6-80 METER SSB/AM/CW RECEIVER

FOR: NOVICE—TECHNICIAN—GENERAL

10 TUBES, DUAL CONVERSION

Only 129.95 No Money Down

- 10 Tube Superheterodyne Circuit
- Product Detector for CW/SSB—Diode Detector for AM
- Two 455 KC Mechanical Filters for Sharp Selectivity
- Illuminated Calibrated S-Meter
- Dual Conversion On All Bands
- Built-In 100 KC Crystal Calibrator
- "Always-On" Oscillator Filament

HA-500

6 HAM BANDS INCLUDING 6 METERS

80 Meters	40 Meters	20 Meters	15 Meters	10 Meters	6 Meters
3.5-4.0 MC	7.0-7.3 MC	14.0-14.35 MC	21.0-21.45 MC	28.0-29.7 MC	50.0-54.0 MC

Outstanding Lafayette Model HA-500 receiver features tuned RF and 1st mixer stages which provide maximum sensitivity and front end selectivity for high signal to noise ratio with superb image rejection. Dual intermediate frequency circuits utilize two ceramic 455 KC mechanical filters for additional wave shaping. Product detector and BFO combine for crisp and clear CW and SSB. OB2 voltage regulator supplies oscillator with regulated B plus voltage for virtually drift-less operation. Full time automatic voume control is automatically set to provide standard operation on AM and fast attack-slow decay on CW and SSB. Illuminated slide rule dial is calibrated for easy reading. Accurate built-in 100 KC calibrator assures precise calibration. "Always On" oscillator filament increases stability and reduces warm-up time. Controls: Tuning, Calibration off/on, Automatic Noise Limiter off/on, Antenna Trim, RF Gain, AF Gain (volume control), Bandswitch, BFO Frequency, and Function Switch. **Sensitivity:** less than 1 μv. for 10 db signal to noise ratio on all bands. **IF Rejection:** —40 db. **Image Rejection:** —40 db. **Audio Output:** 1 watt. **Intermediate Frequencies:** 1st IF 2.608 MC, 2nd IF 455 KC. **Output Impedance:** 8 and 500 ohms. **Tube Complement:** 6BZ6 RF Amplifier, 6AU6 1st Mixer, 6AQ8 Local Oscillator, 6BE6 2nd Mixer, 2nd Local Oscillator, 6BA6 1st IF, 6BA6 2nd IF, 6AQ8 Product Detector and BFO. 6AQ8 AM Noise Limiter and 100 KC Crystal Calibrator, 6BM8 Audio Amplifier, OB2 Voltage Regulator. **Power Requirements:** 117 VAC. Imported. **Size:** 15W x 7½H x 10"D. Shpg. wt., 25 lbs.

99 P 2574WX $7 Monthly	Net	129.95
Model HE-48A 3 x 5 Speaker Mate for HA-500. 99 P 2569 Shpg. wt., 4 lbs.	Net	7.95
100Kc Calibrator Crystal for HA-500 40 P 0901L	Net	3.95

Amateur Equipment Is Available on Easy Pay Plan—No Money Down

TABLE 4. ALIGNMENT PROCEDURE

STEP	S. G. COUPLING AND INPUT SIGNAL	BAND SWITCH POS	RECEIVER DIAL SETTING	ADJUST	OUTPUT INDICATION	ADJUSTMENT LOCATION
Zero "S" meter	No Signal Input	---	---	Zero Adj at rear of receiver	S Meter reads zero	See Figure 2
Align 2nd IF	455 Kc, Mod. 30% at 400 cps. Connect S. G. between pin 7 of V4 and chassis	---	---	Both mechanical filters and IFT2	Adj for maximum reading on S meter	See Figures 6 and 7
Align BFO (Set function switch to SSB-CW)	Set S. G. to 455 Kc unmodulated. Connect S. G. between pin 7 of V4 and chassis	---	---	Core of BFO coil	Zero beat with BFO control set at center mark	See Figure 6
Align 1st IF	2.608 Mc. Connect S. G. between pin 1 of V2 and chassis	---	---	IFT1	Adj for maximum deflection on S meter	See Figures 6 and 7
Align 1st Oscillator	(1) Connect S.G. to ANT terminal. Set CAL adjustment (on front panel) to center mark. Do not move CAL adjustment for remainder of procedure					
	(2) Set S. G. to 3.5 Mc.	3.5	3.5 Mc	3.5 Mc OSC core	Adj for maximum deflection on S meter	See Figure 7
	(3) Set S. G. to 4.0 Mc.	3.5	4.0	3.5 Mc OSC trimmer	"	See Figure 7
	(4) Repeat (2) and (3)					
	(5) Set S. G. to 7.0 Mc	7	7.0 Mc	7 Mc OSC trimmer	"	See Figure 7

