VXR-5000

EAR #5120 WEATHER RADIO

WX RADIO REPEATER INTERFACE

#1 EAR RADIO VOLUME CONTROL WILL NEED TO BE LOWERED ALL THE WAY DOWN.

#2 SPEAKER WIRE NEEDS TO BE DISABLED INSIDE OF RADIO, A SPST SWITCH CAN BE PLACED IN LINE FOR LOCAL RECEIVE IF DESIRED. RadioShack # 275-624 A (SPST)

#3 AN INTERNAL TRACE NEEDS TO BE CUT TO HAVE AUDIO WITHOUT MUTING. (SEE PICTURE DIAGRAM 1-A)

#4 EXTERNAL ANTENNA RECOMMENDED

#5 BUILD WX CIRCUIT (SEE DIAGRAM)

#6 BUILD WX RADIO RESET CIRCUIT (SEE DIAGRAM)

#7 WRITE PROGRAMMING MACROS WITH CODES

#8 ALL CIRCUITS + WX RADIO CAN BE PLACED IN SHIELDED BOX.

K4JDR

EAR WEATHER RADIO CIRCUIT
PROJECT SUPPLY LIST

1 - RADIO SHACK ENCLOSURE WITH P.C. BOARD ITEM # 270-283A

1 - 1 K-Ω RESISTORS

1 - NPN 3904 TRANSISTOR

2 - .022 mf CAPACITOR

1 - 12 VOLT RELAY RADIO SHACK # 275-241 A

1 - .5 AMP MINIFUSE WITH CIRCUIT BOARD HOLDERS

1 - 8 pin RJ-45 SURFACE MOUNT PHONE JACK

2 - RJ-45 8 pin MALE CONNECTORS

1 - (X) LENGTH OF 8 CONDUCTOR FLAT CABLE FOR RJ-45 FROM WALL JACK TO MIC/PROG OF VERTEX AND RI-310.

1 - DB 25 MALE CONNECTOR

K4JDR →

→ CONTINUED Supply List

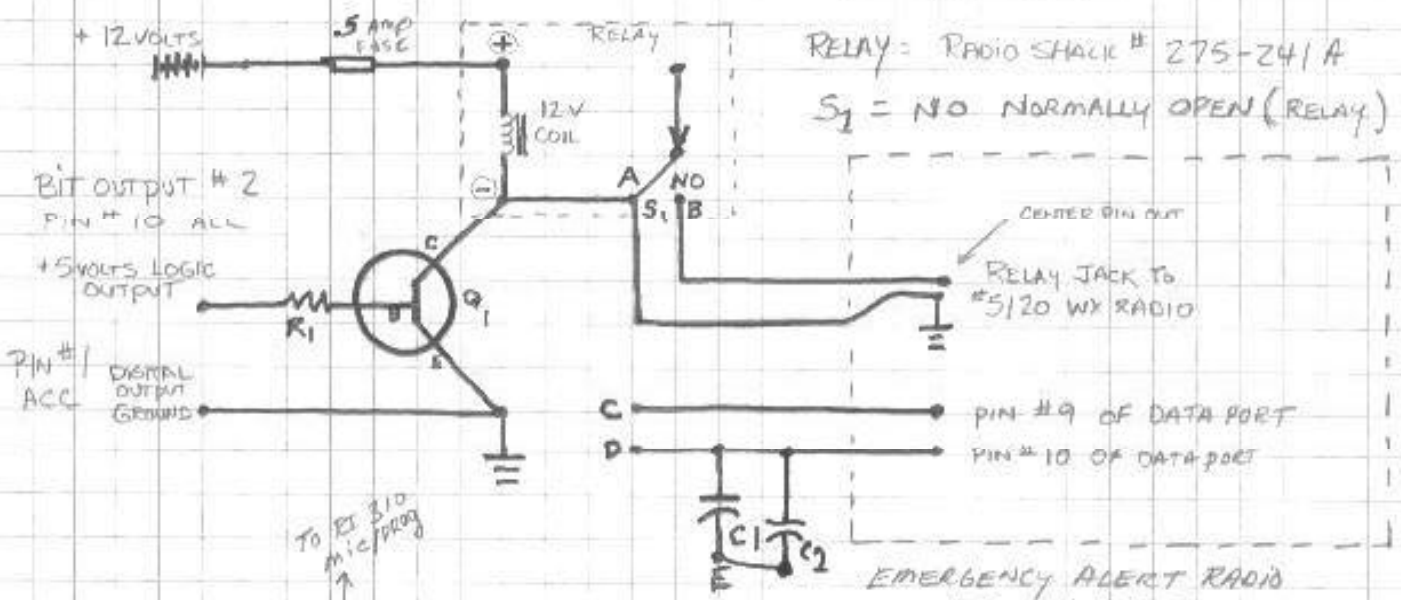
ASSORTED COLOR 24 GAUGE WIRE TO MAKE CIRCUIT CONNECTIONS, SOLDER AND TOOLS TO MAKE PROJECT.

