

47C POWER UNIT

IDENTIFICATION, INSTALLATION, AND CONNECTIONS

1. GENERAL

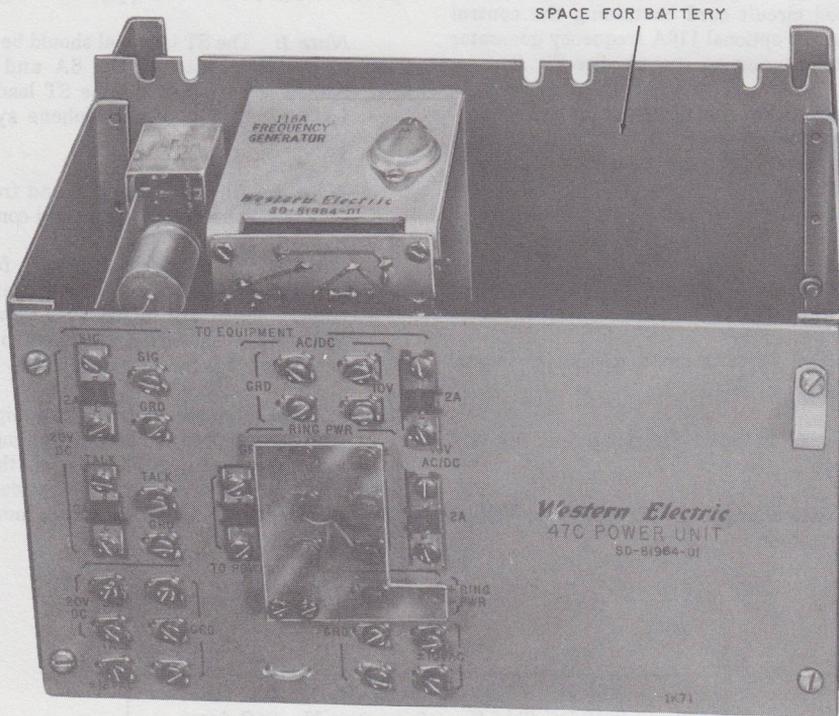
1.01 The 47C power unit (Fig. 1) is intended to provide emergency power for Key Telephone Service installations during commercial power failures. The power supplied to the Key Telephone Service installations is used for switching circuits, lamps, and an interrupter.

1.02 The 47C power unit is arranged for the addition of the 116A frequency generator

as an option when a standby ringing generator is required. The 116A frequency generator must be ordered separately.

1.03 The 47C power unit is arranged for plug-in addition of the KS-20390 L1 battery which must be ordered separately.

1.04 The schematic diagram and circuit description for the power unit are covered in SD- and CD-81964-01, respectively.



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Fig. 1—47C Power Unit

2. IDENTIFICATION

2.01 The 47C power unit is approximately 10.50 inches wide by 6.88 inches high (including mounting supports) by 9.33 inches deep.

2.02 The 47C power unit is interconnected between the standard ac operated power supply and the key telephone equipment. The unit is on standby with the battery on trickle charge, and is brought into operation only during commercial power failure.

2.03 The KS-20390 L1 battery is a nickel-cadmium battery which actually consists of a 24-volt battery and a 10-volt battery in the same package.

2.04 The front panel, containing all the power terminations and fuses, is not hinged but may be swung down for easy access to the plug-in battery package (KS-20390 L1), the GL-1 circuit pack (printed circuit card containing the control circuits), and the optional 116A frequency generator (a dc operated ringing generator). See Fig. 2.

2.05 The optional ringing generator (116A frequency generator) is used when a local ringing supply is required in the key telephone equipment. It is operational only during commercial power failures, and only when ringing power is required.

2.06 The power unit provides the means for the following outputs:

- (a) Negative 24 volts direct current for signal outputs.
- (b) Negative 24 volts direct current for talk output.
- (c) Ten volts alternating current for low voltage lamp output.

