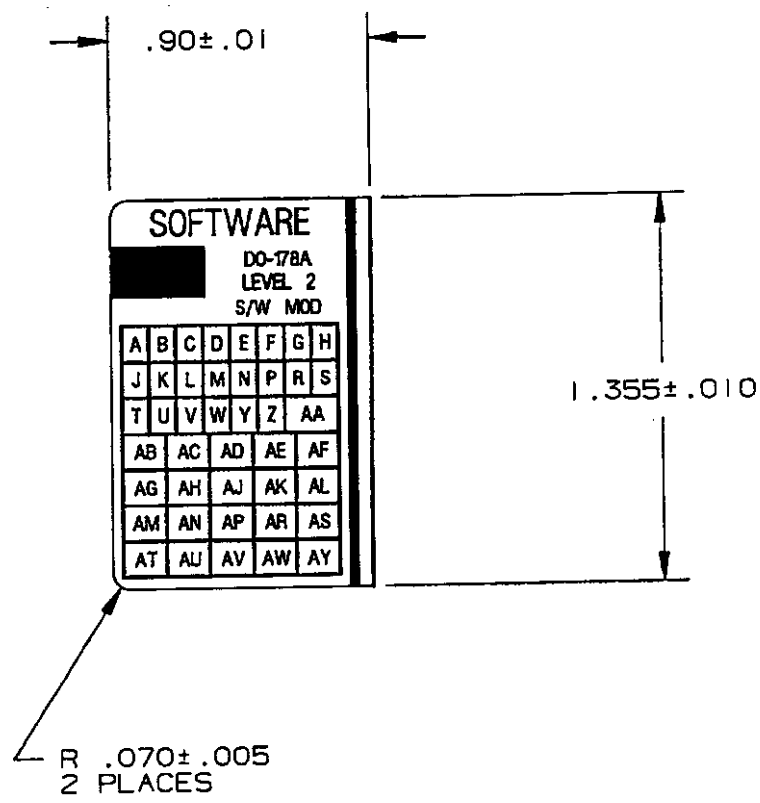
SHEET

8

GT REV 10-81

COMPUTER GENERATED

5  
DWG NO.

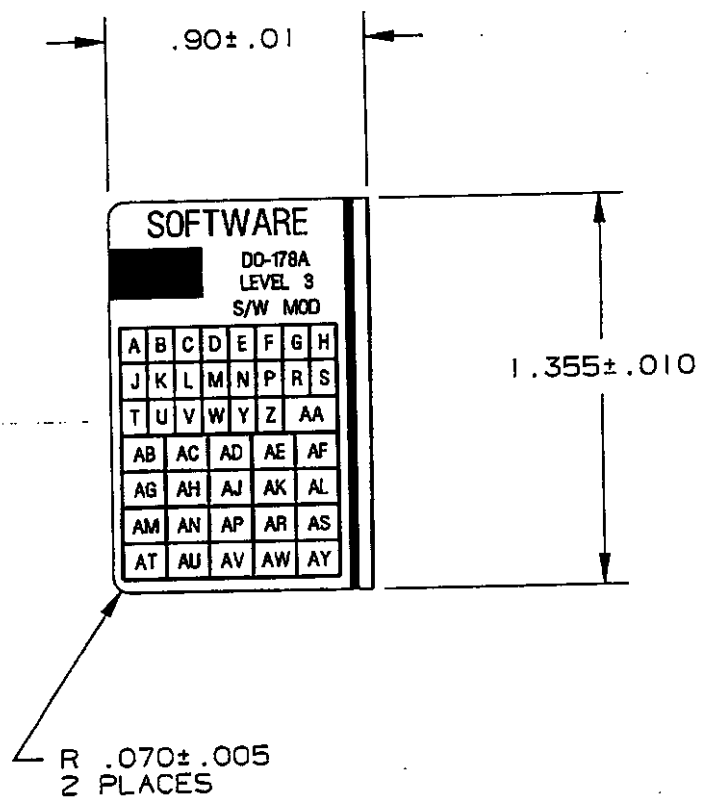


GT7021570-7

FIGURE 7. 7021570-7

|                  |                                                                                                                                                         |       |           |             |     |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----------|-------------|-----|
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|                  |                                                                                                                                                         | A     | 55939     | 7021570     | -   |
|                  |                                                                                                                                                         | SCALE | SHEET 9   |             |     |

DWG NO.



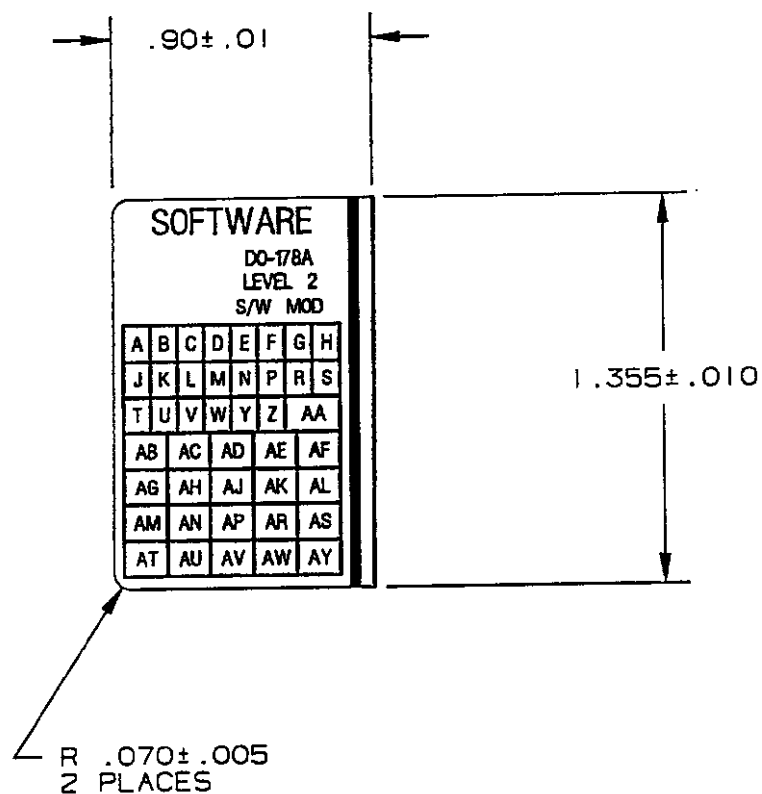
GT7021570-8

FIGURE 8. 7021570-8

|                  |                                                                                                                                                         |       |           |             |     |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----------|-------------|-----|
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|                  |                                                                                                                                                         | SCALE | SHEET 10  |             |     |

SH

DWG NO.



GT7021570-9

FIGURE 9. 7021570-9

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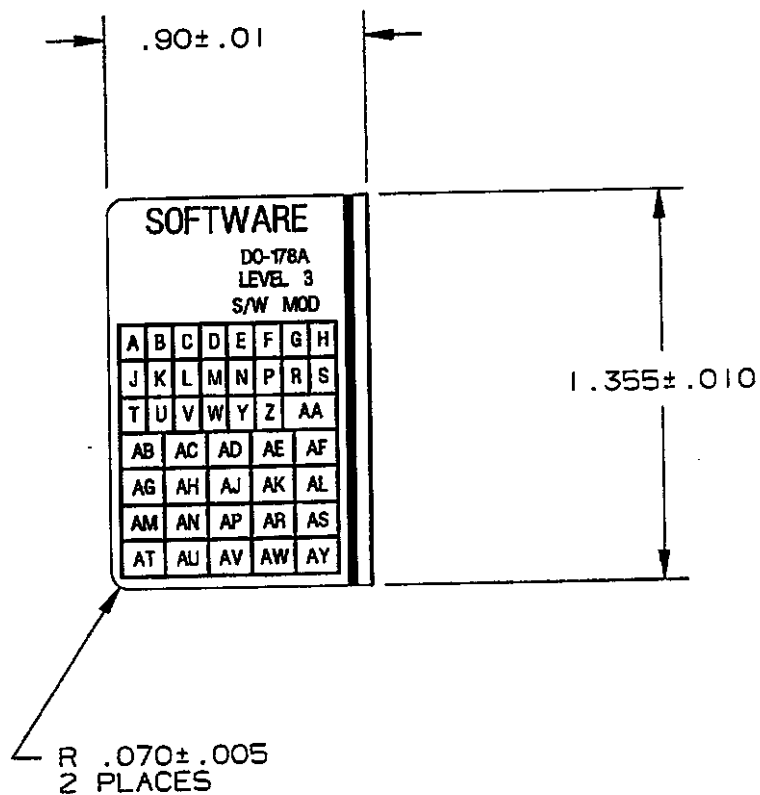
SCALE

SHEET

11

COMPUTER GENERATED

5  
DWG NO.



GT7021570-10

FIGURE 10. 7021570-10

|                  |                                                                                                                                                                           |       |           |             |     |
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|                  |                                                                                                                                                                           | SCALE | SHEET 12  |             |     |

DWG NO. 51

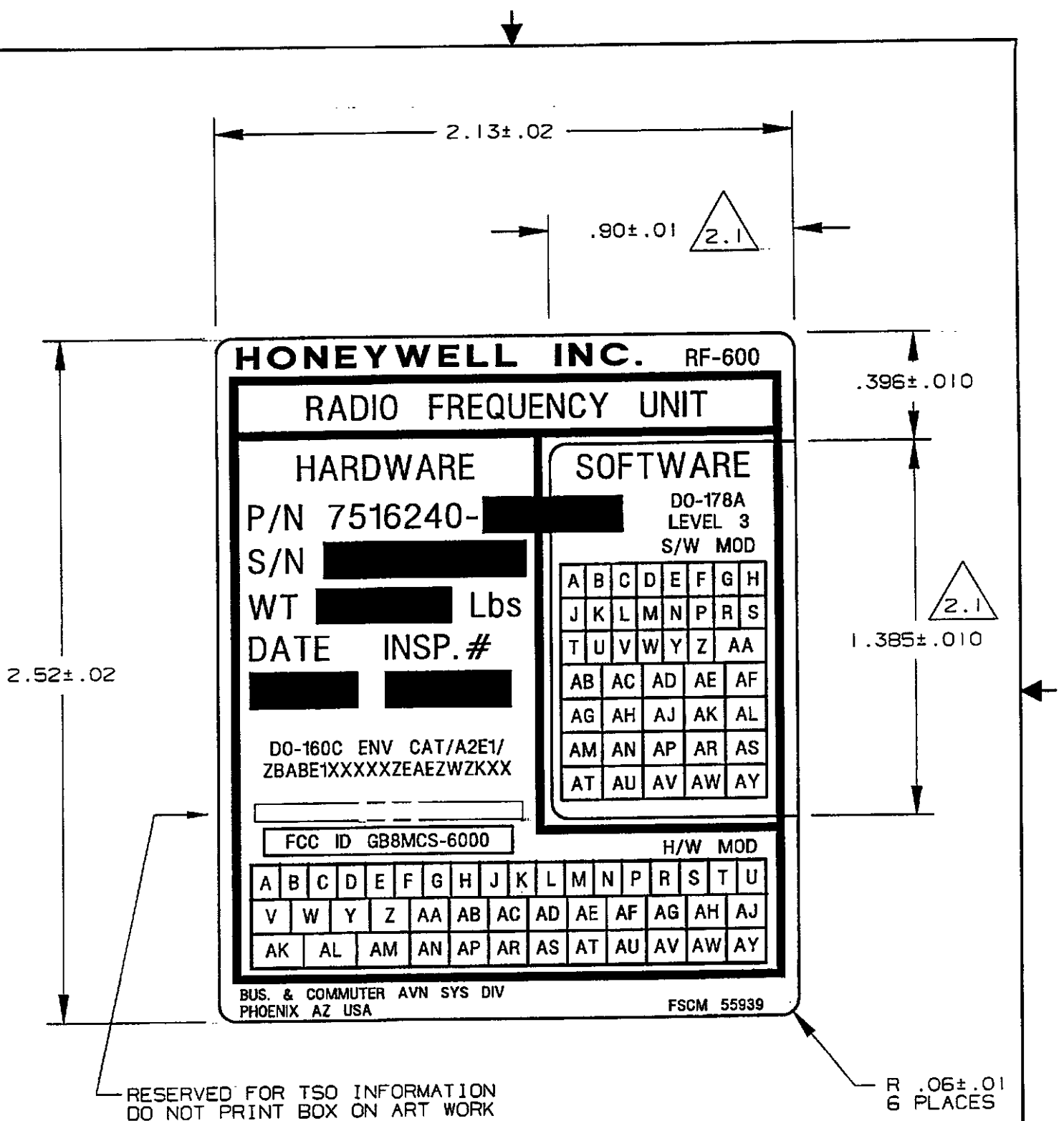
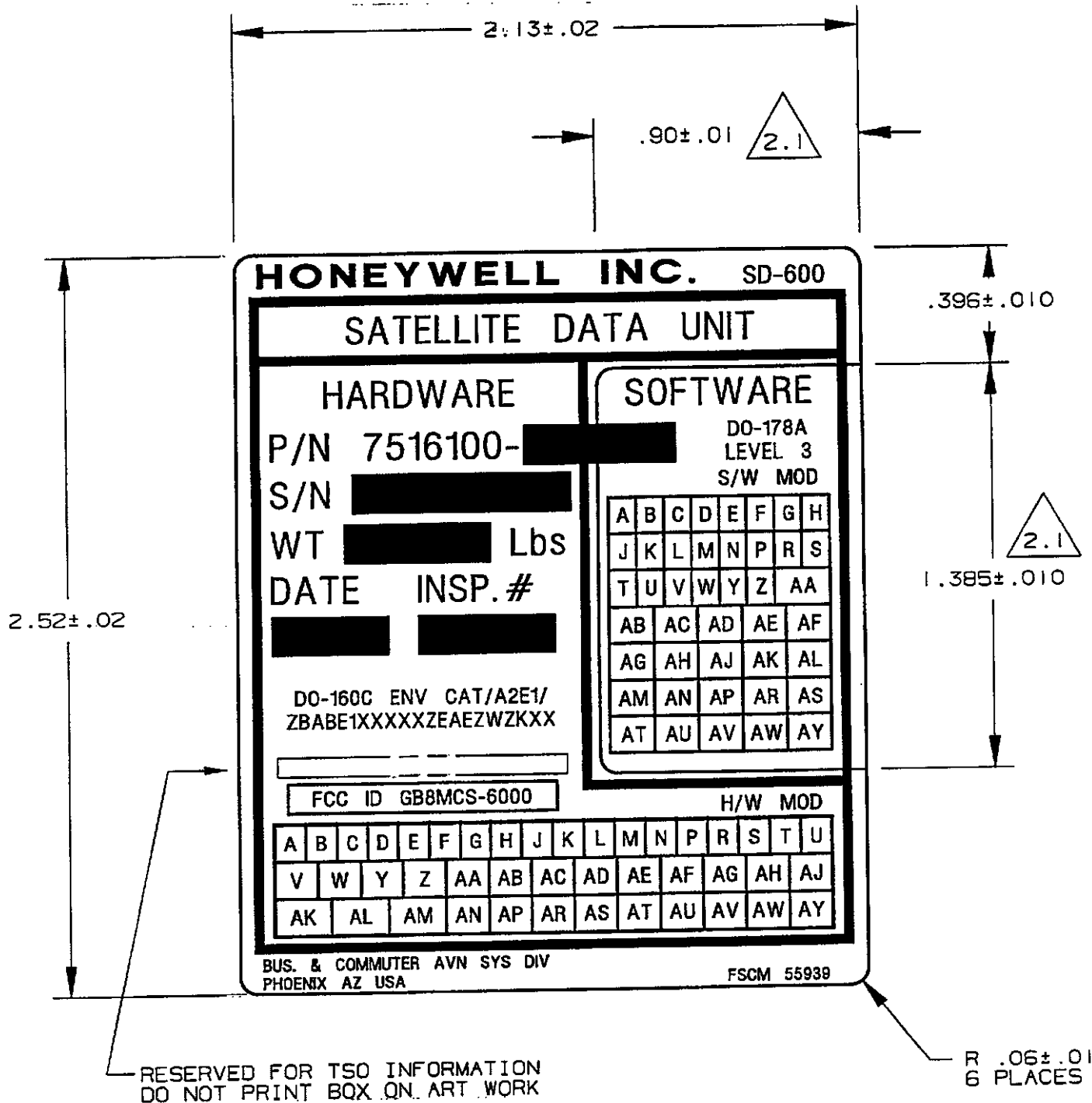


FIGURE 11. 7021570-11

|           |                                                                                                                                                                           |           |           |             |     |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------|-------------|-----|
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|           |                                                                                                                                                                           | A         | 55939     | 7021570     | AM  |
|           |                                                                                                                                                                           | SCALE 2/1 |           | SHEET 13    |     |



GT7021570-12

FIGURE 12. 7021570-12

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55939

DRAWING NO.

7021570

REV

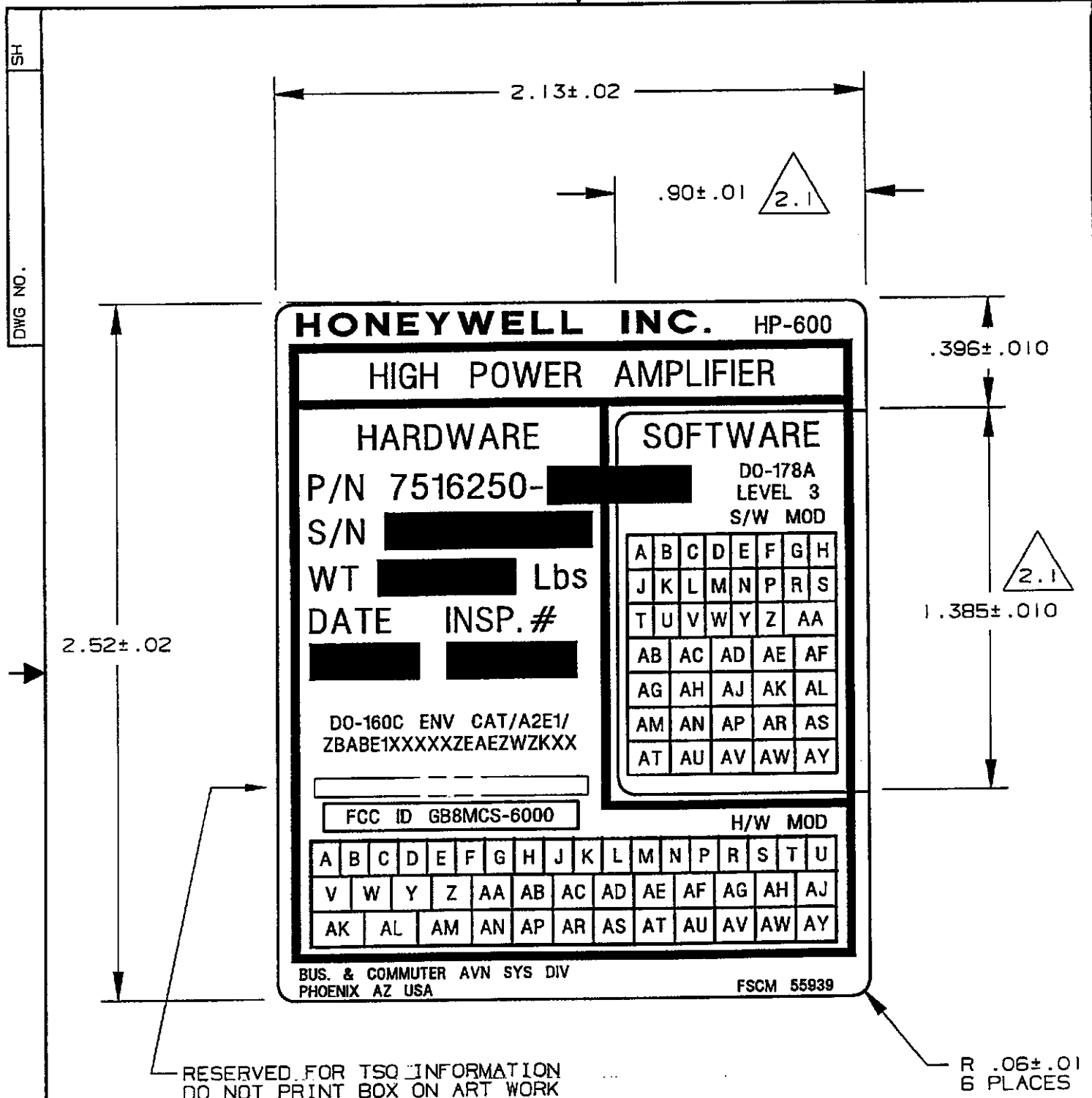
AM

SCALE

2/1

SHEET

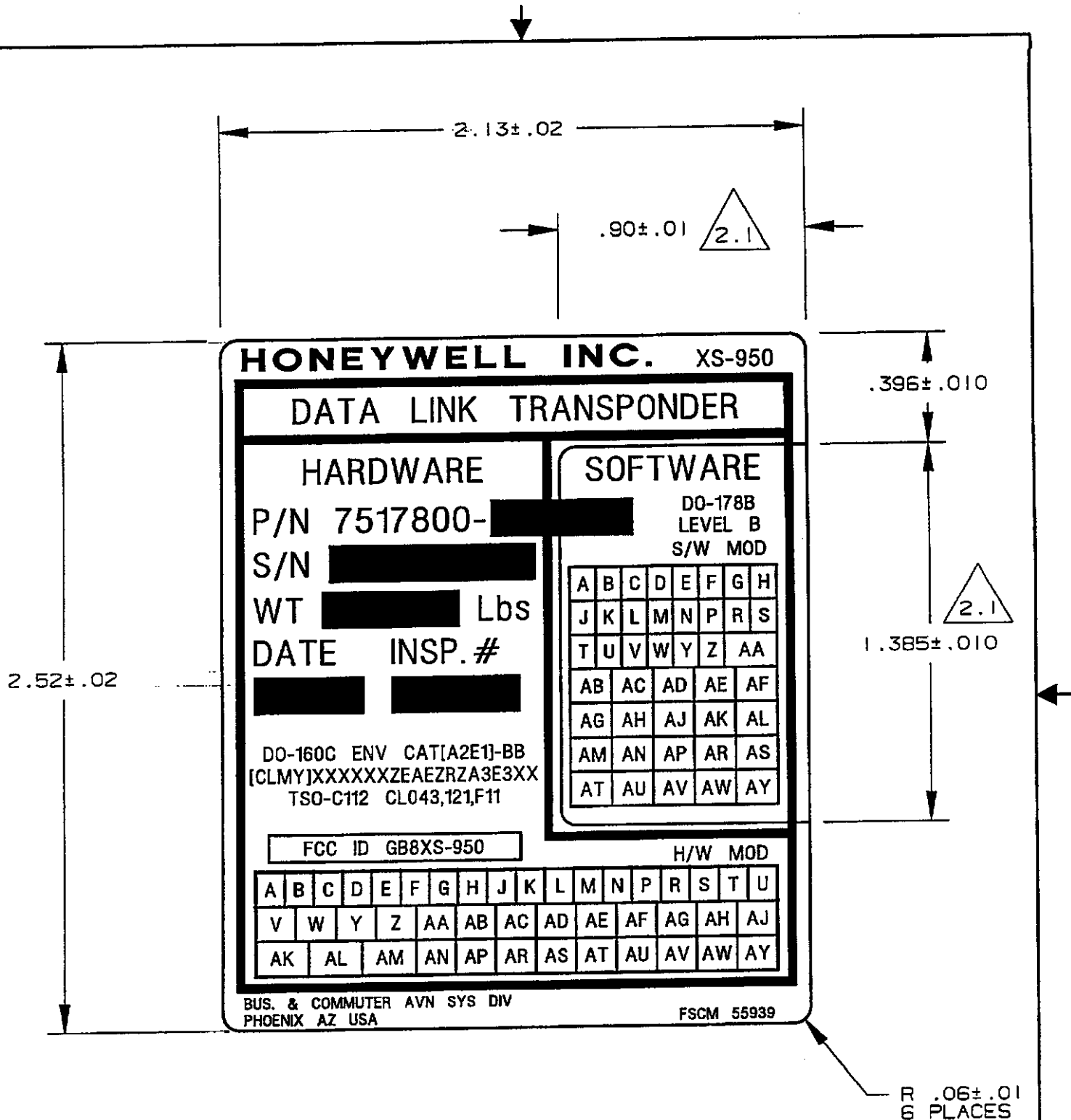
14



GT7021570-13

FIGURE 13. 7021570-13

|                  |                                                                                                                                                                           |       |           |             |          |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----------|-------------|----------|
| <b>Honeywell</b> | SEE FIRST SHEET FOR<br>CONTRACT NUMBER. USE OR<br>DISCLOSURE OF INFORMATION<br>ON THIS SHEET IS SUBJECT<br>TO THE RESTRICTIONS ON<br>THE FIRST SHEET OF THIS<br>DOCUMENT. | SIZE  | CAGE CODE | DRAWING NO. | REV      |
|                  |                                                                                                                                                                           | A     | 55939     | 7021570     | AM       |
|                  |                                                                                                                                                                           | SCALE | 2/1       |             | SHEET 15 |

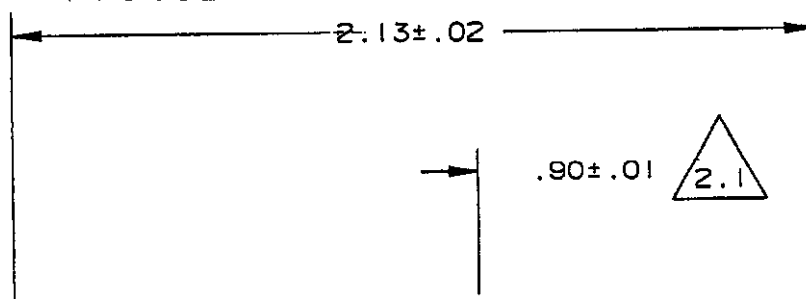


GT7021570-14

FIGURE 14. 7021570-14

|           |                                                                                                                                                              |           |           |             |     |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------|-------------|-----|
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|           |                                                                                                                                                              | A         | 55939     | 7021570     | AM  |
|           |                                                                                                                                                              | SCALE 2/1 |           | SHEET 16    |     |

2.52±.02

**HONEYWELL INC.** XS-950**DATA LINK TRANSPONDER**

**HARDWARE**  
 P/N 7517800-  
 S/N  
 WT Lbs  
 DATE INSP.#

DO-160C ENV CAT[A2E1]-BB  
 [CLMY]XXXXXXXX[BZ]AZZRZA3E3XX  
 TSO-C112 CL043,121,F11

FCC ID GB8XS-950

|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| A  | B  | C  | D  | E  | F  | G  | H  | J  | K  | L  | M  | N  | P  | R  | S  | T  | U  |
| V  | W  | Y  | Z  | AA | AB | AC | AD | AE | AF | AG | AH | AJ | AK | AL | AM | AN | AP |
| AR | AS | AT | AU | AV | AW | AY |    |    |    |    |    |    |    |    |    |    |    |

BUS. & COMMUTER AVN SYS DIV  
 PHOENIX AZ USA

FSCM 55939

**SOFTWARE**

DO-178B  
 LEVEL B  
 S/W MOD

|    |    |    |    |    |   |    |   |
|----|----|----|----|----|---|----|---|
| A  | B  | C  | D  | E  | F | G  | H |
| J  | K  | L  | M  | N  | P | R  | S |
| T  | U  | V  | W  | Y  | Z | AA |   |
| AB | AC | AD | AE | AF |   |    |   |
| AG | AH | AJ | AK | AL |   |    |   |
| AM | AN | AP | AR | AS |   |    |   |
| AT | AU | AV | AW | AY |   |    |   |

.396±.010

1.385±.010



R .06±.01  
 6 PLACES

GT7021570-15

FIGURE 15. 7021570-15

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55939

DRAWING NO.

