

THE DURWARD TUCKER TRANSMITTER



SPECIFICATIONS:

BAND COVERAGE: AMATEUR 10/11, 15, 20, 40, 80 METERS. 2726 KHZ

FINAL AMPLIFIER DC INPUT: >1KW CCS

AC INPUT 120/240VAC 3000 WATTS

PLATE VOLTAGE: 2000-3500 VDC CONTINUOUSLY ADJUSTABLE

FINAL SCREEN VOLTAGE: 0-750VDC CONTINUOUSLY ADJUSTABLE

FINAL BIAS VOLTAGE: 0-200VDC CONTINUOUSLY ADJUSTABLE

MODULATOR BIAS VOLTAGE: 0-200VDC CONTINUOUSLY ADJUSTABLE

FINAL SCREEN OVERLOAD PROTECTION

FINAL PLATE OVERLOAD PROTECTION

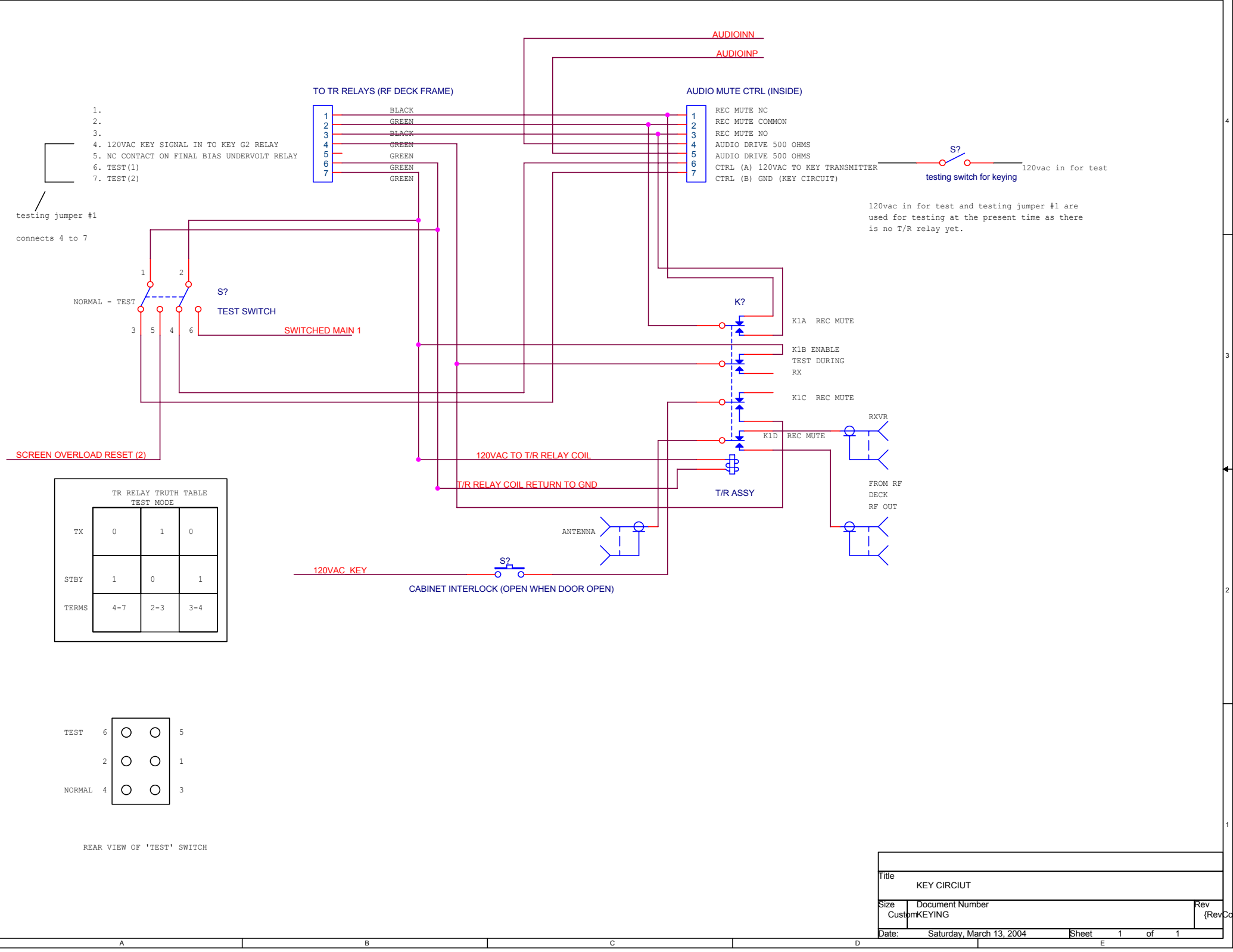
FINAL BLOWER AIRSWITCH INTERLOCK

MAJOR TUBES: FINAL=4-1000A, MODULATORS=304TH (PAIR), RECTIFIERS=673 (FOUR)

WEIGHT: 1100 LBS (APPROXIMATE)

COOLING: FORCED AIR AND CONVECTION

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- 1.
- 2.
- 3.
