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MODEL SW-512

DC POWER SUPPLY



GENERAL DESCRIPTION

Swan Model 512 DC Power Supply is a transistorized dc-to-dc converter designed for use in systems with negative grounds only. It supplies all power requirements for mobile operation of Swan Model SW-240 and SW-400 single sideband transceivers. The SW-512 employs an entirely new design concept to provide the highest efficiency possible in mobile operation.

SPECIFICATIONS

Power Rating, Continuous: 500 Watts
Input: 13 volts dc nominal, 40 amperes max.
Output: 800 volts dc, 500 ma.
275 volts dc, 100 ma.
-100 volts dc, 100 ma.
Physical Dimensions: 8 in. by 6 in. by 4 in.
Weight: 7 1/2 pounds.

DESIGN

A two stage, closed loop oscillator is used in such a manner that high magnetizing currents are not introduced into the power transformer. Feedback is amplified, providing excellent regulation and dependable starting. Starting under all conditions is further improved by applying a short duration starting pulse to two of the four transistors. All power resistors found in conventional switching circuits have been eliminated to increase the efficiency even more. All of the transistors have been selected to operate at their highest possible gain. Refer to Schematic, Figure 1.

INSTALLATION

With reasonable care, the SW-512 power supply will perform reliably for years, and will not be subject to usual causes of mobile power supply failure. To ensure maximum operating efficiency and performance, follow the simple installation instructions.

1. Check the charging voltage of your generator or alternator. Since you will be maintaining a charge in a lead-acid storage battery, the charging voltage should not exceed 13.5 to 14.0 volts. If the regulator is set in excess of this value, you will decrease the life and reliability of your battery. If you feel you must have a higher charging voltage, it is well to remember that the tubes in your transceiver are sensitive to over voltage, and you may reduce their useful life.

2. Mounting: The SW-512 may be mounted in any convenient location in the automobile. The engine compartment near the battery is an excellent location since the primary lead length will be minimized. The power supply should be mounted in such manner that the cable grommets will not be subject to splash or excessive road dirt. In order to provide adequate electrical ground to the auto frame, use star washers on all mounting bolts to break through the anodized finish.

3. Make connections to the battery and the Jones plug as illustrated in Figures 2 and 3. All hardware for installation of the unit is included with the package.

WARRANTY POLICY

Swan Electronics Corporation warrants this equipment against defects in workmanship or material, except for transistors and diodes, under normal service for a period of one year from date of original purchase. This warranty is valid only when the enclosed card is properly filled in and mailed to the factory within ten days of the purchase date. Do not ship to the factory without prior authorization. This warranty is limited to repairing or replacing only the defective parts, and is not valid if the equipment has been tampered with, misused, or damaged.

