

★
UNCLASSIFIED

TECHNICAL MANUAL

for

93
/94

SIDEBAND SELECTOR
MODELS SBS-1 AND SBS-2

THE TECHNICAL MATERIEL CORPORATION
MAMARONECK, N Y. OTTAWA, ONTARIO

CHANGE NO. 1 SBS-1 and SBS-2



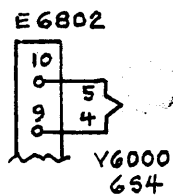
INSTRUCTION BOOK CHANGE NOTICE

Date 6/26/63

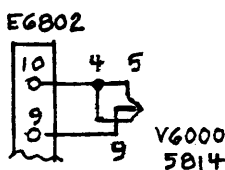
Manual affected: SBS-1 and SBS-2 IN -301

95/96
(a) FILAMENT WIRING CHANGE

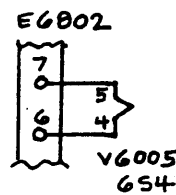
Figure II-8-1 Page II-8-1/II-8-2



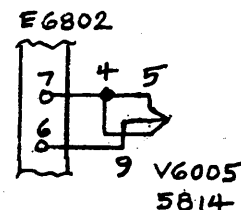
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NOW

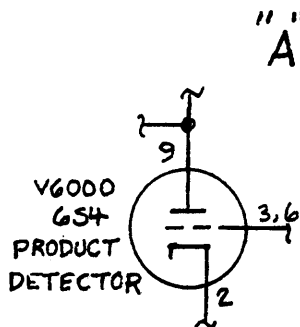


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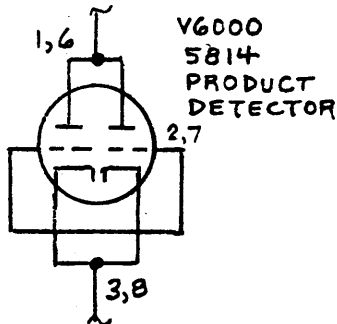


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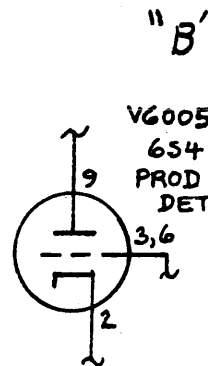
(b) Fig. II-8-1 Page II-8-3/II-8-4



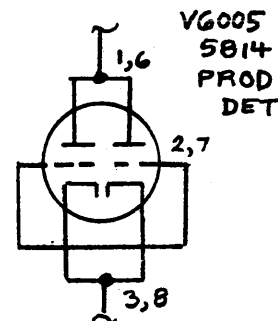
WAS



NOW



WAS



NOW

(c) Fig. II-4-5 Page II-4-9/II-4-10 Change V6000 from "6S4" to "5814" See "A" above

(d) Parts list Page II-7-7

Under description column for V6000 and V6005 change to read "medium-~~mu~~ dual triode"; under TMC part no. column change "6S4" to "5814"

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Attn.: Director of Eng. Services.

CHANGE NO. 2 SBS-1 and SBS-2



INSTRUCTION BOOK CHANGE NOTICE

Date **2-26-63**

Manual affected: **SBS-1 and SBS-2** IN **-301**

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Page II 7-2

A 6000 under Description Column Change

"253.88625 kc; bandwidth, 250.225 to 257.500 kc"

to read "246.1375 kc; bandwidth 242.500 to 249.775 kc"

A 6003 under Description Column Change

"246.1375 kc; bandwidth 242.500 to 249.775 kc"

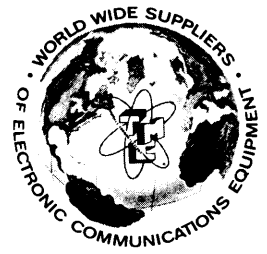
to read "253.88625 kc; bandwidth 250.225 to 257.500 kc"

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CHANGE NO. 3



INSTRUCTION BOOK CHANGE NOTICE

Date September 30, 1963

Manual affected: Sideband Selector Models SBS-1 and SBS-2 IN -301

Figure II-8-1, Sheet 1, page II-8-1/II-8-2

change J6804 250 KC IF Input to read

"J6804 250 KC IF Output"

page II-7-15

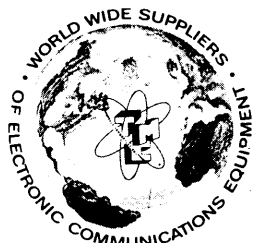
Y6200 Change Part No. from "CR-27/U - .705P" to
"CR-47/U - .705P"

99
/100

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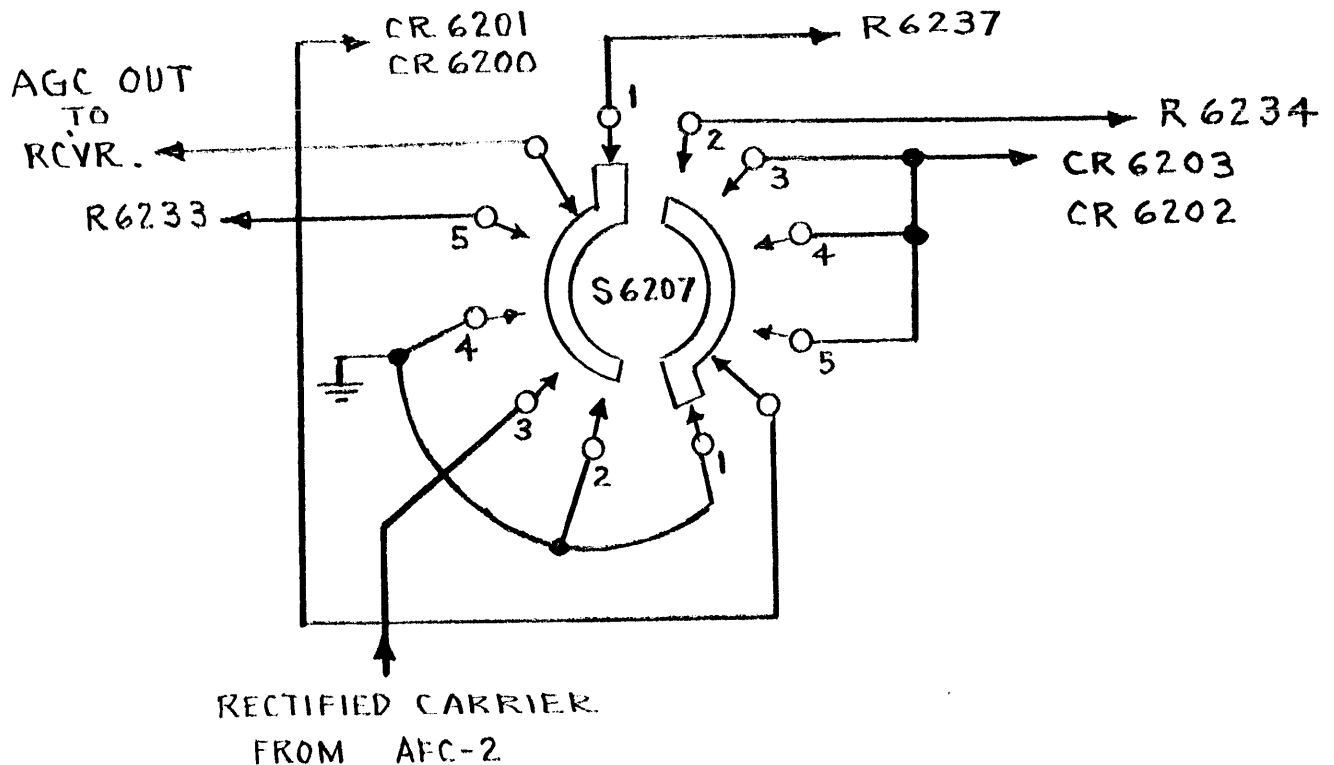


INSTRUCTION BOOK CHANGE NOTICE

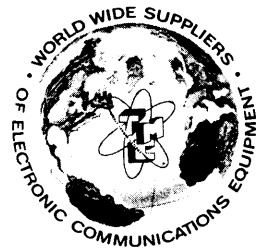
Date October 7, 1963

Manual affected: Sideband Selector Models SBS-1 and SBS-2 IN -301

page II-4-7 Figure II-4-4 AGC Comparator, Simplifier Schematic
Wiper contact connected to AGC output should be shown touching
left hand rotor segment of S6207 as illustrated:



CHANGE NO. 5



INSTRUCTION BOOK CHANGE NOTICE

Date October 8, 1963

Manual affected: Sideband Selector Models SBS-1 and SBS-2 IN -301

(a) Page II-1-3

Add to Specifications for Input Power 115/230 volts ac, 50/60 cps, single phase approximately "240" watts.

(b) Page II-3-2 Table II-3-2 SBS-1,2 Operation Chart; to Step 8 add

"Note:

AGC manual control adjustment. With antenna disconnected and with no input, set AGC Manual Control (12) so that the receiver RF level meter starts to indicate internal receiver noise."

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CHANGE NO. 6 SBS-1 and SBS-2



INSTRUCTION BOOK CHANGE NOTICE

Date November 1, 1963

Manual affected: Sideband Selector Models SBS-1 and IN -301
SBS-2

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- (a) Page II-6-3 Table II-6-3 title Change to read "705 KC" instead of "750 KC"
 - (b) Page II-6-3 Table II-6-4 Step 1 Change reference to IN LEVEL control R6800 to read fully "clockwise" instead of "counterclockwise"
 - (c) Page II-6-3 Table II-6-4 Step 4 Change last sentence to read "Connect an AC VTVM to J6804"
 - (d) Page II-6-4 Table II-6-4 Step 5 Change last sentence to read "Disconnect the RF VTVM"

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Figure II-1-1. Sideband Selector SBS-1, 2, Front Angle View

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SECTION 1

GENERAL DESCRIPTION

II-1-1. PHYSICAL DESCRIPTION.

The SBS is shown in figure II-1-1. The SBS is mounted on a standard width 19 inch panel for installation into an equipment rack. Physical dimensions are given in paragraph II-1-3. Dust covers are provided for the top and bottom of the unit. All switches, controls, meters, and indicators necessary for operation of the SBS are functionally grouped on the front panel. The channel A switches and meter are grouped at the left while those for channel B are grouped at the right. Controls, switches and indicators common to operation of both channels are grouped in the center of the panel. Located at the rear of the SBS is a self-contained blower cooled regulated power supply. The power supply is removable, as a unit, for maintenance purposes. All vacuum tubes are made readily accessible by removing the top dust cover.

II-1-2. FUNCTIONAL DESCRIPTION.

The SBS accepts AM, CW, MCW, and SSB (independent or double) signals from the receiver IF and reduces them to audio. Single or two channel operation is possible. The 455 kc (SBS-1) or 1750 kc (SBS-2) IF signal from the receiver may be applied to either the high impedance or low impedance inputs of the mixer stage. The mixer converts the incoming IF frequency to 250 kc IF frequency by beating it with a 705 kc (SBS-1) or 2 mc (SBS-2) signal provided by a crystal controlled local oscillator. When the SBS is used in conjunction with the AFC-2, 3 the frequency controlled oscillator in the AFC is used in place of the local oscillator. Selection of the conversion oscillator is made by a switch on the front panel. The 250 kc IF signal provided by the mixer is amplified and applied to four separate IF amplifiers.

Selection of bandwidth and upper and lower sidebands is accomplished by a filter in the input of each IF amplifier and a switching arrangement at the output of the IF amplifiers. By this arrangement, upper or lower sidebands of 3.5 kc or 7.5 kc bandwidth may be

connected to either channel A or channel B. In addition, the lower and upper sideband signals are applied to separate IF OUT amplifiers whose outputs supply channel A and B IF signals to jacks located on the rear panel.

Incorporated into each IF strip is an AGC amplifier which provides agc voltage to control the gain of the IF amplifier and also supplies an agc voltage to an agc comparator circuit. The agc voltage may be obtained from a channel A or channel B signal, from the carrier (when the SBS is used in conjunction with an AFC unit), from channels A and B together, or by manual control. During channel A and B operation the comparator compares the agc voltage from each channel and selects the stronger voltage to be used for agc. The agc voltage from the comparator is applied to the 250 kc mixer amplifier, receiver, and to terminals on a terminal strip on the rear panel of the SBS. Selection of slow, medium, or fast agc response is provided.

By a switching arrangement at the input of the audio section, the signals from the lower and upper sideband IF amplifiers are selected for detection, by a diode detector network for AM signals, or a product detector for CW and SSB signals. The same switch also connects the output of the proper detector to the input of the audio amplifier.

The audio amplifiers for channels A and B each provide a 600 ohm high or low level line output to terminals on the terminal strip at the rear of the SBS. Output level of each channel is monitored by separate VU meters located on the front panel. Channel A and channel B outputs are also available for headset monitoring by means of a jack on the front panel.

Power for the SBS is supplied by a self-contained power supply which provides electronically regulated +200-volts d-c for B+ circuits and zener regulated -105-volts d-c for operation of the agc circuit. Three separate windings on the power transformer supply 6.3-volts a-c for operation of the vacuum tube filaments.

II-1-3. TECHNICAL SPECIFICATIONS OF SBS-1 AND SBS-2.

TYPES OF RECEPTION:	SSB or ISB (with full carrier or with total carrier suppression) AM, MCW, or CW.
SIDEBAND SELECTION:	Upper sideband, lower sideband, or independent sideband, by means of front panel switch.
INPUT FREQUENCY:	455 kc for SBS-1 and 1750 kc for SBS-2 (others available on special order).
INPUT IMPEDANCE:	50 ohms nominal, also Hi-Z.
CARRIER REINSERTION:	A. Reconstructed carrier. B. Local carrier or crystal oscillator.
CARRIER SUPPRESSION:	Will operate with FULL carrier suppression.
INPUT VOLTAGE RANGE:	50 ohms: 0.001 to 1.0 volts; Hi-Z: up to 10 volts.
UNWANTED-SIDEBAND REJECTION:	Undesired sidebands, removed more than 250 cps from the carrier, are attenuated at least 60 db. 112
INBAND DISTORTION:	-45 db.
CROSS CHANNEL DISTORTION:	-60 db.
AGC SYSTEM:	The SBS has provisions to control the receiver gain from an AGC voltage derived from upper sideband, lower sideband, or carrier. The AGC system has a fast attack time and an adjustable release time.
IF BANDWIDTHS:	A. Normally supplied: 1. ± 1.5 -db 250- to 7500-cps, USB 2. ± 1.5 -db 250- to 7500-cps, LSB 3. ± 1.5 -db 250- to 3300-cps, USB 4. ± 1.5 -db 250- to 3300-cps, LSB
	B. Available on special order: 1. ± 1.5 -db 250- to 6000-cps, USB 2. ± 1.5 -db 250- to 6000-cps, LSB 3. ± 1.5 -db 1-kc, symmetrical 4. ± 1.5 -db 6-kc, symmetrical 5. ± 1.5 -db 15-kc, symmetrical
AUDIO OUTPUTS:	A. High Level: Two 0- to 1-watt balanced 600-ohm audio channels.
	B. Low Level: Two 0- to 1-milliwatt balanced 600-ohm audio channels.
AUDIO RESPONSE:	The amplitude response of the audio amplifier is ± 1.5 db over the frequency range of 100 to 22,000 cps.
AUDIO DISTORTION:	-45 db.
METERING	Independent meters are provided to monitor each low-level 600-ohm channel.
MONITORING:	A separate monitoring circuit is provided to permit headphone monitoring of either audio channel without disturbing the audio output circuits.
HUM OUTPUT:	-50 db.
ENVIRONMENT:	Designed for continuous duty within a temperature range of 0 to 50 degrees C and any value of humidity up to 90%.

II-1-3. TECHNICAL SPECIFICATIONS OF SBS-1 AND SBS-2. (C nt.)

ORIENTATION:	Any.
INPUT POWER:	115/230 volts ac, 50/60 cps, single phase, approximately watts.
UNCRATED DIMENSIONS:	7" h x 19" w x 18-1/8" d.
CRATED DIMENSIONS:	14-5/8" h x 25-1/2" w x 21-5/8" d.
UNCRATED WEIGHT:	58 lbs.
SHIPPING WEIGHT AND CUBE:	88 lbs. and 6.2 cu.ft.
COMPONENT AND CONSTRUCTION:	All equipment manufactured in accordance with JAN/MIL specifications wherever practicable.

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TABLE II-1-1. VACUUM TUBE COMPLEMENT

SYMBOL	TYPE	FUNCTION
V101	6BA6	IF amplifier
V102	6CE5	IF amplifier
V103	6CE5	Agc amplifier
V6000	6S4	Channel A product detector
V6001	12AX7	Channel A audio amplifier
V6002	12AX7	Channel A audio amplifier and phasesplitter
V6003 V6004	6AK6 6AK6	Channel A power amplifiers
V6005	6S4	Channel B product detector
V6006	12AX7	Channel B audio amplifier
V6007	12AX7	Channel B audio amplifier and phasesplitter
V6008 V6009	6AK6 6AK6	Channel B power amplifiers
V6200	6S4	Mixer
V6201	6BA6	250 kc IF amplifier
V6202	6AW8	705 kc oscillator and amplifier
V6203	6AW8	250 kc carrier oscillator and amplifier
V6204	6BA6	Channel A IF out amplifier
V6205	6BA6	Channel B IF out amplifier
V6206	12AX7	Agc comparator
V7001	6336A	Series regulator
V7002	6AH6	Regulator control

SECTION 2 INSTALLATION

II-2-1. INITIAL INSPECTION.

Each SBS has been calibrated and tested at the factory before shipment. Upon arrival at the operating site, inspect the packing case and its contents immediately for possible damage. Unpack the equipment carefully. Inspect all packing material for parts which may have been shipped as "loose items". Although the carrier is liable for any damage to the equipment, Technical Materiel Corporation will assist in describing and providing for repair or replacement of damaged items.

The equipment is shipped with all tubes and other plug-in components installed. Check that all such components are properly seated in their sockets.

II-2-2. 115- VS. 230-VOLT POWER SUPPLY CONNECTIONS.

SBS's power supply is designed for 115- or 230-volt, 50- or 60-cps, single-phase power; it is factory-wired for 115 volts. If 230-volt operation is required, minor wiring changes to SBS's power supply section are necessary. These are shown in figure II-2-1. The 6-amp fuse should be replaced with a 3-amp fuse for 230-volt operation.

II-2-3. MECHANICAL INSTALLATION.

a. The SBS is equipped with a standard 19 inch rack panel but due to its extra depth it will not fit into a standard rack cabinet. Approximately 20 inches of clearance from the back of the panel to the rear of the rack is required. Figure II-2-2 is the outline dimension drawing of the SBS.

b. In some instances, according to the user's requirements, the SBS is supplied with slides for mounting in a suitable equipment rack.

CAUTION

Under no circumstances should the SBS be supported by the front panel alone.

c. To install a SBS without slides place the unit into a suitable housing and secure the front panel to the housing with screws.

CAUTION

When handling the SBS take care not to push in the screen on the blower housing. If this screen is pushed in it will bind the blower motor causing it to burn out when power is applied.

d. To install a SBS equipped with slides, proceed as follows:

(1) Set the SBS in position on the tracks. Note: It may be necessary to hold the tracks in the extended position while positioning the component.

(2) Slide the SBS on the tracks until the release buttons catch.

(3) Press the release buttons and push the SBS into the equipment rack until the release buttons engage the holes in the equipment.

(4) Secure the front panel to the equipment rack with screws.

II-2-4. ELECTRICAL INSTALLATION.

Figure II-2-3 illustrates the interconnections, input connections and output connections for the SBS. The interconnections shown are for connections to an AFC-2 or AFC-3 as used in the SBC-1 or SBC-2 systems. No connection is made to jack J7004.

a. Power is applied to the SBS immediately upon connection of the line cord to a suitable power source. Place the POWER switch in the STANDBY position and allow the SBS to warm-up for 24 hours before placing it in operation. This warm-up period is necessary in order for the temperature of the crystal ovens to stabilize. The connections described in the following paragraphs may be accomplished while the SBS is warming up.

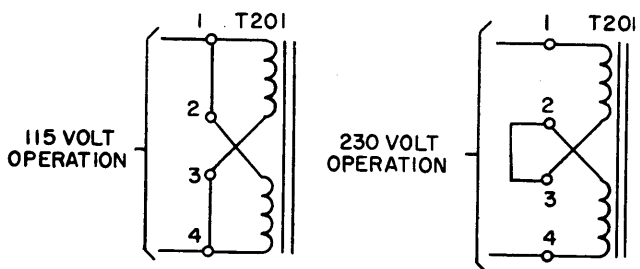


Figure II-2-1. Installation Diagram Showing 115- Vs. 230-Volt Power Supply Connections

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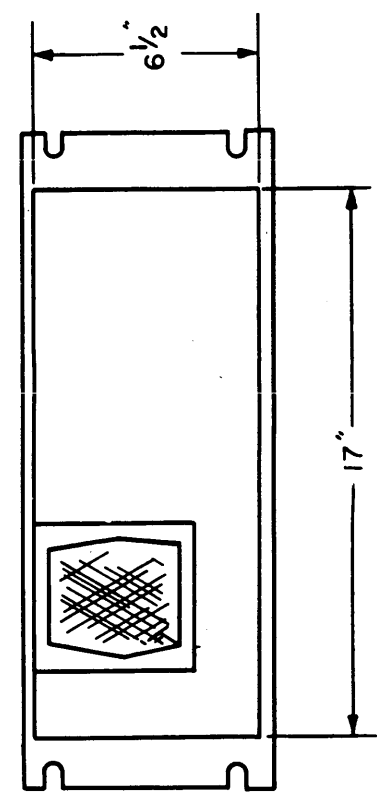
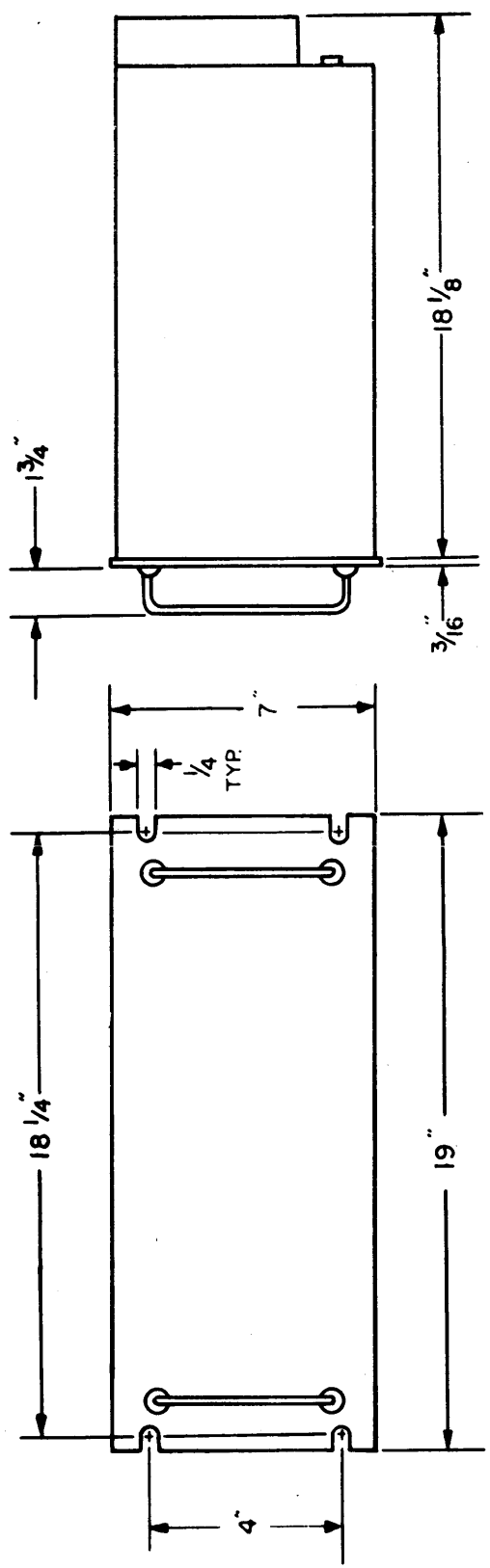


