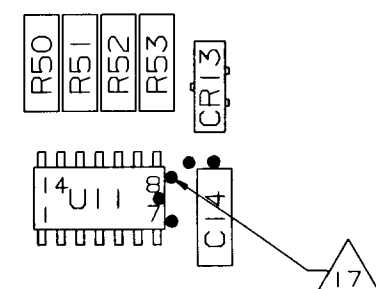
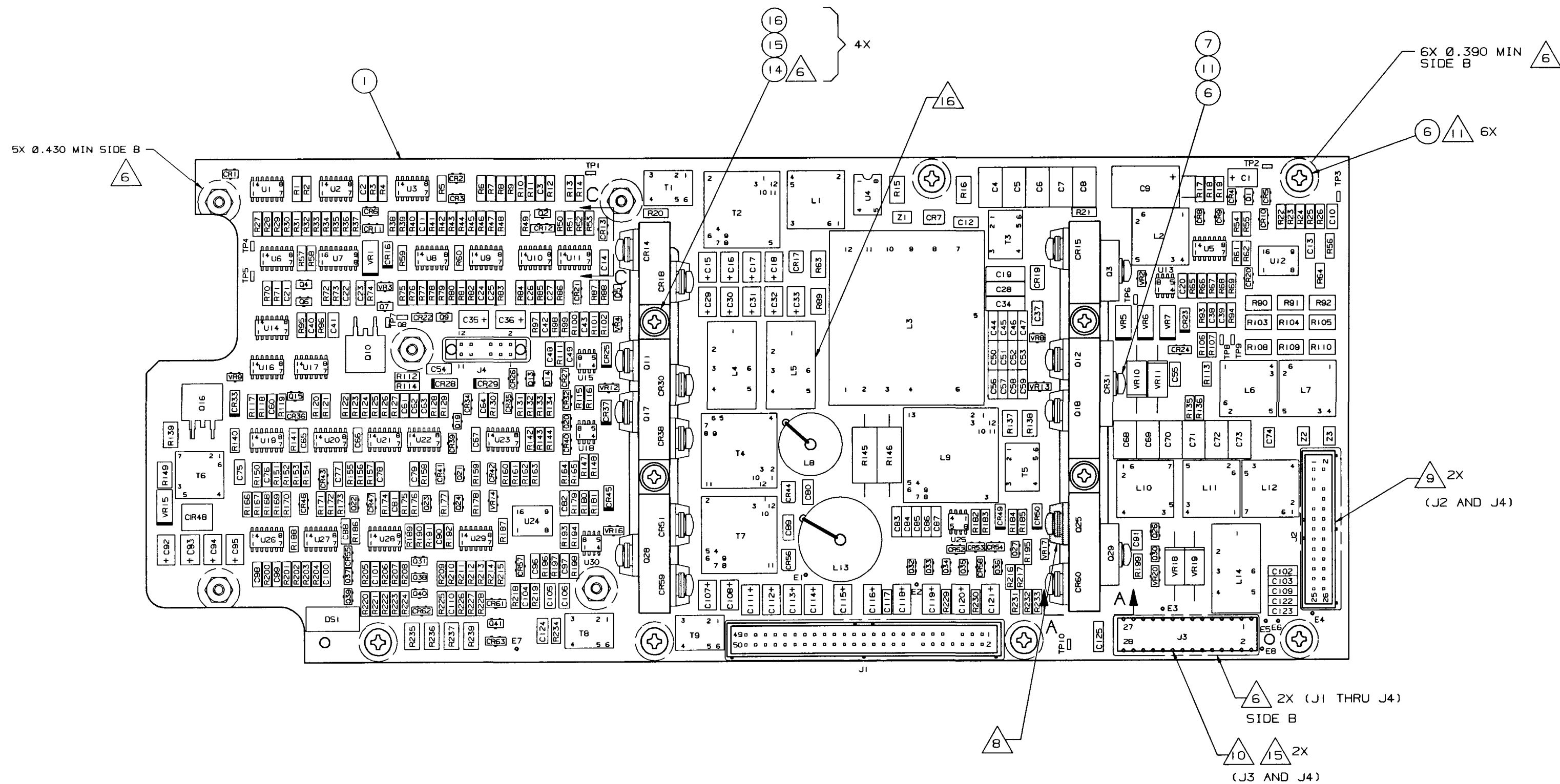
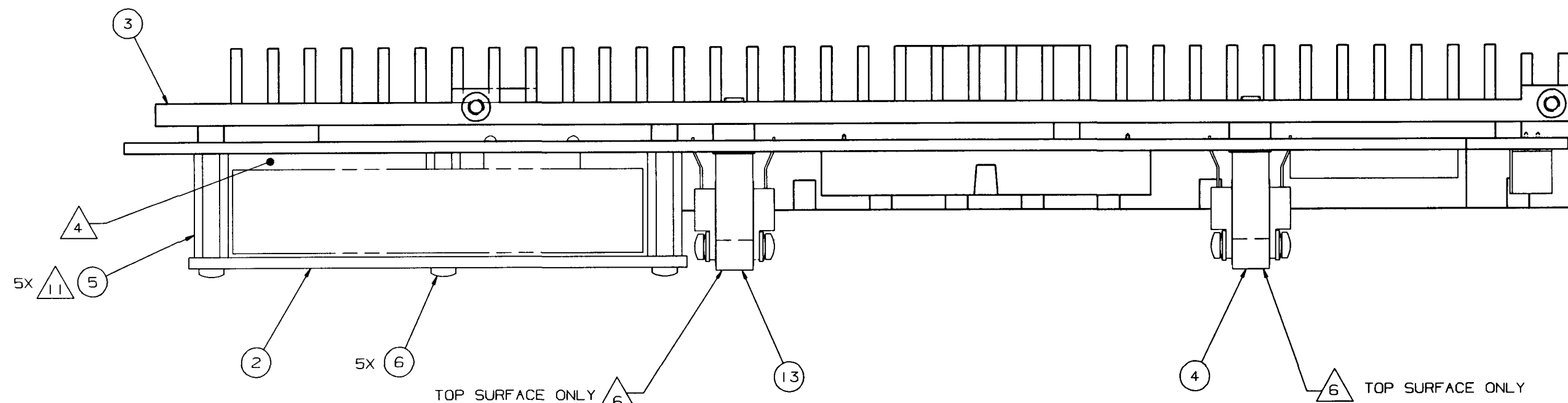


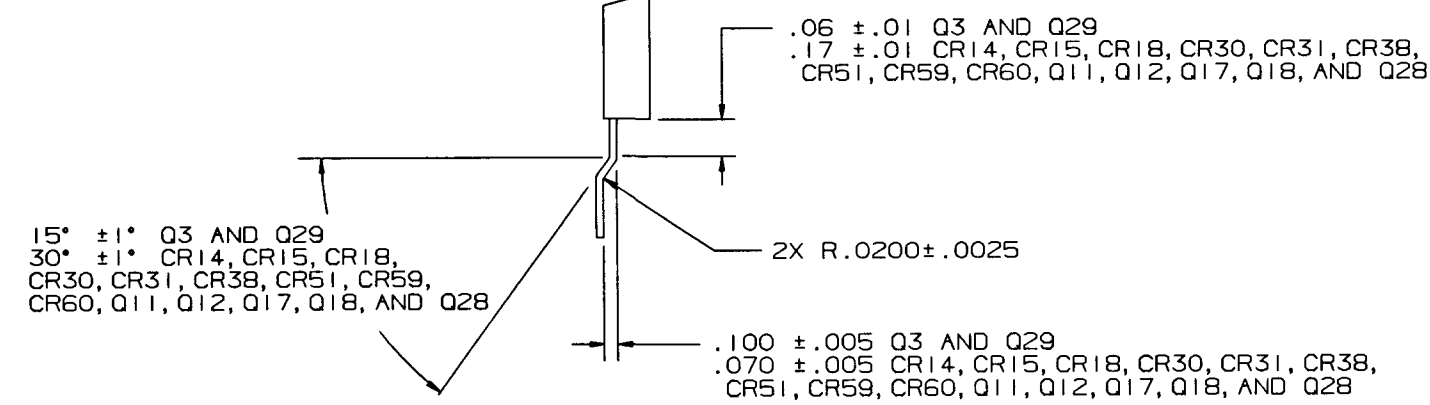
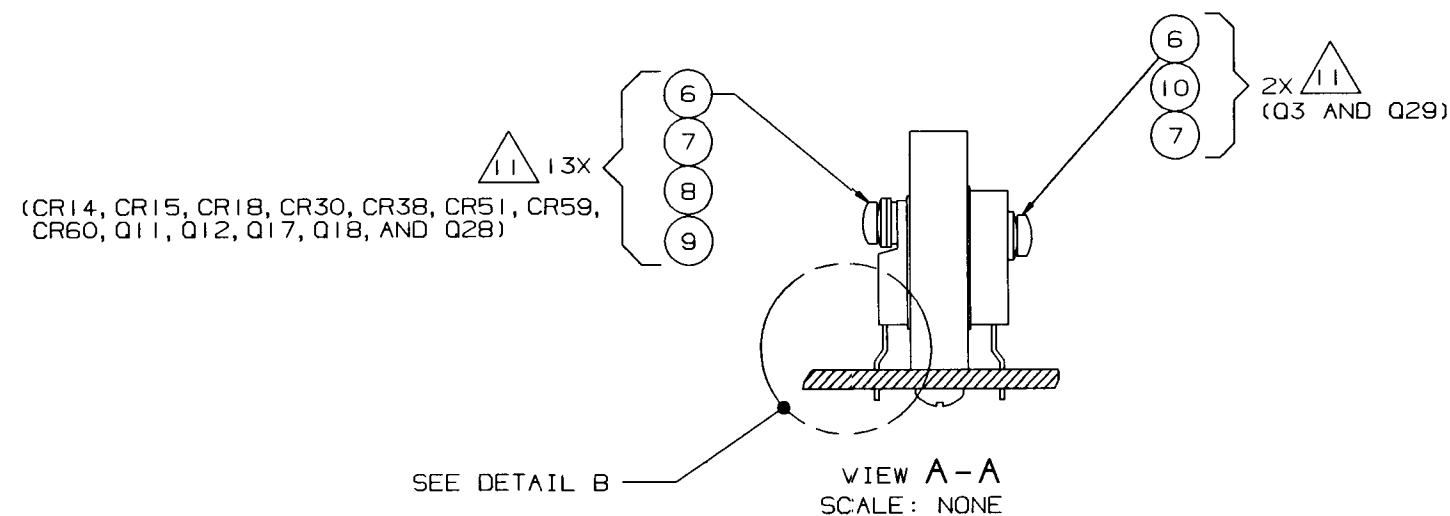
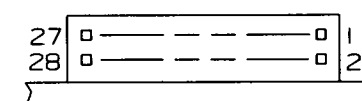
REVISIONS				DATE	APPROVED
ZONE	REV	DESCRIPTION			
A		UPD TO VIEW, ADD NOTE 16 CALLOUT. J4 WAS J1. TEXT: J3 AND J4 WAS J1 AND J3. ADDED SECTION C-C.	25526 (M)	3 Jul 01	P. POLZIN
		SEE SHEET 1			



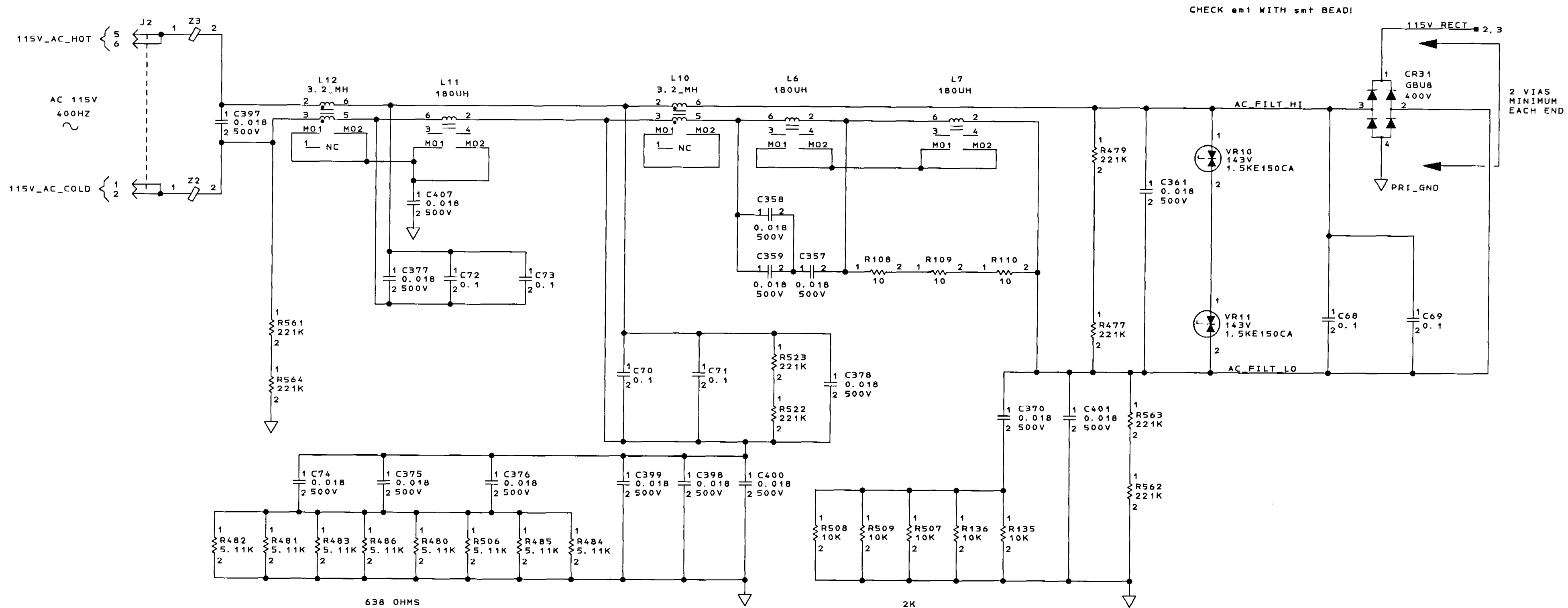
SECTION C-C
SCALE: NONE

VIEWING SIDE B

(ITEMS 2 AND 3 NOT SHOWN)