4. 120VAC KEY SIGNAL IN TO KEY G2 RELAY
5. NC CONTACT ON FINAL BIAS UNDERVOLT RELAY
6. TEST (1)
7. TEST (2)

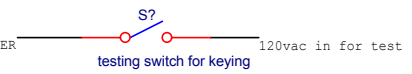
testing jumper #1
connects 4 to 7

TO TR RELAYS (RF DECK FRAME)

- | | |
|---|-------|
| 1 | BLACK |
| 2 | GREEN |
| 3 | BLACK |
| 4 | GREEN |
| 5 | GREEN |
| 6 | GREEN |
| 7 | GREEN |

AUDIO MUTE CTRL (INSIDE)

- | | |
|---|------------------------------------|
| 1 | REC MUTE NC |
| 2 | REC MUTE COMMON |
| 3 | REC MUTE NO |
| 4 | AUDIO DRIVE 500 OHMS |
| 5 | AUDIO DRIVE 500 OHMS |
| 6 | CTRL (A) 120VAC TO KEY TRANSMITTER |
| 7 | CTRL (B) GND (KEY CIRCUIT) |



120vac in for test and testing jumper #1 are used for testing at the present time as there is no T/R relay yet.

NORMAL - TEST



SWITCHED MAIN 1

SCREEN OVERLOAD RESET (2)