Figure II-2-2. Outline Dimensional Drawing, SBS-1, 2

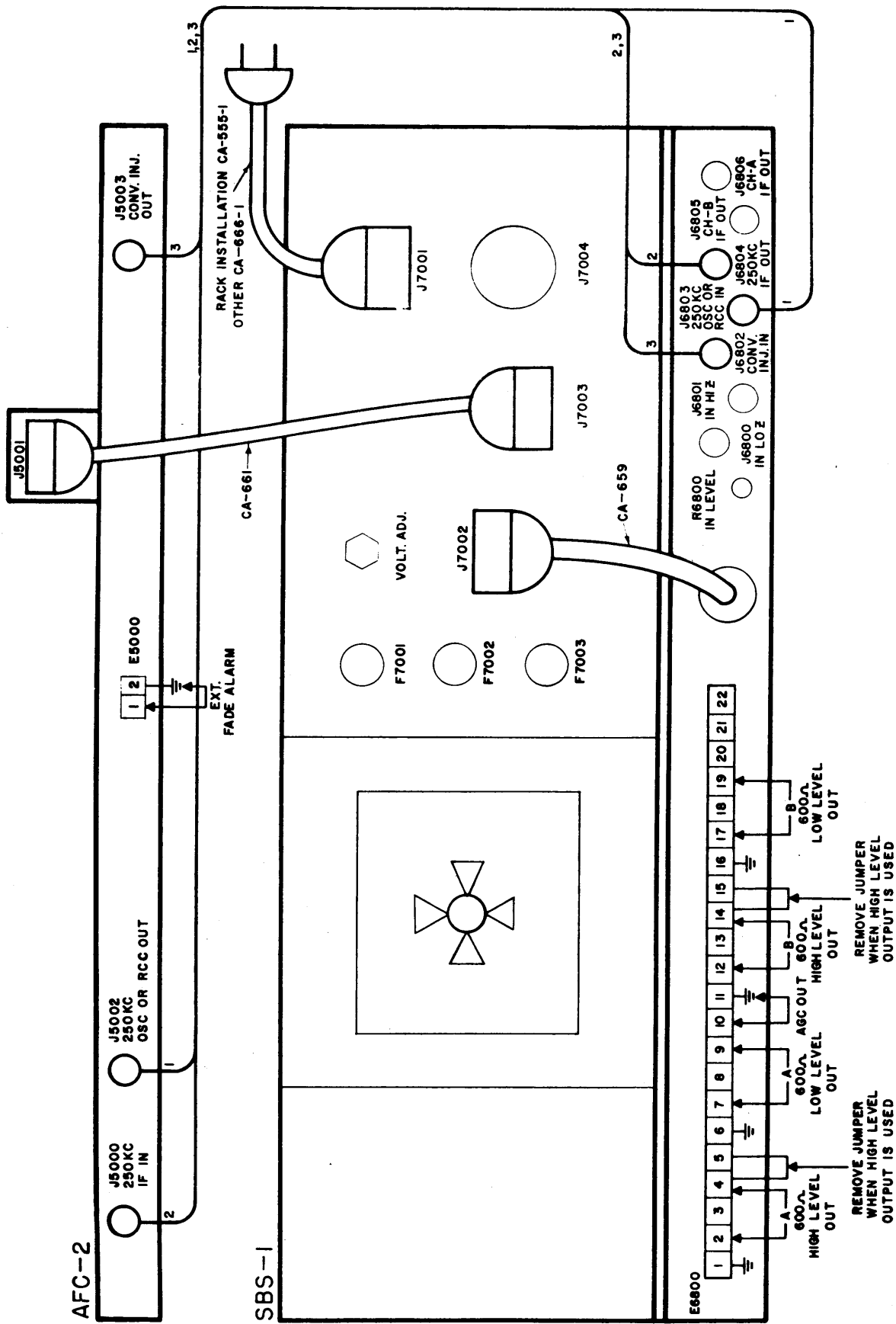


Figure II-2-3. Interconnection Diagram, SBS-1, 2

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b. High impedance and low impedance inputs (jacks J6801 and J6800 respectively) are provided on the rear apron to accept the 455 kc (SBS-1) or 1.75 mc (SBS-2) IF signals from the receiver.

c. Jacks CH-A IF OUT J6806 and CH-B IF OUT J6805 provide channel A and channel B outputs from the 250 kc IF amplifiers. The outputs from these jacks must be connected to an external detection and audio system in order to provide intelligence.

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d. Terminal strip E6800 provides audio and agc output connections for the SBS. Channel A and channel B each are provided with a 600 ohm high level and low level output. The high level output provides 1 watt of audio (at OVU) while the low level output provides 1 milliwatt of audio at OVU. Only the low level or high level output may be used at any one time. It should be noted that when the high level output connections are used, the jumpers between terminals 4 and 5 and terminals 14 and 15 of E6800 must be removed. Terminals 10 and 11 of E6800 provide an output connection for the agc voltage developed in the SBS. Terminals 20, 21, and 22 are not used.

II-2-5. INITIAL ADJUSTMENT.

Before any SBS unit is shipped, it is aligned and thoroughly checked against the manufacturers specifications. However, checks for the proper setting of

the IN LEVEL control R6800 on the rear apron and the two LEVEL ADJUST controls on the front panel should be made.

Perform the procedure for setting the IN LEVEL and LEVEL ADJUST controls as follows:

- (1) Set the CHANNEL A IF BANDWIDTH KC switch to LSB 3. 5.
- (2) Set the CHANNEL A IF BANDWIDTH KC switch to USB 3. 5.
- (3) Set AGC SELECTOR switch to CH-A-B.
- (4) Set the IN LEVEL and the two LEVEL ADJUST controls to approximately mid-position.
- (5) Tune the receiver to a weak AM signal.
- (6) Adjust the IN LEVEL and LEVEL ADJUST controls until the desired line operating level is obtained.

NOTE

The SBS output level may be adjusted without being connected to a 600 ohm line by connecting a 1 watt 600 ohm resistor between terminals 7 and 9 and between terminals 17 and 19 on terminal board E6800.

SECTION 3 OPERATOR'S SECTION

II-3-1. GENERAL.

Operation of the SBS has been designed for a high degree of versatility. Each channel has identical controls which are functionally grouped. By means of the IF Bandwidth switches, either lower or upper sideband may be switched to channel A or B use. For example, lower sideband signals may be fed to channel A or B or the upper sideband signals may be fed to channel A or B. This type of versatility is helpful especially during independent sideband operation where voice information may be transmitted on one sideband while multichannel information may be transmitted on the other sideband. In this manner sideband orientation of information need not be maintained at the transmitter.

II-3-2. OPERATOR'S INSTRUCTIONS.

Table 3-1 provides equivalent control designations for the operating controls shown in figure II-3-1 and the component designations of figure II-8-1. Table II-3-2 is an operating chart to be used in conjunction with figure II-3-1 and table II-3-1.

II-3-3. OPERATOR'S MAINTENANCE.

The operator should note general condition of panel switches, observe whether the panel indicator lamps light, and check the condition of the fuses as well as that of all the tubes.

If the STANDBY or POWER ON lamps or all the tube filaments fail to glow, check the lamps and fuse F7002. F7002 is in series with the primary of the AC power supply transformer and is a "quick-acting" type for protecting the unit from overload due to shorts in the SBS.

CAUTION

Do not replace the fuse with one of higher rating. If a fuse burns out immediately after replacement, do not replace it a second time until the trouble has been located and corrected.

If, while the majority of tube filaments glow, any tube filament fails to glow, remove the questionable tube and test it with a reliable tube tester. Reinstall tube shields after testing or replacing tubes.



Figure II-3-1. Panel View of SBS-1, 2, Showing Operating Controls

**TABLE II-3-1. TABLE OF EQUIVALENT CONTROL
DESIGNATIONS.**

Serial Designation	Panel Designation	Component Reference Designation on Overall Schematic (See section 8)
1	CHANNEL A IF BANDWIDTH KC switch	S6201
2	CHANNEL A LINE LEVEL meter	M6200
3	CHANNEL A LEVEL ADJUST control	R6237
4	CHANNEL A AGC RESPONSE switch	S6203
5	CHANNEL A DETECTION switch	S6206
6	CHANNEL B IF BANDWIDTH KC switch	S6202
7	CHANNEL B LINE LEVEL meter	M6201
8	CHANNEL B LEVEL ADJUST control	R6234
9	CHANNEL B AGC RESPONSE switch	S6204
10	CHANNEL B DETECTION switch	S6205
11	AGC SELECTOR switch	S6207
12	AGC MANUAL control	R6233
13	AFC switch	S6200
14	MONITOR GAIN control	R6244
15	MONITOR jack	J6202
16	POWER switch	S6208
17	STANDBY indicator lamp	I6200
18	POWER ON indicator lamp	I6201

TABLE II-3-2. SBS-1, 2, OPERATION CHART.

STEP	CONTROL	OPERATION	PURPOSE
1	POWER switch (16)	Turn ON (POWER ON indicator (18) lights: STANDBY indicator (17) goes out)	Energizes SBS
2a, b	a. CHANNEL A IF BANDWIDTH KC switch (1)	Turn to desired channels and bandwidths	Determines audio channels and bandwidths
	b. CHANNEL B IF BANDWIDTH KC switch (6)	Turn to desired channels and bandwidths	Determines audio channels and bandwidths
3	AFC switch (13)	Turn to ON	Channels 705-kc output of AFC unit to mixer of SBS (6S4) and 250-kc output to product detectors

TABLE II-3-2. SBS-1, 2, OPERATION CHART. (C nt.)

STEP	CONTROL	OPERATION	PURPOSE
4a, b	a. CHANNEL A DETECTION switch (5) b. CHANNEL B DETECTION switch (10)	Turn to desired mode of transmission	Channels AM or product detector's output to audio output
5a, b	a. CHANNEL A AGC RESPONSE switch (4) b. CHANNEL B AGC RESPONSE switch (9)	Normally turn to MED NOTE On fast deep fades, AGC RESPONSE switches may require adjustment to maintain constant readings on CHANNEL A LINE LEVEL meter (2) and CHANNEL B LINE LEVEL meter (7)	
6	MONITOR GAIN control (14)	Turn clockwise or counterclockwise from 0	- Alters gain on phones plugged into MONITOR jack (15)
7a, b	a. CHANNEL A LEVEL ADJUST control (3) b. CHANNEL B LEVEL ADJUST control (8)	Turn screwdriver adjustment in order to zero CHANNEL A LINE LEVEL meter (2) on zero input Turn screwdriver adjustment in order to zero CHANNEL B LINE LEVEL meter (7) on zero input	Line level meters track audio levels
8	AGC SELECTOR switch (11)	Select channel to provide AGC: Set at CH-A when channel A only is in use; set at CH-B when channel B only is in use; set at CARRIER when carrier is strong; set at CH-A-B when both channels are in use; if manual AGC is desired, set at MANUAL and operate AGC MANUAL control (12)	Modifies AGC action

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SECTION 4

PRINCIPLES OF OPERATION

II-4-1. INTRODUCTION.

The following descriptions pertain to the SBS-1 and the SBS-2. Where the information pertains to both, reference is made to SBS unit. Where the information pertains to the SBS-1 or the SBS-2 only, it is so referenced. To supplement the individual schematic diagrams accompanying each description, reference should be made to the overall schematic diagram figure II-8-1.

II-4-2. 250KC MIXER CIRCUIT.

As shown in figure II-4-1 the 250 kc mixer has a low impedance and high impedance input to accept the receiver IF (455 kc for SBS-1 and 1.75 mc for SBS-2). For the purpose of this discussion a receiver IF frequency of 455 kc is assumed. The 455 kc IF is applied to the grid of V6200 and beat with a 705 kc signal from the 705 kc local conversion oscillator (refer to paragraph II-4-3) to produce a 250 kc IF frequency. The 250 kc IF is tuned and coupled to 250 kc amplifier V6201 by transformer T6200. Amplified 250 kc IF from V6201 is applied to the lower and upper sideband IF amplifiers through transformer T6201. In order to compensate for varying signal levels, amplifier V6201 has agc voltage applied to its control grid through the secondary of T6200. Placing AFC ON-OFF switch S6200 in the ON position disconnects the local 705 kc conversion oscillator from the mixer and connects the frequency controlled 705 kc conversion oscillator located in the AFC unit.

II-4-3. 250KC AND 705KC OSCILLATORS.

The 250 kc and 705 kc oscillators are identical in operation, differing only in the values of certain circuit components. As shown in figure II-4-2 the oscillators are crystal controlled and are provided with fine frequency adjustments to adjust the oscillator frequency (C6231 for the 250 kc oscillator and C6214 for the 705 kc oscillator) and also with degeneration adjustments for setting the output level. The oscillators are provided with an amplification stage which supplies a 1-volt signal at the secondary of the output transformer. Jacks are provided on the rear of the SBS unit for supplying a signal from an external oscillator in place of the internal 705 kc or 250 kc oscillator. In the SBS-2 a 2 mc. crystal is substituted for the 705 kc crystal to provide operation of the SBS with a 1.75 mc. IF input.

II-4-4. 250KC LOWER AND UPPER SIDEBAND IF AMPLIFIERS.

Four 250 kc IF amplifiers are incorporated in the SBS unit; one each for lower and upper sideband am-

plification providing a 7.5 kc bandwidth and one each for providing a bandwidth of 3.5 kc. Selection of lower or upper sideband and bandwidth is accomplished by a selective filter (Z1) in the input of each IF amplifier. Except for the filter, operation and circuitry of the four IF amplifiers is identical. As shown in figure II-4-3, the 250 kc IF amplifier has two tuned amplifier stages and a agc amplifier. The IF output is coupled out to jack J102 by a coupling capacitor from one secondary winding of IF output transformer T103, while the signal for the agc amplifier is derived from a second secondary winding. Output level of the IF amplifier and agc voltage is set by adjusting AVC DELAY ADJ control R116.

II-4-5. AGC COMPARATOR.

As shown in figure II-4-4 AGC comparator V6206 receives agc voltage from channels A and B. V6206 is a dc amplifier operating as a cathode follower to supply AGC voltage for the 250 kc IF amplifier (V6201) and receiver. With AGC SELECTOR switch S6207 in CH-A or CH-B position an agc signal is applied to V6206 from the channel A or channel B sideband IF amplifier. Placing S6207 in the CARRIER position applies a rectified voltage from the carrier in the AFC-2 to V6206 and allows the carrier to control the agc voltage. In the CH-A-B position agc voltage is applied to V6206 from channels A and B. The two voltages are compared and the stronger voltage is applied as agc out voltage. Manual agc operation is obtained by placing S6207 to MANUAL. Slow, medium, or fast agc response may be selected by S6203 for channel A and S6204 for channel B.

II-4-6. AUDIO SECTION.

Two identical audio circuits are incorporated into the SBS unit; one detects and amplifies channel A signals while the other performs the same function for channel B signals. For purposes of this discussion the action of only one channel will be described. Figure II-4-5 is a simplified schematic of the audio circuit.

Two detectors are used in the detection portion of each audio circuit. Detection of AM signals is accomplished by diode CR6001 and its associated circuitry. CW and SSB signals are detected by product detector V6005. The specific type of detection is selected by DETECTION switch S6205. In the AM position, (position 1) switch S6205 connects the 250 kc IF output from T103 (via IF BANDWIDTH KC switch S6201) to the primary T6002 and connects the output of the diode detector circuit to the input of the first

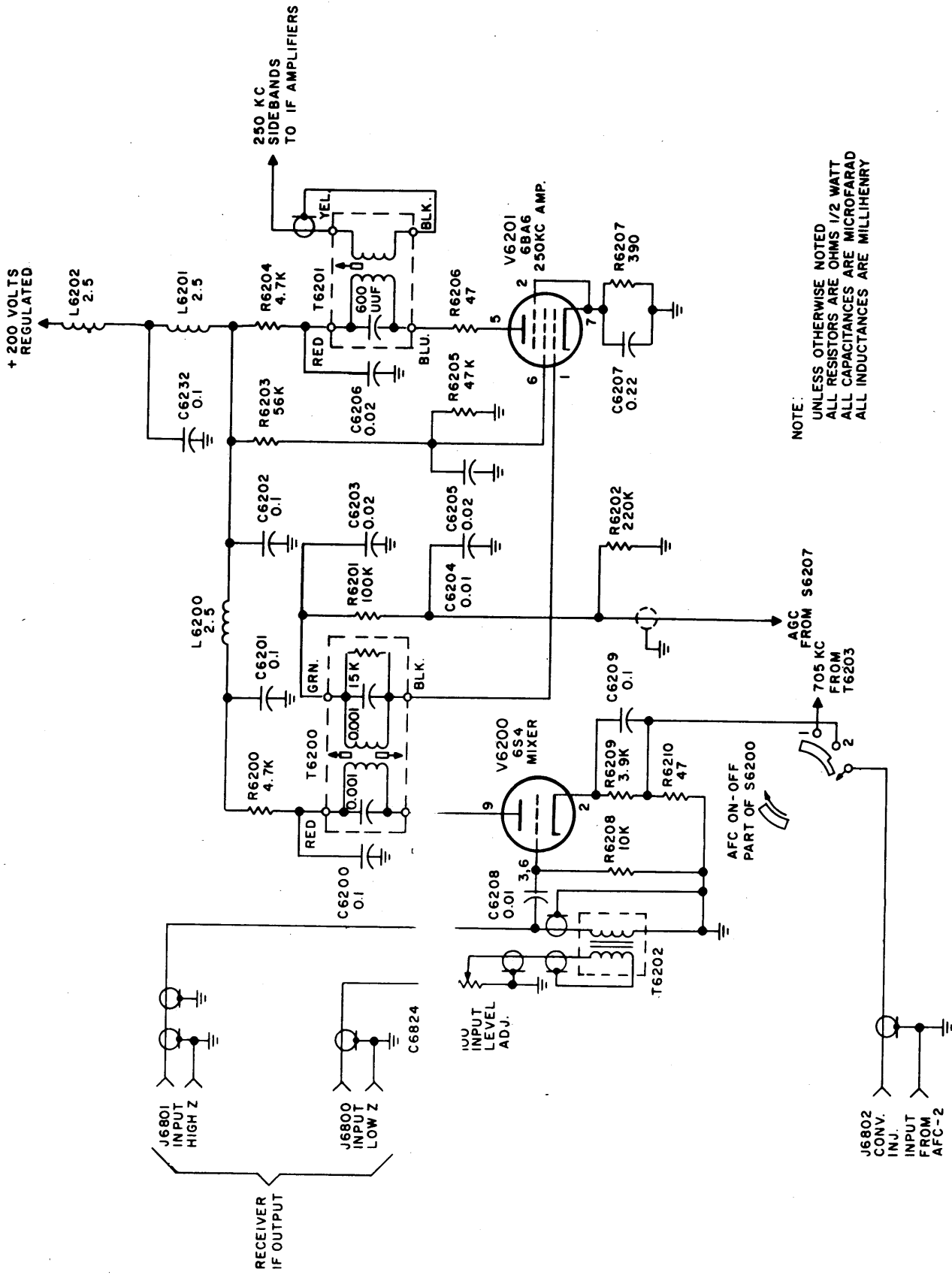
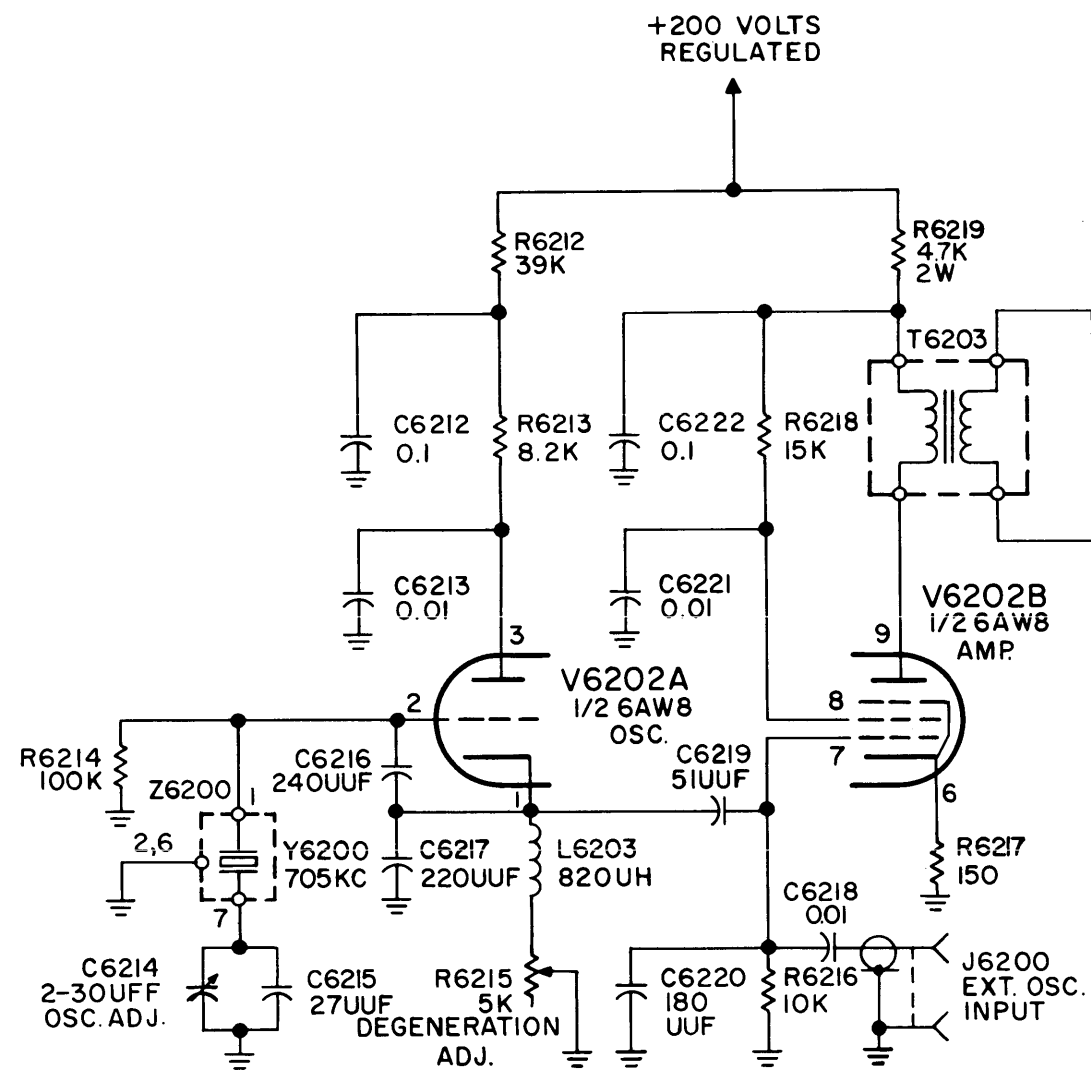
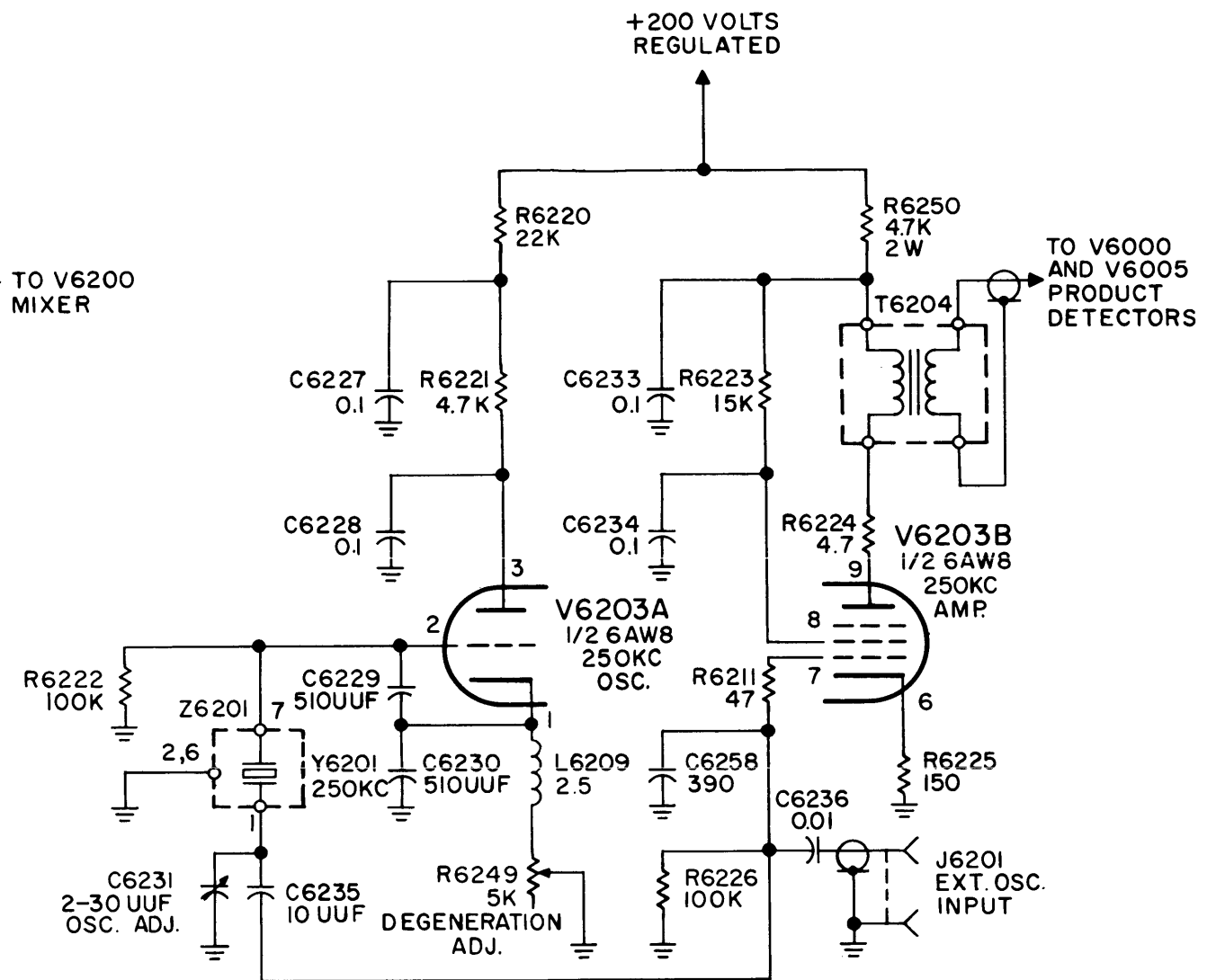