DETAIL B
SCALE: NONE



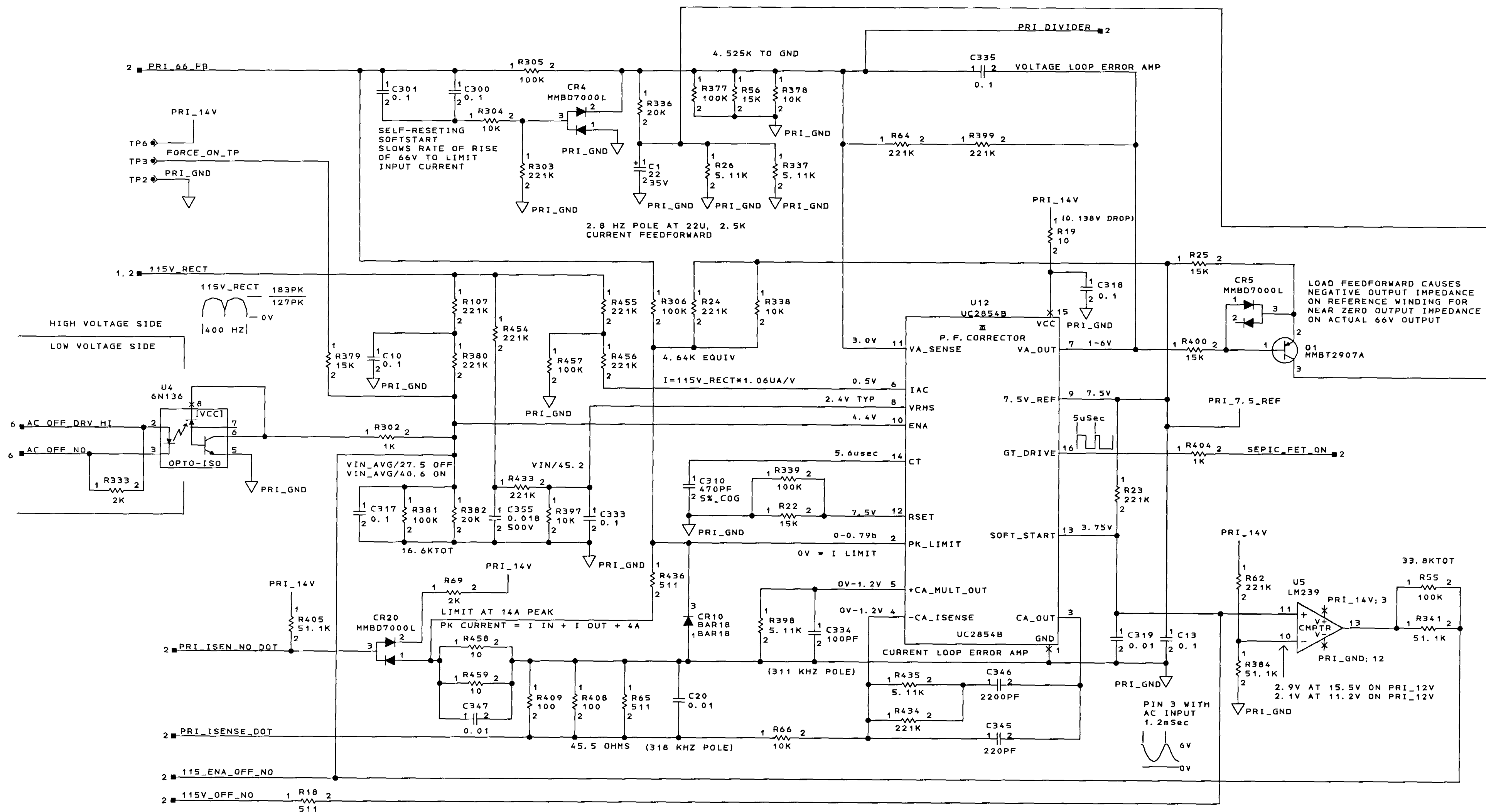
NOTES:
UNLESS OTHERWISE SPECIFIED:
1. ALL CAPACITANCE VALUES ARE IN MICROFARADS.
2. ALL RESISTANCE VALUES ARE IN OHMS.
3. ALL INDUCTANCE VALUES ARE IN MICROHENRIES.
4. PARTIAL REFERENCE DESIGNATIONS ARE SHOWN;
FOR COMPLETE DESIGNATIONS PREFIX PART
DESIGNATION WITH SUBASSEMBLY DESIGNATION.
5. INTERPRET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

115V EMI FILTER
POWER SUPPLY, A3

SCHEMATIC DIAGRAM SHEET NO. 1 OF 19

COMPUTER GENERATED

JUMPER TP6 TO TP3 AND
JUMPER TP8 TO TP9 TO MAKE
SUPPLY START WITH 60-80V
DC ON 115V AC INPUT.



THE ENA PIN (10) TRIPS BETWEEN 2.5-2.8V WHICH IS 74VRMS TO 85VRMS ON 115V INPUT. THE ENA HAS 0.4 TO 0.6V OF HYSTERESIS. THIS IS NOT ENOUGH HYSTERESIS BECAUSE THE CIRCUIT TURNS ON AT THE PEAK OF INPUT AC, BUT TURNS OFF ON THE AVERAGE. THE SOFT START COUPLING ADDS 40V PEAK TO MAKE UP FOR THE DIFFERENCE.

AVERAGE CURRENT THROUGH CR20
EQUALS AVERAGE INPUT CURRENT/100
PEAK CURRENT THROUGH CR20 EQUALS
(INPUT AMPS + OUTPUT AMPS)/100

$$V(PIN 5) = \frac{R(PIN 5) * I(PIN 6) * (V(PIN 7) - 1.5V) * V}{(V(PIN 8))^2}$$

I PIN 6 = V RECT AC * 1.06 UA
TO ADJUST MAX OUTPUT POWER,
ADJUST CURRENT SENSE RESISTOR
AND FEEDBACK LOOPS ONLY

POWER FACTOR CONTROL CIRCUIT
SCHEMATIC DIAGRAM SHEET NO. 3

COMPUTER GENERATED

4-4-2001_8: 46

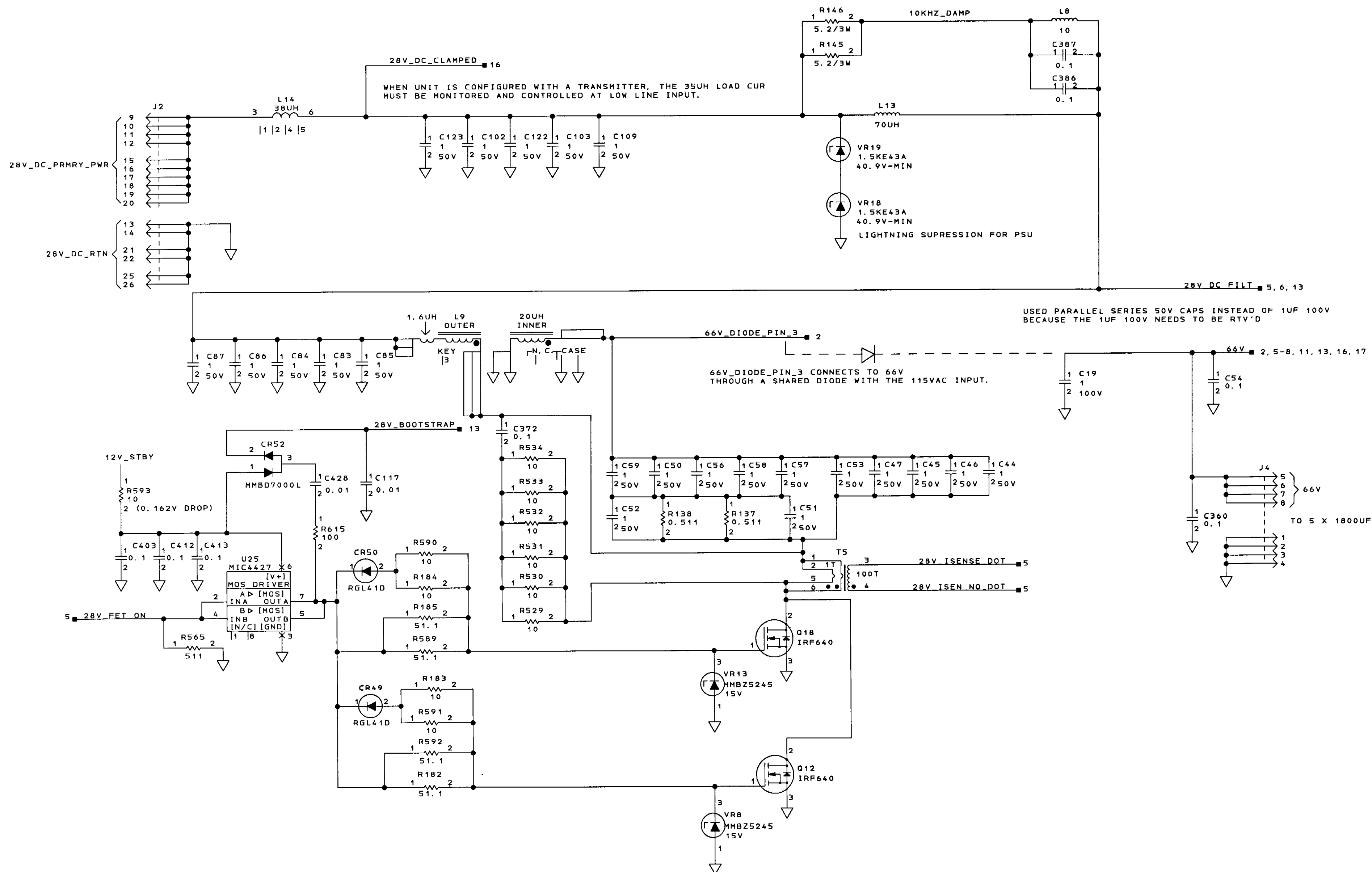
Honeywell

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	7519230-902	-

7519230-902 3RD 6

UNIT MUST BE ATTACHED TO AT LEAST ONE 1800UF 75V CAP ON 66V 0
CAP_INTERLOCK ON SHEET 6 KEEPS THE DAMAGE FROM OCCURRING.