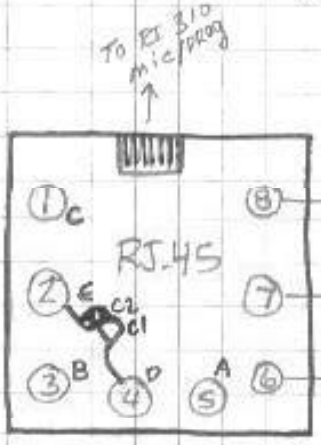
WIRE COLORS

RED
BLACK
GREY
ORANGE

– K4JDR

RI-310 & VERTEX VXR 5000 AND EAR INTERFACE





PIN OUTS

1. ON HOOK; DIGITAL GROUND, AUDIO GROUND CONNECTED WITH C ON SCHEMATIC
2. AF; CAPACITOR-C1 CONNECTED WITH E ON SCHEMATIC
3. PTT; RELAY CIRCUIT POSITIVE, CONNECTED WITH B ON SCHEMATIC
4. MIC; AUDIO, CONNECTED WITH D ON SCHEMATIC
5. GND; RELAY GROUND, CONNECTED TO A ON SCHEMATIC
6. – 8. NOT CONNECTED

RI 310
OPERATING MACRO
S-CMD 47

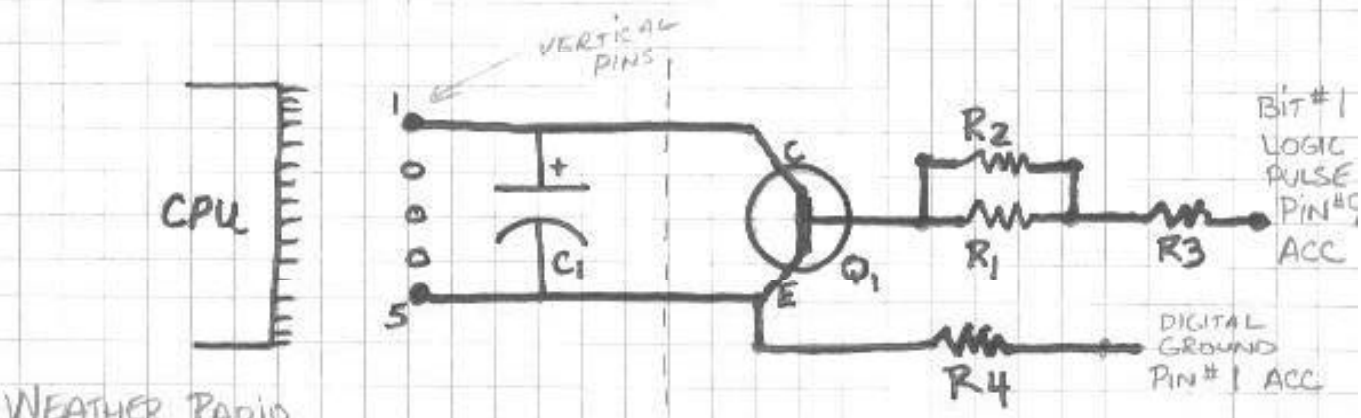
47 02 110 64

PULSE BIT # 2
PIN # 10 OF ACC
FOR 110 SECONDS

* MAKE A USER COMMAND CODE OF CHOICE TO OPERATE THIS MACRO

K4JDR

EAR WEATHER RADIO RESET CIRCUIT FOR RI-310



WEATHER RADIO #5120

R_1 = 1 K-Ω RESISTOR R_4 = 1 K-Ω

R_2 = 1 K-Ω RESISTOR

R_3 = 45 K-Ω RESISTOR (3 - 15 K RESISTORS)

Q_1 = NPN 3904 TRANSISTOR

RI-310
OPERATING MACRO
S-CMD 46

460100

64

PULSES BIT #1
FOR .0001 SECONDS

*MAKE A USER COMMAND TO OPERATE MACRO.