Figure II-4-1. 250 KC Mixer, Simplified Schematic

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705 KC OSCILLATOR

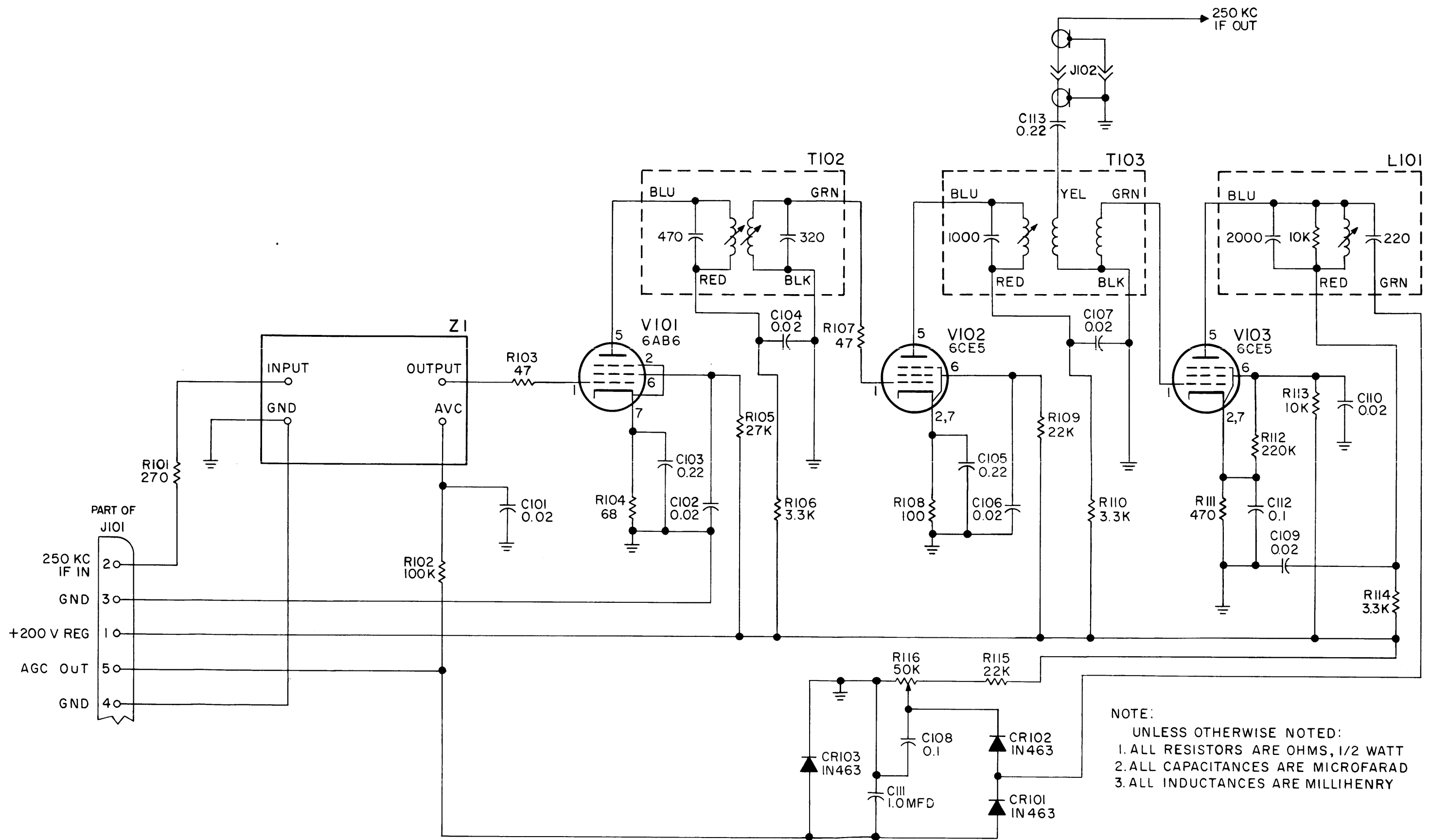


250 KC OSCILLATOR

NOTE:
UNLESS OTHERWISE NOTED : 1. ALL RESISTORS ARE OHMS, 1/2 WATT
2. ALL CAPACITANCES ARE MICROFARAD
3. ALL INDUCTANCES ARE MILLIHENRY

Figure II-4-2. 250 KC and 705 KC Oscillators, Schematic Diagrams

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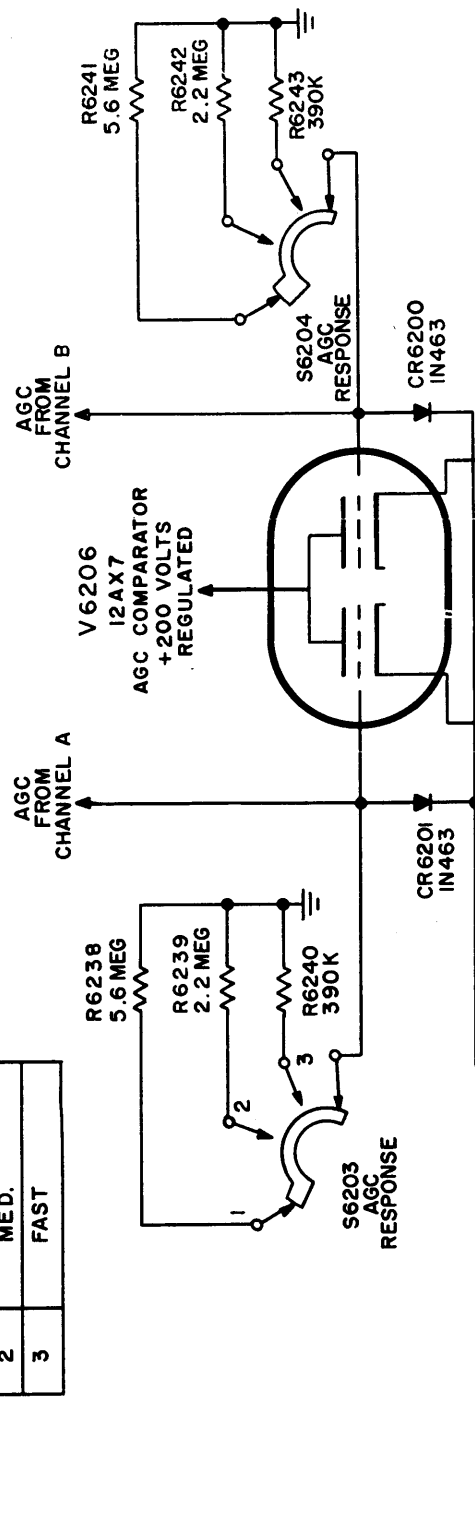


NOTE:
UNLESS OTHERWISE NOTED:
1. ALL RESISTORS ARE OHMS, 1/2 WATT
2. ALL CAPACITANCES ARE MICROFARAD
3. ALL INDUCTANCES ARE MILLIHENRY

Figure II-4-3. 250 KC IF Amplifier, Schematic Diagram

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AGC RESPONSE SW. S6203 CHANNEL "A" S6204 CHANNEL "B"	
POS.	AGC
1	SLOW
2	MED.
3	FAST



NOTES:

- 1. UNLESS OTHERWISE NOTED
ALL RESISTORS ARE OHMS 1/2 WATT
ALL CAPACITANCES ARE MICROFARADS
ALL INDUCTANCES ARE MILLIHENRY
- 2. ALL SWITCHES ARE SHOWN FULLY
COUNTER CLOCKWISE

AGC SELECTOR SW. S6207	
POS.	AGC
1	CHANNEL "A"
2	CHANNEL "B"
3	CARRIER
4	CHANNEL "A & B"
5	MANUAL

RECTIFIED
CARRIER
FROM
AFC-2

Figure II-4-4. AGC Comparator, Simplified Schematic

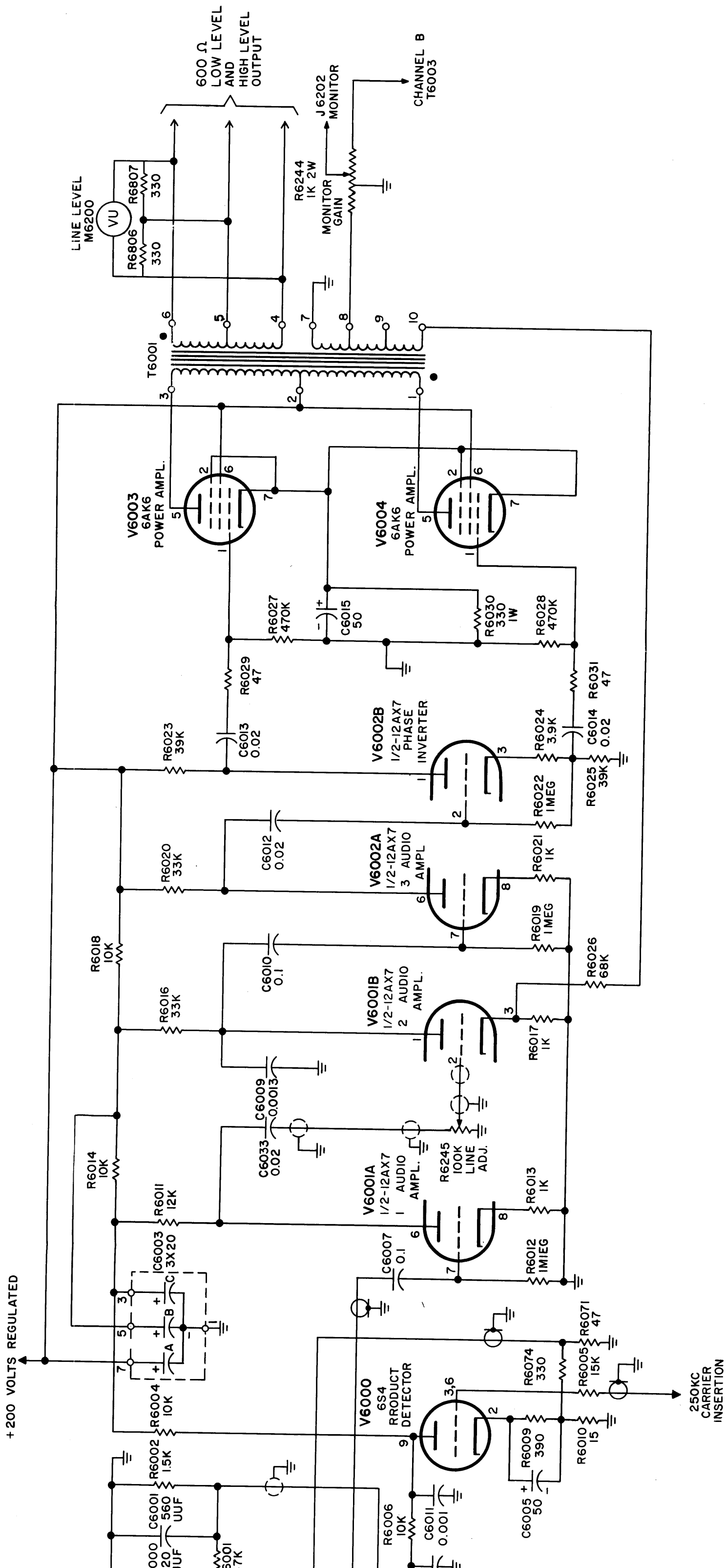
audio stage V6006. With switch S6205 in the AM position the 250 kc carrier insertion oscillator is disabled by removal of the operating plate voltage from 250 kc oscillator V6203. Placing DETECTION switch S6205 in the CW or SSB position (positions 2 and 3 respectively) enables the 250 kc carrier insertion oscillator, couples the 250 kc IF output to product detector V6005 cathode, and couples the audio output from V6005 to the input of first audio amplifier V6006. The audio amplifier consists of 3 voltage amplifiers, a phase splitter and a pushpull power amplifier. Negative feedback is incorporated in the audio amplifier by coupling a voltage from one secondary winding of output transformer T6003 to the cathode of V6006B. A high or low level 600 ohm line output is available for each channel. The outputs are continuously monitored by VU meters located on the front panel of the SBS unit. Headset monitoring of channels A and B is also provided for by a monitoring jack on the front panel.

II-4-7. POWER SUPPLY.

The SBS power supply is designed to operate from

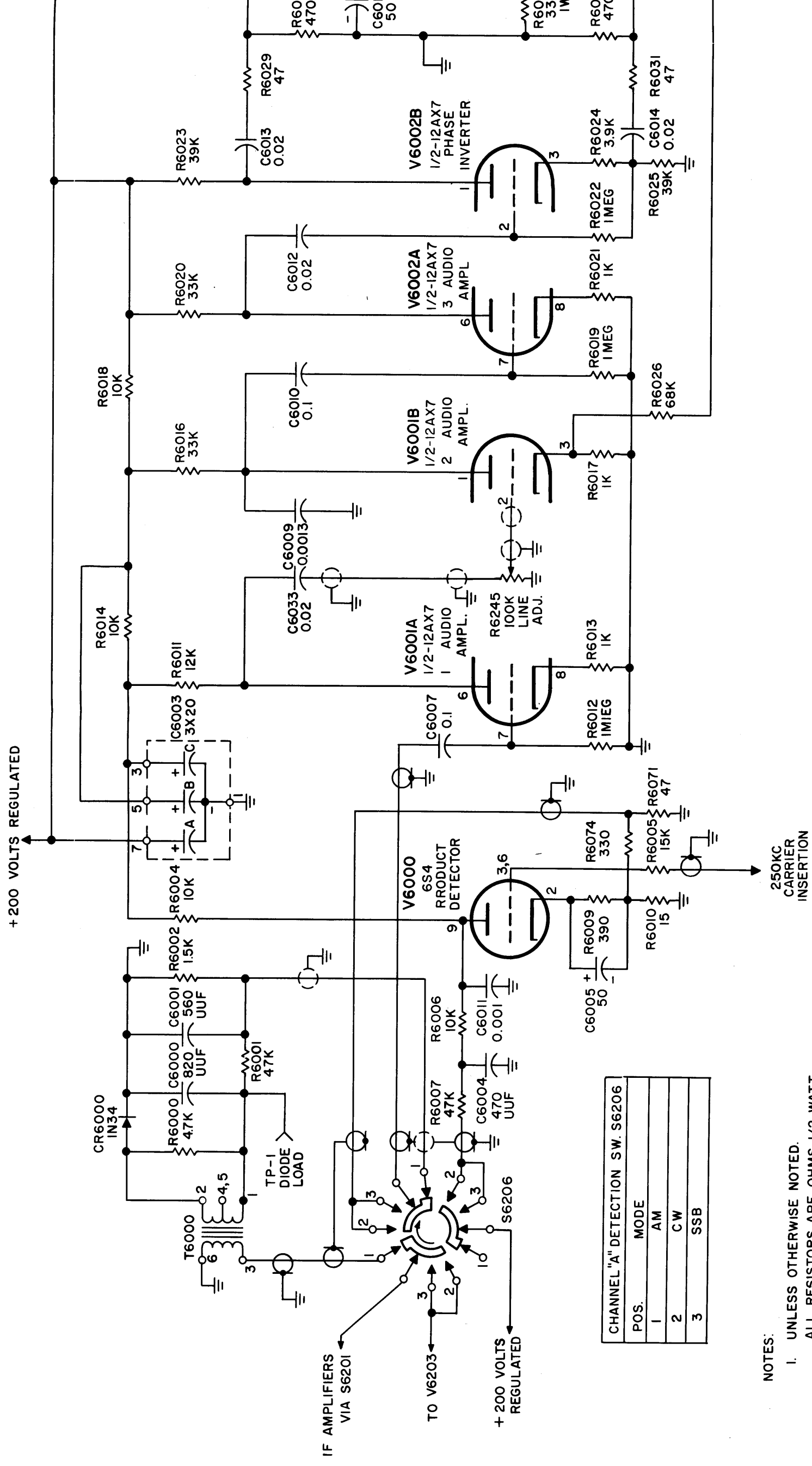
a 115-volt or 230-volt single phase 50/60 cycle power line. Figure II-4-6 is a simplified schematic of the SBS power supply. Voltage selection is made by changing connections in the transformers primary circuit. The power supply is placed directly into the standby condition by connecting the power cord to J7001. If the POWER switch is in the ON position when the power cord is plugged in, the power supply will remain in standby until a 60 second time delay, provided by time delay relay K7001, has elapsed. Once the time delay relay has closed, the power supply may be switched from standby to on without the time delay occurring, provided the power cord has not been disconnected. In the standby condition, heater power is applied to tubes V7001 and V7002 and to the oven heaters in the SBS and AFC units. Placing the POWER switch to ON causes relay K7002 to close applying power to the blower, 6.3 volts a-c to the filaments, and +200 and -105 volts d-c regulated operating voltages to the SBS and AFC units. The -105 volts d-c is supplied by a regulated power supply employing a zener diode as a shunt regulator. Series regulator V7001 and its associated control tube d-c amplifier V7002 supplies the regulated +200 volts d-c.

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ENTER CLOCKWISE.

Figure II-4-5. Audio Section, Simplified Schematic



CHANNEL "A" DETECTION SW. S6206

POS.	MODE
1	AM
2	CW
3	SSB

- NOTES:
- UNLESS OTHERWISE NOTED.
ALL RESISTORS ARE OHMS 1/2 WATT.
ALL CAPACITANCES ARE MICROFARADS.
ALL INDUCTANCES ARE MILLIHENRY.
 - ALL SWITCHES ARE SHOWN FULLY COUNTER CLOCKWISE.

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R.P.

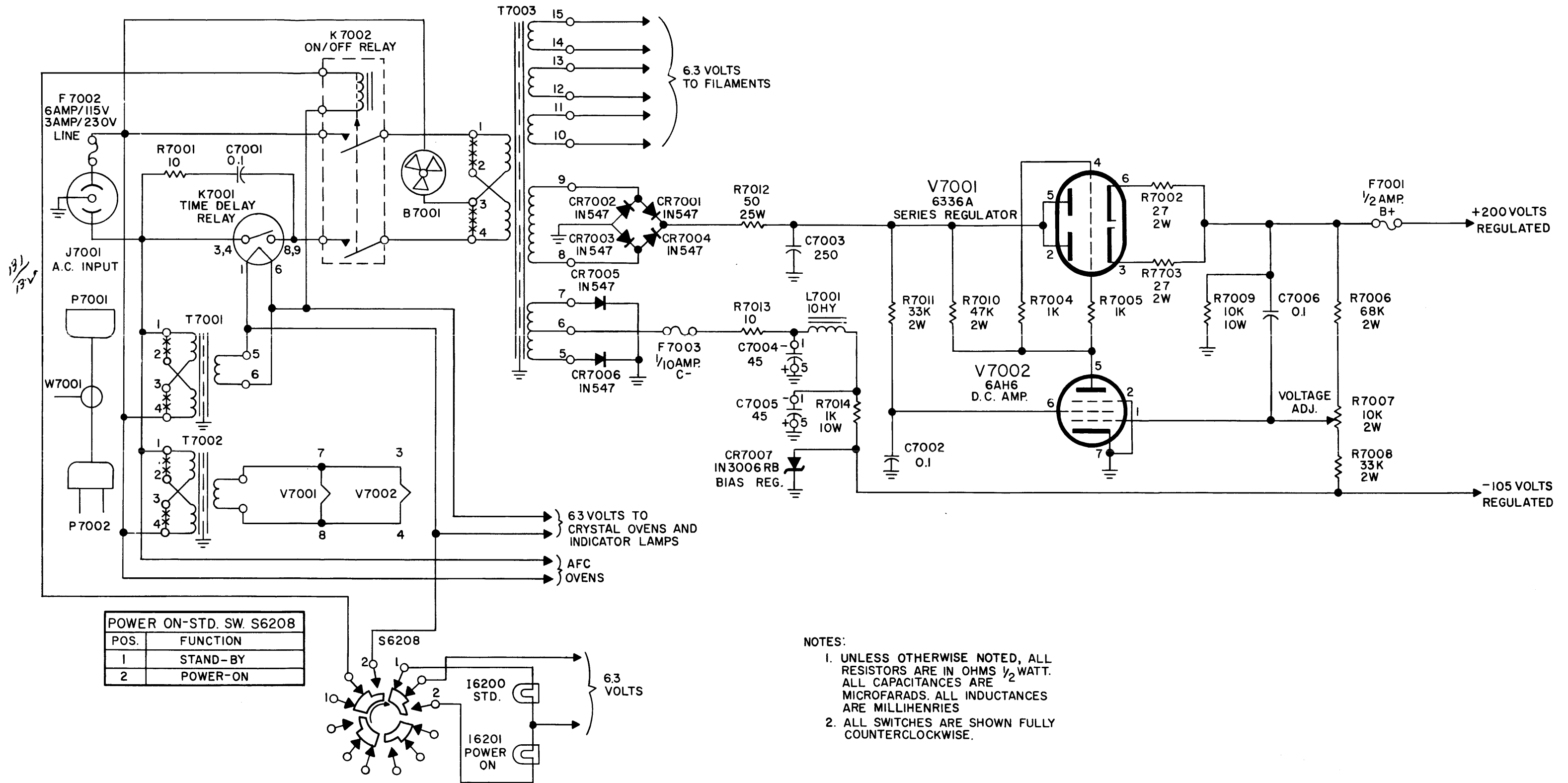


Figure II-4-6. SBS Power Supply, Simplified Schematic

SECTION 5

TROUBLE-SHOOTING

II-5-1. INTRODUCTION.

