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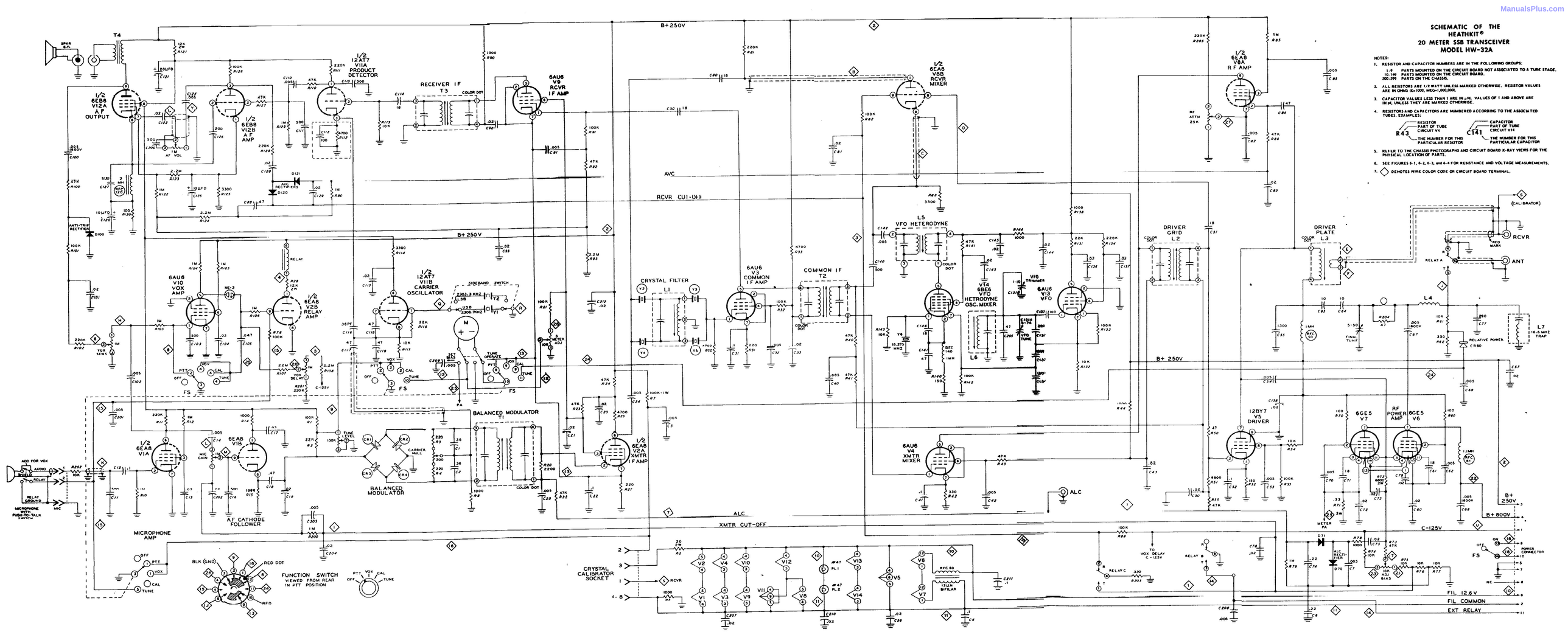
SCHEMATIC OF THE HEATHKIT® 20 METER SSB TRANSCEIVER MODEL HW-32A

NOTES:

1. RESISTOR AND CAPACITOR NUMBERS ARE IN THE FOLLOWING GROUPS:
   1-99 PARTS MOUNTED ON THE CIRCUIT BOARD NOT ASSOCIATED TO A TUBE STAGE.
   100-149 PARTS MOUNTED ON THE CIRCUIT BOARD.
   200-299 PARTS ON THE CHASSIS.
2. ALL RESISTORS ARE 1/2 WATT UNLESS MARKED OTHERWISE. RESISTOR VALUES ARE IN OHMS (K=1000, MEG=1,000,000).
3. CAPACITOR VALUES LESS THAN 1 ARE IN μF. VALUES OF 1 AND ABOVE ARE IN μμF, UNLESS THEY ARE MARKED OTHERWISE.
4. RESISTORS AND CAPACITORS ARE NUMBERED ACCORDING TO THE ASSOCIATED TUBES. EXAMPLES:
   R43 — RESISTOR, PART OF TUBE CIRCUIT V4; THE NUMBER FOR THIS PARTICULAR RESISTOR
   C141 — CAPACITOR, PART OF TUBE CIRCUIT V14; THE NUMBER FOR THIS PARTICULAR CAPACITOR
5. REFER TO THE CHASSIS PHOTOGRAPHS AND CIRCUIT BOARD X-RAY VIEWS FOR THE PHYSICAL LOCATION OF PARTS.
6. SEE FIGURES 6-1, 6-2, 6-3, and 6-4 FOR RESISTANCE AND VOLTAGE MEASUREMENTS.
7. ◇ DENOTES WIRE COLOR CODE OR CIRCUIT BOARD TERMINAL.



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T4
SPKR 8Ω
12K 2W R121
+ 20µFD C121
100K R126
220K R111
1/2 12AT7 V11A PRODUCT DETECTOR
C110 .005
47K R110
C113 500
1000 R90
RECEIVER IF T3
COLOR DOT
C114 18
R113 10K
.02 C90
1/2 6EB8 V12A AF OUTPUT
C124 .005
.02 C122
500 C200
1M AF VOL
200 C126
47K R127
1/2 6EB8 V12B AF AMP
1M R129
500 C111
C112 100
4700 R112
220K R128
.02 C128
D121
AVC RECTIFIERS
D120
.02 C129
1M R80
.005 1800V C100
47K R100
5UU
2 MH RFC 120
C127
2.2M R123
1M R122
+ 10µFD C125
3300 R125
C88 .47
2.2M R124
10µFD C120
100 R120
ANTI-TRIP RECTIFIER
D100
100K R101
.02 C181
B+ 250V
.02 C93
3300 R114
.02 C115
1/2 12AT7 V11B CARRIER OSCILLATOR
SIDEBAND SWITCH
2303.3 KHZ LSB
Y2
USB 2306.7KHZ
Y1
Q
R
M
36PF C116
47 C118
47 C117
22K R116
10K R115
VOX
PTT
CAL
TUNE
OFF
FS
SET BIAS
C209 .005
TUNE OPERATE
PA
25
12
13
6AU6 V10 VOX AMP
NE-2
R28 12K 2W
RELAY
1M R104
1M R105
1M R106
R76 100K
1/2 6EA8 V2B RELAY AMP
1M R103
220K R102
VOX SENS
.005 C102
500 C103
.02 C104
.047 C105
22M R107
2.2M R108
VOX DELAY
R201 220K
C-125V
.005 C201
220K R11
1M R12
1000 R14
.02 C17
100K R1
22K R2
TUNE LEVEL
1/2 6EA8 V1A
.005 C14
MIC GAIN
6EA8 V1B
.47 C18
.02 C19
.02 C202
500 C16
1000 R15
AF CATHODE FOLLOWER
.005 C203
1M R200
.02 C204
CR1
CR2
CR3
CR4
CARRIER NULL
BALANCED MODULATOR
220 R3
200
220 R4
36 C1
36 C2
1000 R8
COLOR DOT
BALANCED MODULATOR T1
ADD FOR VOX
AUDIO
SHIELD
RELAY
RELAY GROUND
MICROPHONE WITH PUSH-TO-TALK SWITCH
MIC
R202 10K
C12 .1
.005 C11
1M R10
.02 C13
MICROPHONE AMP
OFF
PTT
VOX
CAL
TUNE
BLK (GND)
RED DOT
RED
FUNCTION SWITCH
VIEWED FROM REAR
IN PTT POSITION
PTT VOX CAL OFF TUNE

