



a GENERAL INSTRUMENT company

DE-SNOWER[®] VHF TV/FM PRE-AMPLIFIER

MODEL DSB-107L

SPECIFICATIONS

PASSBAND	54 to 216 MHz
GAIN (average)	Low Band/f-m: 31 dB
	High Band: 32 dB
FLATNESS	Low Band/f-m: 1.5 dB max. P/V
	High Band: 1.5 dB max. P/V
NOISE FIGURE (average)	Low Band/f-m: 5.3 dB
	High Band: 4.8 dB
MAX. RECOMMENDED INPUT LEVEL	12 dBmV per channel (for 7 channels)
DISTORTION	0.5% (-46 dB) cross-modulation at max. input
F-M TRAP REJECTION	14 dB (typical) 1.25 MHz nominal bandwidth
TERMINAL IMPEDANCES:	ANTENNA (input) 75 ohms
	POWER SUPPLY (output) 75 ohms
107	AMPL. (input) 75 ohms
	Output 300 or 75 ohms (selectable)
POWER REQUIRED	117 V a.c., 60 Hz, 40 mA, 5 W

DESCRIPTION

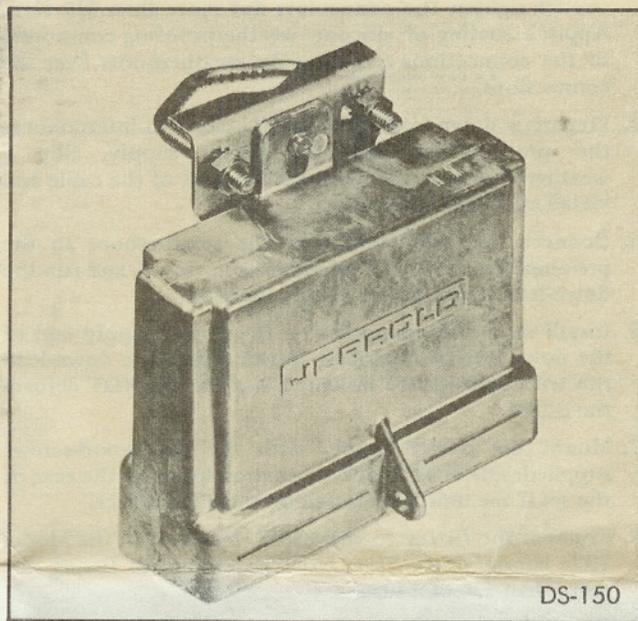
Model DSB-107L is an antenna-signal amplifier system designed for improving reception of VHF TV channels 2 thru 13 and the f-m band in semi-fringe areas. The system consists of a Model DSB solid-state pre-amplifier and a Model 107 remote a.c. power supply.

The pre-amplifier exhibits high gain, low noise, and high overload capabilities, employing three transistors. The transistor circuits are protected from lighting and static surges at the antenna input terminal. The input and output terminals are 75-ohm, "F" type fittings. A built-in rectifier and filter circuit powers the transistor stages. A tunable trap is provided for attenuating a strong, interfering f-m signal.



DS-152

Fig. 1c—Model 107 Remote A.C. Power Supply



DS-150

Fig. 1a—Model DSB Pre-amplifier



DS-156

Fig. 1b—Model DSB, Connector Panel View

The pre-amplifier is enclosed in a weather-proof metal housing which can be mounted on any flat surface, or can be mounted on the antenna mast with the accessories supplied.

Model 107 a.c. power supply is housed in a metal enclosure and is designed for indoor installation on any flat surface near a 117 V a.c. outlet. The unit delivers a nominal 11 V rms via its 75-ohm input terminal and the 75-ohm coaxial down-lead to the output terminal of the Model DSB. Model 107 has dual-output circuitry which permits connecting either a 75-ohm or 300-ohm impedance line. A shorting link permits selecting either output terminal.