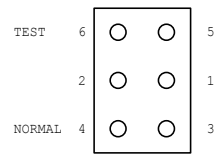
120VAC TO T/R RELAY COIL

T/R RELAY COIL RETURN TO GND

120VAC KEY

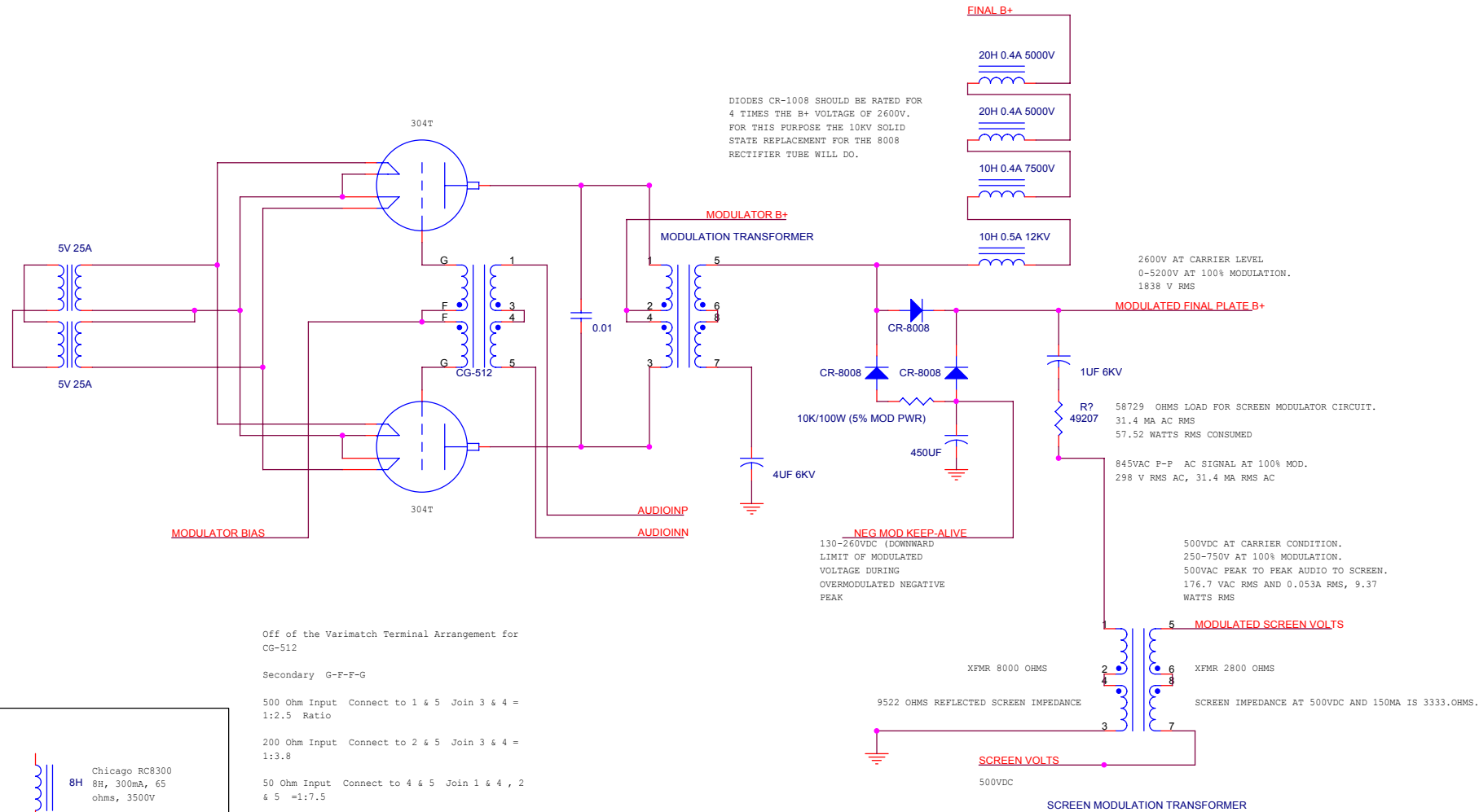
CABINET INTERLOCK (OPEN WHEN DOOR OPEN)

TR RELAY TRUTH TABLE			
TEST MODE			
TX	0	1	0
STBY	1	0	1
TERMS	4-7	2-3	3-4



REAR VIEW OF 'TEST' SWITCH

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DIODES CR-1008 SHOULD BE RATED FOR 4 TIMES THE B+ VOLTAGE OF 2600V. FOR THIS PURPOSE THE 10KV SOLID STATE REPLACEMENT FOR THE 8008 RECTIFIER TUBE WILL DO.

- FINAL B+
- 20H 0.4A 5000V
- 20H 0.4A 5000V
- 10H 0.4A 7500V
- 10H 0.5A 12KV

2600V AT CARRIER LEVEL
0-5200V AT 100% MODULATION.
1838 V RMS

MODULATED FINAL PLATE B+

R? 58729 OHMS LOAD FOR SCREEN MODULATOR CIRCUIT.
49207 31.4 MA AC RMS
57.52 WATTS RMS CONSUMED

845VAC P-P AC SIGNAL AT 100% MOD.
298 V RMS AC, 31.4 MA RMS AC

NEG MOD KEEP-ALIVE
130-260VDC (DOWNWARD LIMIT OF MODULATED VOLTAGE DURING OVERMODULATED NEGATIVE PEAK

500VDC AT CARRIER CONDITION.
250-750V AT 100% MODULATION.
500VAC PEAK TO PEAK AUDIO TO SCREEN.
176.7 VAC RMS AND 0.053A RMS, 9.37 WATTS RMS

MODULATED SCREEN VOLTS

XFMR 8000 OHMS

XFMR 2800 OHMS

9522 OHMS REFLECTED SCREEN IMPEDANCE

SCREEN IMPEDANCE AT 500VDC AND 150MA IS 3333.OHMS.