(6) Set S. G. to 7.3 Mc	7	7.3	7 Mc OSC trimmer	Adj for maximum reading on S meter	See Figure 7
(7) Repeat (5) and (6)					
(8) Set S. G. to 14.0 Mc.	14	14.0 Mc	14 Mc OSC core	"	See Figure 7
(9) Set S. G. to 14.35 Mc.	14	14.35 Mc	14 Mc OSC trimmer	"	See Figure 7
(10) Repeat (8) and (9)					
(11) Set S. G. to 21.0 Mc	21	21.0 Mc	21 Mc OSC core	Adj for maximum reading on S meter	See Figure 7
(12) Set S. G. to 21.45 Mc	21	21.45 Mc	21 Mc OSC trimmer	"	See Figure 7
(13) Repeat (11) and (12)					
(14) Set S. G. to 28.0 Mc.	28	28.0 Mc	28 Mc OSC core	"	See Figure 7
(15) Set S. G. to 29.7 Mc.	28	29.7 Mc	28 Mc OSC trimmer	"	See Figure 7
(16) Repeat (14) and (15)					
(17) Set S. G. to 50.0 Mc.	50	50.0 Mc	50 Mc OSC core	"	See Figure 7
(18) Set S. G. to 54.0 Mc.	50	54.0 Mc	50 Mc OSC trimmer	"	See Figure 7
(19) Repeat (17) and (18)					

Align ANT and RF Coils	(1) Set S. G. to 3.7 Mc.	3.5	3.7 Mc	Cores of 3.5 Mc antenna and RF coils	Adj for maximum reading on S meter	See Figure 7
	(2) Set S. G. to 7.15 Mc.	7	7.15 Mc	Cores of 7 Mc antenna and RF coils	"	See Figure 7
	(3) Set S. G. to 14.15 Mc.	14	14.15 Mc	Cores of 14 Mc antenna and RF coils	"	See Figure 7
	(4) Set S. G. to 21.2 Mc.	21	21.2 Mc	Cores of 21 Mc antenna and RF coils	"	See Figure 7
	(5) Set S. G. to 28.5 Mc.	28	28.5 Mc	Cores of 28 Mc antenna and RF coils	"	See Figure 7
	(6) Set S. G. to 51 Mc.	50	51.0 Mc	Cores of 50 Mc antenna and RF coils	"	See Figure 7