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REV

AM

SCALE

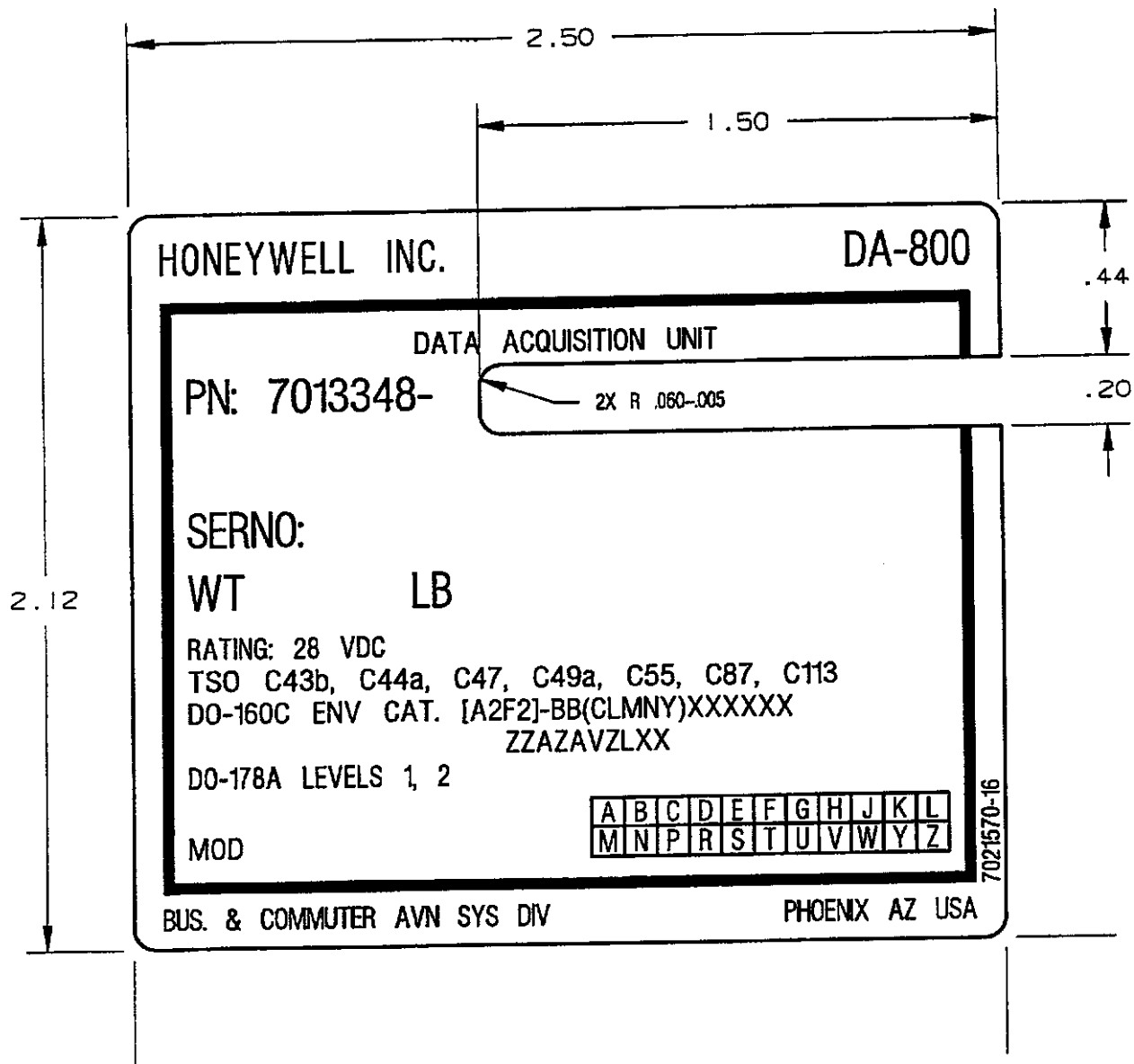
2/1

SHEET

17

SH

DWG NO.



GT7021570-16

FIGURE 16. 7021570-16

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CAGE CODE

55939

DRAWING NO.

7021570

REV

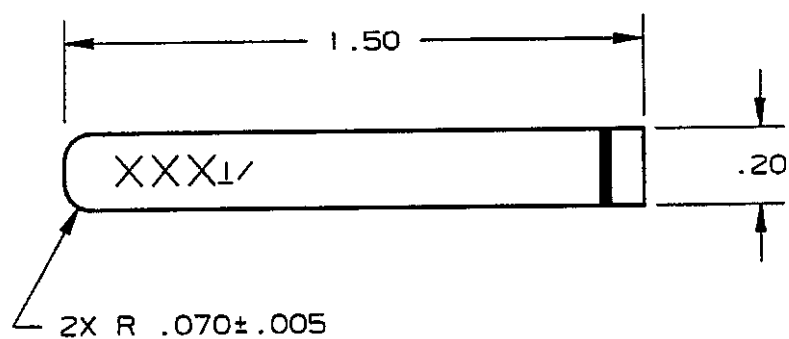
K

SCALE

2/1

SHEET

18



## NOTES:

1/ SEE TABLE 2 FOR CHARACTER INFORMATION.

GT7021570-17

FIGURE 17. 7021570-17

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SIZE

A

CAGE CODE

55939

DRAWING NO.

7021570

REV

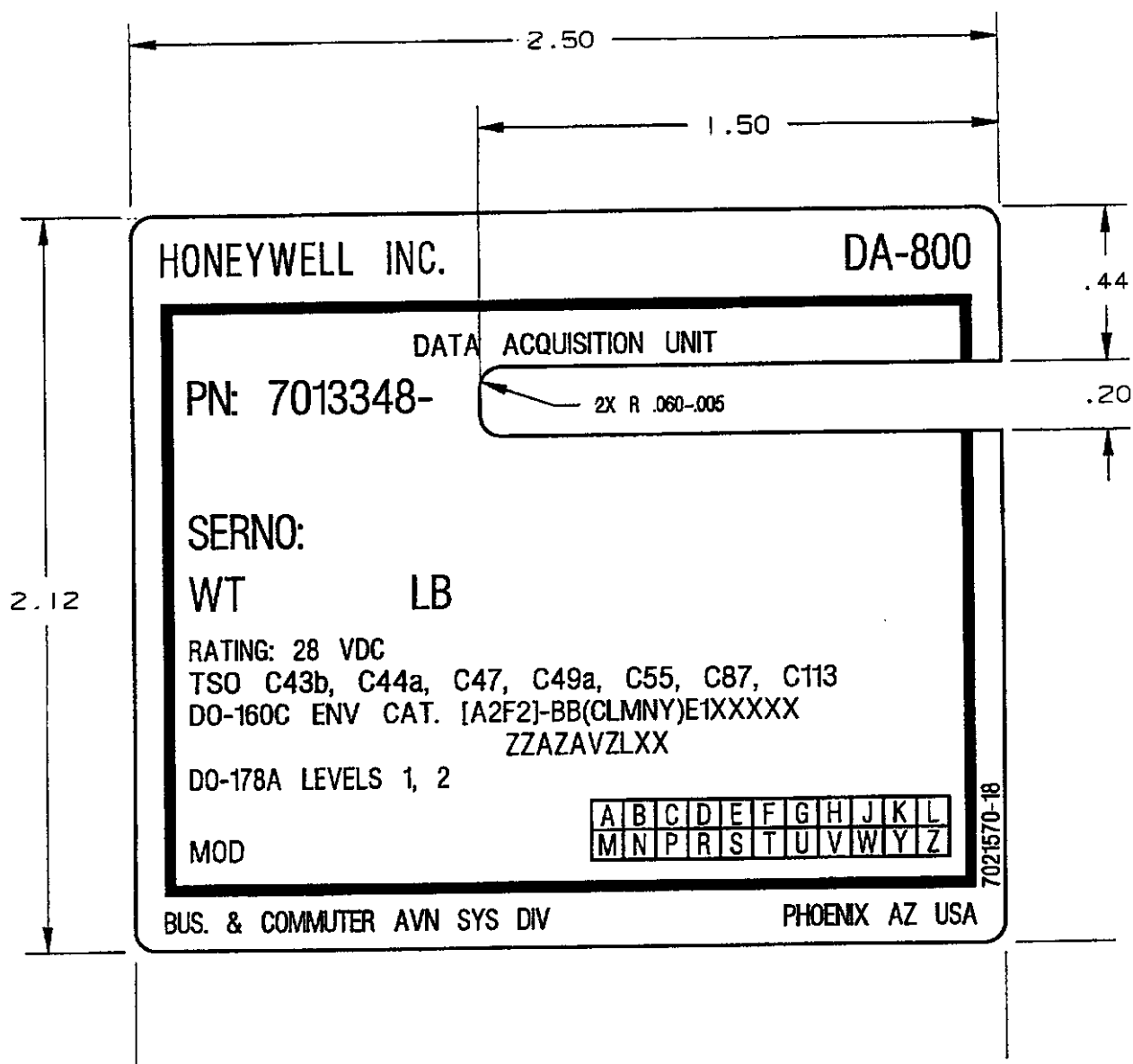
K

SCALE

2/1

SHEET

19



GT7021570-18.

FIGURE 1B. 7021570-18

**Honeywell**

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DOCUMENT.

SIZE

A

CAGE CODE

55939

DRAWING NO.

7021570

REV

M

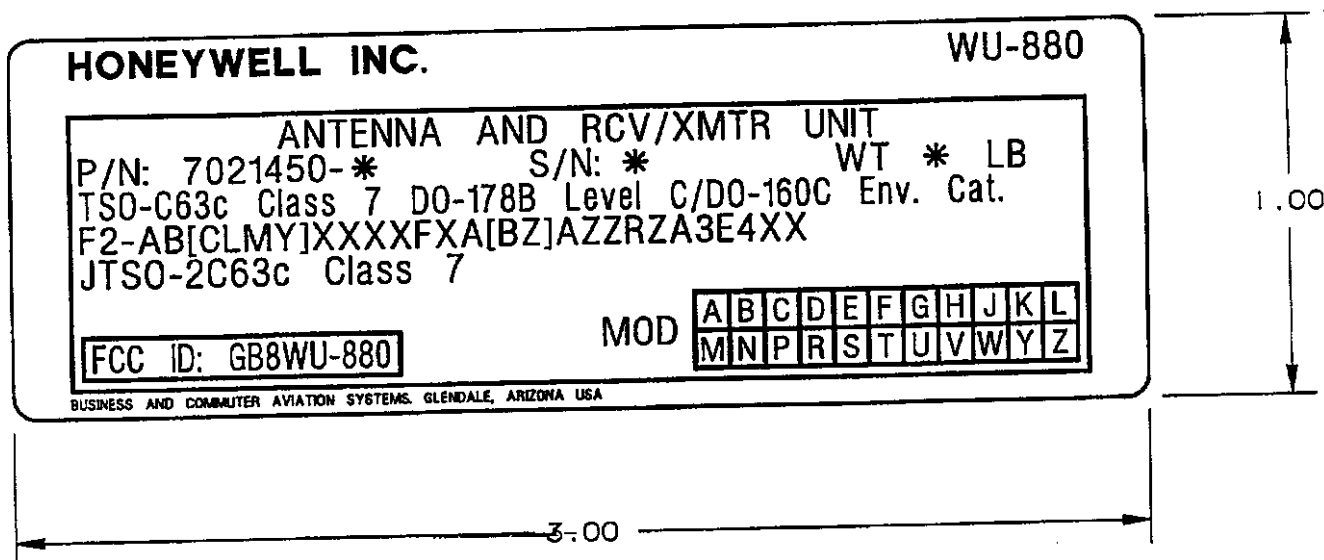
SCALE

2/1

SHEET 20

ST

DWG NO.



"\*" INDICATES INFORMATION WHICH IS VARIABLE AND IS DETERMINED AS PART OF THE FINAL ASSEMBLY PROCESS.

GT7021570-10J

FIGURE 19. 7021570-10J

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SIZE  
**A**

CAGE CODE  
**55939**

DRAWING NO.

**7021570**

REV

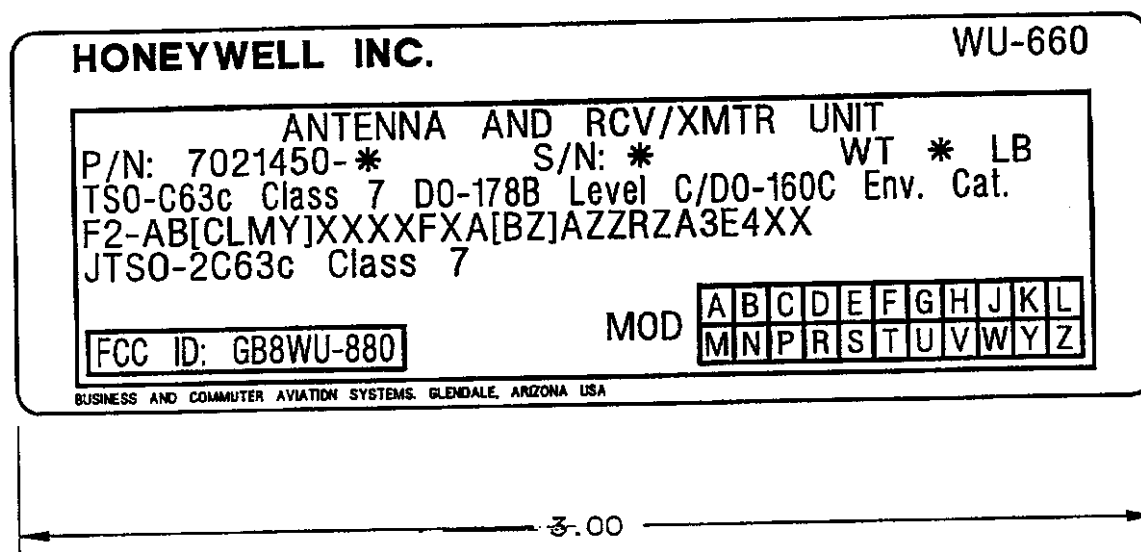
**AM**

SCALE **2/1**

SHEET **21**

COMPUTER GENERATED

GT REV 10-81



"\*" INDICATES INFORMATION WHICH IS VARIABLE AND IS DETERMINED AS PART OF THE FINAL ASSEMBLY PROCESS.

GT7021570-102

FIGURE 20. 7021570-102

|                  |                                                                                                                                                                           |       |           |             |          |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----------|-------------|----------|
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|                  |                                                                                                                                                                           | A     | 55939     | 7021570     | AM       |
|                  |                                                                                                                                                                           | SCALE | 2/1       |             | SHEET 22 |

GT REV 10-81

HONEYWELL INC.

WU-440

ANTENNA AND RCV/XMTR UNIT  
P/N: 7021450-\* S/N: \* WT \* LB  
TSO-C63c Class 7 DO-178B Level C/DO-160C Env. Cat.  
F2-AB[CLMY]XXXXFXA[BZ]AZZRZA3E4XX  
JTSO-2C63c Class 7

FCC ID: GB8WU-880

MOD

|   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|
| A | B | C | D | E | F | G | H | J | K | L |
| M | N | P | R | S | T | U | V | W | Y | Z |

BUSINESS AND COMMUTER AVIATION SYSTEMS, GLENDALE, ARIZONA USA

1.00

3.00

"\*" INDICATES INFORMATION WHICH IS VARIABLE AND IS  
DETERMINED AS PART OF THE FINAL ASSEMBLY PROCESS.

GT7021570-103

FIGURE 21. 7021570-103

Honeywell

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SIZE

A

CAGE CODE

55939

DRAWING NO.

7021570

REV

AM

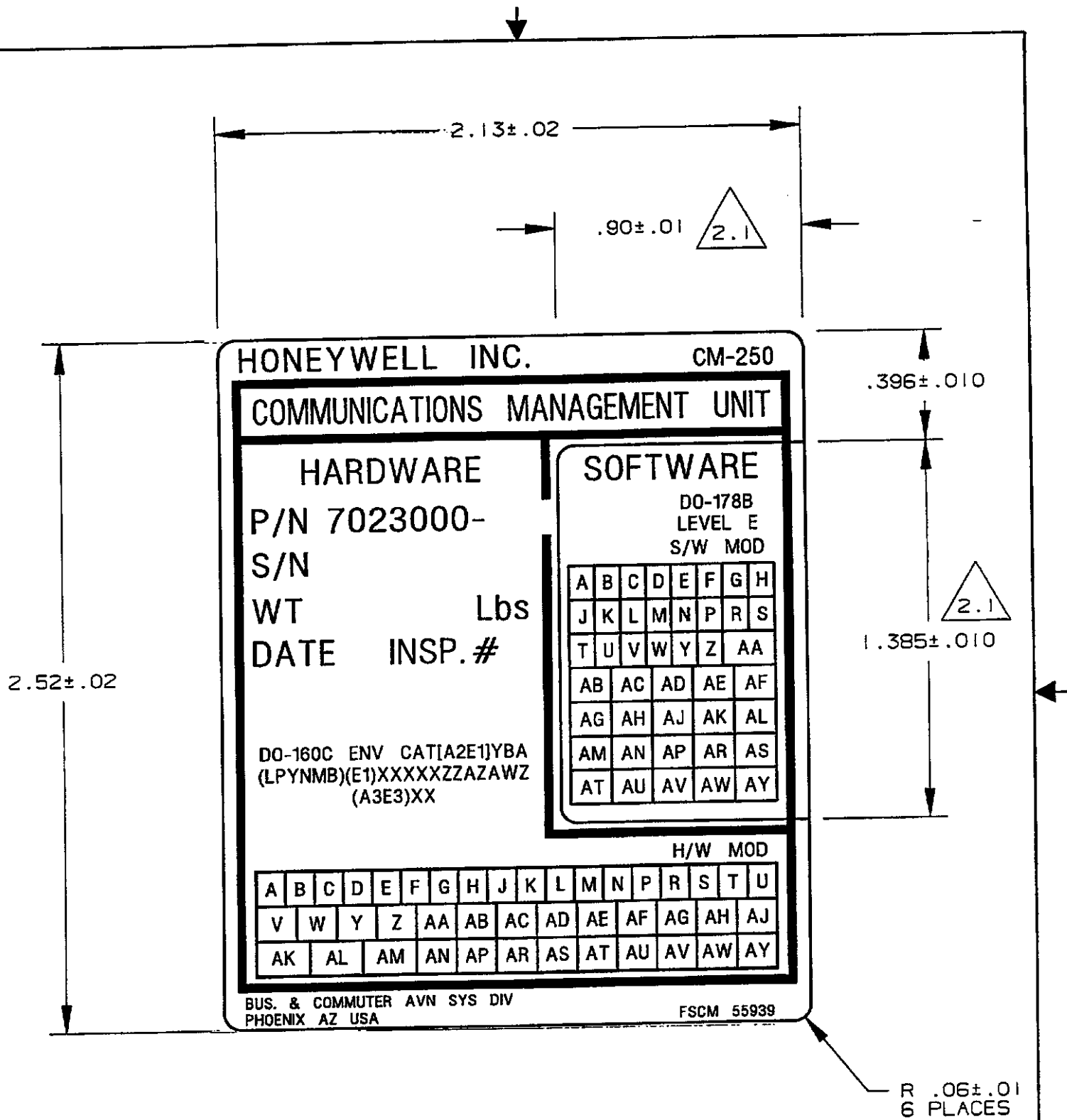
SCALE 2/1

SHEET 23

GT REV 10-91

COMPUTER GENERATED

DWG NO.



GT7021570-22

FIGURE 22. 7021570-22

Honeywell

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SIZE

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CAGE CODE

55939

DRAWING NO.

7021570

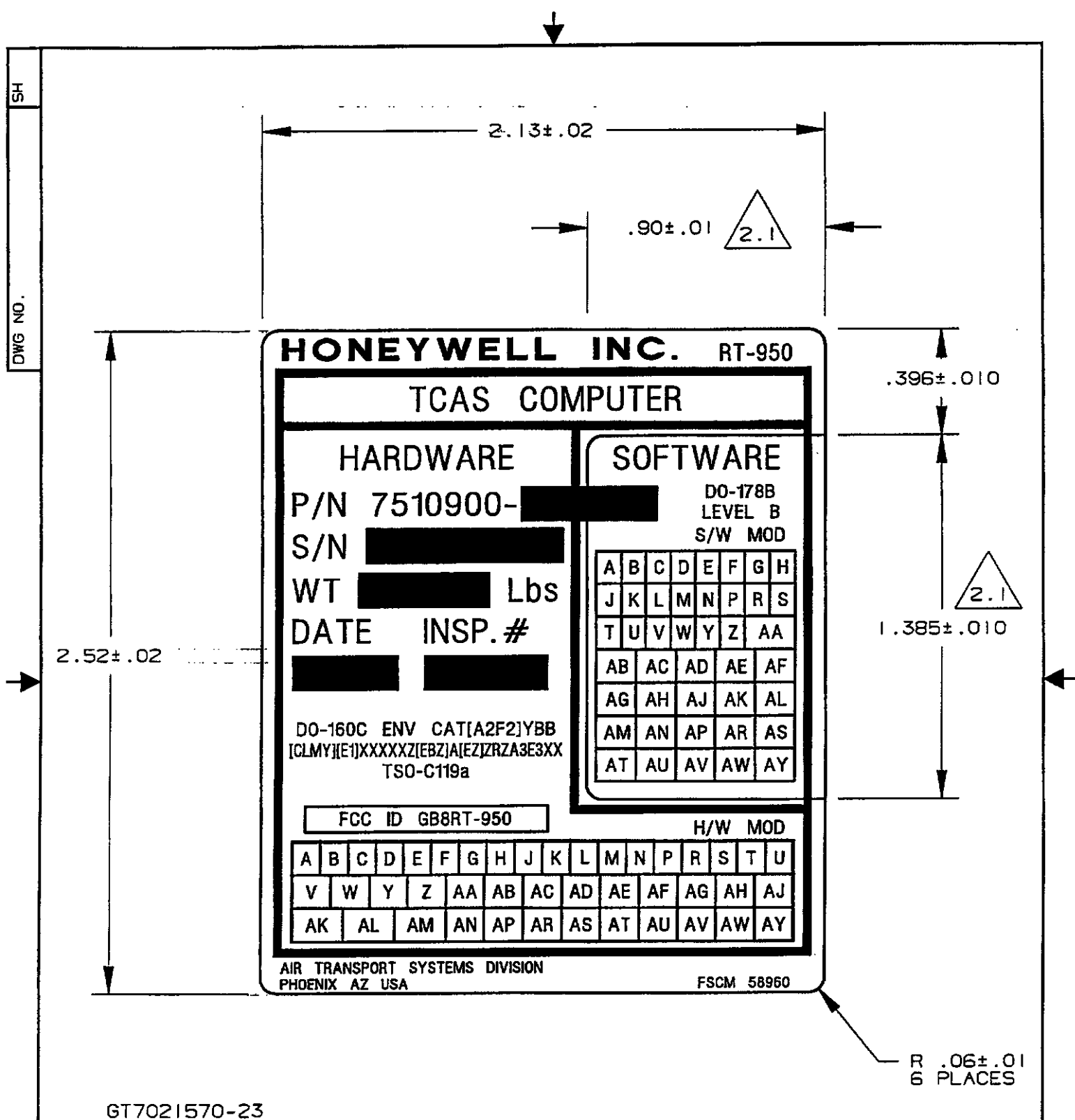
REV

AM

SCALE 2/1

SHEET 24

COMPUTER GENERATED



GT7021570-23

FIGURE 23. 7021570-23

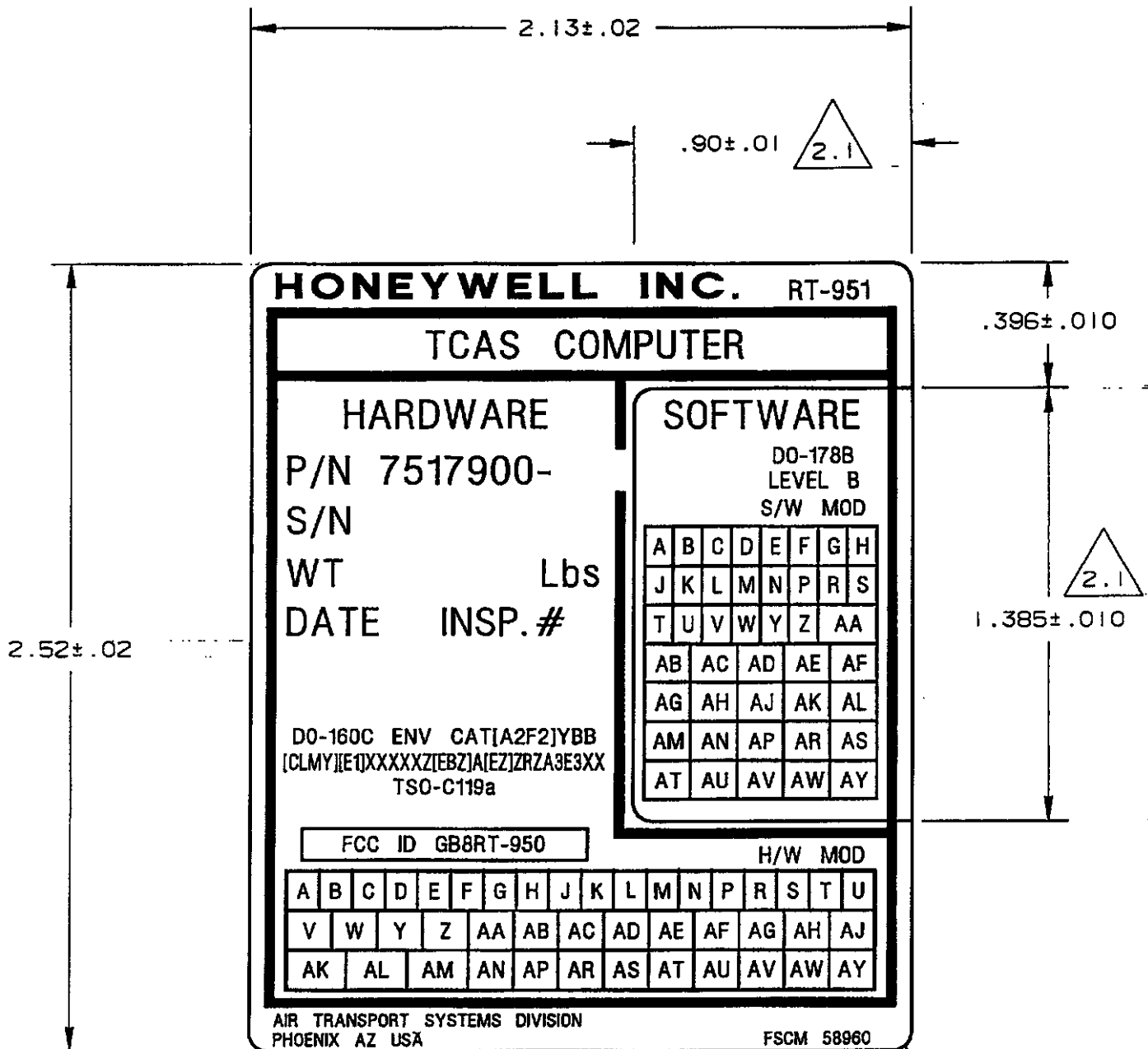
|           |                                                                                                                                                                           |       |           |             |       |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----------|-------------|-------|
| Honeywell | SEE FIRST SHEET FOR<br>CONTRACT NUMBER. USE OR<br>DISCLOSURE OF INFORMATION<br>ON THIS SHEET IS SUBJECT<br>TO THE RESTRICTIONS ON<br>THE FIRST SHEET OF THIS<br>DOCUMENT. | SIZE  | CAGE CODE | DRAWING NO. | REV   |
|           |                                                                                                                                                                           | A     | 55939     | 7021570     | AM    |
|           |                                                                                                                                                                           | SCALE | 2/1       |             | SHEET |

51

DWG NO.

