

101G (J86731) POWER PLANTS

IDENTIFICATION, INSTALLATION, AND CONNECTIONS

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1. GENERAL

1.01 This section covers the identification, installation, and connections of the 101G power plants, J86731A, Lists 1 through 7; J86731B, List 1; J86731C, Lists 1 and 2; J86731D, List 1; J86731A, List 1, List 8; List 2, List 8; List 4, List 3; List 6, List 8; and J86731D, List 1, List 2. These plants are normally used to power the 1A, 1A1, 1A2, and 6A Key Telephone Systems. They may, however, be used wherever their characteristics and design apply.

1.02 This section is reissued to include mounting information for the J86731B power plant.

2. IDENTIFICATION

2.01 The 101G power plants provide packaged small capacity ringing, low voltage ac and unregulated dc power supplies. Fig. 1, 2, 3, and 4 show views of some of the plants, while all of the various power plant codes, output and features are shown in Table A.

2.02 The output data and features of the 101G power plants modified for use in the 1A2 Key Telephone System are in Table A. When the J86248A, List 1 rectifier is modified it is designated as the J86248A, List 1, 3. When the J86248A, List 2 rectifier is modified it is designated as the J86248A, List 2, 3. When the J86731A and J86731D power plants use the modified rectifiers the list number of the power plant is changed as noted in Table A. The modification of the J86248A rectifier consists of replacement of the selenium rectifier stack with a

silicon rectifier bridge, the addition of a capacitor and a bleeder resistor, and a change of wiring to the existing capacitor. The distributing house modification results in improved performance through narrower voltage limits at a rated dc current output of 1.5 amperes.

2.03 *Spare fuses and Fusetrans* are accommodated on the faceplate of each plant with 2-ampere Bussmann MDL-2 Fusetrans supplied for the input and 24C fuses for the output.

2.04 A three-conductor power cord equipped with a polarized plug is now standard on these plants and is available in 6- and 12-foot lengths.

2.05 *Emergency dry battery reserve* may be arranged for small PBX and key systems to supply 20-volt DC TALK and SIGNAL battery.

3. INSTALLATION

3.01 *Reference shall be made to Section 167-400-200 for general requirements necessary for the proper installation of the power plant.*

3.02 Install the power plant in the location selected. Refer to Table A for mounting arrangements.

3.03 The J86731A, List 7 metal stand (see Fig. 5) consists of two metal legs and is used to floor-mount the J86731A, List 4 power plant, and where appearance is important, may be enclosed with the ED-95023-01, Group 5 cover.

3.04 When dry cells are being used as a battery reserve, refer to appropriate section covering installation of dry cells.

3.05 The J86731B power plant is intended for wall-mounting with the louvers positioned at the top. The bottom must be a minimum of 10 inches above any obstruction to insure free flow of air. The unit must not be oriented in

any other position, as overheating may result. The ambient temperature at the bottom of the unit, with the cover on, must not exceed 40°C (104°F).