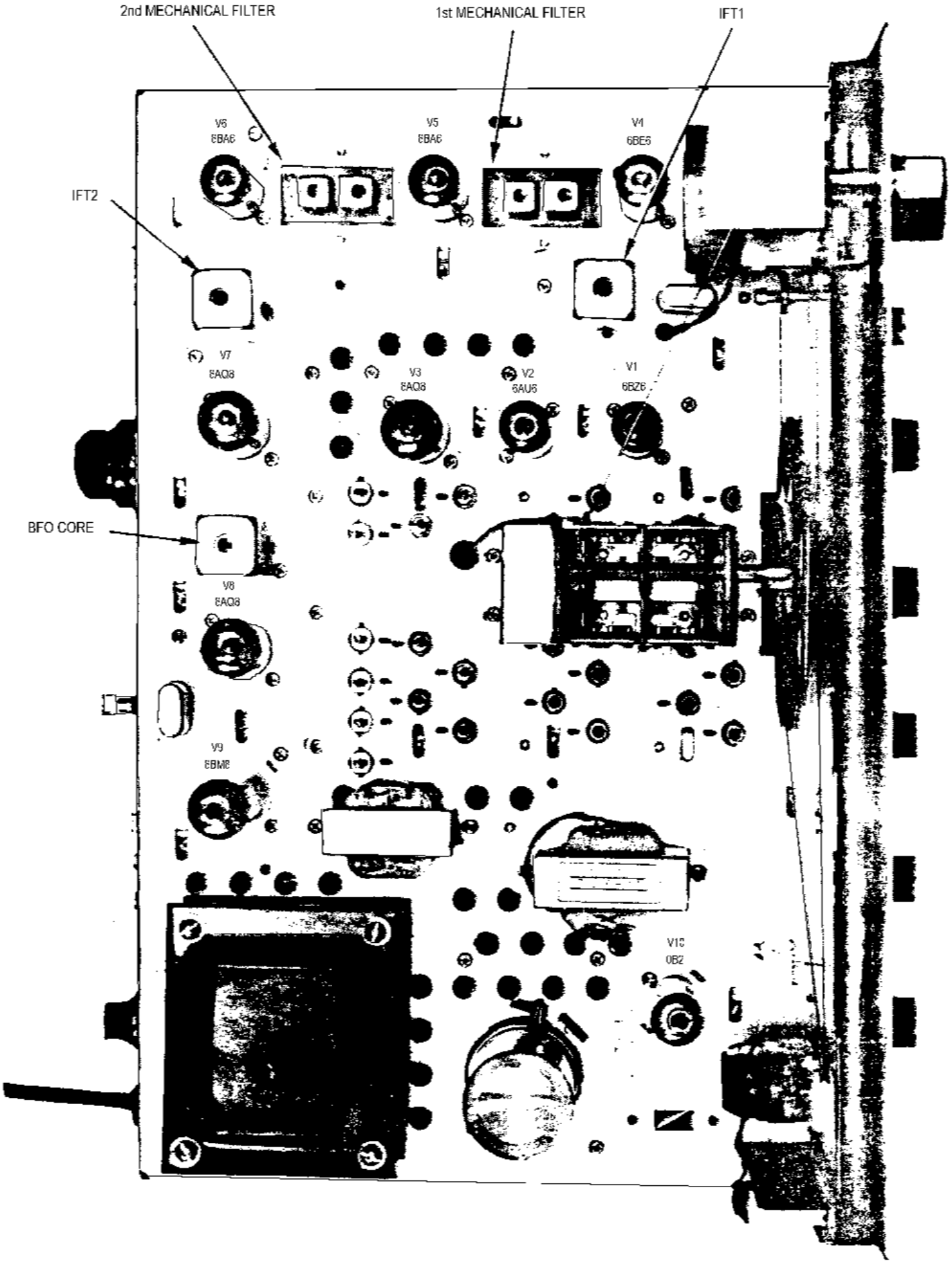


FIGURE 6. ALIGNMENT POINTS (TOP VIEW)