This section explains how to locate and diagnose equipment troubles and maladjustments. The information necessary to remedy the troubles and maladjustments will be found in Section 6 of this manual under the heading "Maintenance".

The following aids to troubleshooting are provided:

- a. Schematic diagram.
- b. Voltage and resistance tables.
- c. Tube location data.
- d. Troubleshooting techniques.
- e. Troubleshooting chart, based on types of reception.

II-5-2. TROUBLE-SHOOTING TECHNIQUES.

a. **GENERAL CONSIDERATIONS.** When a piece of equipment has been working satisfactorily and suddenly fails, the cause of failure may be apparent either because of circumstances occurring at the time of failure or because of symptoms analogous to past failures. In this case, it is unnecessary to follow a lengthy and orderly course of troubleshooting in order to localize and isolate the faulty part.

A second short cut in troubleshooting is to ascertain that all tubes and fuses are in proper working order; also that the equipment receives proper supply voltages. This may eliminate further investigation.

A third short cut is to examine the equipment section by section, for burned out elements, charring, corrosion, arcing, excessive heat, dirt, dampness, etc.

Component defects may be internally or externally caused.

b. **TROUBLESHOOTING TABLE BASED ON TYPES OF RECEPTION.** The general purposes of this chart is to narrow the area of trouble to one or more sections of the equipment in order to minimize the labor of locating the source of trouble. When the trouble is localized to a section use should be made of the voltage and resistance charts and also the information contained in the alignment instruction for that section in Section 6 of this manual. If a trouble is localized to the power supply it will be necessary to remove the power supply from the main chassis in order to take measurements. After the power supply is removed it may be reconnected electrically to the SBS. Removal procedures for the power supply are contained in Section 6.

c. **VOLTAGE AND RESISTANCE TABLES.** The tables give nominal values of voltage-to-chassis and resistance-to-chassis at tube elements. Large deviations from the nominal values should be carefully investigated. During this process, accurate schematic diagrams and location data are essential. A schematic diagram of the SBS is found in Section 8.

II-5-3. SIDEBAND SELECTOR SBS-1 AND SBS-2.

a. **TROUBLESHOOTING TABLE BASED ON TYPES OF OPERATION.** Table II-5-1 outlines procedures to localize troubles to a section of the SBS based on the type of operation being employed.

b. **VOLTAGE AND RESISTANCE TABLES.** Tables II-5-2 and II-5-3 list the voltage- and resistance-to-chassis measurements respectively at tube pins in the SBS.

c. **TUBE LOCATION DATA.** Figure II-5-1 locates the tubes of the SBS by reference designation.

TABLE II-5-1. TROUBLE-SHOOTING BASED ON TYPES OF OPERATION.

STEP	SYMPTOM	PROCEDURE
1	Channels A and B inoperative.	If filaments are not lit check fuse F7002. If filaments are lit check fuses F7001 and F7003. Check tubes V6200, V6201 and V6202 and their associated circuitry.
2	Channel A or B inoperative.	Check audio section for inoperative channel.
3	No AM reception on Channel A or B.	Check the AM detector for the inoperative channel by connecting a VTVM to test point TP1 or TP2. Reading at test point should be -6 volts dc.

TABLE II-5-1. TROUBLE-SHOOTING BASED ON
TYPES OF OPERATION. (C nt.)

STEP	SYMPTOM	PROCEDURE
4	No CW reception on Channel A or B.	Check product detector V6000 for channel A or V6005 for channel B. Check 250 kc oscillator and amplifier V6203.
5	No SSB reception on Channel A or B.	Same as step 4.
6	Upper sideband is received normally but lower sideband inoperative on 3.5 kc or 7.5 kc bandwidth.	Check tubes V101 and V102 and associated circuitry in the lower sideband IF amplifier providing the 3.5 kc or 7.5 kc bandwidth.
7	Lower sideband is received normally but upper sideband inoperative on 3.5 kc or 7.5 kc bandwidth.	Check tubes V101 and V102 and associated circuitry in the upper sideband IF amplifier providing the 3.5 kc or 7.5 kc bandwidth.
8	No reception on upper or lower sidebands for independent sideband operation.	Check 250 kc oscillator and amplifier V6203.
9	Reception on only one sideband during independent sideband operation.	See steps 6 and 7.
10	No AGC action.	Check AGC comparator V6206.

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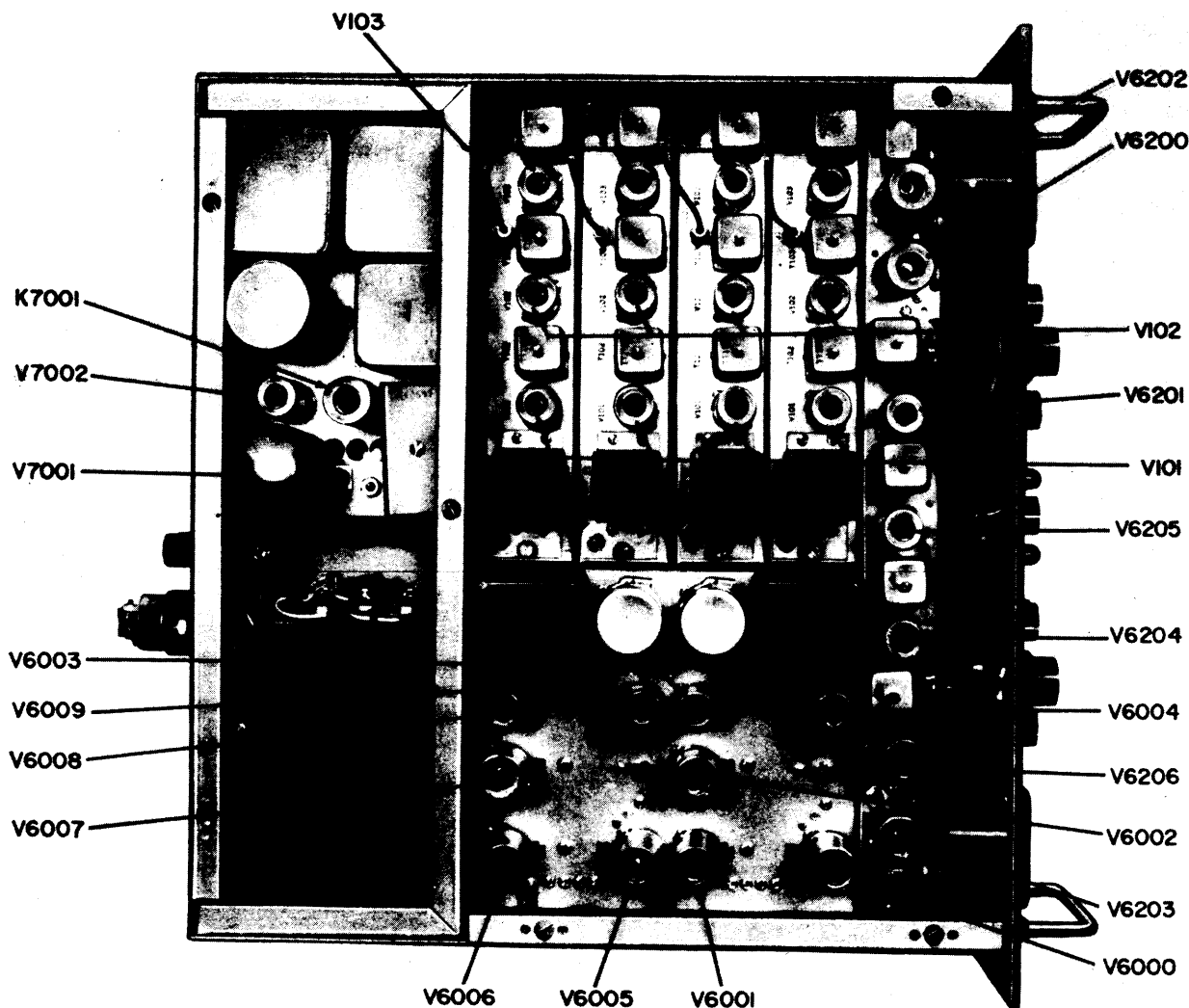


Figure II-5-1. SBS-1, 2, Tube Locations

TABLE II-5-2. SBS-1, 2, VOLTAGE MEASUREMENTS.

TUBE SYMBOL	FUNCTION	TYPE	PIN 1 VOLTS	PIN 2 VOLTS	PIN 3 VOLTS	PIN 4 VOLTS	PIN 5 VOLTS	PIN 6 VOLTS	PIN 7 VOLTS	PIN 8 VOLTS	PIN 9 VOLTS
V101	IF AMPL	6BA6	0	.98	6.3AC	0	144	88	.98	NA	NA
V102	IF AMPL	6CE5	0	1.32	6.3AC	0	155	130	1.32	NA	NA
V103	AGC AMPL	6CE5	0	3.1	6.3AC	0	180	160	3.1	NA	NA
V6200	MIXER	6S4	NC	+10.5/0.75AC	0	6.3AC	0	0	NC	NC	+190/0.3AC
V6201	250 KC AMPL	6BA6	0	+1.65	6.3AC	0	+185	+58	+1.65	NA	NA
V6202A	OSC.	1/2 6AW8	+2.8/3.3AC	- 1.0/5.0AC	+125	6.3AC	0	NA	NA	NA	NA
V6202B	AMPL	1/2 6AW8	NA	NA	NA	6.3AC	0	+1.85/0.45AC	0.74AC	+105	+140/7.5AC
V6203A	250 KC OSC	1/2 6AW8	+0.42/6.0AC	- 1.0/6.0AC	+125	6.3AC	0	NA	NA	NA	NA
V6203B	250 KC AMPL	1/2 6AW8	NA	NA	NA	6.3AC	0	+2.1/0.35AC	-0.74/0.58AC	+80	+125/10.5AC
V6204	CHAN A AMPL	6BA6	0	+2.7	6.3AC	0	+175/1.2AC	+120	+2.7	NA	NA
V6205	CHAN B AMPL	6BA6	0	+2.9	6.3AC	0	+170/1.0AC	+120	+2.9	NA	NA
V6206	AGC COMPARATOR	12AX7	+200	0	+1.6	6.3AC	6.3AC	+200	0	+1.8	0
V6000	PRODUCT DET CHAN A	6S4	NC	+1.75	0.8AC	3.0AC*	3.3AC*	0.8AC	NC	NC	+60/1.5AC
V6001A	1ST AUDIO AMPL CH A	1/2 12AX7	NA	NA	NA	3.0AC*	3.0AC*	+95	-0.1	+0.45	3.3AC*
V6001B	2ND AUDIO AMPL CH A	1/2 12AX7	+125	0	+0.75	3.0AC*	3.0AC*	NA	NA	NA	3.3AC*
V6002A	3RD AUDIO AMPL CH A	1/2 12AX7	NA	NA	NA	3.0AC*	3.0AC*	+170	0	+0.95	3.3AC*
V6002B	PHASE INVERTER CH A	1/2 12AX7	+190	+13	+16	3.0AC*	3.0AC*	NA	NA	NA	3.3AC*
V6003	POWER AMPL CHAN A	6AK6	0	+10	3.0AC*	3.3AC*	+200/1.0AC	+200	+10	NA	NA
V6004	POWER AMPL CHAN A	6AK6	0	+10	3.0AC*	3.3AC*	+198/1.0AC	+200	+10	NA	NA
V6005	PRODUCT DET CHAN B	6S4	NC	+1.8	0.8AC	3.0AC#	3.3AC#	0.8AC	NC	NC	+61/1.3AC
V6006A	1ST AUDIO AMPL CH B	1/2 12AX7	NA	NA	NA	3.3AC#	3.3AC#	+95	0	+0.55	3.0AC#
V6006B	2ND AUDIO AMPL CH B	1/2 12AX7	+125	0	+0.68	3.3AC#	3.3AC#	NA	NA	NA	3.0AC#
V6007A	3RD AUDIO AMPL CH B	1/2 12AX7	NA	NA	NA	3.3AC#	3.3AC#	+170	0	+1.0	3.0AC#
V6007B	PHASE INVERTER CH B	1/2 12AX7	+190	+15	+17	3.3AC#	3.3AC#	NA	NA	NA	3.0AC#
V6008	POWER AMPL CHAN B	6AK6	0	+10	3.3AC#	3.0AC#	+198/1.3AC	+200	+10	NA	NA
V6009	POWER AMPL CHAN B	6AK6	0	+10	3.3AC#	3.0AC#	+198/1.0AC	+200	+10	NA	NA
V7001	REGULATOR	6336A	+195	+290	+200	+195	+290	+200	0	0	NA
V7002	CONTROL TUBE	6AH6	**	0	0	0	+195	+270	0	NA	NA

CONDITIONS:

1. Both detection switches in SSB position.
2. AFC switch in OFF position.
3. Both AGC response switches in Fast position.
4. IF bandwidth KC switch (Channel A) in 7.5 KC LSB position.
5. IF bandwidth KC switch (Channel B) in 7.5 KC USB position.
6. AGC selector switch in CH-A-B position.
7. Monitor gain control in 0 position.
8. AGC manual control fully CW.
9. Line voltage of 110 at 60 CPS.
10. Power switch in ON position.
11. Voltage measurements taken under the above operating conditions with no audio or RF external inputs.
12. Hewlett Packard model 410 BR VTVM used for measurements.
13. All voltages taken with respect to chassis ground.

- * Voltage dependent upon setting of R6036
- ** Voltage dependent upon setting of R7007
- # Voltage dependent upon setting of R6073
- NC NO CONNECTION
- NA NOT APPLICABLE

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13c

TABLE II-5-3. SBS-1, 2, RESISTANCE MEASUREMENTS.

TUBE SYMBOL	FUNCTION	TYPE	PIN 1 OHMS	PIN 2 OHMS	PIN 3 OHMS	PIN 4 OHMS	PIN 5 OHMS	PIN 6 OHMS	PIN 7 OHMS	PIN 8 OHMS	PIN 9 OHMS
V101	IF Amplifier	6BA6	280K	68	FIL	0	42K	62K	68	NA	NA
V102	IF Amplifier	6CE5	72	100	FIL	0	39K	58K	100	NA	NA
V103	AGC Amplifier	6CE5	6	430	FIL	0	40K	44K	430	NA	NA
V6200	Mixer	6S4	NC	4K	10K	0	0	10K	NC	NC	9K
V6201	250 KC Ampl	6BA6	330K	390	0	0	9K	22K	390	NA	NA
V6202A	Oscillator	1/2 6AW8	1 to 5K	100K	49K	0	0	NA	NA	NA	NA
V6202B	Amplifier	1/2 6AW8	NA	NA	NA	0	0	150	10K	24K	8.5K
V6203A	250 KC Oscillator	1/2 6AW8	1 to 5K	100K	30K	0	0	NA	NA	NA	NA
V6203B	250 KC Amplifier	1/2 6AW8	NA	NA	NA	0	0	150	100K	24K	9K
V6204	Chan A Amplifier	6BA6	45	220	0	0	7K	27K	220	NA	NA
V6205	Chan B Amplifier	6BA6	45	220	0	0	7K	25K	220	NA	NA
V6206	AGC Comparator	12AX7	3.7K	380K	130K	0	0	3.7K	380K	130K	0
V6000	Product Detector Ch A	6S4	NC	400	15K	30*	30*	NC	NC	NC	30K
V6001A	1st Audio Ampl Chan A	1/2 12AX7	NA	NA	NA	30*	30*	35K	1 Meg	1K	30*
V6001B	2nd Audio Ampl Chan A	1/2 12AX7	45K	7 to 110K	1K	30*	30*	NA	NA	NA	30*
V6002A	3rd Audio Ampl Chan A	1/2 12AX7	NA	NA	NA	30*	30*	35K	1 Meg	1K	30*
V6002B	Phase Inverter Chan A	1/2 12AX7	40K	1 Meg	45K	30*	30*	NA	NA	NA	30*
V6003	Power Ampl Chan A	6AK6	480K	330	30*	30*	3K	2.4K	330	NA	NA
V6004	Power Ampl Chan A	6AK6	500K	330	30*	30*	3K	2.4K	330	NA	NA
V6005	Product Detector Ch B	6S4	NC	400	15K	30#	30#	NC	NC	NC	30K
V6006A	1st Audio Ampl. Chan B	1/2 12AX7	NA	NA	NA	30#	30#	35K	1 Meg	1K	30#
V6006B	2nd Audio Ampl Chan B	1/2 12AX7	45K	7 to 110K	1K	30#	30#	NA	NA	NA	30#
V6007A	3rd Audio Ampl Chan B	1/2 12AX7	NA	NA	NA	30#	30#	35K	1 Meg	1K	30#
V6007B	Phase Inverter Chan B	1/2 12AX7	40K	1 Meg	45K	30#	30#	NA	NA	NA	30#
V6008	Power Ampl Chan B	6AK6	450K	330	30#	30#	3K	2.4K	330	NA	NA
V6009	Power Ampl Chan B	6AK6	500K	330	30#	30#	3K	2.4K	330	NA	NA
V7001	Regulator	6336A	20 Meg	20 Meg	10K	20 Meg	20 Meg	10K	Inf	Inf	NA
V7002	Control Tube	6AH6	30K**	0	Inf	Inf	20 Meg	20 Meg	0	NA	NA
CR7007	Bias Regulator	1N3006RB NEGATIVE LEAD TO GROUND 7K. POSITIVE LEAD TO GROUND 110K									

CONDITIONS:

- Both detection switches in SSB position.
 - AFC switch in Off position.
 - Both AGC response switches in Fast position.
 - IF bandwidth KC switch (Channel A) in 7.5 KC LSB position
 - IF bandwidth KC switch (Channel B) in 7.5 KC USB position.
 - AGC selector switch in Ch-A-B position.
 - Monitor gain control in 0 position.
 - AGC Manual control fully CW.
 - No input power.
 - Power switch in Standby position.
 - Hewlett Packard model 410 BR VTVM used for measurements.
 - All measurements taken with respect to chassis ground.
- * Value obtained with R6036 at approximately mid range
** Varies with setting of R7007
Value obtained with R6073 at approximately mid range
NC No Connection
NA Not Applicable
K 1000

SECTION 6

MAINTENANCE

II-6-1. INTRODUCTION.

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Maintenance may be divided into three categories: operator's maintenance, preventive maintenance, and corrective maintenance. Corrective maintenance is sometimes considered as consisting of information useful in locating and diagnosing equipment troubles and maladjustments, existing and/or pending, and information necessary to remedy the equipment troubles and maladjustments. Corrective procedures in this section are those necessary to correct a trouble due to a maladjustment of an alignment control or adjustment. By using these procedures with those presented in Section 5 a trouble may also be localized to a particular section. Operator's maintenance is included in Operator's Section (Section 3).

The SBS has been designed to provide long-term, trouble-free operation under continuous duty conditions. It is recommended that any necessary maintenance be done by a competent maintenance technician familiar with trouble-shooting techniques. If the trouble cannot be corrected by following the procedures presented in this section and Section 5, it is recommended that the SBS be returned to the Technical Materiel Corporation for servicing.

II-6-2. PREVENTIVE MAINTENANCE.

a. In order to prevent failure of the equipment due to corrosion, tube failure, dust, or other destructive elements, it is suggested that a schedule of preventive maintenance be set up and adhered to.

b. At periodic intervals (at least every six months) the equipment should be removed from the rack for cleaning and inspection. All accessible covers should be removed and the wiring and all components inspected for dirt, corrosion, charring, discoloring, or grease; in particular, the tube sockets should be carefully inspected for deterioration. Dust may be removed with a soft brush or a vacuum cleaner if one is available. Remove dirt or grease from electrical parts with trichlorethylene. Remove dirt or grease from other parts with any good dry cleaning fluid.

WARNING

When using trichlorethylene, make certain that adequate ventilation exists. Avoid prolonged contact with skin.

c. While unit is out of the rack and covers are removed, check the tubes, all of which are accessible from the top of the chassis.

d. Remove the screen from the blower and remove any accumulated dust with a small brush or vacuum cleaner.

CAUTION

When replacing the screen take care not to push in the screen. If the screen is pushed in it will bind the blower motor causing it to burn out when power is applied.

e. Carefully inspect for loose solder connections or screws, especially those on solder lugs. Recommended time interval is every 6 to 12 months, depending on the amount of vibration encountered in service.

II-6-3. CORRECTIVE MAINTENANCE.

The corrective maintenance procedure is essentially Technical Materiel Corporation's factory alignment procedures modified for use in the field. Table 6-1 lists the test equipment necessary for alignment. The alignment procedures are outlined in tables 6-2 through 6-7. For a complete alignment, the procedures must be performed in sequence beginning with table 6-2 and ending with table 6-7. However, the procedures are so arranged that if it is necessary to align only a particular section the procedures in the table covering that section need only be performed. Figure II-6-1 locates the alignment controls and adjustments.

Before attempting any alignment the setting of the VOLT ADJ control R7001 should be checked. This can be done by connecting a VTVM between fuse F7007 and ground and adjusting VOLT ADJ control R7007 for a reading of +200 volts on the VTVM.

II-6-4. POWER SUPPLY REMOVAL.

In order to perform maintenance on the SBS power supply it may be necessary to remove it from the main chassis. To remove the power supply refer to figure II-6-2.

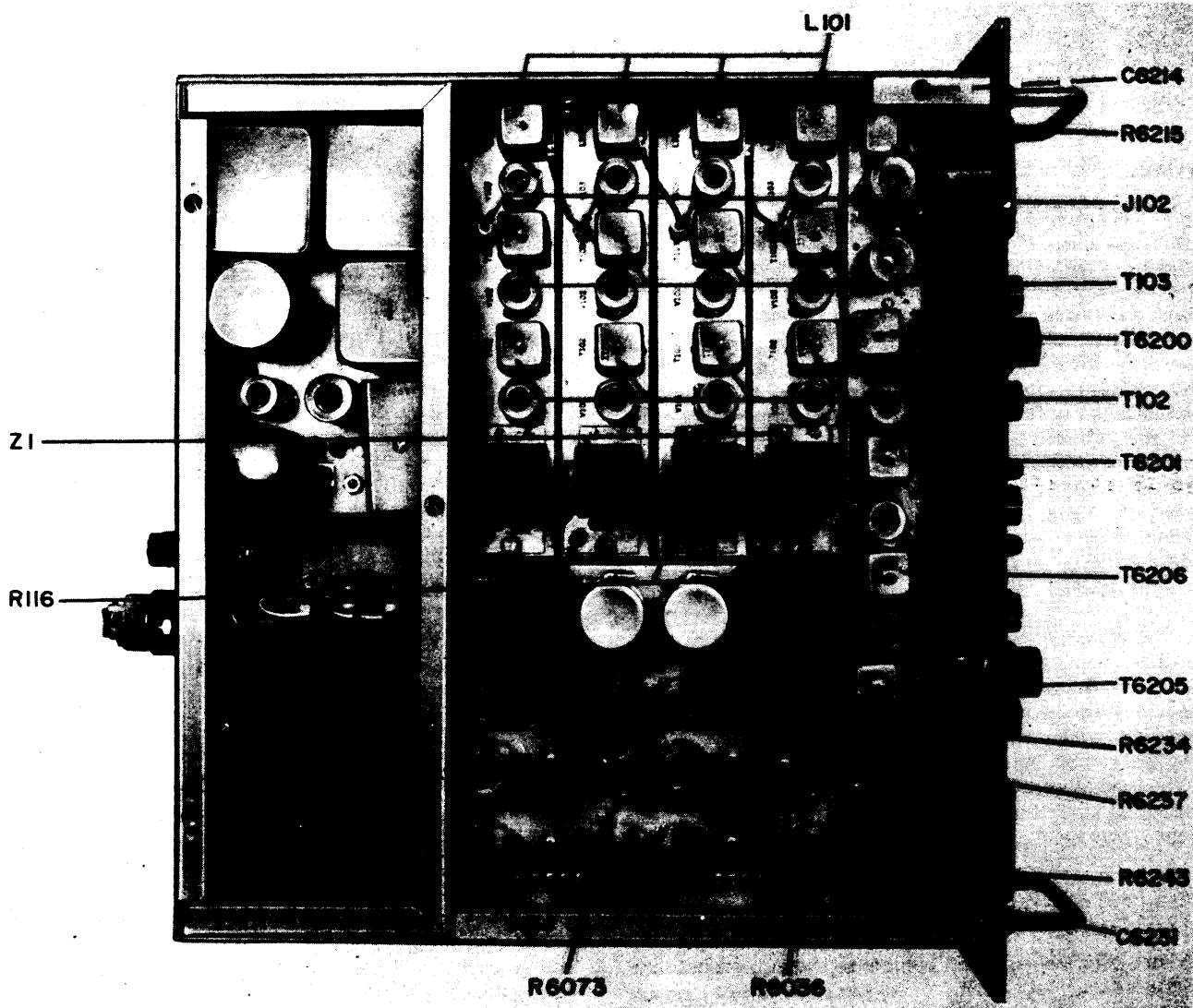


Figure II-6-1. Location of SBS-1, 2, Alignment Controls and Adjustments

TABLE II-6-1. TEST EQUIPMENT FOR ALIGNMENT

ITEM	MANUFACTURER
A-c vacuum tube voltmeter	Ballantine 314 or equivalent.
Vacuum tube voltmeter with r-f probe	Hewlett Packard 410B or equivalent.
R-f generator	Standard Measurements Model 82 or equivalent.
Audio generator	Hewlett Packard 200CD or equivalent.
Counter	Hewlett Packard 524C or equivalent.
50-ohm 1 watt resistor	A 48-ohm resistor may be used.
2-600-ohm 1 watt resistors	A 680-ohm resistor may be used.