→

←



GT7021570-24

FIGURE 24. 7021570-24

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TO THE RESTRICTIONS ON  
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DOCUMENT.

SIZE

A

CAGE CODE

55939

DRAWING NO.

7021570

REV

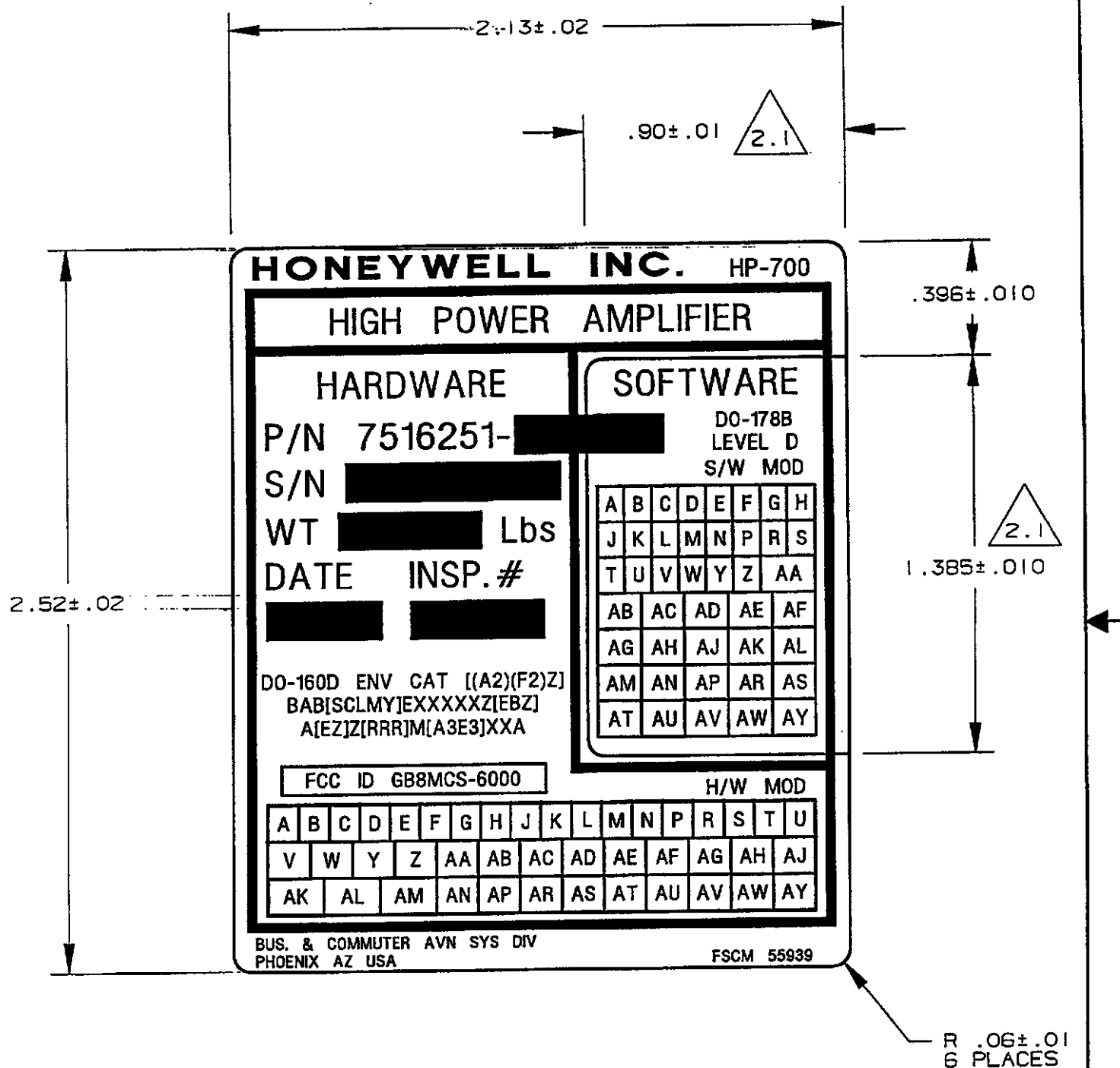
AM

SCALE

2/1

SHEET

26



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SIZE

A

CAGE CODE

55939

DRAWING NO.

7021570

REV

AM

SCALE

2/1

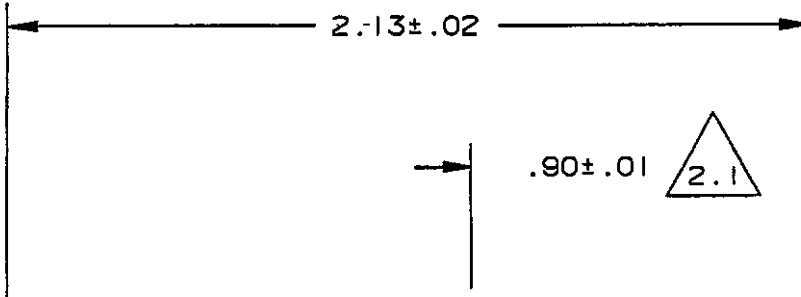
SHEET

27

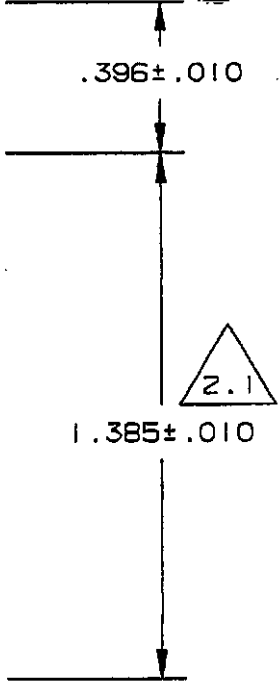
DWG NO.

→

←



|                                                                                 |    |    |    |    |    |    |    |    |    |                 |    |    |    |    |    |    |    |    |    |
|---------------------------------------------------------------------------------|----|----|----|----|----|----|----|----|----|-----------------|----|----|----|----|----|----|----|----|----|
| <b>HONEYWELL INC.</b>                                                           |    |    |    |    |    |    |    |    |    | <b>HP-700</b>   |    |    |    |    |    |    |    |    |    |
| <b>HIGH POWER AMPLIFIER</b>                                                     |    |    |    |    |    |    |    |    |    |                 |    |    |    |    |    |    |    |    |    |
| <b>HARDWARE</b>                                                                 |    |    |    |    |    |    |    |    |    | <b>SOFTWARE</b> |    |    |    |    |    |    |    |    |    |
| P/N 7516251-                                                                    |    |    |    |    |    |    |    |    |    | DO-178B         |    |    |    |    |    |    |    |    |    |
| S/N                                                                             |    |    |    |    |    |    |    |    |    | LEVEL D         |    |    |    |    |    |    |    |    |    |
| WT                                                                              |    |    |    |    |    |    |    |    |    | S/W MOD         |    |    |    |    |    |    |    |    |    |
| Lbs                                                                             |    |    |    |    |    |    |    |    |    |                 |    |    |    |    |    |    |    |    |    |
| DATE                                                                            |    |    |    |    |    |    |    |    |    | INSP. #         |    |    |    |    |    |    |    |    |    |
| DO-160D ENV CAT [(A2)(F2)Z]<br>BAB[SCLMY]EXXXXXXZ[EBZ]<br>A[EZ]Z[RRR]M[A3E3]XXA |    |    |    |    |    |    |    |    |    |                 |    |    |    |    |    |    |    |    |    |
| FCC ID GB8MCS-6000                                                              |    |    |    |    |    |    |    |    |    | H/W MOD         |    |    |    |    |    |    |    |    |    |
| A                                                                               | B  | C  | D  | E  | F  | G  | H  | J  | K  | L               | M  | N  | P  | R  | S  | T  | U  |    |    |
| V                                                                               | W  | Y  | Z  | AA | AB | AC | AD | AE | AF | AG              | AH | AJ | AK | AL | AM | AN | AP | AR | AS |
| AT                                                                              | AU | AV | AW | AX | AY |    |    |    |    |                 |    |    |    |    |    |    |    |    |    |
| BUS. & COMMUTER AVN SYS DIV                                                     |    |    |    |    |    |    |    |    |    | FSCM 55939      |    |    |    |    |    |    |    |    |    |
| PHOENIX AZ USA                                                                  |    |    |    |    |    |    |    |    |    |                 |    |    |    |    |    |    |    |    |    |



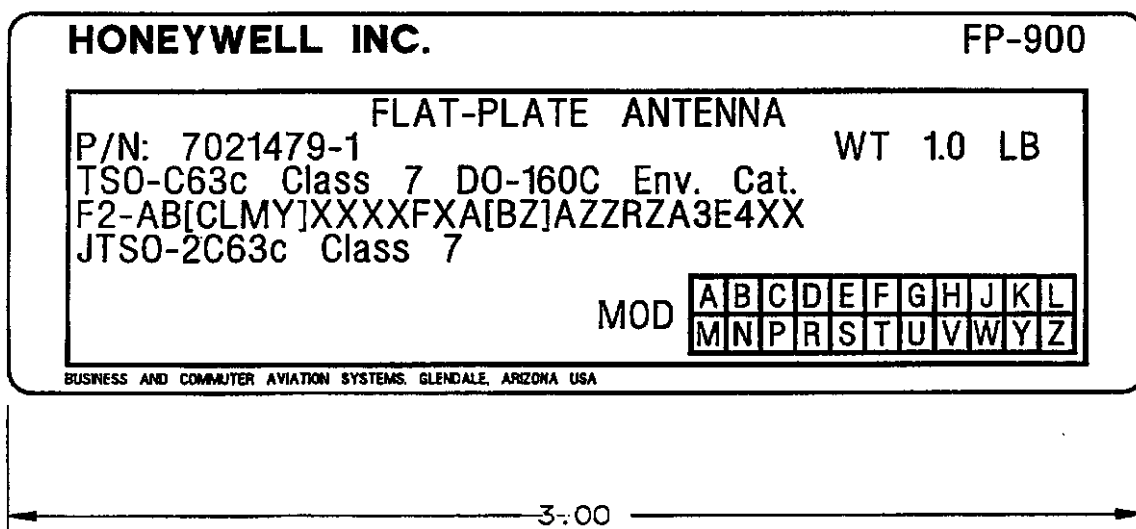
2.52 ± .02

R .06 ± .01  
6 PLACES.

GT7021570-26

FIGURE 26. 7021570-26

|                  |                                                                                                                                                         |       |           |             |     |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----------|-------------|-----|
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|                  |                                                                                                                                                         | A     | 55939     | 7021570     | AM  |
|                  |                                                                                                                                                         | SCALE | 2/1       | SHEET       | 28  |



GT7021570-104

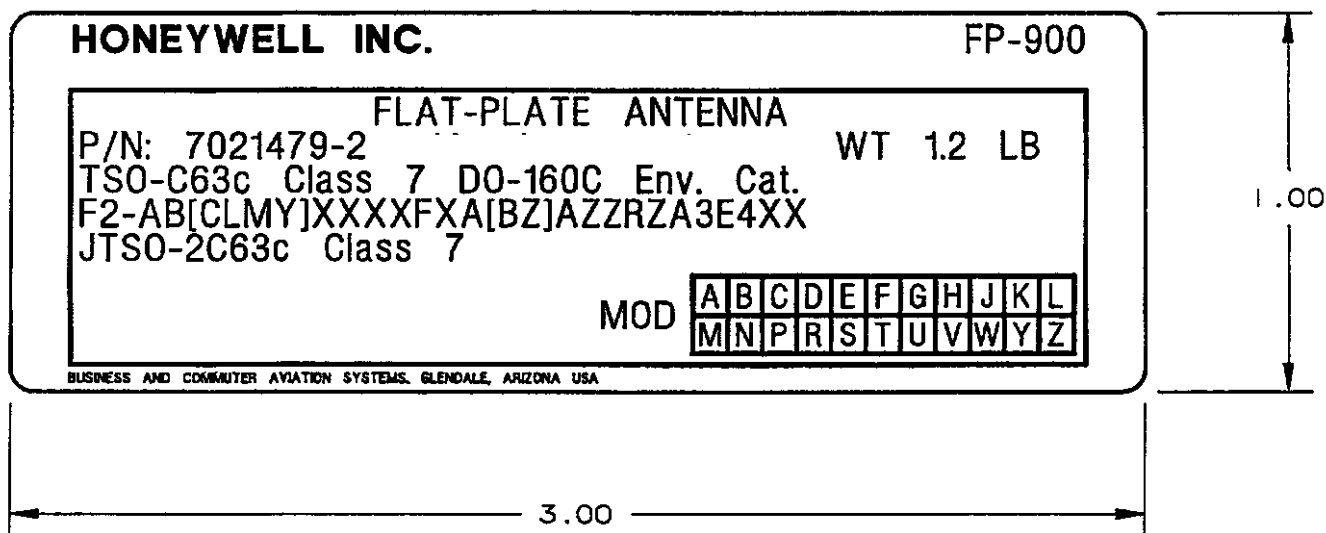
FIGURE 27. 7021570-104

|                  |                                                                                                                                                                           |           |           |             |     |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------|-------------|-----|
| <b>Honeywell</b> | SEE FIRST SHEET FOR<br>CONTRACT NUMBER. USE OR<br>DISCLOSURE OF INFORMATION<br>ON THIS SHEET IS SUBJECT<br>TO THE RESTRICTIONS ON<br>THE FIRST SHEET OF THIS<br>DOCUMENT. | SIZE      | CAGE CODE | DRAWING NO. | REV |
|                  |                                                                                                                                                                           | A         | 55939     | 7021570     | AM  |
|                  |                                                                                                                                                                           | SCALE 2/1 |           | SHEET 29    |     |

GT REV 10-91



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GT7021570-105

FIGURE 28. 7021570-105

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SIZE  
**A**

CAGE CODE  
**55939**

DRAWING NO.

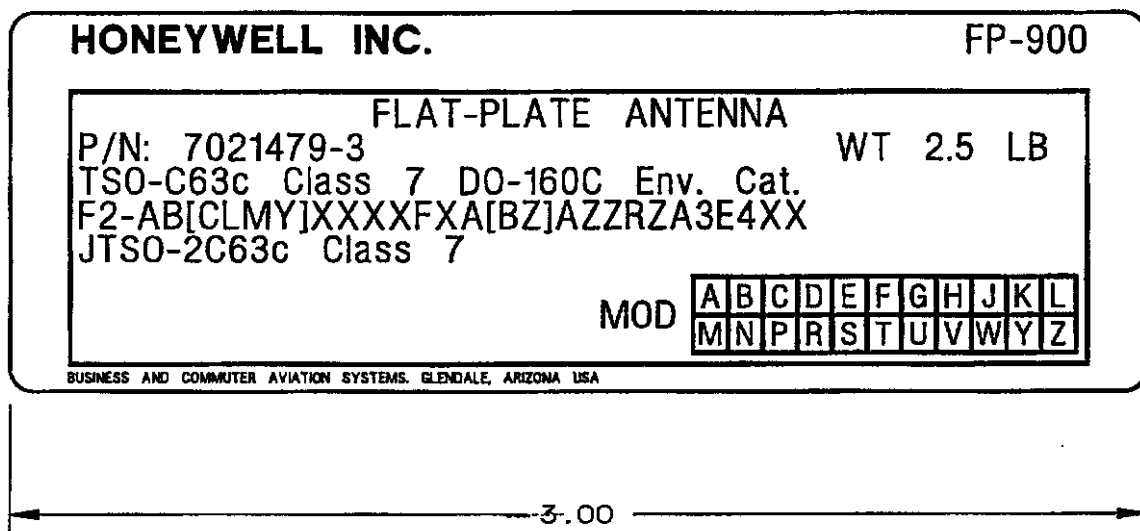
**7021570**

REV  
**AM**

SCALE **2/1**

SHEET **30**

GT REV 10-91



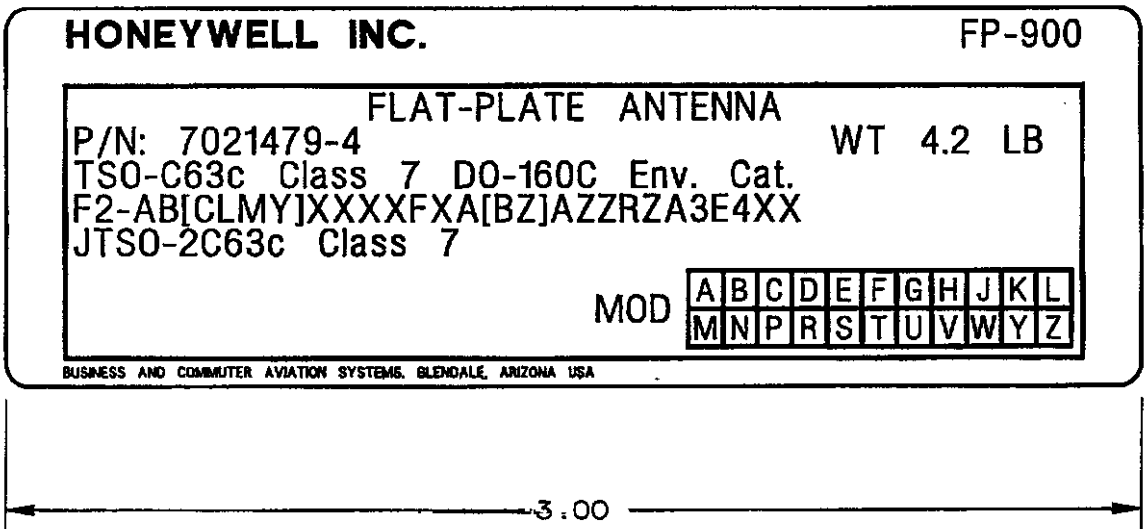
GT7021570-106

FIGURE 29. 7021570-106

|           |                                                                                                                                                         |       |           |             |     |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----------|-------------|-----|
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|           |                                                                                                                                                         | A     | 55939     | 7021570     | AM  |
|           |                                                                                                                                                         | SCALE | 2/1       | SHEET       | 31  |

GT REV 10-91

COMPUTER GENERATED

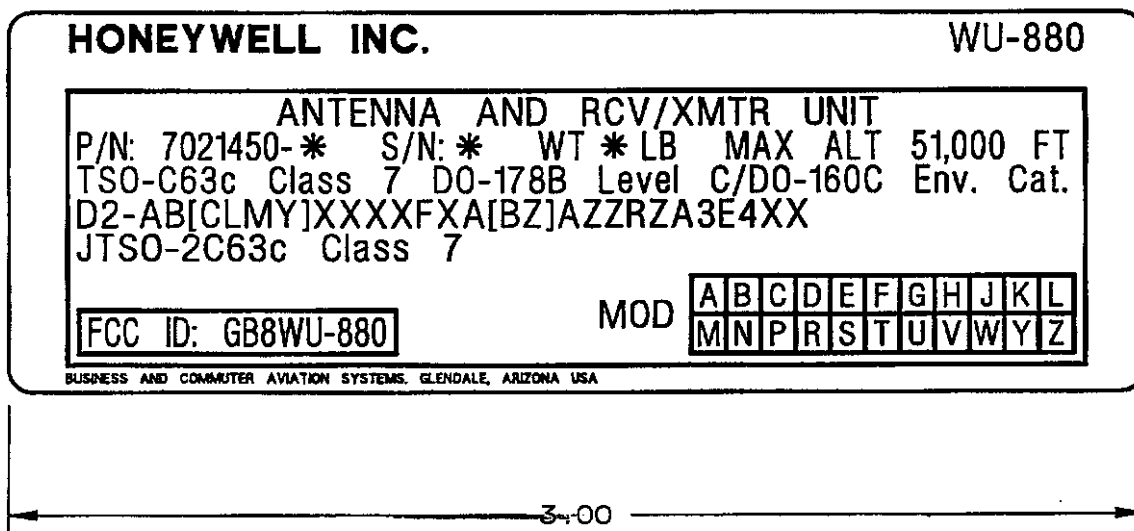


GT7021570-107

FIGURE 30. 7021570-107

|                  |                                                                                                                                                                           |           |           |             |     |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------|-------------|-----|
| <b>Honeywell</b> | SEE FIRST SHEET FOR<br>CONTRACT NUMBER. USE OR<br>DISCLOSURE OF INFORMATION<br>ON THIS SHEET IS SUBJECT<br>TO THE RESTRICTIONS ON<br>THE FIRST SHEET OF THIS<br>DOCUMENT. | SIZE      | CAGE CODE | DRAWING NO. | REV |
|                  |                                                                                                                                                                           | A         | 55939     | 7021570     | AM  |
|                  |                                                                                                                                                                           | SCALE 2/1 |           | SHEET 32    |     |

GT REV 10-81



"\*" INDICATES INFORMATION WHICH IS VARIABLE AND IS DETERMINED AS PART OF THE FINAL ASSEMBLY PROCESS.

GT7021570-108

FIGURE 31. 7021570-108

|                  |                                                                                                                                                         |                  |                           |                               |                  |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|---------------------------|-------------------------------|------------------|
| <b>Honeywell</b> | SEE FIRST SHEET FOR CONTRACT NUMBER. USE OR DISCLOSURE OF INFORMATION ON THIS SHEET IS SUBJECT TO THE RESTRICTIONS ON THE FIRST SHEET OF THIS DOCUMENT. | SIZE<br><b>A</b> | CAGE CODE<br><b>55939</b> | DRAWING NO.<br><b>7021570</b> | REV<br><b>AM</b> |
|                  |                                                                                                                                                         | SCALE <b>2/1</b> |                           | SHEET <b>33</b>               |                  |



**HONEYWELL INC.**

**WU-660**

ANTENNA AND RCV/XMTR UNIT  
P/N: 7021450-\* S/N: \* WT \* LB MAX ALT 51,000 FT  
TSO-C63c Class 7 DO-178B Level C/DO-160C Env. Cat.  
D2-AB[CLMY]XXXXFXA[BZ]AZZRZA3E4XX  
JTSO-2C63c Class 7

FCC ID: GB8WU-880

MOD 

|   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|
| A | B | C | D | E | F | G | H | J | K | L |
| M | N | P | R | S | T | U | V | W | Y | Z |

BUSINESS AND COMMUTER AVIATION SYSTEMS, GLENDALE, ARIZONA USA

1.00

3.00

"\*" INDICATES INFORMATION WHICH IS VARIABLE AND IS DETERMINED AS PART OF THE FINAL ASSEMBLY PROCESS.

GT7021570-109

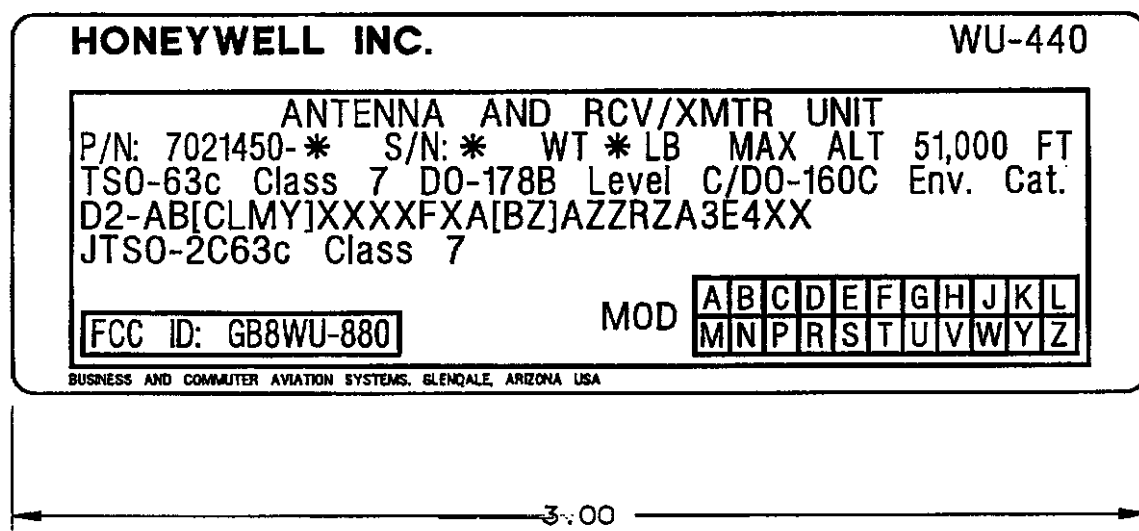
FIGURE 32. 7021570-109

**Honeywell**

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|-------|-----------|-------------|-----|
| A     | 55939     | 7021570     | AM  |
| SCALE | 2/1       | SHEET       | 34  |

GT REV 10-81



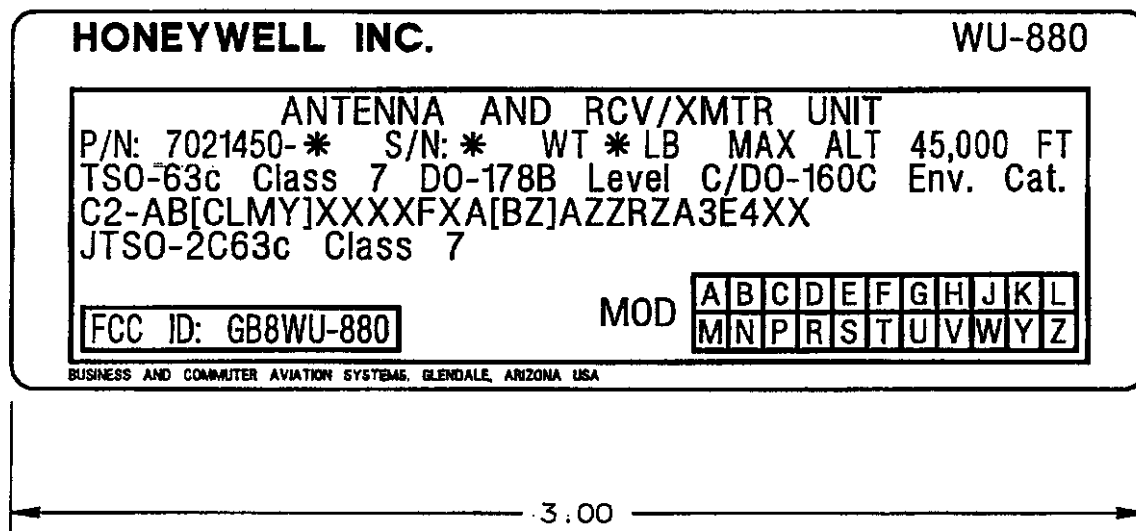
"\*" INDICATES INFORMATION WHICH IS VARIABLE AND IS DETERMINED AS PART OF THE FINAL ASSEMBLY PROCESS.

GT7021570-110

FIGURE 33. 7021570-110

|           |                                                                                                                                                         |       |           |             |       |
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|           |                                                                                                                                                         | A     | 55939     | 7021570     | AM    |
|           |                                                                                                                                                         | SCALE | 2/1       |             | SHEET |

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GT7021570-111

FIGURE 34. 7021570-111

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A

CAGE CODE

55939

DRAWING NO.

