

NOTICE
FREEDOM OF INFORMATION ACT (5 USC 552) AND
DISCLOSURE OF CONFIDENTIAL INFORMATION GENERALLY
(18 USC 1905)
THIS DOCUMENT IS BEING FURNISHED IN CONFIDENCE BY HONEYWELL
INC. THE INFORMATION DISCLOSED HEREIN FALLS WITHIN EXEMPTION
(b) (4) OF 5 USC 552 AND THE PROHIBITIONS OF 18 USC 1905.

TABLE I CUT RUN DATA 14			
CUT NO.	PWB SIDE	FROM CIRCUIT POINT	TO CIRCUIT POINT
1	B	U23-11 LAND	U23-11 PROBE PAD

TABLE II BUSWIRE DATA				
CONDUCTOR		PWB SIDE	FROM CIRCUIT POINT	TO CIRCUIT POINT
COND. NO.	ITEM NO.			
601	703	B	U23-11 LAND	U23-40
602	703	B	U12-28	C57-TOP (+)

COMPONENT		TO CIRCUIT POINT	PWB SIDE	SLVG ITEM NO.
REF DES	PIN			
R99B	RIGHT	J3-1	A	705
	LEFT	J3-11		
R999	RIGHT	J2-A26	A	705
	LEFT	J2-A22		
CR999	1	U27-9	B	
	2	NC		
	3	U27-5		
C901	TOP	U12-14	B	
	BOTTOM	R901-BOTTOM		
R901	TOP	U12-19	B	
	BOTTOM	C901-BOTTOM		
R902	TOP	C901-TOP	B	
	BOTTOM	U12-13		

1. ASSEMBLE AND SOLDER PER ITEM 701.
2.  THIS ASSEMBLY INCLUDES COMPONENTS WHICH ARE SUBJECT TO DAMAGE BY ELECTROSTATIC CHARGES; THEREFORE, ALL COMPONENTS SHALL BE HANDLED IN ACCORDANCE WITH GUIDELINES FOR ELECTROSTATIC DISCHARGE CONTROL.
3. MAXIMUM COMPONENT HEIGHT SHALL BE .XXX.
4. COMPONENT LEAD PROTRUSION SHALL BE .060 MAXIMUM EXCEPT J1, J2, AND J3; BARE COPPER PERMISSIBLE ON COMPONENT LEADS AT TRIMMED SURFACES. J1, J2, AND J3 LEADS ARE NOT TO BE TRIMMED.
5. SQUARE PADS ON PRINTED WIRING BOARD INDICATE PIN 1.

6 COAT ASSEMBLY USING ITEM 702 EXCEPT TEST POINTS AND AREAS NOTED.

7. SOME COMPONENTS SHOWN OVERSIZE TO PROVIDE SPACE FOR DESIGNATORS.

 SHADED COMPONENTS ARE NOT INSTALLED.

9 INSERT APPLICABLE DASH NUMBER, REVISION LETTER, AND SERIAL NUMBER.

10 J1 TO BE INSTALLED PER DIMENSION SHOWN. TRIM PINS
A5 AND F4 FLUSH TO TOP SURFACE OF UPPER CROSS BAR.

 INSTALL KEYING PIN (ITEM TBA) INTO J2-D21.

△ 12 FOR KEYING PURPOSES, REMOVE J3-14 FLUSH TO CROSSBAR.

13. SECURE C40 AND C41 TO PWB (ITEM 1) AND EACH OTHER USING
ITEM 706.

 MAKE CUTS PER TABLE I, LEFT OR RIGHT, TOP OR BOTTOM
AS VIEWED FROM INDICATED SIDE.

15 INSTALL BUS WIRES PER TABLE II, LEFT OR RIGHT, TOP OR BOTTOM AS VIEWED FROM INDICATED SIDE.

16 INSTALL COMPONENTS PER TABLE III, LEFT OR RIGHT, TOP OR BOTTOM, AS VIEWED FROM INDICATED SIDE.

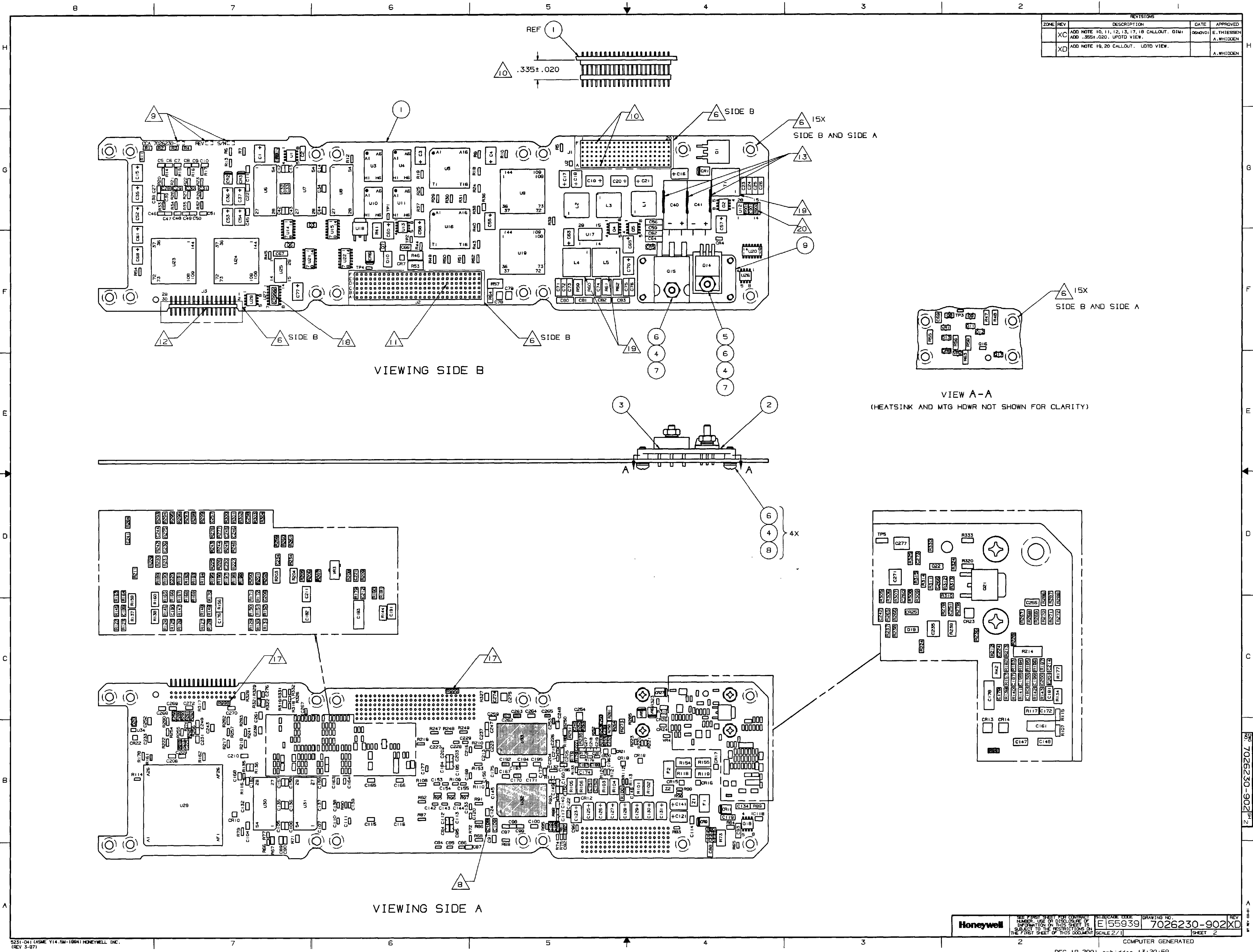
17 SLEEVE R998 AND R999 USING ITEM 705 PRIOR TO INSTALLATION.

18 INSTALL CR999 UPSIDE DOWN ON TOP OF U27 USING ADHESIVE (ITEM 704) AS SHOWN. ATTACH LEADS USING WIRE (ITEM 703).

19 SECURE T1, L4, AND L5 TO PWB (ITEM 1) USING ITEM 706 ON OPPOSITE SIDES OF CASE. EXTERNAL FILLET SHALL BE .125 MIN. SECURE AFTER SOLDERING PART TO PWB.

20 PLACE C901, R901, AND R902 ON TOP OF U12.

[illegible]

[illegible][illegible][illegible][illegible]

REF 1

10 .335±.020

6 SIDE B

6 15X SIDE B AND SIDE A

13

19

20

9

6 SIDE B

11

6 SIDE B

VIEWING SIDE B

6 4 7

5 6 4 7

3

2

6 4 8 4X

VIEW A-A (HEATSINK AND MTG HDWR NOT SHOWN FOR CLARITY)

VIEWING SIDE A

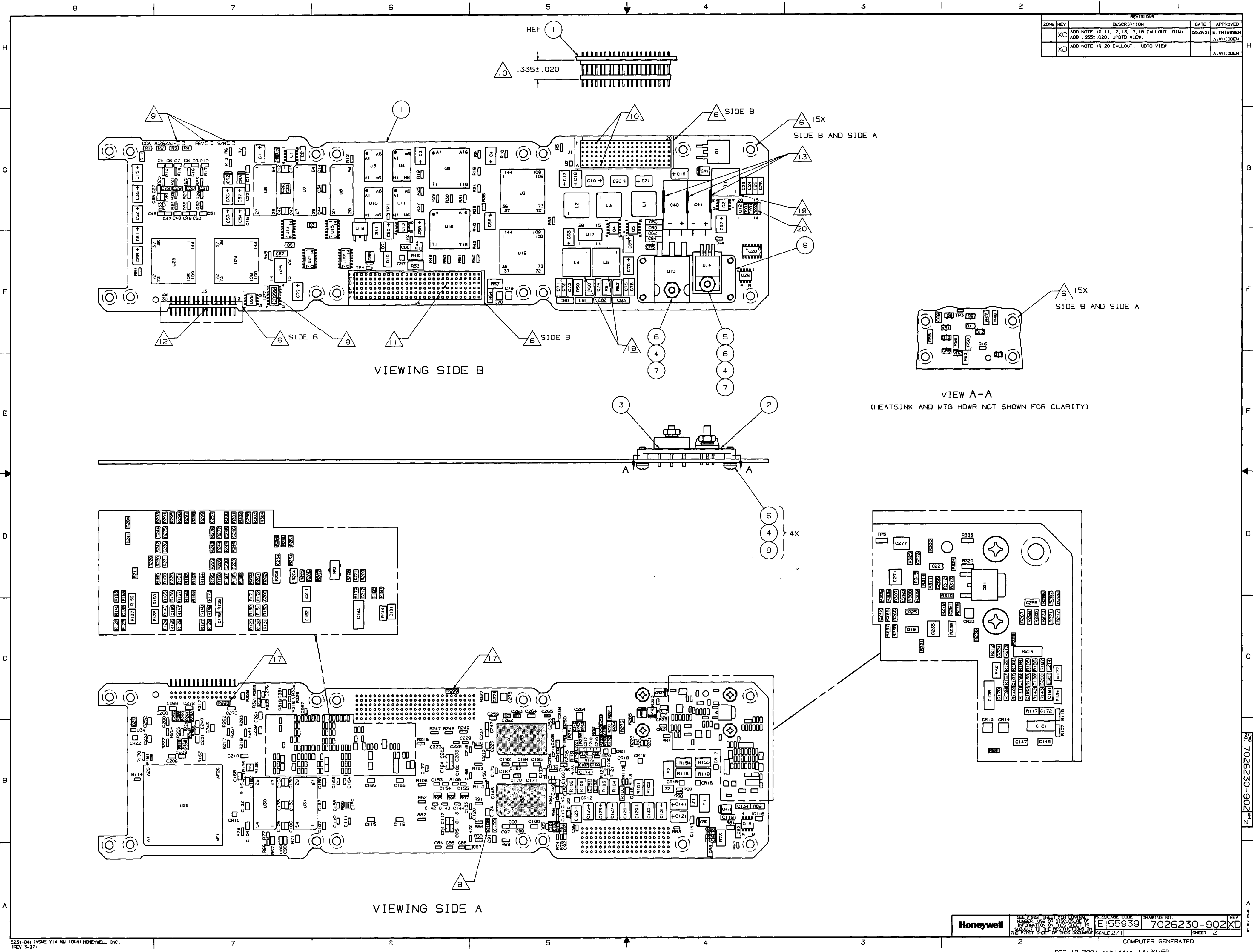
7026230-902XD

ZONE	REV	DESCRIPTION	DATE	APPROVED
XC		ADD NOTE 10, 11, 12, 13, 17, 18 CALLOUT. DIM:	06/01/01	E. THIESSEN
XD		ADD .355±.020. UPD TO VIEW.		A. WHIDDEN
XD		ADD NOTE 10, 20 CALLOUT. UOTO VIEW.		A. WHIDDEN

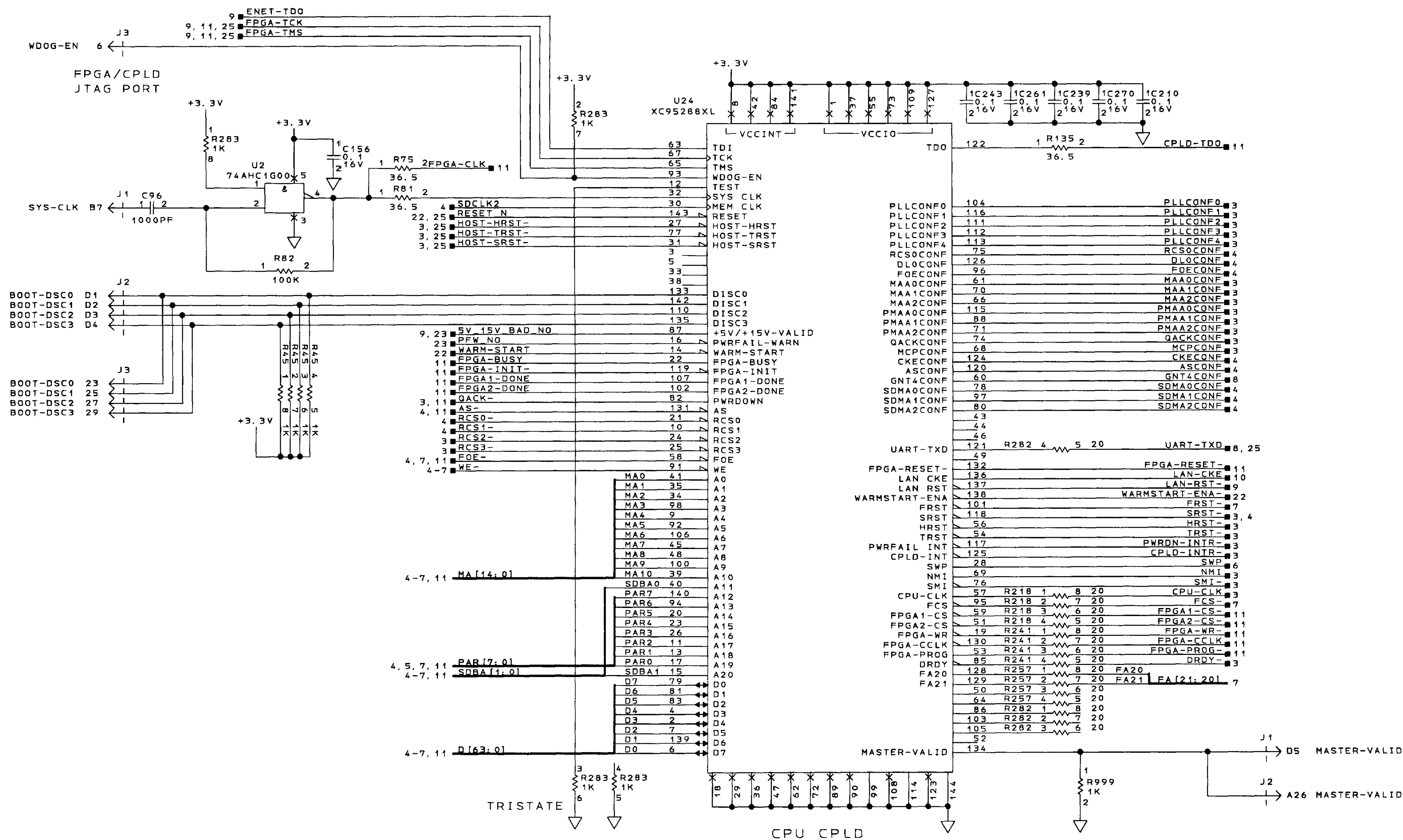
5231-04 (ASME Y14.5M-1994) HONEYWELL INC. (REV 3-97)

COMPUTER GENERATED

DEC 10 2001



REVISIONS			
ZONE	REV	DESCRIPTION	DATE
	XB	INITIAL XB-RELEASE. SEE DWG. SHEET 1.	15 MAY 01
	XC	ADDED R999 TO U24-134. SEE DWG. SHEET 1.	