4. CONNECTIONS

4.01 Power plant connections are shown in Fig. 6, 7, 8, and 9.

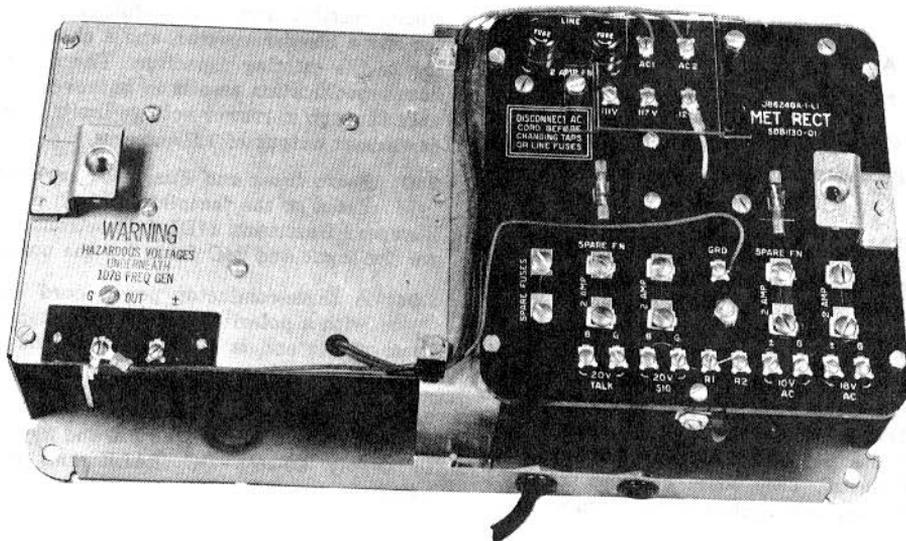


Fig. 1 — J86731A, List 4, Cover Removed

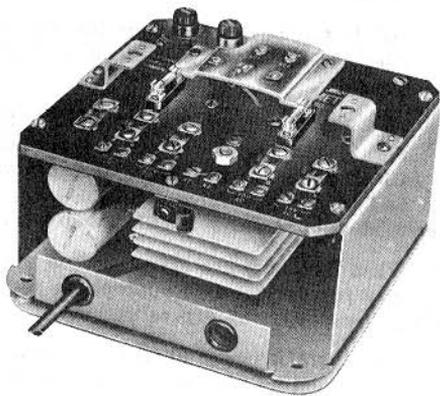


Fig. 2 — J86731A, List 6, Cover Removed

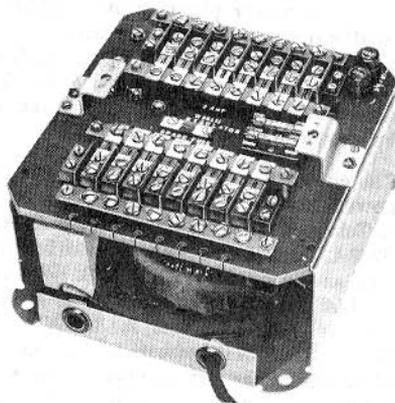


Fig. 3 — J86731B, List 1, Cover Removed

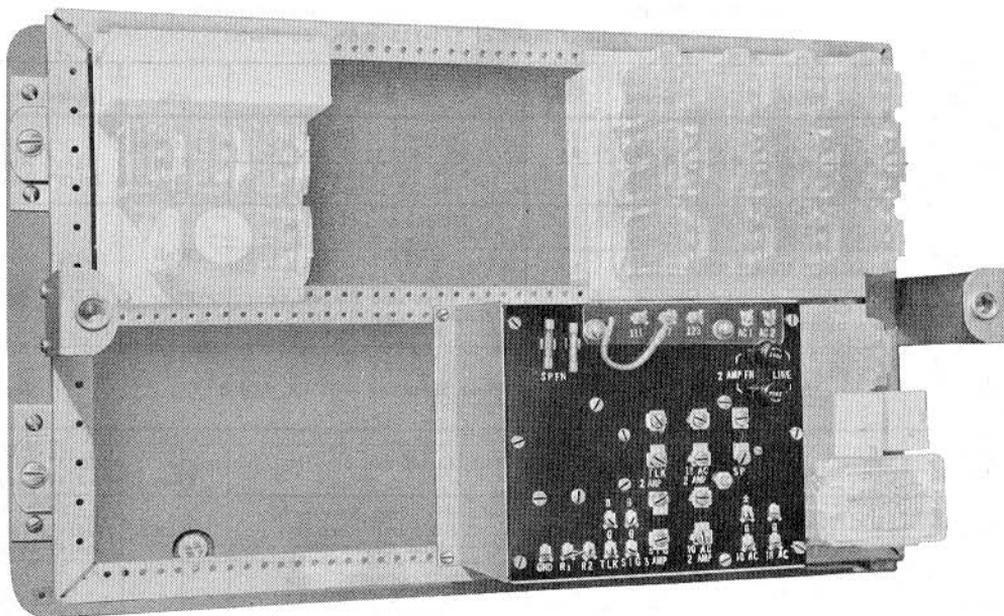


Fig. 4 — J86731D, List 1, Mounted in 16A Apparatus Mounting

4.02 When the 107B frequency generator of the J86731A, List 4 power plant is equipped with a metal faceplate (Fig. 1), a *three-conductor power cord must be used and connected to a grounded power outlet, or a case ground must be provided.* When required to install the cord locally, connect the ground conductor (green) under the cord clip mounting screw inside the power plant.

