

Section 6 MAINTENANCE AND TROUBLESHOOTING



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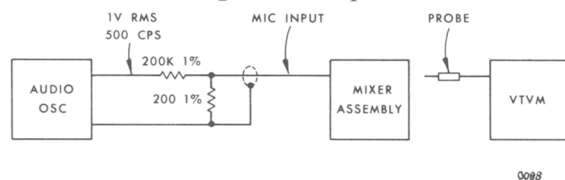
GENERAL MAINTENANCE INFORMATION

Careful periodic performance checks will ensure excellent equipment operation. When the system is set up according to the instructions in this manual, equipment performance should meet the high Ampex standards.

CORRECTIVE MAINTENANCE

The first step in any corrective maintenance procedure is localizing the faulty circuit. A run through of the alignment and performance checks of the mixer assembly will help isolate the trouble and the faulty component then should be easily identifiable. A circuit for trouble shooting the mixer after the performance checks have been made (especially useful if the trouble has not been isolated) is shown below (see also—PARTS LOCATION-MIXER ASSEMBLY, and SCHEMATIC DIAGRAM-MIXER ASSEMBLY).

Disconnect any input or output when using this circuit. Using a vtvm probe and working



Troubleshooting the mixer

back from the output toward the input, check at the grid and plate of each stage until a signal is indicated on the vtvm. The trouble then is probably in the stage immediately following that point. When the faulty stage is located, the individual components can be isolated by a check of resistance and voltages. Typical voltage readings are shown on the foldout schematic diagram; voltages measured will vary with line voltage, the voltages indicated on the schematic diagram were measured with a 117 volt line voltage.

ORDERING PARTS

The purpose of the parts list is to aid the user of AMPEX equipment in obtaining replacement parts. AMPEX franchised dealers can offer the most convenient service in providing normally replaceable parts when proper information is furnished. Parts are listed according to the schematic reference symbol, a description of the part and the AMPEX number.

On occasion, AMPEX offers certain replacement parts that are not necessarily exact replicas of those used on the original version of the equipment; but these parts are directly interchangeable with the original parts or data is provided to enable the use of the new part. The description column names the part, its composition, electrical value and manufactur-

er's number (or military specification when available)—and the AMPEX PART NUMBER.

Ampex part numbers are the exact designation for all parts used in Ampex equipment. For example: CAPACITOR, fixed; ceramic, 0.02 μ f +80% -20%, 500 vdcw; Sprague Part No. 36C205 will always bear the Ampex Catalog Number 54-0265. THIS IS THE NUMBER

THAT SHOULD BE USED WHEN ORDERING REPLACEMENT PARTS. The schematic reference number should NOT be used for ordering parts as the part value may vary with different equipment types. Include the following information when ordering parts: Equipment Type, Equipment Serial Number, Ampex Part Number, and Description of Part. Example: 4 ea. 54-0265 capacitors for Model MX-10 (or MX-35) Mixer Assembly.

REF. NO.