TABLE II-6-2. 250KC OSCILLATOR ALIGNMENT

STEP	OPERATION
1	Set AFC switch to OFF. Set CHANNEL A AM CW SSB switch to SSB and the CHANNEL B AM CW SSB switch to AM.
2	Set the VTVM to read -1 volt and connect it between pin 2 of V6203 and ground.
3	Adjust degeneration adj control R6249 for a -1 volt indication on the VTVM.
4	Connect the counter to the output terminal (coaxial cable center conductor) of T6204. Adjust C6231 for an indication of 250,000 cycles ± 1 cycle on the counter.
5	If necessary, readjust R6249 for -1 volt. Voltage at the output of T6204 should be 1-volt r-f.

TABLE II-6-3. 750KC (SBS-1) 2MC (SBS-2) OSCILLATOR ALIGNMENT

STEP	OPERATION
1	Set the AFC switch to OFF.
2	Set the VTVM to read -1 volt and connect it between pin 2 of V6202 and ground. Connect the counter to the output terminal (coaxial cable center conductor) of T6203.
3	Adjust degeneration adj control R6215 for a -1 volt indication on the VTVM.
4	Connect the counter to the output terminal (coaxial cable center conductor) of T6204. Adjust C6214 for an indication of 705,000 cycles ± 1 cycle (for SBS-1) 2,000,000 cycles ± 1 cycle (for SBS-2) on the counter.
5	If necessary, readjust R6215 for -1 volt.
6	Using R-f VTVM measure the voltage at the output terminal of T6203. Voltage should be 1 volt.

TABLE II-6-4. MIXER AND 250KC ALIGNMENT

STEP	OPERATION
1	Rotate the IN LEVEL control R6800 fully counterclockwise. Set the AFC switch to ON and the AGC MANUAL control fully clockwise (maximum). Temporarily connect a clip lead between pin 1 of V6201 and ground.
2	Set the R-f VTVM to the .01 volt scale and connect it between pin 9 of V6200 and ground. Set up the r-f signal generator to produce 250 kc at 10 millivolts and connect it to the IN LO Z jack J6800.
3	Tune the top slug on T6200 for a maximum indication on the AC VTVM. Remove the jumper between pin 1 of V6201 and ground. Tune the bottom slug on T6200 for a minimum indication on the AC VTVM.
4	Disconnect the R-f VTVM. Connect the 47 ohm resistor between pin 2 of J6000 and ground. Connect the AC VTVM across the resistor.

TABLE II-6-4. MIXER AND 250KC ALIGNMENT (C nt.)

STEP	OPERATION
5	Tune the slug on T6201 for maximum indication on the AC VTVM. This reading should be approximately 7 millivolts. Disconnect the R-f VTVM and the 47 ohm resistor.
6	Connect the R-f VTVM to IN HI Z jack J6801. Using the r-f signal generator apply a 455 kc (SBS-1) or 1.75 mc (SBS-2) 1 millivolt signal to IN LO Z jack J6800.
7	Adjust IN LEVEL control R6800 for a 3 millivolt indication of the R-f VTVM.

TABLE II-6-5. UPPER AND LOWER SIDEBAND IF AMPLIFIER ALIGNMENT

STEP	OPERATION
	<p>NOTE</p> <p>The upper and lower sideband IF amplifier are aligned in a similar manner. The difference being that the signal generator is set at 249 kc for lower sideband alignment and at 251 kc for upper sideband alignment.</p>
1	Connect a jumper between the AVC Terminal of Z1 and ground. Connect the AC VTVM to jack J102. Connect a 249 kc (LSB) or 251 kc (USB) 1 millivolt signal to pin 1 of V102.
2	Tune the top slug on T103 for maximum indication on the AC VTVM.
3	Remove the AC VTVM from J102 and connect it between the output terminal (green lead) of L101 and ground.
4	Tune the top slug on L101 for a maximum indication on the AC VTVM.
5	Remove the AC VTVM from L101 and connect it to pin 5 of V101. Using the same output as in step 1 connect the rf signal generator to pin 1 of V101. Connect a jumper across the output terminals of T102.
6	Tune the top slug on T102 for a maximum indication on the AC VTVM. Remove the jumper from the output terminals of T102 and tune the bottom slug for a minimum indication on the VTVM.
7	Remove the AC VTVM from pin 5 of V101 and connect it to jack J102. Remove the jumper from the AVC terminal of Z1.
8	Adjust the delay AVC adj control R116 for a 1 volt indication on the AC VTVM.
9	Disconnect the AC VTVM from J102 and connect it to CHAN A jack J6806.
10	Tune the top slug on T6205 for maximum indication on the AC VTVM.

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**TABLE II-6-5. UPPER AND LOWER SIDEBAND
IF AMPLIFIER ALIGNMENT (C nt.)**

STEP	OPERATION
11	Disconnect the AC VTVM from J6806 and connect it to CHAN B jack J6805.
12	Tune the top slug on T6206 for maximum indication on the AC VTVM.
13	Disconnect the test equipment.

TABLE II-6-6. AGC COMPARATOR ALIGNMENT

STEP	OPERATION
1	Set the AGC selector switch to CH-A-B. Set CHANNEL A and CHANNEL B AGC RESPONSE switches to FAST.
2	Set the VTVM to read 1 volt d-c and connect it to slider arm (center terminal) of R6234.
3	Adjust R6234 until the VTVM indicates 0 volts. Lock R6234 in position.
4	Repeat steps 2 and 3 but substitute R6237 for R6234.

**TABLE II-6-7. AUDIO AND DETECTOR DECK
ALIGNMENT**

STEP	OPERATION
1	Rotate the CHANNEL A LEVEL ADJUST control fully clockwise. Set CHANNEL A and CHANNEL B DETECTION switch to SSB.
2	Connect the AC VTVM between terminals 2 and 4 of E6800. Connect a 600 ohm 1 watt resistor across terminals 7 and 9.
3	Connect the audio generator to pin 3 of V6000. Adjust the audio generator to produce a 1 kc 2.5 millivolt signal.
4	Adjust the CHANNEL A LEVEL ADJUST control until the AC VTVM indicates approximately 23 volts. This establishes the OVU level for channel A.
5	Remove the audio generator. Set the AC VTVM to the lowest range which gives a reading without going off scale. Rotate hum balance control R6073 for minimum reading on the AC VTVM.
6	Disconnect the AC VTVM from terminals 2 and 4 of E6800 and connect it to terminal 12 and 14. Disconnect the 600 ohm 1 watt resistor from terminals 7 and 9 and connect it across terminals 17 and 19.
7	Connect the audio generator to pin 3 of V6005 with same signal as in step 3. Adjust the CHANNEL B LEVEL ADJUST control until the AC VTVM indicates approximately 23 volts. This establishes the OVU level for channel B.
8	Remove the audio generator. Set the AC VTVM to the lowest range which gives a reading without going off scale. Rotate the hum balance control R6073 for minimum reading on AC VTVM.
9	Remove the AC VTVM and the 600 ohm 1 watt resistor from terminals 7 and 9 and terminals 17 and 19 respectively.

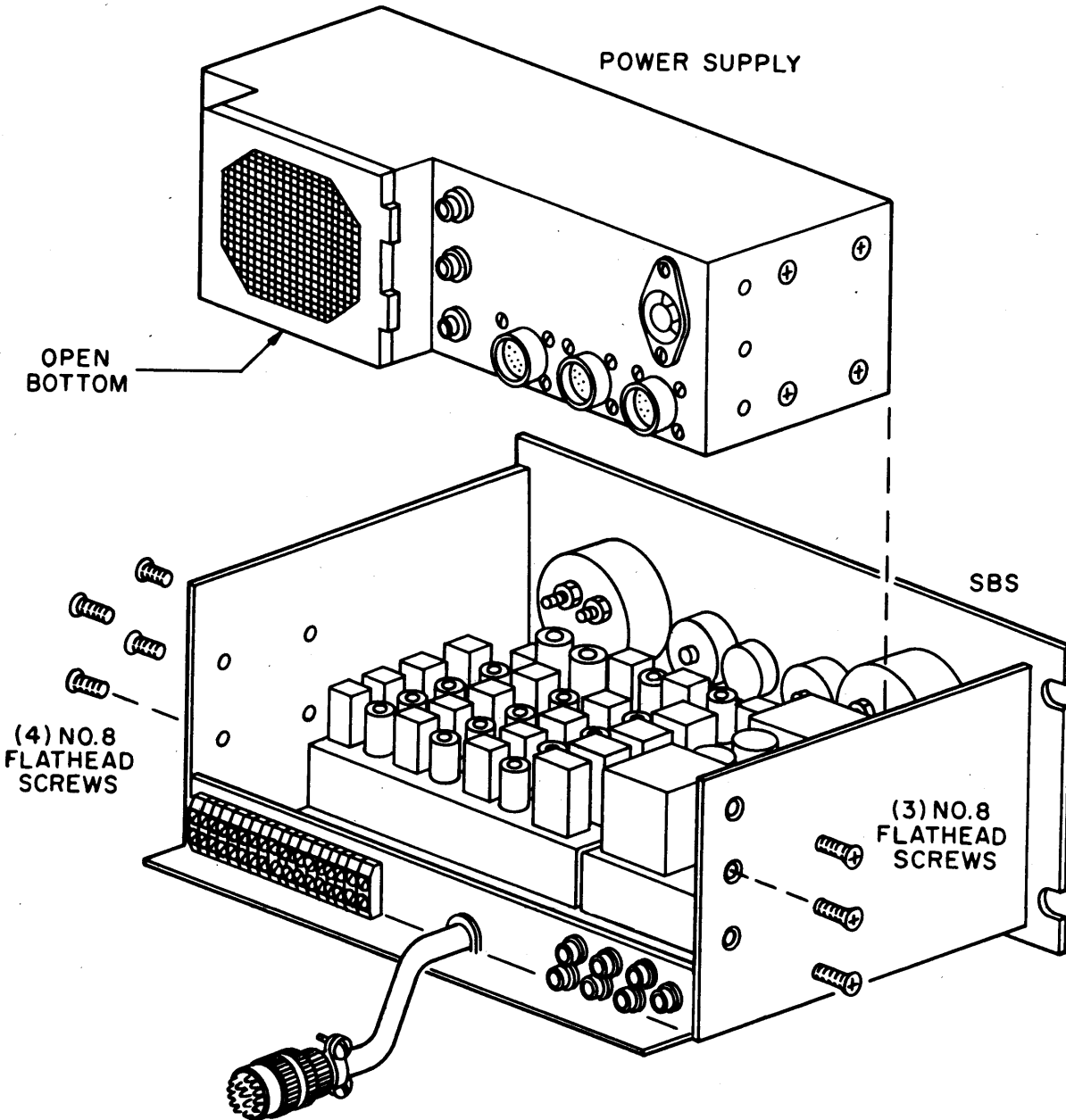


Figure II-6-2. SBS-1, 2, Power Supply Removal

SECTION 7

PARTS LIST

II-7-1. INTRODUCTION.

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Reference designations have been assigned to identify all maintenance parts of the equipment. They are used for marking the equipment (adjacent to the part they identify) and are included on drawings, diagrams, and the parts list. The letters of a reference designation indicate the kind of part (generic group), such as resistor, amplifier, electron tubes, etc. The number differentiates between parts of the same generic group. Parts of the SBS unit are numbered in the 6000, 6200, 6800, and 7000 series. Sockets associated with a particular plug-in device, such as electron

tube or fuse, are identified by a reference designation which includes the reference designations of the plug-in device. For example, the socket for fuse F201 is designated XF201. Column 1 lists the reference designations of the various parts in alphabetical and numerical order. Column 2 gives the name and describes the various parts. Major part assemblies are listed in their entirety; sub-parts of a major assembly are listed in alphabetical and numerical order with reference to its major assembly. Column 3 indicates how the part is used within a major component. Column 4 lists each Technical Materiel Corporation part number.

SIDEBAND SELECTOR SBS-1, -2
SYMBOL SERIES 6000

SYM.	DESCRIPTION	FUNCTION	TMC DWG. OR PART NO.
A6000	AMPLIFIER, INTERMEDIATE FREQUENCY: operating frequency, 253.88625 kc; bandwidth, 250.225 to 257.500 kc at 3 db down; amplification, 54 db input to output over-all gain; input voltage, 2 mv rms; output voltage, 1000 mv rms; input impedance, 50 ohms; output impedance, 50 ohms; power requirements 6.3 v, 40 to 400 cps, single phase and 200 vdc; over-all dimensions, 2 in. by 5-1/2 in. by 9-1/2 in. (SEE SEPARATE LIST FOR BREAKDOWN)	7.5 Kc LSB IF Amplifier	AX-305
A6001	AMPLIFIER, INTERMEDIATE FREQUENCY: operating frequency, 248.180 kc; bandwidth, 246.500 to 249.860 kc at 3 db down; amplification, 54 db input to output over-all gain; input voltage, 2 mv rms; output voltage, 1000 mv rms; input impedance, 50 ohms; output impedance, 50 ohms; power requirements 6.3 v, 40 to 400 cps, single phase and 200 vdc; over-all dimensions, 2 in. by 5-1/2 in. by 9-1/2 in. (SEE SEPARATE LIST FOR BREAKDOWN)	3.5 Kc LSB IF Amplifier	AX-304
A6002	AMPLIFIER, INTERMEDIATE FREQUENCY: operating frequency, 251.820 kc; bandwidth, 250.140 to 253.500 kc at 3 db down; amplification, 54 db input to output over-all gain; input voltage, 2 mv rms; output voltage, 1000 mv rms; input impedance, 50 ohms; output impedance, 50 ohms; power requirements 6.3 v, 40 to 400 cps, single phase and 200 vdc; over-all dimensions, 2 in. by 5-1/2 in. by 9-1/2 in. (SEE SEPARATE LIST FOR BREAKDOWN)	3.5 Kc USB IF Amplifier	AX-303
A6003	AMPLIFIER, INTERMEDIATE FREQUENCY: operating frequency, 246.1375 kc; bandwidth, 242.500 to 249.775 kc at 3 db down; amplification, 54 db input to output over-all gain; input voltage, 2 mv rms; output voltage, 1000 mv rms; input impedance, 50 ohms; output impedance, 50 ohms; power requirements 6.3 v, 40 to 400 cps, single phase and 200 vdc; over-all dimensions, 2 in. by 5-1/2 in. by 9-1/2 in. (SEE SEPARATE LIST FOR BREAKDOWN)	7.5 Kc USB IF Amplifier	AX-306
C6000	CAPACITOR, FIXED, MICA DIELECTRIC: 820 uuf; ±5%; 500 vdcw.	Filter Network	CM20C821J
C6001	CAPACITOR, FIXED, MICA DIELECTRIC: 560 uuf; ±5%; 500 vdcw.	Filter Network	CM20C561J
C6002	NOT USED		
C6003 A, B, C	CAPACITOR, FIXED, ELECTROLYTIC: triple section, 20 uf, each section; 450 vdcw; polarized; tubular case; plug in type.	B+ Filter	CE-108-1
C6004	CAPACITOR, FIXED, MICA DIELECTRIC: 470 uuf; ±10%; 500 vdcw.	Filter Network	CM15B471K
C6005	CAPACITOR, FIXED, ELECTROLYTIC: tantalum; 50 uf, +50% -15%; 60 vdcw; polarized; tubular case.	Cathode	CE-107-1

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**SIDEBAND SELECTOR SBS-1, -2
SYMBOL SERIES 6000**

SYM.	DESCRIPTION	FUNCTION	TMC DWG. OR PART NO.
C6006	CAPACITOR, FIXED, CERAMIC DIELECTRIC: .1 uf; +80% -20%; 500 vdcw.	Bypass	CC-100-32
C6007	Same as C6006.	Coupling	
C6008	NOT USED		
C6009	CAPACITOR, FIXED, MICA DIELECTRIC: 1300 uuf; ±10%; 500 vdcw.	Bypass	CM20C132K
C6010	Same as C6006.	Coupling	
C6011	CAPACITOR, FIXED, CERAMIC DIELECTRIC: 1000 uuf; ±10%; 500 vdcw.	Filter Network	CC-100-9
C6012	CAPACITOR, FIXED, CERAMIC DIELECTRIC: 20,000 uuf; +80 -20%; 500 vdcw.	Coupling	CC-100-24
C6013	Same as C6012.	Coupling	
C6014	Same as C6012.	Coupling	
C6015	Same as C6005.	Cathode	
C6016	Same as C6000.	Filter Network	
C6017	Same as C6001.	Filter Network	
C6018 A, B, C	Same as C6003A, B, C.	B+ Filter	
C6019	Same as C6005.	Cathode Bypass	
C6020	Same as C6004.	Filter Network	
C6021	Same as C6006.	RF Bypass	
C6022	Same as C6006.	Coupling	
C6023	Same as C6012.	Coupling	
C6024	Same as C6009.	RF Bypass	
C6025	Same as C6006.	Coupling	
C6026	NOT USED		
C6027	Same as C6012.	Coupling	
C6028	Same as C6012.	Coupling	
C6029	Same as C6012.	Coupling	
C6030	Same as C6005.	Cathode	
C6031	Same as C6006.	RF Bypass	
C6032	Same as C6006.	RF Bypass	
C6033	Same as C6012.	Coupling	
C6034	Same as C6011.	Filter Network	

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SIDEBAND SELECTOR SBS-1, -2
SYMBOL SERIES 6000

SYM.	DESCRIPTION	FUNCTION	TMC DWG. OR PART NO.
CR6000	SEMICONDUCTOR DEVICE, DIODE: germanium; max peak inverse volts 60 v; continuous average forward current 50 ma; max peak forward recurrent 150 ma; max surge current 500 ma.	Detector	1N34A
CR6001	Same as CR6000.	Detector	
J6000	CONNECTOR, RECEPTACLE, ELECTRICAL: 7 round #16 female contacts; straight type.	Power	JJ-216
J6001	Same as J6000.	Power	
J6002	Same as J6000.	Power	
J6003	Same as J6000.	Power	
R6000	RESISTOR, FIXED, COMPOSITION: 4700 ohms; ±10%; 1/2 watt.	Load	RC20GF472K
R6001	RESISTOR, FIXED, COMPOSITION: 4700 ohms; ±10%; 1/2 watt.	Filter Network	RC20GF473K
R6002	RESISTOR, FIXED, COMPOSITION: 1500 ohms; ±10%; 1/2 watt.	Diode Load	RC20GF152K
R6003	NOT USED		
R6004	RESISTOR, FIXED, COMPOSITION: 10000 ohms; ±10%; 1/2 watt.	Plate Load	RC20GF103K
R6005	RESISTOR, FIXED, COMPOSITION: 15000 ohms; ±10%; 1/2 watt.	Voltage Divider	RC20GF153K
R6006	Same as R6004.	Filter Network	
R6007	Same as R6001.	Isolation	
R6008	NOT USED		
R6009	RESISTOR, FIXED, COMPOSITION: 390 ohms; ±10%; 1/2 watt.	Cathode	RC20GF391K
R6010	RESISTOR, FIXED, COMPOSITION: 15 ohms; ±10%; 1/2 watt.	Cathode	RC20GF150K
R6011	RESISTOR, FIXED, COMPOSITION: 12000 ohms; ±10%; 1/2 watt.	Plate Load	RC20GF123K
R6012	RESISTOR, FIXED, COMPOSITION: 1.0 meg-ohms; ±10%; 1/2 watt.	Grid Leak	RC20GF105K
R6013	RESISTOR, FIXED, COMPOSITION: 100 ohms; ±10%; 1/2 watt.	Cathode	RC20GF102K
R6014	Same as R6004.	Decoupling	
R6015	NOT USED		
R6016	RESISTOR, FIXED, COMPOSITION: 33000 ohms; ±10%; 1/2 watt.	Plate Load	RC20GF333K
R6017	Same as R6013.	Cathode	

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**SIDEBAND SELECTOR SBS-1, -2
SYMBOL SERIES 6000**

SYM.	DESCRIPTION	FUNCTION	TMC DWG. OR PART NO.
R6018	Same as R6004.	Decoupling	
R6019	Same as R6012.	Grid Leak	
R6020	Same as R6016.	Plate Load	
R6021	Same as R6013.	Cathode	
R6022	Same as R6012.	Grid Leak	
R6023	RESISTOR, FIXED, COMPOSITION: 39000 ohms; ±10%; 1/2 watt.	Plate Load	RC20GF393K
R6024	RESISTOR, FIXED, COMPOSITION: 3900 ohms; ±10%; 1/2 watt.	Cathode	RC20GF392K
R6025	Same as R6023.	Cathode	
R6026	RESISTOR, FIXED, COMPOSITION: 68000 ohms; ±10%; 1/2 watt.	Feed Back	RC20GF683K
R6027	RESISTOR, FIXED, COMPOSITION: .47 megohm; ±10%; 1/2 watt.	Grid Leak	RC20GF474K
R6028	Same as R6027.	Grid Leak	
R6029	RESISTOR, FIXED, COMPOSITION: 47 ohms; ±10%; 1/2 watt.	Parasitic Supp.	RC20GF470K
R6030	RESISTOR, FIXED, COMPOSITION: 330 ohms; ±10%; 1 watt.	Cathode	RC32GF331K
R6031	Same as R6029.	Parasitic Supp.	
R6032	NOT USED		
R6033	NOT USED		
R6034	NOT USED		
R6035	NOT USED		
R6036	RESISTOR, VARIABLE, COMPOSITION: 100 ohms; ±10%; 1/2 watt.	Hum Balance	RV106UX10C101A
R6037	Same as R6000.	Load	
R6038	Same as R6001.	Filter Network	
R6039	Same as R6002.	Diode Load	
R6040	NOT USED		
R6041	Same as R6004.	Plate Load	
R6042	Same as R6005.	Isolation	
R6043	Same as R6004.	Filter Network	
R6044	Same as R6001.	Isolation	

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**SIDEBAND SELECTOR SBS-1, -2
SYMBOL SERIES 6000**