7021570

REV

AM

SCALE

2/1

SHEET

36

GT REV 10-91

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|                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                               |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| <b>HONEYWELL INC.</b>                                                                                                                                                                                | <b>WU-660</b>                                                                                                                                                                                                                                                                                                                                 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| <b>ANTENNA AND RCV/XMTR UNIT</b><br>P/N: 7021450-* S/N: * WT * LB MAX ALT 45,000 FT<br>TSO-C63c Class 7 DO-178B Level C/DO-160C Env. Cat.<br>C2-AB[CLMY]XXXXFXA[BZ]AZZRZA3E4XX<br>JTSO-2C63c Class 7 |                                                                                                                                                                                                                                                                                                                                               |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| <div style="border: 1px solid black; padding: 2px; display: inline-block;">FCC ID: GB8WU-880</div>                                                                                                   | MOD <table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td>A</td><td>B</td><td>C</td><td>D</td><td>E</td><td>F</td><td>G</td><td>H</td><td>J</td><td>K</td><td>L</td> </tr> <tr> <td>M</td><td>N</td><td>P</td><td>R</td><td>S</td><td>T</td><td>U</td><td>V</td><td>W</td><td>Y</td><td>Z</td> </tr> </table> | A | B | C | D | E | F | G | H | J | K | L | M | N | P | R | S | T | U | V | W | Y | Z |
| A                                                                                                                                                                                                    | B                                                                                                                                                                                                                                                                                                                                             | C | D | E | F | G | H | J | K | L |   |   |   |   |   |   |   |   |   |   |   |   |   |
| M                                                                                                                                                                                                    | N                                                                                                                                                                                                                                                                                                                                             | P | R | S | T | U | V | W | Y | Z |   |   |   |   |   |   |   |   |   |   |   |   |   |
| BUSINESS AND COMMUTER AVIATION SYSTEMS, GLENDALE, ARIZONA USA                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                               |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

← 3.00 →
↑ 1.00 ↓

"\*" INDICATES INFORMATION WHICH IS VARIABLE AND IS DETERMINED AS PART OF THE FINAL ASSEMBLY PROCESS.

GT7021570-112

FIGURE 35. 7021570-112

|                  |                                                                                                                                                         |                  |                           |                               |                  |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|---------------------------|-------------------------------|------------------|
| <b>Honeywell</b> | SEE FIRST SHEET FOR CONTRACT NUMBER. USE OR DISCLOSURE OF INFORMATION ON THIS SHEET IS SUBJECT TO THE RESTRICTIONS ON THE FIRST SHEET OF THIS DOCUMENT. | SIZE<br><b>A</b> | CAGE CODE<br><b>55939</b> | DRAWING NO.<br><b>7021570</b> | REV<br><b>AM</b> |
|                  |                                                                                                                                                         | SCALE <b>2/1</b> |                           | SHEET <b>37</b>               |                  |

▲ COMPUTER GENERATED

GT REV 10-91



2.4

HONEYWELL INC.

WU-440

ANTENNA AND RCV/XMTR UNIT  
P/N: 7021450-\* S/N: \* WT \* LB MAX ALT 45,000 FT  
TSO-C63c Class 7 DO-178B Level C/DO-160C Env. Cat.  
C2-AB[CLMY]XXXXFXA[BZ]AZZRZA3E4XX  
JTSO-2C63c Class 7

1.00

FCC ID: GB8WU-880

MOD

|   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|
| A | B | C | D | E | F | G | H | J | K | L |
| M | N | P | R | S | T | U | V | W | Y | Z |

BUSINESS AND COMMUTER AVIATION SYSTEMS, GLENDALE, ARIZONA USA

3.00

"\*" INDICATES INFORMATION WHICH IS VARIABLE AND IS DETERMINED AS PART OF THE FINAL ASSEMBLY PROCESS.

GT7021570-T113

FIGURE 36. 7021570-113

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SIZE

A

CAGE CODE

55939

DRAWING NO.

7021570

REV

AM

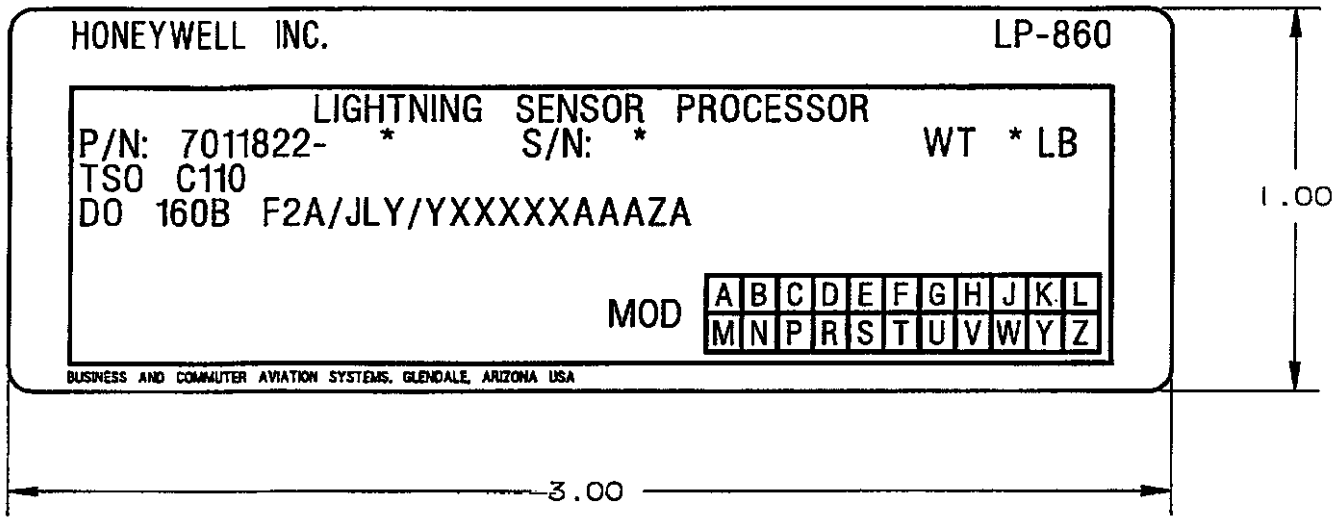
SCALE

2/1

SHEET

38



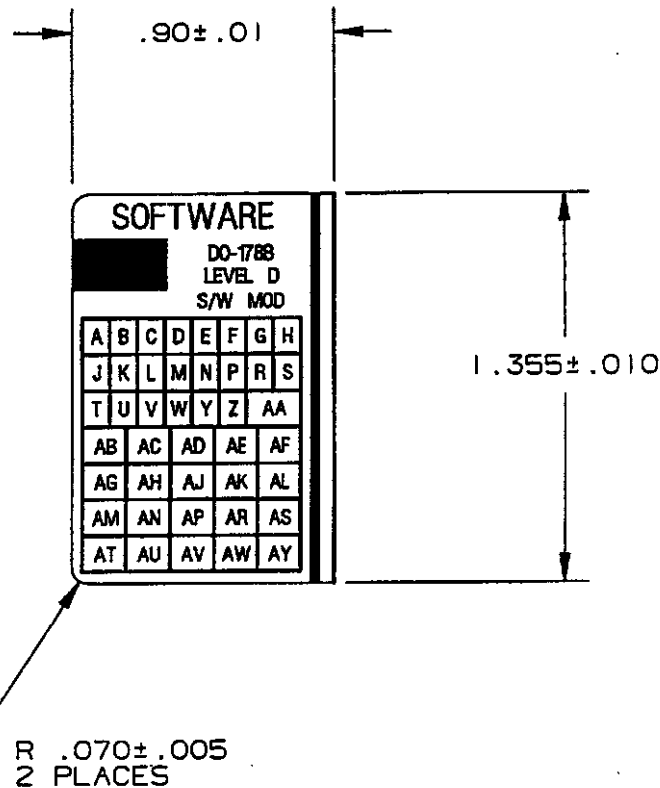


"\*" INDICATES INFORMATION WHICH IS VARIABLE AND IS DETERMINED AS PART OF THE FINAL ASSEMBLY PROCESS.

GT7021570-114

FIGURE 37. 7021570-114

|                  |                                                                                                                                                         |       |           |             |     |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----------|-------------|-----|
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|                  |                                                                                                                                                         | A     | 55939     | 7021570     | AC  |
|                  |                                                                                                                                                         | SCALE | 2/1       | SHEET       | 39  |



GT7021570-27

FIGURE 38. 7021570-27

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SIZE

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CAGE CODE

55939

DRAWING NO.

7021570

REV

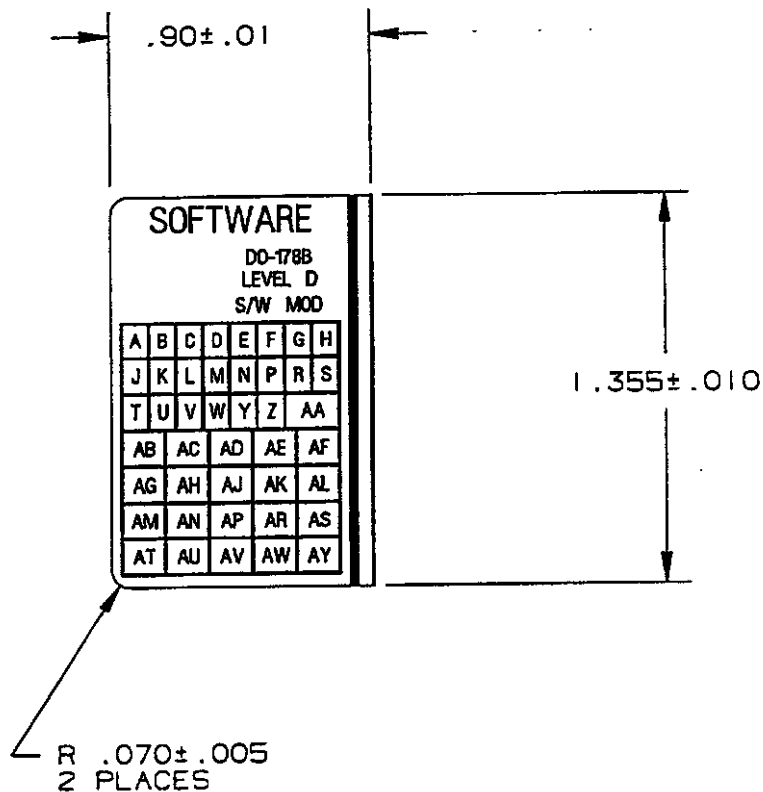
AF

SCALE

SHEET

40

5  
DWG NO.



GT7021570-28

FIGURE 39. 7021570-28

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SIZE  
A

CAGE CODE  
55939

DRAWING NO.

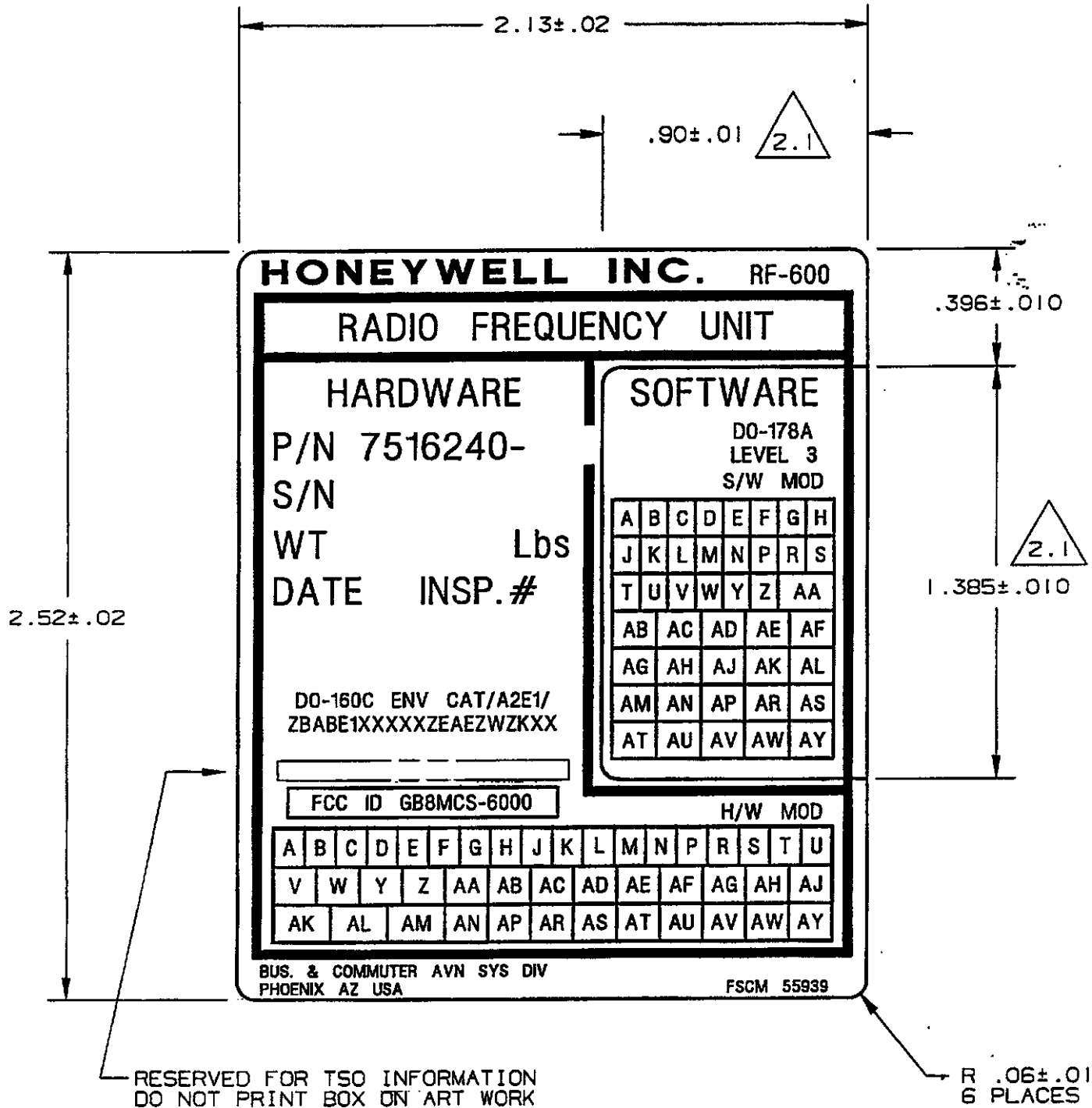
7021570

REV

AF

SCALE

SHEET 41



GT7021570-29

FIGURE 40. 7021570-29

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DOCUMENT.

SIZE

A

CAGE CODE

55939

DRAWING NO.

7021570

REV

AM

SCALE

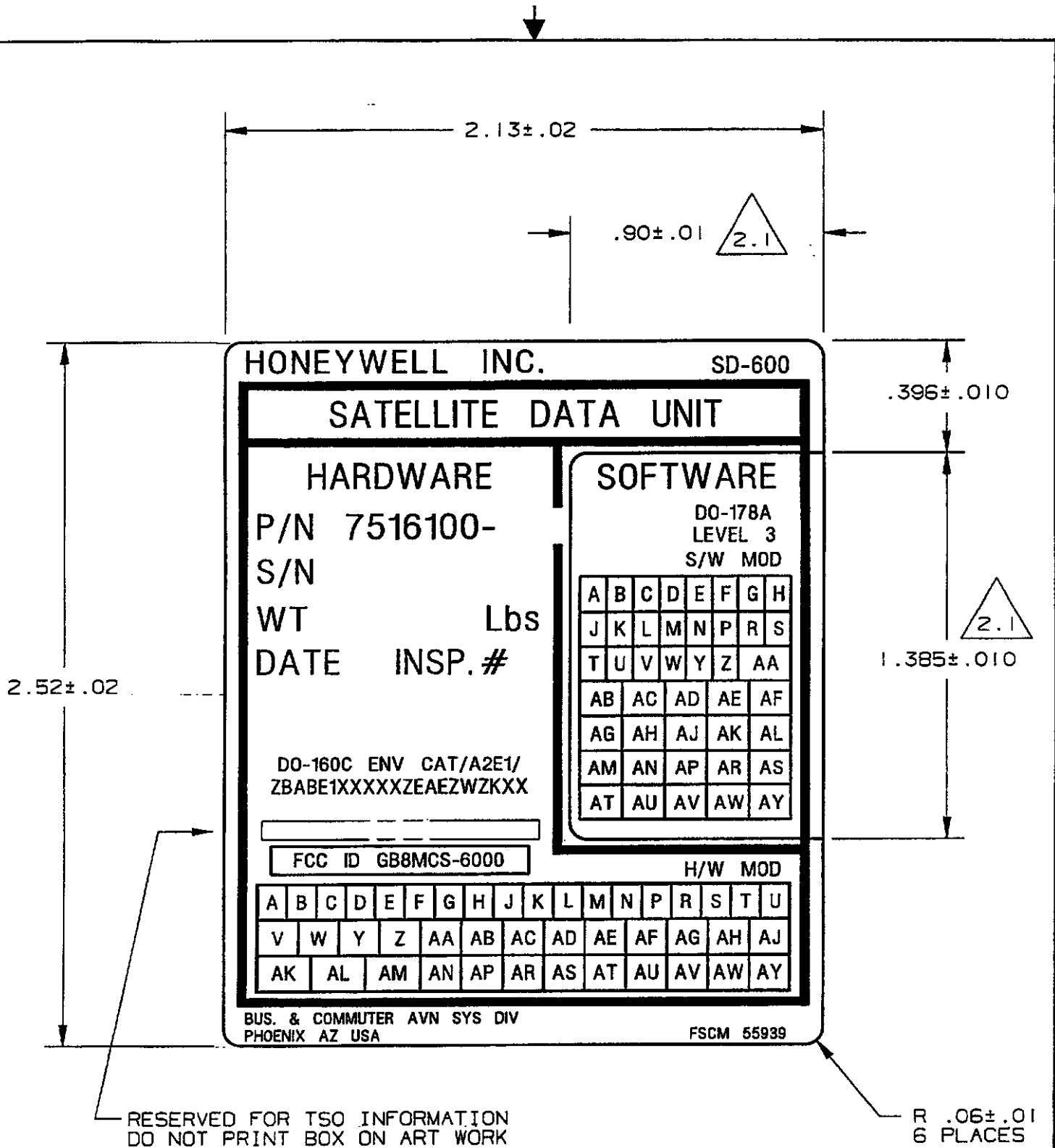
2/1

SHEET

42

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GT REV 10-91



GT7021570-30

FIGURE 41. 7021570-30

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A

CAGE CODE  
55939

DRAWING NO.

7021570

REV  
AM

SCALE 2/1

SHEET 43

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GT REV 10-91

2.13 ± .02

.90 ± .01 2.1

**HONEYWELL INC.** HP-600

**HIGH POWER AMPLIFIER**

**HARDWARE**

P/N 7516250-  
S/N  
WT Lbs  
DATE INSP.#

DO-160C ENV CAT/A2E1/  
ZBABA1XXXXXZEAZWZKXX

FCC ID GB8MCS-6000

**SOFTWARE**

DO-178A  
LEVEL 3  
S/W MOD

|    |    |    |    |    |   |    |   |
|----|----|----|----|----|---|----|---|
| A  | B  | C  | D  | E  | F | G  | H |
| J  | K  | L  | M  | N  | P | R  | S |
| T  | U  | V  | W  | Y  | Z | AA |   |
| AB | AC | AD | AE | AF |   |    |   |
| AG | AH | AJ | AK | AL |   |    |   |
| AM | AN | AP | AR | AS |   |    |   |
| AT | AU | AV | AW | AY |   |    |   |

H/W MOD

|    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |
|----|----|----|----|----|----|----|----|----|----|----|----|----|---|---|---|---|---|
| A  | B  | C  | D  | E  | F  | G  | H  | J  | K  | L  | M  | N  | P | R | S | T | U |
| V  | W  | Y  | Z  | AA | AB | AC | AD | AE | AF | AG | AH | AJ |   |   |   |   |   |
| AK | AL | AM | AN | AP | AR | AS | AT | AU | AV | AW | AY |    |   |   |   |   |   |

BUS. & COMMUTER AVN SYS DIV  
PHOENIX AZ USA

FSCM 55939

.396 ± .010

1.385 ± .010 2.1

RESERVED FOR TSO INFORMATION  
DO NOT PRINT BOX ON ART WORK

R .06 ± .01  
6 PLACES

GT7021570-31

FIGURE 42. 7021570-31

**Honeywell**

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SIZE

A

CAGE CODE

55939

DRAWING NO.

7021570

REV

AM

SCALE

2/1

SHEET

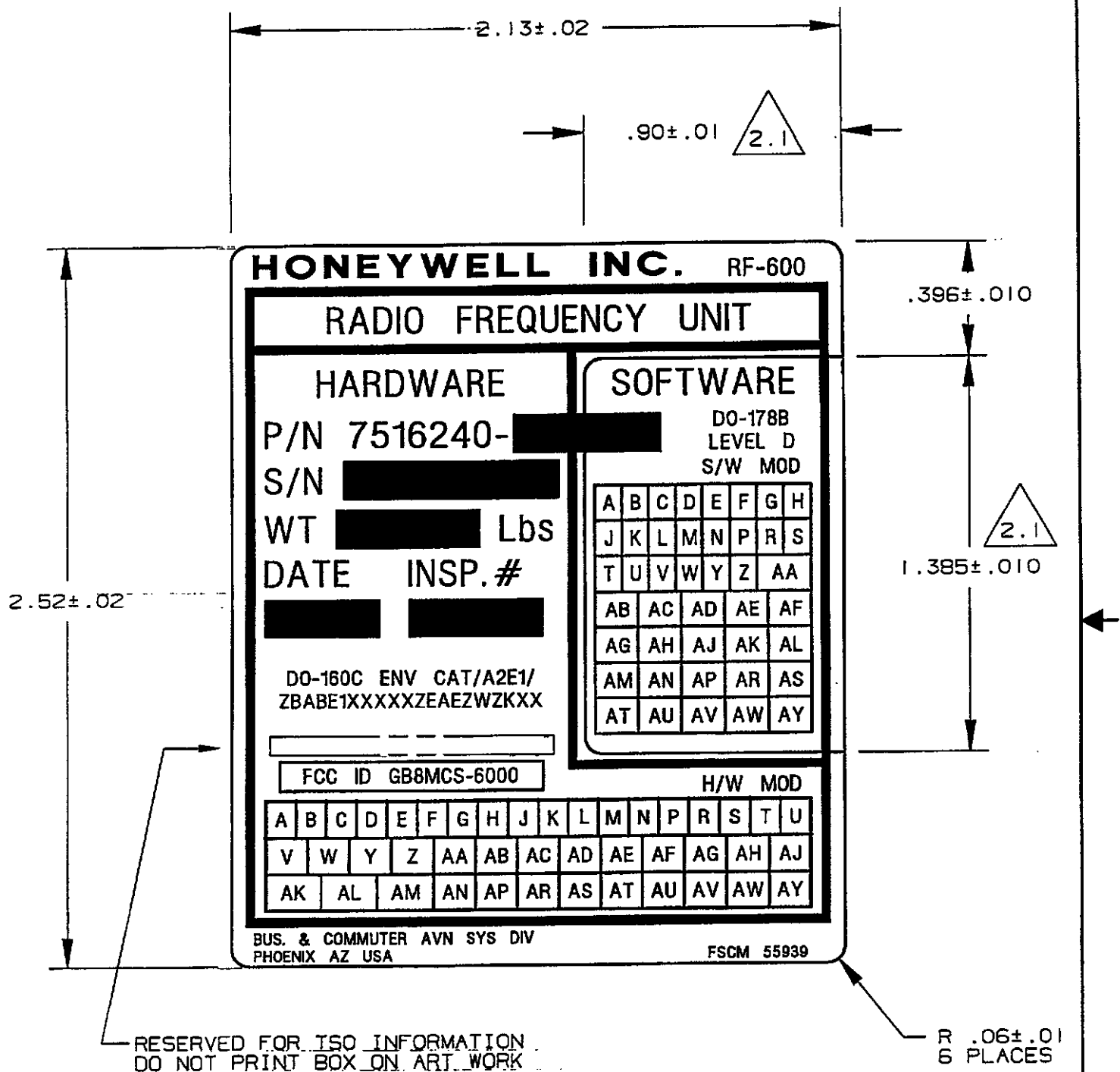
44

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GT REV 10-91

5231-031 (ANSI Y14.1-1980) HONEYWELL INC.  
(REV 3-87)

5  
DWG NO.



GT7021570-32

FIGURE 43. 7021570-32

|           |                                                                                                                                                                           |           |           |             |     |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------|-------------|-----|
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|           |                                                                                                                                                                           | A         | 55939     | 7021570     | AM  |
|           |                                                                                                                                                                           | SCALE 2/1 |           | SHEET 45    |     |

2.13±.02

.90±.01 

**HONEYWELL INC.** RF-600

**RADIO FREQUENCY UNIT**

**HARDWARE**

P/N 7516240-

S/N

WT Lbs

DATE INSP.#

DO-160C ENV CAT/A2E1/  
ZBABE1XXXXXZAEZWZKXX

\_\_\_\_\_

FCC ID GB8MCS-6000

**SOFTWARE**

DO-178B  
LEVEL D  
S/W MOD

|    |    |    |    |    |   |    |   |
|----|----|----|----|----|---|----|---|
| A  | B  | C  | D  | E  | F | G  | H |
| J  | K  | L  | M  | N  | P | R  | S |
| T  | U  | V  | W  | Y  | Z | AA |   |
| AB | AC | AD | AE | AF |   |    |   |
| AG | AH | AJ | AK | AL |   |    |   |
| AM | AN | AP | AR | AS |   |    |   |
| AT | AU | AV | AW | AY |   |    |   |

\_\_\_\_\_

H/W MOD

|    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |
|----|----|----|----|----|----|----|----|----|----|----|----|----|---|---|---|---|---|
| A  | B  | C  | D  | E  | F  | G  | H  | J  | K  | L  | M  | N  | P | R | S | T | U |
| V  | W  | Y  | Z  | AA | AB | AC | AD | AE | AF | AG | AH | AJ |   |   |   |   |   |
| AK | AL | AM | AN | AP | AR | AS | AT | AU | AV | AW | AY |    |   |   |   |   |   |

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BUS. & COMMUTER AVN SYS DIV  
PHOENIX AZ USA

FSCM 55939

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DO NOT PRINT BOX ON ART WORK

R .06±.01  
6 PLACES

GT7021570-33

FIGURE 44. 7021570-33

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CAGE CODE

55939

DRAWING NO.