PART DESCRIPTION

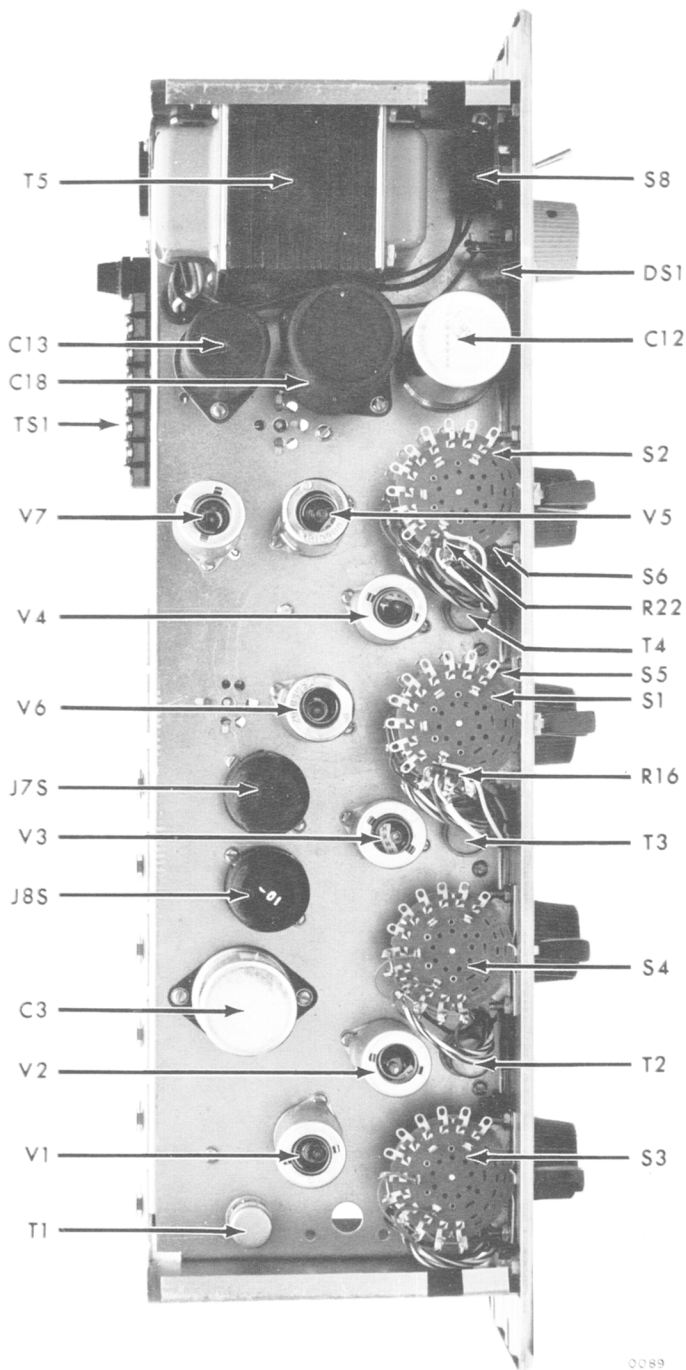
AMPEX PART NO.

REF. NO.	PART DESCRIPTION	AMPEX PART NO.
	MIXER ASSEMBLY, MX-10: Catalog No. 01-96900-01	
	MIXER ASSEMBLY, MX-35: Catalog No. 01-96910-01	
C1	CAPACITOR, Fixed: mylar; 0.33 mfd; $\pm 10\%$; 400 vdcw; Goodall Type 623	035-957
C2	CAPACITOR, Fixed: electrolytic; 50 mfd; -10% $+250\%$; 6 vdcw; Sprague Part No. TVA1100	031-123
C3	CAPACITOR, Fixed: electrolytic; 10-10-10-10 mfd; -10% $+50\%$; 450 vdcw; Mallory Part No. FP-434	031-077
C4	(Same as C1)	035-957
C5	(Same as C2)	031-123
C6	(Same as C1)	035-957
C7	(Same as C2)	031-123
C8	(Same as C1)	035-957
C9	(Same as C2)	031-123
C10	CAPACITOR, Fixed: ceramic; 0.05 mfd; -20% $+100\%$; 30 vdcw; Centralab Part No. DA-503	030-126
C11	(Same as C10)	030-126
C12	CAPACITOR, Fixed: electrolytic; 20-20-20-20 mfd; 450 vdcw; Sprague Type DFP	031-074
C13	CAPACITOR, Fixed: electrolytic; 40 mfd; $\pm 10\%$; 250 vdcw; Sprague Part No. TVL1519	031-161
C14	CAPACITOR, Fixed: mylar; 0.1 mfd; $\pm 10\%$; 400 vdcw; Cornell Dubilier Part No. WMF4P1E	035-999
C15	(Same as C14)	035-999
C16	CAPACITOR, Fixed: mylar; 0.47 mfd; $\pm 20\%$; 400 vdcw; Cornell Dubilier Part No. WMF4P47E	035-981
C17	(Same as C16)	035-981
C18	CAPACITOR, Fixed: electrolytic; 2000 mfd; -10% $+250\%$; 15 vdcw; Mallory Part No. WP-041	031-085
C19	CAPACITOR, Fixed: paper; 0.0047 mfd; $\pm 20\%$; 600 vdcw; Sprague Part No. 73P47206	035-028
C20	(Same as C19)	035-028
C21	CAPACITOR, Fixed: ceramic; 4.7 pfd; $\pm 10\%$; 500 vdcw; Erie Type 831	54-0289
C22	(Same as C21)	54-0289
C23	CAPACITOR, Fixed: electrolytic; 40 mfd; 250 vdcw; Cornell Dubilier Type BR	031-996
CR1	DIODE, Crystal: diffused silicon; 600 PIV; Type 1N2864	57-0012
CR2	(Same as CR1)	57-0012
CR3	RECTIFIER, Selenium: Radio Receptor Part No. C11S1C1E1G	582-998
DS1	LAMP, Neon: miniature; amber; Eldema Part No. 1B9-5277	060-996
F1	FUSE, Cartridge: 0.75 amps; slow-blow; 125 v; 1/4 in. dia. by 1-1/4 in. lg.: Littlefuse Part No. 313.750	070-048
J1S	CONNECTOR, Receptacle: female; 3 contact; Cannon Part No. XLR-3-31	146-998
J2S	(Same as J1S)	146-998
J3S	(Same as J1S)	146-998
J4S	(Same as J1S)	146-998
J5S	(Same as J1S)	146-998
J6S	(Same as J1S)	146-998
J7S	SOCKET, Octal: mica; Cinch-Jones Part No. 12272-8-AM	150-010
J8S	(Same as J7S)	150-010
J9P	CONNECTOR, Receptacle: male; 3 contact; Cannon Part No. XLR-3-32	147-999
J10P	(Same as J9P)	147-999
J11S	CONNECTOR, Receptacle: female; 2 contact; Circle F Part No. M-438	146-999
J12P	CONNECTOR, Receptacle: male; 2 contact; Tower Part No. C10610A	147-032