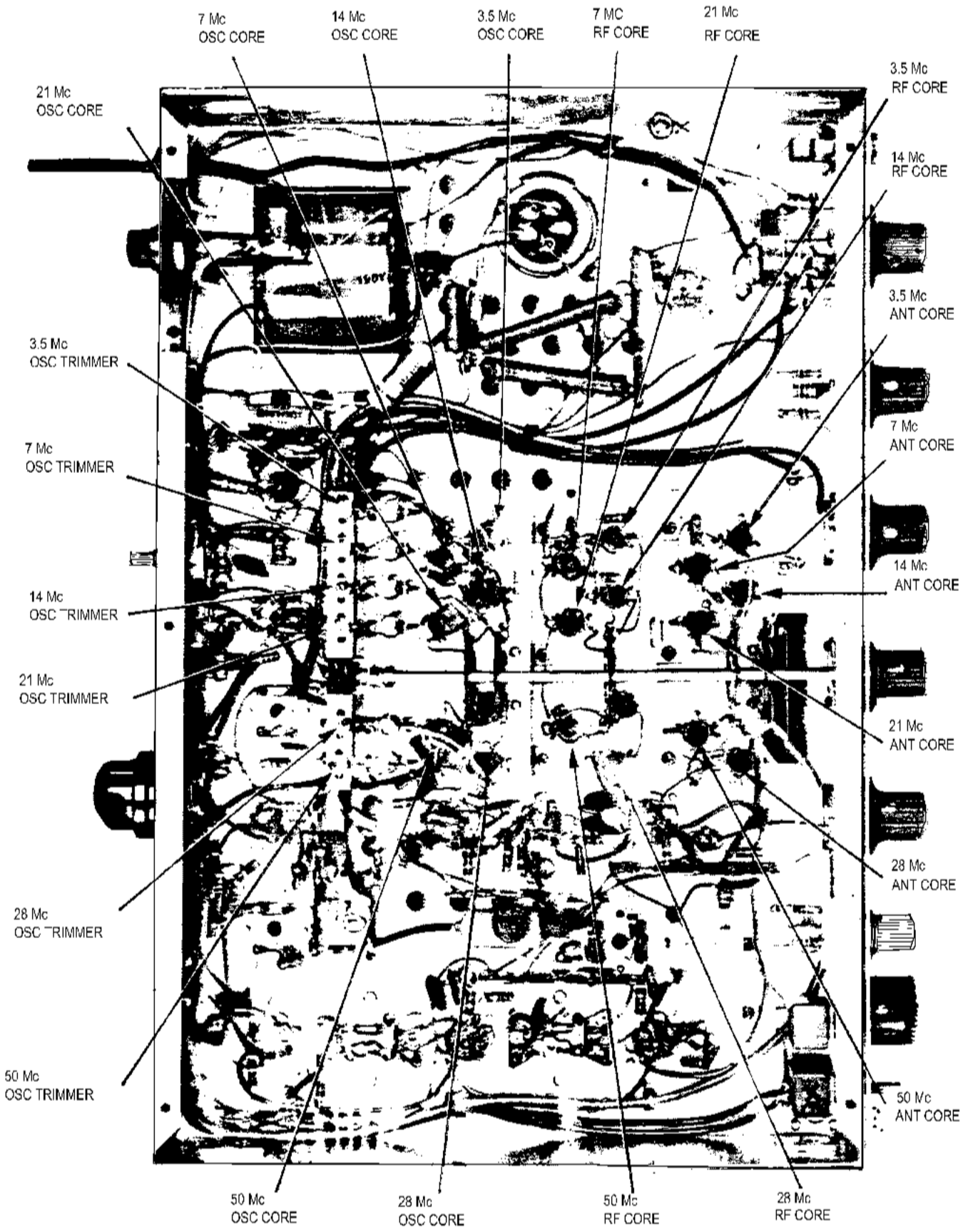
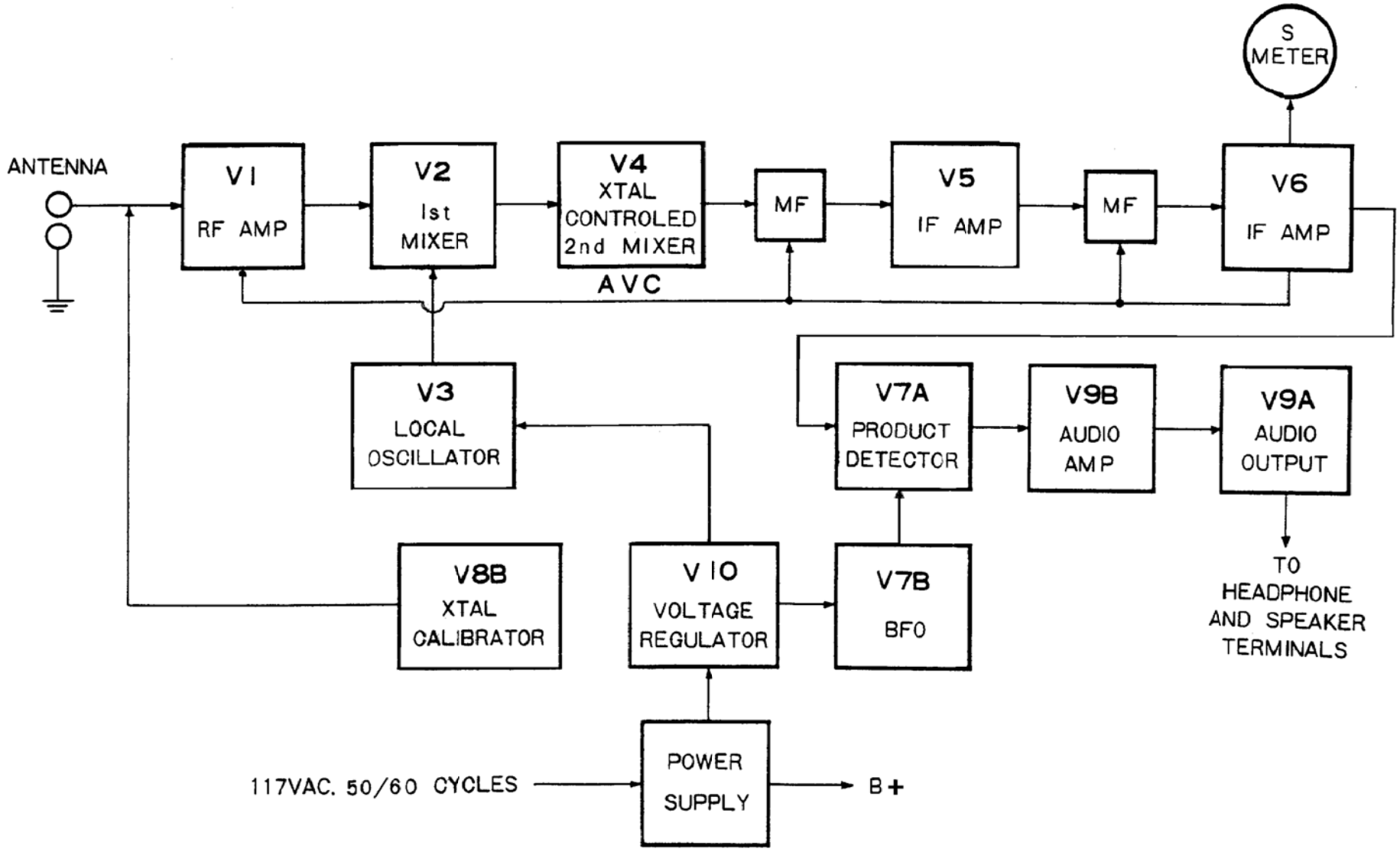


FIGURE 7. ALIGNMENT POINTS (BOTTOM VIEW)

FUNCTIONAL BLOCK DIAGRAM



RESISTANCE MEASUREMENTS

Table 3 lists the resistances measured at the tube socket pins. These measurements were made using a VOM and they may be used as a reference when trying to locate a malfunction in the receiver. All measurements have a tolerance of ±20%.

