

103C AMPLIFIER



GENERAL

The 103C amplifier consists of a 124C amplifier (less mat and nameplates) mounted in a black finished metal cabinet, which also contains a standby relay and other miscellaneous apparatus to permit standby conditions at reduced voltage and instantaneous full power operation on energizing the standby relay. There is also space provided for installing a 152A repeating coil for supplying microphone current. A bridging input connection is available. For information on this input refer to the 124C amplifier. The 103C is designed for use in paging systems employing carbon microphones.

ELECTRICAL CHARACTERISTICS

Gain - - - - - 58 db.
Source Impedance - - 0 to 1000 ohms. 50 ohms nominal. 50 to 1000 ohms when a 152A repeating coil is used.
Internal Input Impedance - - - 150 ohms. 125 ohms when a 152A repeating coil is used.
Internal Output Impedance - - 3/4 of nominal load impedance.
Load Impedance - - - 1.75, 7.5, 16, 30, 150, and 600 ohms. Also 70-volt loudspeaker distribution line. See OUTPUT CONNECTIONS Table on schematic.

Output Level - - - - +41 dbm (12 watts), 2% total harmonics at 400 cycles. May be reconnected for +42 dbm (20 watts), 5% harmonic content.
Output Noise - - - - -37 dbm (unweighted).
Frequency Response - See Frequency Response Curve.
Gain Control - - - - 45 db continuously variable.
Power Supply - - - - 105-125 volts, 50-60 cycles. Using 12-watt output, 1.1 amperes, 105 watts. Using 20-watt output, 1.25 amperes, 125 watts. Battery supply of 14-60 volts for relay and microphone. Standby power approximately 55 watts.

EQUIPMENT CHARACTERISTICS

Dimensions - - - - - 20-5/16" long, 9-1/16" high, 11" deep including controls.
Weight - - - - - 40 pounds.
Finish - - - - - Black crinkled enamel.
Mounting - - - - - Desk, shelf, etc.

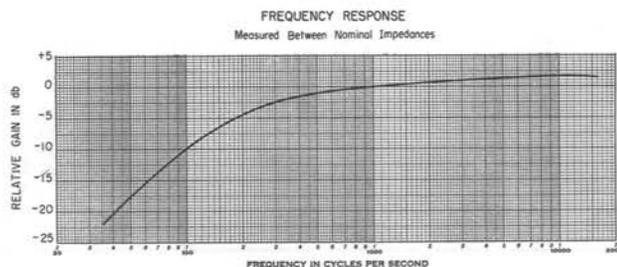
ELECTRON TUBES

(These tubes are not supplied with the amplifier and must be ordered separately.)

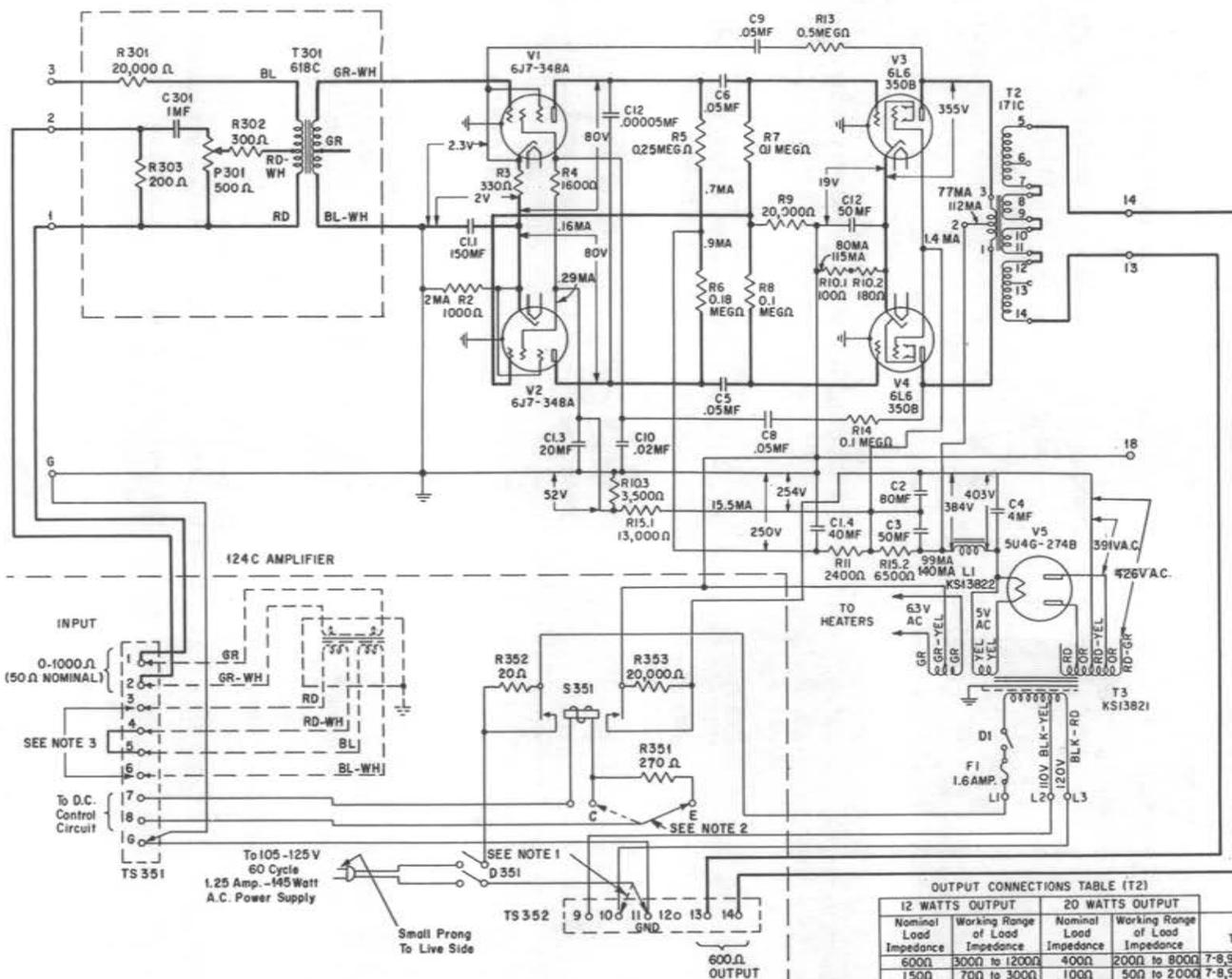
	W.E.		COMMERCIAL
2 - - - - -	348A	or	6J7 or 6J7G
2 - - - - -	350B	or	6L6 or 6L6G
1 - - - - -	274B	or	5T4 or 5U4G