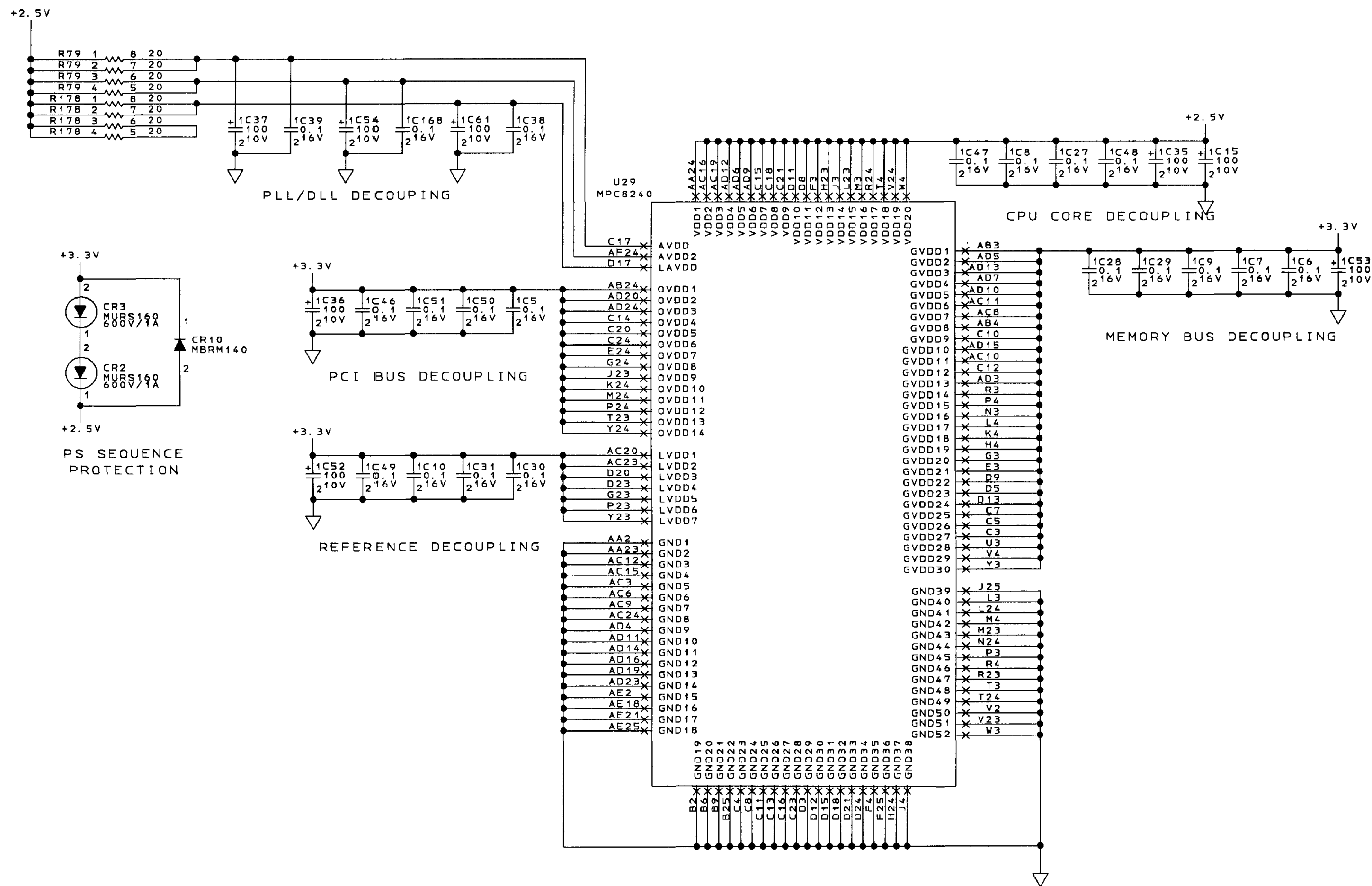


NOTES:
UNLESS OTHERWISE SPECIFIED:
1. ALL CAPACITANCE VALUES ARE IN MICROFARADS.
2. ALL RESISTANCE VALUES ARE IN OHMS.
3. ALL INDUCTANCE VALUES ARE IN MICROHENRIES.
4. PARTIAL REFERENCE DESIGNATIONS ARE SHOWN;
FOR COMPLETE DESIGNATIONS PREFIX PART
DESIGNATION WITH SUBASSEMBLY DESIGNATION.
5. INTERPRET DRAWING PER ANSI Y32.2-1975 AND
ANSI/IEEE STD 991-1986. LOGIC SYMBOLS
CONFORM TO ANSI/IEEE STD 91-1984.

PROCESSOR
MPC8240 CONTROL LOGIC
SCHEMATIC DIAGRAM SH NO. 1 OF 27

COMPUTER GENERATED

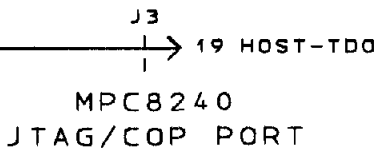
Honeywell	SEE FIRST SHEET FOR CONTRACT NUMBER, USE OR DISCLOSURE OF INFORMATION ON THIS SHEET IS SUBJECT TO THE RESTRICTIONS ON THE FIRST SHEET OF THIS DOCUMENT.	SIZE/CAGE CODE E 55939	DRAWING NO. 7026230-902	REV XC
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- ISSUES
1. BULK TANTALUM DECOUPLING
 2. SANDPOINT HAS 6 MILLIOHM CAP ON VCORE
 3. COMPATIBILITY WITH MPC8245

PROCESSOR
MPC8240 PROCESSOR POWER
SCHEMATIC DIAGRAM SHEET NO. 2

COMPUTER GENERATED

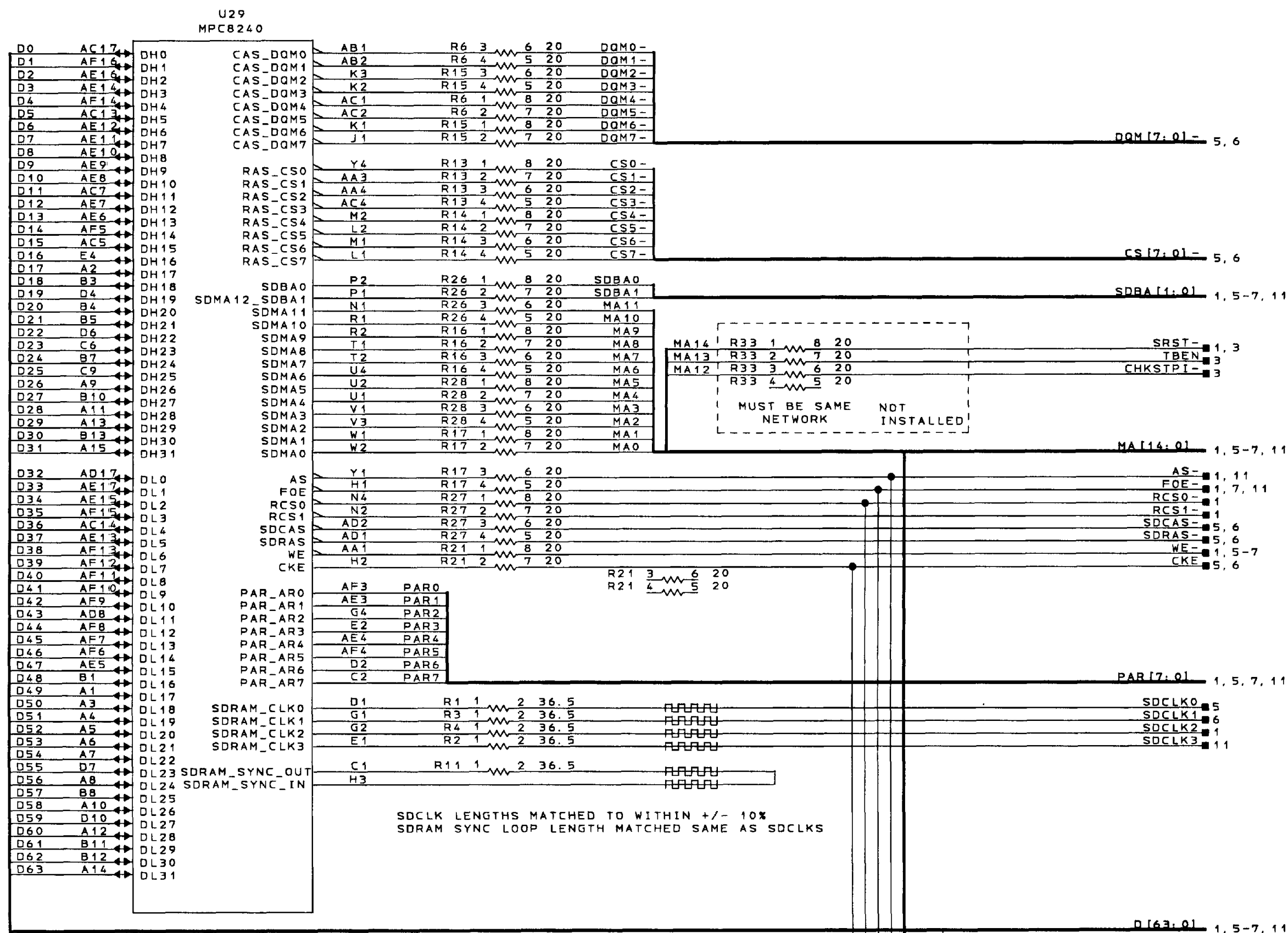


PROCESSOR
MPC8240 PROCESSOR CONFIGURATION
MPC8240 PROCESSOR SYSTEM
SCHEMATIC DIAGRAM SHEET NO. 3

Honeywell

SEE FIRST SHEET FOR CONTRACT NUMBER.
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ON THE FIRST SHEET OF THIS DOCUMENT.