SUPPLIES NEEDED

1 - NPN 3904 TRANSISTOR

2 - 1 K-Ω RESISTORS

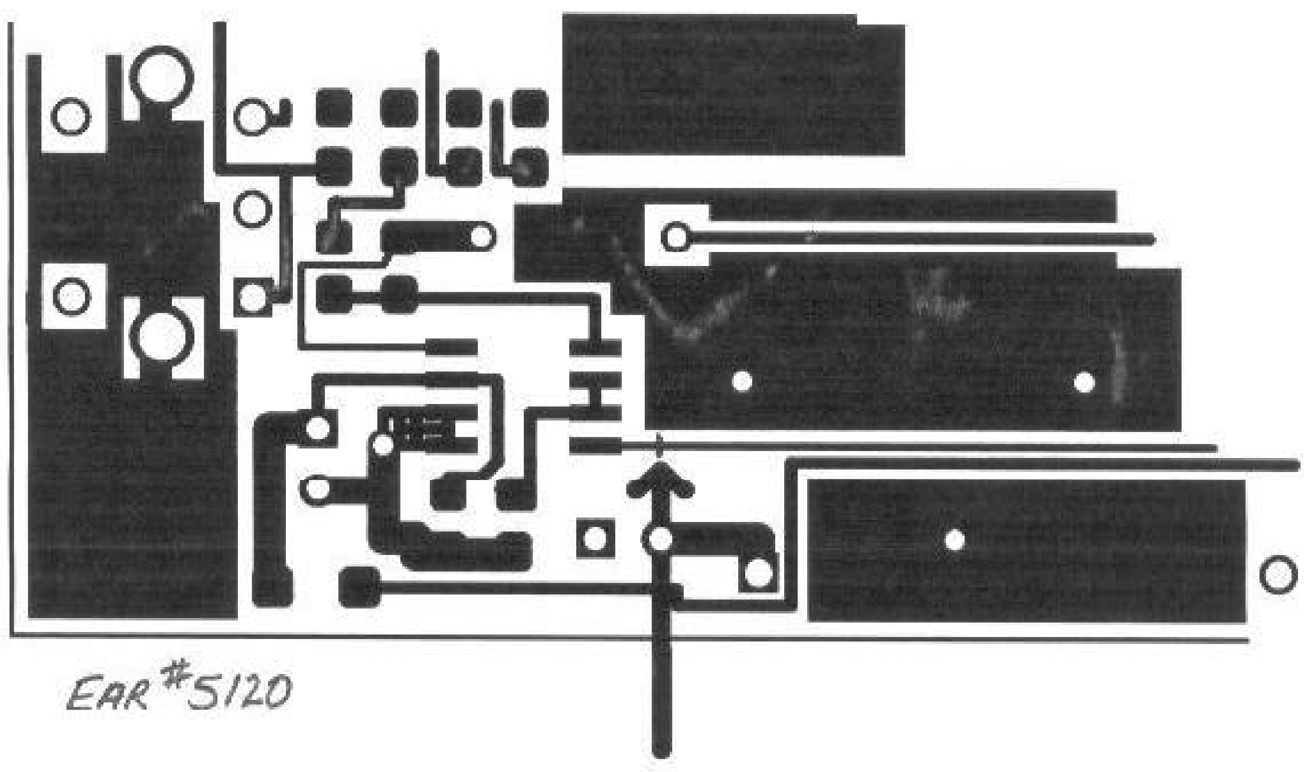
3 - 15K Ω RESISTOR

1 - 1000 PF CAPACITOR

1 - PROJECT CASE W/PC BOARD
RADIO SHACK # 270-283A

K4IDR

* THIS TRACK DISABLES THE MUTE FUNCTION SO THAT WX RADIO IS RECEIVED FULL TIME.