Caution: If a plastic cord clip is used instead of a metal cord clip, an unreliable grounding of the ground conductor can occur. Proper grounding should be determined before applying power.

4.03 When a dry battery reserve is a requirement, connect a KS-5483, L82 relay, as shown in Fig. 10. This relay may be mounted in a KS-5483, L100 box.

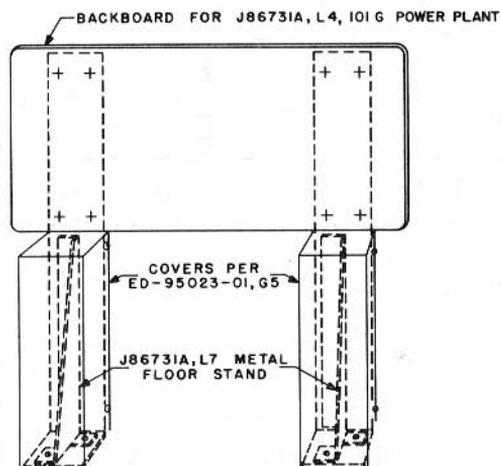


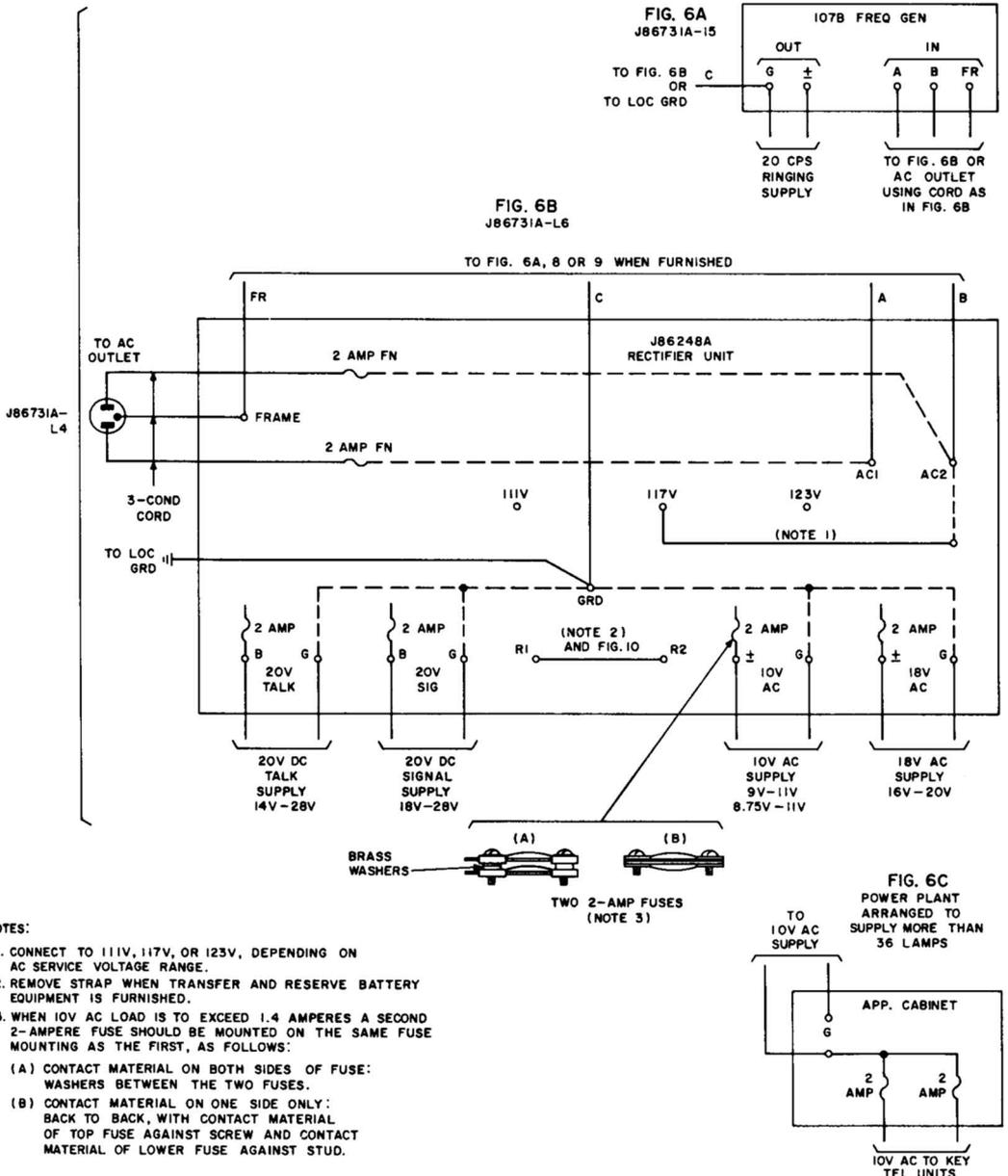
Fig. 5 — Floor Stand for J86731A, List 4, Power Plants