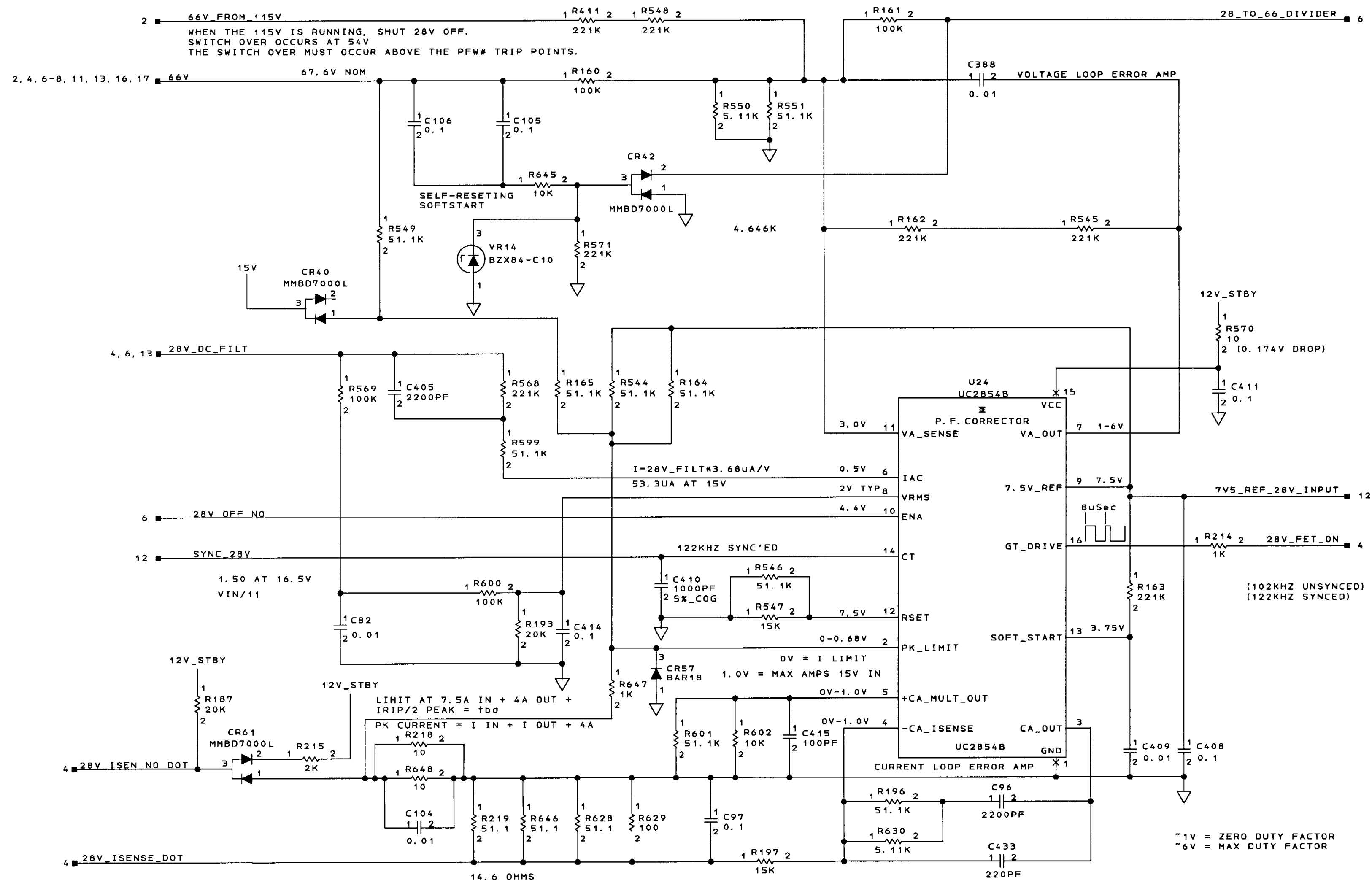


DC INPUT POWER STAGE AND FILTER
SCHEMATIC DIAGRAM SHEET NO. 4

COMPUTER GENERATED

DATE TIME=4-4-2001_8:46

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 CASE CODE E 55939	DRAWING NO. 7519230-902	REV 7
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AVERAGE CURRENT THROUGH CR57
EQUALS AVERAGE INPUT CURRENT/100
PEAK CURRENT THROUGH CR57 EQUALS
(INPUT AMPS + OUTPUT AMPS)/100

$$V(PIN 5) = \frac{R(PIN 5) * I(PIN 6) * (V(PIN 7) - 1.5V) * 1V}{(V(PIN 8))^{1/2}}$$

$$I(PIN 6) = 28V_FILT * 3.7 UA$$

DESIRE 14.6 OHMS FOR 6.8A AT 0.99V 16.9V INPUT 115W INPUT

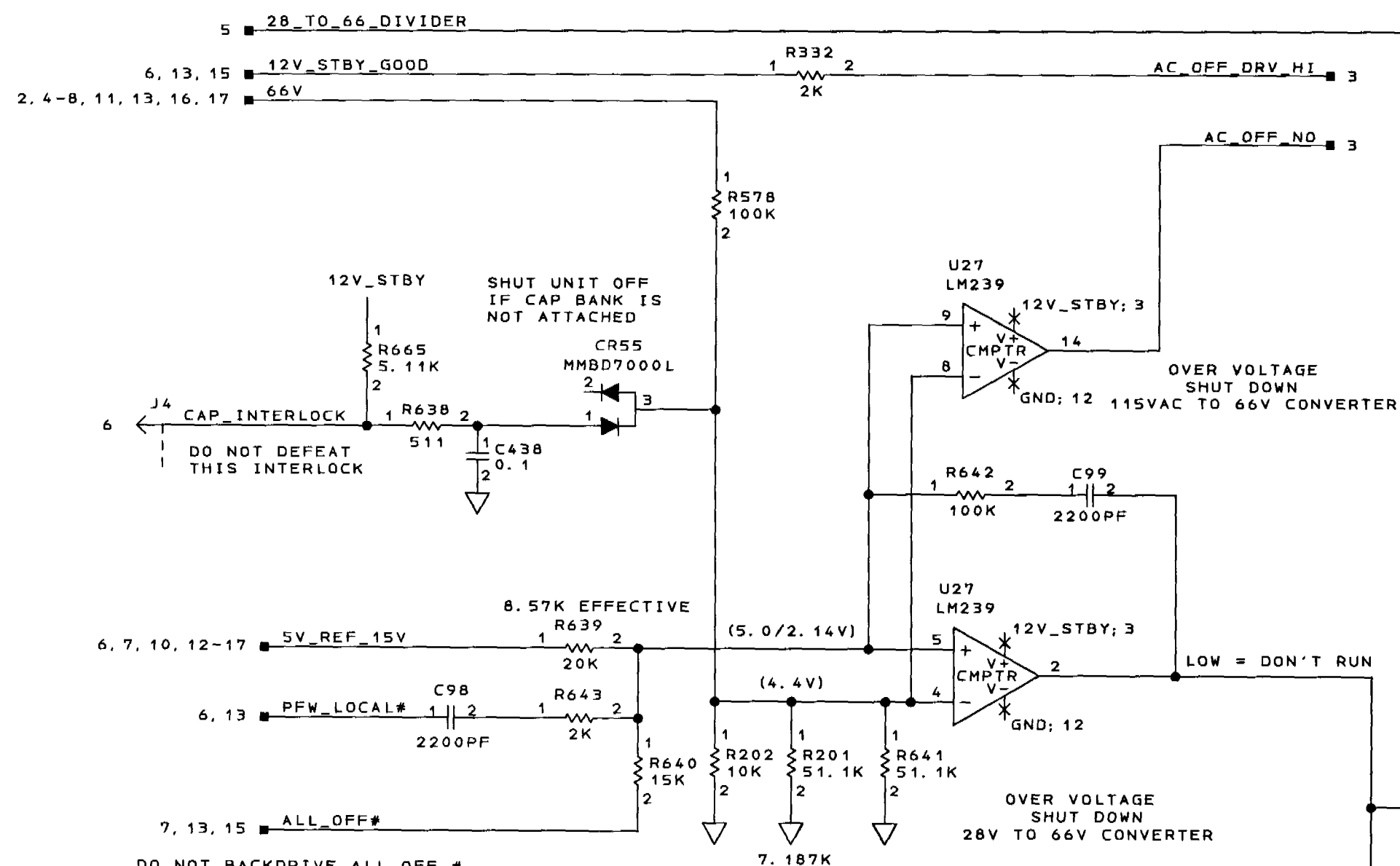
~1V = ZERO DUTY FACTOR
~6V = MAX DUTY FACTOR

DC INPUT POWER STAGE AND FILTER
SCHEMATIC DIAGRAM SHEET NO. 5

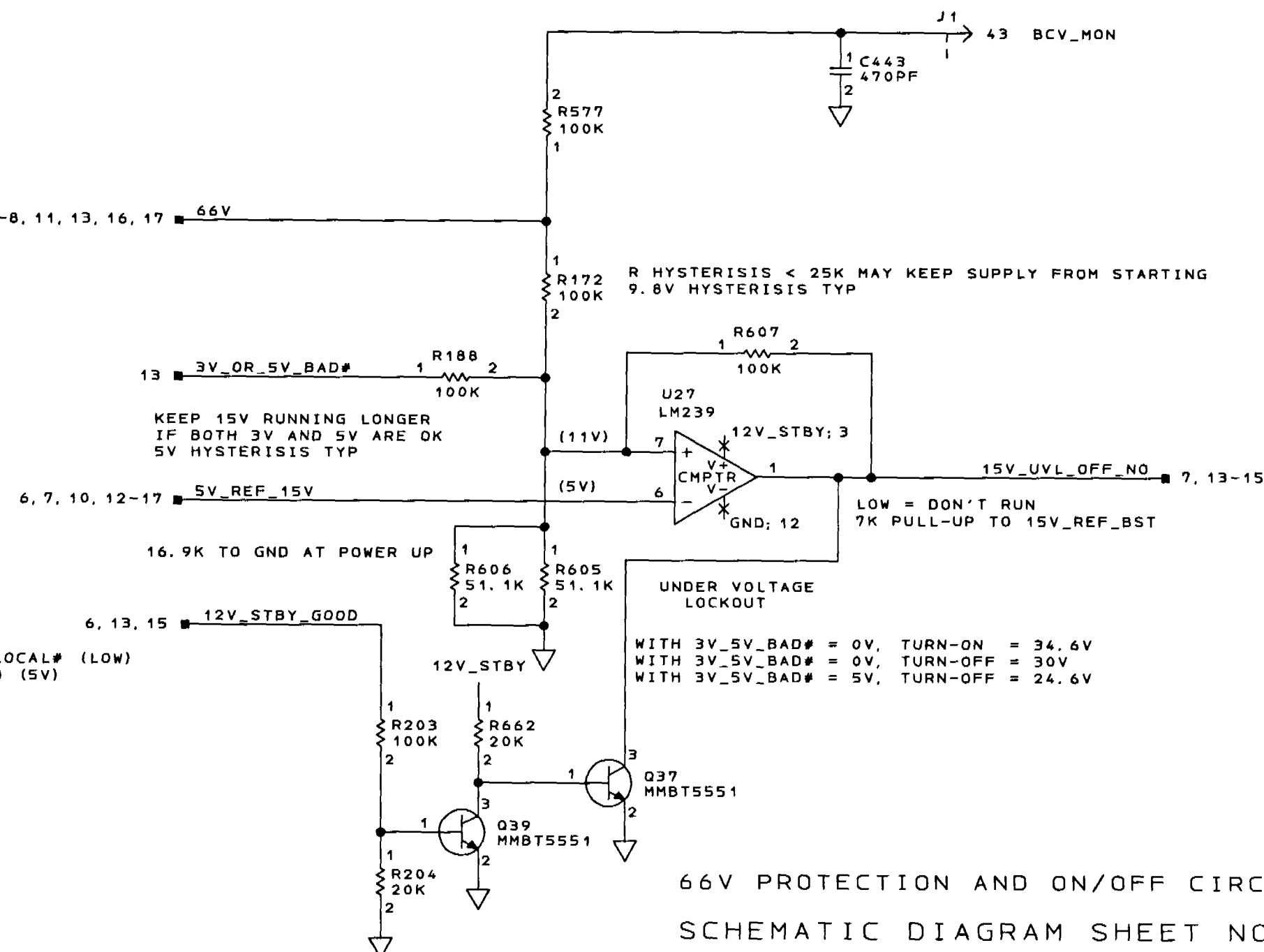
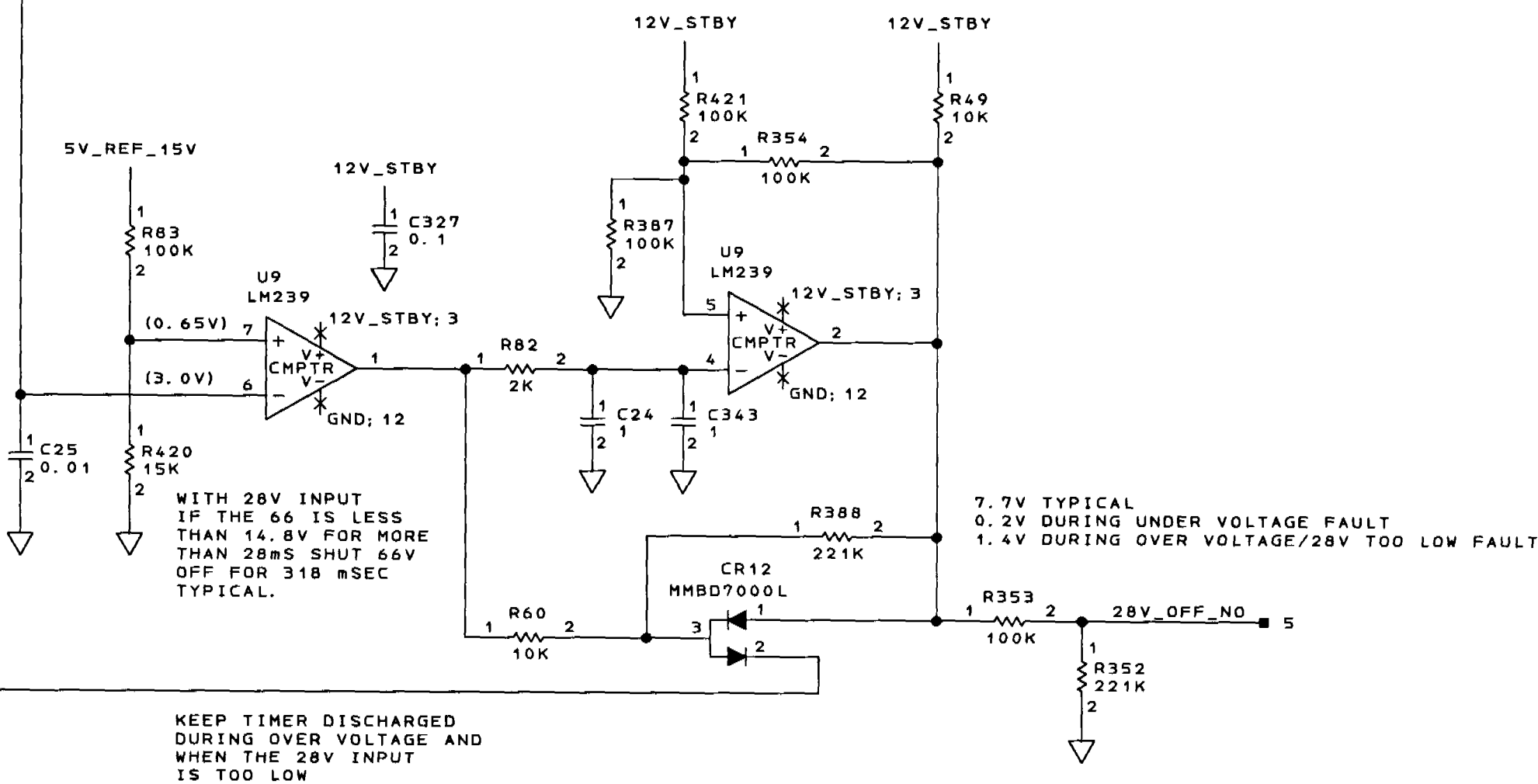
COMPUTER GENERATED

4-4-2001 8:46

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 CODE E 55939	DRAWING NO. 7519230-902	REV 1
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12V_STBY_GOOD LOW = 100K TO GND
 12V_STBY_GOOD HIGH = SATURATED 2N2907 TO 12V_STBY
 THE LM239'S OUTPUT CAN TURN ON WHEN 12V_STBY IS RISING CAUSING THE MAIN SUPPLY TO NEVER TURN ON. THIS IS MOSTLY BECAUSE OF EXCEEDING THE COMMON MODE RANGE OF THE LM239 INPUTS TO VCC. REMOVING THE DRIVE POWER TO THE OPTOCOUPLER SOLVES THE PROBLEM.