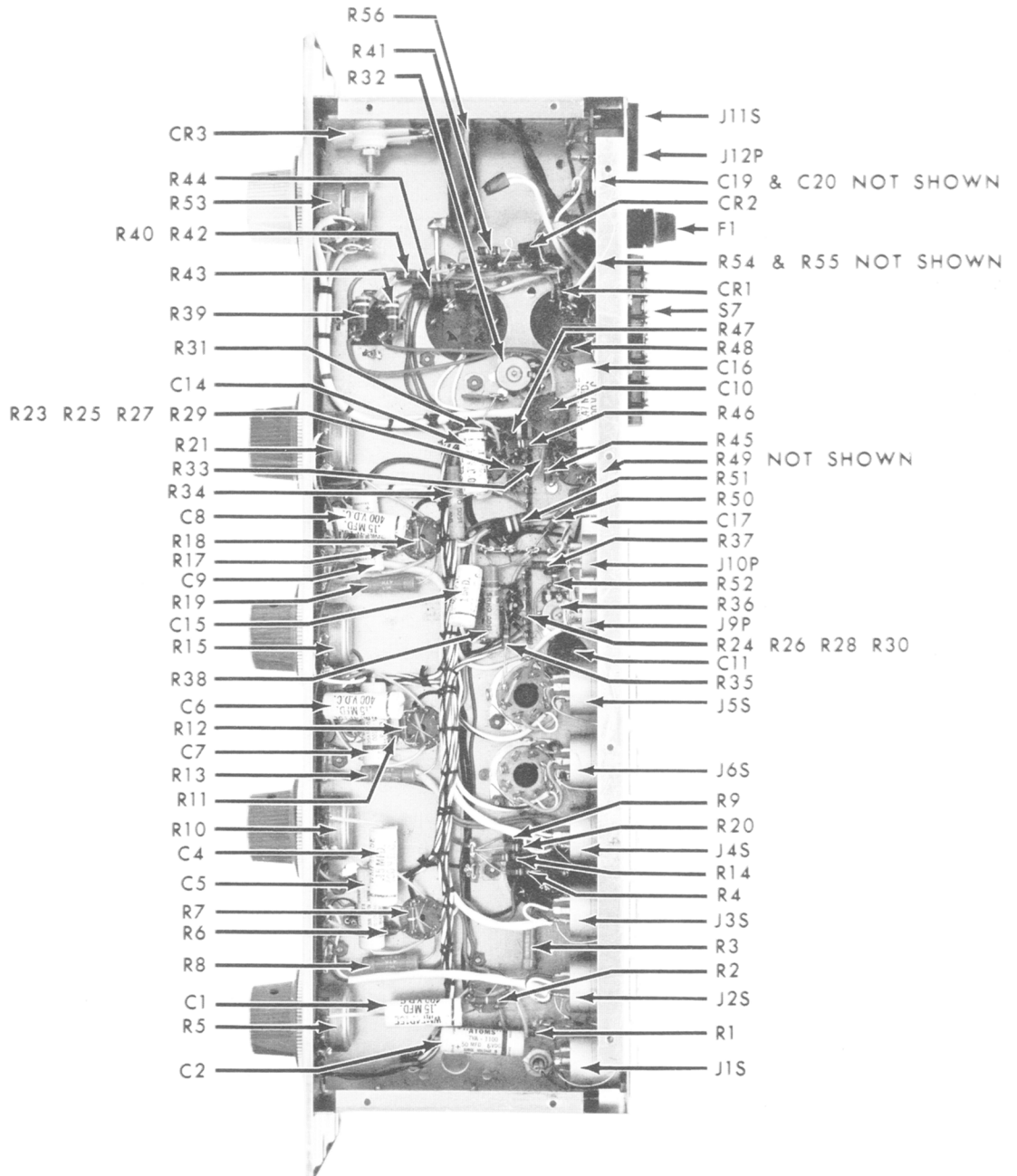
REF. NO.	PART DESCRIPTION	AMPEX PART NO.
R1	RESISTOR, Fixed: composition; 22K ohms; $\pm 10\%$; 1/2 watt; MIL-R-11A: RC20GF223K	041-064
R2	RESISTOR, Fixed: composition; 1.5K ohms; $\pm 10\%$; 1/2 watt; MIL-R-11A: RC20GF152K	041-050
R3	RESISTOR, Fixed: film; 47K ohms; $\pm 1\%$; 1 watt; Dalohm Type DC-1	042-049
R4	RESISTOR, Fixed: composition; 10K ohms; $\pm 10\%$; 1/2 watt; MIL-R-11A: RC20GF103K	041-060
R5	RESISTOR, Variable: composition; 100K ohms; $\pm 10\%$; 2 watt; Allen Bradley Part No. JA1N056S104AZ	044-015
R6	(Same as R1)	041-064
R7	(Same as R2)	041-050
R8	(Same as R3)	042-049
R9	(Same as R4)	041-060
R10	(Same as R5)	044-015
R11	(Same as R1)	041-064
R12	(Same as R2)	041-050
R13	(Same as R3)	042-049
R14	(Same as R4)	041-060
R15	(Same as R5)	044-015
R16	RESISTOR, Fixed: composition; 1.2 megohms; $\pm 10\%$; 1/2 watt; MIL-R-11A: RC20GF125K	041-084
R17	(Same as R1)	041-064
R18	(Same as R2)	041-050
R19	(Same as R3)	042-049
R20	(Same as R4)	041-060
R21	(Same as R5)	044-015
R22	(Same as R16)	041-084
R23	RESISTOR, Fixed: composition; 330K ohms; $\pm 5\%$; 1/4 watt; Allen Bradley Type CB	041-932
R24	(Same as R23)	041-932
R25	(Same as R23)	041-932
R26	(Same as R23)	041-932