2.07 The output of the power unit is fused as shown in Table A.

Note: When the 10-volt ac load exceeds 35-51A lamps, the load should be split and connected to both pairs of 10V terminals provided on the 47C power unit.

3. INSTALLATION



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

Note: The battery will be shipped in a discharged condition.

3.01 Charge the battery locally for 16 hours before installation. Install the battery in the 47C power unit and connect a 19- or 20-type power unit (KSU Power Supply). See Fig. 3.

Note 1: The ST terminal should be connected to the BY1 lead of the 6A and 1A2 key telephone systems, and the ST lead of either 1A, 1A1, or 1A2 key telephone system line circuit.

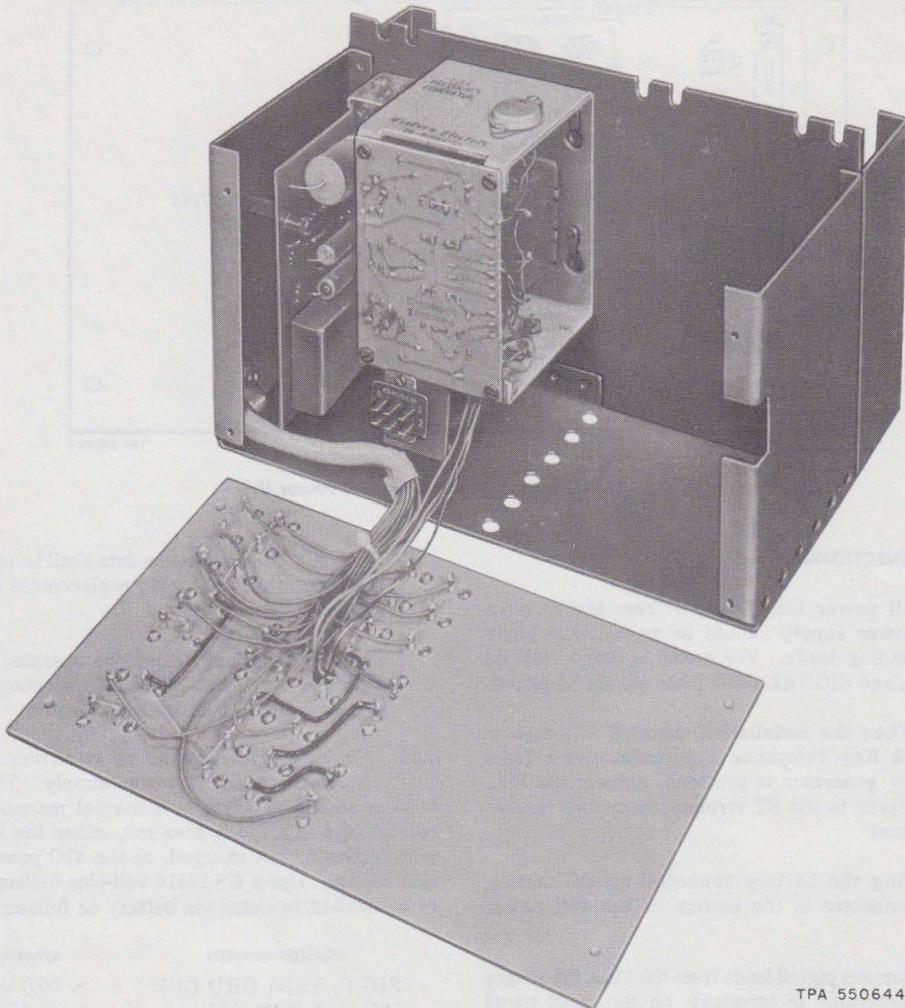
Note 2: All power leads to and from the 47-type power unit are to be paired connections.

Note 3: An additional 2-ampere fuse should be placed in parallel with the existing 2-ampere signal use in the KSU power supply. These fuses should be arranged so that their insulated sides face each other.

3.02 Mount the power unit on the equipment rack using the upper and lower mounting supports. Where there is not enough room on the existing equipment rack or cabinet, the 47C power unit may be wall mounted in a 15A apparatus mounting (see Section 463-140-100).