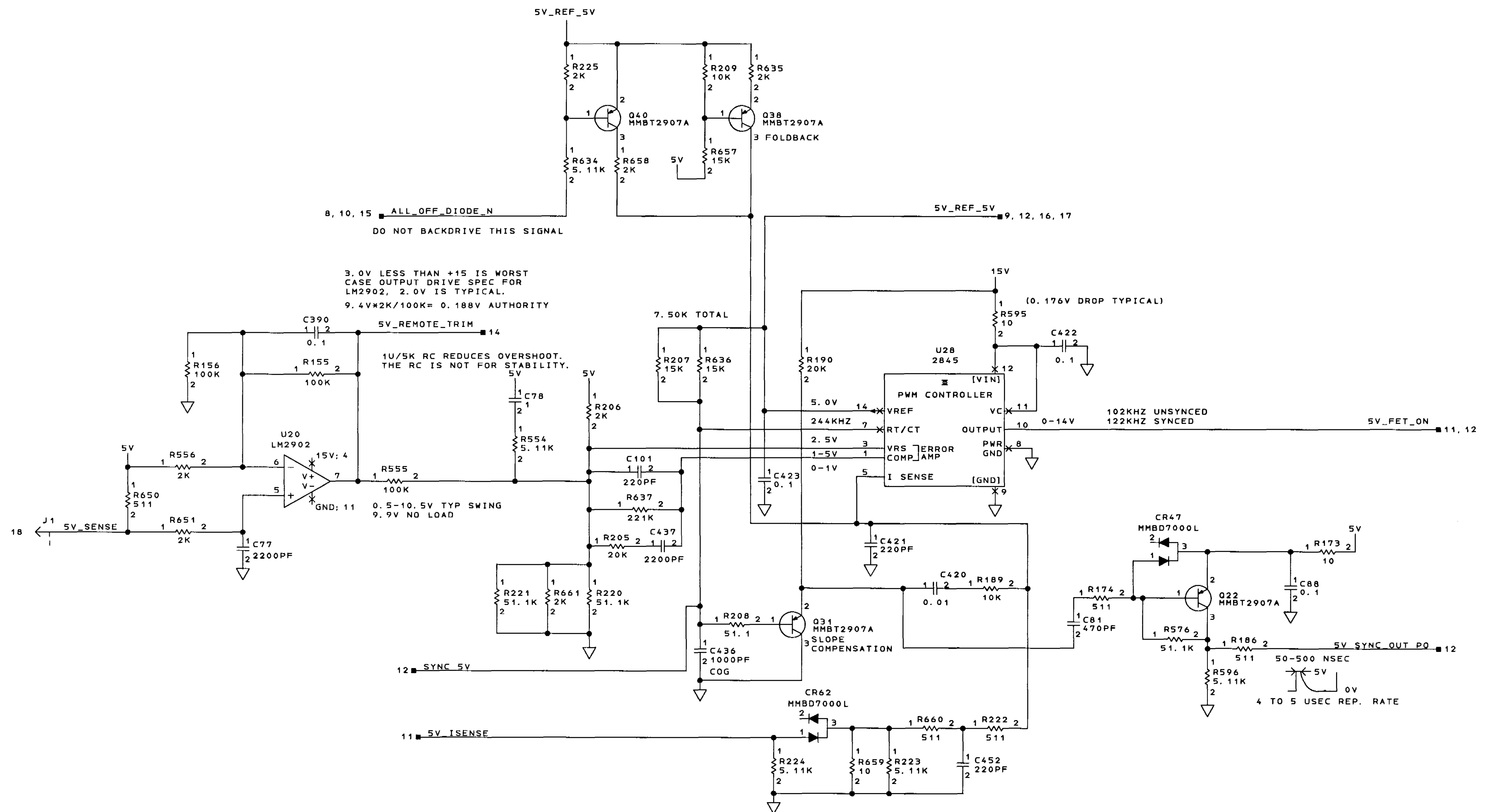


COMPUTER GENERATED



4-4-2001 8:46

SIZE	CAGE CODE	DRAWING NO.
E	55939	7519230-902
SCALE		SHEET 11



SV, BUCK, FORWARD CONTROLLER
POWER SUPPLY, A3

SCHEMATIC DIAGRAM SHEET NO. 9

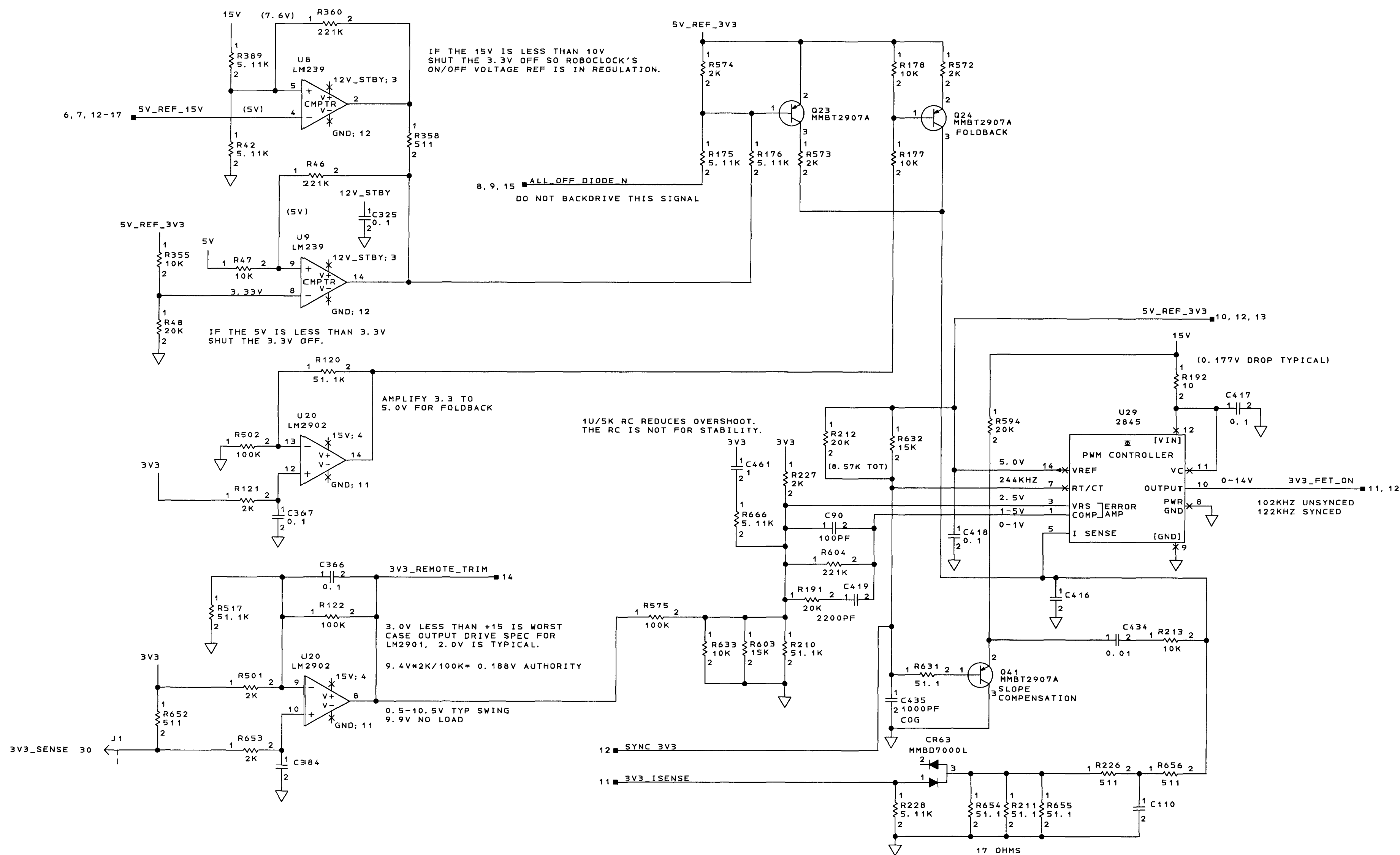
COMPUTER GENERATED

QDATEIME=4-4-2001 8:46

Honeywell	SEE FIRST SHEET FOR CONTRACT NUMBER. USE ON 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	7519230-902	—
		SCALE —	SHEET 12		

	2	1	1
--	---	---	---

ZONE		REV	DESCRIPTION	DATE	APPROVED
	B		UDTD SCHEM: ADDED SHEET REF TO 3V3_ISENSE NET. 26653 (M)	16 NOV 01	 J. OLSON
			SEE DWG SHEET 1.		



3V3, BUCK, FORWARD CONTROLLER
POWER SUPPLY, A3

SCHEMATIC DIAGRAM SHEET NO. 10

COMPUTER GENERATED

10-23-2001 6:50

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.
7519230-902

REV
B

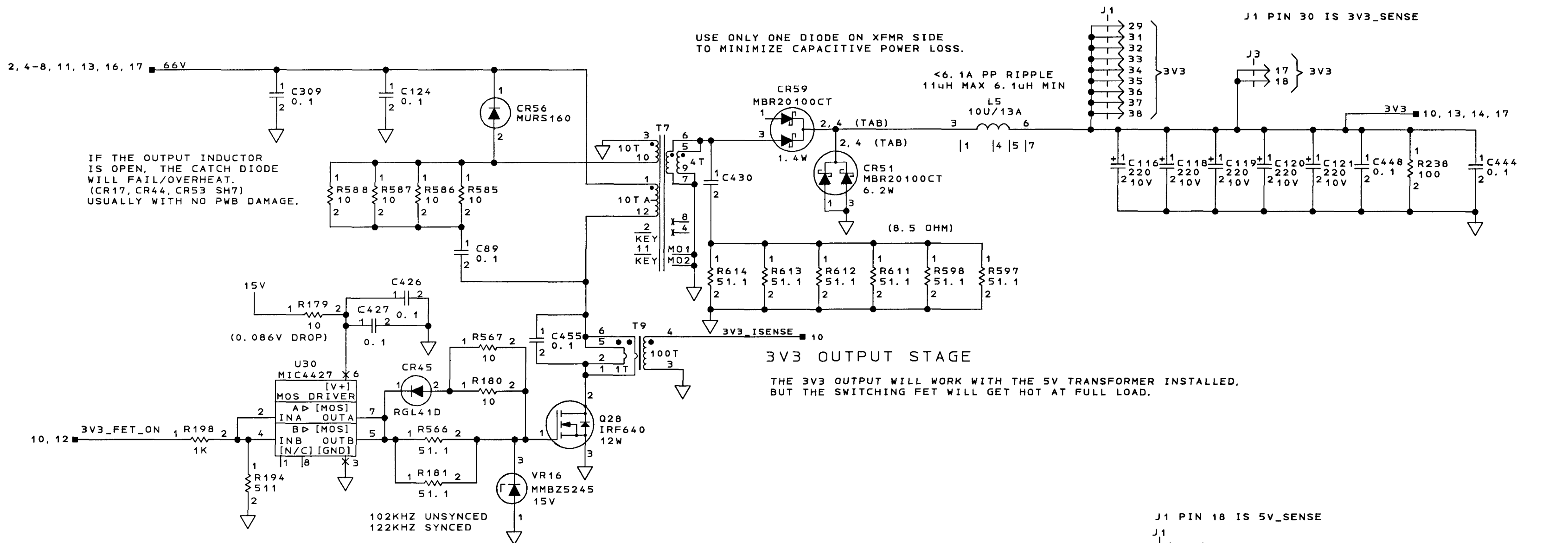
SHEET 13

REVISIONS			
ZONE	REV	DESCRIPTION	DATE
B	1	UDTD SCHEM: ADD NET LABEL TO T9-4.	10 NOV 01
		26653 (M)	
		SEE DWG SHEET 1.	

MAKE TRACES TO CATCH DIODES THICKER.

USE ONLY ONE DIODE ON XFMR SIDE TO MINIMIZE CAPACITIVE POWER LOSS.