R27	(Same as R23)	041-932
R28	(Same as R23)	041-932
R29	(Same as R23)	041-932
R30	(Same as R23)	041-932
R31	RESISTOR, Fixed: composition; 220K ohms; $\pm 10\%$; 1/2 watt; MIL-R-11A: RC20GF224K	041-076
R32	RESISTOR, Variable: composition; 1 megohm; $\pm 20\%$; .3 watt; Chicago Telephone Type PE-200	044-993
R33	RESISTOR, Fixed: composition; 8.2K ohms; $\pm 10\%$; 1/2 watt; MIL-R-11A: RC20GF822K	041-059
R34	RESISTOR, Fixed: wirewound; 1.5K ohms; $\pm 5\%$; 1 watt; IRC Type BW-1	043-989
R35	(Same as R31)	041-076
R36	(Same as R32)	044-993
R37	(Same as R33)	041-059
R38	(Same as R34)	043-989
R39	RESISTOR, Fixed: composition; 3.9K ohms; $\pm 10\%$; 1 watt; MIL-R-11A: RC32GF392K	041-153
R40	RESISTOR, Fixed: composition; 4.7K ohms; $\pm 10\%$; 1/2 watt; MIL-R-11A: RC20GF472K	041-056
R41	RESISTOR, Fixed: composition; 100K ohms; $\pm 10\%$; 1/2 watt; MIL-R-11A: RC20GF104K	041-072
R42	(Same as R40)	041-056
R43	(Same as R39)	041-153
R44	RESISTOR, Fixed: composition; 2.2K ohms; $\pm 10\%$; 2 watt; MIL-R-11A: RC42GF222K	041-205
R45	RESISTOR, Fixed: composition; 240K ohms; $\pm 5\%$; 1/2 watt; MIL-R-11A: RC20GF244J	041-374
R46	RESISTOR, Fixed: composition; 560K ohms; $\pm 10\%$; 1/2 watt; MIL-R-11A: RC20GF564K	041-081