500VDC

SCREEN MODULATION TRANSFORMER

Off of the Varimatch Terminal Arrangement for CG-512

Secondary G-F-F-G


500 Ohm Input Connect to 1 & 5 Join 3 & 4 = 1:2.5 Ratio

200 Ohm Input Connect to 2 & 5 Join 3 & 4 = 1:3.8

50 Ohm Input Connect to 4 & 5 Join 1 & 4, 2 & 5 =1:7.5

It's apparently a carryover from the older pre 50's PA line of Varimatch audio which lists a Varimatch Driver PA-512 With the recommended driven tubes being;

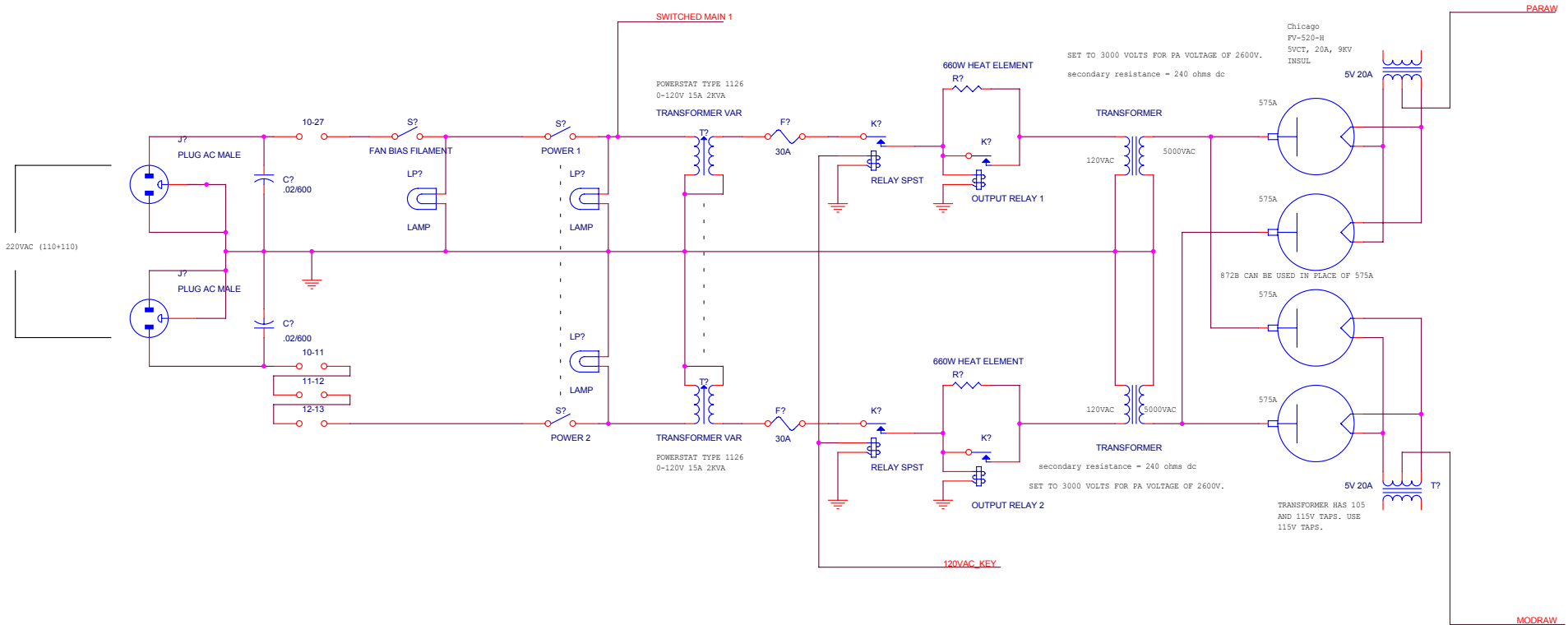
- 2-250TH
- 2-450TH
- 2-HF200
- 2-HF300
- 2-204A
- 2-849