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B+250V

220K R81

C80 .1

6AU6 V9 RCVR I F AMP

C30 .1

100K R91

.005 C81

47K R92

AVC

RCVR CUT-OFF

2.2M R93

C212 .02

100K R81

S METER ADJ 10K

CAL

TUNE

47K R24

.005 C24

100K-1W R7

47K R23

.02 C23

4700 R25

.02 C21

.005 C3

1/2 6EA8 V2A XMTR I F AMP

R20 2200

COLOR DOT

.005 C20

47K R22

.1 L22

220 R27

ALC

XMTR CUT-OFF

CRYSTAL FILTER

L1

Y2 Y3 Y4 Y5

6AU6 V3 COMMON I F AMP

4700 R33

100K R32

4700 R30

.1 C31

220 R31

.005 C32

.02 C33

COMMON I F T2

COLOR DOT

47K R40

.005 C40

47K R41

1/2 6EA8 V8B RCVR MIXER

100K R82

.02 C81

L5 VFO HETERODYNE

C142 .005

C140 500

47K R141

C145 .02

R144 1000

.02 C144

.02 C143

COLOR DOT

V14 6BE6 VFO HETRODYNE OSC. MIXER

VFO TRIMMER 1-10 C131B

6AU6 V13 VFO

R143 10K

Y6 18.275 MHZ

C146 18

C141 47

RFC 140 1MH

R140 150

100K R142

L6

47 C205

C131A 6-74 VFO TUNE

C135 200 C132 1000 C133 1000 C134

6AU6 V4 XMTR MIXER

47K R43

.1 C41

330 R42

.005 C42

CRYSTAL CALIBRATOR SOCKET

20 2W R5

RCVR

1000 DK

V2 V4 V10 V12 V13 V6 V1 V3 V9 V11 V8 V14 V7 V5

#47 PL 1

#47 PL 2

RFC 80

13 µH BIFILAR

C207 .02

C210 .02

.02 C56

C211 .1

.1 C4

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SCHEMATIC OF THE HEATHKIT®
20 METER SSB TRANSCEIVER
MODEL HW-32A

NOTES:

1. RESISTOR AND CAPACITOR NUMBERS ARE IN THE FOLLOWING GROUPS:

1-9	PARTS MOUNTED ON THE CIRCUIT BOARD NOT ASSOCIATED TO A TUBE STAGE.
10-149	PARTS MOUNTED ON THE CIRCUIT BOARD.
200-299	PARTS ON THE CHASSIS.