SIZE	CAGE CODE	DRAWING NO.	REV
E	55939	7026230-902	XB
SCALE			SHEET 5

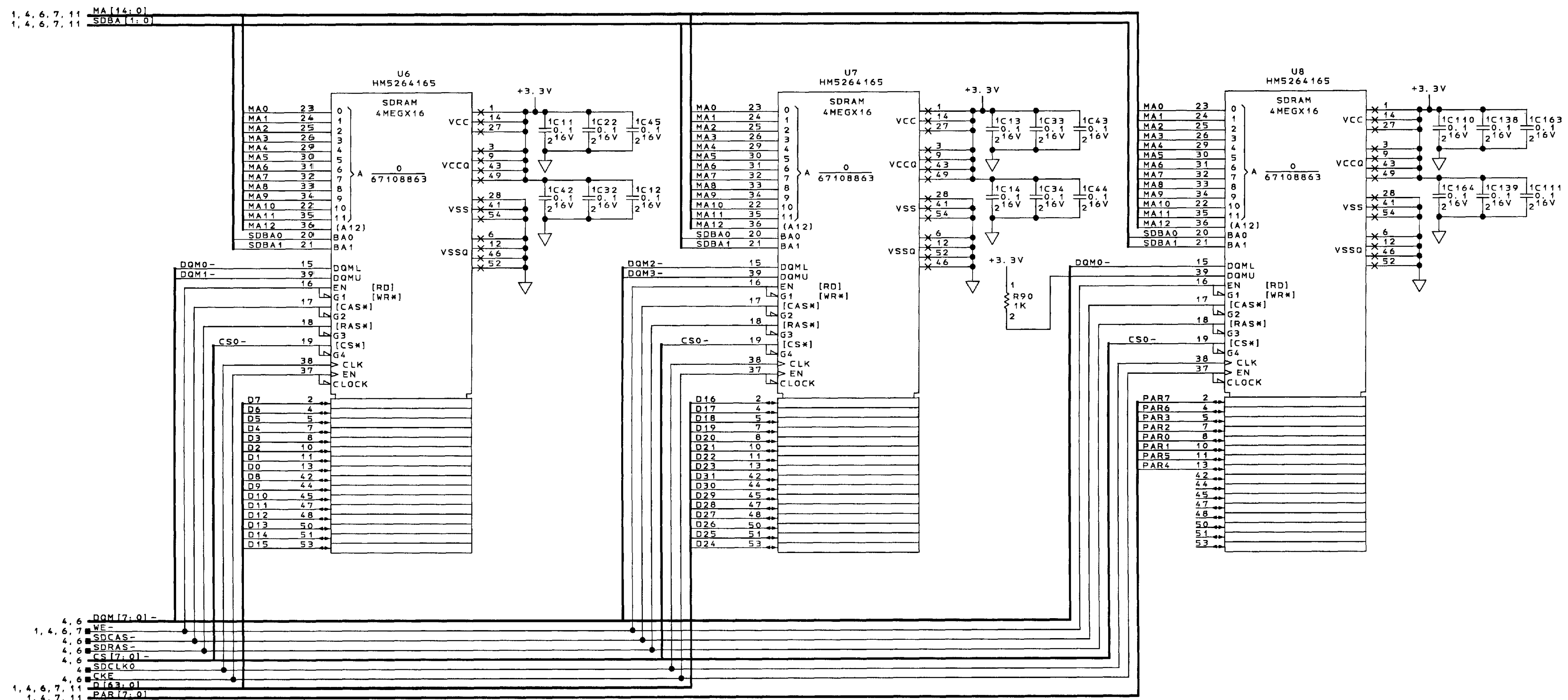


- 1 CKECONF
- 1 RCS0CONF
- 1 FOECONF
- 1 ASCONF
- 1 SDBA0CONF
- 1 SDMA1CONF
- 1 SDMA2CONF
- 1 DLOCNF

ISSUES
1. CHECK MPC8245 COMPATIBILITY

PROCESSOR
MPC8240 MEMORY INTERFACE
SCHEMATIC DIAGRAM SHEET NO. 4

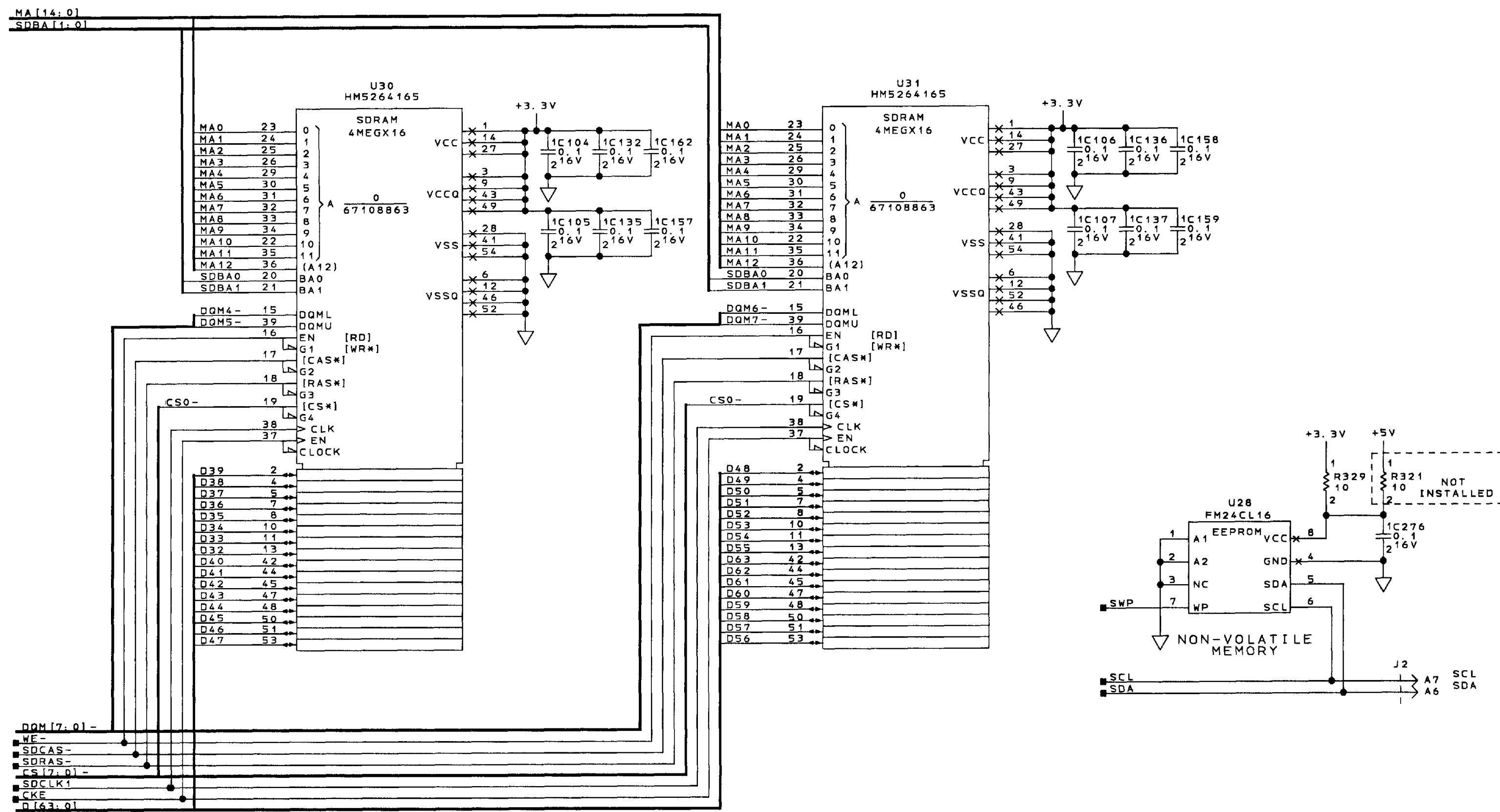
COMPUTER GENERATED



PROCESSOR
SDRAM MEMORY
SCHEMATIC DIAGRAM SHEET NO. 5

COMPUTER GENERATED

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
	XC	U28 WAS A 24C16. PL AFFECTED. SEE DWG. SHEET 1.		R. REISEBECK



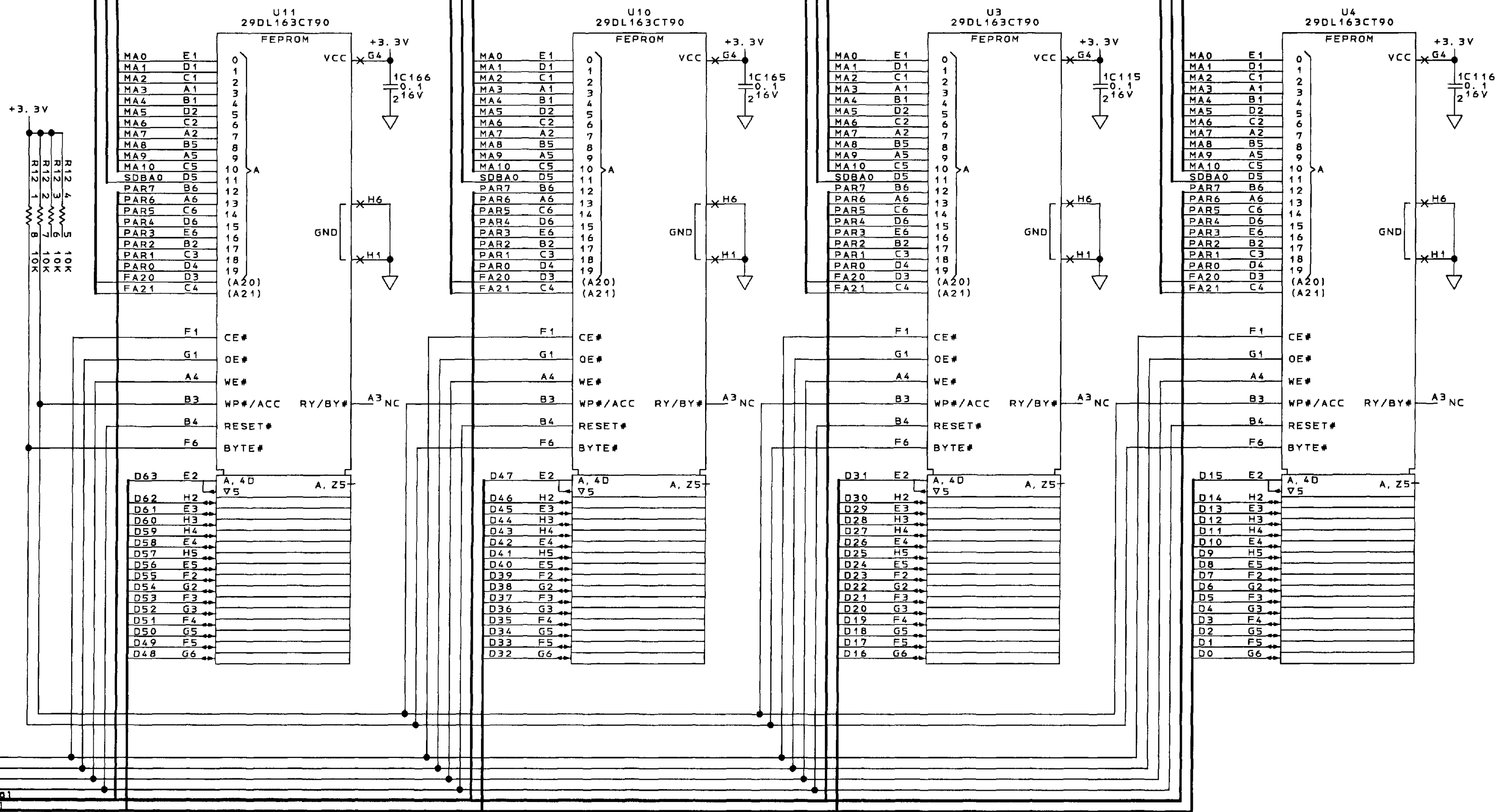
- ISSUES
1. FERROELECTRIC RAM?
 2. CHECK FOOTPRINT
 3. SELECT VCC ON EEPROM

PROCESSOR
SDRAM MEMORY
SCHEMATIC DIAGRAM SHEET NO. 6

COMPUTER GENERATED

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 E 55939	DRAWING NO. 7026230-902	REV XC
SCALE		SHEET B		DATE/TIME	

1, 4-6, 11 MA[14:0]
1, 4-6, 11 SDBA[1:0]
1, 4-6, 11 FA[21:20]

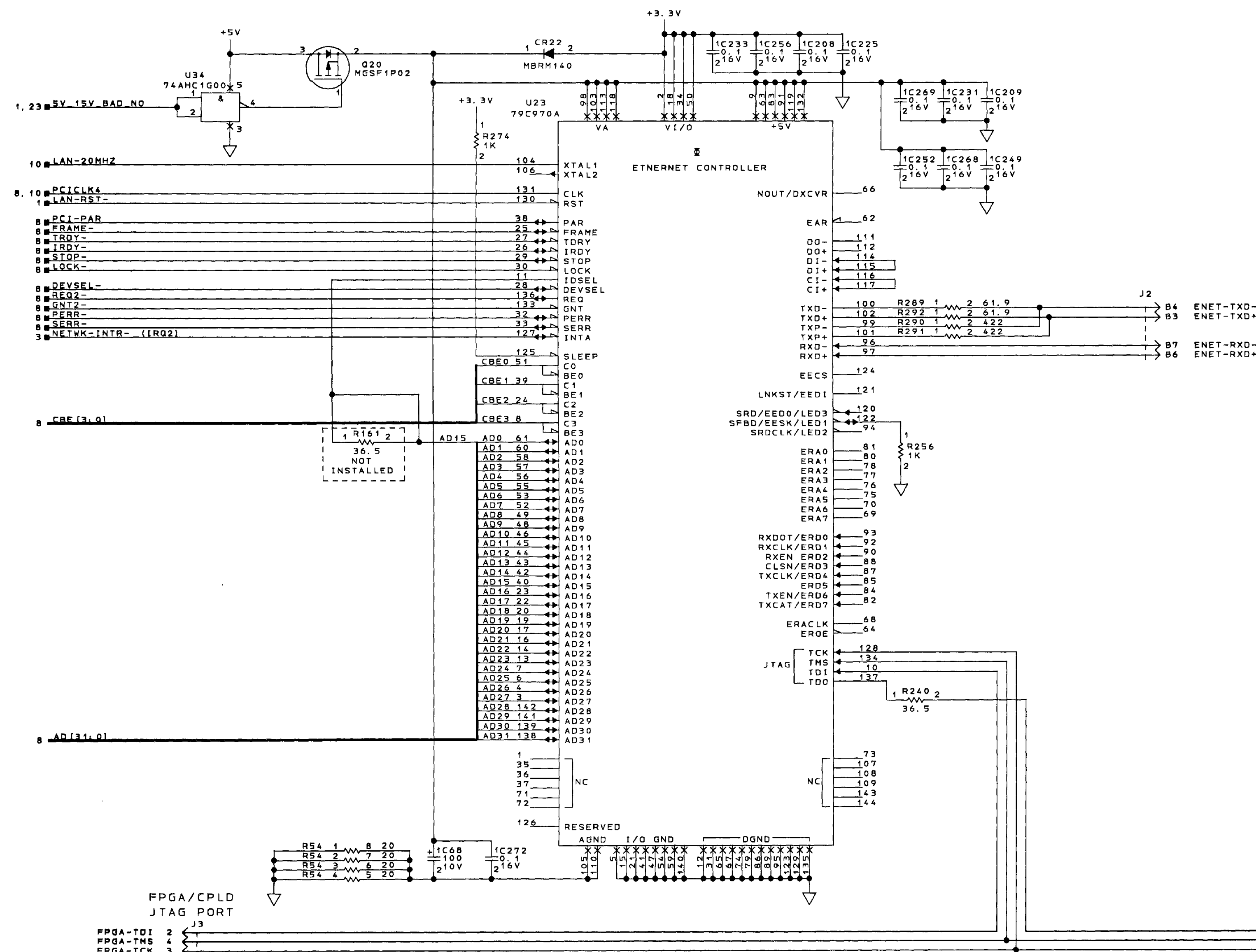


1, 4-6, 11 FCS-
1, 4-6, 11 FDE-
1, 4-6, 11 WE-
1, 4-6, 11 FRST-
1, 4-6, 11 PAR[7:0]
1, 4-6, 11 D[163:0]

PROCESSOR
FLASH MEMORY
SCHEMATIC DIAGRAM SHEET NO. 7

COMPUTER GENERATED

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
	XC	R161 WAS INSTALLED, U23-11 WAS LABELED "IDSEL". SEE DWG. SHEET 1.		R. NEIBBECK