7021570

REV

AM

SCALE

2/1

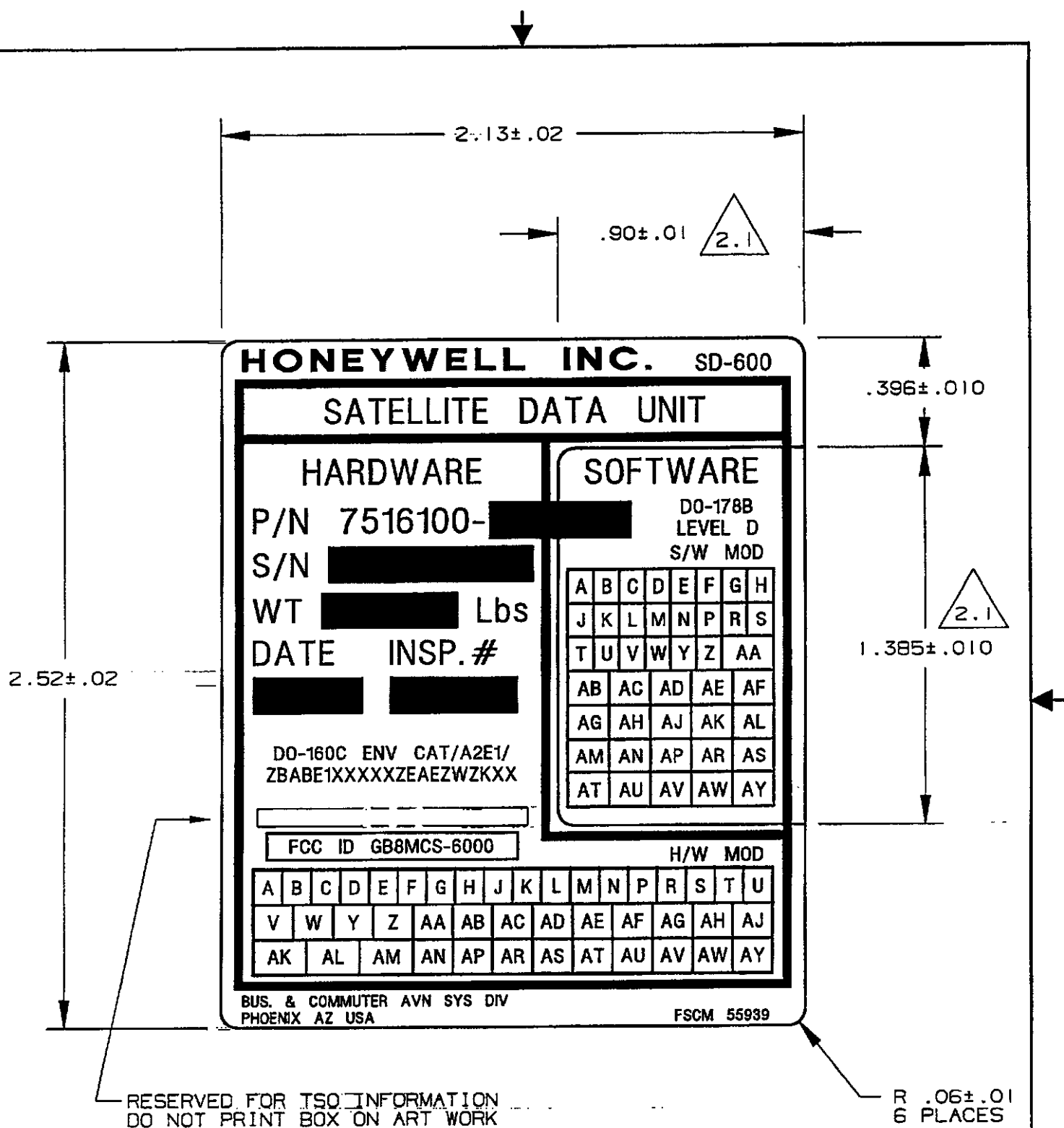
SHEET

46

5231-031 (ANSI Y14.1-1980) HONEYWELL INC.

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GT REV 10-91



GT7021570-34

FIGURE 45. 7021570-34

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SIZE  
**A**

CAGE CODE

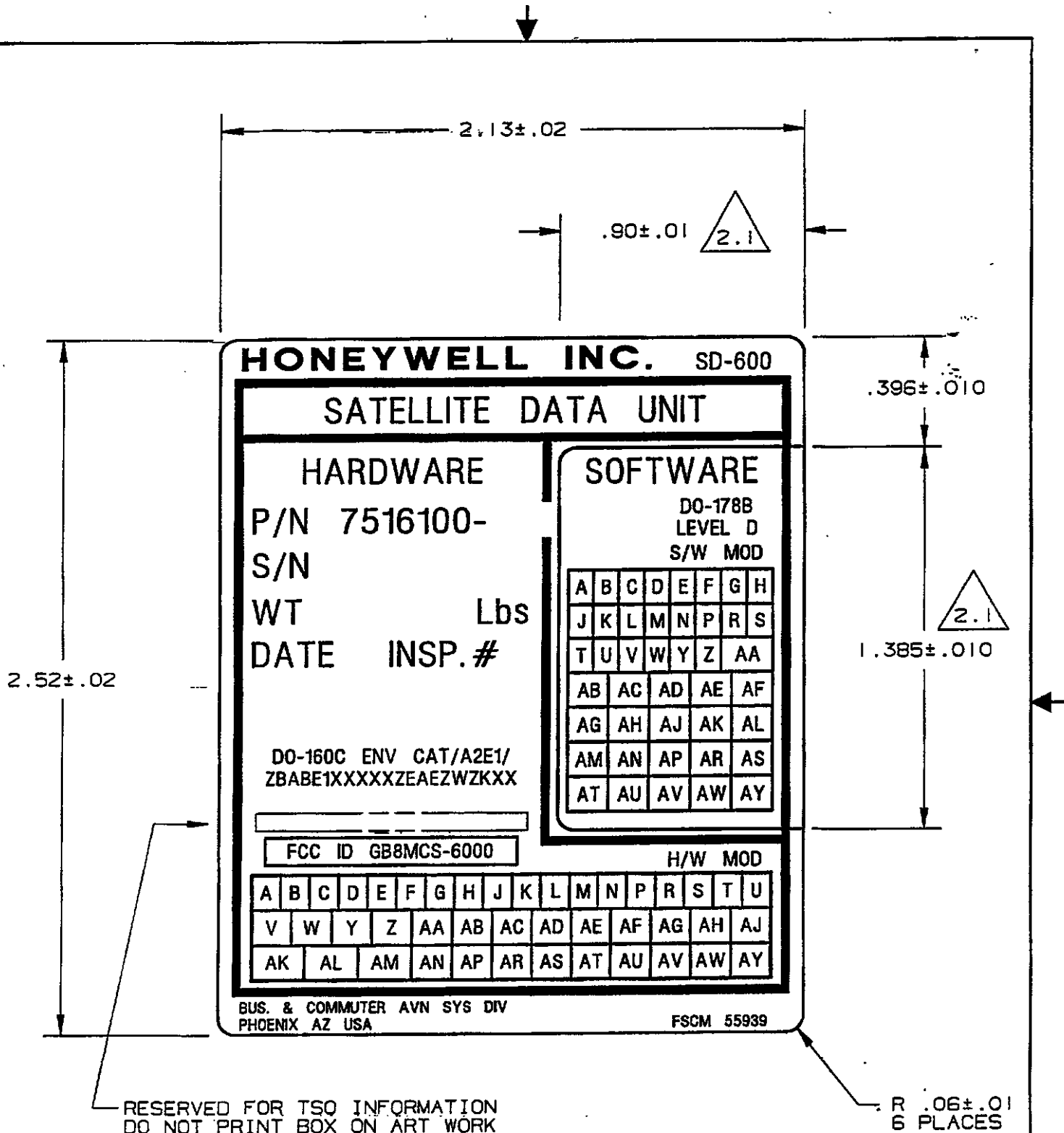
**55939**

DRAWING NO.

**7021570**

REV

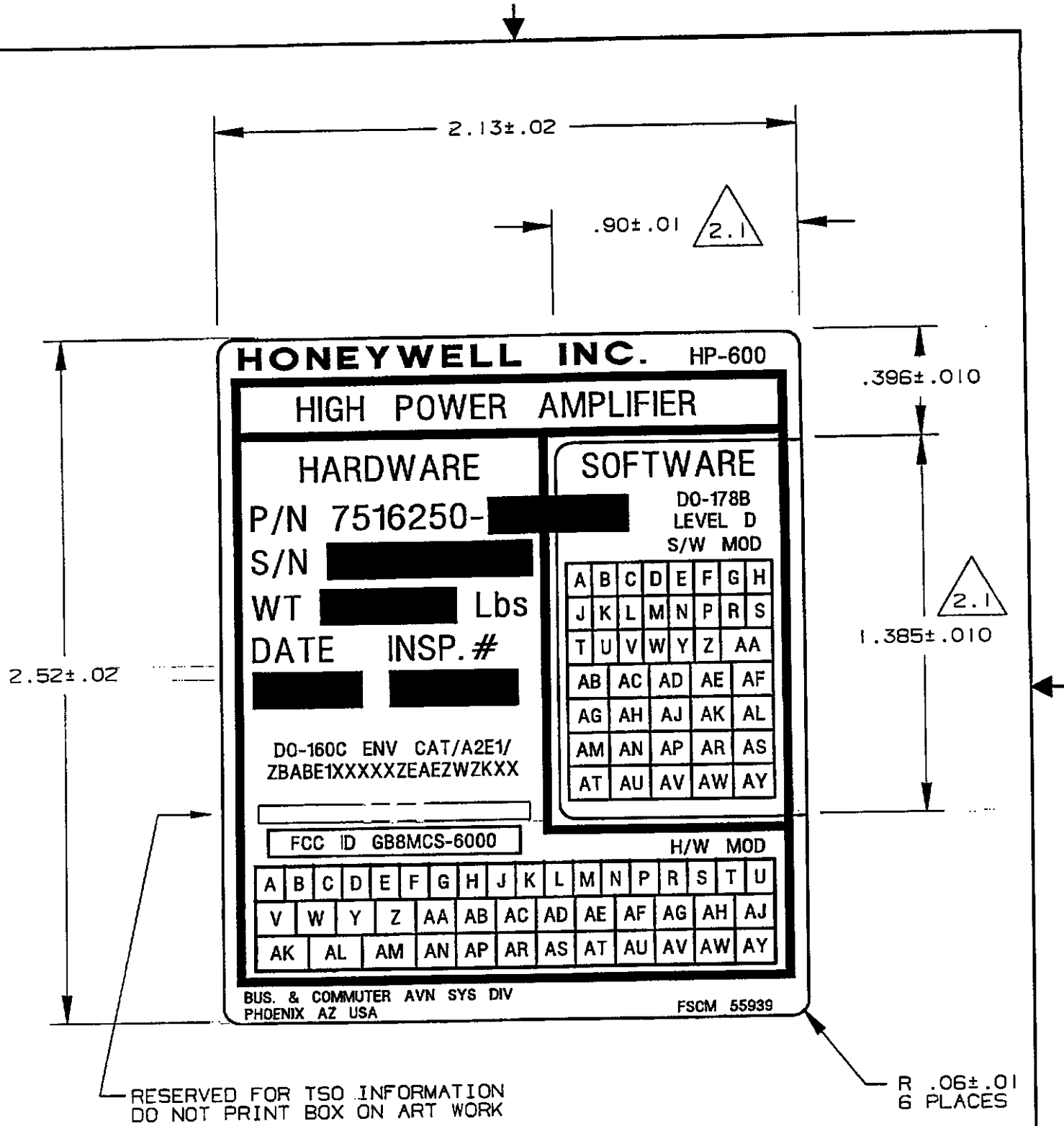
**AM**SCALE **2/1**SHEET **47**



GT7021570-35

FIGURE 46. 7021570-35

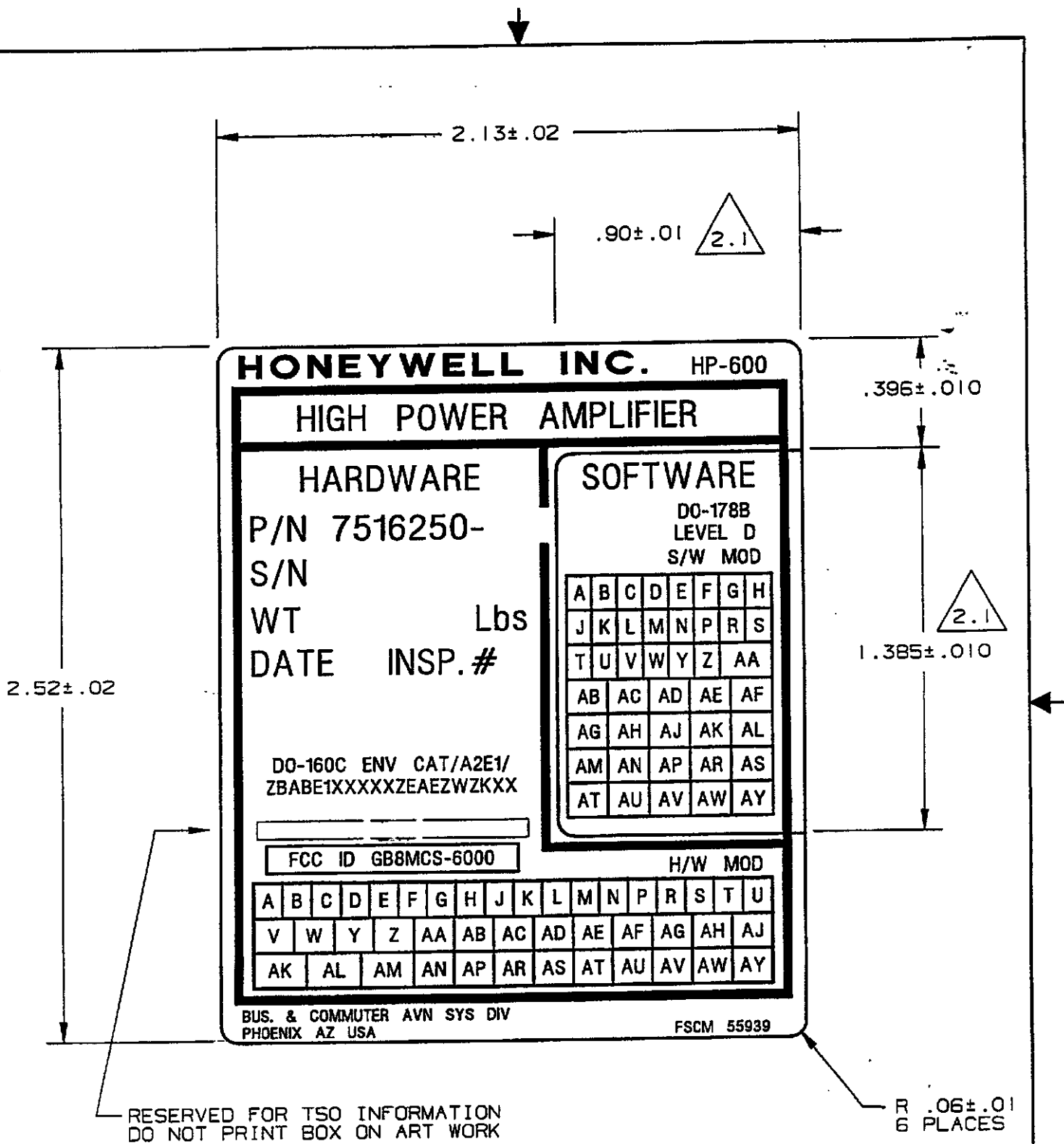
|           |                                                                                                                                                                          |           |           |             |     |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------|-------------|-----|
| Honeywell | SEE FIRST SHEET FOR<br>CONTRACT NUMBER. USE OR<br>DISCLOSURE OF INFORMATION<br>ON THIS SHEET IS SUBJECT<br>TO THE RESTRICTIONS ON<br>THE FIRST SHEET OF THIS<br>DOCUMENT | SIZE      | CAGE CODE | DRAWING NO. | REV |
|           |                                                                                                                                                                          | A         | 55939     | 7021570     | AM  |
|           |                                                                                                                                                                          | SCALE 2/1 |           | SHEET 48    |     |



GT7021570-36

FIGURE 47. 7021570-36

|           |                                                                                                                                                         |           |           |             |     |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------|-------------|-----|
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|           |                                                                                                                                                         | A         | 55939     | 7021570     | AM  |
|           |                                                                                                                                                         | SCALE 2/1 |           | SHEET 49    |     |



GT7021570-37

FIGURE 48. 7021570-37

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SIZE

A

CAGE CODE

55939

DRAWING NO.

7021570

REV

AM

SCALE

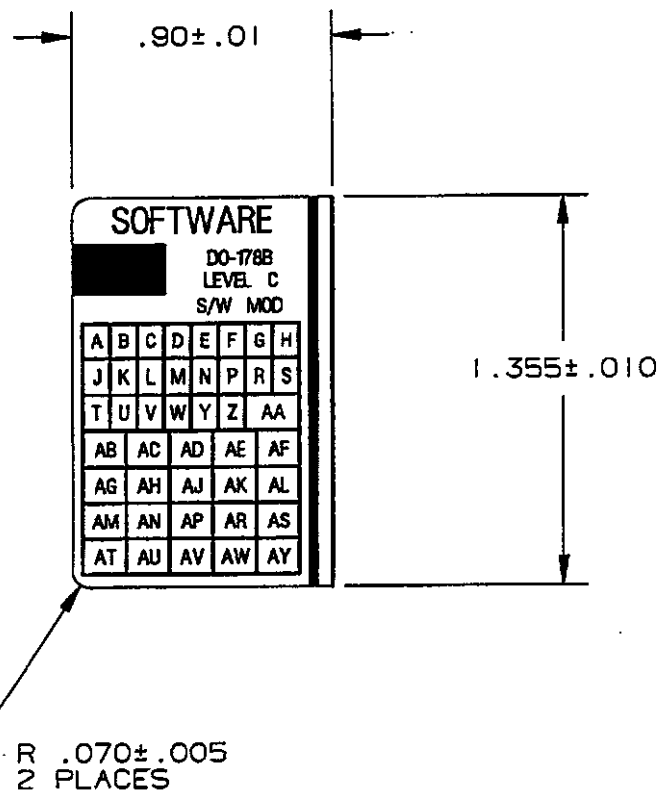
2/1

SHEET

50

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GT REV 10-91



GT7021570-38

FIGURE 49. 7021570-38

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SCALE

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55939

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7021570

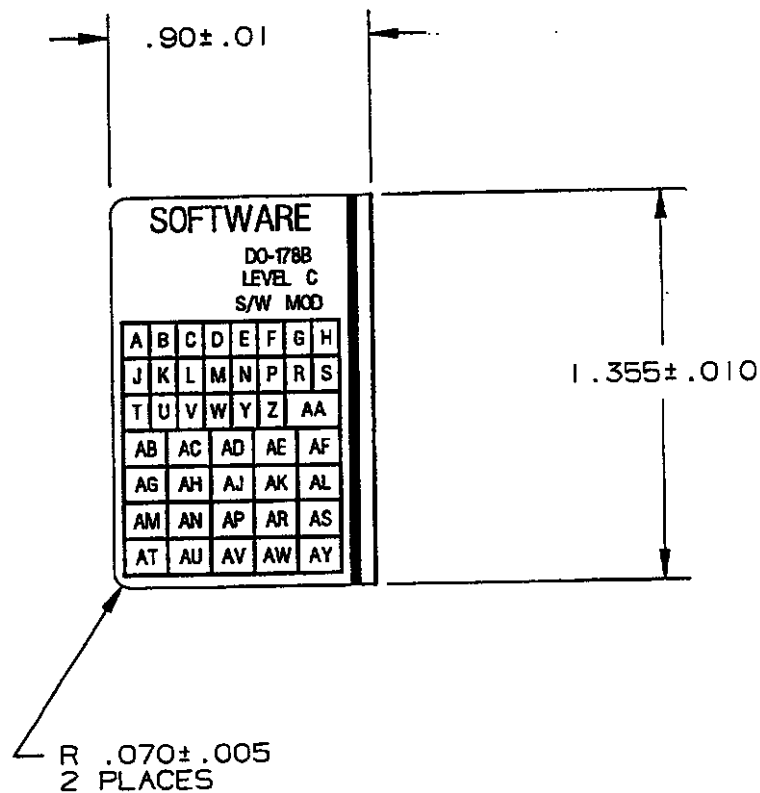
SHEET

51

REV

AF

SE  
DWG NO.



GT7021570-39

FIGURE 50. 7021570-39

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SIZE

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CAGE CODE

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DRAWING NO.

7021570

REV

AF

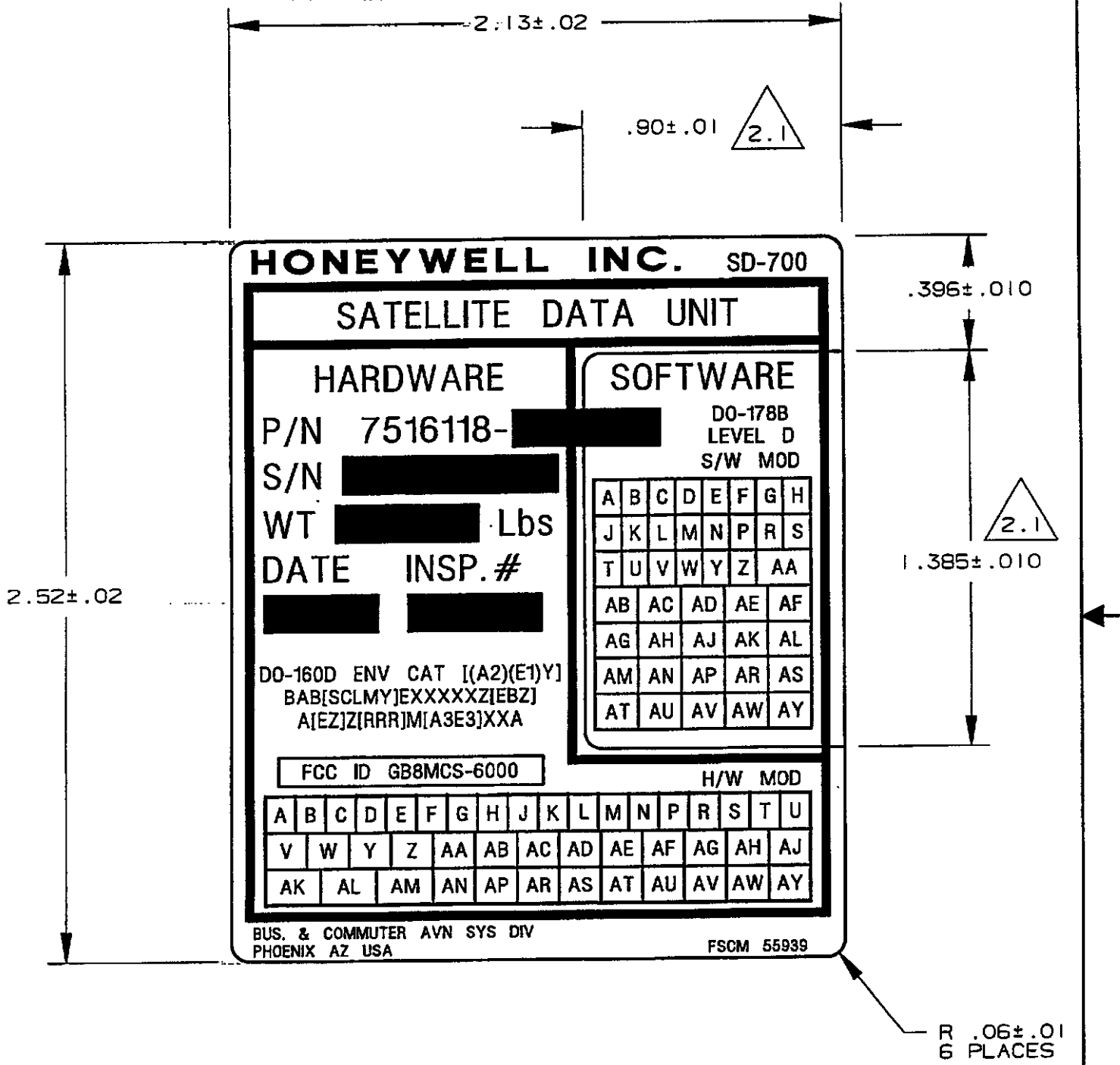
SCALE

SHEET

52

COMPUTER GENERATED

5  
DWG NO.



GT7021570-40

FIGURE 51. 7021570-40

|                  |                                                                                                                                                                           |           |           |             |  |     |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------|-------------|--|-----|
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|                  |                                                                                                                                                                           | A         | 55939     | 7021570     |  | AM  |
|                  |                                                                                                                                                                           | SCALE 2/1 |           | SHEET 53    |  |     |

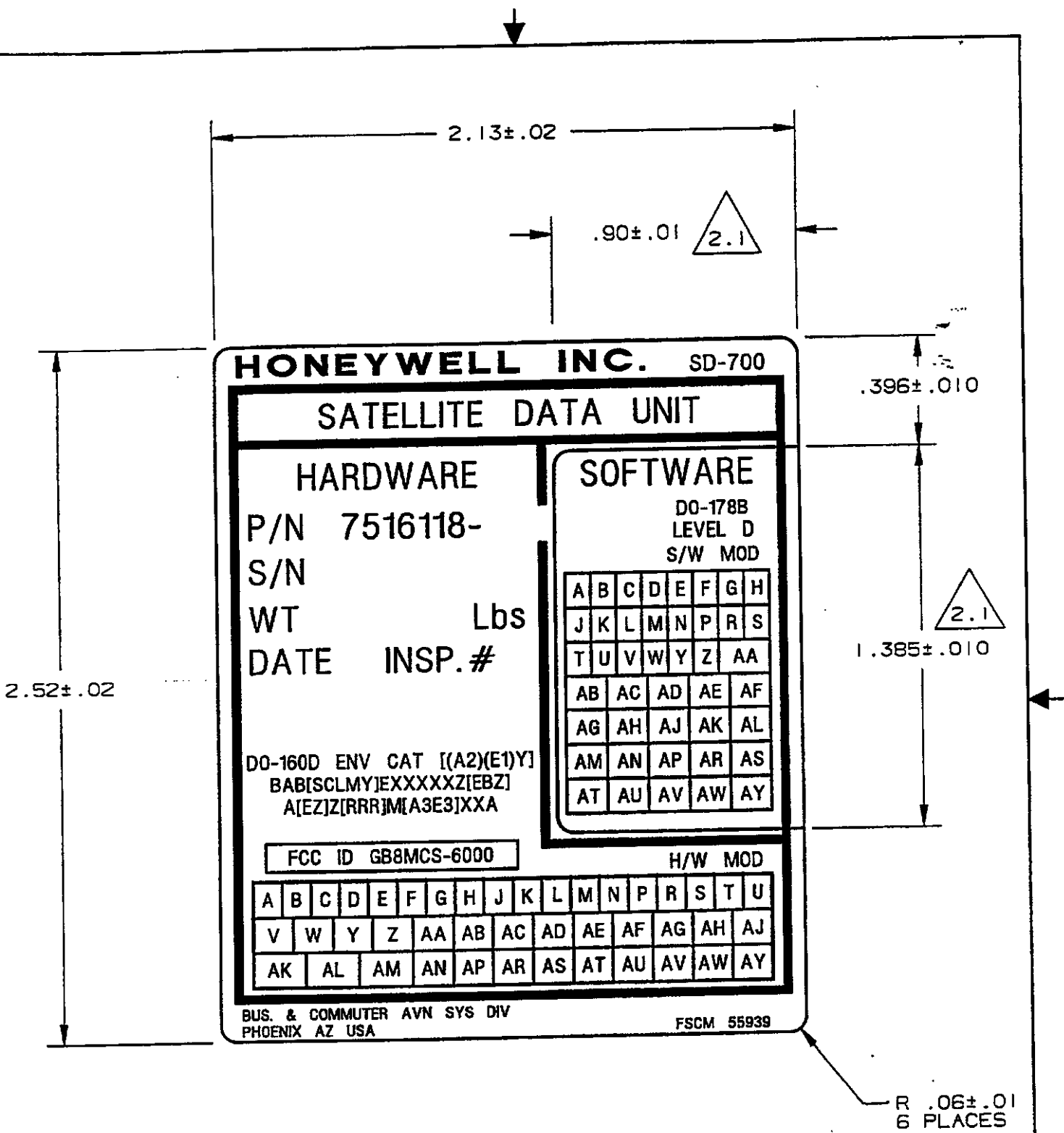


FIGURE 52. 7021570-41

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|-----------|-----------|-------------|-----|
| A         | 55939     | 7021570     | AM  |
| SCALE 2/1 | SHEET 54  |             |     |

COMPUTER GENERATED

GT REV 10-81

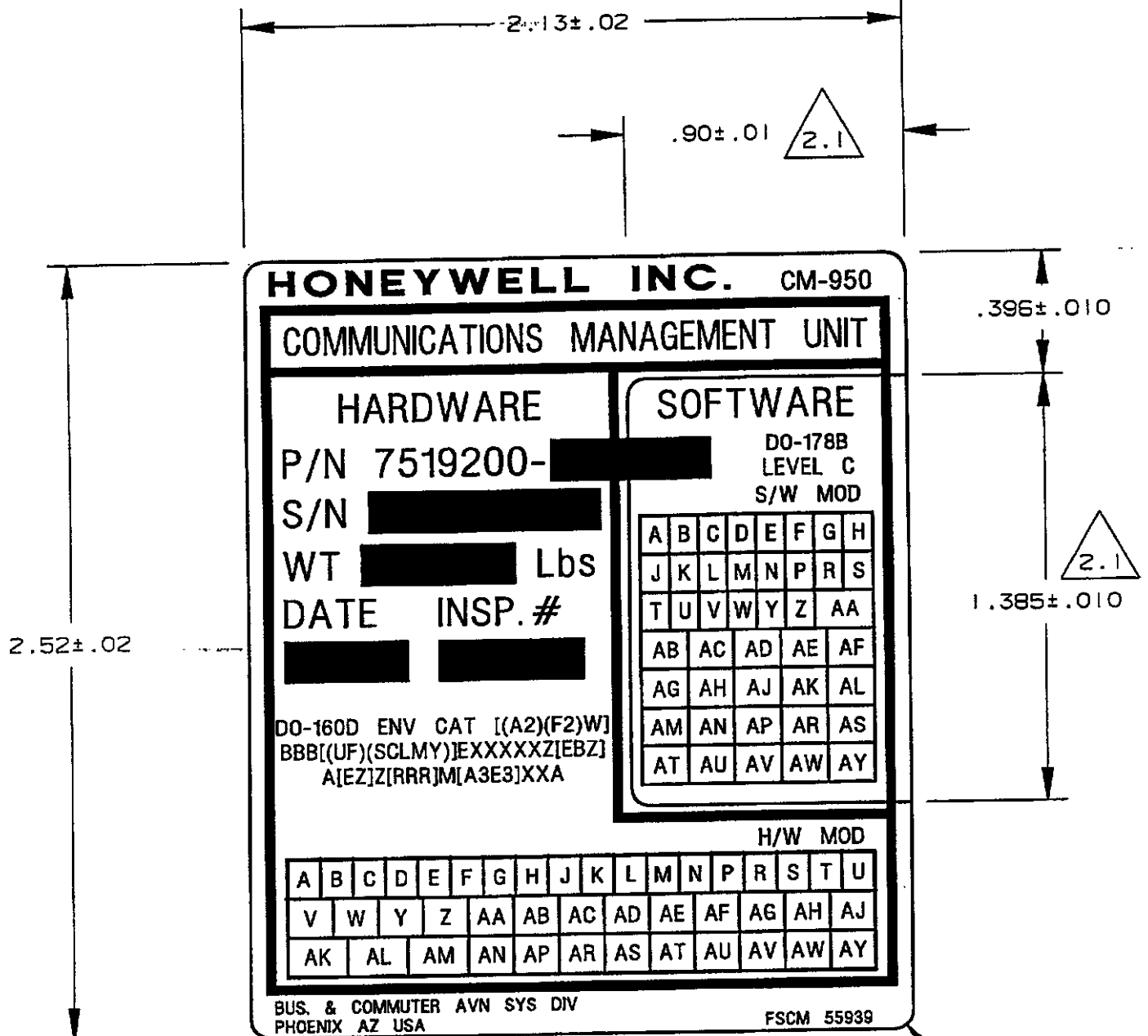
SH

DWG NO.