TABLE 3. RESISTANCE MEASUREMENTS

TUBE	PIN	RESISTANCE (Ohms)
V1-6BZ6	1	1.4 meg
	2	10K
	3	0
	4	0
	5	5.0 meg
	6	10.0 meg
	7	0
V2-6AU6	1	1.4 meg
	2	0
	3	0
	4	0
	5	5.0 meg
	6	5.0 meg
	7	500
V3-6AQ8	1	5.0 meg
	2	110K
	3	550
	4	0
	5	0
	6	5.0 meg
	7	50K
	8	0
	9	0
V4-6BE6	1	22K
	2	0
	3	0
	4	0
	5	5 meg
	6	5 meg
	7	1 meg
V5-6BA6	1	210K
	2	0
	3	0
	4	0
	5	5 meg
	6	5 meg
	7	10K
V6-6BA6	1	210K
	2	0
	3	0
	4	0
	5	5 meg
	6	5 meg
	7	400
V7-6AQ8	1	5 meg
	2	100K
	3	0
	4	0
	5	0
	6	5 meg
	7	50K
	8	2 ohms
	9	0
V8-6AQ8	1	160K
	2	160K
	3	2 meg
	4	0
	5	0
	6	5 meg
	7	100K
	8	0
	9	0
V9-6BM8	1	0 *
	2	330
	3	45K
	4	0
	5	0
	6	5 meg
	7	5 meg
	8	2.2K
	9	5 meg
V10-OA5	1	5 meg
	2	0

* Depends on pos of VC.

VOLTAGE AND RESISTANCE MEASUREMENTS

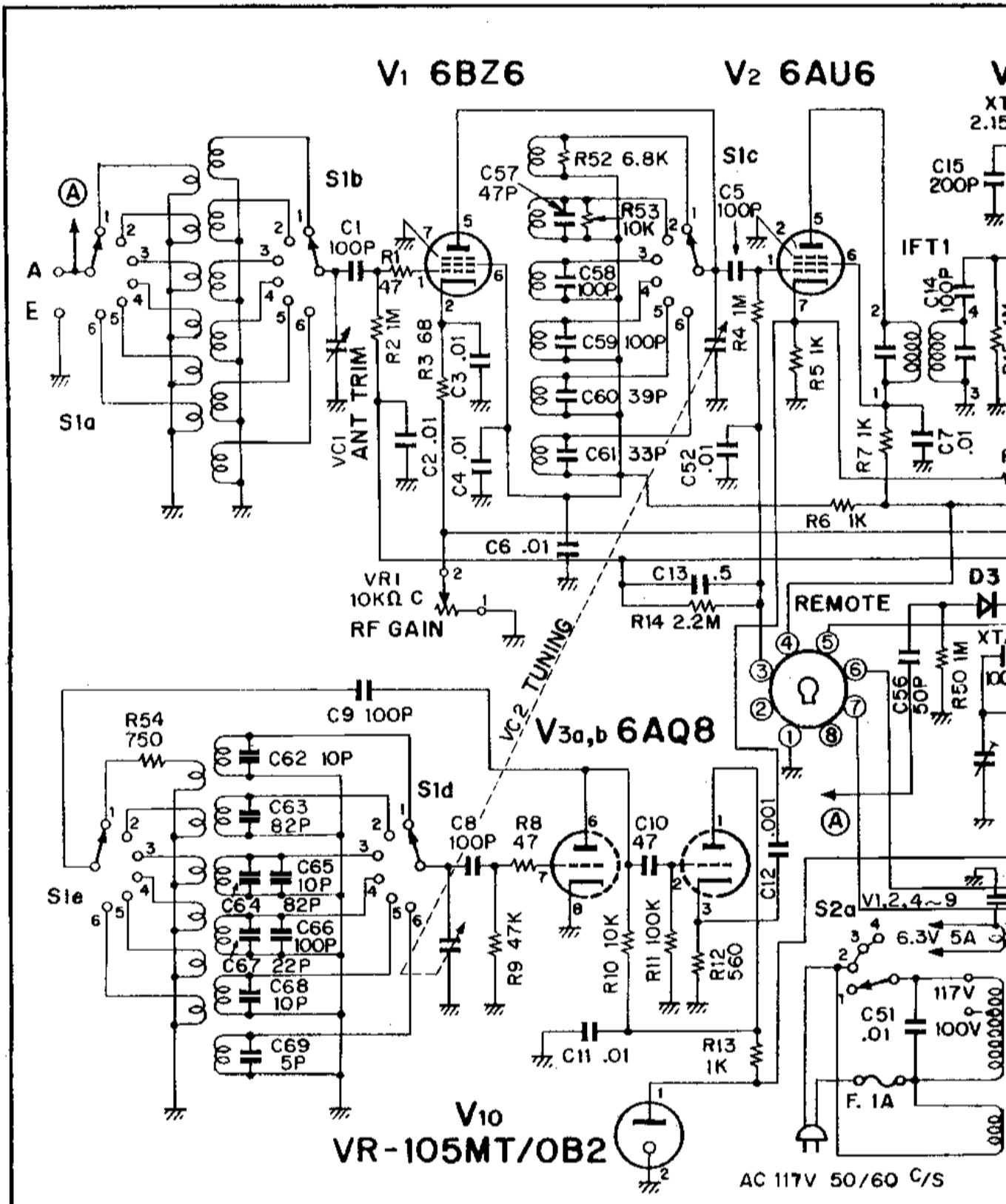
VOLTAGE MEASUREMENTS

Table 2 lists the voltages measured at the tube socket pins of the receiver. These measurements can be used as a reference when trying to locate a malfunction in the receiver. The measurements were made under the following conditions:

Meter used: VOM, 20,000/volt DC, 5,000 ohm volt AC. All measurements have a tolerance of ±20%.