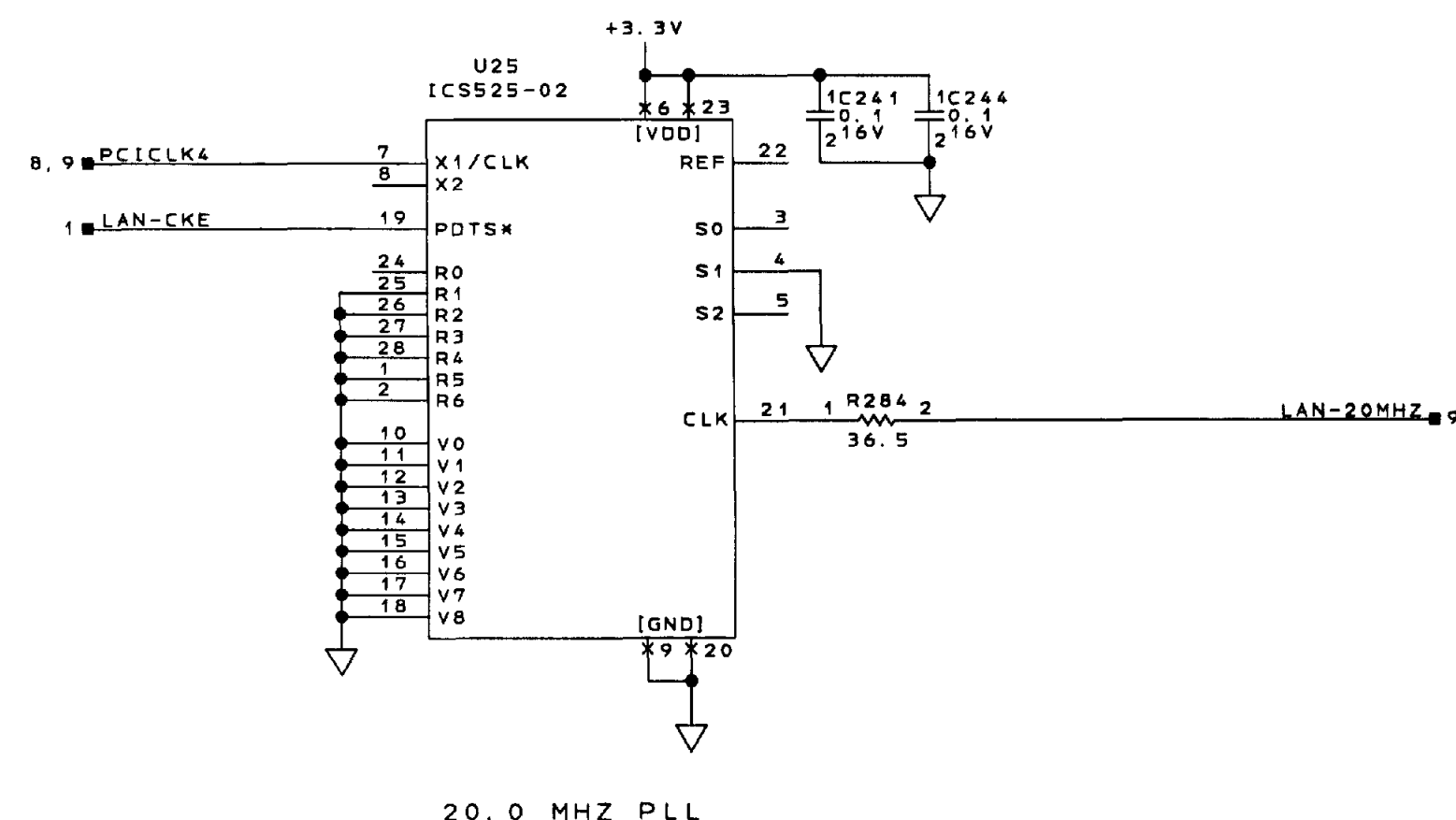
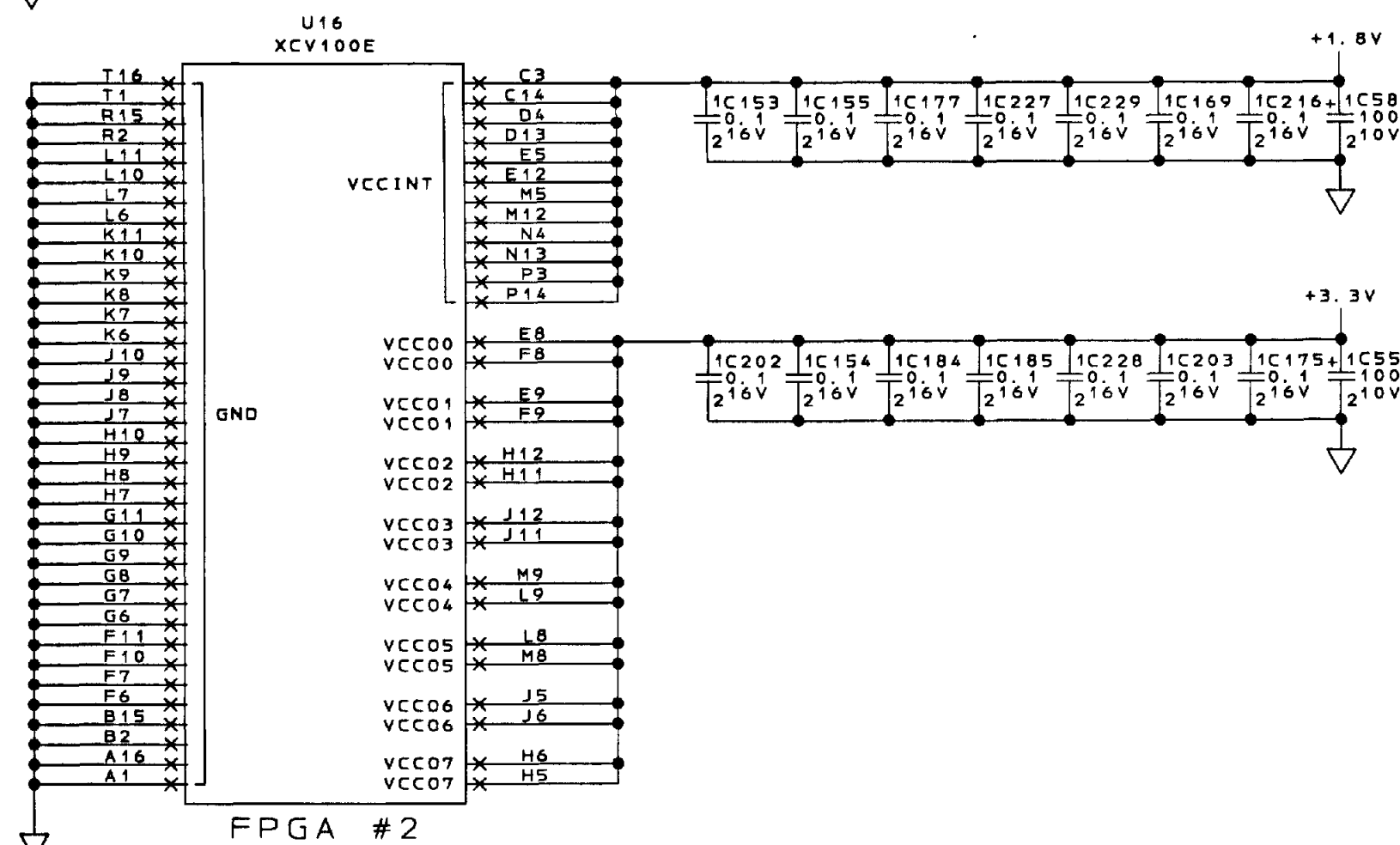
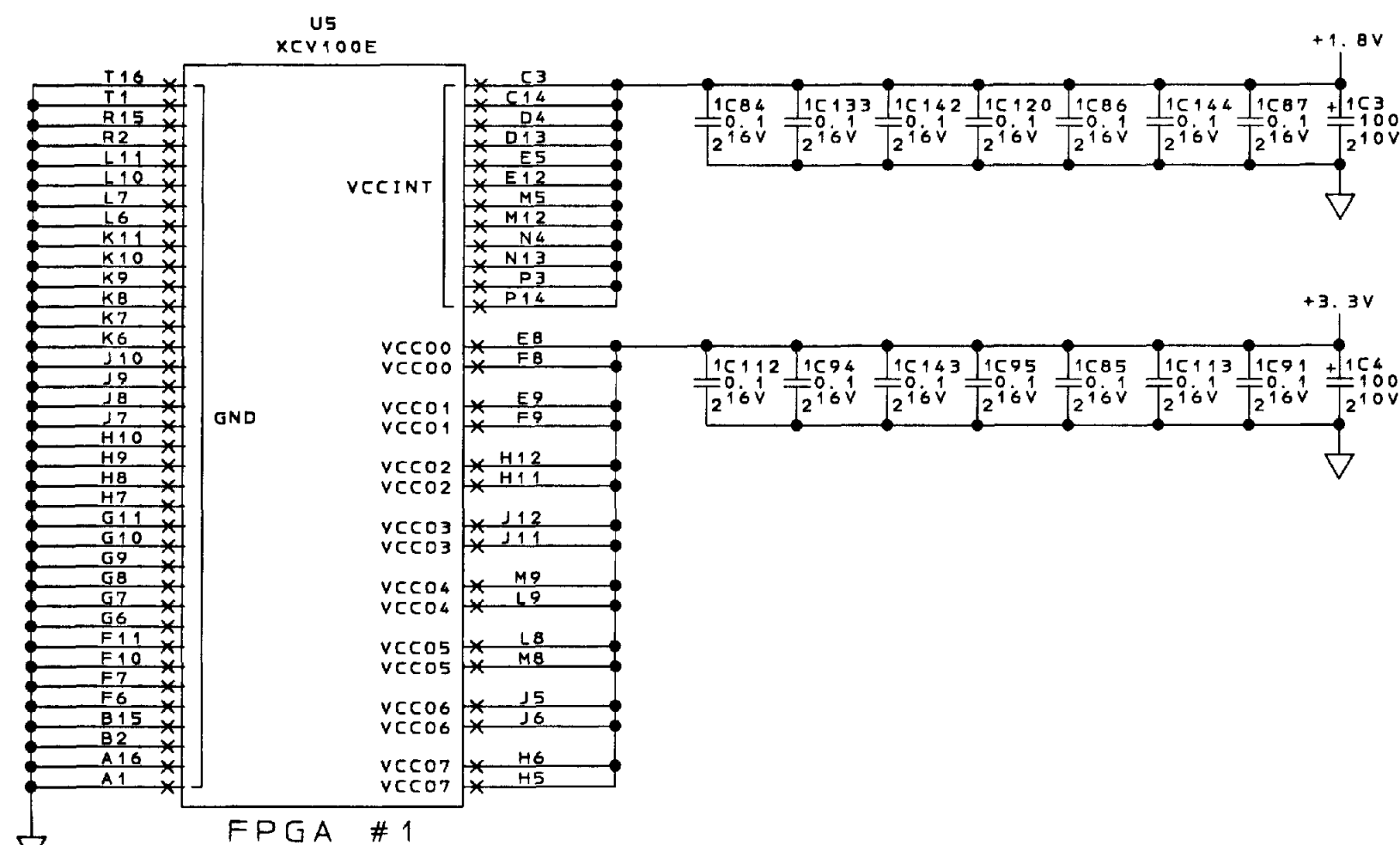
ISSUES
1. NEED TO ADD FET ON/OFF SWITCH HERE

PROCESSOR
NETWORK INTERFACE
SCHEMATIC DIAGRAM SHEET NO. 9

COMPUTER GENERATED

NO. 7026230-902 11

REVISIONS			
ZONE	REV	DESCRIPTION	DATE
XC	1	U5 AND U16 WERE XCV50E. PL AFFECTED. SEE DWG. SHEET 1.	

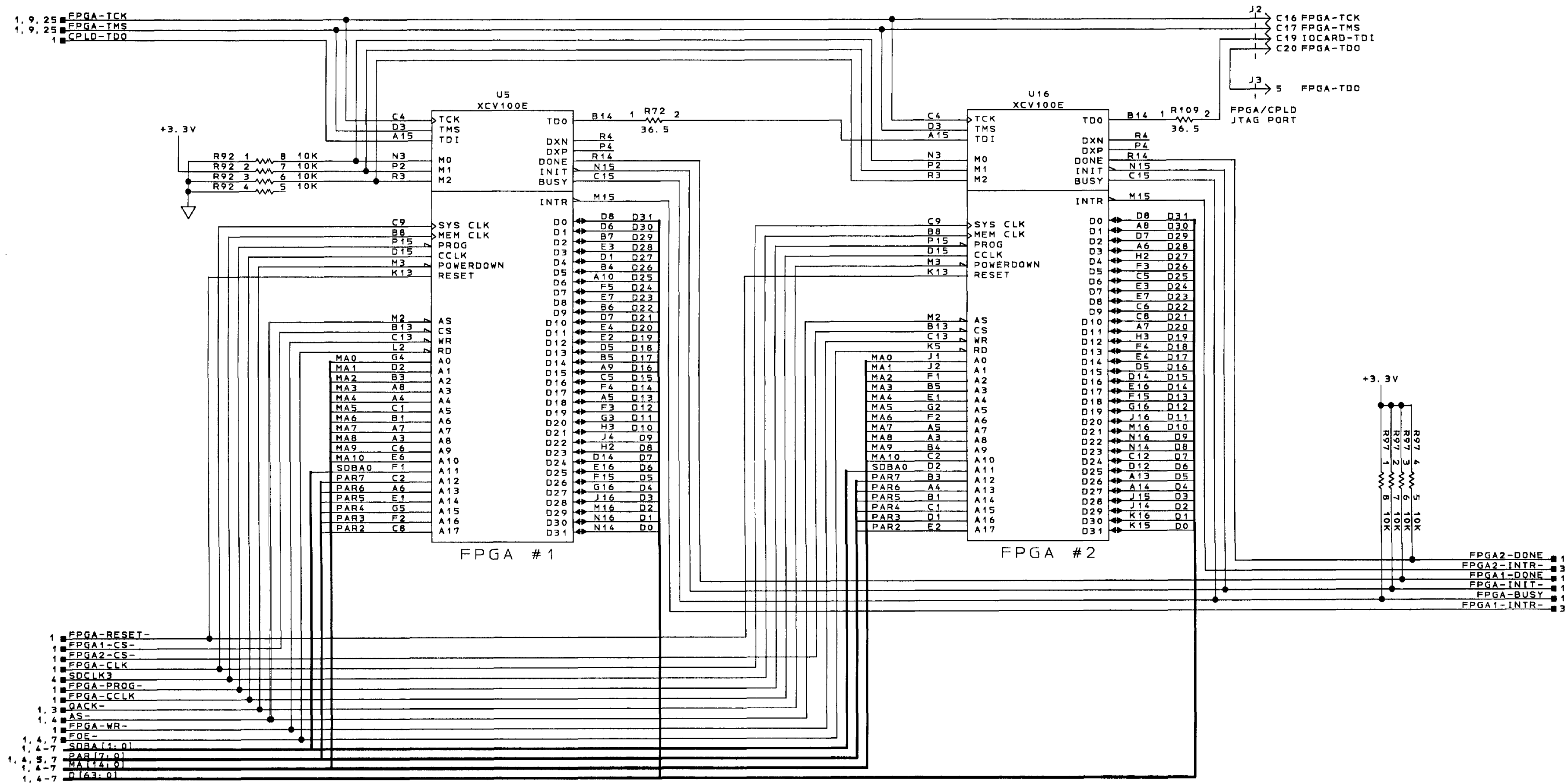


PROCESSOR
FPGA POWER CONNECTIONS
SCHEMATIC DIAGRAM SHEET NO. 10

COMPUTER GENERATED

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
			E	55939	7026230-902	XC
			SCALE		SHEET	12