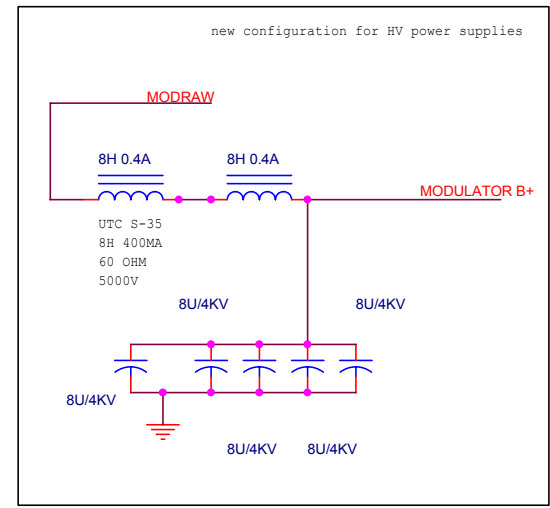
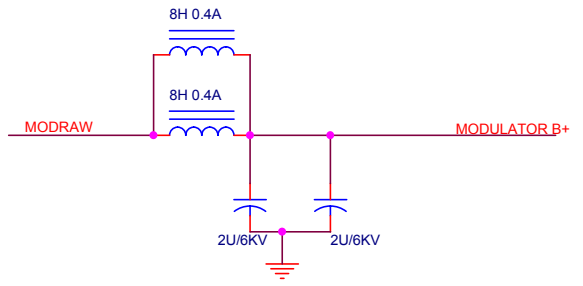
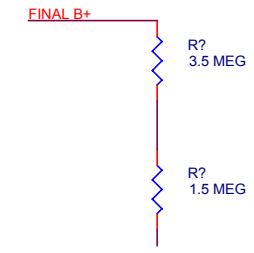
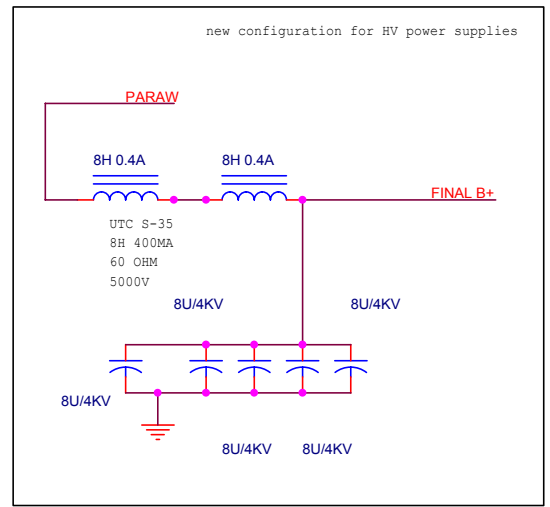
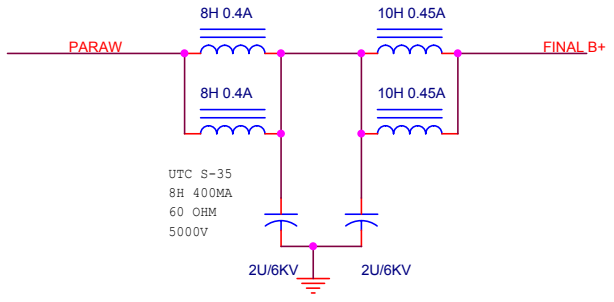
Chicago RC8300
8H, 300mA, 65 ohms, 3500V

ORIGINAL SCREEN MODULATION CHOKE

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TUCKER TRANSMITTER			
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Custom	HV RECTIFIER		
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Title		
TUCKER TRANSMITTER		
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	Custom HV POWER SUPPLY FILTERS	
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LUG STRIP 3 POSITION
 1 FRONT
 2 MID
 3 REAR

TERMINAL STRIP WIRING TYPE
 ---2 POSITION:
 FRONT: HIGH VOLTAGE
 REAR: HIGH VOLTAGE
 ---9 POSITION:
 1: 2 BLACK SOLID
 2: 2 BLACK SOLID
 3: 1 BLACK SOLID
 4: 1 CLOTH
 5: 1 GREEN
 6: 1 BLACK SOLID
 7: 1 CLOTH
 8: 1 CLOTH
 9: 1 HIGH VOLTAGE, 1 CLOTH

OUTPUT VOLTAGE (CURRENTS
 DO NOT INCLUDE BLEEDER)
 1090VDC@0MA (BLEEDER ONLY)
 781VDC@78MA (10K LOAD)
 715VDC@145MA (5K LOAD)
 697VDC@175MA (4K LOAD)

TERMINALS 2-7 ARE CLOSED DURING SCREEN OVERLOAD CONDITION.
 TERMINALS 5-6 ARE CLOSED WHEN IN NORMAL OPERATION.

TURN ON TO ENGAGE SCREEN VOLTAGE
 LATCH RELEASE COIL (ENERGIZING SETS SCREEN OVERLOAD CONDITION)