REFERENCES

ES-676175 - - - - - Assembly and Stock Lists.
ES0-676177 - - - - - Wiring Diagram.
ESXX-676176 - - - - - Schematic.
BSP 024-104-103 - - 124C Amplifier.
BSP 024-104-501 - - 103 and 124-Type Amplifiers.



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Notes

1. If A.C. line voltage averages between 115 & 125 volts, connect to terminal 10 on TS352. If A.C. line voltage averages between 105 & 115 volts, connect to terminal 9 on TS352. With R.C.A. tubes, operation on voltages above 110 when connected to terminal 9, or above 120 volts when connected to terminal 10 may result in decreased vacuum tube life.
2. If D.C. supply is from 28 to 60 volts, the connection should be made to terminal E. If D.C. supply is from 14 to 30 volts, the connection should be made to terminal G.
3. The amplifier may be used without the 152A repeating coil. When so used the internal input impedance is 15052 and connections should be made to terminals 1 & 2 on TS351. When the 152A repeating coil is used it may be connected as shown for 5052 internal impedance or for 60052 by connecting the RD & BL-WH wires to terminals 1 & 2 and the GR & GR-WH wires to terminals 4 & 5 if desired, or directly to the amplifier terminals 1 & 2 if the repeating coil is not used. Bridging input is provided by changing input connections on 124C amplifier to terminals 1 & 3 and connecting input source to terminals 1 & 2 on TS351.

OUTPUT CONNECTIONS TABLE (T2)

12 WATTS OUTPUT		20 WATTS OUTPUT		Strop Terminals	Output Connections
Nominal Load Impedance	Working Range of Load Impedance	Nominal Load Impedance	Working Range of Load Impedance		
600Ω	300Ω to 1200Ω	400Ω	200Ω to 800Ω	7-8-9-10, 11-12	5 & 14
150Ω	70Ω to 300Ω	100Ω	50Ω to 200Ω	7-8-9-14, 11-12, 5-10	5 & 14
30Ω	20Ω to 70Ω	20Ω	10Ω to 50Ω	7-8-9-10, 11-12	6 & 13
16Ω	10Ω to 20Ω	10Ω	5Ω to 15Ω	7-8-10, 9-11-12	6 & 13
7.5Ω	3Ω to 10Ω	5Ω	2Ω to 7Ω	7-9-10-12, 6-8, 11-13	6 & 13
17.5Ω	1Ω to 3Ω	1Ω	0.5Ω to 2Ω	6-8-10-12, 7-9-11-13	6 & 13

70V OUTPUT	12 & 20 WATTS OUTPUT
Strop Terminal	Output Connections
6-13	5 & 14