2. ALL RESISTORS ARE 1/2 WATT UNLESS MARKED OTHERWISE. RESISTOR VALUES ARE IN OHMS (K=1000, MEG=1,000,000).

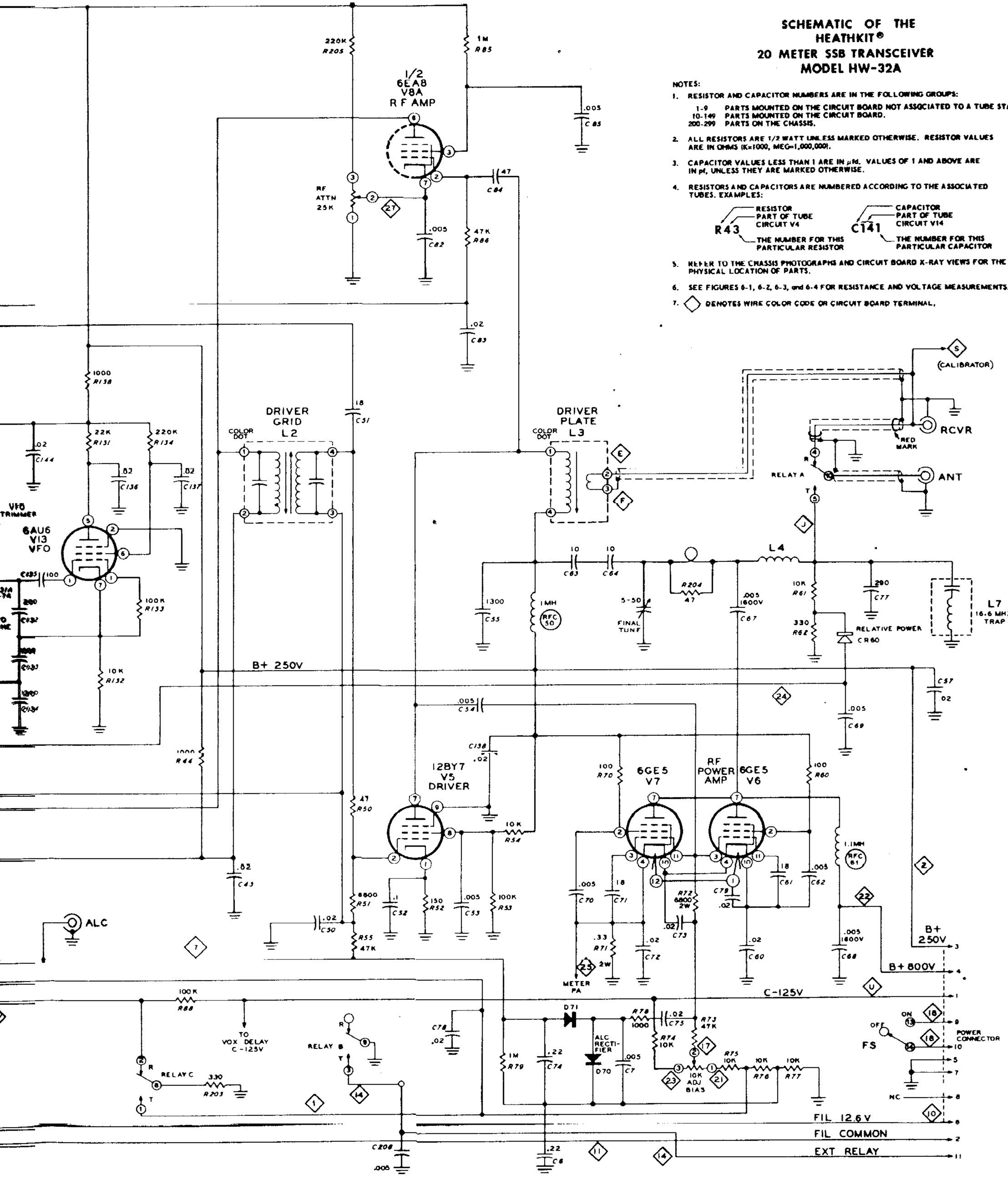
3. CAPACITOR VALUES LESS THAN 1 ARE IN µfd. VALUES OF 1 AND ABOVE ARE IN pf, UNLESS THEY ARE MARKED OTHERWISE.

4. RESISTORS AND CAPACITORS ARE NUMBERED ACCORDING TO THE ASSOCIATED TUBES. EXAMPLES:

   R43 — R: RESISTOR; 4: PART OF TUBE CIRCUIT V4; 3: THE NUMBER FOR THIS PARTICULAR RESISTOR

   C141 — C: CAPACITOR; 14: PART OF TUBE CIRCUIT V14; 1: THE NUMBER FOR THIS PARTICULAR CAPACITOR

5. REFER TO THE CHASSIS PHOTOGRAPHS AND CIRCUIT BOARD X-RAY VIEWS FOR THE PHYSICAL LOCATION OF PARTS.

6. SEE FIGURES 6-1, 6-2, 6-3, and 6-4 FOR RESISTANCE AND VOLTAGE MEASUREMENTS.

7. ◇ DENOTES WIRE COLOR CODE OR CIRCUIT BOARD TERMINAL.