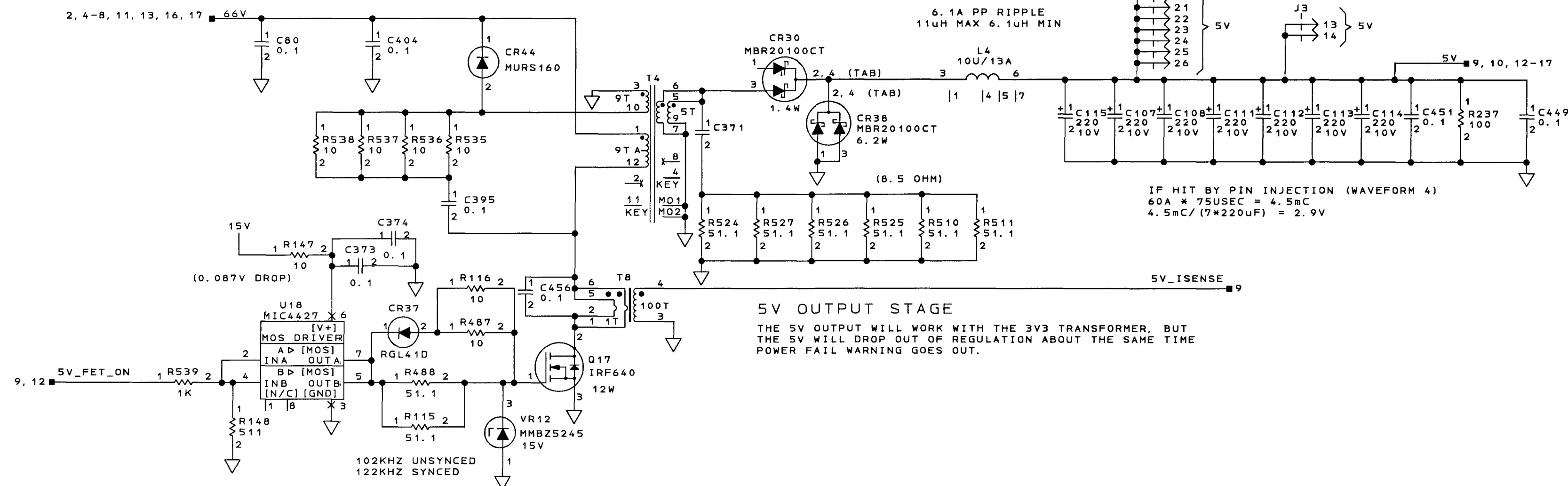
J1 PIN 30 IS 3V3_SENSE



3V3 OUTPUT STAGE

THE 3V3 OUTPUT WILL WORK WITH THE 5V TRANSFORMER INSTALLED, BUT THE SWITCHING FET WILL GET HOT AT FULL LOAD.

J1 PIN 18 IS 5V_SENSE



5V OUTPUT STAGE

THE 5V OUTPUT WILL WORK WITH THE 3V3 TRANSFORMER, BUT THE 5V WILL DROP OUT OF REGULATION ABOUT THE SAME TIME POWER FAIL WARNING GOES OUT.

5V/3V3 FORWARD POWER STAGES
POWER SUPPLY, A3

SCHEMATIC DIAGRAM SHEET NO. 11

COMPUTER GENERATED

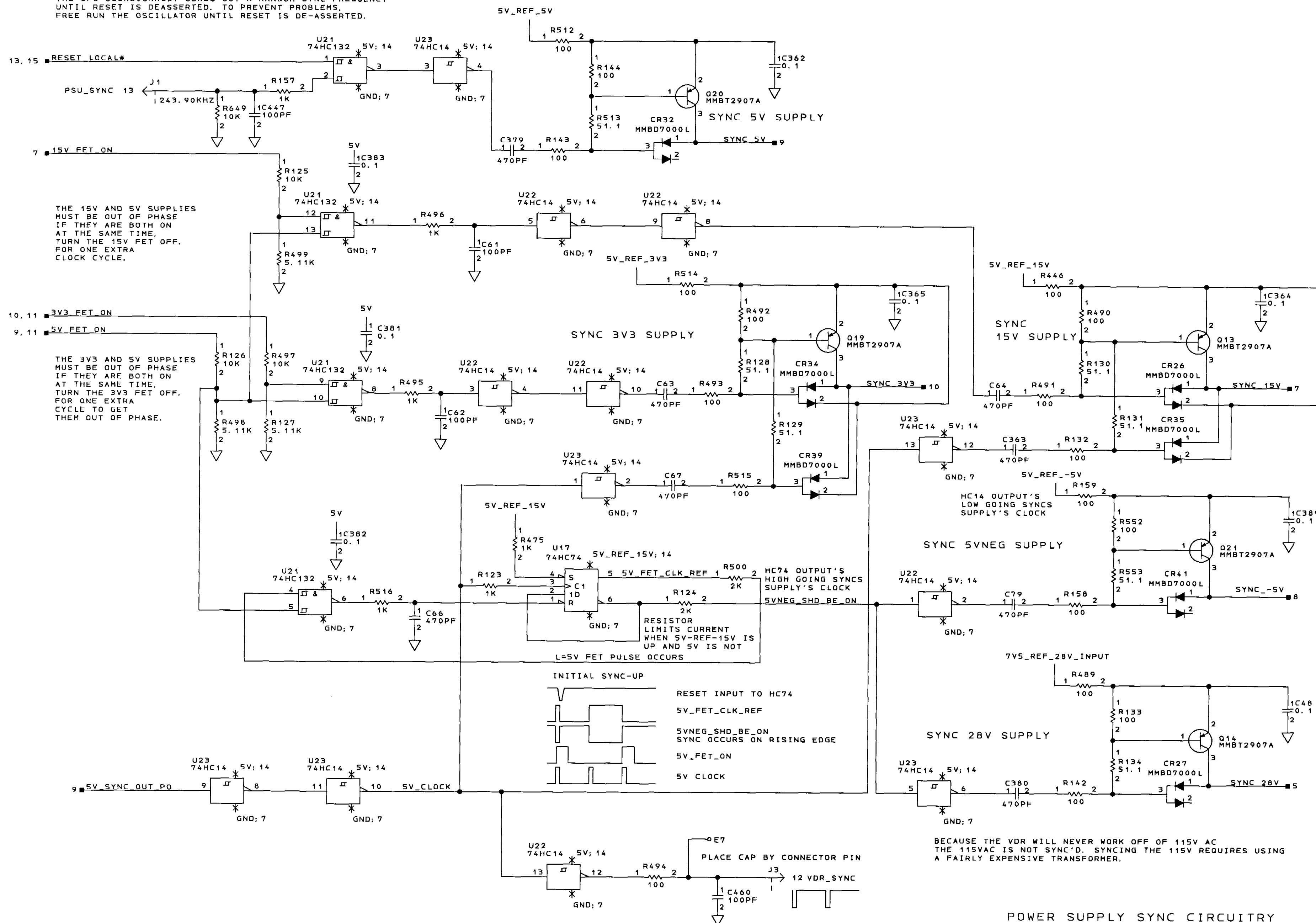
10-23-2001 6:51

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 7519230-902 B
SCALE SHEET 14

THE CPU OCCASIONALLY SENDS OUT A RANDOM SYNC FREQUENCY
UNTIL RESET IS DEASSERTED. TO PREVENT PROBLEMS,
FREE RUN THE OSCILLATOR UNTIL RESET IS DE-ASSERTED.



BECAUSE THE VDR WILL NEVER WORK OFF OF 115V AC
THE 115VAC IS NOT SYNC'D. SYNCING THE 115V REQUIRES USING
A FAIRLY EXPENSIVE TRANSFORMER.

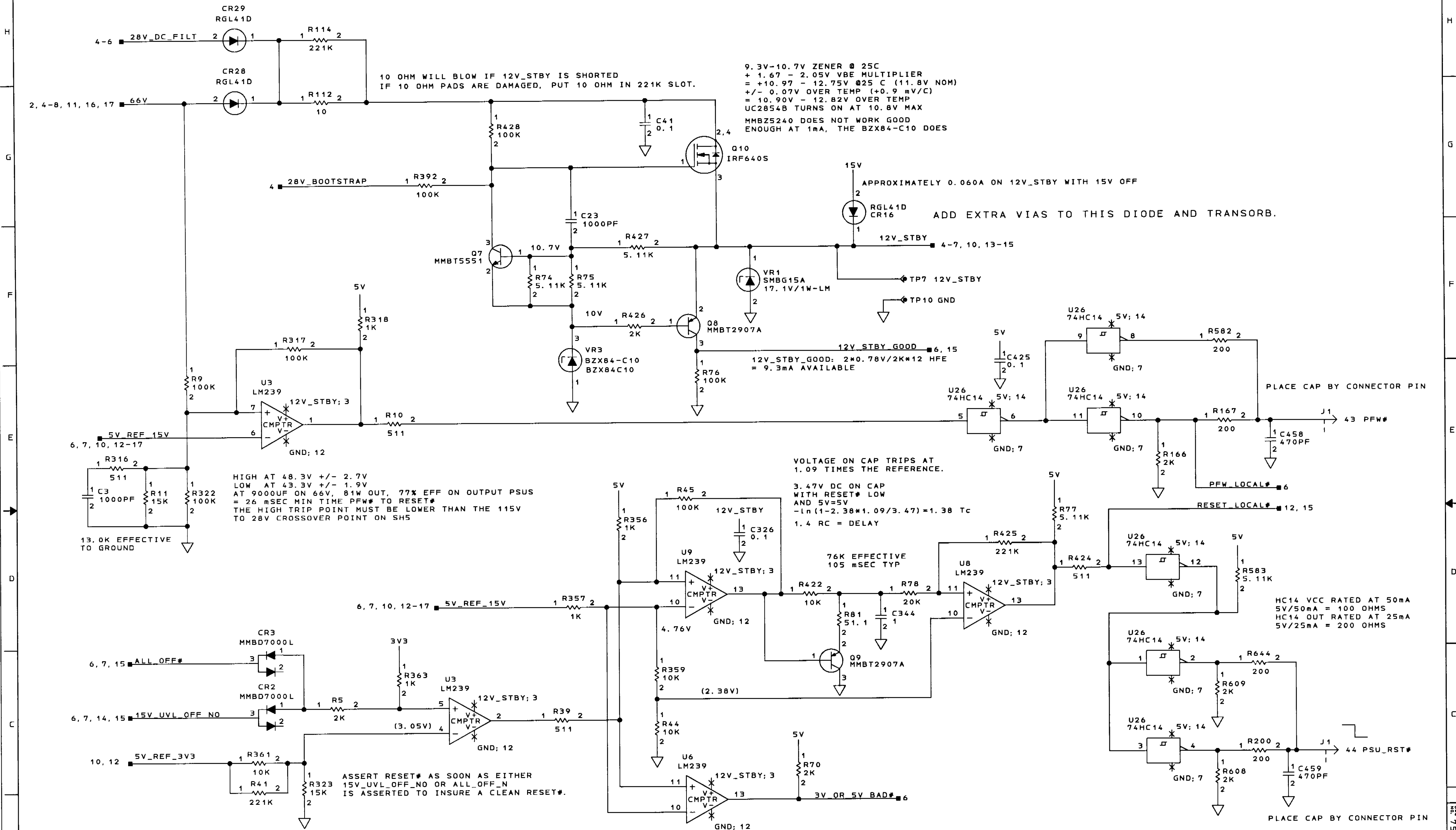
POWER SUPPLY SYNC CIRCUITRY
SCHEMATIC DIAGRAM SHEET NO. 12

COMPUTER GENERATED

4-4-2001_8:46

SEE FIRST SHEET FOR CONTRACT NUMBER
USE ON DISCLOSURE OF INFORMATION ON
THIS SHEET IS SUBJECT TO THE RESTA
ON THE FIRST SHEET OF THIS DOCUMENT

SIZE	CAGE CODE	DRAWING NO.
E	55939	7519230-902
SCALE		SHEET 15



12V_STBY, PFW#, RESET#
SCHEMATIC DIAGRAM SHEET NO. 13

COMPUTER GENERATED		4-4-2001 8:46	SIZE	CAGE CODE	DRAWING NO.	REV
Honeywell		SEE FIRST SHEET FOR CONTRACT NUMBER. THIS SHEET IS SUBJECT TO THE RESTRICTIONS ON THE FIRST SHEET OF THIS DOCUMENT.	E	55939	7519230-902	-
		SCALE				SHEET 16

THE COMPARTOR OUTPUT CLOSEST TO GND
IS THE OUPUT THAT IS TRIGGERING THE FAULT.

IF +15 IS APPLIED EXTERNALLY,
+15V OVP WILL BE TRIPPED
BECAUSE +15 WILL BE HIGH BEFORE
5V_REF_15V IS HIGH.

(AT NO LOAD!)
(5.37V TRIP OVER VOLTAGE)
(4.28V TRIP UNDER VOLTAGE)

(3.554V TRIP OVER VOLTAGE)
(2.83V TRIP UNDER VOLTAGE)
(AT NO LOAD!)

