

NO 1-53
 AMPLIFIER
 106A
 2-6-39

GENERAL

A 2-STAGE, AC OPERATED UNIT INTENDED FOR USE AS A LINE AMPLIFIER IN SPEECH INPUT EQUIPMENTS FOR RADIO TELEPHONE BROADCASTING. IT MAY ALSO BE USED AS A GENERAL-PURPOSE AMPLIFIER FOR APPLICATIONS WHERE MODERATE GAIN AND POWER LEVELS SUFFICE.

ELECTRICAL CHARACTERISTICS

GAIN..... APPROX. 45 DB (600 OHM TERMINATIONS). 20 DB (WHEN OPERATED AS A HIGH-IMPEDANCE [10,000 OHMS] BRIDGING AMPLIFIER ACROSS PROGRAM LINES OF 600 OHMS IMPEDANCE)

GAIN CONTROL..... 19 STEPS (2 DB EACH) AND "OFF." OPERATES FROM..... 500-600 OHMS, TERM'S. 1-2. 10,000 OHMS, TERM'S. 7-8.

INTERNAL INPUT IMPEDANCE.. 600 OHMS.
 OPERATES INTO..... 500-600 OHMS, TERM'S. 11-12.

INTERNAL OUTPUT IMPEDANCE. 600 OHMS.

OUTPUT POWER..... APPROX. 0.6 WATT (+20 DB LEVEL) FOR LESS THAN 1% TOTAL HARMONIC DISTORTION. (0 DB - 6 MW)

OUTPUT NOISE..... APPROX. -75 DB W'T'D., -60 DB UNW'T'D.

MONITOR OUTPUT..... SEE SCHEMATIC. VOLTAGE APPROX. 20 DB BELOW MAIN OUTPUT. INTERNAL INPUT IMPEDANCE APPROX. 40 OHMS.

POWER SUPPLY..... 105-125 V., 50-60 CYCLE AC. MAX. 48 WATTS. FUSE FOR 3/4 TO 1 AMP.

NOTE: THIS AMPLIFIER WILL SUPPLY FILAMENT POWER AND UNFILTERED PLATE CURRENT FOR THE OPERATION OF SIX 104 TYPE AMPLIFIERS. FOR EXTERNAL FILTER SEE BULLETIN.

VACUUM TUBES (MUST BE ORDERED SEPARATELY)

FIRST STAGE..... 1 - 310B VACUUM TUBE
 SECOND STAGE..... 1 - 336A VACUUM TUBE
 RECTIFIER..... 1 - 274A VACUUM TUBE

EQUIPMENT CHARACTERISTICS

WEIGHT..... APPROX. 22 LBS.

CONSTRUCTION. RECESSED TYPE STEEL PANEL WITH REMOVABLE MAT.

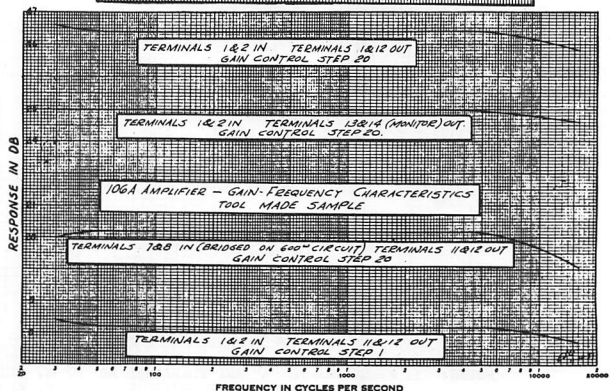
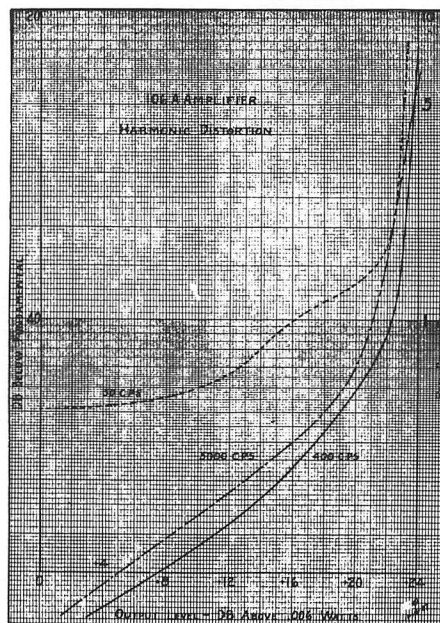
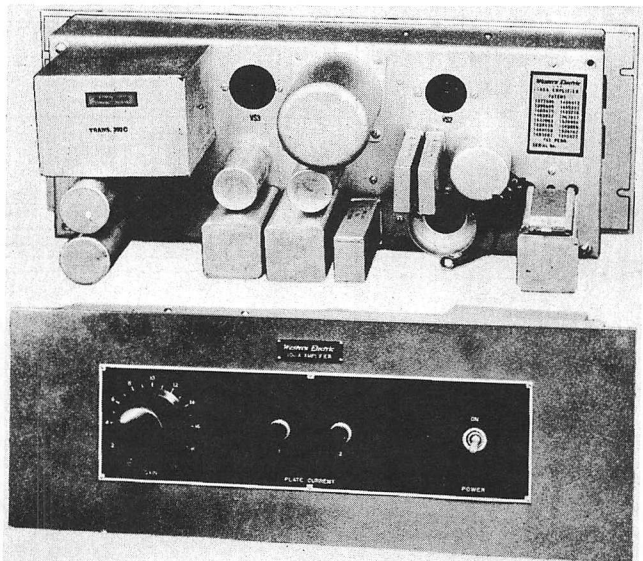
SIZE..... MAT 19-1/8" W. X 7" H. APPARATUS EXTENDS MAX. 8" FROM REAR AND 1-3/4" FROM FACE OF MAT. MAT 3/32" THICK.