INSTALLATION

1. The pre-amplifier should be mounted as close to the antenna terminal as practical. For mast mounting, use the bracket and U-clamp shipped with the equipment; for surface mounting, use the slots in the housing bracket and the two wood-screws supplied.
2. Prepare a length of RG-59/U cable sufficient to interconnect the antenna and the pre-amplifier. Slip a weatherboot over each end of the cable and install F-659 connectors on the ends as described in Instruction Sheet 435-650, included in the accessory package.
3. Connect the cable between the antenna and the ANT terminal on the pre-amplifier. Hand-tighten, then wrench-tighten the connectors not more than 1/6 turn. Apply a coating of silicone weatherproofing compound to the connections and slide the weatherboots over the connections.
4. Prepare a down-lead of RG-59/U cable to interconnect the pre-amplifier and the power supply. Slip a weatherboot over the pre-amplifier end of the cable and install an F-659 connector.
5. Connect the cable end with the weatherboot to the pre-amplifier PWR SUP terminal as in step 3, and run the down-lead to the power supply location.
6. Install an F-659 connector on the power supply end of the down-lead as described above; secure the down-lead run with appropriate insulated staples. DO NOT deform the cable!
7. Mount the power supply with the two wood-screws supplied; DO NOT block ventilation holes on the rear of the set if the unit is mounted on the TV receiver.
8. Connect the fitting to the AMPL terminal on the Model 107; hand-tighten, then wrench-tighten the fitting not more than 1/6 of a turn.
9. Receiver connections:
 - a. For a 75-ohm TV receiver input, prepare an RG-59/U jumper cable and install an F-659 connector on each end as described before; one connector is supplied in the accessory package. Connect one end of the jumper to the 75-OHMS fitting on the power supply, the other end to TV receiver or matching transformer, where used. Make sure that the link on the side of the Model 107 is OPEN.
 - b. For a 300-ohm TV receiver input, prepare a 300-ohm twin-lead jumper cable. Connect one end of the jumper to the 300-OHMS terminal set on the power supply, the other end to the VHF terminals on the TV receiver. Make sure that the link on the side of the power supply is CLOSED.
10. Plug the line cord of the power supply into the 117 V a.c. outlet. The DSB-107L equipment is now energized and operational.

TUNING THE F-M TRAP

1. Trap-tuning must be done before mast-mounting the pre-amplifier.
2. Use a 1/4" nut-driver for removing the four hex-head screws holding the pre-amplifier chassis in its housing, then slide the chassis out of the housing and flip it over to get access to the component side.
3. Connect the cable from a broadband antenna to the ANT terminals on the pre-amplifier, then connect a coaxial jumper equipped with F-59A or F-659 fittings between the 75 Ω PWR SUP terminal on the pre-amplifier and the 75 Ω AMPL terminal on the power supply. Connect a field strength meter to the 75 OHMS output terminal on the power supply. Plug the line cord of the power supply into a 117 V a.c. source. If possible, the field strength meter should be operated on batteries

to prevent any 60 Hz hum from entering the test set-up through the meter circuitry. Then tune the meter to the interfering signal.

4. Locate the trimmer capacitor at the edge of the printed circuit board behind the ANT terminals; tune the trimmer for a null indication on the meter.
5. Disconnect the test set-up, restore the pre-amplifier chassis to its housing, and proceed with the installation.

MAINTENANCE

This equipment will not require maintenance beyond checking that signal levels are correct and that cable connections are intact.

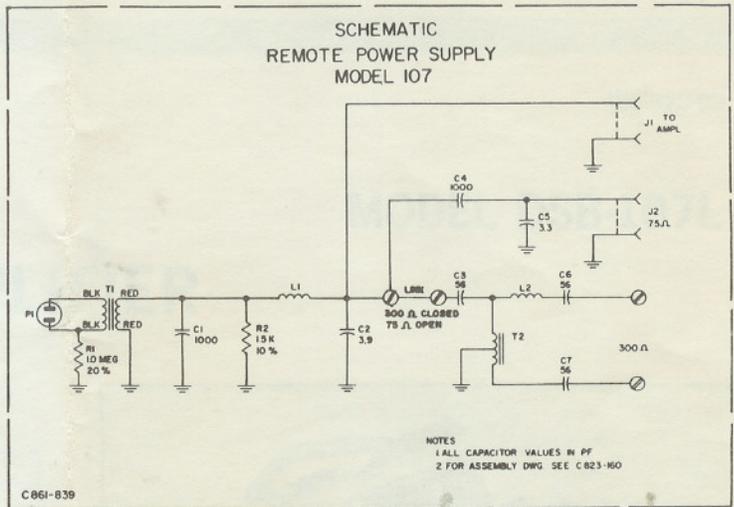
In case of equipment failure, the schematic circuit diagrams and parts lists given here will permit trouble-shooting and repair of the equipment. Repair should be carried out only by personnel familiar with solid-state circuitry and equipped with proper instruments.

ASSEMBLY: MODEL DSB PRE-AMP.	
REF. DWG. NO.: C863-063	
Schematic Designations or Part Descriptions	JERROLD Part No.
CAPACITORS	
C3	124-086
C4	124-104
C5	124-069
C6, 7, 8, 12 13, 14, 15	124-154
C9, 10	124-122
C11	128-572
C16	124-034
C17	S127-159
C18	S127-157
C19	124-058
CHOKES	
L6, 8	157-024
L10	157-006
CONNECTORS	
J1, 2	C821-155-0
DIODES	
CR1	137-788
CR2, 3	137-824
RESISTORS	
R3	112-101
R4	112-099
R5	112-098
R6	112-078
R7, 8	112-082
R9	112-986
R10	112-932
R11	112-097
R12	112-979
R13	112-920
R14	112-092
R15	112-930
R16	111-006
R17	112-975
R18	112-194
TRANSISTORS	
Q1, 2	132-185
Q3	S130-240-00