ZONE		REV		REVISIONS		DATE	APPROVED
XC	1	1	1	U5 AND U16 WERE XCV50E, PL AFFECTED.			
				SEE DWG. SHEET 1.			R. REISBECK



POWERPC FPGA INTERFACE
SCHEMATIC DIAGRAM SHEET NO. 11

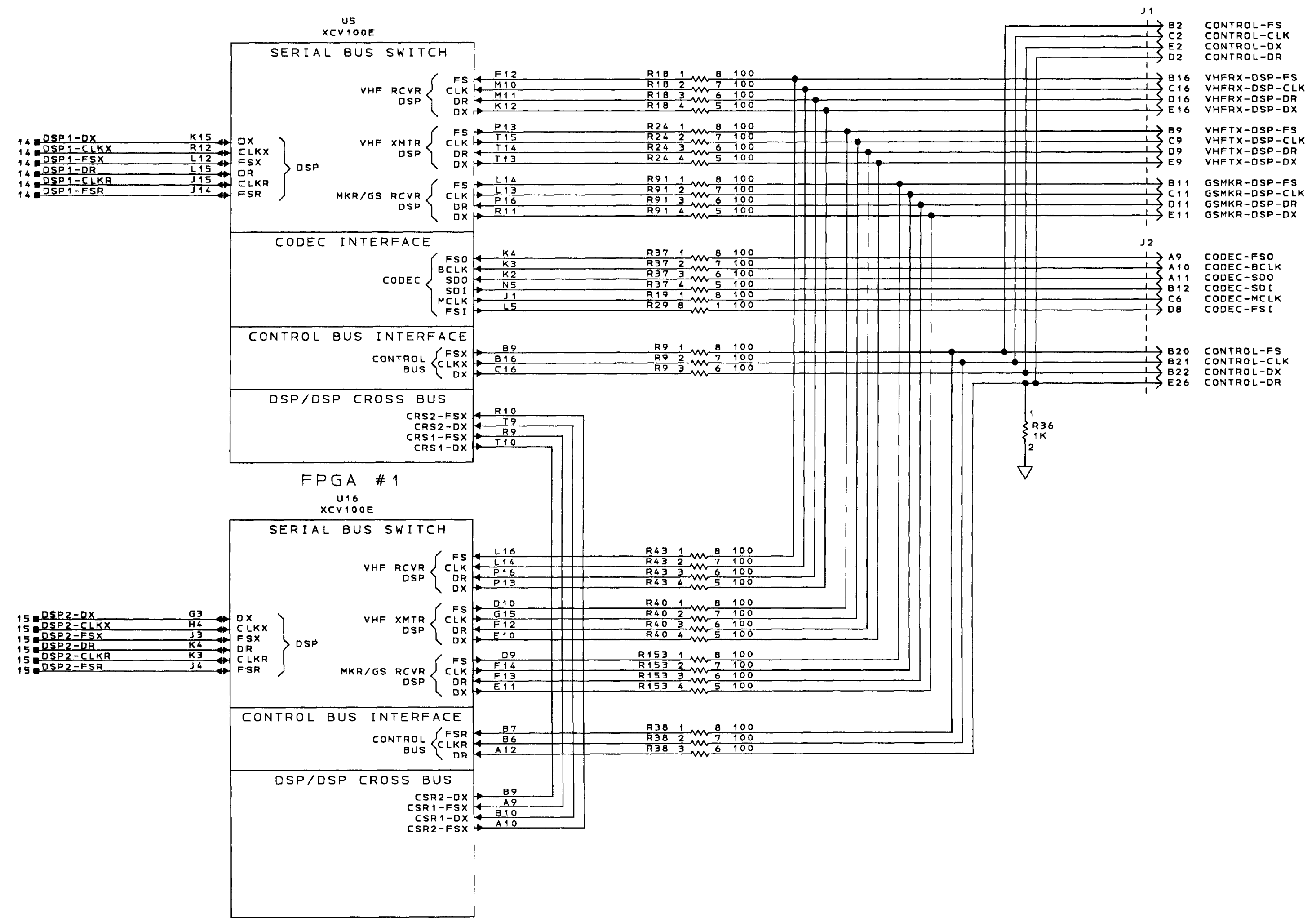
COMPUTER GENERATED

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
		E	55939	7026230-902	XC
		SCALE —			SHEET 13

REV 7026230-902 13

DATE/TIME

REVISIONS			
ZONE	REV	DESCRIPTION	DATE
	XC	U5 AND U16 WERE XCV50E, PL AFFECTED. SEE DWG. SHEET 1.	



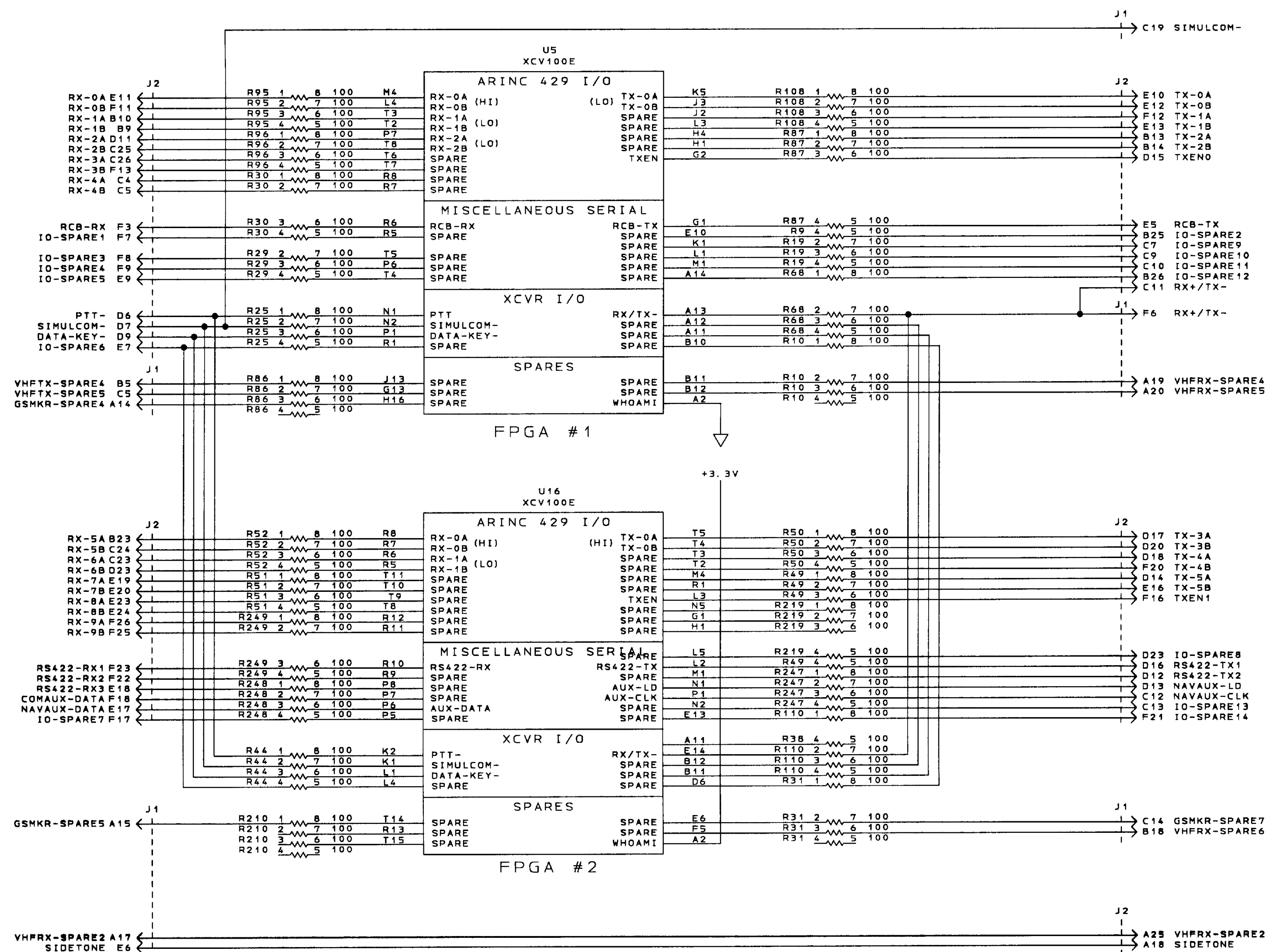
ISSUES
1. ADD PULLDOWN ON CONTROL-DR LINE

SERIAL BUS INTERFACE
SCHEMATIC DIAGRAM SHEET NO. 12

COMPUTER GENERATED

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.		STEEPCASE CODE	DRAWING NO.	REV
	E 55939		7026230-902	XC	14

REVISIONS			
ZONE	REV	DESCRIPTION	DATE
XC		U5 AND U16 WERE XCV50E, PL. AFFECTED. SEE DWG. SHEET 1.	



- ISSUES
1. UPDATE PER LATEST FPGA INFO
 2. CLEAN UP PINS WITH ??

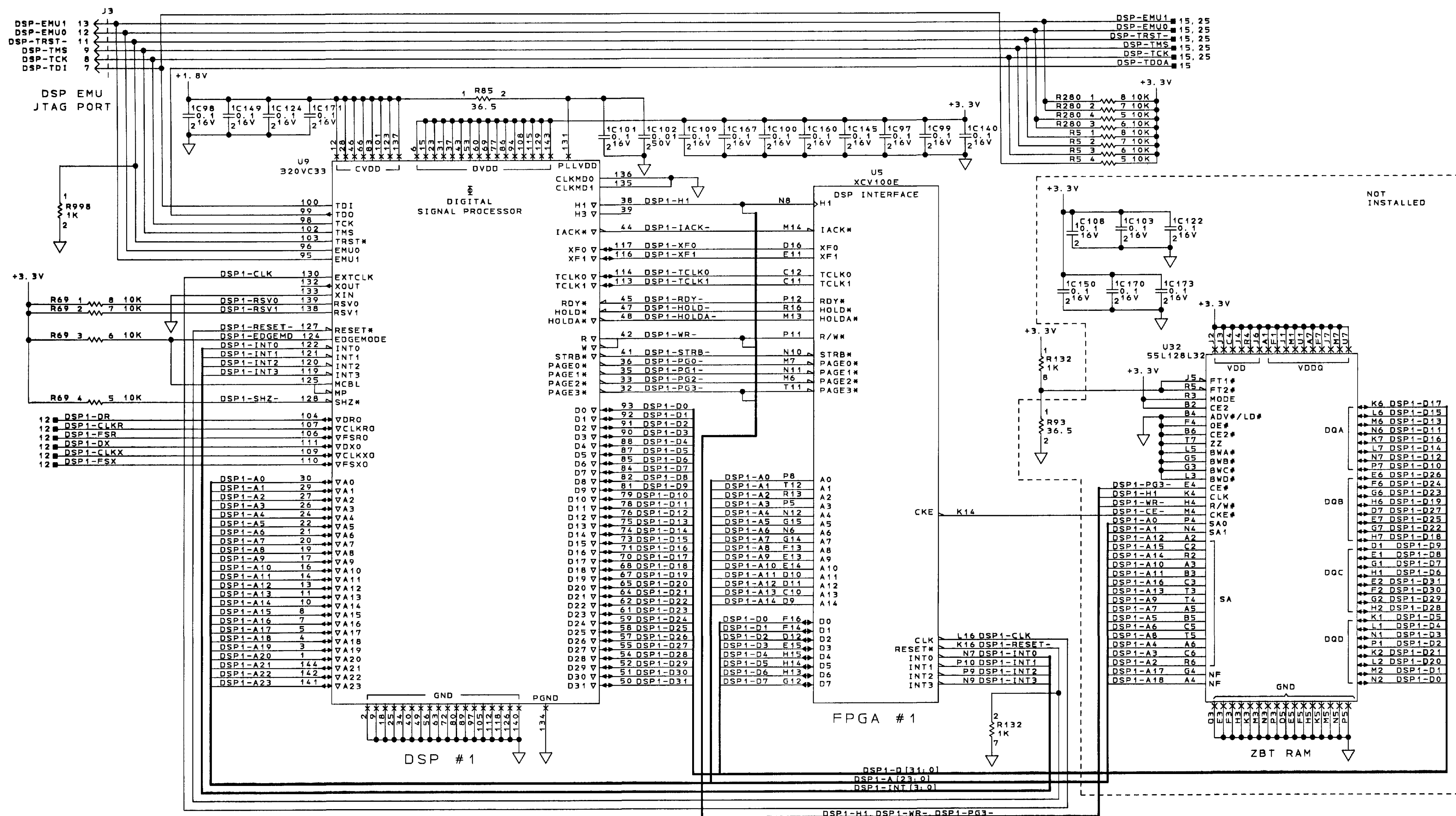
MKR/GS DIGITAL SIGNAL PROC
MISC I/O AND INTERCONNECT
SCHEMATIC DIAGRAM SHEET NO. 13

COMPUTER GENERATED

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
		E 55939	7026230-902	XC

7026230-902 15

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVE
	XC	US AND WAS XCV50E, ADD R998, PL AFFECTED. SEE DWG. SHEET 1.		