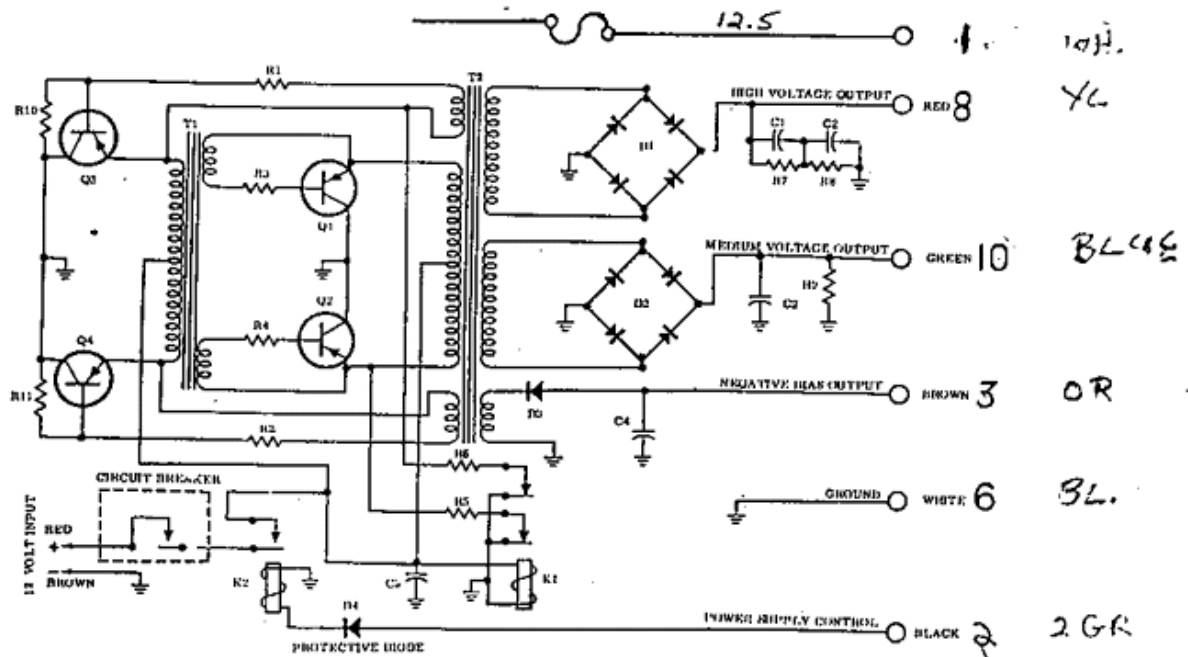


FIGURE 1--SCHEMATIC DIAGRAM, SW-512 POWER SUPPLY

PARTS LIST

Part No.	Description	Part No.	Description
R1, R2	270 ohms, 1/2 Watt, Carbon	Q1, Q2	Swan Part No. LS605S
R3, R4	0.24 ohm, 4 Watt Wirewound	Q3, Q4	Swan Part No. LS605B
R5	0.50 ohm, 5 Watt, Wirewound	D1	Swan Part No. DB1K5ADI
R6	5.6 ohm, 2 Watt, Wirewound	D2, D3	Diodes, Swan Part No. D-6K-5ADI
R7, R8, R9	100K ohms, 2 Watt, Carbon	D4	Swan Part No. D-1K-5ADI
R10, R11	3.3K ohms, 1/2 Watt, Carbon	T1	Swan Part No. 4041-1
C1, C2	20MFD, 500 Volts, Electrolytic	T2	Swan Part No. 50012STI
C3	40MFD, 450 Volts, Electrolytic	K1	Swan Part No. GR11D
C4	50MFD, 150 Volts, Electrolytic	K2	Swan Part No. MAGW88DX-2
C5	2000 MFD, 15 Volts, Electrolytic	CB	Circuit Breaker, Swan Part No. L1303

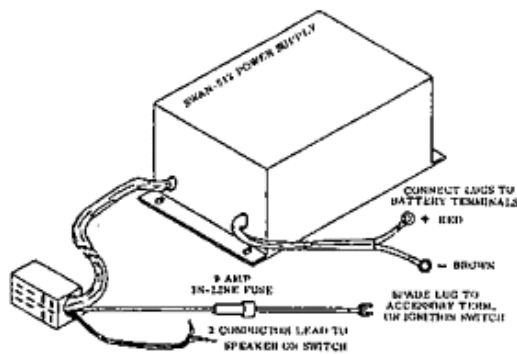


FIGURE 2--CABLING DIAGRAM

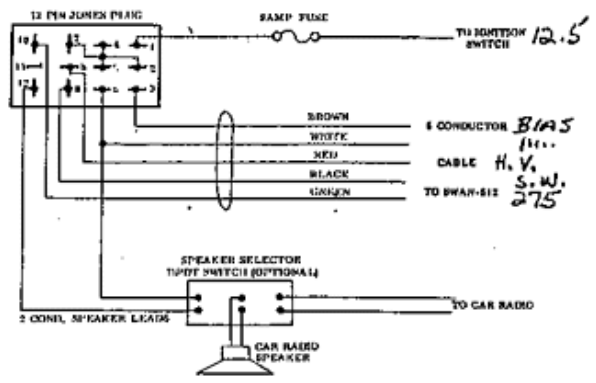


FIGURE 3--JONES PLUG WIRING DIAGRAM