→

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GT7021570-42

FIGURE 53. 7021570-42

|                  |                                                                                                                                                                           |       |           |             |     |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----------|-------------|-----|
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|                  |                                                                                                                                                                           | A     | 55939     | 7021570     | AM  |
|                  |                                                                                                                                                                           | SCALE | 2/1       | SHEET       | 55  |

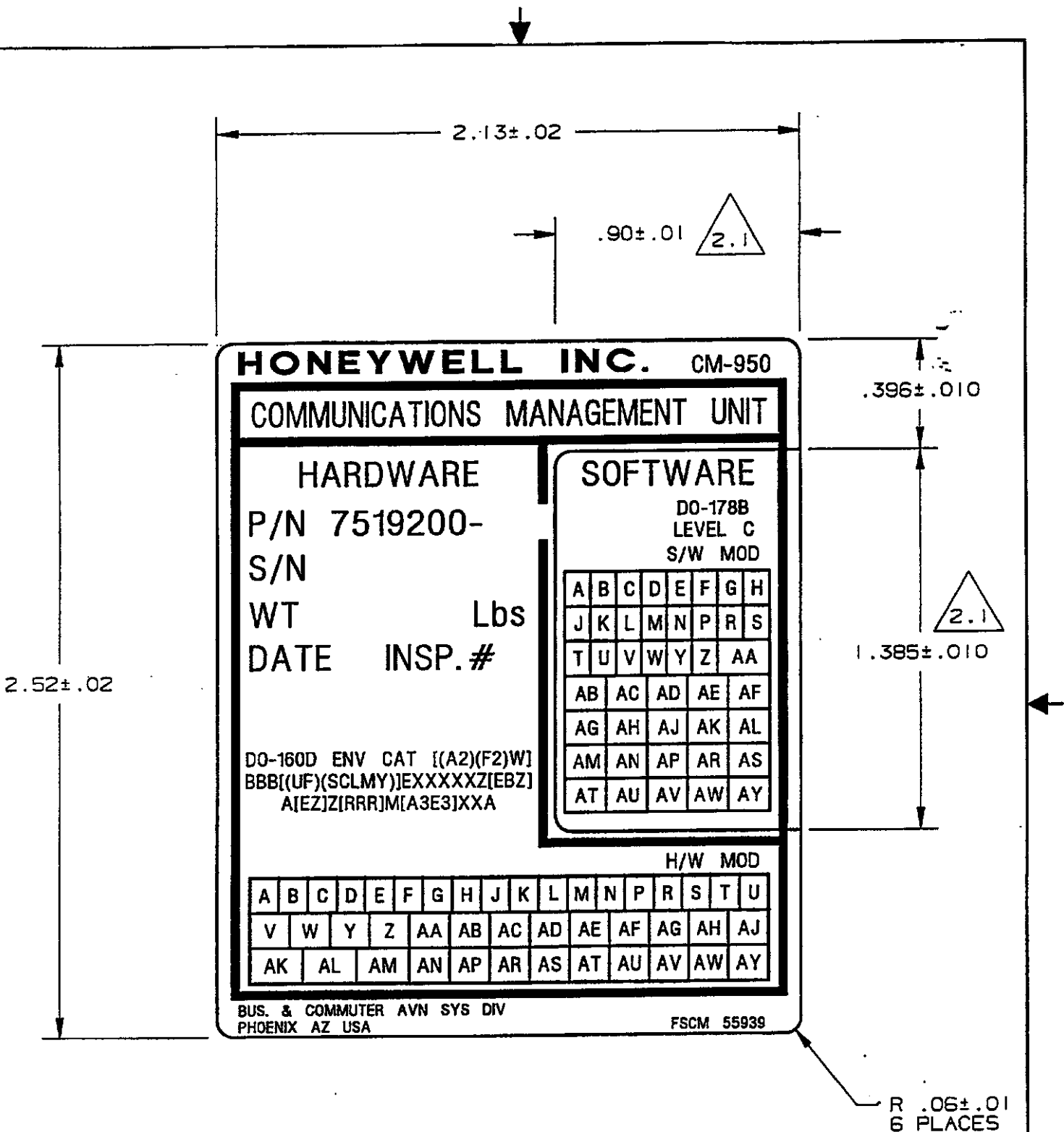


FIGURE 54. 7021570-43

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SIZE

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CAGE CODE

55939

DRAWING NO.

7021570

REV

AM

SCALE

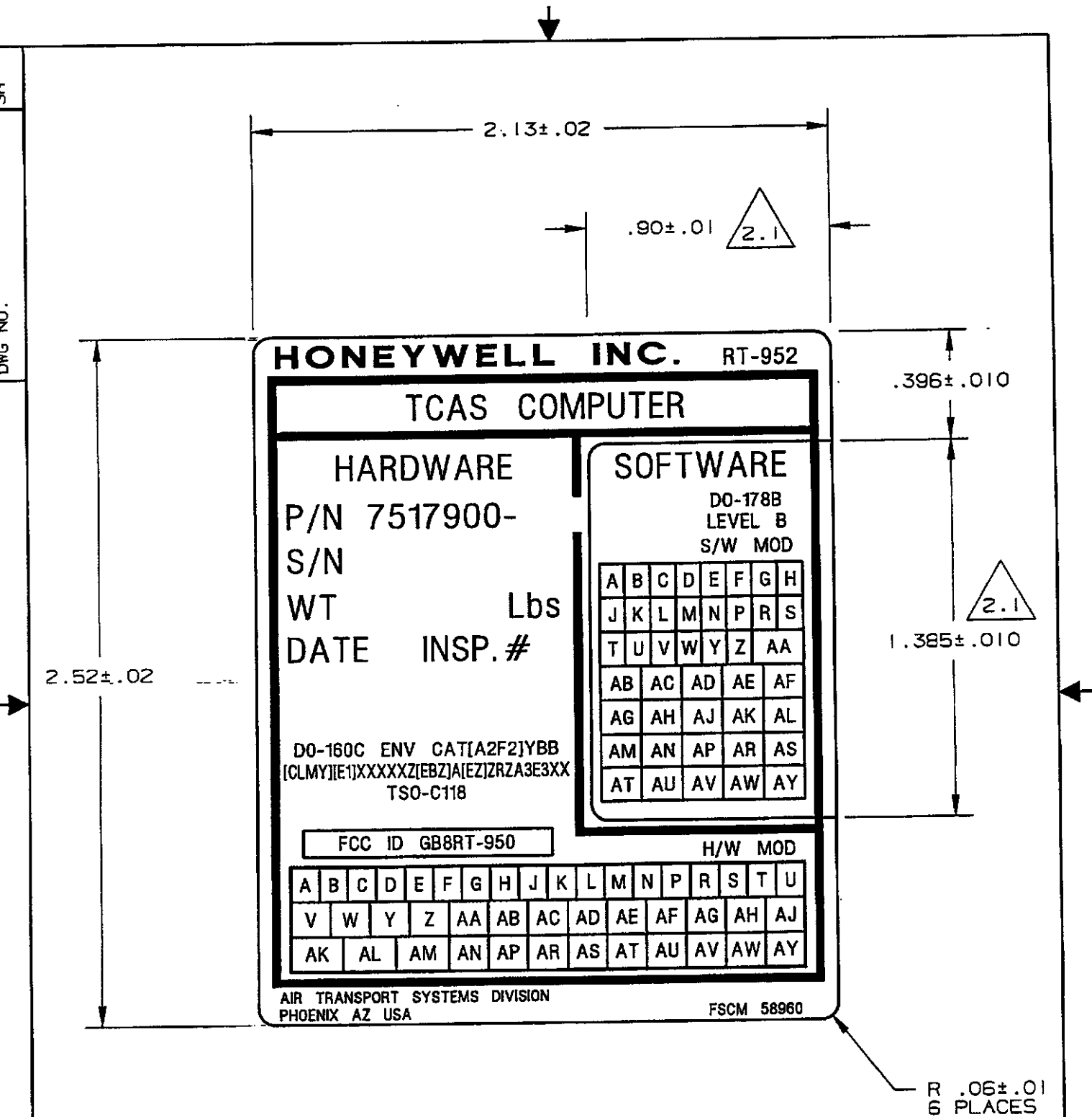
2/1

SHEET

56

COMPUTER GENERATED

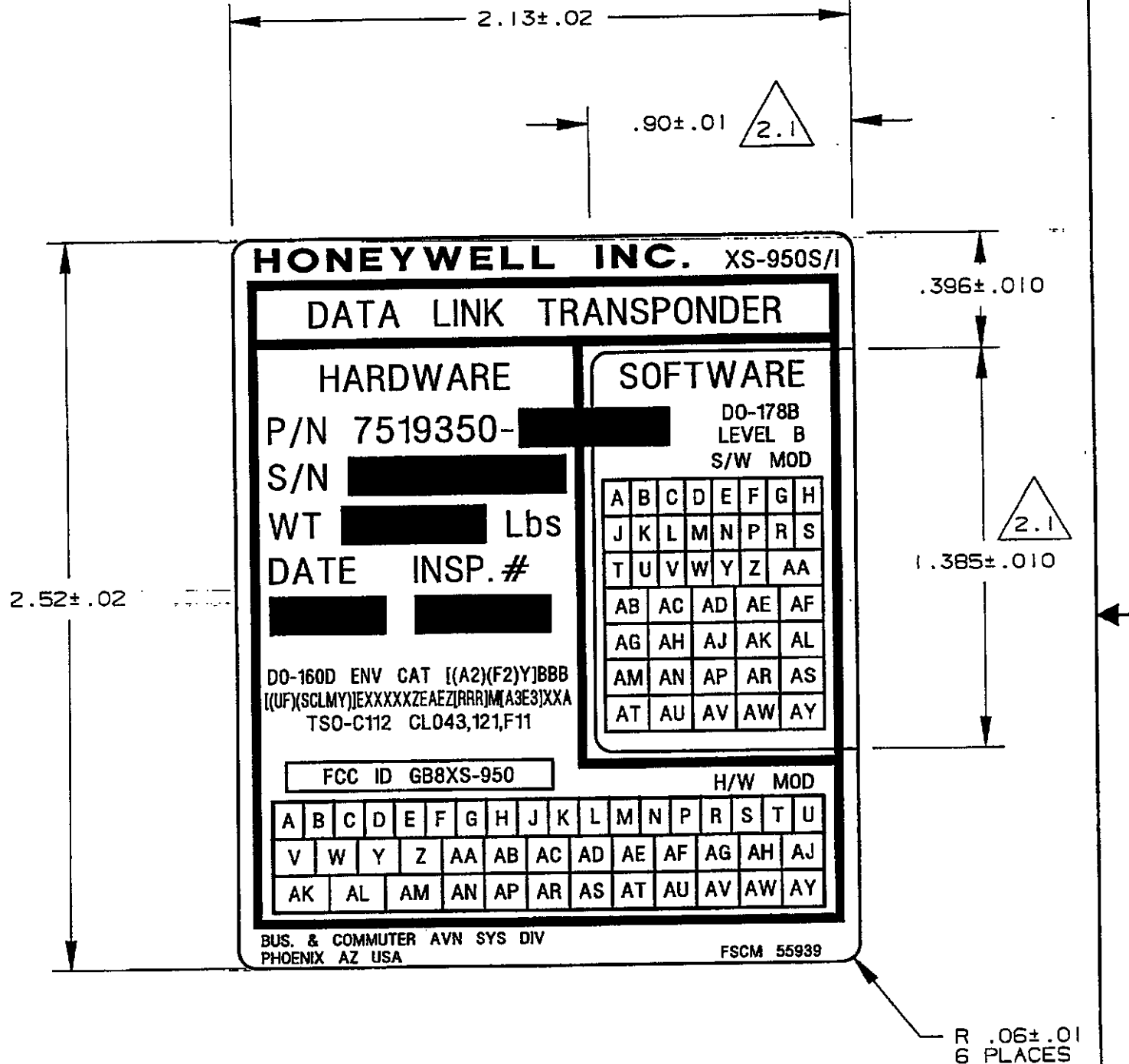
GT REV 10-81



GT7021570-44

FIGURE 55. 7021570-44

|           |                                                                                                                                                         |       |           |             |     |
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|           |                                                                                                                                                         | A     | 55939     | 7021570     | AN  |
|           |                                                                                                                                                         | SCALE | 2/1       | SHEET       | 57  |



GT7021570-45

FIGURE 56. 7021570-45

**Honeywell**

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DOCUMENT.

SIZE  
A

CAGE CODE  
55939

DRAWING NO.

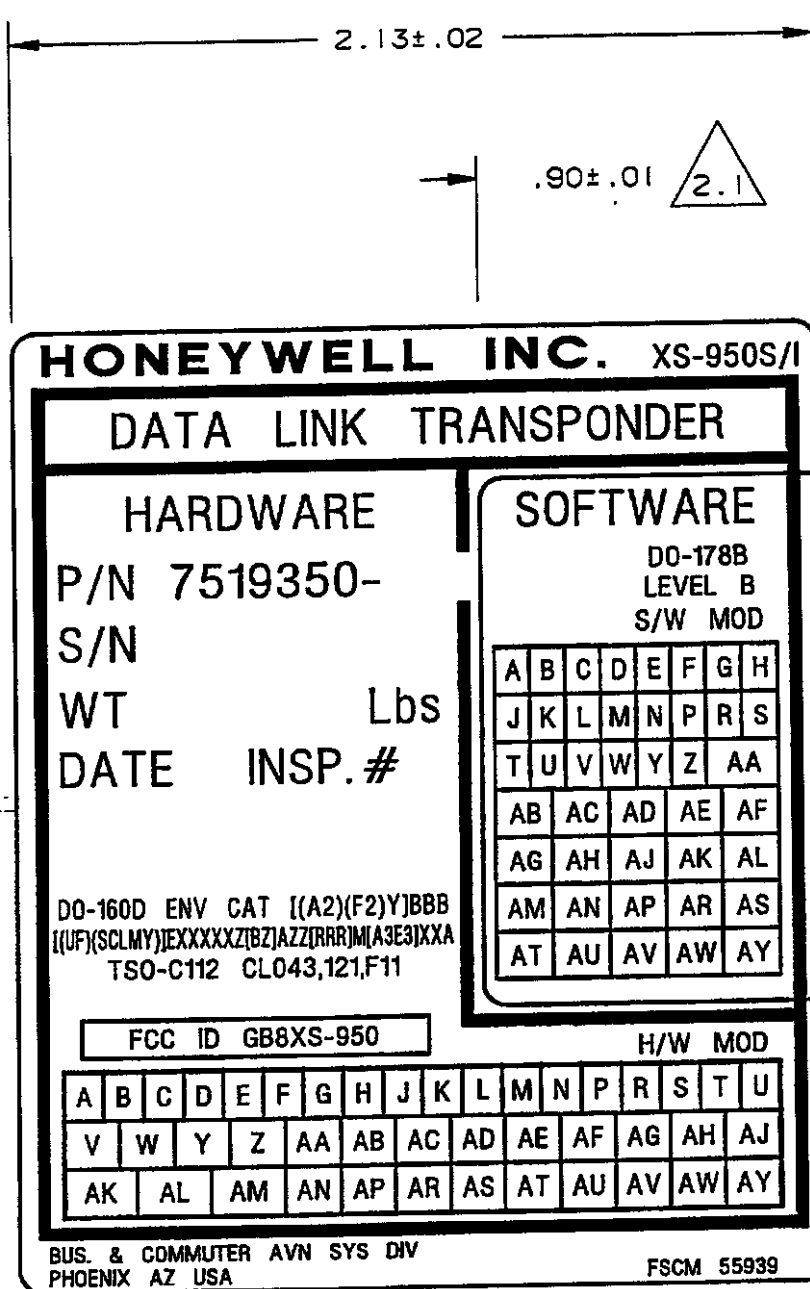
7021570

REV  
AM

SCALE 2/1

SHEET 58

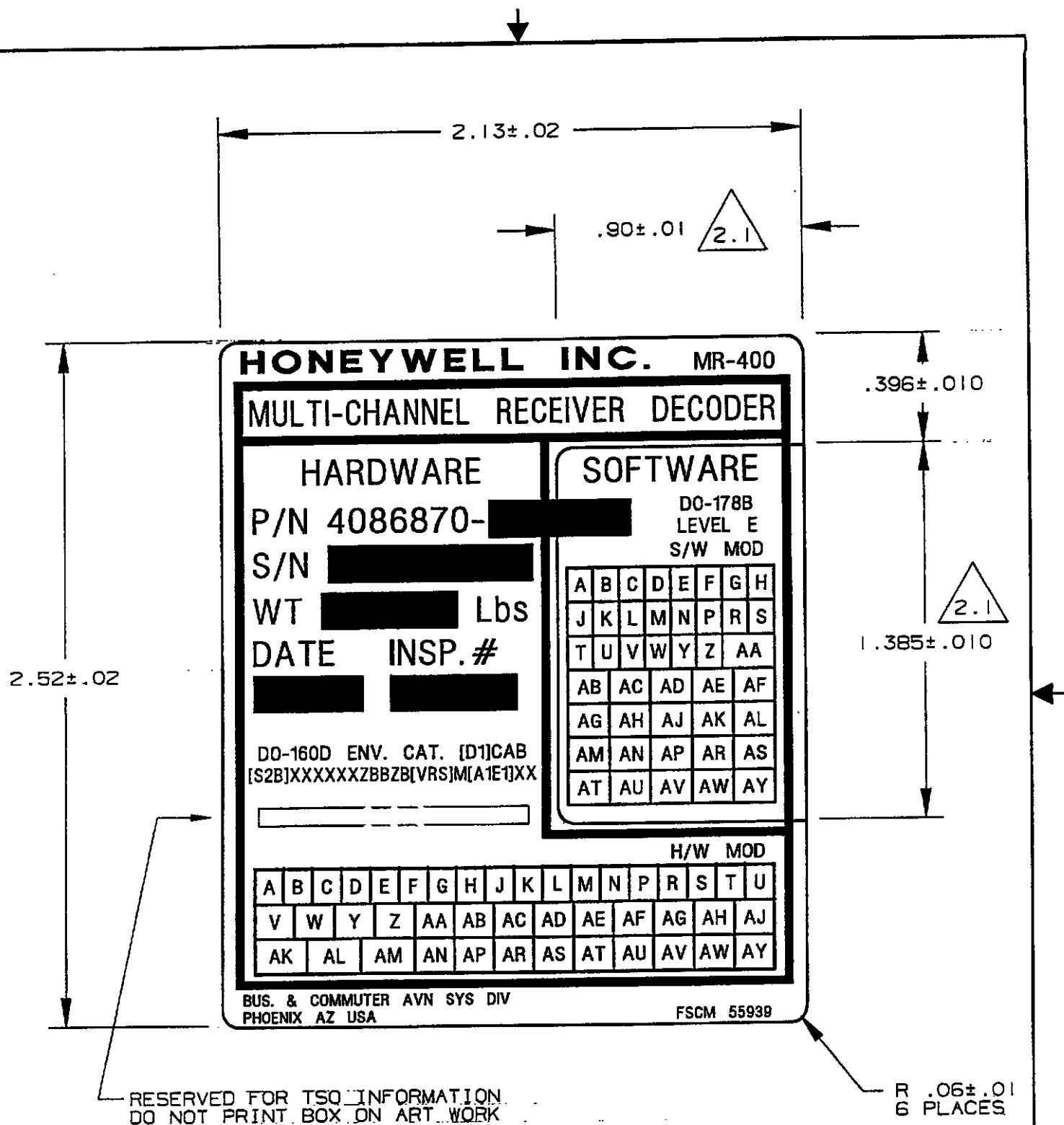
COMPUTER GENERATED



GT7021570-46

FIGURE 57. 7021570-46

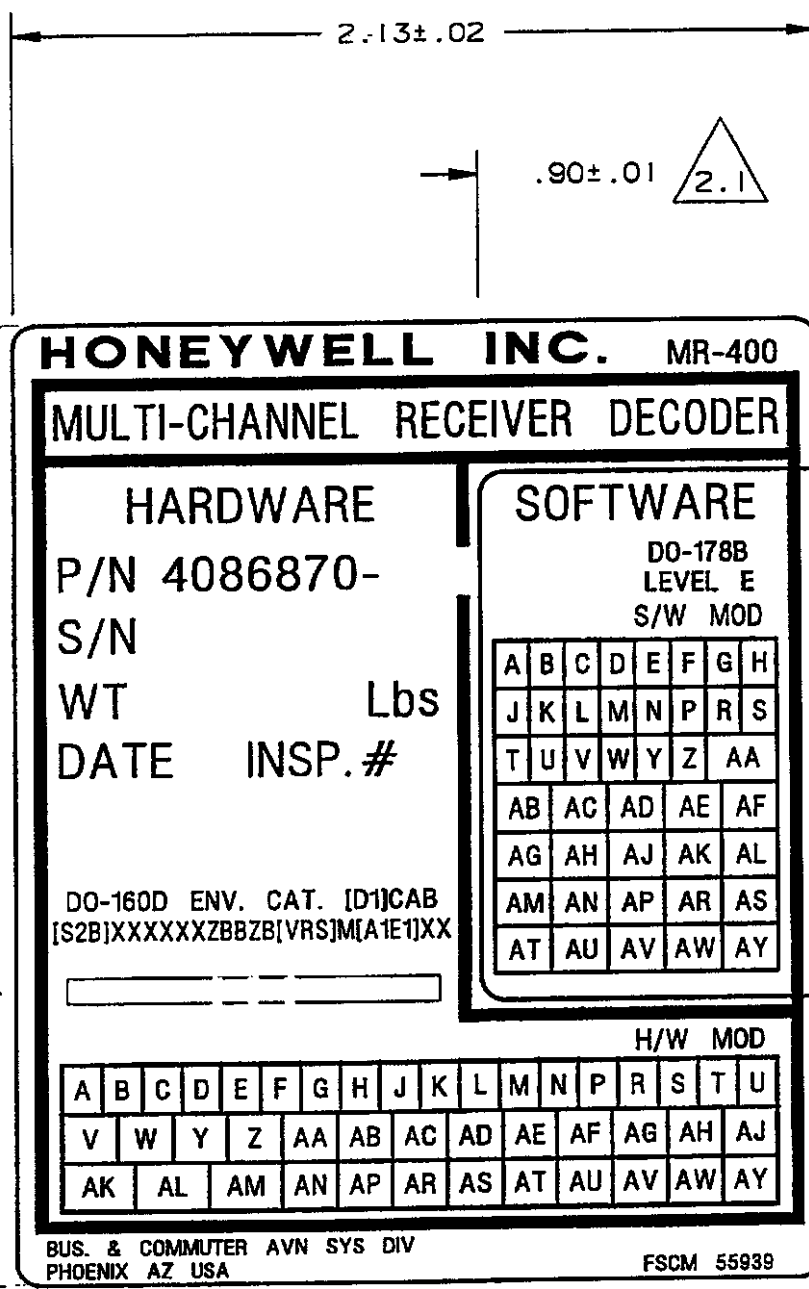
|                  |                                                                                                                                                                           |       |           |             |       |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----------|-------------|-------|
| <b>Honeywell</b> | SEE FIRST SHEET FOR<br>CONTRACT NUMBER. USE OR<br>DISCLOSURE OF INFORMATION<br>ON THIS SHEET IS SUBJECT<br>TO THE RESTRICTIONS ON<br>THE FIRST SHEET OF THIS<br>DOCUMENT. | SIZE  | CAGE CODE | DRAWING NO. | REV   |
|                  |                                                                                                                                                                           | A     | 55939     | 7021570     | AM    |
|                  |                                                                                                                                                                           | SCALE | 2/1       |             | SHEET |



GT7021570-47

FIGURE 58. 7021570-47

|                  |                                                                                                                                                                          |       |           |             |     |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----------|-------------|-----|
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|                  |                                                                                                                                                                          | A     | 55939     | 7021570     | AM  |
|                  |                                                                                                                                                                          | SCALE | 2/1       | SHEET       | 60  |



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6 PLACES

GT7021570-48

FIGURE 59. 7021570-48

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CAGE CODE

55939

DRAWING NO.