TABLE A

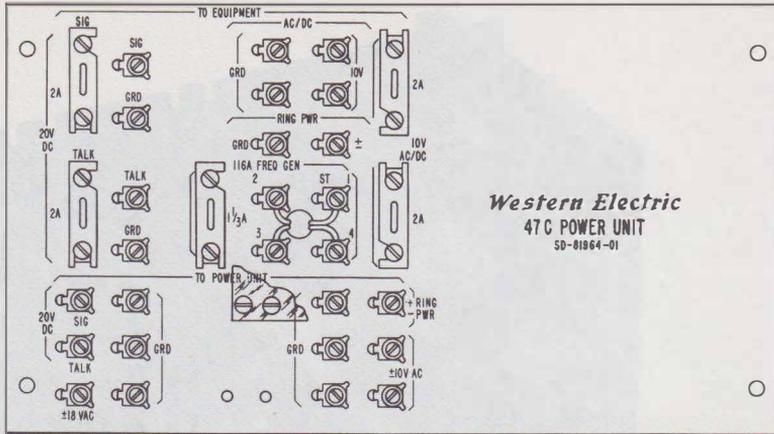
| | | |
|------|----------------|----------------------------|
| (F1) | —20V DC SIGNAL | 2-ampere, No. 24C fuse |
| (F2) | —20V DC TALK | 2-ampere, No. 24C fuse |
| (F3) | 10V AC LAMP | 2-ampere, No. 24C fuse |
| (F4) | 10V AC LAMP | 2-ampere, No. 24C fuse |
| (F5) | FREQ GEN | 1-1/3 ampere, No. 24G fuse |



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Fig. 2—47C Power Unit (Front Cover Removed)

- 3.03** Mount the 116A frequency generator (if used) on the back wall of the 47C power unit.
- 3.04** Place the *charged* battery in the right-hand compartment of the 47C power unit.
- 3.05** In the Key Service Unit, the 10-volt ac operated KS-15900 interrupter must be replaced with a 24-volt dc operated KS-19384 or KS-19385 interrupter.
- 3.06** Do not adjust any potentiometers. They are factory adjusted and sealed.



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Fig. 3—Wiring Connections for 47C Power Unit

4. CONNECTIONS

4.01 All power leads to and from the reserve power supply should be paired with their corresponding leads. For example, the -24V dc SIGNAL and SIGNAL GRD leads should be paired.

4.02 When the installation contains 1A2 and/or 6A Key Telephone Equipment and a 116A frequency generator is provided, connect the BY1 and ST leads to the ST termination on the reserve power plant.

4.03 Plug the battery connector to the mating connector in the bottom of the 47C power unit.

4.04 Connect pigtail leads from the 116A Frequency Generator to terminals on the front panel (see Fig. 3) as follows:

| TERMINAL | LEAD |
|----------|------------|
| 1 | Red |
| 2 | Red-white |
| 3 | Blue |
| 4 | Blue-white |

4.05 Record the installation date on the KS-20390 battery. Replace the battery three years after installation.

Note 1: The installation data shall be recorded locally so that follow-up replacement can be administered.

Note 2: The unit should be operated in the system for at least 10 minutes on commercial ac power before the system is tested.

4.06 Check the installation by removing the ac input to the KSU power supply. The key system should perform in a normal manner upon receipt of a call. If it does not, either the battery is defective or not charged, or the 47C power unit is defective. Use a KS-14510 volt-ohm-milliammeter or equivalent to check the battery as follows:

| MEASURE BETWEEN | READINGS |
|---------------------|--------------|
| SIG (-) and GRD (+) | > 20.0 Volts |
| 10V and GRD (+) | > 9.0 Volts |

If either of the preceding readings is not obtained, the battery should be replaced.

5. MAINTENANCE

5.01 Keep the 47-type power unit clean and free of all foreign matter to ensure proper operation of the unit.

5.02 Periodically check the operation of the power unit in accordance with 4.06.