(17.5V TRIP OVER VOLTAGE)
(13.1V TRIP UNDER VOLTAGE)

(-5.413 V TRIP OVER VOLTAGE)
(-2.576 V TRIP UNDER VOLTAGE)

(-17.184 V TRIP OVER VOLTAGE)
(NO UNDER VOLTAGE TRIP ON -15V)

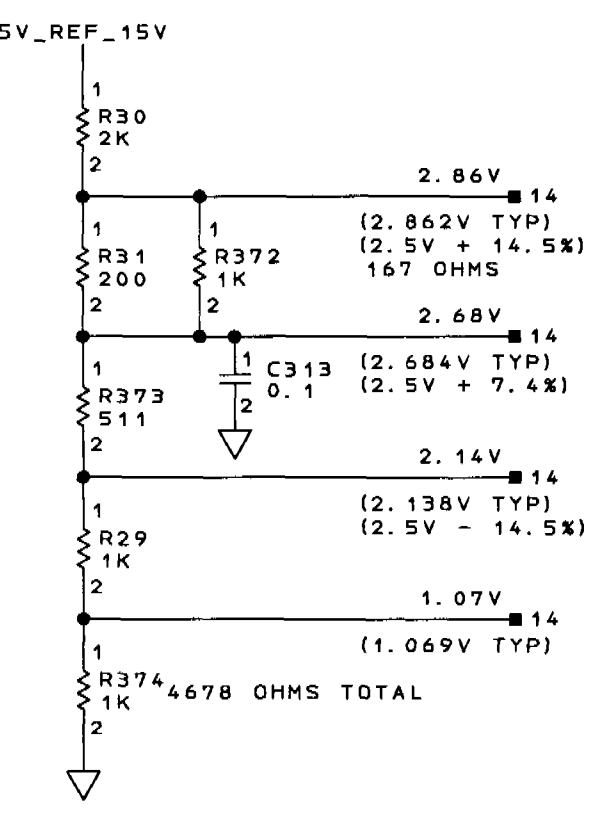
LOW = FAULT
FILTERING ALLOWS
BRIEF OVERSHOOT

LOW = FAULT
REMOVE 511 TO DISABLE OVP
SHUTDOWN_DET_NO IS WIRE OR'D WITH
SHUTDOWN FROM CPU

IF THE OUTPUTS ARE SHUT DOWN
DUE TO AN OVER VOLTAGE OR
OVER CURRENT FAULT, THE
CIRCUITS ON SHEET 4 OF THIS
SCHEMATIC WILL DROP THE
+66V TO ABOUT +32V TO ENHANCE
THE CIRCUIT'S PROTECTION PERFORMANCE.

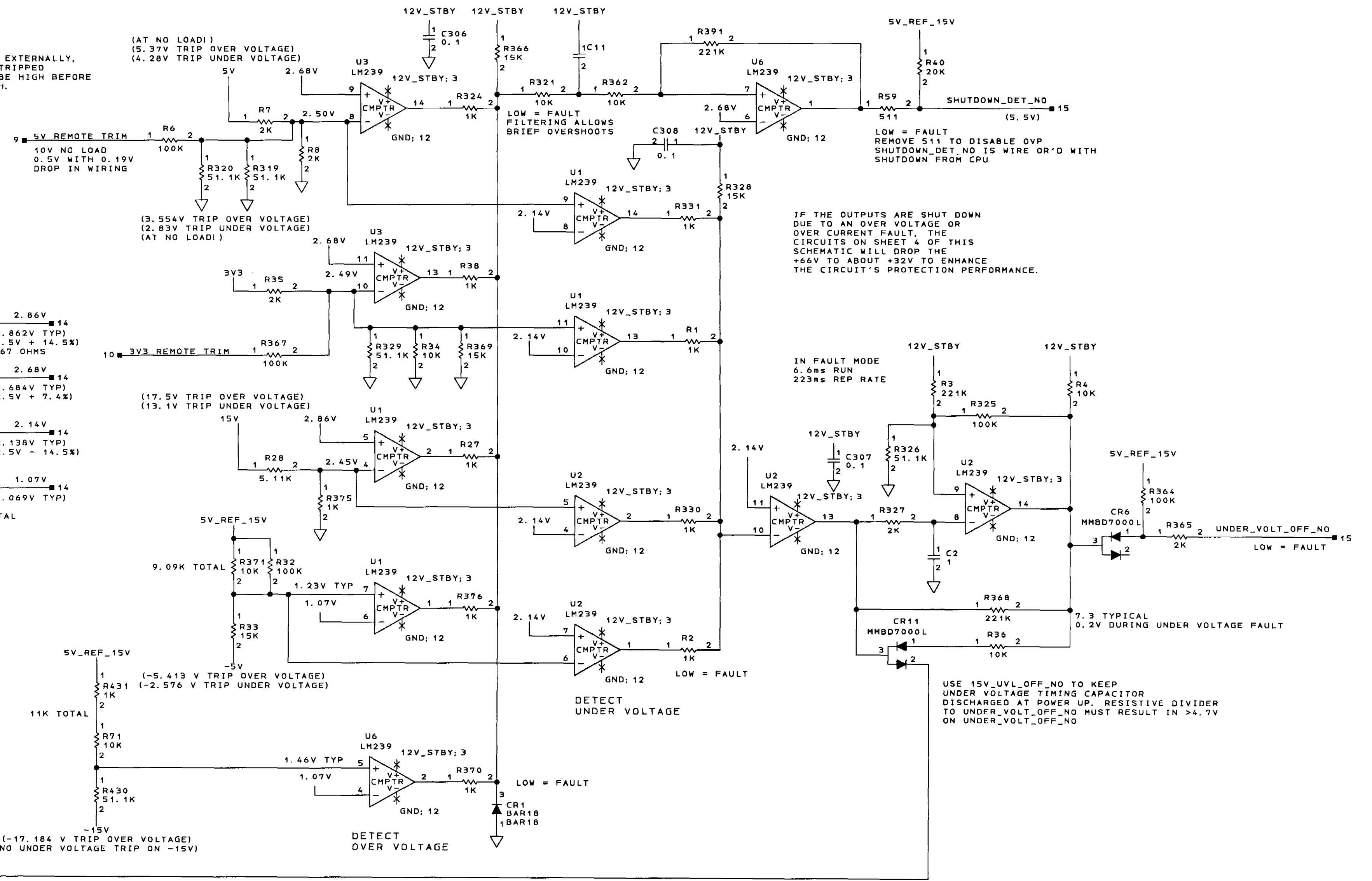
IN FAULT MODE
6.6ms RUN
223ms REP RATE

USE 15V_UVL_OFF_NO TO KEEP
UNDER VOLTAGE TIMING CAPACITOR
DISCHARGED AT POWER UP. RESISTIVE DIVIDER
TO UNDER_VOLT_OFF_NO MUST RESULT IN >4.7V
ON UNDER_VOLT_OFF_NO



TRIP LIMITS ACTUALS

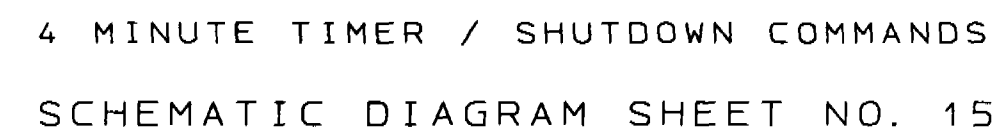
15V	20%	16.7%
5V	10%	7.4%
3V3	10%	7.7%
-5V	20%	8.3%
-15V	20%	14.6%



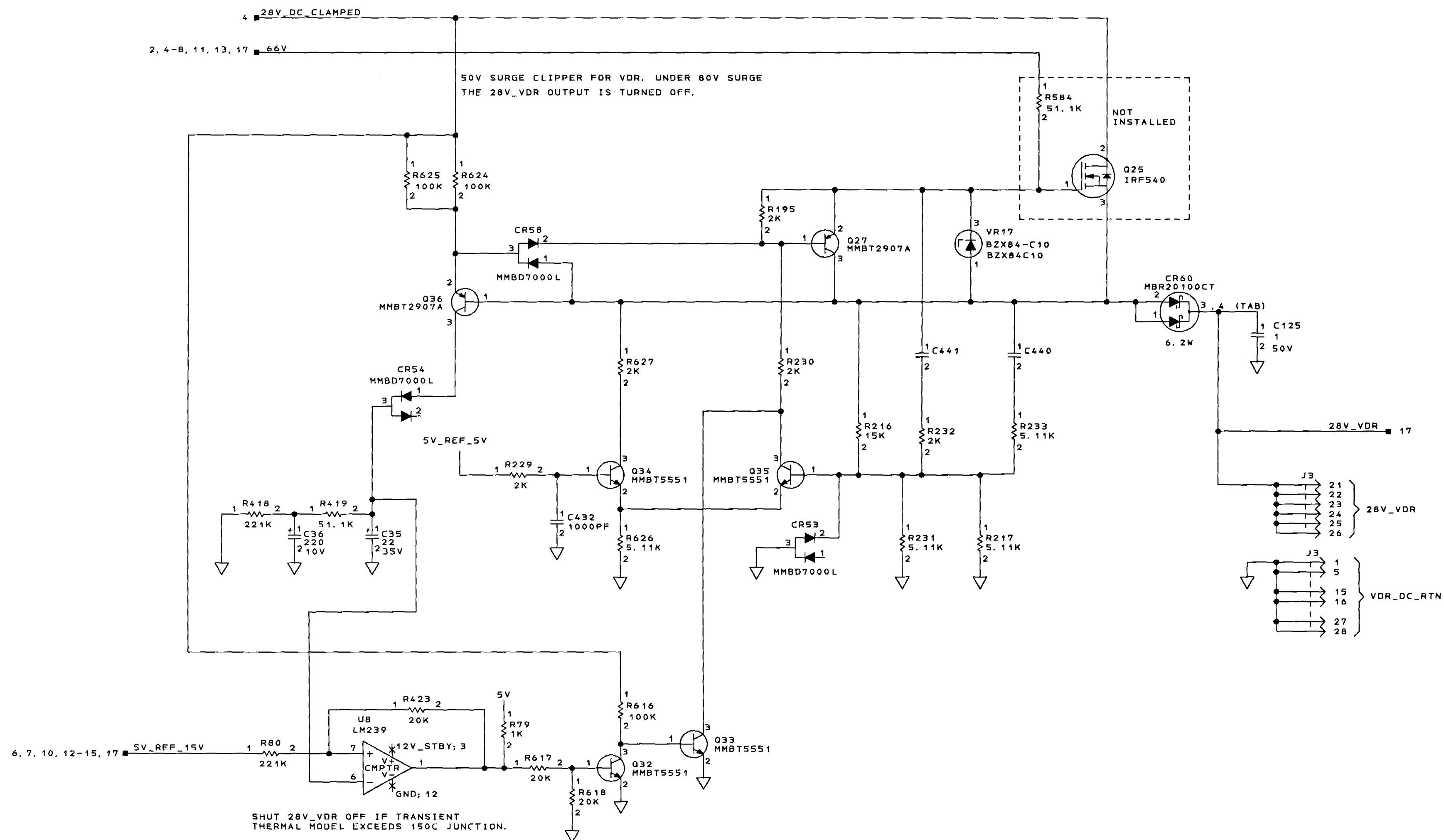
OVER AND UNDER VOLTAGE DETECTION
POWER SUPPLY, A3

SCHEMATIC DIAGRAM SHEET NO. 14

COMPUTER GENERATED



RE	
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RESERVED COMPONENTS
POWER SUPPLY, A3