TABLE 2. VOLTAGE MEASUREMENTS

TUBE	PIN	VOLTAGE
V1-6BZ6	1	0.0
	2	18.5
	3	.
	4	---
	5	155.0
	6	154.0
	7	0.0
V2-6AU6	1	0.0
	2	0.0
	3	---
	4	..
	5	155.0
	6	155.0
	7	3.0
V3-6AQ8	1	105.0
	2	0.0
	3	1.5
	4	---
	5	---
	6	80.0
	7	-2.6
	8	0.0
	9	---
V4-6BE6	1	-4.4
	2	0.0
	3	---
	4	---
	5	155.0
	6	32.0
	7	-1.1
V5-6BA6	1	NM
	2	0.0
	3	---
	4	---
	5	155.0
	6	155.0
	7	19.0
V6-6BA6	1	NM
	2	0.0
	3	---
	4	---
	5	155.0
	6	155.0
	7	4.4
V7-6AQ8	1	55.0
	2	-0.09
	3	0.0
	4	---
	5	---
	6	34.0
	7	-0.035
	8	0.0
	9	---
V8-6AQ8	1	-0.25
	2	-0.25
	3	0.0
	4	---
	5	---
	6	50.0
	7	-4.8
	8	0.0
	9	---
V9-6BM8	1	0.0
	2	10.2
	3	0.0
	4	---
	5	---
	6	220.0
	7	155.0
	8	1.26
	9	75.0
V10-0A2	1	110.0
	2	0.0



NOTE

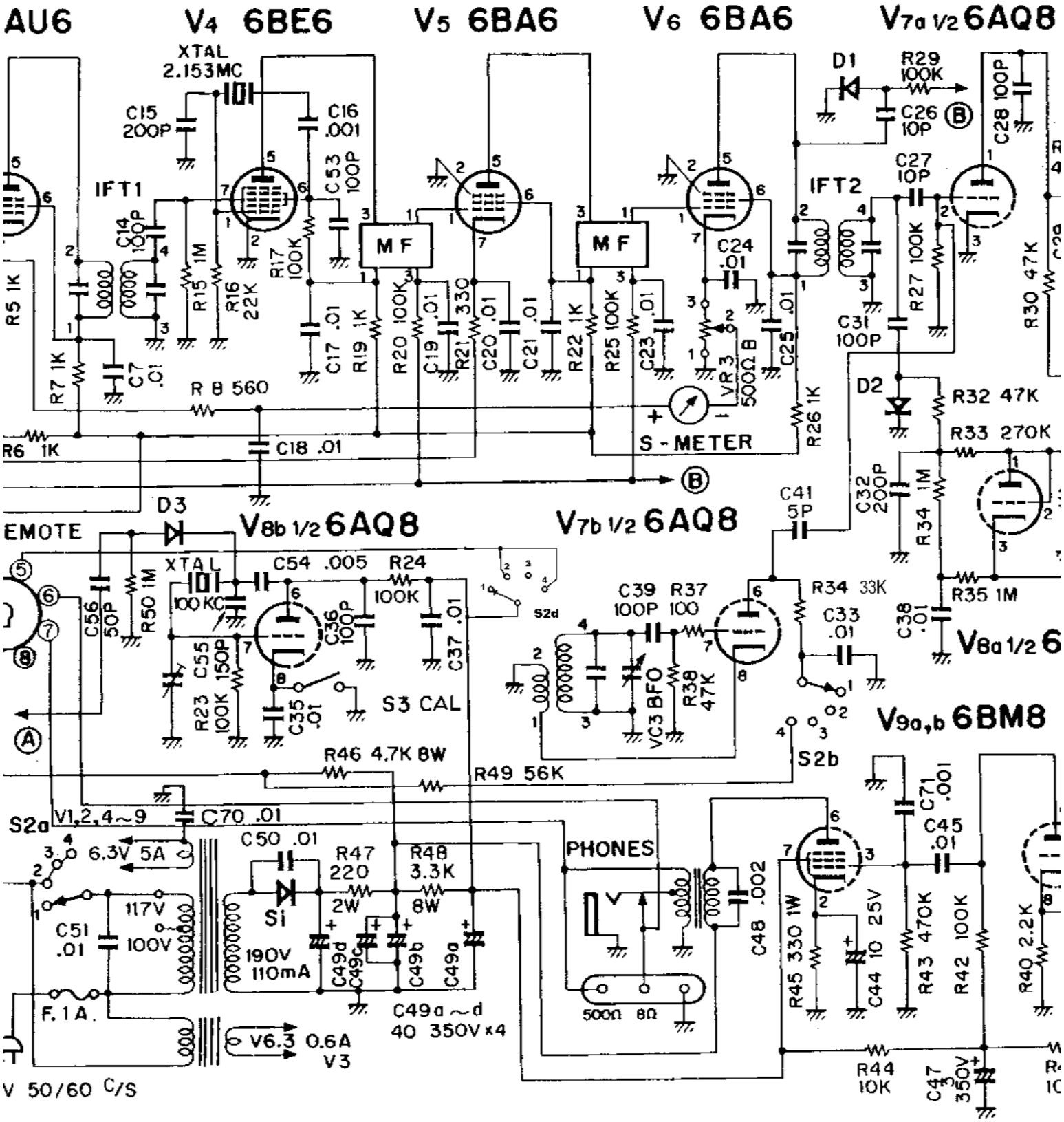
ALL RESISTORS ARE 1/2WATT UNLESS OTHERWISE SPECIFIED.

