

POWER SUPPLY ARRANGEMENTS  
 P.B.X.'S, STATION SYSTEMS AND KEY EQUIPMENTS  
 GENERAL REQUIREMENTS

1. GENERAL

1.01 This addendum supplements Section M25.75 and covers power supply requirements for 555 type P.B.X.'s. It also covers 101G power plants and the extended scope of the 101A power plant as well as miscellaneous changes. The addendum is revised to include information concerning limitations on use of ringing generator due to audible ringing. Changes are indicated by arrows in the margin.

1.02 Type 101B power plants are now rated "Manufacture Discontinued". References to these plants in the Section shall be considered for information only.

2. REFERENCE INFORMATION

2.01 In paragraph 2.01 of the Section add:  
 B523.218 Installation of 555-type P.B.X. (SD-66520-01)

3. P.B.X. AND STATION SYSTEM BATTERY VOLTAGES AND CAPACITY

3.01 Table 2 of the section is extended to cover new type 101A power plants as follows:

Power Plant Equipment	No. of Cells	8 Hour Amp-Hour Capacity	Volt Range	
			Min	Max
101A	9	10	17	21
101A	10	10	19	24
101A	11	10	21	26
*101G	-	-	14	28

\*See Paragraph 6.08.

4. GENERAL FEEDER REQUIREMENTS

4.01 Due to the increased demand for cable pairs for station growth consideration should be given in more cases to the provision of local power supplies. The values given in paragraph 4.08 should be increased in the order of 25 percent for estimating purposes; however, the values now in the table may be used for relative cost studies.

5. DIRECT FEEDERS

5.01 Change Paragraph 5.02 of the Section to read:

5.02 Power for direct feed is usually supplied from a 24 volt central office or building battery. Exceptions to this are made in the case of the 555-type P.B.X. and P.B.X. long line circuits such as SD-65122-01 and SD-66087-01 requiring a separate 38 or 48 volt feeder for each circuit to obtain increased operating ranges. Cer-

tain inter-communicating and signaling circuits not employing relays are also supplied by 48 volt feeders, and cordless type 506A and 506B switchboards may be supplied from 38 or 48 volt feeders provided the proper battery supply circuit containing an 11-C resistance lamp is used in the central office.

5.02 Change Paragraph 5.03 of the Section to read:

5.03 Conference equipment and long line circuits of a P.B.X. may be supplied with battery from the feeder of the associated P.B.X. under the conditions outlined in Paragraphs 5.09 and 5.10. Where key equipments or key telephone systems requiring a battery supply are associated with a P.B.X. which is supplied with battery over a direct feeder, a separate feeder should be provided for the key telephone system or key equipment; or consideration should be given to the provision of a local power supply as outlined in Part 6, for operating the P.B.X. and associated equipment.

6. LOCAL BATTERY WITH FLOATER FEEDER OR RECTIFIER

6.01 Change Paragraph 6.13 of the Section to read:

6.13 The No. 101A power plant is designed for use with P.B.X.'s and station systems when a local battery is required and the voltage and capacity ranges of this plant are adequate (See Paragraph 3.01 of this addendum and Table 2 and Paragraph 6.01 of the section). The new 101A power plants are furnished in metal cabinets. Older type 101A power plants were furnished in either metal or wooden cabinets depending upon the equipment with which the plant was to be used; however, the wooden cabinet plant has been discontinued. A description of the 101A power plant and ordering information is covered in Section B523.017 of the Practices.

6.02 Change Paragraph 6.14 of the Section to read:

6.14 The battery of a No. 101A power plant may be floated from either 24, 38 or 48 volt central office batteries or from local rectifiers. When central office feeders are used and 24, 38 or 48 volt battery is available, the 24 volt battery should be used unless the P.B.X. battery voltage is such as to require the use of the higher voltage central office battery or unless

the number of conductors required exceeds 1 pair in which case the 38 or 48 volt central office battery should be used.

