

CIRCUIT DESCRIPTION

CD-81920-01
ISSUE 1
APPENDIX 2D
DWG ISSUE 3D
DISTN CODE 2M99

POWER SYSTEMS
POWER SUPPLY CIRCUIT
-96 VOLT DC APPLIQUE
FOR 756A PBX
J86464P

CHANGES

D. Description of Changes

D.1 Changed the rating of the schematic drawing
from AT&TCo Standard to A&M Only, as a result
of 756A PBX being rated Manufacture Discontinued.

BELL TELEPHONE LABORATORIES, INCORPORATED

DEPT 2426-COR

WE DEPT 81450-SDL-JK

POWER SYSTEMS
POWER SUPPLY CIRCUIT
-96 VOLT DC APPLIQUE
FOR 756A PBX
J86464P

CHANGES

B. Changes in Apparatus

B.1 Superseded

TB1 Terminal Board,
Marathon, 6A-106HS -
FS 1

Superseded By

TB1 Terminal Board,
Cinch-Jones, 6-164-3/4W -
FS 1

D. Description of Changes

D.1 Options "Y" and "Z" were added to the drawing.

BELL TELEPHONE LABORATORIES, INCORPORATED

DEPT 5453-HMK-DET-EAA

POWER SYSTEMS
POWER SUPPLY CIRCUIT
-96 VOLT DC APPLIQUE
FOR 756A PBX
J86464PSECTION I - GENERAL DESCRIPTION1. PURPOSE OF CIRCUIT

1.01 This power supply circuit produces a -96 volt dc output when it is used in conjunction with a 410B transformer, separately provided.

1.02 This circuit is intended for use with the 756A PBX to provide operating power for the make busy and busy display test feature.

SECTION II - DETAILED DESCRIPTION1. AC SUPPLY

1.01 The ac supply is obtained from series connected secondary windings of a 410B transformer. The primary winding of the 410B transformer is tapped to permit operation with a 111-, 117-, or 123-volt, single phase, 60-hertz source.

2. -96 VOLT APPLIQUE

2.01 This circuit consists of a voltage doubler which converts the output from the 410B transformer to a -96 volt dc voltage having a low ripple content.

2.02 The voltage doubler functions to half-wave rectify the ac input by means of CR1 diode and charge C1 capacitor. When the input voltage reverses polarity C1 discharges through the transformer secondary windings and charges C2 capacitor. The combination of the voltage on C1 together with the transformer voltage results in twice the peak transformer secondary voltage being impressed across C2. The output is taken from across C2 capacitor. The R1 resistor is provided to discharge both C1 and C2 when the power supply is turned down for servicing.

SECTION III - REFERENCE DATA1. WORKING LIMITS

1.01 AC Input - This circuit functions with an input of 36 volts ± 10 percent. This voltage is provided from series connected secondary windings of a 410B transformer. This transformer is tapped to permit operation from a 111-, 117-, or 123-volt ± 5 percent, single phase, 60-hertz source.

1.02 DC Output - The voltage limits are 93 to 108 volts for all conditions of line voltage and load current variations of 0 to 100 milliamperes. The voltage limits include variations which are a result of other, independent, loads on the 410B transformer.

1.03 Output Ripple - 1 volt rms maximum

1.04 Ambient Temperature - 0° to 50°C

2. FUNCTIONAL DESIGNATIONS

2.01 None.

3. FUNCTIONS

3.01 To provide a circuit which utilizes the output of a 410B transformer and provides a dc output having a low ripple content.

3.02 To provide a -96 volt dc output for a load range of 0 to 100 milliamperes for operation of connecting 756A PBX circuits.

4. CONNECTING CIRCUIT

4.01 This power supply circuit will function with the following circuits:

- (a) SD-81326-02 - Power Supply Circuit for 756A PBX with Battery Reserve
- (b) SD-81577-01 - Power Supply Circuit AC, DC and Ringing Supply
- (c) SD-81599-01 - Power Supply Circuit +48 Volt DC and 10 Volt AC Applique for 756A Batteryless PBX

5. TAKING EQUIPMENT OUT OF SERVICE

5.01 When servicing this power supply, the ac input should always be disconnected. A voltage reading of the output should then be taken to insure that the capacitors are fully discharged.

5.02 If this power supply is to be removed from service for an appreciable period of time (one month or longer), the electrolytic capacitors must be connected to a source of direct current of suitable voltage and polarity as covered in Section 032-110-701 of the Bell System Practices Plant Series.

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DEPT 5153-SR-DET-EDC