ALL RESISTORS VALUE ARE IN OHMS. K=1,000 M=1000,000

S1a~e BAND SW 1-3.5MC, 2-7MC, 3-14MC, 4-21MC, 5-28MC, 6-50MC,

S2a~d FUNCTION SW 1-OFF, 2-REC, 3-STAND BY, 4-SSB CW,

SCHEMATIC DIAGRAM



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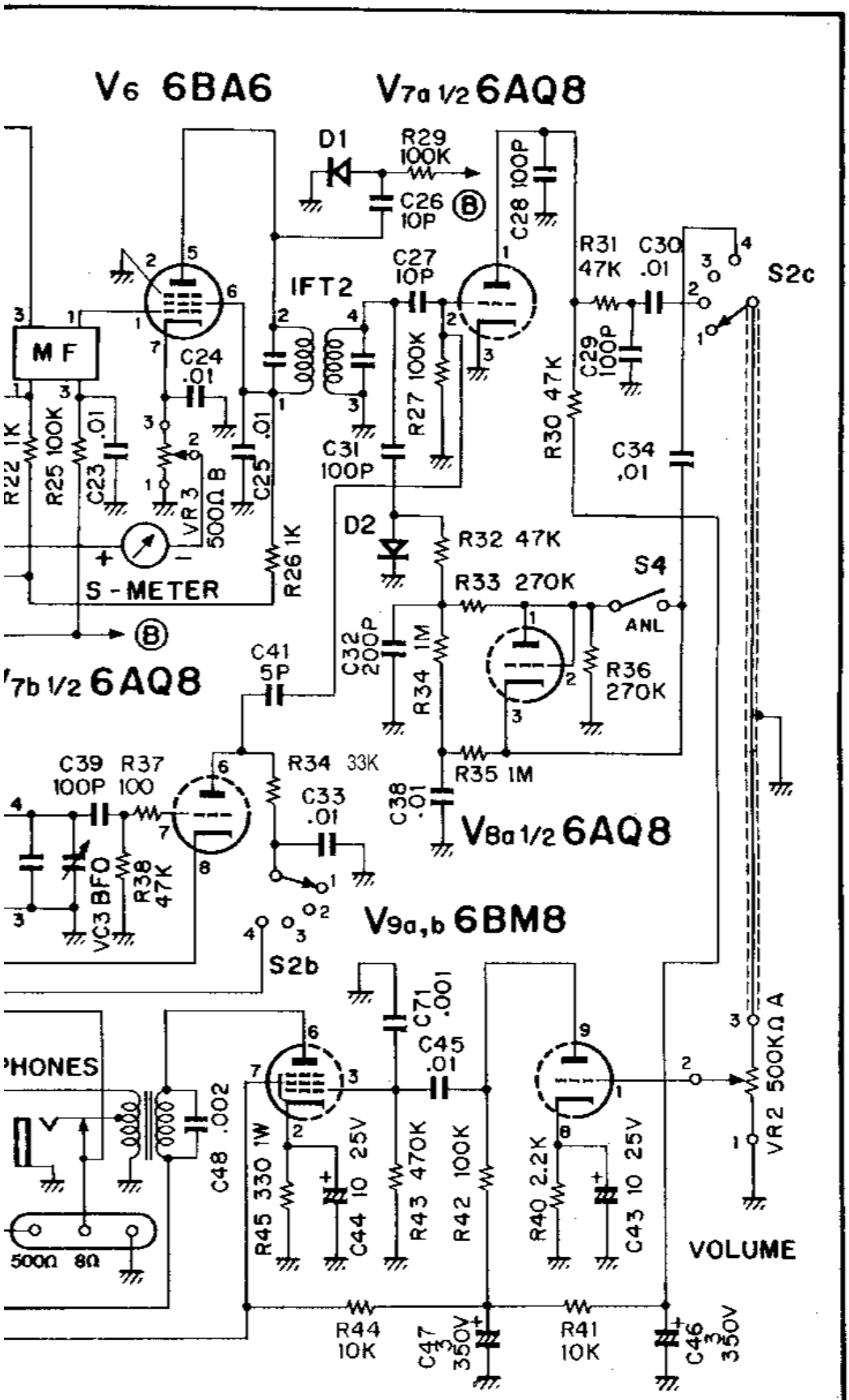
0,000