SYM.	DESCRIPTION	FUNCTION	TMC DWG. OR PART NO.
R6045	RESISTOR, FIXED, COMPOSITION: 100 ohms; ±10%; 1/2 watt.	Load	RC20GF101K
R6046	Same as R6009.	Cathode	
R6047	Same as R6010.	Cathode	
R6048	Same as R6011.	Plate Load	
R6049	Same as R6013.	Cathode	
R6050	Same as R6012.	Grid Leak	
R6051	Same as R6004.	Decoupling	
R6052	Same as R6029.	Load	
R6053	Same as R6016.	Plate Load	
R6054	Same as R6013.	Cathode	
R6055	Same as R6004.	Decoupling	
R6056	Same as R6012.	Grid Leak	
R6057	Same as R6016.	Plate Load	
R6058	Same as R6013.	Cathode	
R6059	Same as R6012.	Grid Leak	
R6060	Same as R6023.	Plate Load	
R6061	Same as R6024.	Cathode	
R6062	Same as R6023.	Cathode	
R6063	NOT USED		
R6064	Same as R6027.	Grid Leak	
R6065	Same as R6027.	Grid Leak	
R6066	Same as R6029.	Parasitic Supp.	
R6067	Same as R6030.	Cathode	
R6068	Same as R6029.	Parasitic Supp.	
R6069	Same as R6026.	Feed Back	
R6070	NOT USED		
R6071	Same as R6029.	Load	
R6072	Same as R6029.	Load	
R6073	Same as R6036.	Hum Balance	
R6074	RESISTOR, FIXED, COMPOSITION: 330 ohms; ±10%; 1/2 watt.	Voltage Divider	RC20GF331K

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SIDEBAND SELECTOR SBS-1, -2
SYMBOL SERIES 6000

SYM.	DESCRIPTION	FUNCTION	TMC DWG. OR PART NO.
R6075	Same as R6074.	Voltage Divider	
T6000	TRANSFORMER, PULSE: 3 windings; winding no. 1, 4.7 mh; turns ratio 5:5:1.	Step-Up	TF-228-K-15
T6001	TRANSFORMER, AUDIO FREQUENCY: primary impedance; 10,000 ohms CT; secondary impedance no. 1, 4 ohms, 8 ohms, 16 ohms; secondary no. 2 600 ohms CT; hermetically sealed case.	Audio Output	TF-237
T6002	Same as T6000.	Step-Up	
T6003	Same as T6001.	Audio Output	
V6000	TUBE, ELECTRON: medium-mu triode; 9 pin miniature.	Product Detector	6S4
V6001 A, B	TUBE, ELECTRON: high-mu twin triode; 9 pin miniature.	Audio Ampl.	12AX7
V6002 A, B	Same as V6001A, B.	Audio Ampl & Phase Splitter	
V6003	TUBE, ELECTRON: audio power output; 7 pin miniature.	Power Output	6AK6
V6004	Same as V6003.	Power Output	
V6005	Same as V6000.	Product Detector	
V6006 A, B	Same as V6001A, B.	Audio Ampl.	
V6007 A, B	Same as V6001A, B.	Audio Ampl & Phase Splitter	
V6008	Same as V6003.	Power Ampl.	
V6009	Same as V6003.	Power Ampl.	
XC6003	SOCKET, ELECTRON TUBE: octal type.	Socket for C6003	TS101P01
XC6018	Same as XC6003.	Socket for C6018	
XV6000	SOCKET, ELECTRON TUBE: 9 pin miniature.	Socket for V6000	TS103P01
XV6001	Same as XV6000.	Socket for V6001	
XV6002	Same as XV6000.	Socket for V6002	
XV6003	SOCKET, ELECTRON TUBE: 7 pin miniature.	Socket for V6003	TS102P01
XV6004	Same as XV6003.	Socket for V6004	
XV6005	Same as XV6000.	Socket for V6005	
XV6006	Same as XV6000.	Socket for V6006	
XV6007	Same as XV6000.	Socket for V6007	

**SIDEBAND SELECTOR SBS-1, -2
SYMBOL SERIES 6000**

SYM.	DESCRIPTION	FUNCTION	TMC DWG. OR PART NO.
XV6008	Same as XV6003.	Socket for V6008	
XV6009	Same as XV6003.	Socket for V6009	
SYMBOL SERIES 6200			
C6200	CAPACITOR, FIXED, CERAMIC DIELECTRIC: .1 uf; +80 -20%; 500 vdcw.	Bypass	CC-100-32
C6201	Same as C6200.	Bypass	
C6202	Same as C6200.	Bypass	
C6203	CAPACITOR, FIXED, CERAMIC DIELECTRIC: 20,000 uuf; +80 -20%; 500 vdcw.	Bypass	CC-100-24
C6204	CAPACITOR, FIXED, CERAMIC DIELECTRIC: 10,000 uuf; GMV; 500 vdcw.	Bypass	CC-100-16
C6205	Same as C6203.	Screen Grid Bypass	
C6206	Same as C6203.	Bypass	
C6207	CAPACITOR, FIXED, CERAMIC DIELECTRIC: .22 uf; +80 -20%; 10 vdcw.	Cathode Bypass	CC-100-33
C6208	Same as C6204.	Grid Blocking	
C6209	Same as C6200.	Cathode Bypass	
C6210	NOT USED		
C6211	NOT USED		
C6212	Same as C6200.	Bypass	
C6213	Same as C6204.	Plate Bypass	
C6214	CAPACITOR, VARIABLE, GLASS DIELECTRIC: 2.0 to 30.0 uuf; 100 vdcw.	Osc. Adj.	CV-104-1
C6215	CAPACITOR, FIXED, MICA DIELECTRIC: 27 uuf; ±10%; 500 vdcw.	Padder	CM15B270K
C6216	CAPACITOR, FIXED, MICA DIELECTRIC: 240 uuf; ±10%; 500 vdcw.	p/o RF Feedback	CM15B241K
C6217	CAPACITOR, FIXED, MICA DIELECTRIC: 220 uuf; ±10%; 500 vdcw.	p/o RF Feedback	CM15B221K
C6218	Same as C6204.	RF Coupling	
C6219	CAPACITOR, FIXED, MICA DIELECTRIC: 51 uuf; ±10%; 500 vdcw.	p/o RF Divider Network	CM15B510K
C6220	CAPACITOR, FIXED, MICA DIELECTRIC: 180 uuf; ±10%; 500 vdcw.	p/o RF Divider Network	CM15B181K

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SYM.	DESCRIPTION	FUNCTION	TMC DWG. OR PART NO.
C6221	Same as C6204.	Screen Grid Bypass	
C6222	Same as C6200.	B+ Bypass	
C6223	Same as C6200.	B+ Bypass	
C6224	Same as C6200.	RF Bypass	
C6225	Same as C6200.	RF Bypass	
C6226	Same as C6200.	RF Bypass	
C6227	Same as C6200.	RF Bypass	
C6228	Same as C6200.	Plate Bypass	
C6229	CAPACITOR, FIXED, MICA DIALECTRIC: 510 uuf; ±10%; 500 vdcw.	p/o RF Feedback	CM20B511K
C6230	Same as C6229.	p/o RF Feedback	
C6231	Same as C6214.	Osc. Adj.	
C6232	Same as C6200.	B+ Bypass	
C6233	Same as C6200.	B+ Bypass	
C6234	Same as C6200.	Screen Grid Bypass	
C6235	CAPACITOR, FIXED, MICA DIELECTRIC: 10 uuf; ±10%; 500 vdcw.	Padder	CM15B100K
C6236	Same as C6204.	RF Coupling	
C6237	Same as C6200.	B+ Bypass	
C6238	Same as C6200.	B+ Bypass	
C6239	Same as C6200.	B+ Bypass	
C6240	Same as C6204.	B+ Bypass	
C6241	Same as C6204.	Screen Grid Bypass	
C6242	Same as C6200.	RF Bypass	
C6243	Same as C6200.	B+ Bypass	
C6244	Same as C6200.	B+ Bypass	
C6245	Same as C6200.	Cathode Bypass	
C6246	Same as C6200.	B+ Bypass	
C6247	Same as C6204.	B+ Bypass	
C6248	Same as C6204.	Screen Grid Bypass	
C6249	Same as C6200.	Cathode Bypass	
C6250	Same as C6200.	RF Bypass	

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**SIDEBAND SELECTOR SBS-1, -2
SYMBOL SERIES 6200**

SYM.	DESCRIPTION	FUNCTION	TMC DWG. OR PART NO.
C6251	Same as C6200.	RF Bypass	
C6252	Same as C6200.	RF Bypass	
C6253	Same as C6200.	RF Bypass	
C6254	Same as C6200.	RF Bypass	
C6255	Same as C6200.	RF Bypass	
C6256	Same as C6200.	RF Bypass	
C6257	NOT USED		
C6258	CAPACITOR, FIXED, MICA DIELECTRIC: 390 uuf; $\pm 10\%$; 500 vdcw.	p/o RF Voltage Divider	CM15B391K
CR6200	SEMICONDUCTOR DEVICE, DIODE: silicon; 175 v max peak inverse voltage; 30 ma at 25°C and 15 ma at 150°C; two axial wire lead type terminals; hermetically sealed glass case.	Switching Diode	1N463
CR6201	Same as CR6200.	Switching Diode	
CR6202	Same as CR6200.	Switching Diode	
CR6203	Same as CR6200.	Switching Diode	
I6200	LAMP, INCANDESCENT: electrical rating, 6.3 v ac or dc, 20 amp; T-3-1/4 single contact, midget flange.	Standby	BI-110-8
I6201	Same as I6200.	Power ON	
J6200	CONNECTOR, RECEPTACLE, ELECTRICAL: 1 round male contact; teflon insulation; miniature BNC series.	EXT. OSC. Input	JJ-211
J6201	Same as J6200.	EXT. OSC. Input	
J6202	JACK, TELEPHONE: closed circuit type; 3 contacts; 1/4 in. dia hole.	MONITOR	JJ-089
L6200	COIL, RADIO FREQUENCY: fixed; 2.5 mh, $\pm 10\%$; 26 ohms dc resistance; 100 ma current rating; molded case.	RF Choke	CL-140-1
L6201	Same as L6200.	RF Choke	
L6202	Same as L6200.	RF Choke	
L6203	COIL, RADIO FREQUENCY: fixed; 820 uh, $\pm 5\%$; 13.8 ohms dc resistance; 150 ma current rating; molded case.	RF Choke	CL-275-821
L6204	Same as L6200.	RF Choke	
L6205	Same as L6200.	RF Choke	
L6206	Same as L6200.	RF Choke	
L6207	Same as L6200.	RF Choke	

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**SIDEBAND SELECTOR SBS-1, -2
SYMBOL SERIES 6200**

SYM.	DESCRIPTION	FUNCTION	TMC DWG. OR PART NO.
L6208	Same as L6200.	RF Choke	
L6209	Same as L6200.	RF Choke	
L6210	Same as L6200.	RF Choke	
L6211	Same as L6200.	RF Choke	
L6212	Same as L6200.	RF Choke	
L6213	Same as L6200.	RF Choke	
L6214	Same as L6200.	RF Choke	
L6215	Same as L6200.	RF Choke	
L6216	Same as L6200.	RF Choke	
L6217	Same as L6200.	RF Choke	
L6218	Same as L6200.	RF Choke	
L6219	Same as L6200.	RF Choke	
L6220	Same as L6200.	RF Choke	
L6221	Same as L6200.	RF Choke	
L6222	Same as L6200.	RF Choke	
L6223	COIL, RADIO FREQUENCY: fixed; 6.8 uhy, ±2%.	RF Choke	CL-134-4
L6224	Same as L6223.	RF Choke	
L6225	Same as L6223.	RF Choke	
M6200	METER, AUDIO LEVEL: minus 20 to plus 3 db, 0 to 100% scale; ballistic movement; internal impedance 3900 ohms; standard 2-3/16 rectangular case.	Line Level	MR-154
M6201	Same as M6200.	Line Level	
P6200	CONNECTOR, PLUG, ELECTRICAL: R. F. ; 1 round female coaxial contact; straight type; series miniature bayonet lock.	IF Strip Input	PL-204
P6201	Same as P6200.	IF Strip Input	
P6202	Same as P6200.	IF Strip Input	
P6203	Same as P6200.	IF Strip Input	
R6200	RESISTOR, FIXED, COMPOSITION: 4700 ohms; ±10%; 1/2 watt.	Plate Dropping	RC20GF472K
R6201	RESISTOR, FIXED, COMPOSITION: .1 megohm; ±10%; 1/2 watt.	AGC Decoupling	RC20GF104K
R6202	RESISTOR, FIXED, COMPOSITION: .22 megohm; ±10%; 1/2 watt.	Grid Leak	RC20GF224K

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SIDEBAND SELECTOR SBS-1, -2
 SYMBOL SERIES 6200

SYM.	DESCRIPTION	FUNCTION	TMC DWG. OR PART NO.
R6203	RESISTOR, FIXED, COMPOSITION: 56,000 ohms; ±10%; 1/2 watt.	Screen Dropping	RC20GF563K
R6204	Same as R6200.	Plate Dropping	
R6205	RESISTOR, FIXED, COMPOSITION: 47,000 ohms; ±10%; 1/2 watt.	p/o Voltage Divider	RC20GF473K
R6206	RESISTOR, FIXED, COMPOSITION: 47 ohms; ±10%; 1/2 watt.	Parasitic Supp.	RC20GF470K
R6207	RESISTOR, FIXED, COMPOSITION: 390 ohms; ±10%; 1/2 watt.	Cathode Bias	RC20GF391K
R6208	RESISTOR, FIXED, COMPOSITION: 10,000 ohms; ±10%; 1/2 watt.	Grid Leak	RC20GF103K
R6209	RESISTOR, FIXED, COMPOSITION: 3900 ohms; ±10%; 1/2 watt.	Cathode Bias	RC20GF392K
R6210	Same as R6206.	RF Lock	
R6211	Same as R6206.	Parasitic Supp.	
R6212	RESISTOR, FIXED, COMPOSITION: 39,000 ohms; ±10%; 1/2 watt.	Plate Dropping	RC20GF393K
R6213	RESISTOR, FIXED, COMPOSITION: 8200 ohms; ±10%; 1/2 watt.	Plate Decoupling	RC20GF822K
R6214	Same as R6201.	Grid Leak	
R6215	RESISTOR, VARIABLE, COMPOSITION: 5000 ohms; ±10%; 1/2 watt.	Degeneration Adj.	RV106UX10C502A
R6216	Same as R6208.	Grid Leak	
R6217	RESISTOR, FIXED, COMPOSITION: 150 ohms; ±10%; 1/2 watt.	Cathode Bias	RC20GF151K
R6218	RESISTOR, FIXED, COMPOSITION: 15,000 ohms; ±10%; 1/2 watt.	Screen Dropping	RC20GF153K
R6219	RESISTOR, FIXED, COMPOSITION: 4700 ohms; ±10%; 2 watts.	Plate Dropping	RC42GF472K
R6220	RESISTOR, FIXED, COMPOSITION: 22,000 ohms; ±10%; 1/2 watt.	Plate Dropping	RC20GF223K
R6221	Same as R6200.	Plate Decoupling	
R6222	Same as R6201.	Grid Leak	
R6223	Same as R6218.	Screen Dropping	
R6224	Same as R6206	Parasitic Supp.	
R6225	Same as R6217.	Cathode Bias	
R6226	Same as R6201.	Grid Leak	

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SYM.	DESCRIPTION	FUNCTION	TMC DWG. OR PART NO.
R6227	RESISTOR, FIXED, COMPOSITION: 3300 ohms; ±10%; 1/2 watt.	Plate Decoupling	RC20GF332K
R6228	Same as R6220.	Plate Dropping	
R6229	RESISTOR, FIXED, COMPOSITION: 220 ohms; ±10%; 1/2 watt.	Cathode Bias	RC20GF221K
R6230	Same as R6227.	Plate Decoupling	
R6231	Same as R6220.	Plate Dropping	
R6232	Same as R6229.	Cathode Bias	
157 R6233	RESISTOR, VARIABLE, COMPOSITION: 25,000 ohms; ±20%; 2 watt.	AGC MANUAL	RV4ATFD253B
R6234	Same as R6215.	Balance Adjust	
R6235	Same as R6201.	Cathode Bias	
R6236	Same as R6201.	Cathode Bias	
R6237	Same as R6215.	Balance Adjust	
R6238	RESISTOR, FIXED, COMPOSITION: 5.6 megohm; ±10%; 1/2 watt.	p/o AGC Time Constant	RC20GF565K
R6239	RESISTOR, FIXED, COMPOSITION: 2.2 megohm; ±10%; 1/2 watt.	p/o AGC Time Constant	RC20GF225K
R6240	RESISTOR, FIXED, COMPOSITION: .39 megohm; ±10%; 1/2 watt.	p/o AGC Time Constant	RC20GF394K
R6241	Same as R6238.	p/o AGC Time Constant	
R6242	Same as R6239.	p/o AGC Time Constant	
R6243	Same as R6240.	p/o AGC Time Constant	
R6244	RESISTOR, VARIABLE, COMPOSITION: 1000 ohms; ±10%; 2 watt.	Monitor Gain	RV-110-1
R6245	RESISTOR, VARIABLE, COMPOSITION: .1 megohm; ±10%; 1/2 watt.	Line Adj.	RV106US5A104A
R6246	Same as R6245.	Line Adj.	
R6247	RESISTOR, FIXED, COMPOSITION: 22 ohms; ±10%; 2 watt.	Voltage Dropping	RC42GF220K
R6248	RESISTOR, FIXED, COMPOSITION: 82,000 ohms; ±10%; 1/2 watt.	p/o Voltage Divider	RC20GF823K
R6249	Same as R6215.	Degeneration Adj.	
R6250	Same as R6219.	Plate Dropping	
S6200	SWITCH, ROTARY: 2 sections, 2 positions; non-shorting contacts, 1 amp, 28 volts dc or 5 amps at 110 volts ac.	AFC ON-OFF	SW-299

SIDEBAND SELECTOR SBS-1, -2
SYMBOL SERIES 6200

SYM.	DESCRIPTION	FUNCTION	TMC DWG. OR PART NO.
S6201	SWITCH, ROTARY: 3 sections, 4 positions; non-shorting contacts; 1 amp, 28 volts dc or 5 amp at 110 volts ac.	IF Bandwidth	SW-290
S6202	Same as S6201.	IF Bandwidth	
S6203	SWITCH, ROTARY: 1 section, 3 positions; non-shorting contacts; 1 amp, 28 volts dc or 5 amp at 110 volts ac.	AGC Response	SW-276
S6204	Same as S6203.	AGC Response	
S6205	SWITCH, ROTARY: 1 section, 3 position; non-shorting contacts; 1 amp, 28 volts or 5 amps at 110 volts ac.	Detection	SW-148
S6206	Same as S6205.	Detection	
S6207	SWITCH, ROTARY: 1 section, 5 positions; non-shorting contacts; 1 amp, 28 volts dc or 5 amps at 110 volts ac.	AGC Selector	SW-107
S6208	SWITCH, ROTARY: 1 section, 2 position; non-shorting contacts; 1 amp, 28 volts dc or 5 amp at 110 volts ac.	Power ON-STDBY	SW-119
T6200	TRANSFORMER, INTERMEDIATE FREQUENCY: tuned; 250 kc operating frequency; consists of two capacitors 1000 uuf and one resistor, 15,000 ohms.	IF Transformer	TT-160
T6201	TRANSFORMER, INTERMEDIATE FREQUENCY: tuned; 250 kc operating frequency; consists of one capacitor 600 uuf.	IF Transformer	TT-161
T6202	TRANSFORMER, PULSE: 3 windings; winding no. 1 4.7 mh; turns ratio 3:3:1.	RF Transformer	TF-228-K-13
T6203	TRANSFORMER, RADIO FREQUENCY: frequency response - 150 kc to 4 mc within 3 db; primary impedance 50 ohms; secondary impedance 5000 ohms; polarized; molded case.	RF Transformer	TR-170
T6204	Same as T6203.	RF Transformer	
T6205	TRANSFORMER, INTERMEDIATE FREQUENCY: tuned; 250 kc operating frequency; consists of one capacitor 1000 uuf.	IF Transformer	TT-159
T6206	Same as T6205.	IF Transformer	
V6200	TUBE, ELECTRON: medium-mu triode; 9 pin miniature.	Mixer	6S4
V6201	TUBE, ELECTRON: remote-cutoff pentode; 7 pin miniature.	250 Kcs Ampl	6BA6
V6202 A, B	TUBE, ELECTRON: high mu triode; 7 pin miniature.	Osc/Ampl	6AW8
V6203 A, B	Same as V6202A, B.	250 Kcs Osc/Ampl	

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**SIDEBAND SELECTOR SBS-1, -2
SYMBOL SERIES 6200**

SYM.	DESCRIPTION	FUNCTION	TMC DWG. OR PART NO.
V6204	NOT USED		
V6205	NOT USED		
V6206	TUBE, ELECTRON: high-mu twin triode; 9 pin miniature.	AGC Comparator	12AX7
XI6200	LIGHT, INDICATOR: with red transparent lens; accepts T-3-1/4 single contact, midget flange lamp.		TS-153-1
XI6201	Same as XI6200.		
XV6200	SOCKET, ELECTRON TUBE: 9 pin miniature.	V6200 Socket	TS103P01
XV6201	SOCKET, ELECTRON TUBE: 7 pin miniature.	V6201 Socket	TS102P01
XV6202	Same as XV6200.	V6202 Socket	
XV6203	Same as XV6200.	V6203 Socket	
XV6204	NOT USED		
XV6205	NOT USED		
XV6206	Same as XV6200.	V6206 Socket	
XZ6200	SOCKET, ELECTRON TUBE: 7 pin miniature.	Z6200 Socket	TS-130-MPW
XZ6201	Same as XZ6200.	Z6201 Socket	
Y6200	CRYSTAL UNIT, QUARTZ: .705 mc, $\pm .002\%$; 70° to 80° C operating temperature range; parallel resonance, 32.0 uuf ± 0.5 uuf load capacitance; fundamental operation; type HC-6/U holder. For SBS-2Y6200 is 2. mc.	Frequency Determining	CR-27/U-. 705P
Y6201	CRYSTAL UNIT, QUARTZ: 250 kc $\pm .002\%$; 70° to 80° C operating temperature range, parallel resonance, 32.0 uuf ± 0.5 uuf load capacitance; fundamental operation; type HC-6/U holder.	Frequency Determining	CR-47/U-. 250P
Z6200	OVEN, CRYSTAL: temperature setting, 75° C; stability, $\pm 2^\circ$ C; accommodates one HC-6/U holder; 7 pin miniature plug in case.	Temperature Maintaining Device	PO-214
Z6201	Same as Z6200.	Temperature Maintaining Device	
SYMBOL SERIES 6800			
C6800	CAPACITOR, FIXED, CERAMIC DIELECTRIC: .1 uf, +80 -20%; 500 vdcw.	RF Bypass	CC-100-32
C6801	Same as C6800.	RF Bypass	
C6802	Same as C6800.	RF Bypass	