6.03 Change Paragraph 6.18 of the Section to read:

6.18 The No. 101E power plant is designed for use with No. 102A key equipment installations and will be furnished in detail specifications issued by the Engineering Department. The plant is supplied equipped with an 11 cell 20-25 volt 15 or 30 ampere hour battery. If, due to the capacity and voltage ratings of this plant, the use of a 101E power plant is considered necessary for some purpose other than that for which it was designed, the Engineering Department should be requested to provide the plant in a detailed specification.

6.04 Delete Paragraph 6.19 of the Section and in Paragraph 6.20 of the Section, delete reference to Section C53.511 of the Practices for ordering information for 101E power plants.

6.05 In Paragraph 6.24 of the Section delete reference to Section B523.017 of the Practices.

6.06 In Paragraph 6.32 of the Section add:

Ampere Hour Drains for 555-type P.B.X.'s are given in the following table:

No. of Cords	Daily Ampere-Hour Load		
	9 Cells 19.4 Volts	10 Cells 21.5 Volts	11 Cells 23.6 Volts
4	.10	.11	.12
5	.15	.16	.17
6	.21	.23	.25
7	.26	.29	.32
8	.32	.36	.39
9	.39	.43	.47
10	.46	.51	.55
11	.53	.56	.65
12	.60	.66	.73
13	.68	.76	.82
14	.76	.84	.92
15	.83	.92	1.00

6.07 Change Part (a) of Paragraph 6.35 of the Section to read:

(a) Rectifiers, transformers or power plants without storage battery reserve, should not be furnished for use with station systems provided for fire and police departments, hospitals etc., and any other place where failure of the equipment would seriously effect the customer's service. The 101G power plant with dry battery reserve may be used for these locations when no other source of power is available. Cases of this nature, where it is not practical to furnish a local storage battery or battery feeders from the central office, should be referred to the Commercial Department for consideration before installation.

6.08 In Part 6 of the Section add:

6.37 The 101G power plant, described in Section B523.017, with or without reserve dry battery supply and with or without a 20 cycle ringing current supply may be used to provide power to a P.B.X. or station system providing the current and voltage requirements are within the capability of the plant and the conditions outlined in Paragraph 6.07 of this addendum and Paragraph 6.35 of the section are met.

7. ISOLATED POWER PLANTS AND EMERGENCY OR TEMPORARY POWER ARRANGEMENTS

7.01 Change Paragraphs 7.01 - 7.04 of the Section to read:

7.01 Where single position 14-26 volts Nos. 505, 506, 550, 551A or 551B, and 555 type P.B.X. switchboards are required for seasonal installations such as in resort areas, a 101G power plant should be considered as a source of power for operating the equipment. This unit may also be suitable for use with key equipment or key telephone systems 1A under the conditions applicable to P.B.X.'s.

7.02 The 101G power plant operates from 50-60 cycle 110 volt supply and furnishes power for operation of signaling devices in addition to power for transmitter supply. See Section B523.017 of the Practices for a complete description.

7.03 Since the 101G power plant is of the rectifier type, no local battery is required, however a dry battery reserve may be provided in case of power failure.

7.04 The No. 101A power plant and a J-86205B rectifier should be provided where the 101G power plant, covered in Paragraphs 7.01 to 7.03, is not satisfactory for use.

8. GENERATOR CIRCUITS

8.01 In Table No. 5 of the Section, add:

Type of P.B.X.	No. of Pos. Per Res. Lamp	Loop Cond. Res. of Feeder
555	10	Same as P.B.X. trunk or long trunk range

8.02 Include the following in Section 8 as Paragraph 8.10: One ringing machine shall be limited to serve 30 feeders supplying machine ringing which contains  $\pm$  audible or continuous ringing with  $\pm$  audible to PBX or other equipment. This limitation is required to avoid excessive reduction of the audible tone.