-28MC, 6-50MC,

-SSB CW,

SCHEMATIC OF THE LAF

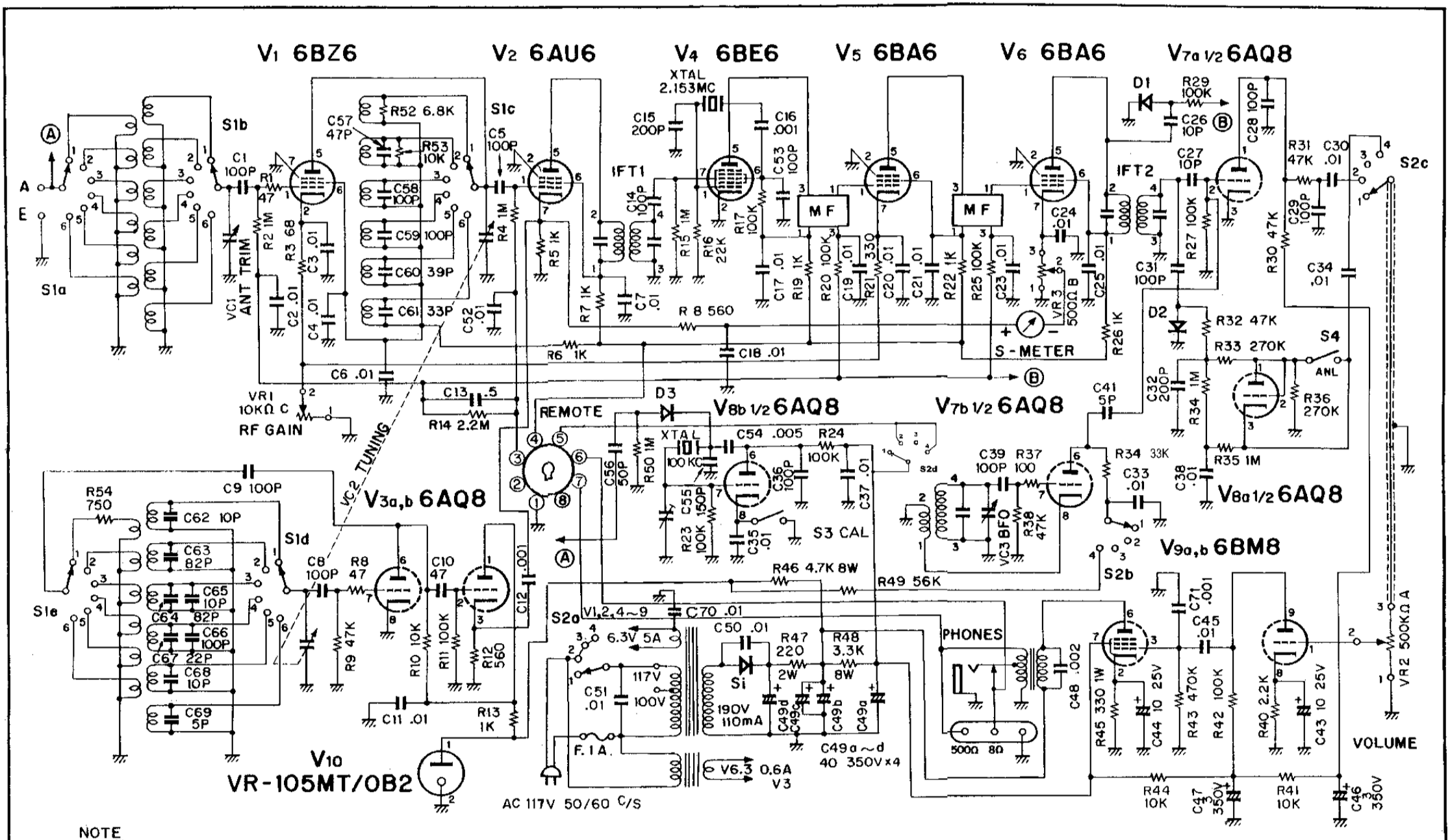
HAM BAND RECEIVER M



SCHEMATIC OF THE LAFAYETTE

HAM BAND RECEIVER MODEL HA-500

SCHEMATIC DIAGRAM



NOTE

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S1a~e BAND SW 1-3.5MC, 2-7MC, 3-14MC, 4-21MC, 5-28MC, 6-50MC,

S2a~d FUNCTION SW 1-OFF, 2-REC, 3-STAND BY, 4-SSB CW,

SCHEMATIC OF THE LAFAYETTE

HAM BAND RECEIVER MODEL HA-500