**SIDEBAND SELECTOR SBS-1, -2
SYMBOL SERIES 6800**

SYM.	DESCRIPTION	FUNCTION	TMC DWG. OR PART NO.
C6803	Same as C6800.	RF Bypass	
C6804	Same as C6800.	RF Bypass	
C6805	Same as C6800.	RF Bypass	
C6806	Same as C6800.	RF Bypass	
C6807	Same as C6800.	RF Bypass	
C6808	Same as C6800.	RF Bypass	
C6809	Same as C6800.	RF Bypass	
C6810	Same as C6800.	RF Bypass	
C6811	Same as C6800.	RF Bypass	
C6812	CAPACITOR, FIXED, CERAMIC DIELECTRIC: 10,000 uuf; GMV; 500 vdcw.	RF Bypass	CC-100-16
C6813	Same as C6800.	RF Bypass	
C6814	Same as C6812.	RF Bypass	
C6815	Same as C6800.	RF Bypass	
C6816	Same as C6800.	RF Bypass	
C6817	CAPACITOR, FIXED, MICA DIELECTRIC: 510 uuf; ±5%; 500 vdcw.	RF Bypass	CM15B511J
C6818	Same as C6817.	RF Bypass	
C6819	Same as C6817.	RF Bypass	
C6820	Same as C6812.	RF Bypass	
C6821	Same as C6817.	RF Bypass	
C6822	Same as C6817.	RF Bypass	
C6823	Same as C6817.	RF Bypass	
C6824	Same as C6812.	RF Bypass	
E6800	TERMINAL BOARD: barrier type; twenty two single screw terminal and feed thru solder lug, 6-32 thd; phenolic body.	Output	TM-100-22
E6801	TERMINAL BOARD: barrier type; ten single lug terminals; phenolic body.	Filter Board	A-2235-3
E6802	Same as E6801.	Filter Board	
J6800	CONNECTOR, RECEPTACLE, ELECTRICAL: RF type; 1 round female contact; straight type series BNC.	Low Impedance Input	UG-625/U
J6801	Same as J6800.	High Impedance Input	

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SIDEBAND SELECTOR SBS-1, -2
 SYMBOL SERIES 6800

SYM.	DESCRIPTION	FUNCTION	TMC DWG. OR PART NO.
J6802	Same as J6800.	Converter Injection Input	
J6803	Same as J6800.	250 Kcs Input	
J6804	Same as J6800.	250 Kcs Output	
J6805	Same as J6800.	Channel B, IF Output	
J6806	Same as J6800.	Channel A, IF Output	
L6800	COIL, RADIO FREQUENCY: fixed; 2.5 mh, ±10%; 26 ohms dc resistance; 100 ma current rating; molded case.	RF Choke	CL-140-1
L6801	Same as L6800.	RF Choke	
L6802	Same as L6800.	RF Choke	
L6803	Same as L6800.	RF Choke	
L6804	Same as L6800.	RF Choke	
L6805	Same as L6800.	RF Choke	
L6806	COIL, RADIO FREQUENCY: fixed; 10.0 uh, ±10%; 0.30 dc resistance; molded case.	RF Choke	CL-270-10
L6807	Same as L6806.	RF Choke	
L6808	Same as L6806.	RF Choke	
L6809	Same as L6806.	RF Choke	
L6810	Same as L6806.	RF Choke	
L6811	Same as L6806.	RF Choke	
L6812	Same as L6800.	RF Choke	
L6813	Same as L6800.	RF Choke	
L6814	Same as L6806.	RF Choke	
L6815	Same as L6806.	RF Choke	
L6816	Same as L6806.	RF Choke	
L6817	Same as L6806.	RF Choke	
L6818	Same as L6806.	RF Choke	
L6819	Same as L6806.	RF Choke	
L6820	Same as L6806.	RF Choke	
P6800	CONNECTOR, PLUG, ELECTRICAL: 24 round #20 male contacts; straight type.	Power IN	PL-212-3

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**SIDEBAND SELECTOR SBS-1, -2
SYMBOL SERIES 6800**

SYM.	DESCRIPTION	FUNCTION	TMC DWG. OR PART NO.
R6800	RESISTOR, VARIABLE, COMPOSITION: 100 ohms; ±10%; 1/2 watt.	Input Level Adj.	RV106UX10C101A
R6801	RESISTOR, FIXED, COMPOSITION: 330 ohms; ±10%; 1/2 watt.	p/o Voltage Divider	RC20GF331K
R6802	Same as R6801.	Network Divider	
R6803	RESISTOR, FIXED, COMPOSITION: 4700 ohms; ±10%; 1/2 watt.	Network Divider	RC20GF472K
R6804	RESISTOR, FIXED, COMPOSITION: 680 ohms; ±10%; 2 watt.	Dummy Load	RC42GF681K
R6805	Same as R6803.	p/o Voltage Divider Network	
R6806	Same as R6801.	p/o Voltage Divider Network	
R6807	Same as R6801.	p/o Voltage Divider Network	
R6808	Same as R6803.	p/o Voltage Divider Network	
R6809	Same as R6804.	Dummy Load	
R6810	Same as R6803.	p/o Voltage Divider Network	
R6811	RESISTOR, FIXED, COMPOSITION: 3300 ohms; ±10%; 1/2 watt.	p/o Voltage Divider Network	RC20GF332K
R6812	Same as R6811.	p/o Voltage Divider Network	
SYMBOL SERIES 7000			
B7001	FAN, VENTILATING, PROPELLER: 115 v, 50/60 cps; 14 watts; 100 CFM; blade dia. 4-1/2 in.; over-all dimensions, 1-5/8 x 5-5/32 x 6-1/8 in.; with grille cover and mounting clips.	Forced Air Cooling for System	BL-106-3
C7001	CAPACITOR, FIXED, PLASTIC DIELECTRIC: .1 uf; ±10%; 400 vdcw.	Arc Suppressor	CN-105E104K
C7002	Same as C7001.	Screen Bypass	
C7003	CAPACITOR, FIXED, ELECTROLYTIC: 250 uf; surge 525; 450 vdcw; polarized tubular case; bracket mtg.	Filter Cap	CE-112
C7004	CAPACITOR, FIXED, ELECTROLYTIC: 45 uf; 50 vdcw; polarized; tubular case; octal plug in type.	Filter Cap	CE51F450P
C7005	Same as C7004.	Filter Cap	
C7006	Same as C7001.	Filter Cap	

SIDEBAND SELECTOR SBS-1, -2
SYMBOL SERIES 7000

SYM.	DESCRIPTION	FUNCTION	TMC DWG. OR PART NO.
CR7001	SEMICONDUCTOR DEVICE, DIODE: silicon; 600 v max peak inverse volts; 0.75 max dc forward amperes at 150°C.	B+ Rectifier	1N547
CR7002	Same as CR7001.	B+ Rectifier	
CR7003	Same as CR7001.	B+ Rectifier	
CR7004	Same as CR7001.	B+ Rectifier	
CR7005	Same as CR7001.	Bias Rectifier	
CR7006	Same as CR7001.	Bias Rectifier	
CR7007	SEMICONDUCTOR DEVICE, DIODE: silicon, 105 v, 10 watts non-inductive; cathode grounded to case.	Bias Regulator and Voltage Reference	1N3006RB
F7001	FUSE, CARTRIDGE: 1/2 amp; 1-1/4 in. lg by 1/4 in. dia; slow blowing.	B+ Fuse	FU-102-.5
F7002	FUSE, CARTRIDGE: 6 amp; 1-1/4 in. lg by 1/4 in. dia; slow blowing.	AC Line	FU-102-6
F7003	FUSE, CARTRIDGE: 1/10 amp; 1-1/4 in. lg by 1/4 in. dia; slow blowing.	Bias Fuse	FU-102-.1
J7001	CONNECTOR, RECEPTACLE, ELECTRICAL: 2 male contacts; 1/2 round; twist lock type; polarized; rated 250 v, . 10 amps; 125 v, 15 amps.	AC Input Jack	JJ-175
J7002	CONNECTOR, RECEPTACLE, ELECTRICAL: 24 female contacts, rated at 7.5 amperes.	Output Jack	JJ-200-3
J7003	CONNECTOR, RECEPTACLE, ELECTRICAL: 14 female contacts; rated at 17.0 amperes.	Output Jack	JJ-200-1
J7004	Same as J7003.	Output Jack	
K7001	RELAY, THERMAL: delay type; 60 sec., ±12 sec.; SPST, normally open; 6.3 vac heater voltage; contact rating, 115 vac, 2 amps or 220 vac, 1 amp non-inductive; 1000 v contact to contact breakdown, 1500 v heater to contact breakdown; temperature range -55 to +70°C; glass case, miniature 9 pin type base.	Time Delay Relay	RL-111-6N060T
K7002	RELAY, ARMATURE: 33 ohms coil resistance; 6.3 volts ac, contacts rated at 115 v non-inductive.	ON/OFF Relay	RL-116-AC-2C-6.3
L7001	REACTOR: 10 henries; dc resistance 280 ohms; 70 ma; insulated for 1500 v RMS; hermetically sealed metal case.	Bias Filter Choke	TF-5006
R7001	RESISTOR, FIXED, COMPOSITION: 10 ohms; ±10%; 1/2 watt.	Arc Suppressor	RC20GF100K
R7002	RESISTOR, FIXED, COMPOSITION: 27 ohms; ±5%; 2 watt.	Bias	RC42GF270J
R7003	Same as R7002.	Bias	

SIDEBAND SELECTOR SBS-1, -2
 SYMBOL SERIES 7000

SYM.	DESCRIPTION	FUNCTION	TMC DWG. OR PART NO.
R7004	RESISTOR, FIXED, COMPOSITION: 1000 ohms; ±5%; 1/2 watt.	Parasitic Supp.	RC20GF102J
R7005	Same as R7004.	Parasitic Supp.	
R7006	RESISTOR, FIXED, COMPOSITION: 68,000 ohms; ±10%; 2 watt.	p/o Voltage Div.	RC42GF683K
R7007	RESISTOR, VARIABLE, COMPOSITION: 10,000 ohms; ±10%; 2 watt.	Output Voltage Adjust	RV4ATXA103A
R7008	RESISTOR, FIXED, COMPOSITION: 33,000 ohms; ±5%; 2 watt.	p/o Voltage Div.	RC42GF333J
R7009	RESISTOR, FIXED, WIRE WOUND: 10,000 ohms; ±5%; 10 watts; with solder lug terminals.	Bleeder	RW-109-34
R7010	RESISTOR, FIXED, COMPOSITION: 47,000 ohms; ±10%; 2 watt.	Plate Load, V7002	RC42GF473K
R7011	Same as R7008.	p/o Voltage Div.	
R7012	RESISTOR, FIXED, WIRE WOUND: 50 ohms; ±5%; 25 watts; with solder lug terminals.	Surge	RW-111-7
R7012	Same as R7001.	Arc Suppressor	
R7014	RESISTOR, FIXED, WIRE WOUND: 1,000 ohms; ±5%; 10 watts; with solder lug terminals.	Series Dropping	RW-109-24
T7001	TRANSFORMER, POWER, STEP-DOWN: primary, 115/230 v, 50/60 cps, single phase; secondary, 6.3 v, 5.5 amps, AC; electrostatic shield.	Oven Heater Voltage	TF-239
T7002	Same as T7001.	Regulator Fil. Voltage	
T7003	TRANSFORMER, POWER, STEP-DOWN AND STEP-UP: primary, 115/230 v, 50/60 cps, single phase; secondary #1, 6.8 v RMS, 17 amperes AC; secondary #2, 6.3 v RMS, 1.5 amperes AC, secondary #3, 6.3 v RMS, 1.5 amperes AC, secondary #4, 240 v RMS, .070 ampere DC center tapped; secondary #5, 270 v RMS, .5 ampere DC; electrostatic shield; hermetically sealed metal case.		TF-240
V7001	TUBE, ELECTRON: twin power triode; octal type.	Series Regulator	6336A
V7002	TUBE, ELECTRON: sharp-cutoff pentode; 7 pin miniature.	DC Ampl.	6AH6
XC7004	SOCKET, ELECTRON TUBE: octal type.	C7004 Socket	TS101P01
XC7005	Same as XC7004.	C7005 Socket	
XF7001	FUSEHOLDER: extractor post type; accommodates cartridge fuse; o/a length 1-3/4 in.; bushing mtd.	F7001 Socket	FH-103

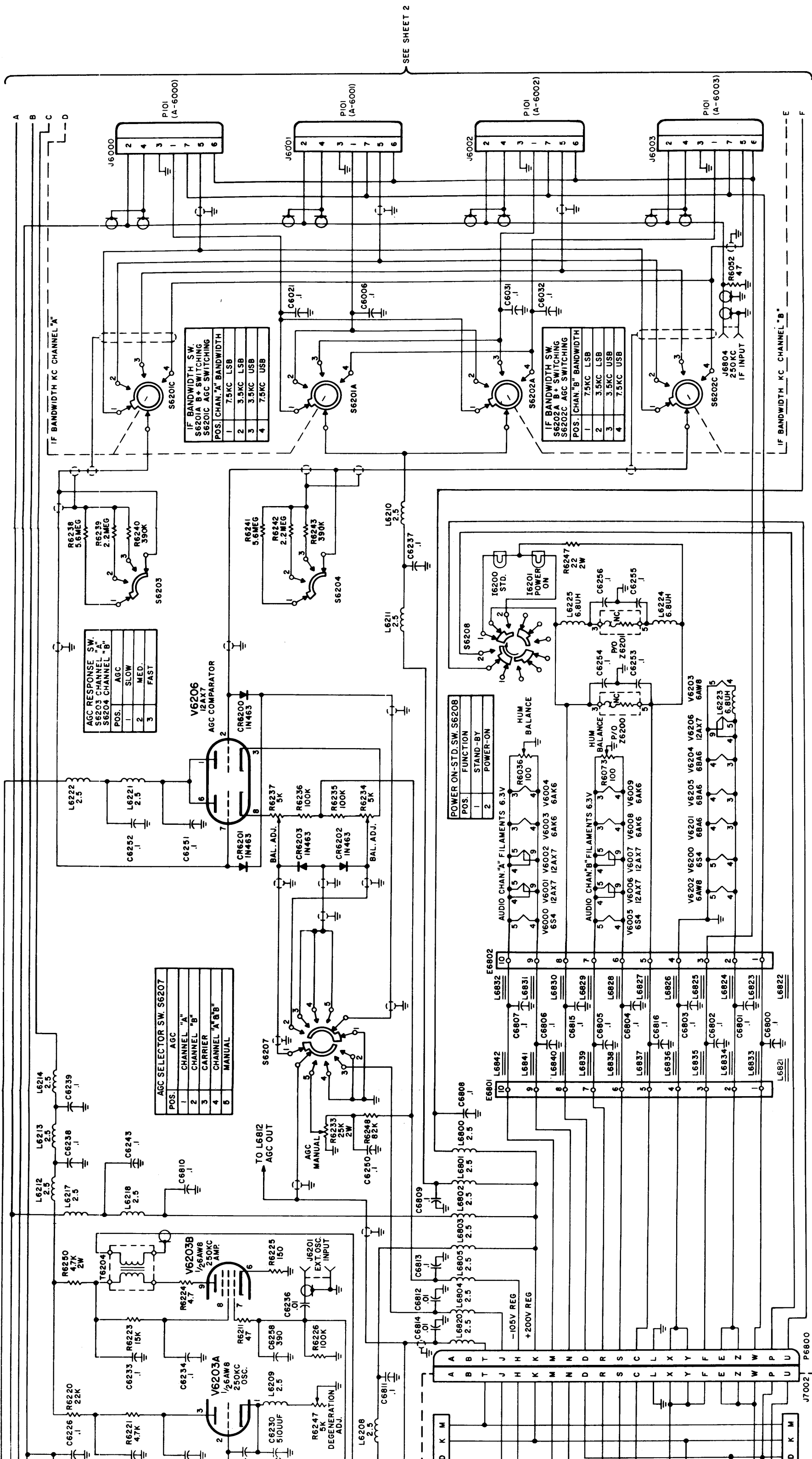
SIDEBAND SELECTOR SBS-1, -2
SYMBOL SERIES 7000

SYM.	DESCRIPTION	FUNCTION	TMC DWG. OR PART NO.
XF7002	Same as XF7001.	F7002 Socket	TS103P01
XF7003	Same as XF7001.	F7003 Socket	
XK7001	SOCKET, ELECTRON TUBE: 9 pin miniature.	K7001 Socket	
XV7001	Same as XC7004.	V7001 Socket	
XV7002	SOCKET, ELECTRON TUBE: 7 pin miniature.	V7002 Socket	

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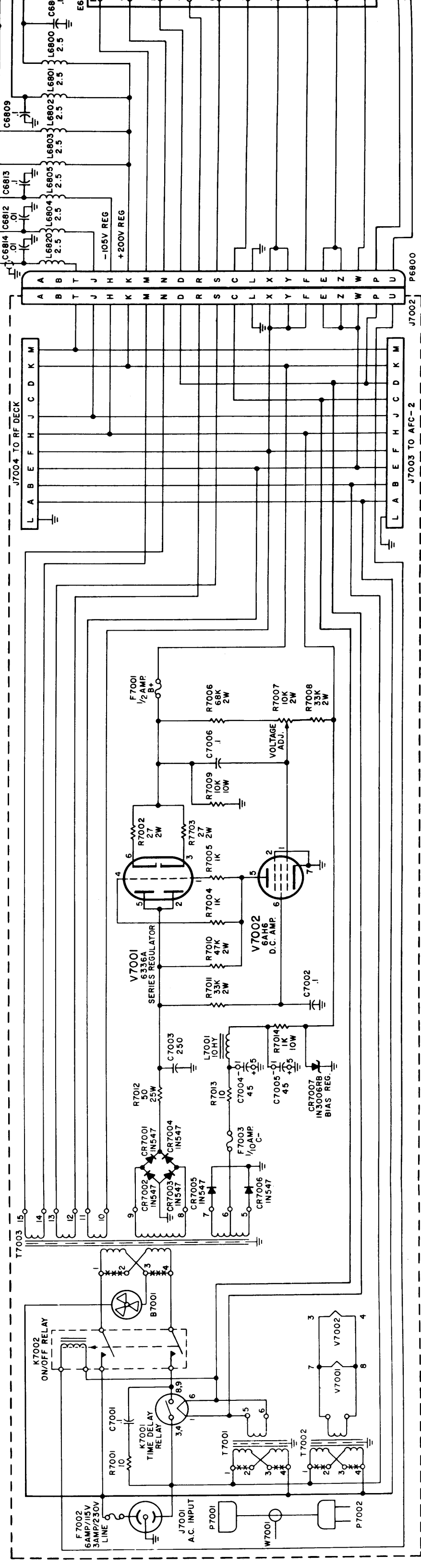
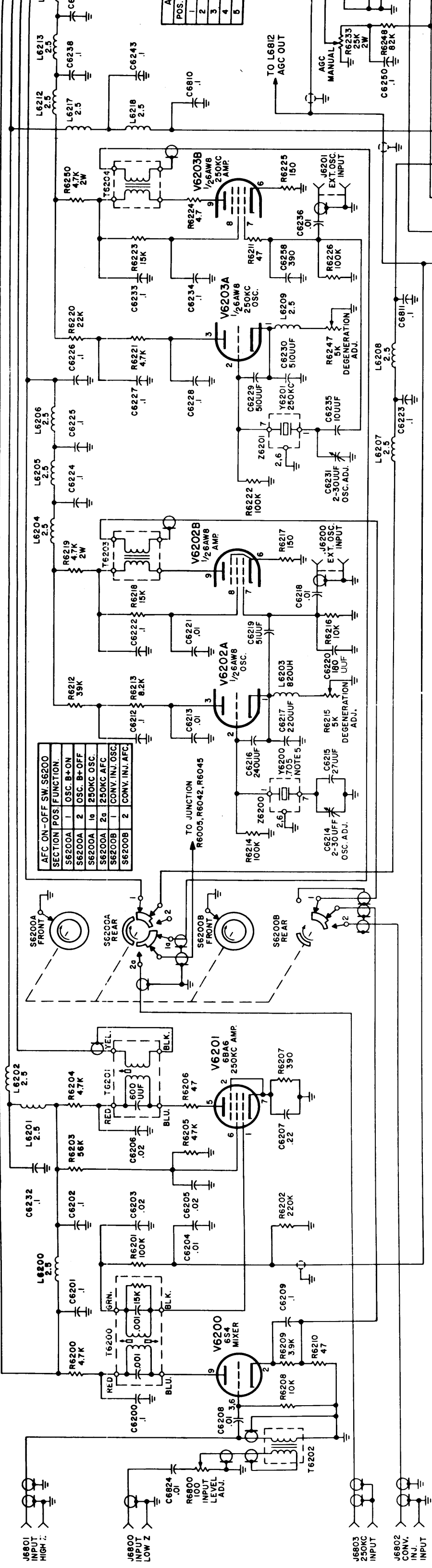
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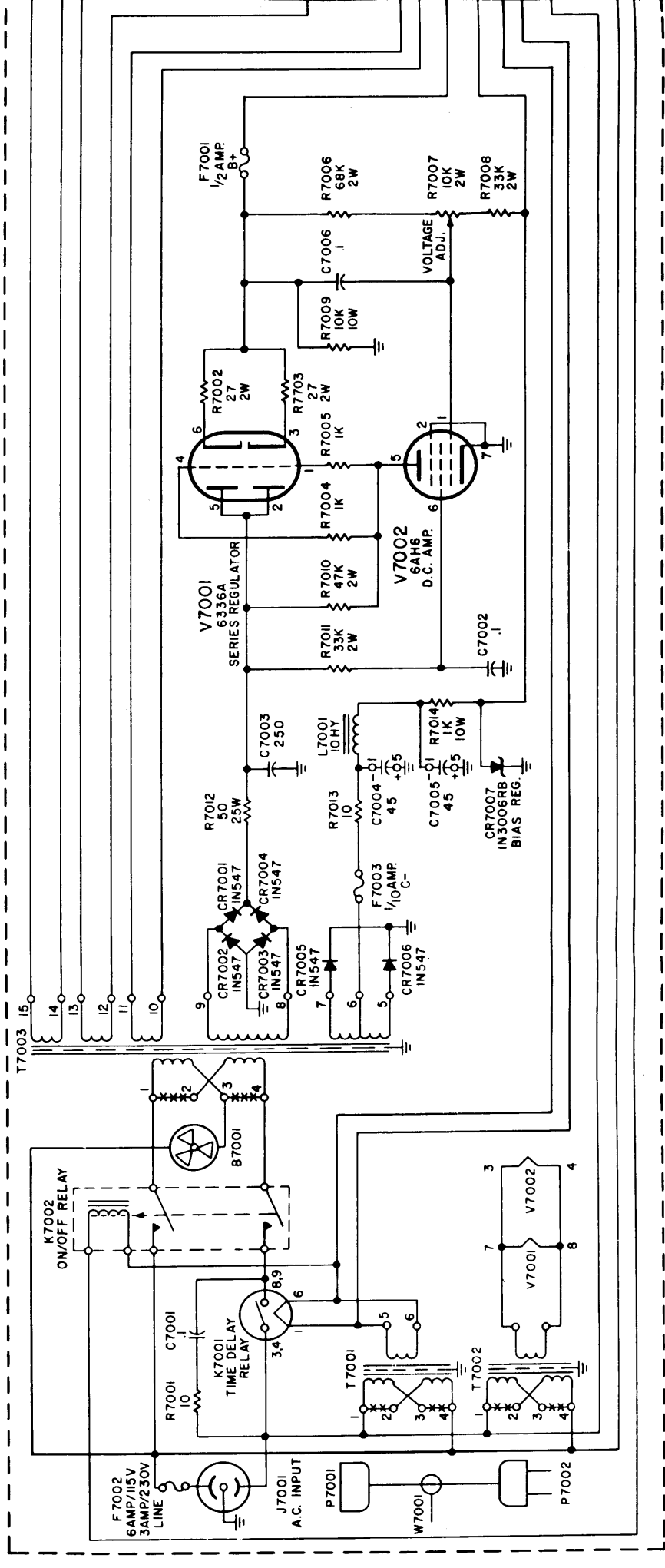
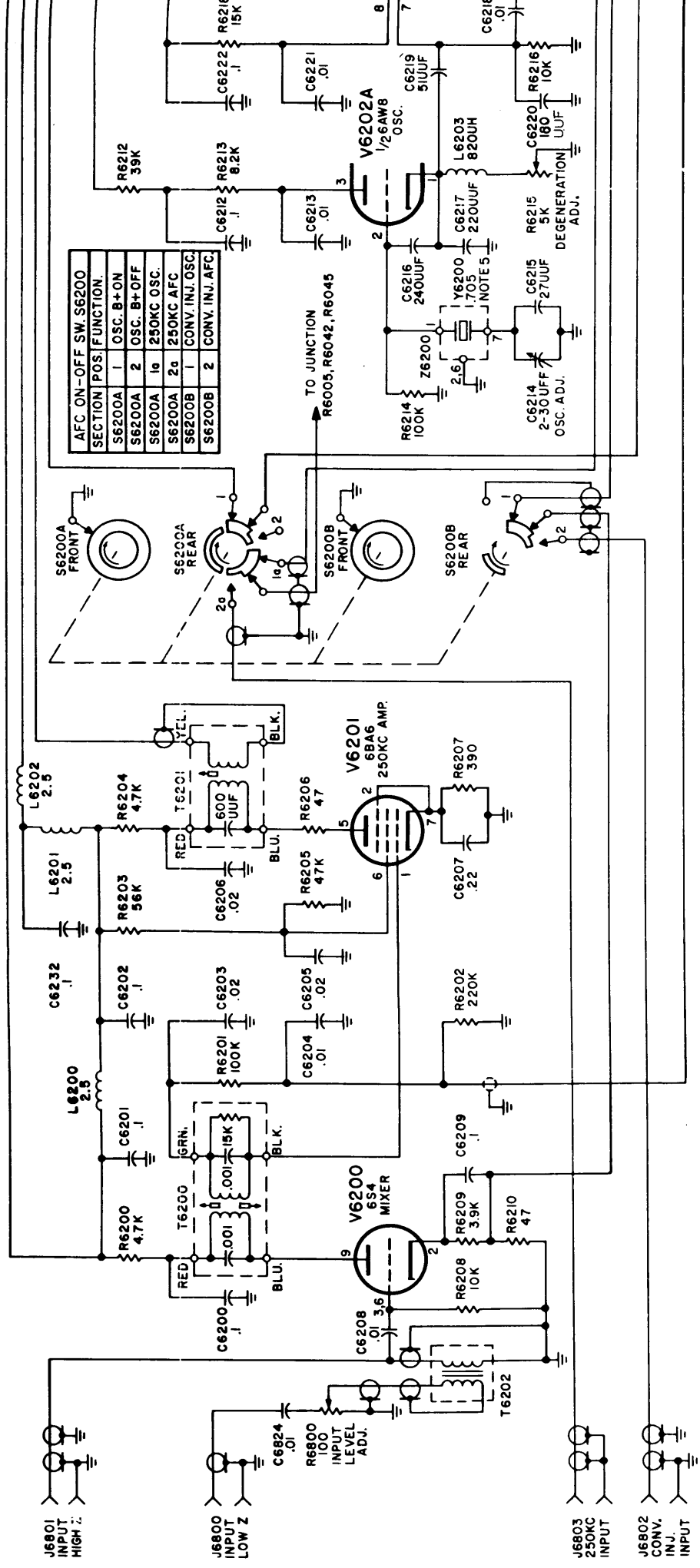
SECTION 8
SCHEMATIC DIAGRAMS