TABLE A — OUTPUT AND FEATURES OF 101G POWER PLANTS
(with Voltage Input of 111-123 ±5%, 60 Hertz)

POWER PLANT	OUTPUT	VOLTAGE RANGE	AMPS	LOAD	MTG.	DIMENSIONS	
J86731A List 1 (Replaced by List 6)	DC (Talk) (Sig)	14-28 18-28	0.9 0.6	No Load to 20 ohms No Load to 32 ohms	Wall	9" High 8-1/4" Wide 5-1/8" Deep	
	AC (60 Hertz)	9-11 16-20	1.4	36 51A Lamps* 36 A3 Lamps			
J86731A List 2 (Replaced by List 4)	DC (Talk) (Sig)	14-28 18-28	0.9 0.6	No Load to 20 ohms No Load to 32 ohms	Wall or Floor	15-7/8" High 8-5/8" Wide 6-7/8" Deep	
	AC (60 Hertz)	9-11 16-20	1.4	36 51A Lamps* 36 A3 Lamps			
	20-Hertz Ringing	75-110	0.05	1-8 High Imp Ringers or 1-2 High Imp Ringers With Capacitors			
J86731A List 3 (Replaced by List 7)	Metal Stand for Floor Mounting J86731A, List 2						
J86731A List 4	The Combined Features of J86731A, List 5 and 6				Wall or Floor	9" High 16-7/8" Wide 5-1/4" Deep	
J86731A List 5	20-Hertz Ringing	75-110	0.05	1-8 High Imp Ringers or 1-2 High Imp Ringers With Capacitors	Wall	9" High 8-1/4" Wide 5-1/4" Deep	
J86731A List 6	DC (Talk) (Sig)	14-28 18-28	0.9 0.6	No Load to 20 ohms No Load to 32 ohms	Wall	9" High 8-1/4" Wide 5-1/4" Deep	
	AC (60 Hertz)	9-11 8.75-11 16-20	1.4 2.8 1.4	36 51A Lamps, or* 72 51A Lamps, or 36 A3 Lamps			
J86731A List 7	Metal Stand for Floor Mounting J86731A, List 4 (See Fig. 5)						
J86731B List 1	AC (60 Hertz)	10-11	17	425 51A Lamps	Wall	9" High 8-1/4" Wide 5-1/4" Deep	
J86731C List 1	20-Hertz Ringing	** 107C	64-90 75-105	0.05	1-8 High Imp Ringers or 1-2 High Imp Ringers With Capacitors	RR or APP CAB.	7" High 9-1/8" Wide Extends 4-1/2" in Front of Mounting
		107D	75-100				
J86731C List 2	Same Features as J86731C, List 1				Wall	9" High 8-1/4" Wide 5-1/4" Deep	
J86731D List 1	Same Features as J86731A, List 6				RR or APP CAB.	7" High 9" Wide Extends 4-1/2" in Front of Mounting	
J86731A* L1, L8; L6, L8 J86731D L1, L2	*** (Talk) DC (Sig)	18-26 20-26	0.6 1.5	SAME AS UNIT WITHOUT ADDED LIST NO. TO DENOTE MODIFICATION			
	AC 60 hertz						
J86731A* L2, L8; L4, L8	*** (Talk) DC (Sig)	18-26 20-26	0.6 1.5				
	AC 60 hertz 20-hertz Ringing						

*See Note 3, Fig. 6. **See Note, Fig. 8. ***Total DC load not to exceed 1.5 amps.

•Added "L2" or "L8" denotes J86248A L1, 3 or L2, 3 is part of the power plant.