7021570

REV

AM

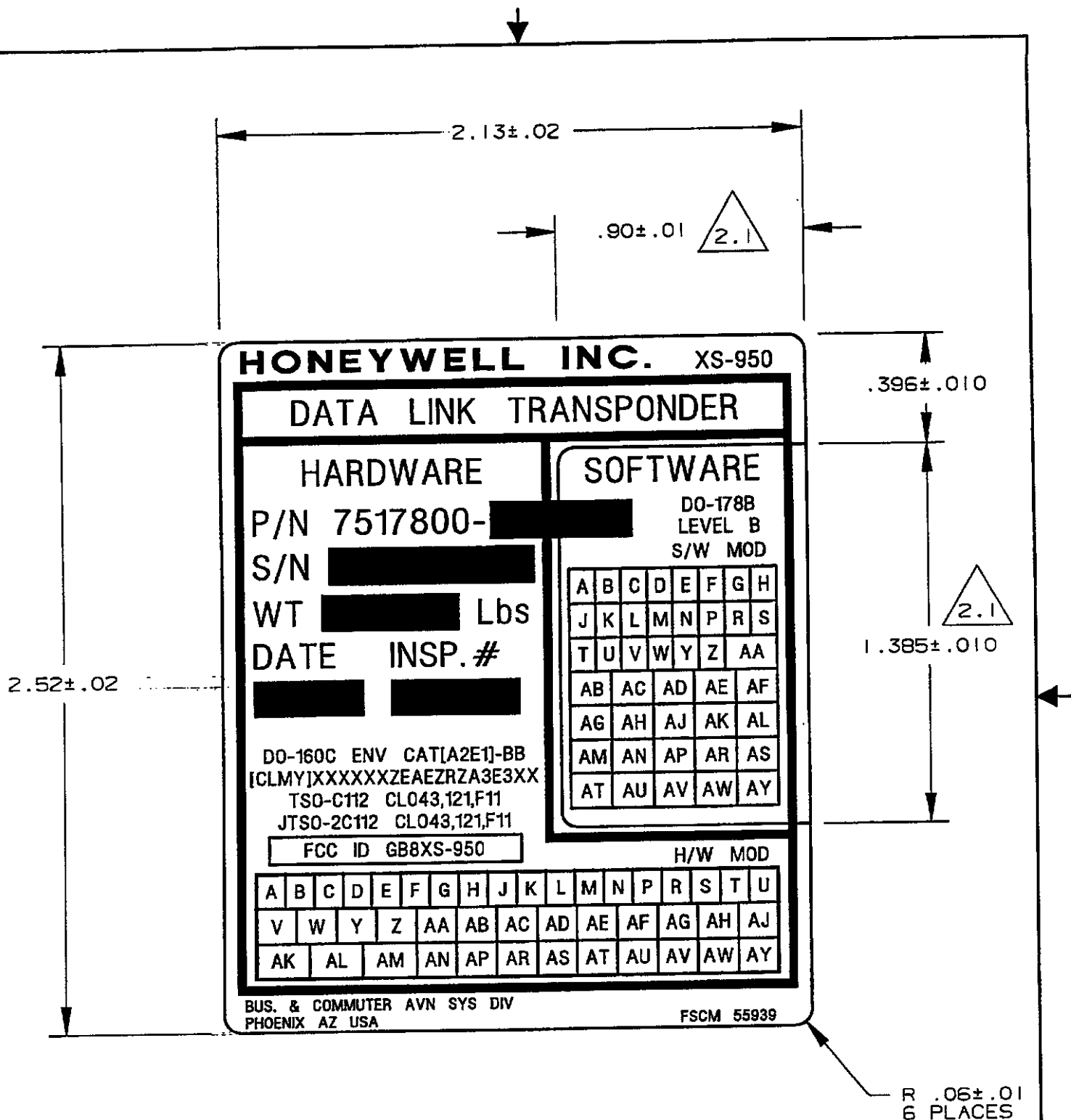
SCALE

2/1

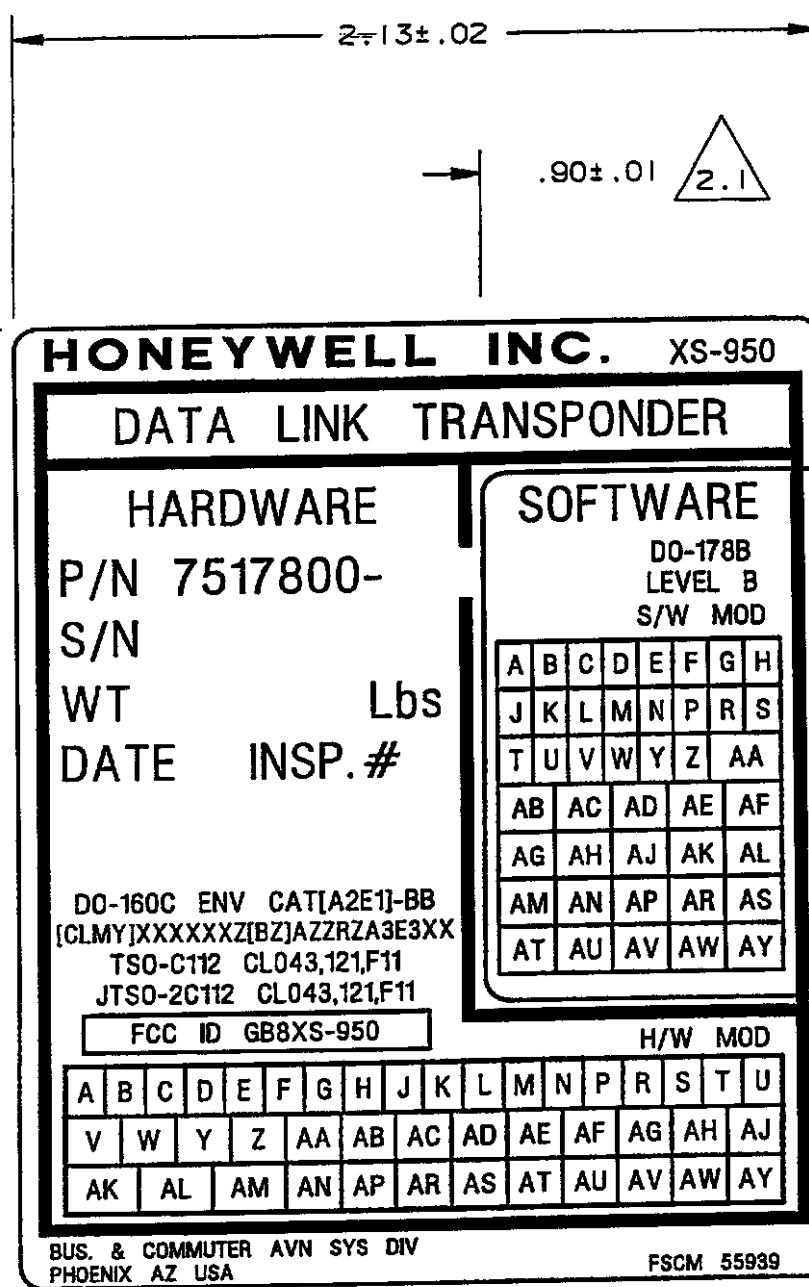
SHEET

61

DWG NO.



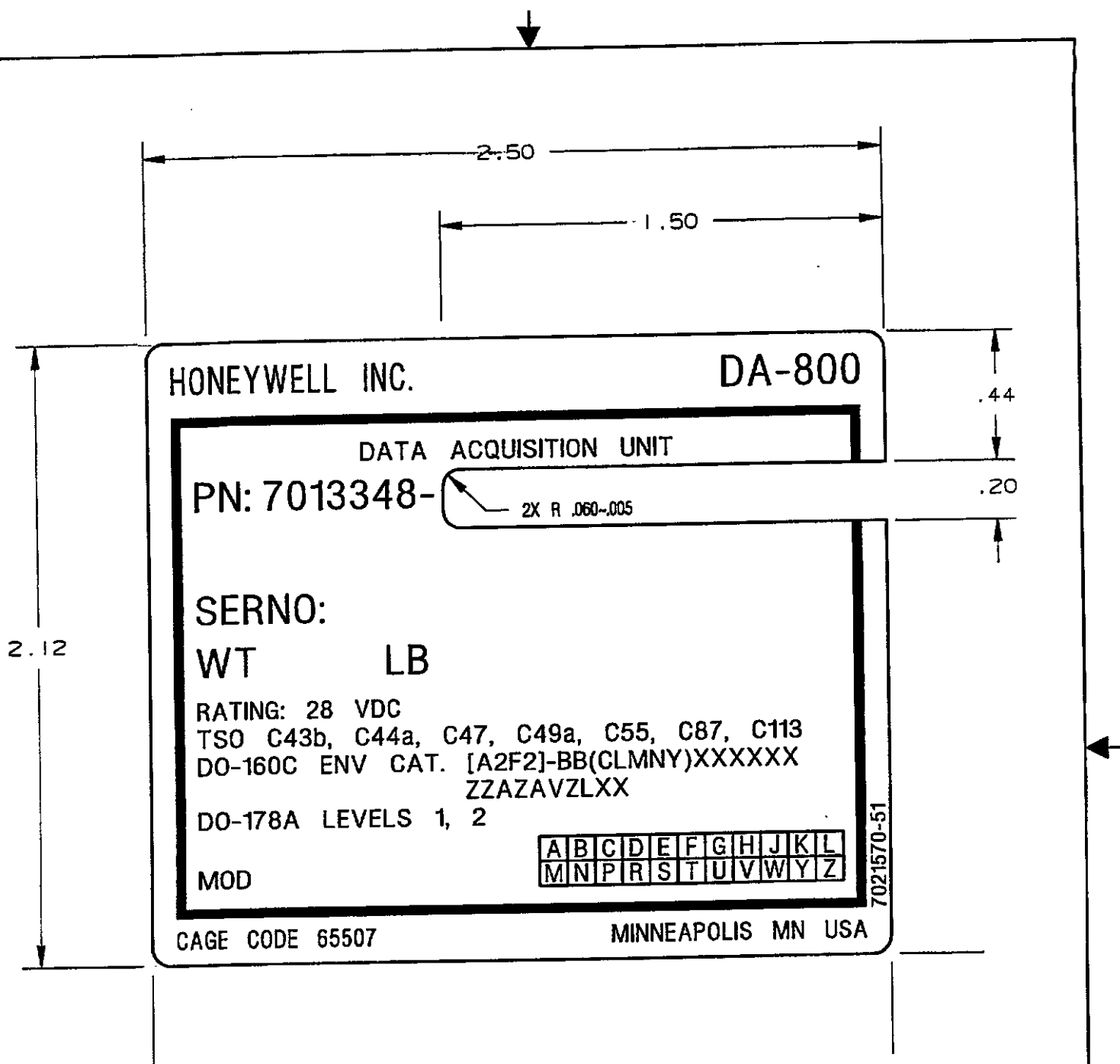
|           |                                                                                                                                                         |       |           |             |          |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----------|-------------|----------|
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|           |                                                                                                                                                         | A     | 55939     | 7021570     | AM       |
|           |                                                                                                                                                         | SCALE | 2/1       |             | SHEET 62 |



GT7021570-50

FIGURE 61. 7021570-50

|                  |                                                                                                                                                                           |           |           |             |     |
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|                  |                                                                                                                                                                           | A         | 55939     | 7021570     | AM  |
|                  |                                                                                                                                                                           | SCALE 2/1 |           | SHEET 63    |     |



GT7021570-51

FIGURE 62. 7021570-51

|           |                                                                                                                                                         |           |           |             |  |     |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------|-------------|--|-----|
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|           |                                                                                                                                                         | A         | 55939     | 7021570     |  | AP  |
|           |                                                                                                                                                         | SCALE 2/1 |           | SHEET 64    |  |     |

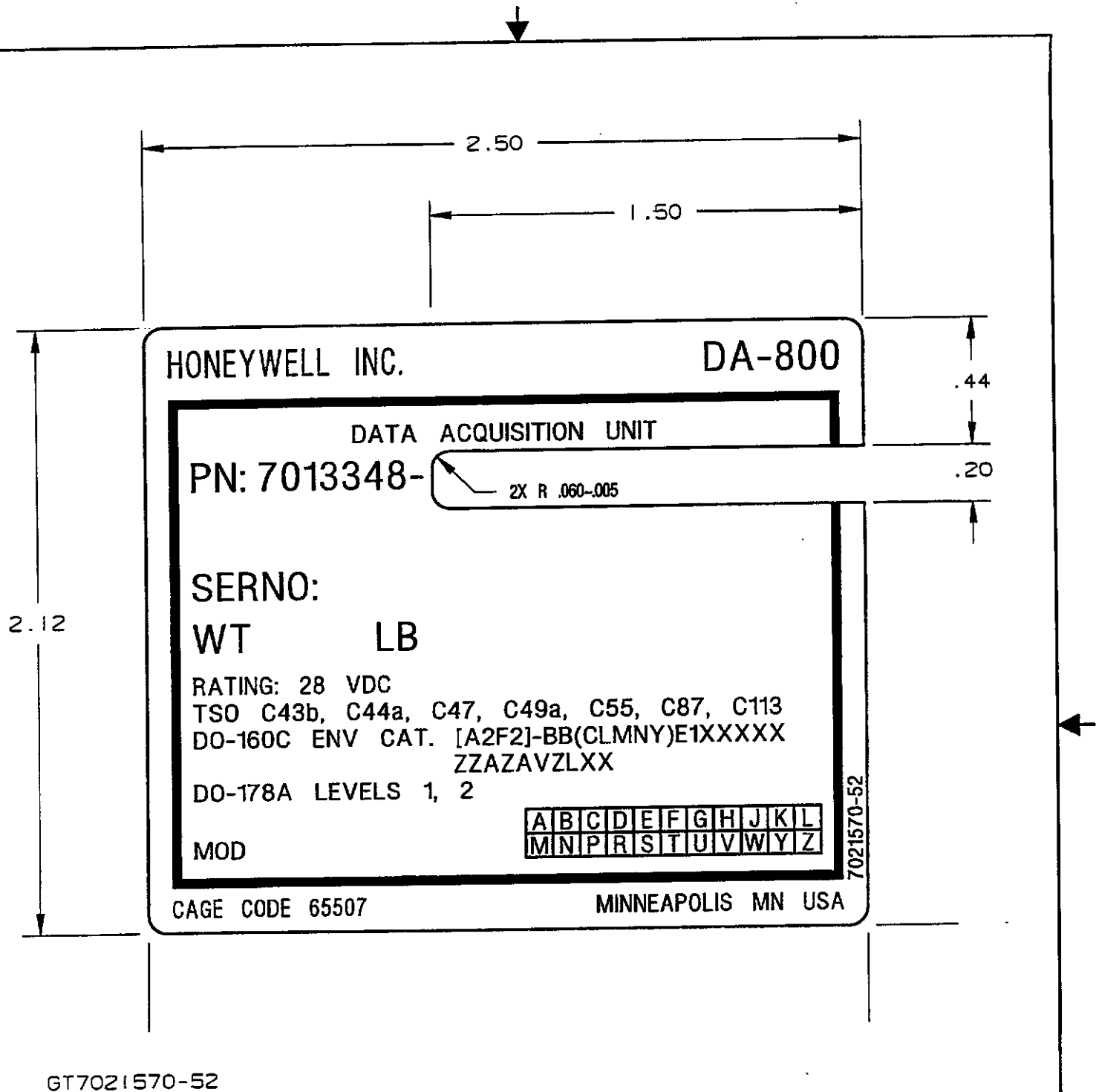
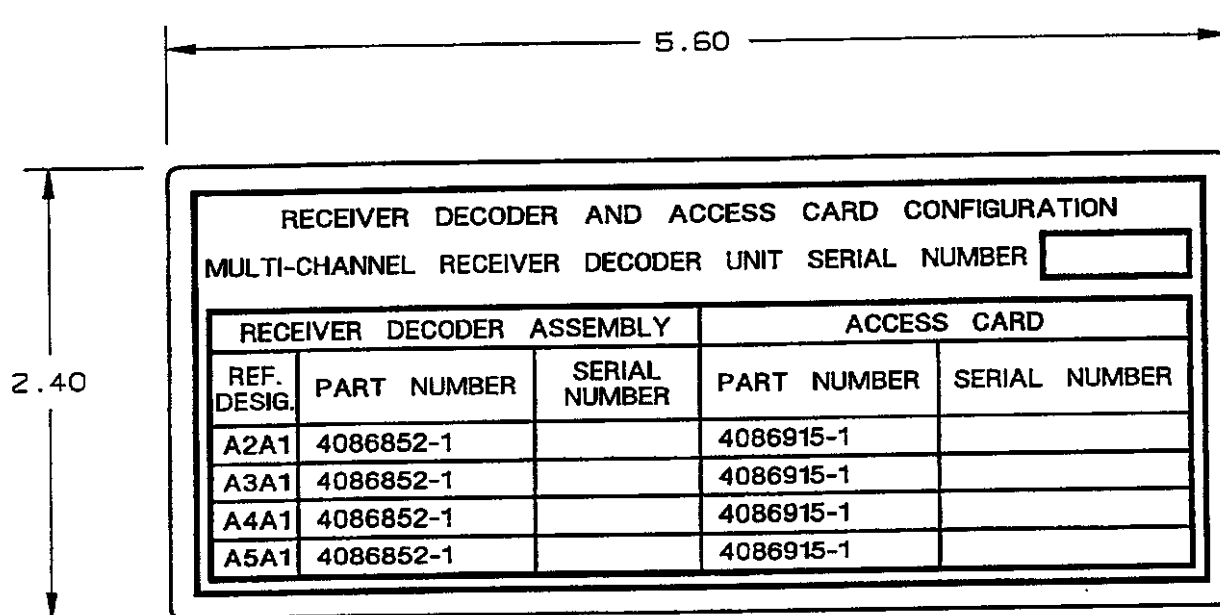


FIGURE 63. 7021570-52

|           |                                                                                                                                                                           |           |           |             |  |     |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------|-------------|--|-----|
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|           |                                                                                                                                                                           | A         | 55939     | 7021570     |  | AP  |
|           |                                                                                                                                                                           | SCALE 2/1 |           | SHEET 65    |  |     |



GT7021570-53.

FIGURE 64. 7021570-53

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SIZE

A

CAGE CODE

55939

DRAWING NO.

7021570

REV

AR

SCALE

1/1

SHEET

66

|         |                |    |           |
|---------|----------------|----|-----------|
| DWG NO. | <b>7021570</b> | SH | <b>67</b> |
|---------|----------------|----|-----------|

**TABLE I  
FIGURE AND COLORS**

| HONEYWELL<br>PART NUMBER | FIGURE<br>NUMBER | ARTWORK<br>NUMBER | DESCRIPTION                 | BACKGROUND<br>COLOR  | CHARACTER & LINE<br>COLOR |
|--------------------------|------------------|-------------------|-----------------------------|----------------------|---------------------------|
| 7021570-1                | FIGURE 1         | GT7021570-1       | RF-600, HDWR                | (BLACK) 1.2.1.1      | (ALUMINUM) 1.2.2.2        |
| 7021570-2                | FIGURE 2         | GT7021570-2       | SD-600, HDWR                | (BLACK) 1.2.1.1      | (ALUMINUM) 1.2.2.2        |
| 7021570-3                | FIGURE 3         | GT7021570-3       | HP-600, HDWR                | (BLACK) 1.2.1.1      | (ALUMINUM) 1.2.2.2        |
| 7021570-4                | FIGURE 4         | GT7021570-4       | RF-600, HDWR                | (ALUMINUM) 1.2.1.2   | (BLACK) 1.2.2.1           |
| 7021570-5                | FIGURE 5         | GT7021570-5       | SD-600, HDWR                | (ALUMINUM) 1.2.1.2   | (BLACK) 1.2.2.1           |
| 7021570-6                | FIGURE 6         | GT7021570-6       | HP-600, HDWR                | (ALUMINUM) 1.2.1.2   | (BLACK) 1.2.2.1           |
| 7021570-7                | FIGURE 7         | GT7021570-7       | S/W, LEVEL 2                | (BLACK) 1.2.1.1      | (ALUMINUM) 1.2.2.2        |
| 7021570-8                | FIGURE 8         | GT7021570-8       | S/W, LEVEL 3                | (BLACK) 1.2.1.1      | (ALUMINUM) 1.2.2.2        |
| 7021570-9                | FIGURE 9         | GT7021570-9       | S/W, LEVEL 2                | (ALUMINUM) 1.2.1.2   | (BLACK) 1.2.2.1           |
| 7021570-10               | FIGURE 10        | GT7021570-10      | S/W, LEVEL 3                | (ALUMINUM) 1.2.1.2   | (BLACK) 1.2.2.1           |
| 7021570-11               | FIGURE 11        | GT7021570-11      | RF-600 HDWR,<br>S/W LEVEL 3 | (BLACK) 1.2.1.1      | (ALUMINUM) 1.2.2.2        |
| 7021570-12               | FIGURE 12        | GT7021570-12      | SD-600 HDWR,<br>S/W LEVEL 3 | (BLACK) 1.2.1.1      | (ALUMINUM) 1.2.2.2        |
| 7021570-13               | FIGURE 13        | GT7021570-13      | HP-600 HDWR,<br>S/W LEVEL 3 | (BLACK) 1.2.1.1      | (ALUMINUM) 1.2.2.2        |
| 7021570-14               | FIGURE 14        | GT7021570-14      | XS-950 HDWR,<br>S/W LEVEL B | (BLACK) 1.2.1.1      | (ALUMINUM) 1.2.2.2        |
| 7021570-15               | FIGURE 15        | GT7021570-15      | XS-950 HDWR,<br>S/W LEVEL B | (ALUMINUM) 1.2.1.2   | (BLACK) 1.2.2.1           |
| 7021570-16               | FIGURE 16        | GT7021570-16      | DA-800                      | (ALUMINUM) 1.2.1.2   | (BLACK) 1.2.2.1           |
| 7021570-17               | FIGURE 17        | GT7021570-17      | DA-800<br>DASH NO.          | (ALUMINUM) 1.2.1.2   | (BLACK) 1.2.2.1           |
| 7021570-18               | FIGURE 18        | GT7021570-18      | DA-800                      | (ALUMINUM) 1.2.1.2   | (BLACK) 1.2.2.1           |
| 7021570-22               | FIGURE 22        | GT7021570-22      | CM-250 HDWR<br>S/W LEVEL    | (METALLIZED) 1.2.1.3 | (BLACK) 1.2.2.3           |
| 7021570-23               | FIGURE 23        | GT7021570-23      | RT-950 HDWR<br>S/W LEVEL B  | (BLACK) 1.2.1.1      | (ALUMINUM) 1.2.2.2        |
| 7021570-24               | FIGURE 24        | GT7021570-24      | RT-951 HDWR<br>S/W LEVEL B  | (ALUMINUM) 1.2.1.2   | (BLACK) 1.2.2.1           |
| 7021570-25               | FIGURE 25        | GT7021570-25      | HP-700 HDWR<br>S/W LEVEL C  | (BLACK) 1.2.1.1      | (ALUMINUM) 1.2.2.2        |
| 7021570-26               | FIGURE 26        | GT7021570-26      | HP-700 HDWR<br>S/W LEVEL C  | (ALUMINUM) 1.2.1.2   | (BLACK) 1.2.2.1           |
| 7021570-27               | FIGURE 27        | GT7021570-27      | S/W LEVEL D                 | (BLACK) 1.2.1.1      | (ALUMINUM) 1.2.2.2        |

|                  |                                                                                                                                                                        |          |              |                |           |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|--------------|----------------|-----------|
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|                  |                                                                                                                                                                        | <b>A</b> | <b>55939</b> | <b>7021570</b> | <b>AR</b> |
|                  |                                                                                                                                                                        | SCALE    | <b>NONE</b>  | UNIT WT        | SHEET     |

TABLE I (CONT)  
FIGURE AND COLORS

| HONEYWELL<br>PART NUMBER | FIGURE<br>NUMBER | ARTWORK<br>NUMBER | DESCRIPTION                    | BACKGROUND<br>COLOR | CHARACTER & LINE<br>COLOR |
|--------------------------|------------------|-------------------|--------------------------------|---------------------|---------------------------|
| 7021570-28               | FIGURE 39        | GT7021570-28      | S/W LEVEL D                    | (ALUMINUM) 1.2.1.2  | (BLACK) 1.2.2.1           |
| 7021570-29               | FIGURE 40        | GT7021570-29      | RF-600<br>S/W LEVEL 3          | (ALUMINUM) 1.2.1.2  | (BLACK) 1.2.2.1           |
| 7021570-30               | FIGURE 41        | GT7021570-30      | SD-600<br>S/W LEVEL 3          | (ALUMINUM) 1.2.1.2  | (BLACK) 1.2.2.1           |
| 7021570-31               | FIGURE 42        | GT7021570-31      | HP-600<br>S/W LEVEL 3          | (ALUMINUM) 1.2.1.2  | (BLACK) 1.2.2.1           |
| 7021570-32               | FIGURE 43        | GT7021570-32      | RF-600<br>S/W LEVEL D          | (BLACK) 1.2.1.1     | (ALUMINUM) 1.2.2.2        |
| 7021570-33               | FIGURE 44        | GT7021570-33      | RF-600<br>S/W LEVEL D          | (ALUMINUM) 1.2.1.2  | (BLACK) 1.2.2.1           |
| 7021570-34               | FIGURE 45        | GT7021570-34      | RF-600<br>S/W LEVEL D          | (BLACK) 1.2.1.1     | (ALUMINUM) 1.2.2.2        |
| 7021570-35               | FIGURE 46        | GT7021570-35      | SD-600<br>S/W LEVEL D          | (ALUMINUM) 1.2.1.2  | (BLACK) 1.2.2.1           |
| 7021570-36               | FIGURE 47        | GT7021570-36      | HP-600<br>S/W LEVEL D          | (BLACK) 1.2.1.1     | (ALUMINUM) 1.2.2.2        |
| 7021570-37               | FIGURE 48        | GT7021570-37      | HP-600<br>S/W LEVEL D          | (ALUMINUM) 1.2.1.2  | (BLACK) 1.2.2.1           |
| 7021570-38               | FIGURE 49        | GT7021570-38      | S/W LEVEL C                    | (BLACK) 1.2.1.1     | (ALUMINUM) 1.2.2.2        |
| 7021570-39               | FIGURE 50        | GT7021570-39      | S/W LEVEL C                    | (ALUMINUM) 1.2.1.2  | (BLACK) 1.2.2.1           |
| 7021570-40               | FIGURE 51        | GT7021570-40      | SD-700<br>S/W LEVEL D          | (BLACK) 1.2.1.1     | (ALUMINUM) 1.2.2.2        |
| 7021570-41               | FIGURE 52        | GT7021570-41      | SD-700<br>S/W LEVEL D          | (ALUMINUM) 1.2.1.2  | (BLACK) 1.2.2.1           |
| 7021570-42               | FIGURE 53        | GT7021570-42      | CM-250<br>S/W LEVEL C          | (BLACK) 1.2.1.1     | (ALUMINUM) 1.2.2.2        |
| 7021570-43               | FIGURE 54        | GT7021570-43      | CM-250<br>S/W LEVEL C          | (ALUMINUM) 1.2.1.2  | (BLACK) 1.2.2.1           |
| 7021570-44               | FIGURE 55        | GT7021570-44      | RT-952 HDWR<br>S/W LEVEL B     | (ALUMINUM) 1.2.1.2  | (BLACK) 1.2.2.1           |
| 7021570-45               | FIGURE 56        | GT7021570-45      | XS-950S/I HDWR,<br>S/W LEVEL B | (BLACK) 1.2.1.1     | (ALUMINUM) 1.2.2.1        |
| 7021570-46               | FIGURE 57        | GT7021570-46      | XS-950S/I HDWR,<br>S/W LEVEL B | (ALUMINUM) 1.2.1.2  | (BLACK) 1.2.2.1           |
| 7021570-47               | FIGURE 58        | GT7021570-47      | MR-400<br>S/W LEVEL E          | (BLACK) 1.2.1.1     | (ALUMINUM) 1.2.2.2        |
| 7021570-48               | FIGURE 59        | GT7021570-48      | MR-400<br>S/W LEVEL E          | (ALUMINUM) 1.2.1.2  | (BLACK) 1.2.2.1           |
| 7021570-49               | FIGURE 60        | GT7021570-49      | XS-950 HDWR, S/W<br>LEVEL B    | (BLACK) 1.2.1.1     | (ALUMINUM) 1.2.2.2        |
| 7021570-50               | FIGURE 61        | GT7021570-50      | XS-950 HDWR, S/W<br>LEVEL B    | (ALUMINUM) 1.2.1.2  | (BLACK) 1.2.2.1           |
| 7021570-51               | FIGURE 62        | GT7021570-51      | DA-800                         | (ALUMINUM) 1.2.1.2  | (BLACK) 1.2.2.1           |
| 7021570-52               | FIGURE 63        | GT7021570-52      | DA-800                         | (ALUMINUM) 1.2.1.2  | (BLACK) 1.2.2.1           |
| 7021570-53               | FIGURE 64        | GT7021570-53      | N/A                            | (ALUMINUM) 1.2.1.2  | (BLACK) 1.2.2.1           |

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UNIT WT

SHEET

**68**

TABLE I (CONT)  
FIGURE AND COLORS

| HONEYWELL<br>PART<br>NUMBER | FIGURE<br>NUMBER | ARTWORK<br>NUMBER | DESCRIPTION | BACKGROUND<br>COLOR  | CHARACTER & LINE<br>COLOR |
|-----------------------------|------------------|-------------------|-------------|----------------------|---------------------------|
| 7021570-101                 | FIGURE 19        | GT7021570-101     | WU-880      | (METALLIZED) 1.2.1.3 | (BLACK) 1.2.2.3           |
| 7021570-102                 | FIGURE 20        | GT7021570-102     | WU-660      | (METALLIZED) 1.2.1.3 | (BLACK) 1.2.2.3           |
| 7021570-103                 | FIGURE 21        | GT7021570-103     | WU-440      | (METALLIZED) 1.2.1.3 | (BLACK) 1.2.2.3           |
| 7021570-104                 | FIGURE 27        | GT7021570-104     | FP-900      | (METALLIZED) 1.2.1.3 | (BLACK) 1.2.2.3           |
| 7021570-105                 | FIGURE 28        | GT7021570-105     | FP-900      | (METALLIZED) 1.2.1.3 | (BLACK) 1.2.2.3           |
| 7021570-106                 | FIGURE 29        | GT7021570-106     | FP-900      | (METALLIZED) 1.2.1.3 | (BLACK) 1.2.2.3           |
| 7021570-107                 | FIGURE 30        | GT7021570-107     | FP-900      | (METALLIZED) 1.2.1.3 | (BLACK) 1.2.2.3           |
| 7021570-108                 | FIGURE 31        | GT7021570-108     | WU-880      | (METALLIZED) 1.2.1.3 | (BLACK) 1.2.2.3           |
| 7021570-109                 | FIGURE 32        | GT7021570-109     | WU-660      | (METALLIZED) 1.2.1.3 | (BLACK) 1.2.2.3           |
| 7021570-110                 | FIGURE 33        | GT7021570-110     | WU-440      | (METALLIZED) 1.2.1.3 | (BLACK) 1.2.2.3           |
| 7021570-111                 | FIGURE 34        | GT7021570-111     | WU-880      | (METALLIZED) 1.2.1.3 | (BLACK) 1.2.2.3           |
| 7021570-112                 | FIGURE 35        | GT7021570-112     | WU-660      | (METALLIZED) 1.2.1.3 | (BLACK) 1.2.2.3           |
| 7021570-113                 | FIGURE 36        | GT7021570-113     | WU-440      | (METALLIZED) 1.2.1.3 | (BLACK) 1.2.2.3           |
| 7021570-114                 | FIGURE 37        | GT7021570-114     | LP-860      | (METALLIZED) 1.2.1.3 | (BLACK) 1.2.2.3           |

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**NONE**

UNIT WT

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**69**

DWG NO.