SCHEMATIC DIAGRAM SHEET NO. 16

COMPUTER GENERATED

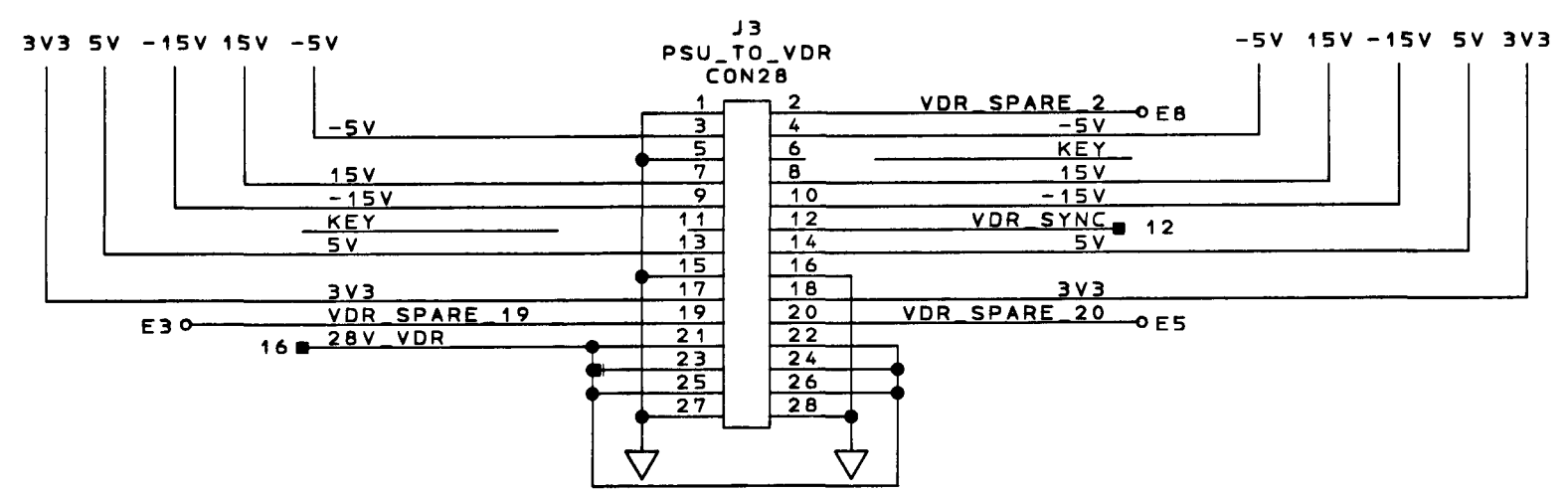
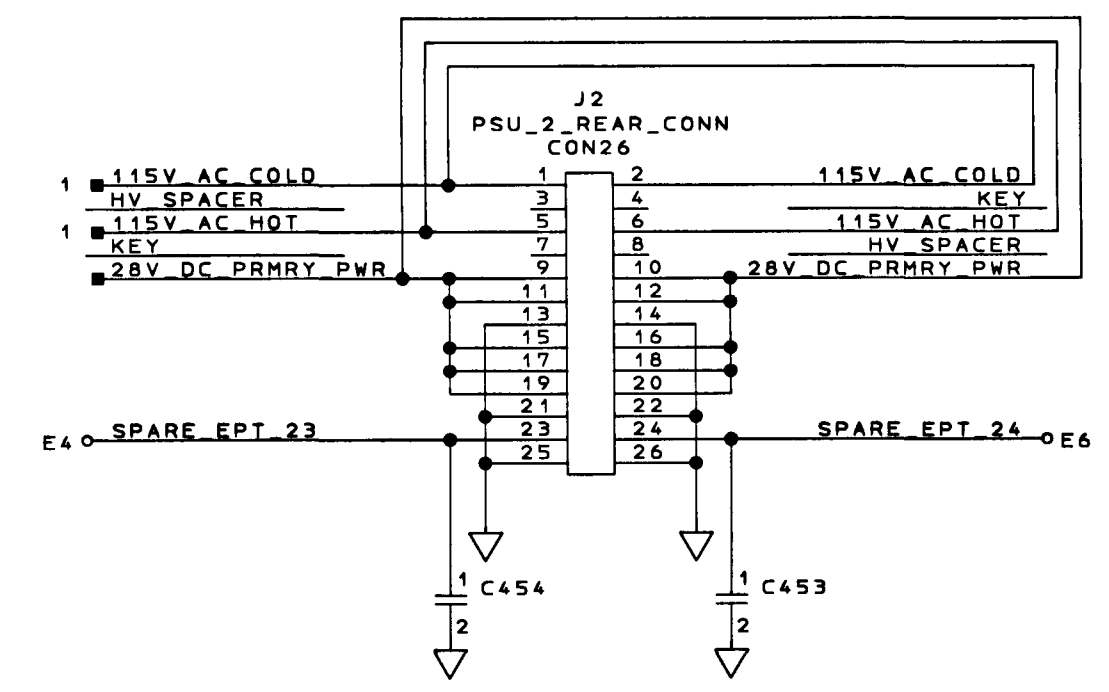
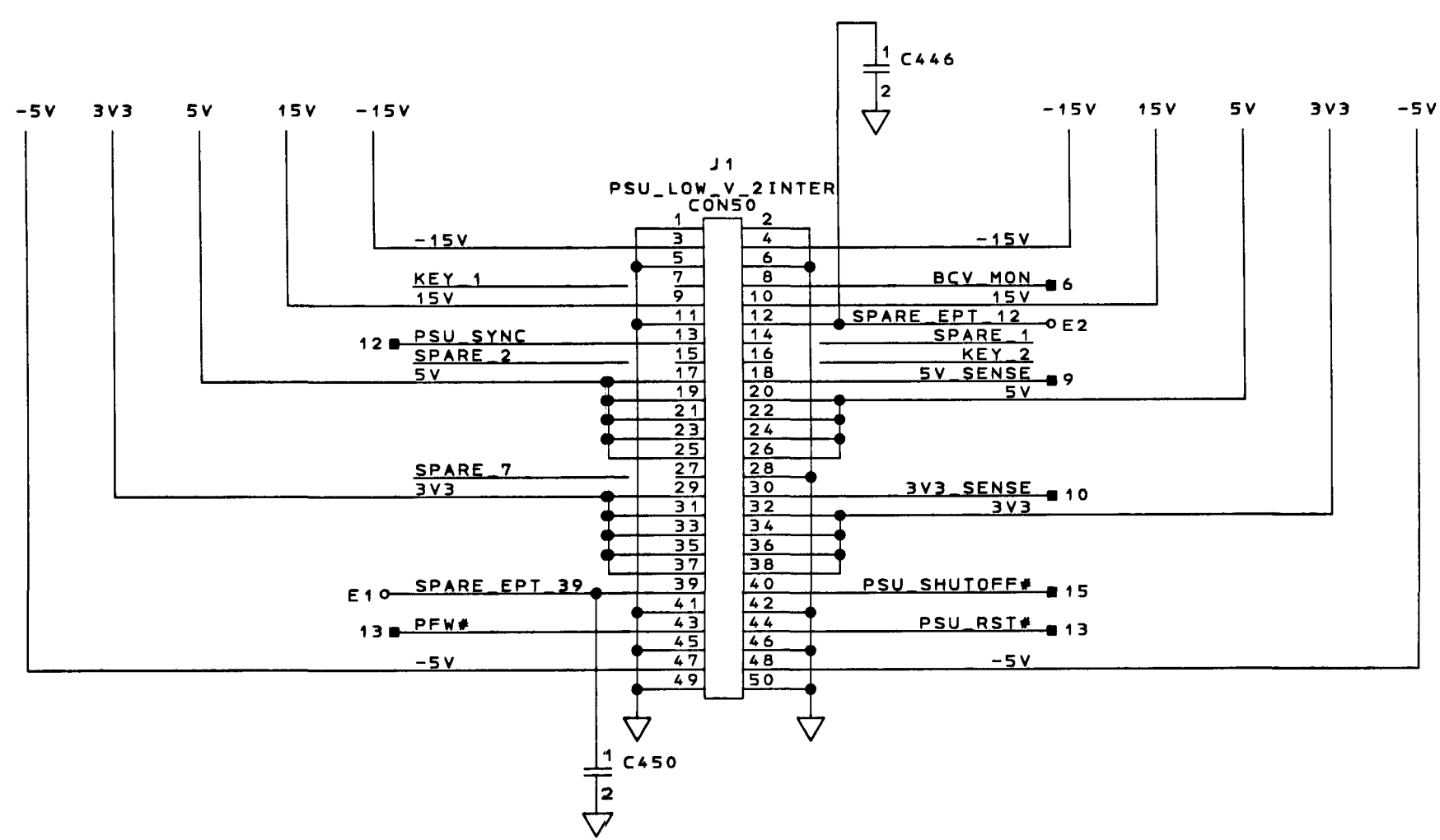
4-4-2001 8:46

Honeywell

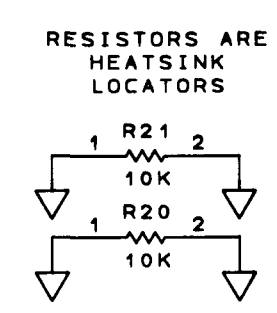
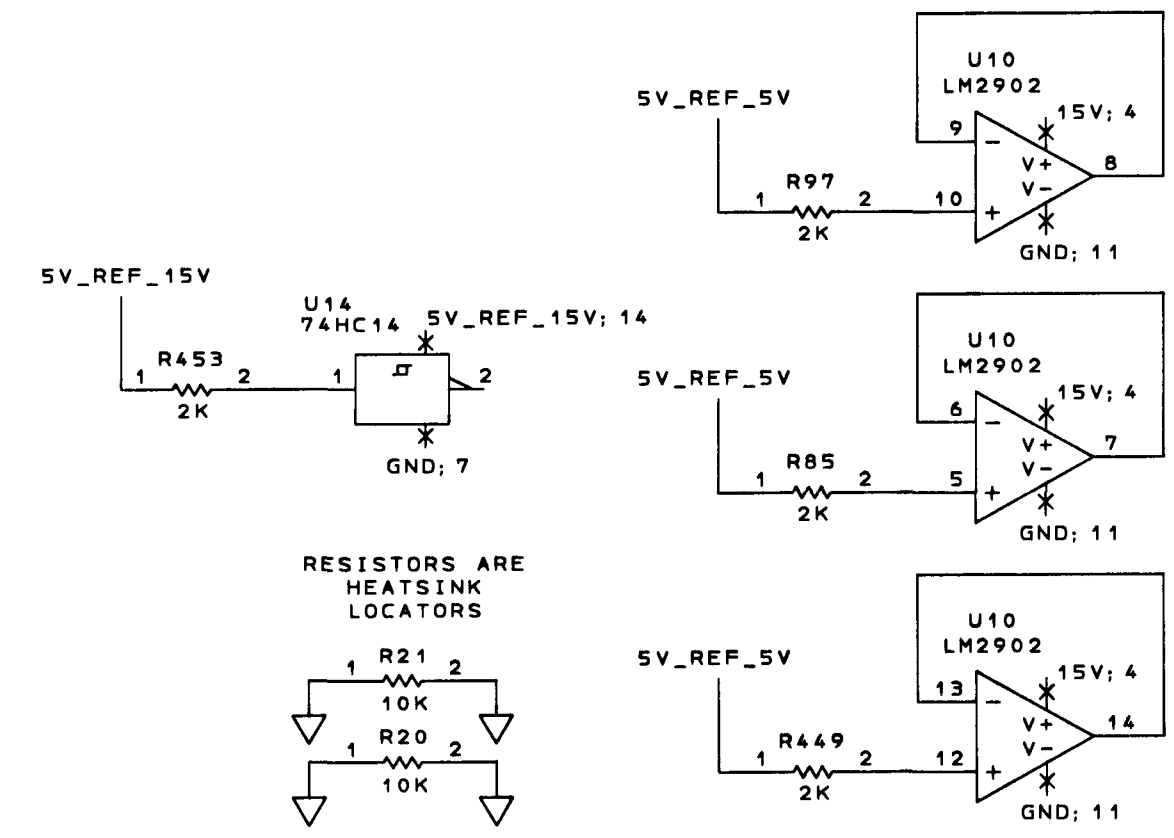
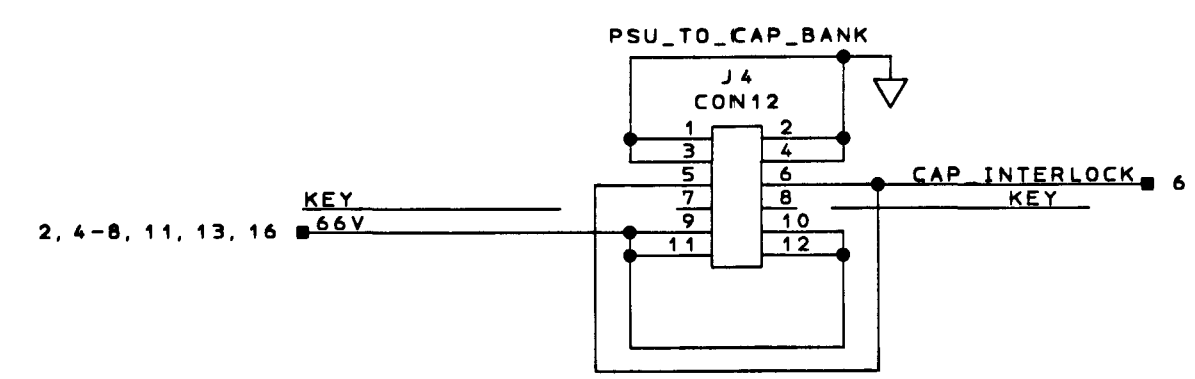
SEE FIRST SHEET FOR CONTRACT NUMBER.
USE OR DISCLOSURE OF INFORMATION ON
THIS SHEET IS SUBJECT TO THE RESTRICTIONS
ON THE FIRST SHEET OF THIS DOCUMENT.