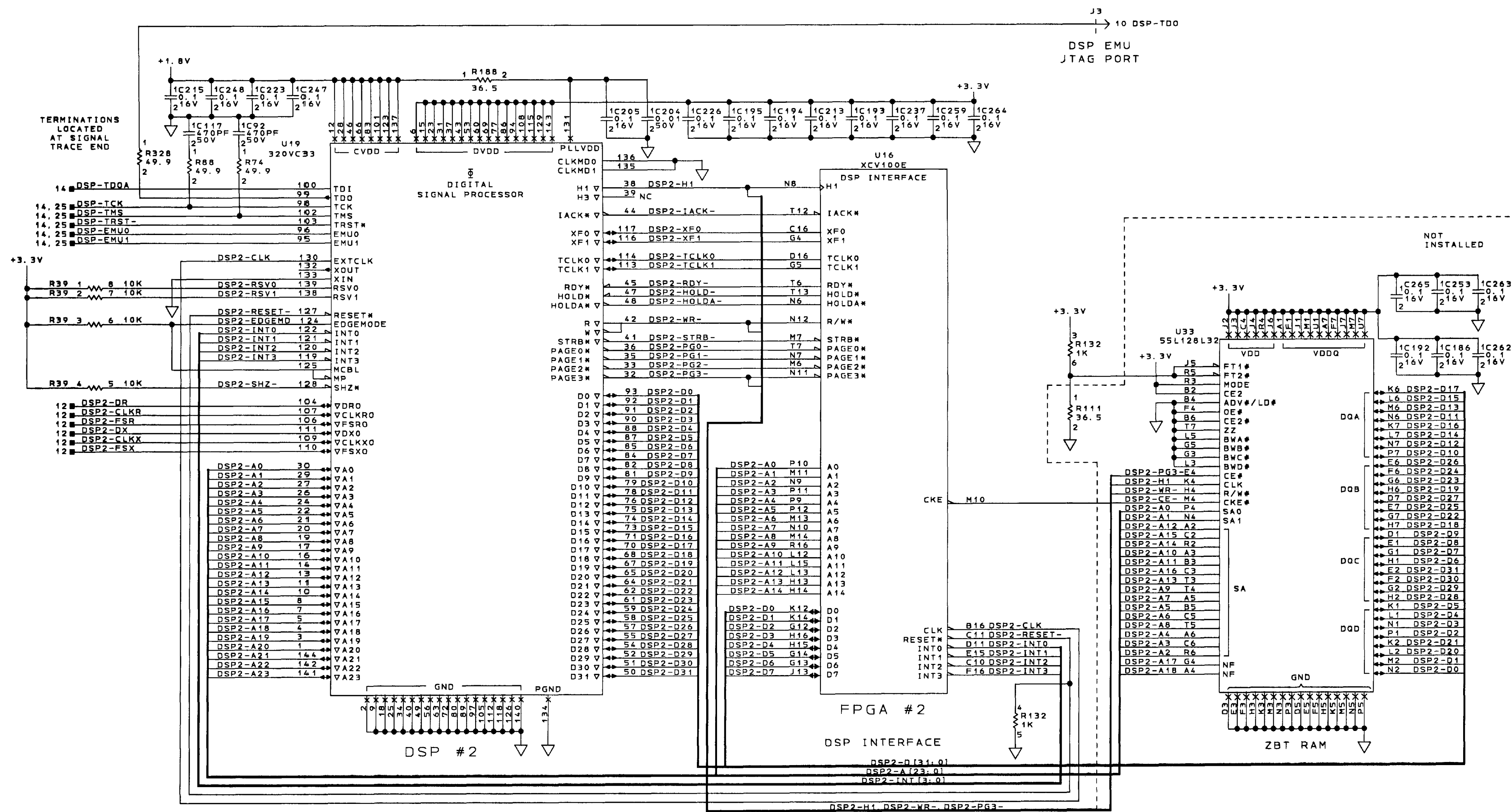
ISSUES

~~1. PULLUPS ON JTAG INPUTS~~

DSP1 DIGITAL SIGNAL PROCESSOR
SCHEMATIC DIAGRAM SHEET NO. 14

COMPUTER GENERATED

REVISIONS		DATE	APPROVED
ZONE	REV	DESCRIPTION	
XC	1	U16 WAS XCV50E, PL AFFECTED. SEE DWG. SHEET 1.	N. REISBECK

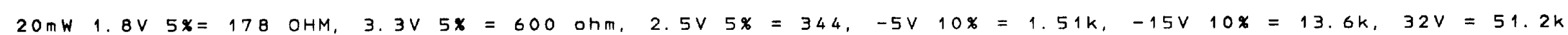


ISSUES
1. TERMINATION NOT INSTALLED??

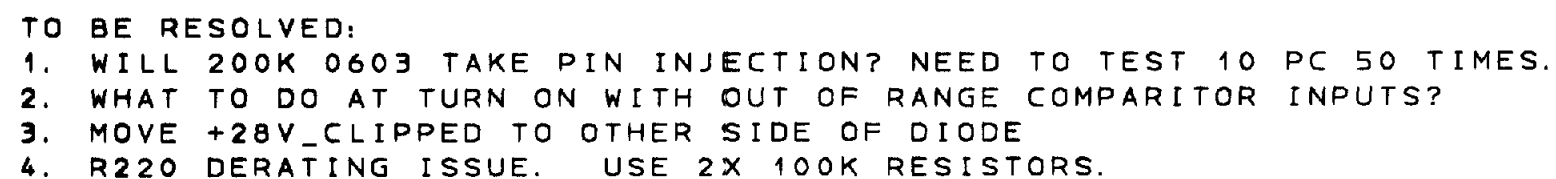
DSP2 DIGITAL SIGNAL PROCESSOR
SCHEMATIC DIAGRAM SHEET NO. 15

COMPUTER GENERATED

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		SCALE	SHEET 17	



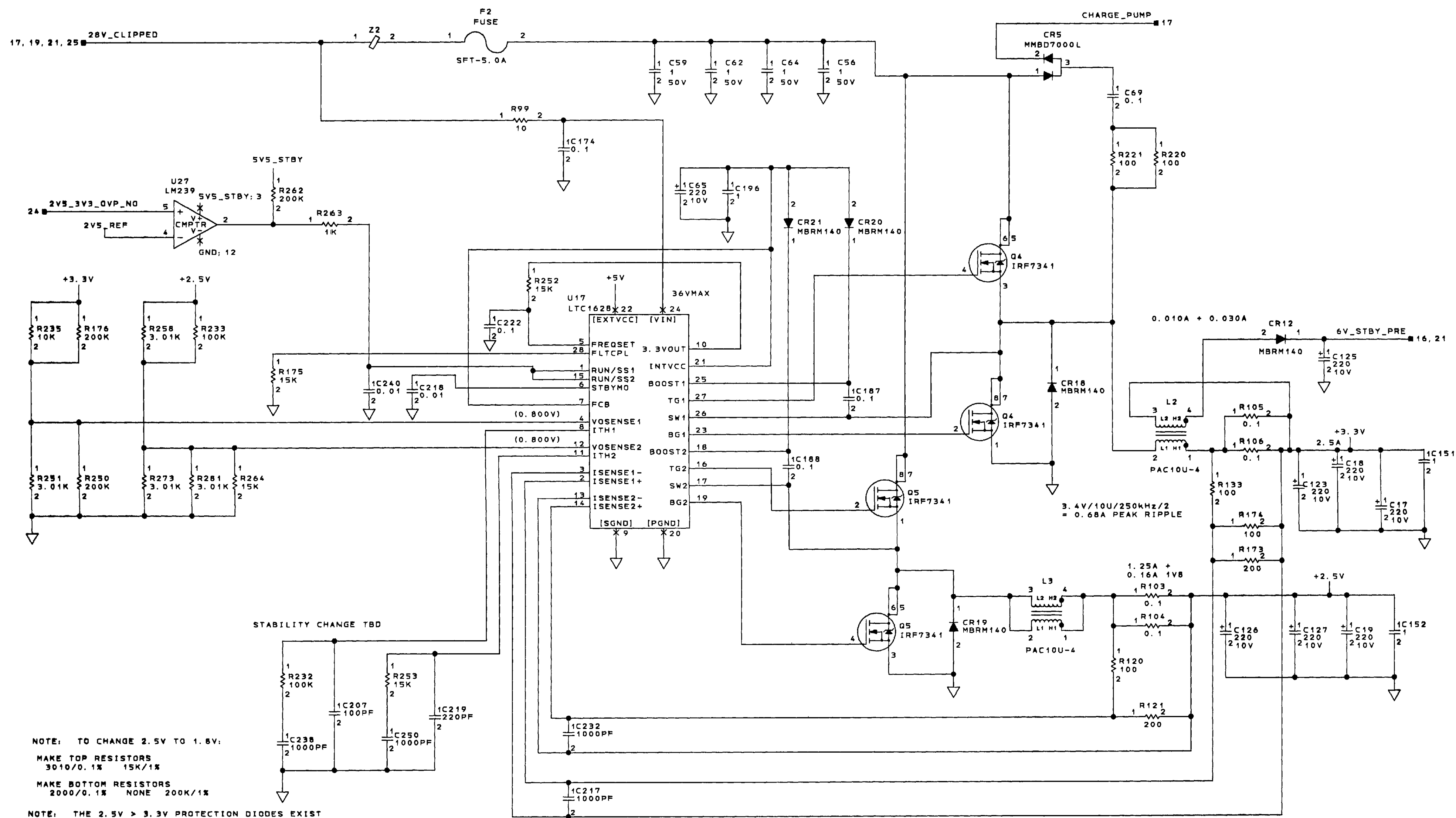
COMPUTER GENERATED



SURGE CONTROL, OFF CONTROL, HOLDUP
SCHEMATIC DIAGRAM SHEET NO. 17

12-26-2001 12:55

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		E	55939	7026230-902	XE
		SCALE			SHEET 19



NOTE: TO CHANGE 2.5V TO 1.8V:

MAKE TOP RESISTORS
3010/0.1% 15K/1%

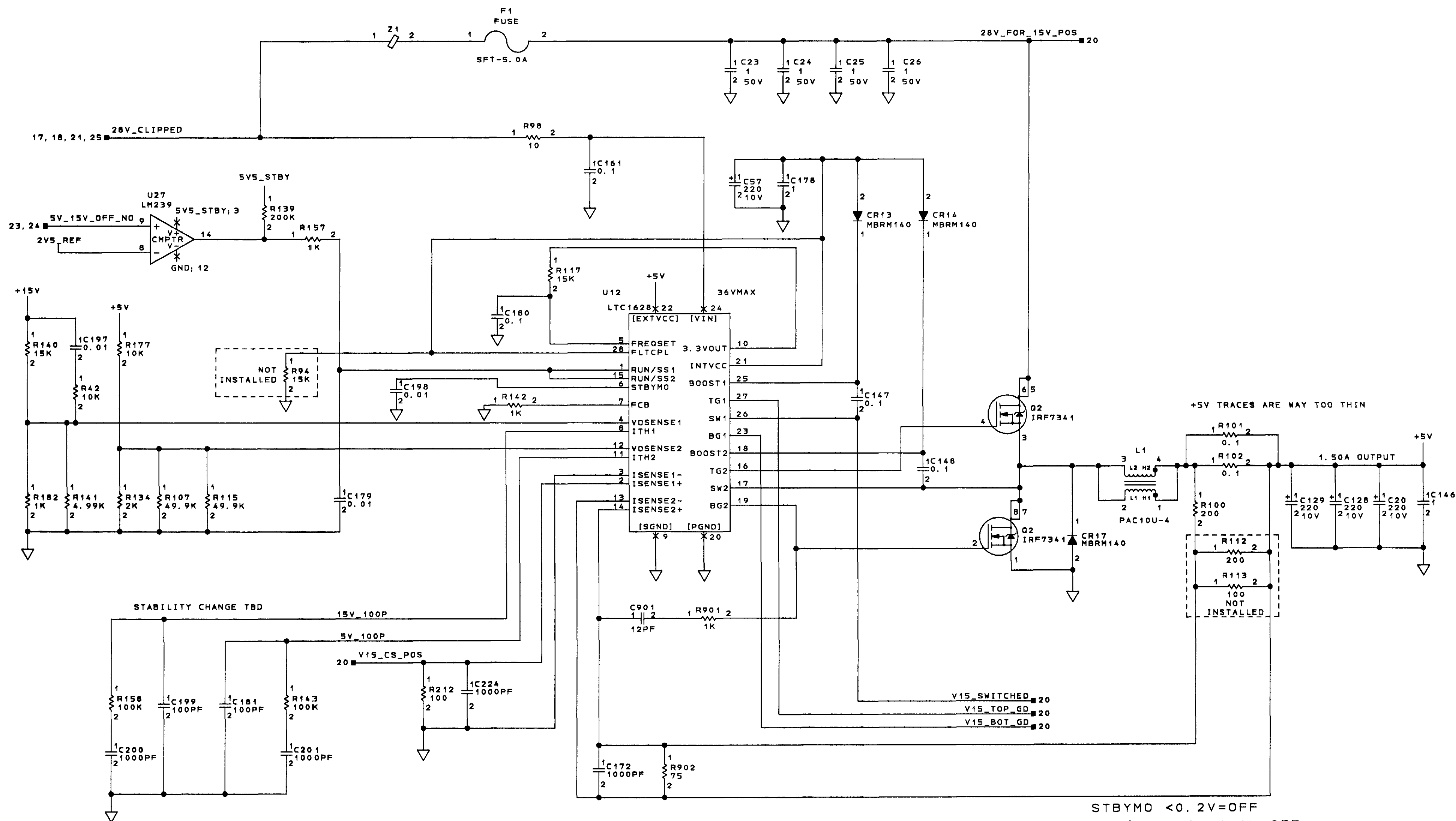
MAKE BOTTOM RESISTORS
2000/0.1% NONE 200K/1%