MOUNTING..... STD. RELAY RACK OR EQUIP'T. CABINET. (MTG. SCREWS FURNISHED).

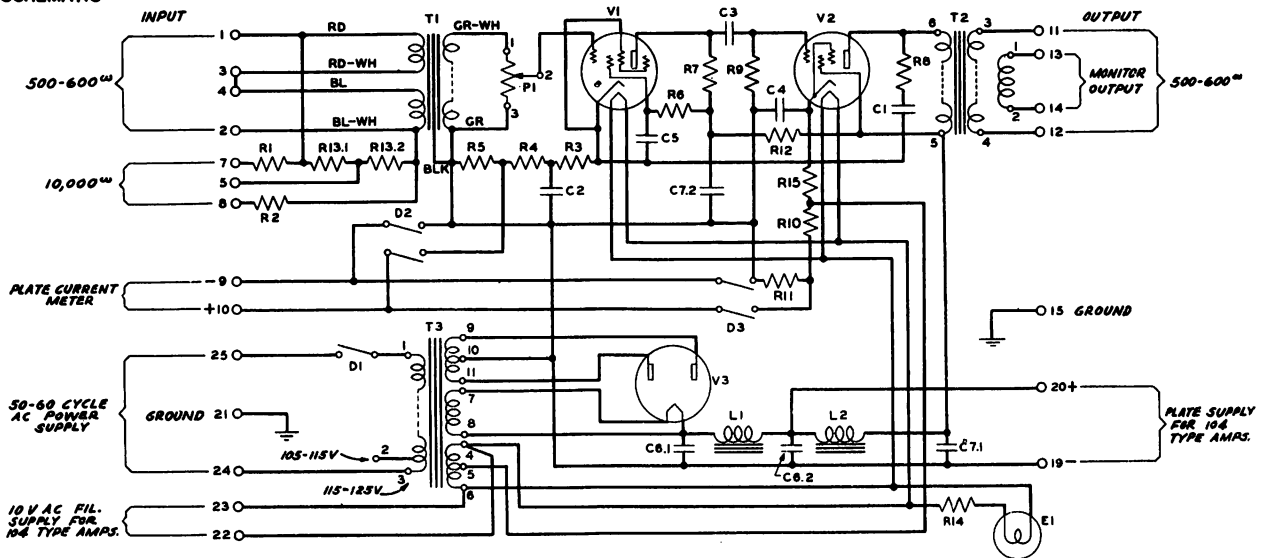
FINISH..... CHASSIS - ALUM. LACQUER. MAT - REAR, ALUM. LACQUER; FRONT AND EDGES, BLACK JAPAN (CODED 106A-3 AMPLIFIER) OR ALUM. GRAY LACQUER (CODED 106A-15).

REFERENCES

ESR-611449..... ASSEMBLY
 ESO-611771..... SCHEMATIC
 ESX-611772..... WIRING DIAGRAM
 ESA-743566..... GAIN VS FREQUENCY CHARACTERISTICS
 ESA-743567..... POWER OUTPUT VS DISTORTION
 INSTRUCTION BULLETIN NO. 880
 PHOTOGRAPHS NOS. 76541, 76542, AND 76543