EAR #5120

Cut this track

DIAGRAM 1-A

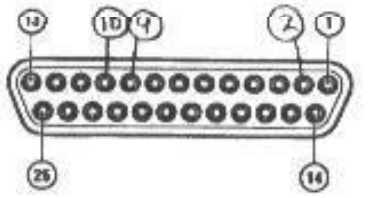
WB4YGEH/KI4JOR

ACC *Connector DB-25 Pin-Out Data*

Pin	Signal	Logic I/O	Active State
1	GND	Logic & PS ground	N/A
2	+13.8 V	N/A	N/A
3	TX AUDIO IN	Analog Tx input	N/A
4	TONE IN	Analog TX input	N/A
5	AUDIO IN	Analog Input	N/A
6	DISC OUT	Analog Output	N/A
7	AUDIO GND	Analog Ground	N/A
8	S-METER OUT	Proportional output	N/A
9	COAXIAL SWITCH	Logic Output	Active Low
10	NSQ OFF	Logic Input	Active Low
11	NSQ DET	Logic Output	Active Low
12	PTT	Logic Input	Active Low
13	BASE	Logic Input	Active Low
14	GND	Logic & PS ground	N/A
15	DCS IN	DCS/LTR Data Input	< 2.5V = logic 0 >2.5V = logic 1
16	TONE DET	Logic Output	Active Low
17	TONE OFF	Logic Input	Active Low
18	TX	Logic Output	Active Low
19	AUDIO MUTE	Logic Input	Active Low
20	SQL LOW	Logic Input	Active Low
21	DATA 0	Logic Input	Active Low
22	DATA 1	Logic Input	Active Low
23	DATA 2	Logic Input	Active Low
24	RST (+)	Logic Input	level of 3-5 V DC causes CPU reset
25	RST (-)	Logic Input	

VERTEX

VXR-5000



ACC Jack
DB-25 Pin Numbering

FEMALE DB-25 CONNECTIONS

From: Ronnie J Casey <K4JDR@juno.com>
To: K4JDR-1
Subject: Fw: Re:Pin Connections for Vertex

VERTEX

MIC/PROG CONNECTION

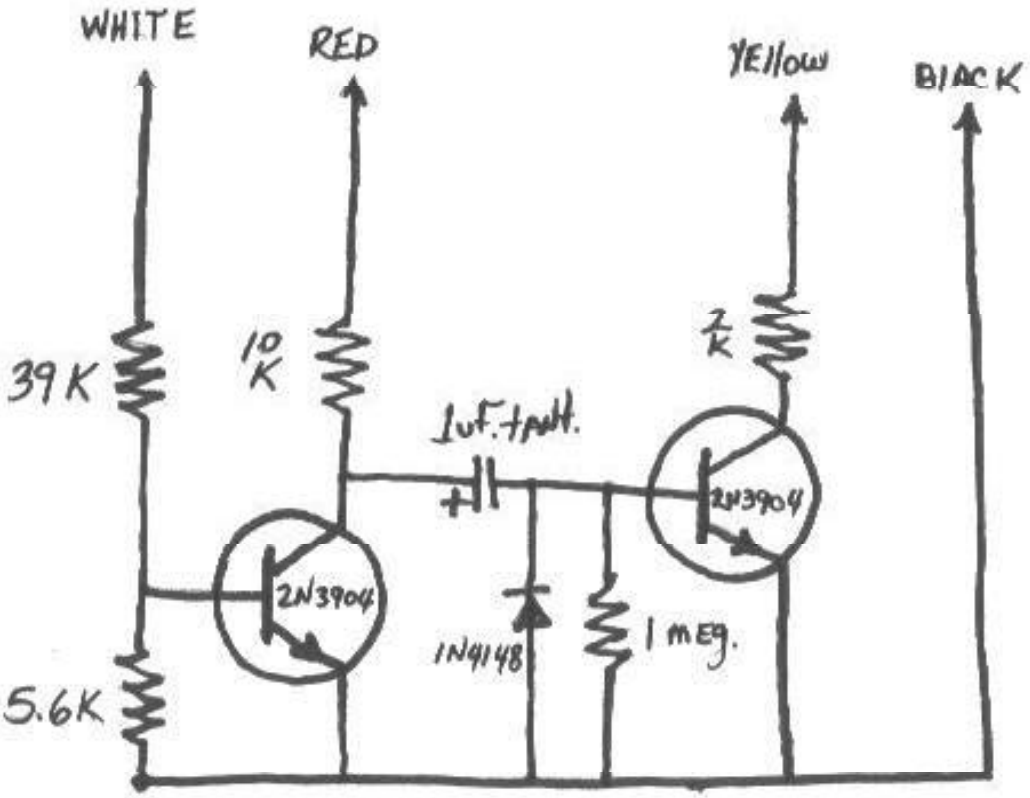
1--Hook
2--AF
3--PTT
4--MIC
5--GND
6--13.8 V
7--CL-SW
8-- Clone