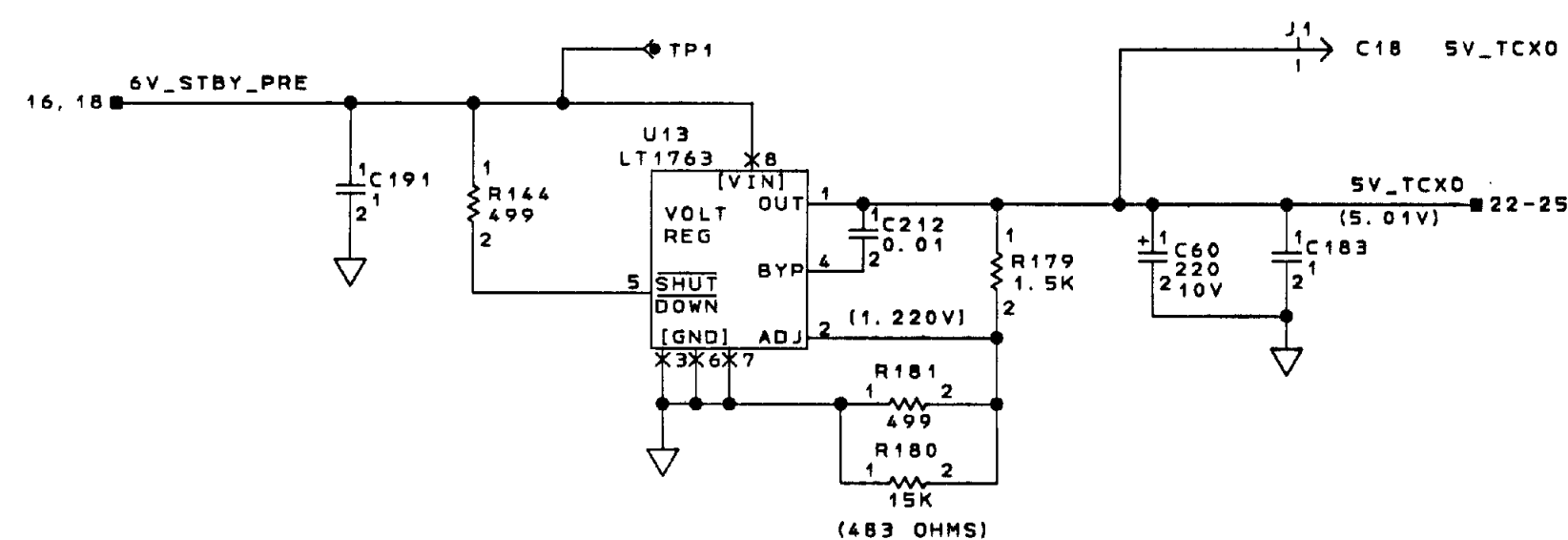
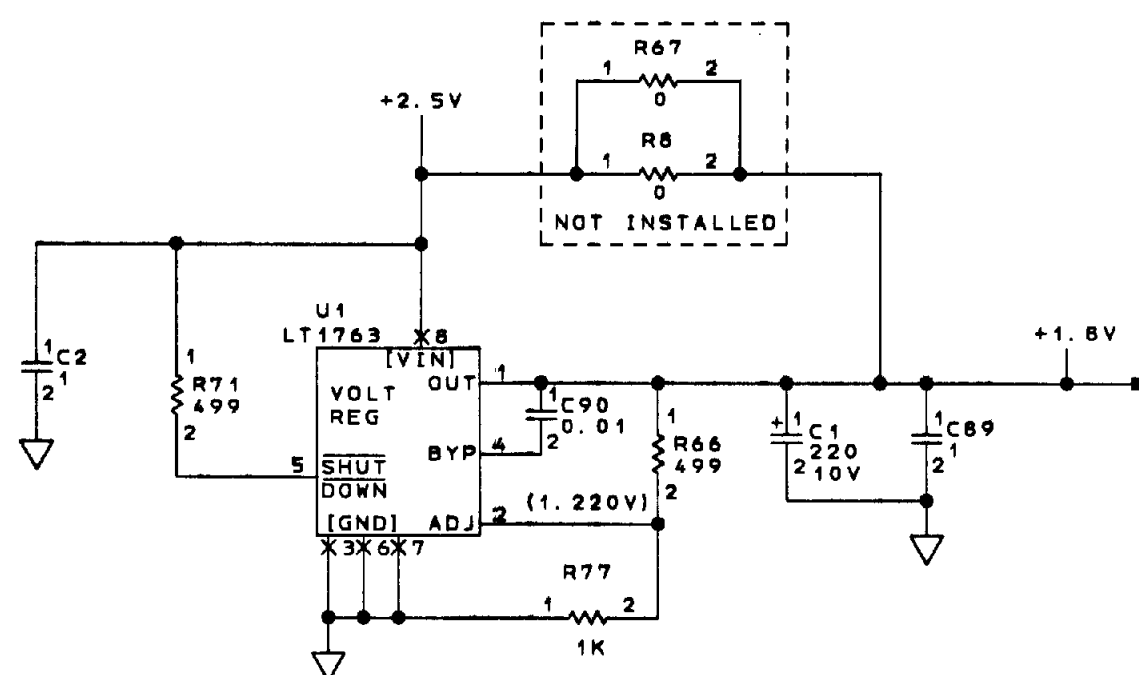
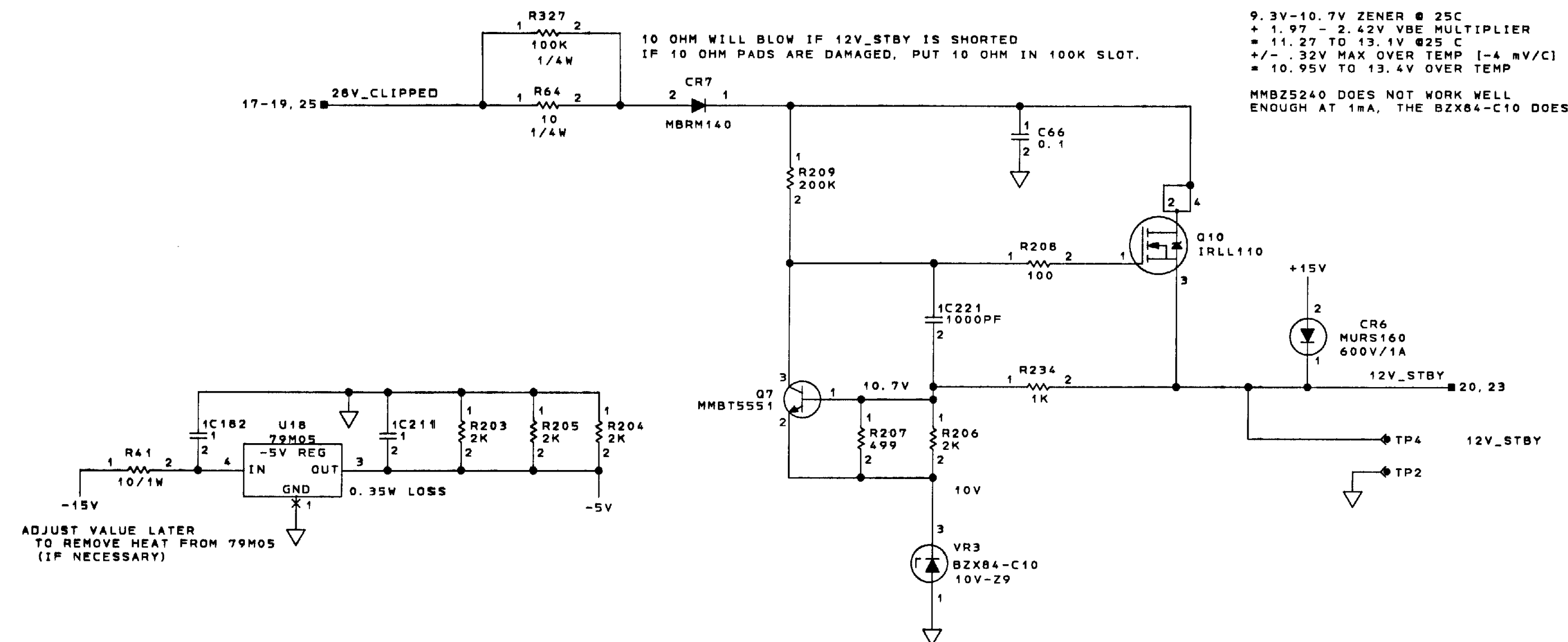
NOTE: THE 2.5V > 3.3V PROTECTION DIODES EXIST
IN THE CPU PORTION OF THE SCHEMATIC.

POWER SUPPLY
+3.3V, +2.5V AND V6_STBY OUTPUTS
SCHEMATIC DIAGRAM SHEET NO. 18

COMPUTER GENERATED

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
	XD	EXTENSIVELY CHANGED PARTS LIST AFFECTED. 25503 SEE DWG. SHEET 1.		R. REISBERG



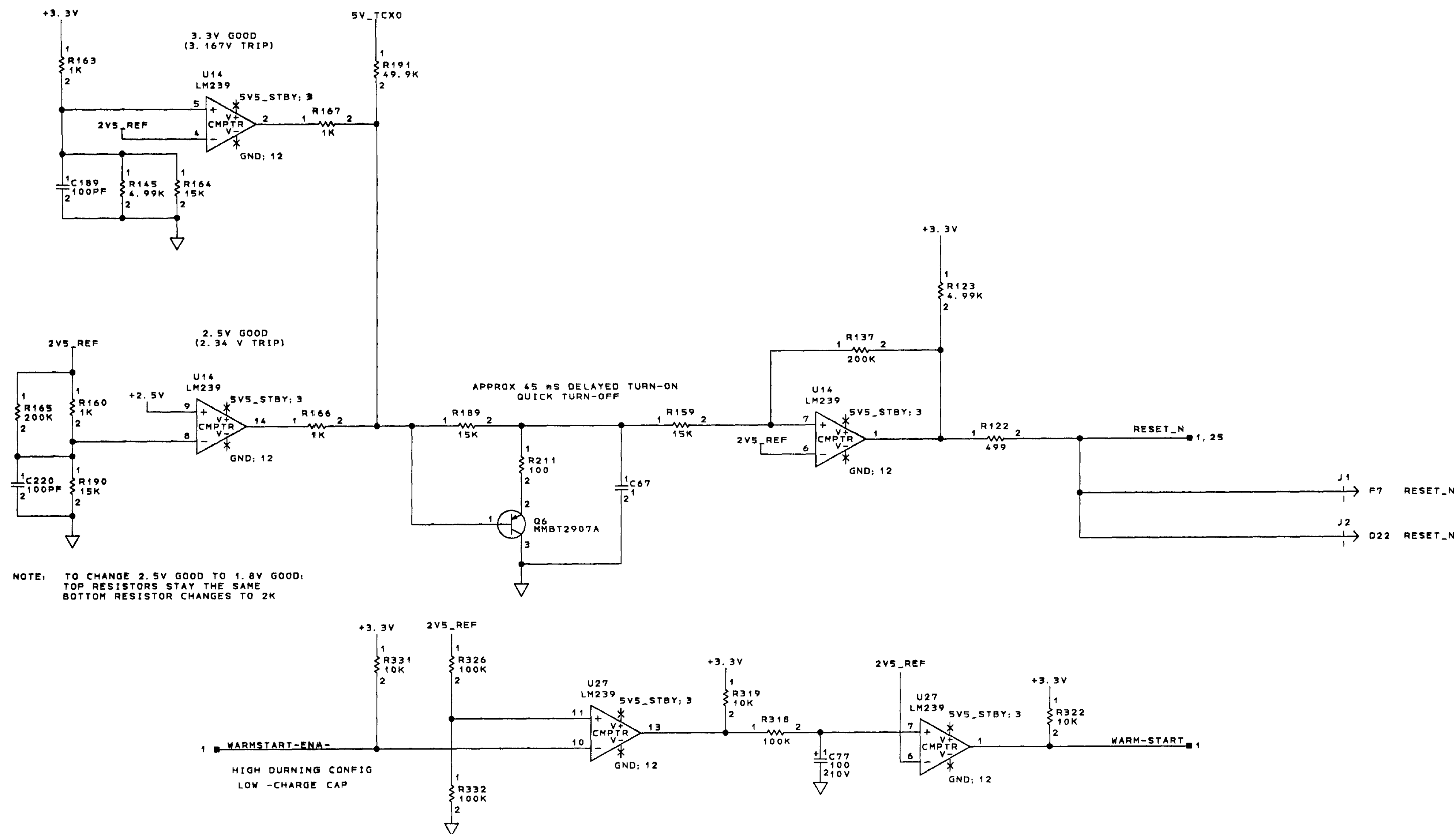


NOTE: IF 5V_TCXD LINEAR REGULATOR SHORTS INPUT TO OUTPUT
IT WILL SHORT TO APPROXIMATELY 6V,
THEREFORE, OVP ON 5V_OSC DOES NOT BUY MUCH PROTECTION.

- TO BE RESOLVED:
1. USE 1.8V SYMBOL HERE (OTHERWISE IT WON'T BE CONNECTED)
 2. RESOLVE MPC8245 CORE VOLTAGE

POWER SUPPLY
5V_OSC, 1.8V, -5V AND 12V_STBY OUTPUTS
SCHEMATIC DIAGRAM SHEET NO. 21

COMPUTER GENERATED



POWER SUPPLY
RESET, WARMSTART
SCHEMATIC DIAGRAM SHEET NO. 22

COMPUTER GENERATED

12-26-2001 12:55

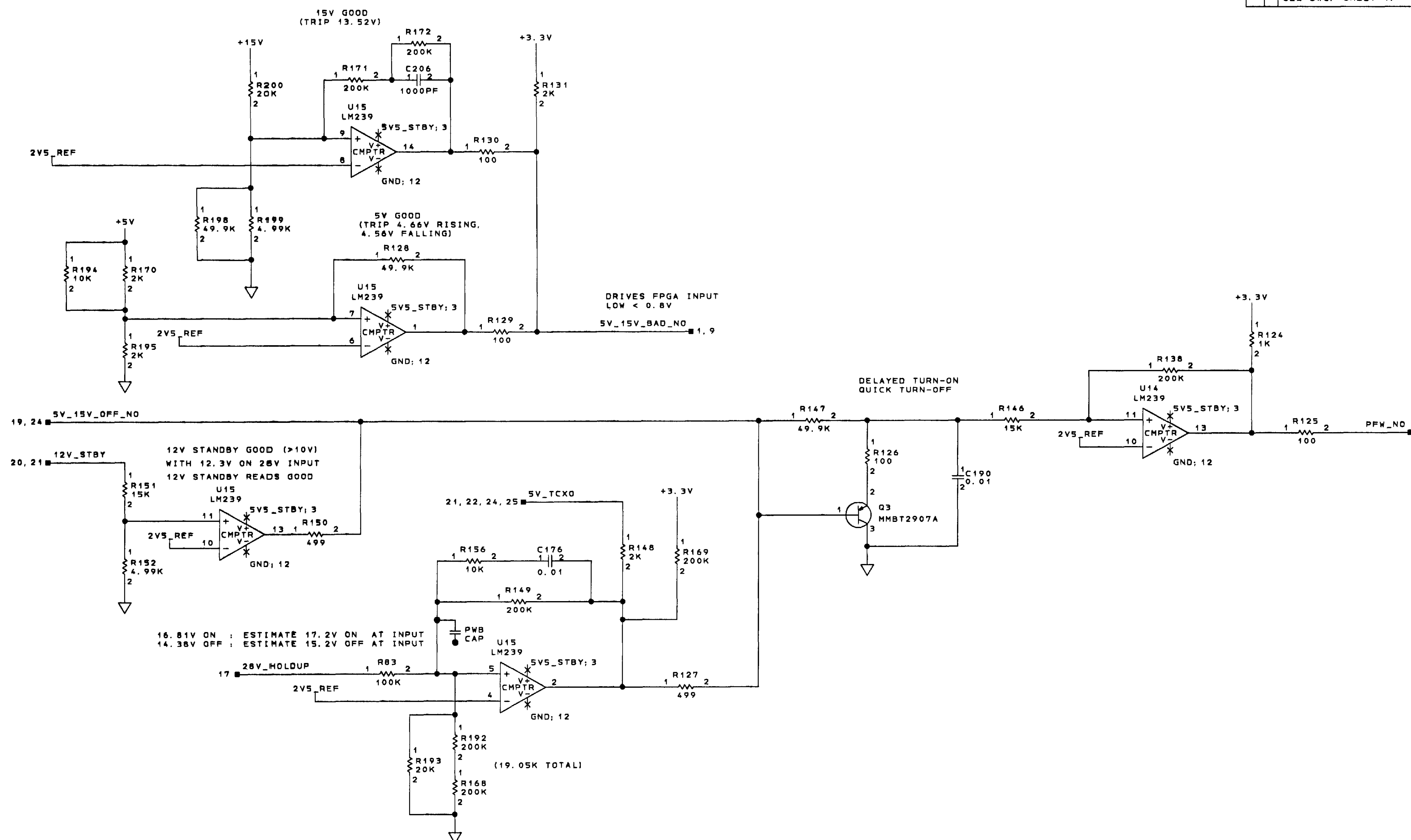
Honeywell

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SIZE	CAGE CODE	DRAWING NO.	REV
E	55939	7026230-902	XB
SCALE		SHEET 24	

7026230-902 24

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
		ADDED "TRIP... 4.66V... FALLING". R131 AND R128 VAL WERE 20K AND 200K RESP. P/L AFFECTED.		
	XD	25503 SEE DWG. SHEET 1.		