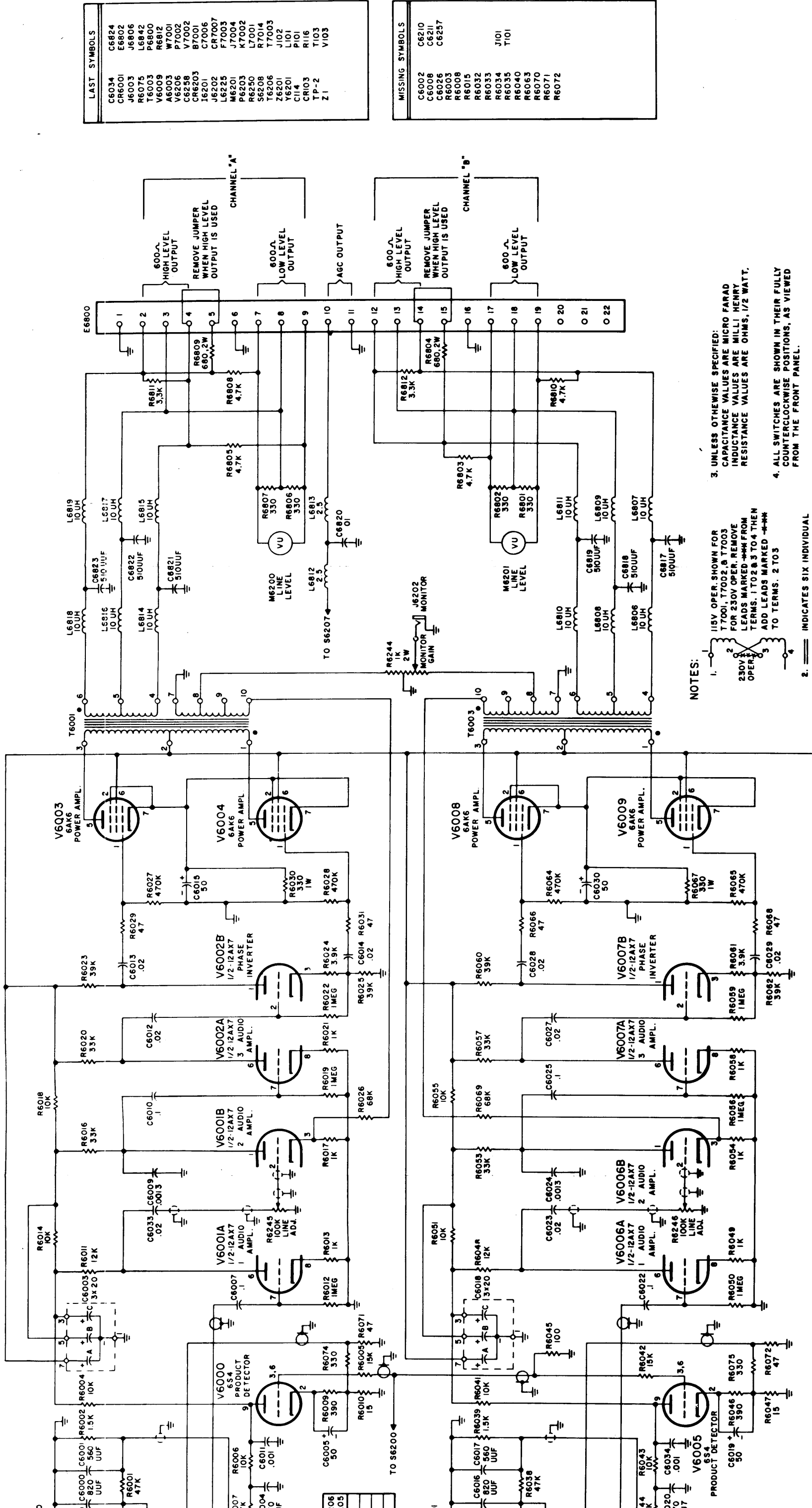
SEE SHEET 2

Figure II-8-1. Sideband Selector SBS-1 and SBS-2, Schematic Diagram (Sheet 1 of 2)





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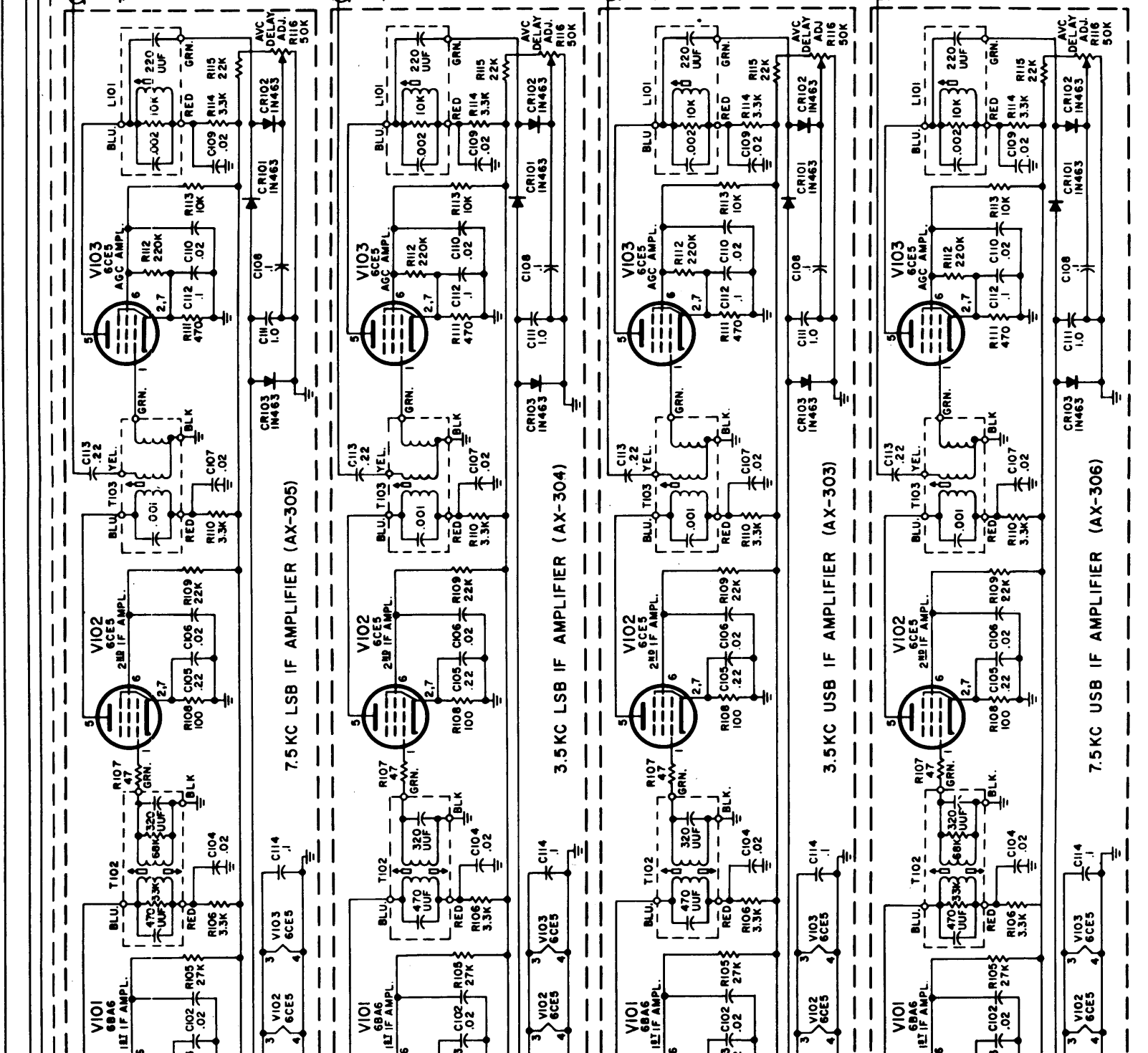
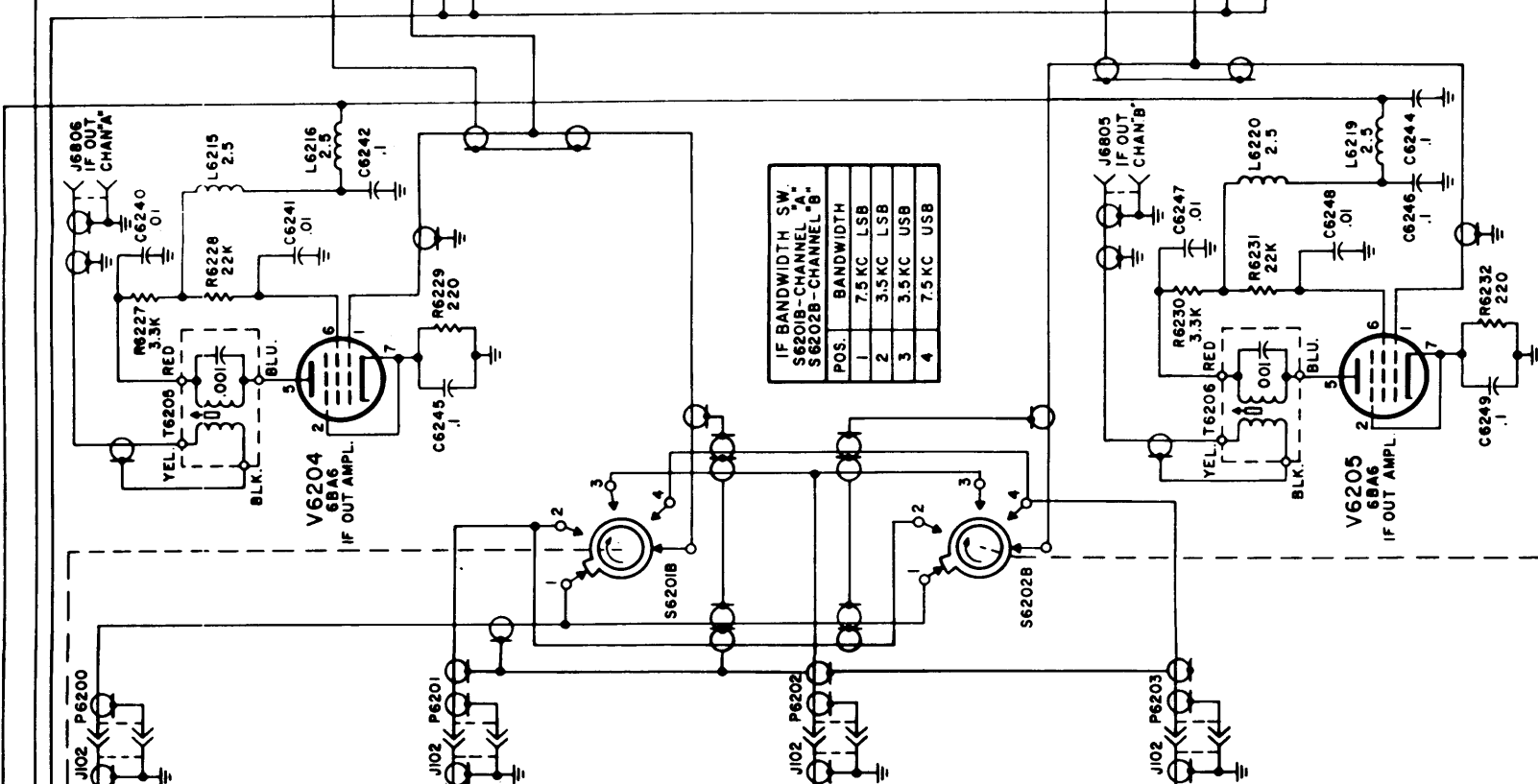
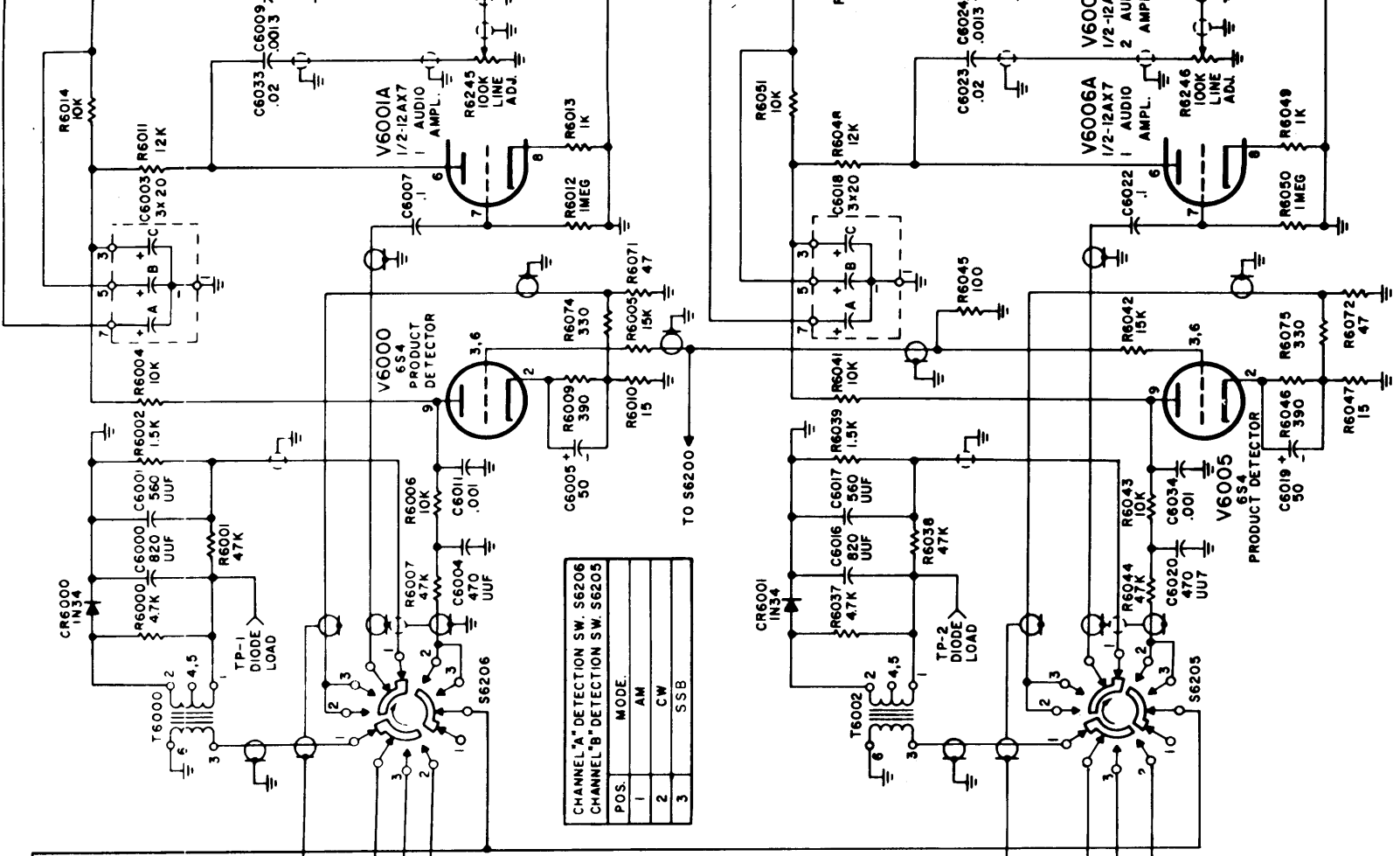


LAST SYMBOLS	
C6034	C6824
C6001	E6802
J6003	J6806
L6075	L6842
L6003	L6800
V6009	R6812
A6003	W7001
M6206	P7002
C6258	B7002
CR6203	B7001
16201	CR7007
J6202	CR7006
L6225	J7003
M6201	J7004
P6203	K7002
R6250	L7004
S6208	R7014
T6206	T7003
Z6201	J102
Y6201	L101
CU14	P101
CR103	R101
TP-2	T103
Z 1	V103

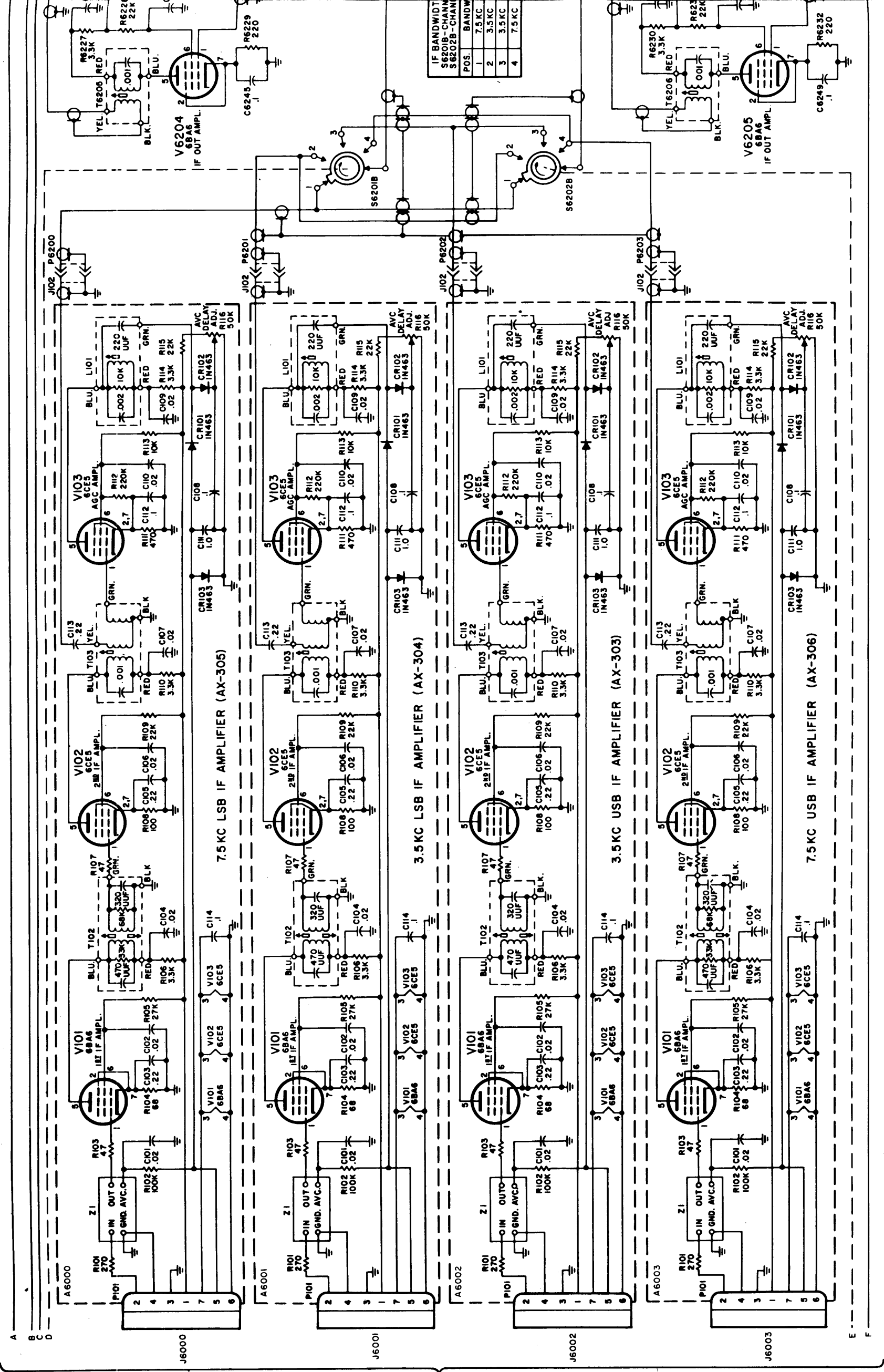
MISSING SYMBOLS	
C6002	C6210
C6008	C6211
C6026	C6257
R6003	
R6008	
R6015	
R6032	
R6033	
R6034	
R6035	
R6040	
R6063	
R6070	
R6071	
R6072	
J101	
T101	

- NOTES:
1. 115V OPER. SHOWN FOR T7001, T7002, & T7003 FOR 230V OPER. REMOVE LEADS MARKED --- FROM TERMS. 1 TO 2 & 3 TO 4 THEN ADD LEADS MARKED --- TO TERMS. 2 TO 3
 2. BEADS INDICATE SIX INDIVIDUAL COUNTERCLOCKWISE POSITIONS, AS VIEWED FROM THE FRONT PANEL.
 3. UNLESS OTHERWISE SPECIFIED: CAPACITANCE VALUES ARE MICRO FARAD INDUCTANCE VALUES ARE MILLI HENRY RESISTANCE VALUES ARE OHMS, 1/2 WATT.
 4. ALL SWITCHES ARE SHOWN IN THEIR FULLY COUNTERCLOCKWISE POSITIONS, AS VIEWED FROM THE FRONT PANEL.
 5. Y6200 FOR SBS-2 IS 2MC.

Figure II-8-1. Sideband Selector SBS-1 and SBS-2, Schematic Diagram (Sheet 2 of 2)



POS.	BANDWIDTH
1	7.5 KC
2	3.5 KC
3	3.5 KC
4	7.5 KC



SEE SHEET 1

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