**7021570**

SH

**70**TABLE II  
CHARACTERS

| PART NUMBER | CONFIGURATION<br>FIGURE NUMBER | CHARACTER<br>INFORMATION |
|-------------|--------------------------------|--------------------------|
| 7021570-501 | 17                             | 901                      |
| 7021570-502 | 17                             | 902                      |
| 7021570-503 | 17                             | 903                      |
| 7021570-504 | 17                             | 904                      |
| 7021570-505 | 17                             | 905                      |
| 7021570-506 | 17                             | 906                      |
| 7021570-507 | 17                             | 907                      |
| 7021570-508 | 17                             | 908                      |
| 7021570-510 | 17                             | 910                      |
| 7021570-511 | 17                             | 911                      |
| 7021570-512 | 17                             | 912                      |
| 7021570-513 | 17                             | 913                      |
| 7021570-514 | 17                             | 914                      |
| 7021570-515 | 17                             | 915                      |
| 7021570-516 | 17                             | 916                      |
| 7021570-517 | 17                             | 917                      |
| 7021570-518 | 17                             | 918                      |
| 7021570-519 | 17                             | 919                      |
| 7021570-520 | 17                             | 920                      |
| 7021570-521 | 17                             | 921                      |
| 7021570-522 | 17                             | 922                      |
| 7021570-523 | 17                             | 923                      |
| 7021570-524 | 17                             | 924                      |
| 7021570-525 | 17                             | 925                      |
| 7021570-526 | 17                             | 926                      |
| 7021570-527 | 17                             | 927                      |
| 7021570-528 | 17                             | 928                      |
| 7021570-529 | 17                             | 929                      |
| 7021570-530 | 17                             | 930                      |

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DRAWING NO.

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REV

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SCALE

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UNIT WT

SHEET

**70**

TABLE II (CONT)  
CHARACTERS

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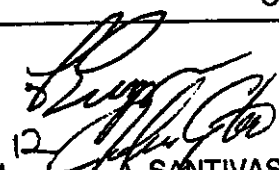
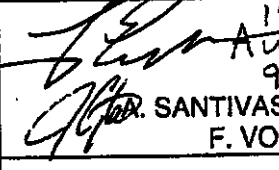
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|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|--------------|----------------|-----------|
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|                  |                                                                                                                                                                        | <b>A</b> | <b>55939</b> | <b>7021570</b> | <b>AR</b> |
|                  |                                                                                                                                                                        | SCALE    | NONE         | UNIT WT        | SHEET     |
|                  |                                                                                                                                                                        |          |              |                | <b>72</b> |

|                        |                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                         |      |         |           |                                                                                        |     |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------|-----------|----------------------------------------------------------------------------------------|-----|
| DWG NO. <b>7021570</b> |                                                                                                                                                                                                                                                                                                                                                                                         | SH <b>73</b>                                                                                                                                            |      |         |           |                                                                                        |     |
| REVISIONS              |                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                         |      |         |           |                                                                                        |     |
| REV                    | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                         |      |         |           | APPROVED BY/DATE (YY-MM-DD)                                                            |     |
| —                      | INITIAL RELEASE                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                         |      |         |           | G. BEILER 94-03-03                                                                     |     |
| A                      | SH1: SH IDX REV. SH3 THRU 8: UDTD VIEW.<br><div style="text-align: right;">82163(M)</div> AFFECTS PARTS IN HOUSE AND IN STOCK.                                                                                                                                                                                                                                                          |                                                                                                                                                         |      |         |           | T. EUROPA 94-04-29<br>J. GHER<br><div style="text-align: right;">WHISLER<br/>SJ</div>  |     |
| B                      | SH1: SH IDX REV. C.O. NOT EXECUTED.<br><div style="text-align: right;">82347(NA)</div>                                                                                                                                                                                                                                                                                                  |                                                                                                                                                         |      |         |           | J. GHER 94-04-29<br><div style="text-align: right;">WHISLER<br/>SJ</div>               |     |
| C                      | SH1: SH IDX REV. WAS SH1 OF 15. SH2: ADD PARA 2 AND 2.1. PARA 3 AND 3.1 WAS PARA 2 AND 2.1 RESP. ADD SH13, 14 AND 15. SH16, 17 AND 18 WAS SH13, 14 AND 15 RESP. SH16: TBL1; ADD -11, -12 AND -13 VAR.<br><div style="text-align: right;">83257(NA)</div>                                                                                                                                |                                                                                                                                                         |      |         |           | J. KEISTER 94-10-06<br>J. GHER<br><div style="text-align: right;">WHISLER<br/>SJ</div> |     |
| D                      | SH1: ADD CREATING FIGURES AND PRINTING INSTRUCTIONS NOTES. SH IDX REV. SH2: RMV PARA 1.4, 1.4.1 AND 1.4.2.<br><div style="text-align: right;">84560(NA)</div>                                                                                                                                                                                                                           |                                                                                                                                                         |      |         |           | J. GHER 94-10-06<br><div style="text-align: right;">WHISLER<br/>SJ</div>               |     |
| E                      | SH1: APPLICATION BLK; NEXT ASSY ADD 7516250 AND 7517800. USED ON (SYS) ADD 7516100, 7516240 AND 7517800. SH IDX REV. WAS SH1 OF 18. SH6, 7 AND 8: UDTD FIG4, 5 AND 6. ADD SH16. SH17, 18 AND 19 WAS SH16, 17 AND 18 RESP. SH17: TBL1; ADD -14 VAR.<br><div style="text-align: right;">83236(U)</div> USE ALL PARTS IN HOUSE, IN STOCK AND CURRENTLY ON ORDER (EFFECTIVITY IS NEXT BUY). |                                                                                                                                                         |      |         |           | T. EUROPA 94-12-14<br>J. GHER<br><div style="text-align: right;">WHISLER<br/>SJ</div>  |     |
| F                      | SH1: SH IDX REV. WAS SH1 OF 19. ADD SH 17. SH18, 19 AND 20 WAS SH17, 18 AND 19 RESP. SH18: TBL1; ADD -15 VAR.<br><div style="text-align: right;">83246(NA)</div>                                                                                                                                                                                                                        |                                                                                                                                                         |      |         |           | T. EUROPA 95-03-17<br>J. GHER<br><div style="text-align: right;">WHISLER<br/>SJ</div>  |     |
| G                      | SH1: SH IDX REV. SH 16 AND 17: UDTD PLATE MARKING.<br><div style="text-align: right;">83359(M)</div> AFFECTS PARTS IN HOUSE AND IN STOCK.                                                                                                                                                                                                                                               |                                                                                                                                                         |      |         |           | T. EUROPA 95-03-17<br>J. GHER<br><div style="text-align: right;">WHISLER<br/>SJ</div>  |     |
| H                      | SH1: SH IDX REV. SH16: UDTD FIG 14. SH17: UDTD FIG 15.<br><div style="text-align: right;">89181(U)</div> USE ALL PARTS IN HOUSE, IN STOCK AND CURRENTLY ON ORDER. (EFFECTIVITY IS NEXT BUY).                                                                                                                                                                                            |                                                                                                                                                         |      |         |           | T. EUROPA 95-07-26<br>J. GHER<br><div style="text-align: right;">WHISLER<br/>CW</div>  |     |
| J                      | SH1: SH IDX REV. C.O. NOT EXECUTED.<br><div style="text-align: right;">90980(NA)</div>                                                                                                                                                                                                                                                                                                  |                                                                                                                                                         |      |         |           | N. CROWELL 96-03-20<br><div style="text-align: right;">WHISLER<br/>RR</div>            |     |
| Honeywell              |                                                                                                                                                                                                                                                                                                                                                                                         | SEE FIRST SHEET FOR CONTRACT NUMBER. USE OR DISCLOSURE OF INFORMATION ON THIS SHEET IS SUBJECT TO THE RESTRICTIONS ON THE FIRST SHEET OF THIS DOCUMENT. |      | SIZE    | CAGE CODE | DRAWING NO.                                                                            | REV |
|                        |                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                         |      | A       | 55939     | 7021570                                                                                | AR  |
|                        |                                                                                                                                                                                                                                                                                                                                                                                         | SCALE                                                                                                                                                   | NONE | UNIT WT | SHEET     |                                                                                        | 73  |

|                        |                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                         |                           |                                   |                                                   |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-----------------------------------|---------------------------------------------------|
| DWG NO. <b>7021570</b> |                                                                                                                                                                                                                                                                                                                                                                                      | SH <b>74</b>                                                                                                                                            |                           |                                   |                                                   |
| REVISIONS              |                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                         |                           |                                   |                                                   |
| REV                    | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                         |                           |                                   | APPROVED BY/DATE (YY-MM-DD)                       |
| K                      | SH1: WAS SH 1 OF 20. SH IDX REV. ADD NEW SH 18, 19, 20 AND 22. SH21, 23 AND 24 WAS SH 18, 19 AND 20.<br>91006(NA)                                                                                                                                                                                                                                                                    |                                                                                                                                                         |                           |                                   | N. CROWELL 96-03-20<br>WHISLER<br>RR              |
| L                      | SH1: SH IDX REV. WAS SH1 OF 24. SH20: ADD NEW FIGURE 18. ADD SH21 AND 22; FOR NEW FIG. 19 AND 20. SH23 THRU 26 WAS SH21 THRU 24<br>93861(NA)                                                                                                                                                                                                                                         |                                                                                                                                                         |                           |                                   | B. BUNCH 95-05-13<br>N. CROWELL<br>WHISLER<br>LH  |
| M                      | SH1: SH IDX REV. WAS SH1 OF 26. ADD NEW SH20 FIGURE 18. SH21 THRU 27 WAS SH20 THRU 26; FIGURE 19, 20 AND 21 WAS FIGURE 18, 19, AND 20. SH24: TBL 2 ADD NEW FIG 18; FIGURE 19, 20 AND 21 WAS FIGURE 18, 19, AND 20. ADD NEW SH28.<br>94150(NA)                                                                                                                                        |                                                                                                                                                         |                           |                                   | R. MAY 96-09-06<br>N. CROWELL<br>LH               |
| N                      | SH1: SH IDX REV. SH2: PARA 1.1 WAS MATERIAL --- P7015502. FOR DASH 1XX ADHESIVE --- 7006940, DASH 72 OR 73 FOR DASH 2XX. ADD PARA 1.4. SH26: SCE OF SPLY WAS PER P7015502.<br>94612(NA)                                                                                                                                                                                              |                                                                                                                                                         |                           |                                   | N. CROWELL 96-12-18<br>LH                         |
| P                      | SH1: SH IDX REV. WAS SH1 OF 28. ADD NEW SH24. SH25 THRU 29 WAS SH24 THRU 28 RESP. SH25: TBL1; ADD -22 VAR.<br>95941(NA)                                                                                                                                                                                                                                                              |                                                                                                                                                         |                           |                                   | N. CROWELL 97-02-07<br>K. JELLISON<br>LH          |
| R                      | SH1: SH IDX REV. SH24: UDTD FIGURE 22.<br>96384(M)<br><br>AFFECTS KITS NOT YET IN-BUILD AND ASSEMBLIES IN BUILD, IN STOCK, IN RELATED ASSEMBLIES LISTED ON C.O., AND IN ASSEMBLIES THRU END ITEM LEVEL, EXCLUDING SALES STOCK.                                                                                                                                                       |                                                                                                                                                         |                           |                                   | N. CROWELL 97-02-07<br>K. JELLISON<br>LH          |
| T                      | SH1: APPL BLOCK; ADD 7516251. SH IDX REV. WAS SH1 OF 29. SH5, 7, 21, 22, AND 23: UDTD FIGURE 3, 5, 19, 20 AND 21 RESP. ADD NEW SH25 THRU 32. SH33: TBL1; ADD -23 THRU -26, WAS SH25. ADD NEW SH34. SH35 THRU 38 WAS SH26 THRU 29 RESP.<br>96411(M)<br><br>AFFECTS PARTS IN HOUSE, IN STOCK, IN KITS NOT YET IN BUILD AND IN RELATED ASSEMBLIES LISTED ON C.O. (EXCLUDING END ITEMS). |                                                                                                                                                         |                           |                                   | N. CROWELL 97-04-18<br>BEGAY<br>LH                |
| U                      | SH1: SH IDX REV. SH6 AND 8: UDTD DO- --- X MARKING.<br>96316(NA)                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                         |                           |                                   | N. CROWELL 97-06-03<br>K. MANSOORI<br>BEGAY<br>LH |
| V                      | SH1: SH IDX REV. SH25 AND 26: UDTD FIG 23 AND 24. SH33: TBL1; -24 VAR; DESCRIPTION WAS RT-950 HDWR S/W LEVEL B.<br>46491(M)<br><br>AFFECTS PARTS IN HOUSE, IN STOCK, IN KITS NOT YET IN BUILD, IN RELATED ASSEMBLIES, AND IN ASSEMBLIES THRU END ITEM LEVEL INCLUDING SALES STOCK.                                                                                                   |                                                                                                                                                         |                           |                                   | N. CROWELL 97-08-19<br>BEGAY<br>LH                |
| Honeywell              |                                                                                                                                                                                                                                                                                                                                                                                      | SEE FIRST SHEET FOR CONTRACT NUMBER. USE OR DISCLOSURE OF INFORMATION ON THIS SHEET IS SUBJECT TO THE RESTRICTIONS ON THE FIRST SHEET OF THIS DOCUMENT. | SIZE<br><b>A</b><br>SCALE | CAGE CODE<br><b>55939</b><br>NONE | DRAWING NO. <b>7021570</b><br>UNIT WT             |
|                        |                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                         | SHEET <b>74</b>           |                                   | REV <b>AR</b>                                     |

|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                        |  |                      |                                                               |                               |                  |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------|---------------------------------------------------------------|-------------------------------|------------------|
| DWG NO. <b>7021570</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | SH <b>75</b>                                                                                                                                                           |  |                      |                                                               |                               |                  |
| REVISIONS              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                        |  |                      |                                                               |                               |                  |
| REV                    | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                        |  |                      | APPROVED BY/DATE (YY-MM-DD)                                   |                               |                  |
| W                      | SH1: SH IDX REV. SH35: TBL2; ADD VAR -521 THRU -530.<br>94847(NA)                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                        |  |                      | N.CROWELL 97-08-19<br>BEGAY<br>LH                             |                               |                  |
| Y                      | SH1: SH IDX REV. SH25 AND 26: UDTD FIGURE 23 AND 24.<br>97708(M)<br>AFFECTS ONLY KITS NOT YET IN BUILD.                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                        |  |                      | N. CROWELL 97-08-19<br>BEGAY<br>LH                            |                               |                  |
| AA                     | SH1: SH IDX REV. SH27 AND 28: UDTD FIGURE 27 AND 28.<br>98677(M)<br>AFFECTS PARTS IN HOUSE, IN STOCK, IN KITS NOT YET IN BUILD, IN<br>RELATED ASSEMBLIES, AND IN ASSEMBLIES THRU END ITEM LEVEL<br>EXCLUDING SALES STOCK.                                                                                                                                                                                                                                                       |                                                                                                                                                                        |  |                      | T. EUROPA 98-02-24<br>BEGAY<br>DM                             |                               |                  |
| AB                     | SH1: SH IDX REV. SH25 AND 26: UDTD FIGURE 23 AND 24.<br>98683(M)<br>AFFECTS PARTS IN HOUSE, IN STOCK, IN KITS NOT YET IN BUILD, IN<br>RELATED ASSEMBLIES, AND IN ASSEMBLIES THRU END ITEM LEVEL<br>INCLUDING SALES STOCK.                                                                                                                                                                                                                                                       |                                                                                                                                                                        |  |                      | T. EUROPA 98-02-24<br>BEGAY<br>DM                             |                               |                  |
| AC                     | SH 1: SH IDX REV. WAS SH 1 OF 39. ADD SH 33 THRU 39. SH 40 THRU 46<br>WAS SH 33 THRU 39 RESP. SH 41: TBL 1; ADD -108 THRU -114 VAR.<br>99396(NA)                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                        |  |                      | B. BUNCH 98-02-24<br>HAYWOOD<br>CB                            |                               |                  |
| AD                     | SH1: SH IDX REV. SH27 AND 28: UDTD FIGURE 25 AND 26.<br>98688(M)<br>AFFECTS PARTS IN HOUSE, IN STOCK, IN KITS NOT YET IN BUILD, IN<br>RELATED ASSEMBLIES THRU END ITEM LEVEL EXCLUDING SALES<br>STOCK.                                                                                                                                                                                                                                                                          |                                                                                                                                                                        |  |                      | T. EUROPA 98-06-08<br>D. BREWER<br>BEGAY<br>DM                |                               |                  |
| AE                     | SH1: WAS SH1 OF 46. SH IDX REV. ADD SH40. SH41: TABLE I; ADD -27<br>VAR. RELOC -101, -102, AND -103 VAR TO SH42. SH41 THRU 47 WAS<br>SH40 THRU 46 RESP.<br>98700(NA)                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                        |  |                      | T. EUROPA 98-06-08<br>D. BREWER<br>BEGAY<br>DM                |                               |                  |
| AF                     | SH1: WAS SH1 OF 47. SH IDX REV. SH27 AND 28: UDTD FIG 25 AND 26<br>RESP. ADD SH 40 THRU 56. SH57 AND 58 WAS SH40 AND 41 RESP.<br>SH57: FIGURE 55. 7021570-44 REF WAS FIGURE 38. 702150-27. SH58:<br>TBL1; ADD -27 VAR. ADD SH59; -44 VAR WAS -27 VAR. SH60 THRU 65<br>WAS 42 THRU 47 RESP.<br>98703(M)<br>AFFECTS PARTS IN HOUSE, IN STOCK, IN KITS NOT YET IN BUILD, IN<br>RELATED ASSEMBLIES LISTED ON C.O., AND IN ASSEMBLIES THRU<br>END ITEM LEVEL, EXCLUDING SALES STOCK. |                                                                                                                                                                        |  |                      | T. EUROPA 98-06-08<br>K. MANSOORI<br>D. BREWER<br>BEGAY<br>DM |                               |                  |
| AG                     | SH1: SH IDX REV. SH27 AND 28: UDTD FIG 25 AND 26 RESP.<br>98710(M)<br>AFFECTS PARTS IN HOUSE, IN STOCK, IN KITS NOT YET IN BUILD, IN<br>RELATED ASSEMBLIES LISTED ON C.O., AND IN ASSEMBLIES THRU<br>END ITEM LEVEL, EXCLUDING SALES STOCK.                                                                                                                                                                                                                                     |                                                                                                                                                                        |  |                      | T. EUROPA 98-10-15<br>HAYWOOD<br>CB                           |                               |                  |
| Honeywell              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | SEE FIRST SHEET FOR<br>CONTRACT NUMBER. USE OR<br>DISCLOSURE OF INFORMATION ON<br>THIS SHEET IS SUBJECT TO THE<br>RESTRICTIONS ON THE FIRST<br>SHEET OF THIS DOCUMENT. |  | SIZE<br><b>A</b>     | CAGE CODE<br><b>55939</b>                                     | DRAWING NO.<br><b>7021570</b> | REV<br><b>AR</b> |
|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                        |  | SCALE<br><b>NONE</b> | UNIT WT                                                       | SHEET<br><b>75</b>            |                  |

|                                                                                                                                                                                            |                                                                                                                                                                                                                                             |                      |                           |                               |                                                                                                                                |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|---------------------------|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| DWG NO. <b>7021570</b>                                                                                                                                                                     |                                                                                                                                                                                                                                             | SH <b>76</b>         |                           |                               |                                                                                                                                |
| REVISIONS                                                                                                                                                                                  |                                                                                                                                                                                                                                             |                      |                           |                               |                                                                                                                                |
| REV                                                                                                                                                                                        | DESCRIPTION                                                                                                                                                                                                                                 |                      |                           |                               | APPROVED BY/DATE (YY-MM-DD)                                                                                                    |
| AH                                                                                                                                                                                         | SH1 SH IDX REV. WAS SH1 OF 65. ADD SH62. SH63 THRU 66 WAS SH62 THRU 65 RESP. ADD SH67.<br><br>100102(U)<br>USE ALL PARTS IN HOUSE, IN STOCK AND CURRENTLY ON ORDER (EFFECTIVITY IS NEXT BUY).                                               |                      |                           |                               | C. M. COMBS 99-01-14<br><br>FORD<br>CB                                                                                         |
| AJ                                                                                                                                                                                         | SH1: SH IDX REV. WAS SH1 OF 67. ADD SH58 AND 59. SH60 THRU 69 WAS SH58 THRU 67 RESP. SH61: TBL1; ADD -45 AND -46 VAR. ADD SH 70.<br><br>101931(NA)                                                                                          |                      |                           |                               | C. PUGH 99-01-14<br><br>FORD<br>CB                                                                                             |
| AK                                                                                                                                                                                         | SH1: SH IDX REV. SH55 AND 56: UDTD FIG 53 AND 54 RESP.<br><br>101941(NA)<br>AFFECTS PARTS IN HOUSE AND IN STOCK.                                                                                                                            |                      |                           |                               | C. PUGH 99-01-14<br><br>FORD<br>CB                                                                                             |
| AL                                                                                                                                                                                         | CONVERTED TO WORD DOC FORMAT. SH1: WAS SH 1 OF 70. SH IDX REV. ADD SH 60 AND SH61. SH62 THRU SH72: WAS SH60 THRU 70. SH63: ADD VAR -47 AND -48.<br><br>101955(NA)                                                                           |                      |                           |                               | <br>12 Aug 99<br>A. SANTIVASCI<br>F. VOSS   |
| AM                                                                                                                                                                                         | SH1: WAS SH1 OF 71. SH IDX REV. UDTD SH2 THRY SH61. ADD SH62 AND SH63. SH64 THRU SH73 WAS SH62 THRU SH71. SH66: ADD VAR -49 AND -50.<br><br>101962(U)<br>USE ALL PARTS IN HOUSE, IN STOCK AND CURRENTLY ON ORDER (EFFECTIVITY IS NEXT BUY). |                      |                           |                               | <br>12 Aug 99<br>A. SANTIVASCI<br>F. VOSS  |
| AN                                                                                                                                                                                         | SH1: SH IDX REV. SH57: WAS 750-0198.<br><br>78164(M)<br>AFFECTS PARTS IN HOUSE AND IN STOCK.                                                                                                                                                |                      |                           |                               | <br>12 Aug 99<br>A. SANTIVASCI<br>F. VOSS |
| AP                                                                                                                                                                                         | SH1: WAS SH1 OF 74. SH IDX REV. ADD SH64 AND SH65. SH66 THRU SH75: WAS SH64 THRU SH73. SH67: ADD VAR -51 AND -52.<br><br>104382(NA)                                                                                                         |                      |                           |                               | <br>12 Aug 99<br>A. SANTIVASCI<br>F. VOSS |
| AR                                                                                                                                                                                         | SH1: WAS SH1 OF 75. SH IDX REV. SH66: ADD FIG 63. SH68: ADD VAR -53.<br><br>101985(NA)                                                                                                                                                      |                      |                           |                               | <br>12 Aug 99<br>A. SANTIVASCI<br>F. VOSS |
|                                                                                                                                                                                            |                                                                                                                                                                                                                                             |                      |                           |                               |                                                                                                                                |
| <b>Honeywell</b><br><small>SEE FIRST SHEET FOR CONTRACT NUMBER. USE OR DISCLOSURE OF INFORMATION ON THIS SHEET IS SUBJECT TO THE RESTRICTIONS ON THE FIRST SHEET OF THIS DOCUMENT.</small> |                                                                                                                                                                                                                                             | SIZE<br><b>A</b>     | CAGE CODE<br><b>55939</b> | DRAWING NO.<br><b>7021570</b> | REV<br><b>AR</b>                                                                                                               |
|                                                                                                                                                                                            |                                                                                                                                                                                                                                             | SCALE<br><b>NONE</b> | UNIT WT                   | SHEET<br><b>76</b>            |                                                                                                                                |