SIZE	CARD CODE	DRAWING NO.	REV
E	55939	7519230-902	19

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
G6	C7	UPD TD SCH. REF DES J1 WAS J4. REF DES J4 WAS J1.	3 Jul 01	P. POLZIN
		SEE SH 1.	25526 (M)	



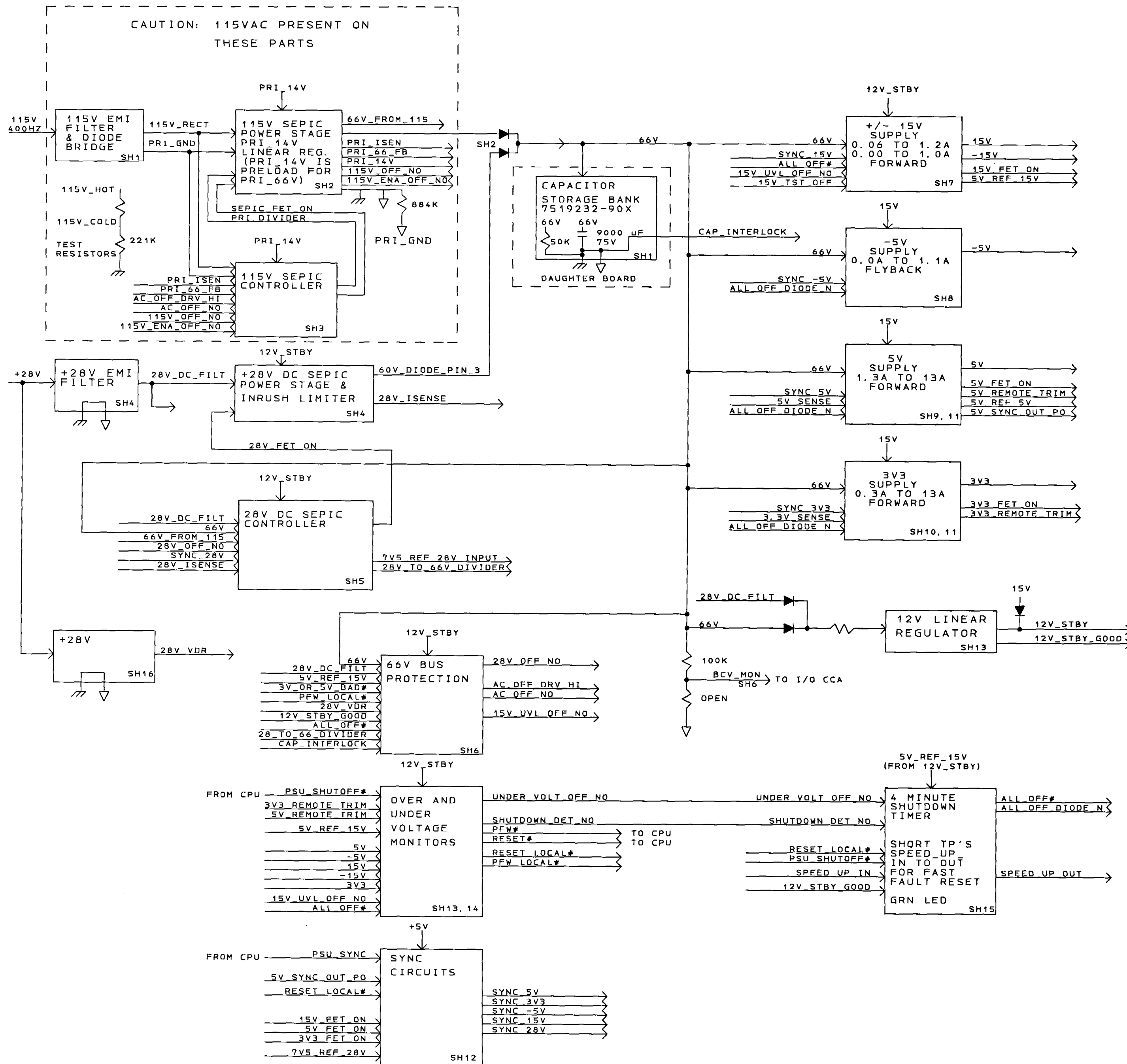
THE 3.3V AND 5.1V TO THE VDR CAN RUN 0.19V HIGHER THAN NORMAL BECAUSE OF THE REMOTE SENSE



CONNECTOR PIN SUMMARY
AND SPARE COMPONENTS
CAD REFERENCE/REQUIREMENT
POWER SUPPLY, A3
SCHEMATIC DIAGRAM SHEET NO. 17

COMPUTER GENERATED

6-8-2001 10:41	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
Honeywell		E 55939	7519230-902	A
		SCALE		SHEET 20



CAUTION:
* TEST POINTS
ATTACH TO 115VAC

TP1	SH7	15V_TST_OFF
*TP2	SH3	PRI_GND
*TP3	SH3	FORCE_ON_TP
TP4	SH15	SPEED_UP_OUT
TP5	SH15	SPEED_UP_IN
*TP6	SH3	PRI_14V
TP7	SH13	12V_STBY
*TP8	SH2	115V_RECT
*TP9	SH2	115V_RES
TP10	SH7	GND

_PO = ASSERTED POSITIVE, OPEN COLLECTOR
_NO = ASSERTED NEGATIVE, OPEN COLLECTOR
N,* = ASSERTED LOW, LOGIC DRIVEN

BCV = BULK CAPACITOR VOLTAGE
UVL = UNDER VOLTAGE LOCKOUT
OVP = OVER VOLTAGE PROTECTION
PFW = POWER FAIL WARNING (THE 5V WILL TURN OFF SOON)
SEPIC = SINGLE ENDED PRIMARY INDUCTANCE CONVERTER
STBY = STANDBY

RECOMMEND PRE-HEATING CCA
TO 80 TO 100 C BEFORE REMOVING
LEADED PARTS

BLOCK DIAGRAM POWER SUPPLY

SCHEMATIC DIAGRAM SHEET NO. 18

COMPUTER GENERATED

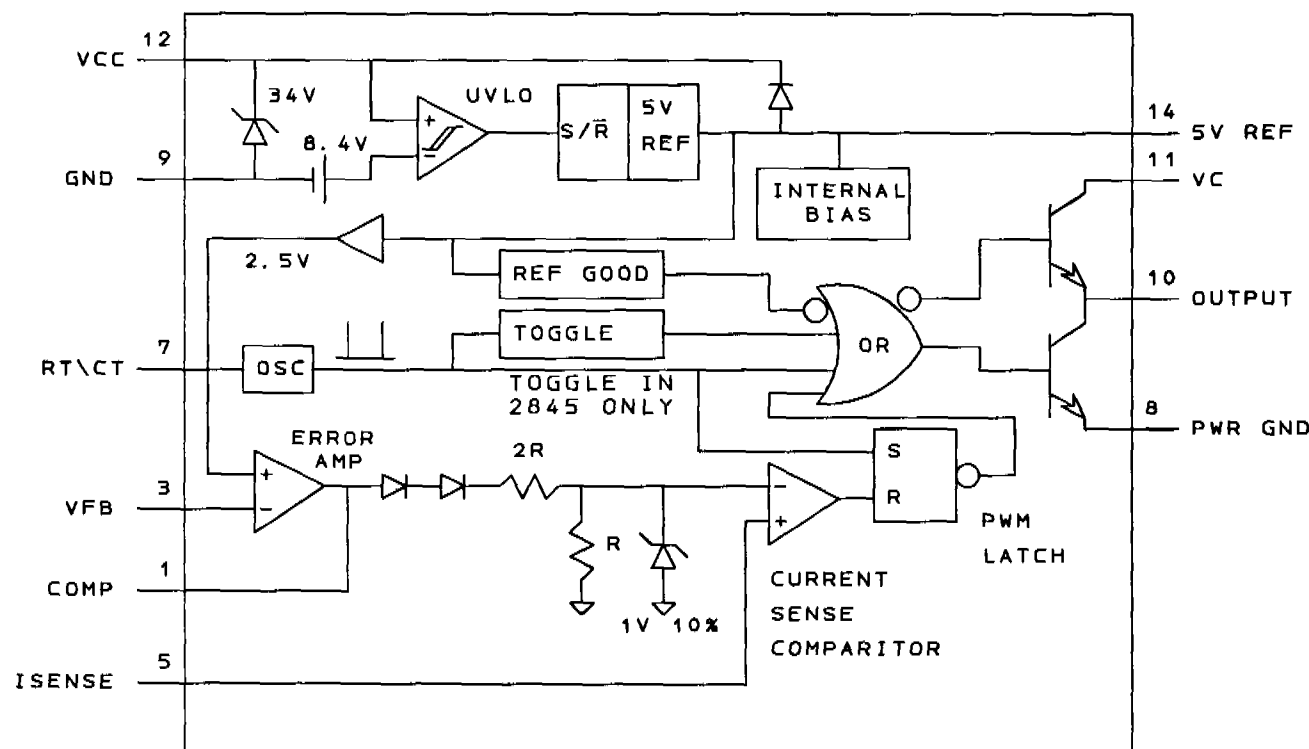
4-4-2001 B: 46

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 CASE CODE DRAWING NO. REV
E 55939 7519230-902 -
SCALE - SHEET 21

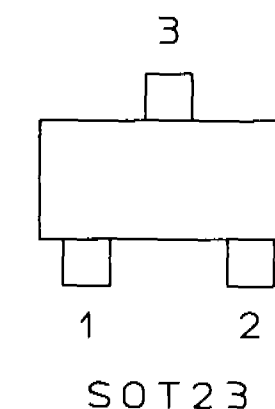
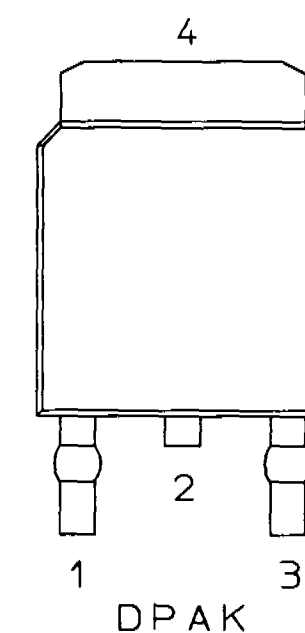
UC2843/45 SMT PINOUT SHOWN



IF UC 284X SUPPLY DOES NOT WORK

- CHECK PIN 10 FOR >4V PULSES
IF PIN 10 HAS PULSES AND FET DOES NOT,
FIX FET DRIVE.
IF PIN 10 PULSES ARE VERY NARROW
(<5% OF CLOCK WIDTH). CHECK FOR
SHORTS ON OUTPUT DIODE OR IN
MAGNETICS. (USE SCOPE TO LOOK
AT PINS ON PARTS TO FIND SHORTS.)
IF PIN 10 HAS VERY WIDE PULSES (>45%)
OF CLOCK AND OUTPUT IS AT ZERO
THERE IS AN OPEN SOLDER JOINT OR VIA.
SOME TIMES THE MAGNETICS GO OPEN,
USUALLY IT IS A PROBLEM WITH THE PWB.
USE SCOPE FIRST THEN OHM METER!
IF THERE ARE NO PULSES, GO TO STEP 2
- CHECK PIN 5 WITH SCOPE
<1V PEAK = NORMAL, CHECK RESISTORS
ON PIN 3, CHECK >8.4V PIN 12
1-3V PEAK = SHUT OFF CIRCUIT IS TRIPPED
>3V = SHUT OFF CIRCUIT IS SHORTED
HIGH
- PIN 3 NORMALLY RUNS AT 2.5V
IF PIN 3 IS <2.5V PIN 1 SHOULD
BE >4.5V. USUALLY UC284X IS
GOOD AND SOME OTHER PART IS BAD.
PIN 1 TYPICALLY CAN ONLY PULL 5K UP TO 5V.

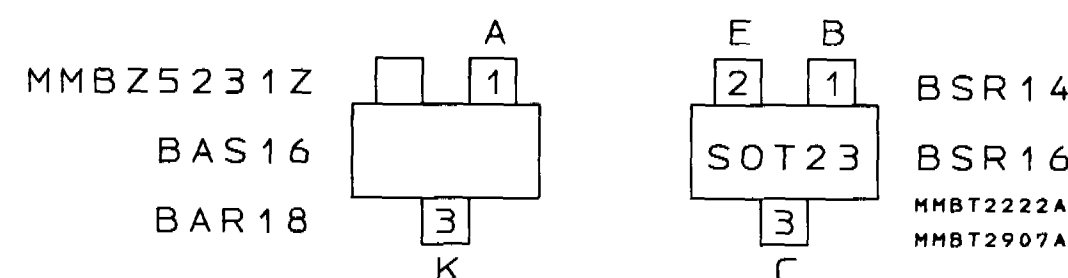
PINOUTS OF SMT DEVICES



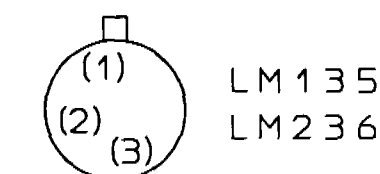
NOTE: PIN 2 IS CONNECTED
TO PIN 4. ALSO, PIN 2
DOES NOT MOUNT TO PWB

SOT23 AND DPAK COUNT
COUNTER CLOCKWISE JUST LIKE ICs DO.

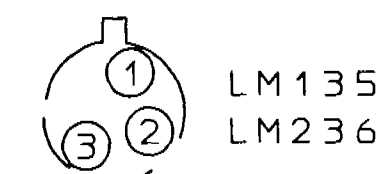
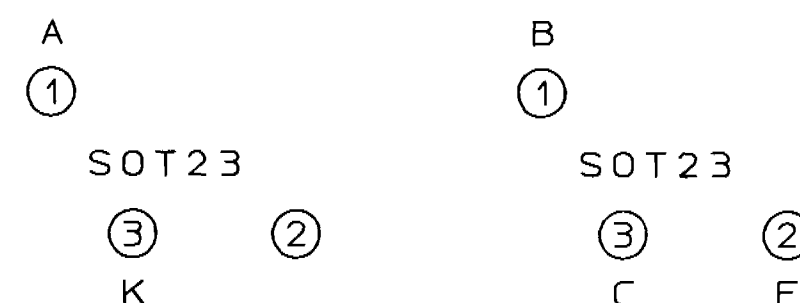
COMPONENT VIEW



TOP VIEW



LEAD VIEW



TYPICAL PART MARKINGS
MMBT2907A = 2F
MMBT2222A = 1P
MMBD7000L = M5C

BLOCK DIAGRAM CONTROLLER ICS
SCHEMATIC DIAGRAM SHEET NO. 19

COMPUTER GENERATED