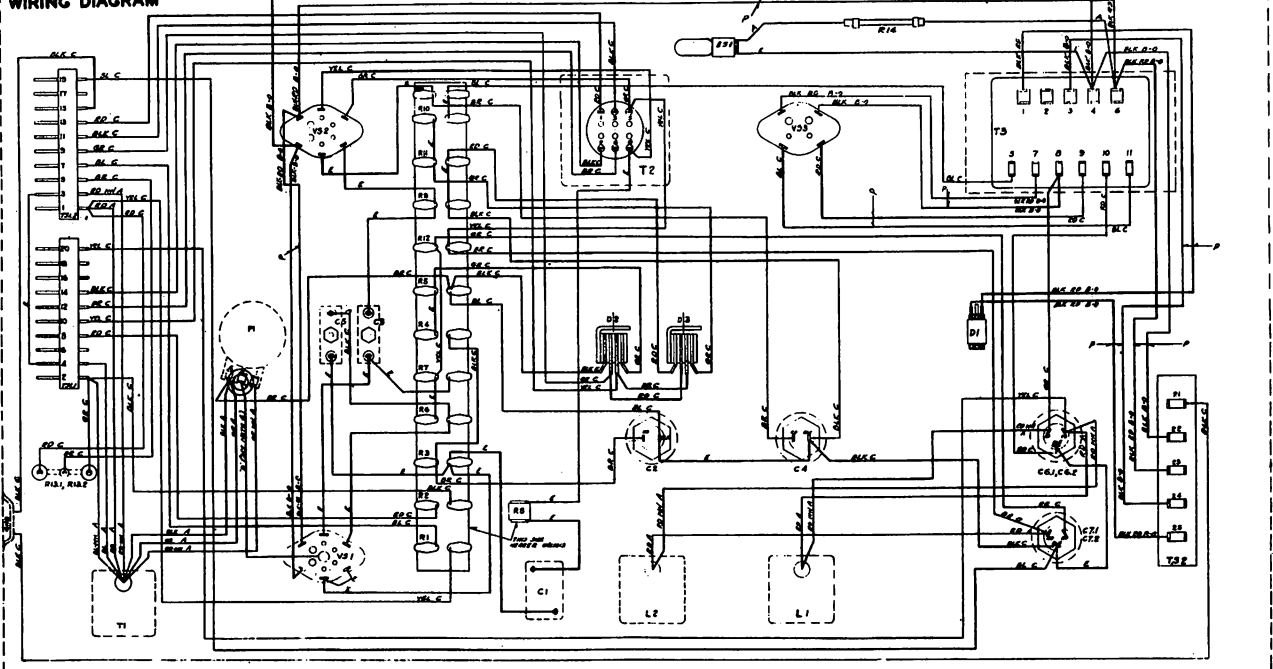


SCHEMATIC



DESIGNATION	APPARATUS	DESIGNATION	APPARATUS	DESIGNATION	APPARATUS
T1	285E INPUT TRANSFORMER			P1	DAVEN CP-51 POT. 50,000 OHMS PER ESA-612056, "POT. NO. 2."
T2	165A OUTPUT TRANSFORMER	R6	1.0 MEGOHM ± 5%	D1	H.&H. 20994-DQ SWITCH WITH 1/2" MFG. SLEEVE WITH 2 HEX. NUTS
T3	360C TRANSFORMER	R7,R9	0.25 MEGOHM ± 10%	D2,D3	YALEY MFG. CO. #2004 PUSH BUTTON SWITCHES
L1,L2	221H RETARDATION COILS	R12	30,000 OHMS ± 10%	K1	MAZDA #46 PILOT LAMP, 6.3 V.
C1	229C COND. 1.0 MF.		I.R.C. TYPE BW-1 RESISTANCES	ES1	AM. RADIO HARDW. CO. #38A LAMP SOCKET
C3,C5	230A COND. 0.4 MF.	R3	500 OHMS ± 2%	VS1, VS2	EBY 33-11-C V.T. SOCKETS PER KS-7741
C2	CORNELL DUB. MA-13438-PE ELECTRO. COND. 100 MF. 12 V. DC. W.V.	R4	2000 OHMS ± 5%	VS3	EBY 33-11-A V.T. SOCKET PER KS-7741
C4	CORNELL DUB. MA-13358-PE ELECTRO. COND. 50 MF. 25 V. DC. W.V.	R5	111 OHMS ± 5%		
C6.1,C6.2	CORNELL DUB. MA-13257-PE ELECTRO. COND. 8-8 MF. 450 V. DC. W.V.	R10	300 OHMS ± 5%		
C7.1,C7.2	CORNELL DUB. MA-13257-PE ELECTRO. COND. 8-8 MF. 450 V. DC. W.V.	R11	5.0 OHMS ± 5%		
R13.1,R13.2	15ΩG RESISTANCE, 606-606 OHMS	R15	160 OHMS ± 5%		
	I.R.C. TYPE BT-1 RESISTANCES	R8	I.R.C. TYPE WW-3 RESISTANCE, 80,000 OHMS WITH TERM. LUGS		
R1,R2	5000 OHMS ± 10%	R14	ELECTRAD TYPE "G" FLEXIBLE RESISTANCE, 15 OHMS, 6" OVERALL LENGTH		

WIRING DIAGRAM



- NOTES:
1. WIRES MARKED "A" ARE FURNISHED AS PART OF APPARATUS AND SHALL BE SECURELY LACED TOGETHER AFTER APPARATUS IS WIRED.
 2. WIRES MARKED "B" ARE NO. 16 AWG SOLID WIRE PER KS-7612.
 3. WIRES MARKED "C" ARE NO. 22 AWG SOLID WIRE PER KS-7612.
 4. WIRE MARKED "D" IS ITEM 13B - ESR-611449.
 5. WIRES MARKED "F" ARE TWISTED PAIRS.
 6. APPARATUS DESIGNATIONS ARE FOR REFERENCE ONLY AND DO NOT APPEAR ON APPARATUS.
 7. WIRES MARKED "E" ARE STRAP WIRES PER F-311746, AND ARE OPEN FORMED.
 8. WIRES MARKED "Q" ARE OPEN FORMED WIRES.