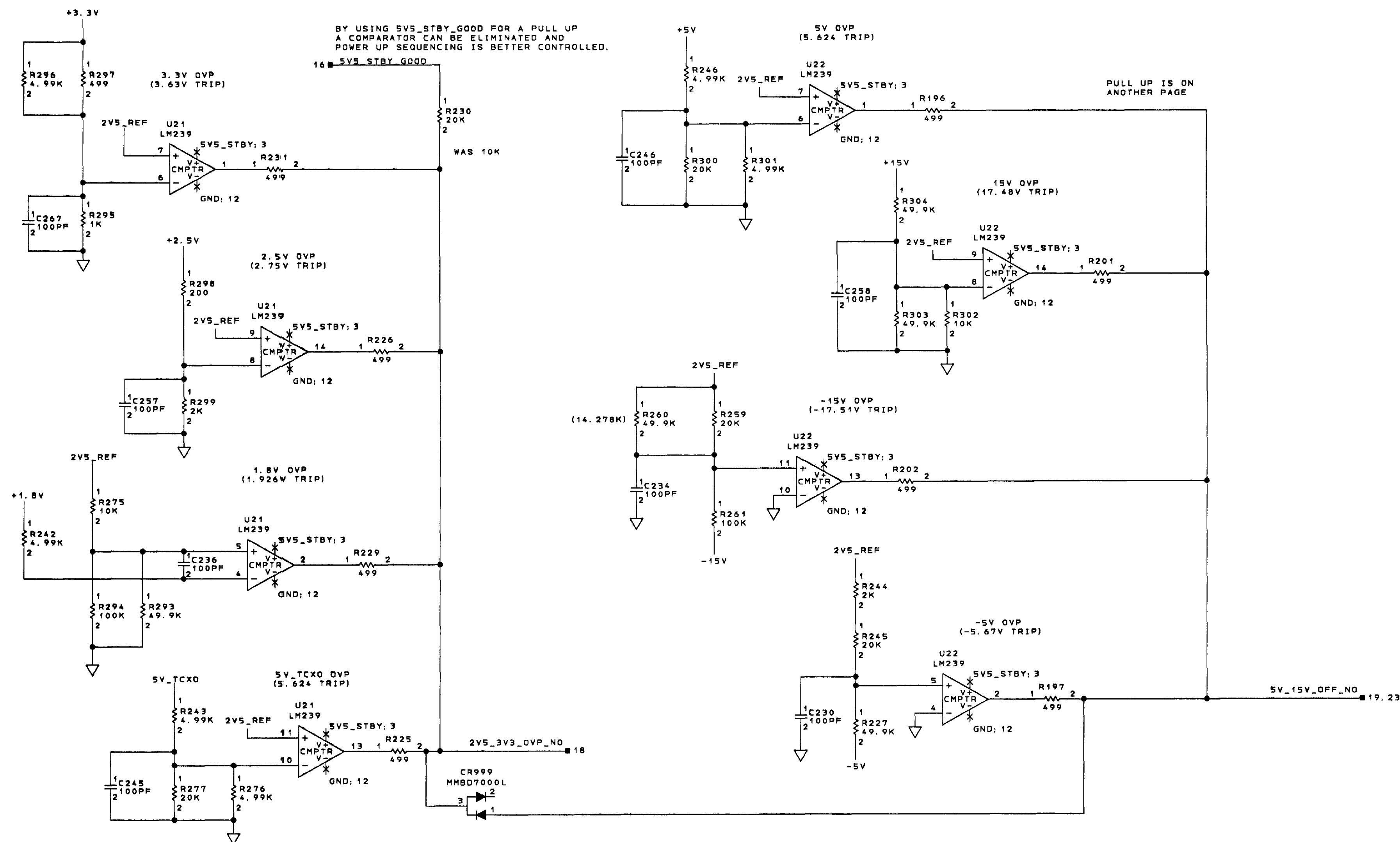


POWER SUPPLY
5V/15V Monitor and Power Fail Warning
SCHEMATIC DIAGRAM SHEET NO. 23

COMPUTER GENERATED

12-26-2001 12:55		SIZE	CAGE CODE	DRAWING NO.	
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.	E	55939	7029230-902	X
		SCALE			SHEET 25

ZONE		REV		REVISIONS		DATE		APPROVED	
XC				ADDED CR999, P/L AFFECTED SEE DWG. SHEET 1.				R. H. LEBRECHT	



5V_TCXO INSTANCE 4 on U6

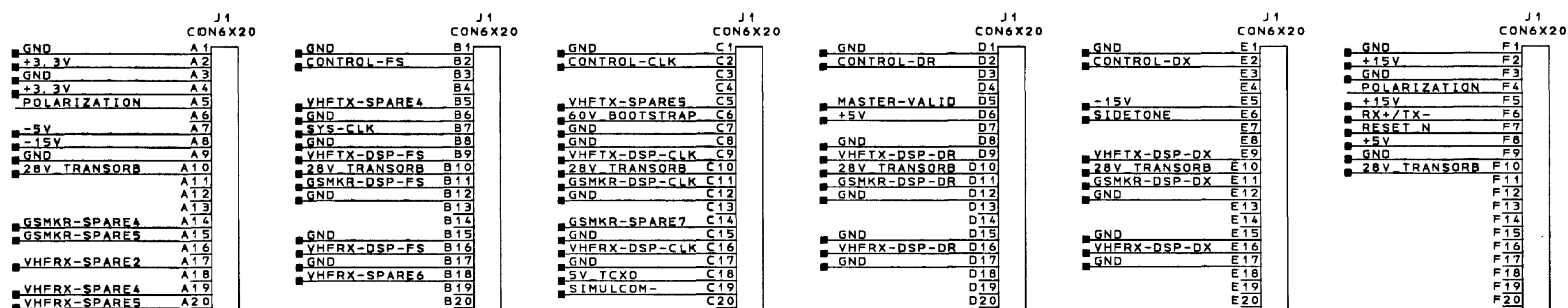
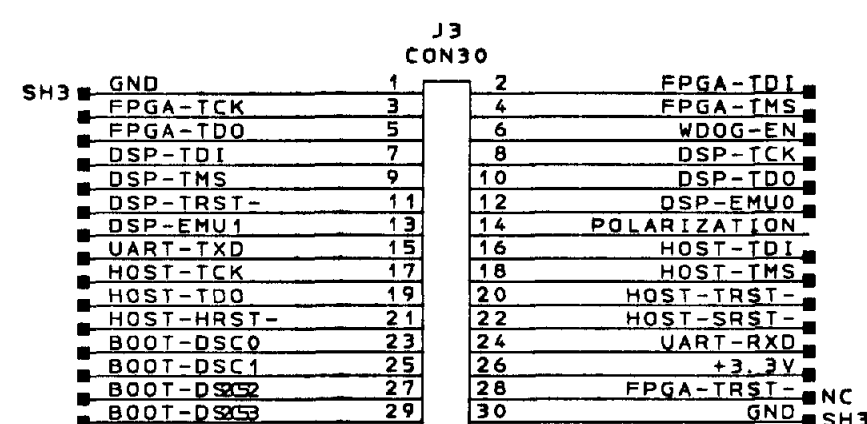
POWER SUPPLY
STBY GOOD AND OVERVOLTAGE PROTECTION
SCHEMATIC DIAGRAM SHEET NO. 24

COMPUTER GENERATED

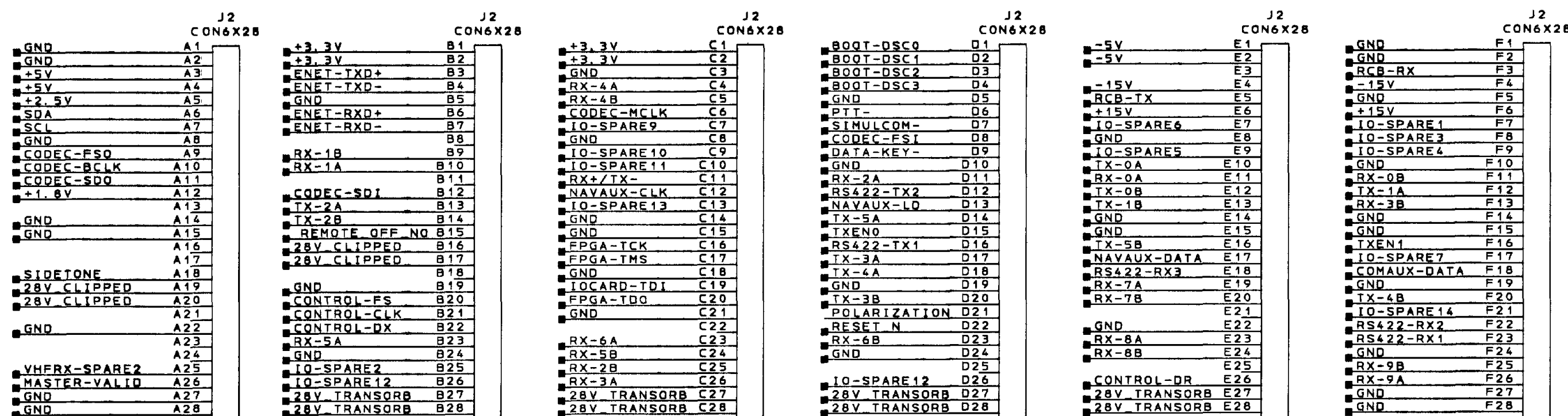
12-26-2001 12:55				
Honeywell	SEE FIRST SHEET FOR CONTRACT NUMBER. USE OR DISCLOSURE OF INFORMATION ON THIS SHEET IS SUBJECT TO THE RESTRICTIONS ON THE FIRST SHEET OF THIS DOCUMENT.	SIZE	CAGE CODE	DRAWING NO.
		E	55939	7026230-902
		SCALE —	SHEET 26	

REV 7026230-902 26

DATE 12-26-2001



CONNECTOR TO VHF RCVR CARD



CONNECTOR TO I/O CARD

ISSUES

1. LOTS OF SCHEMATIC MARKUPS HERE
2. DELETE CLK-EN
3. DELETE VDD-SENSE
4. POLARIZING PIN ON J3
5. ADD UART TO JTAG PORT
6. ADD 2.5V AND 1.8V TO J1 OR J2

CONNECTORS
SCHEMATIC DIAGRAM SHEET NO. 25

COMPUTER GENERATED

I/O (MEZZANINE) CCA

INPUT
28V D0160D CAT BZ
< 18V START
< 16V RUN
22.0 TO 30.3V NORMAL OPERATION
20.5 TO 32.2V ABNORMAL OPERATION
18V EMERGENCY, 80V SURGE
1.4V RMS RIPPLE 1K TO 15KHz
THREE 5A PINS ON INPUT CONNECTOR.
10A BREAKER

EMI FILTER, 2 POLE,
~200KHZ, ~3 ohm, ~1 Q
86V 3000W TRANSORB.

OPTIONAL SYNCHRO DRIVER
20 W MAXIMUM, 0 W MINIMUM
100 mA RMS RIPPLE CURRENT

CPU/PSU

28V_TRANSORB

4A MAX (PA DRAWS LESS CURRENT
WHEN SUPPLY IS DRAWING 4A)

4 POLE, LOW Q EMI FILTER
0.6W LOSS (EST)

ACTIVE CLAMP
35V WC MAX, 32V NOM
NEEDS HEATSINK
0.96W LOSS
OFF OFF
6.1V/8.8V
REMOTE_OFF_N
OVER_STRESS
(TWO 80V SURGES)

28V_HOLDUP
35V
1.6W LOSS
HOLD UP
CAPS

LINEAR
0.150W LOSS

DUAL BUCK REGULATOR
LTC1628
3.4W LOSS
FLYBACK
CONVERSION
0.83W LOSS
BUCK

LM79M05
LINEAR
0.3W LOSS

DUAL BUCK REGULATOR
LTC1628
1.27W LOSS
BOTH BUCKS

LT1763
LINEAR
0.11W LOSS
BYPASS
JUMPER

29.23W OUT
35.5W FROM 28V_HOLDUP
AT 28V ESTIMATE 36.3W INPUT
AT 15V INPUT ESTIMATE 38W INPUT

OVER VOLTAGE
TURN ON LOGIC
5V5_STBY < 10. x = OFF
12V_STBY > 17.5 = OFF
+15 > 5. x = OFF
+5V < -17. x = OFF
-15V < -5. x = OFF
PFW_N < 2.5V = OFF
3.3V < 2.5V = OFF (SEQUENCING)
5V_TCXO > 5. x = OFF
+3V3 > 3. x = OFF
+2V5 > 2. x = OFF
+1V8 > 2. x = OFF
5V5_STBY_GOOD < 3. x = OFF
OR
5V_15V_OFF_NO
OR
2V5_3V3_OFF_NO

LINEAR REGULATOR
0.154W LOSS
5V5_STBY
5V5_STBY_GOOD
6V_XXXX

SHARED SIGNALS
28V_HOLDUP < 14. x = WARN
PFW_N
RESET_N
DELAY RISE,
NO DELAY FALL
+3.3V < 3.1 = BAD
+2.5V < 2.3 = BAD
OR
+15V < 13. x = BAD
+5V < 4. x = BAD
PFW_N < 2.5V = BAD
NOR
5V_15V_GOOD_N

28V_HOLDUP
5V_15V_OFF_NO
OFF
+15_0.51A
-15_1.140A
+5_1.5A
7.65W
2.25W
7.5W

-15
-5_0.030A
0.15W

28V_HOLDUP
2V5_3V3_OFF_NO
OFF
+5V_OSC_10mA
+3V3_2.5A
+2V5_1.25A
+60V BOOTSTRAP
0.05W
8.25W
3.13W
0.10W

+2V5
+1V8_0.15A
0.27W

+66_BOOTSTRAP 28V_TRANSORB

51K

1mA, 1 PIN

5A, 4 PINS

RF POWER AMP

ACTIVE CLAMP
35V WC MAX, 32V NOM
NEEDS HEATSINK

+15 +5 5V_OSC 3V3 -5 -15
2 PINS EACH
GND PFW_N RESET_N
8 PINS 1 PIN 1 PIN

PA

POWER SUPPLY
VDR POWER SYSTEM BLOCK DIAGRAM
SCHEMATIC DIAGRAM SHEET NO. 26

COMPUTER GENERATED

12-26-2001 12:55
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
E 55939
DRAWING NO.
7026230-902
SHEET 28