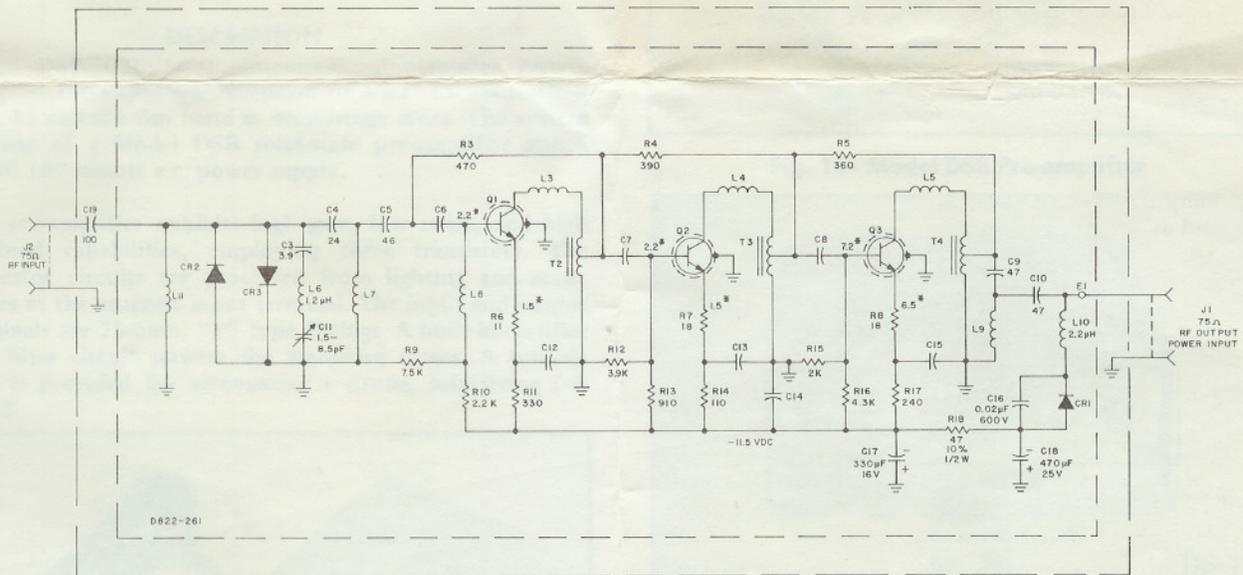
ASSEMBLY: MODEL 107 POWER SUPPLY

REF. DWG. NO.: C861-069

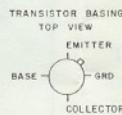
Schematic Designation or Part Description	JERROLD Part No.
CAPACITORS	
C1, 4	123-115
C2	122-034
C3, 6, 7	124-047
C5	122-010
CHOKE	
L1	157-006
CONNECTORS	
J1, 2	C821-155-0
-	659-131
RESISTORS	
R1	112-743
R2	112-383
TRANSFORMER	
T1	B141-203



**SCHEMATIC
DE-SNOWER AMPLIFIER
MODEL D5B**



NOTES:
1. UNLESS OTHERWISE SPECIFIED:
ALL UNMARKED CAPACITORS ARE 0.02µF, 200V
ALL RESISTORS ARE IN OHMS, 5%, 1/4W
ALL MARKED CAPACITORS IN µF
2. NUMBERS MARKED WITH ASTERISK (*) ARE 40 VOLTAGES
MEASURED TO THE POWER BUS (NEGATIVE SIDE OF C17).
USE A 20,000 OHM/VOLT METER. DO NOT USE AN
OHMMETER IN THIS CIRCUIT.



QUIESCENT OPERATING POINT

	Q1	Q2	Q3
V _{ce}	10V	10V	5V
I _c	3.8 mA	10 mA	25 mA
P _d	38 mW	100 mW	125 mW

D863-068-E

All data subject to change without notice.

WARRANTY

Each unit of Jerrold Equipment is warranted for 90 days against original factory imperfections in material and workmanship.

In the event any unit of equipment should fail in service during this period, pack the complete defective unit carefully, attach a letter stating the reasons the unit was believed to be defective, and return it to our Service Department, Jerrold Electronics Corp., 15th Street and Lehigh Avenue, Phila., Pa. 19132, prepaying transportation charges. It shall be repaired or replaced at no charge.

Such service or repairs as may be necessary as the result of abuse or accident are not included in the warranty. In the event of any service breakdowns after the warranty period, this unit may be returned for repairs at a nominal charge.

JERROLD ELECTRONICS CORPORATION
DISTRIBUTOR SALES DIVISION
Philadelphia, Pa. 19105