Now, which is pin one on the connector?
The microphone I have here has only four wires in it. Looking into the connector from the front of the radio
Pin one seems to be on the extreme right hand side. (This is backwards from
telecom wiring).
Thus the wires in the microphone correspond with pins 1,3,4,5, pin 2 has no
wire connection to the cable.
According to the schematic, pin 2 is speaker audio with a 2.2 ohm resistor in
series.

ASTRON RESET

MODIFICATION #1

RS-20



Supplies

2 - 2N3904 NPN

1 - 1N4148 DIODE

#22-G WIRE IN YELLOW, BLACK, RED, WHITE. 8 INCHES

1 - uF 50 VOLT tatalum CAPACITOR

1 - 2 KΩ RESISTOR

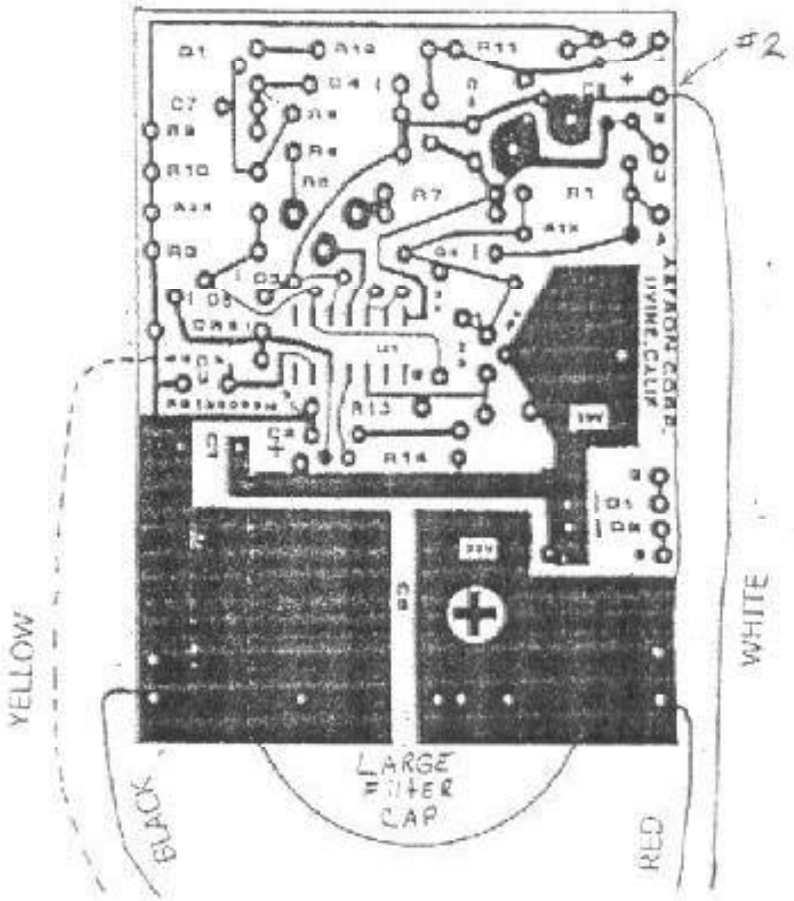
1 - 5.6 KΩ RESISTOR

1 - 10 KΩ RESISTOR

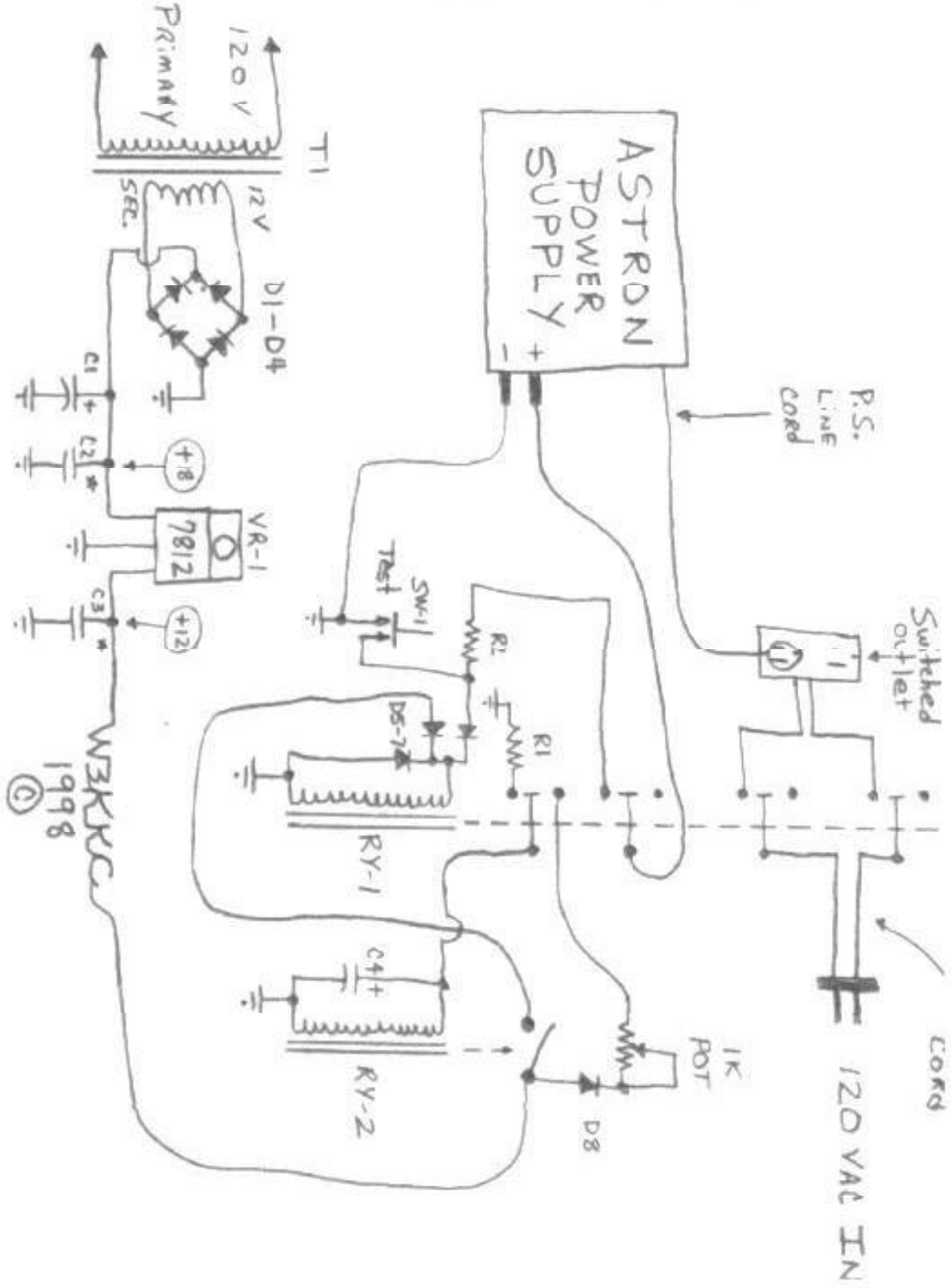
1 - 39 KΩ RESISTOR

1 - 1 MEG ohm RESISTOR

ASTRON MOD #1



ASTRON MOD #2


PRIMARY
120 V
T1
SEC.
12 V
D1-D4
C1
C2
+18
VR-1
7812
C3
+12
W3KKC
1998
©
ASTRON
POWER
SUPPLY
+
-
P.S.
LINE
CORD
SW-1
Test
R1
R1
DS-7
RY-1
C4
RY-2
D8
1K
POT
Switched
outlet
CORD
120 VAC IN