NOTES:

1. CONNECT TO 111V, 117V, OR 123V, DEPENDING ON AC SERVICE VOLTAGE RANGE.
2. REMOVE STRAP WHEN TRANSFER AND RESERVE BATTERY EQUIPMENT IS FURNISHED.
3. WHEN 10V AC LOAD IS TO EXCEED 1.4 AMPERES A SECOND 2-AMPERE FUSE SHOULD BE MOUNTED ON THE SAME FUSE MOUNTING AS THE FIRST, AS FOLLOWS:
 - (A) CONTACT MATERIAL ON BOTH SIDES OF FUSE: WASHERS BETWEEN THE TWO FUSES.
 - (B) CONTACT MATERIAL ON ONE SIDE ONLY: BACK TO BACK, WITH CONTACT MATERIAL OF TOP FUSE AGAINST SCREW AND CONTACT MATERIAL OF LOWER FUSE AGAINST STUD.

Fig. 6 — 101G (J86731A and D) Power Plants

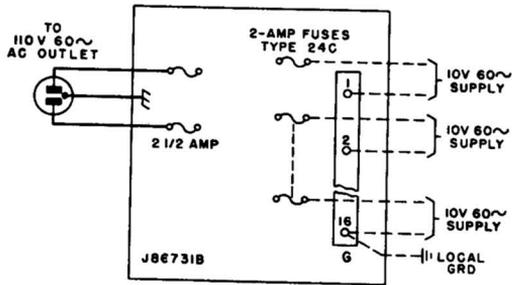


Fig. 7 - 101G (J86731B) Power Plant

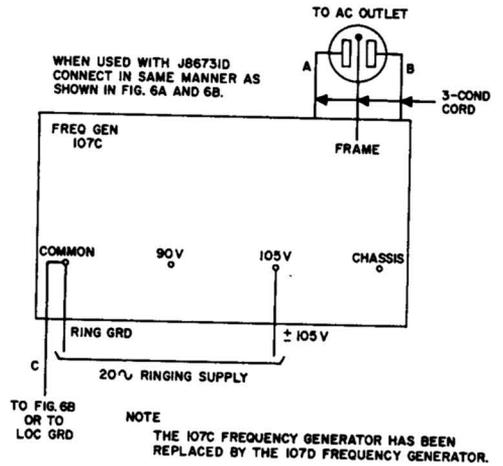


Fig. 8 - 101G (J86731C) Power Plant (107C Frequency Generator)

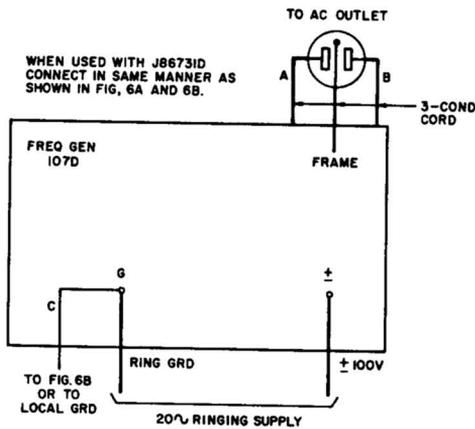
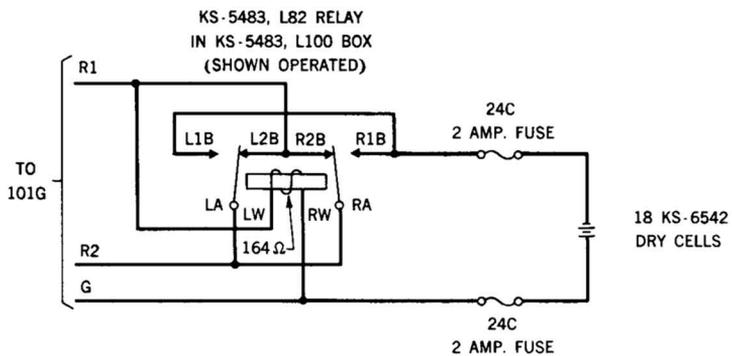


Fig. 9 - 101G (J86731C) Power Plant (107D Frequency Generator)



Note 1: Provide 2-ampere fuses in the dry cell supply leads as shown.

Note 2: Limit battery lead loop length to 50 feet with a 16-gauge wire.

Fig. 10 — Wiring Arrangement Using Dry Battery Reserve