REF. NO.	PART DESCRIPTION	AMPEX PART NO.
R47	RESISTOR, Fixed: composition; 22K ohms; ±10%; 2 watt; MIL-R-11A: RC42GF223K	041-216
R48	RESISTOR, Fixed: composition; 150K ohms; ±10%; 1/2 watt; MIL-R-11A: RC20GF154K	041-074
R49	(Same as R45)	041-374
R50	(Same as R46)	041-081
R51	(Same as R47)	041-216
R52	(Same as R48)	041-074
R53	POTENTIOMETER, Dual: ganged; 25K ohms	96928-01
R54	RESISTOR, Fixed: composition; 24K ohms; ±5%; 1/2 watt; MIL-R-11A: RC20GF243J	041-369
R55	(Same as R54)	041-369
R56	RESISTOR, Fixed: wirewound; 2 ohms; ±10%; 5 watt; Tru-Ohm Type X-60	043-990
R57	RESISTOR, Fixed: composition; 2.2K ohms; ±10%; 1/2 watt; MIL-R-11A: RC20GF222K	041-052
R58	(Same as R57)	041-052
S1	SWITCH, Mixer	96925-01
S2	(Same as S1)	96925-01
S3	SWITCH, Mixer	96926-01
S4	(Same as S3)	96926-01
S5	(Same as S3)	96926-01
S6	(Same as S3)	96926-01
S7	SWITCH, Slide: DPDT	96139-02
S8	SWITCH, Toggle: SPST; paddle handle; 3 amp; Circle F Part No. 1887-L4P	120-999
T1	TRANSFORMER, Microphone	96908-01
T2	(Same as T1)	96908-01
T3	(Same as T1)	96908-01
T4	(Same as T1)	96908-01
T5	TRANSFORMER, Power	96144-01
TS1	STRIP, Terminal: barrier; 6 terminals; Cinch- Jones Part No. 6-140Y	180-111
V1	TUBE, Electron: 9 pin; miniature; Amperex Type EF86/6267	012-098
V2	(Same as V1)	012-098
V3	(Same as V1)	012-098
V4	(Same as V1)	012-098
V5	(Same as V1)	012-098
V6	(Same as V1)	012-098
V7	TUBE, Electron: 9 pin; miniature; Amperex Type 12AU7	012-107
	INDICATOR, Reset	50735-02
	PLUG ASSEMBLY, Dummy	17420-01
	KNOB, Key tab (MX-10)	96922-01
	KNOB, Key tab (MX-35)	96922-02
	CORD, Power Input	084-004
	POST, Fuse: Littelfuse Part No. 342012	085-001
	SHIELD, Tube: 9 pin; Cinch-Jones Part No. 9S2	160-012
	KNOB, Medium dark grey (MX-10)	96585-01
	KNOB, Black (MX-35)	230-003
	KNOB, Light grey (MX-10)	96585-02
	KNOB, Black (MX-35)	230-004
	SOCKET, Tube: 9 pin; Cinch-Jones Part No. 53F12621	150-020
	CONNECTOR, Plug: female; 3 contact; Cannon Part No. XL-3-11	144-003

PARTS LOCATION
 MX-10 MIXER
 Catalog No. 96900-01



0089



PARTS LOCATION
MX-35 MIXER

