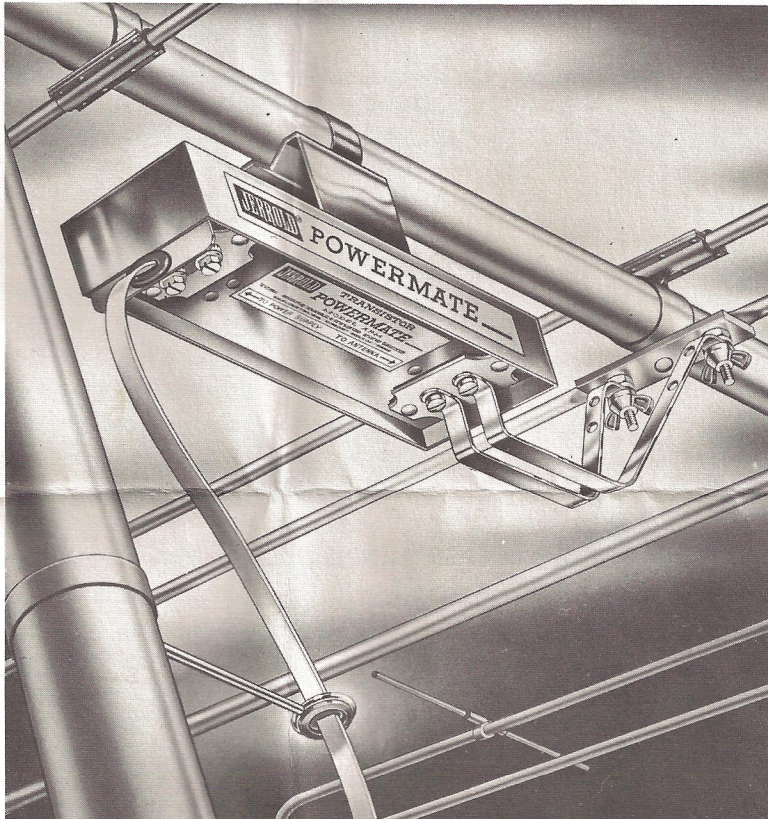


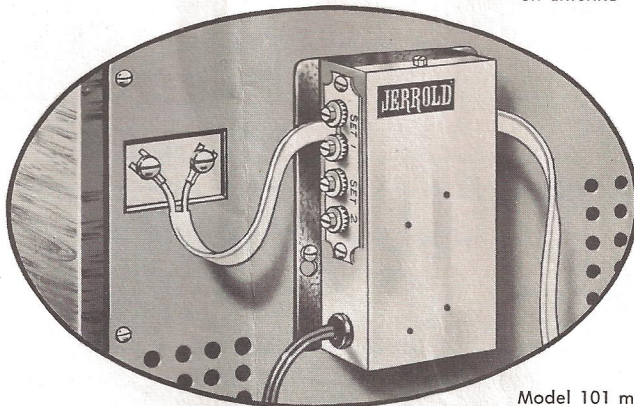
TRANSISTOR

POWERMATE

Model APM-101



Model APM mounted on antenna



Model 101 mounted on back of TV set

FIGURE 1

MODEL APM-101 (Model APM pre-amplifier and Model 101 remote power supply)

DESCRIPTION

The Jerrold Model APM-101 Powermate comprises a Model APM pre-amplifier and a Model 101 remote power supply.

PRE-AMPLIFIER — Transistor operation assures long life, trouble free performance. Aluminum weatherproof housing protects the unit both from the elements and spurious interfering signals. Special metal straps are provided for antenna mounting applications.

Although the very best reception will be obtained when mounting the pre-amplifier directly on the antenna, there may be instances where this is impractical in existing installations. The Powermate's universal mounting bracket permits installation on the antenna, mast, window or wall.

REMOTE POWER SUPPLY — Provides 15 volts AC to operate pre-amplifier; same 300-ohm line that carries signal down from pre-amplifier also carries the 15 volts AC up to the pre-amplifier; plugs into any 115 volt AC source, is normally mounted near TV or FM receiver and draws only 3 watts, less than an electric clock. This method assures uninterrupted service and eliminates expense or nuisance of batteries. Since the pre-amplifier is powered by AC rather than DC, as would be the case with batteries, it is not necessary to go through a time consuming "trial-and-error" procedure to determine polarity—nor is there any danger of damaging the transistor.

Dual outputs permit feeding two TV sets or one TV and one FM set—up to five sets can be fed by using Jerrold's MF-series couplers. Serrated washers are incorporated for positive permanent contact.

Jerrold amplified couplers (Model HSA-43 for 3 sets or HSA-44 for four sets) provide additional gain to insure better reception for multiple TV sets in fringe areas.

CONTENTS OF PACKAGE

- 1 Unit Model APM
- 1 Unit Model 101
- 2 Plain Washers
- 2 Lock Washers
- 2 Links
- 2 Screws
- 2 Wood Screws
- 1 Strap with Thumb Screw
- 1 Instruction Sheet 435-312.2
- 1 Warranty Card (Green)

INSTALLATION

It is recommended that Model APM be mounted as close to the antenna terminals as possible, preferably on the boom of the antenna. The run of twin-lead (antenna wire) between Model APM and Model 101 should be kept as short as possible for best results. However, for distances greater than 200 ft. see EXTENDED RUNS BETWEEN MODEL APM AMPLIFIER AND MODEL 101 REMOTE POWER SUPPLY.

STEP-BY-STEP PROCEDURE

(BOOM-MOUNTED MODEL APM)

1. Mount Model APM on boom as shown in Figure 2a and tighten the thumbscrew on the mast strap as much as possible. (Alternative mounting methods are shown in Fig. 2b and c.)
2. Connect links to terminals of antenna.
3. Connect links to respective ANT terminals of Model APM. The lock washer is placed next to the screw head, then the link, and next the plain washer. Tighten screw securely.
4. Run square-cut end of twin-lead through rubber grommet and place beneath the serrated washers of OUTPUT terminal of Model APM. Tighten screws as much as possible to insure a good connection.
5. Run twin-lead to Model 101 power supply and connect to the ANT terminals.
6. Connect another piece of twin-lead to SET #1 terminal of Model 101 and run to TV set (as shown in insert Figure 1) or coupler. This terminal provides the higher gain and should be used to feed the TV set. The SET #2 terminal may be used to feed an FM set or the more modern of two TV sets.
7. Connect another piece of twin-lead to SET #2 terminal of Model 101 and run to second TV set or FM set.
8. Connect power cord on Model 101 to 115 v ac power source.

SPECIFICATIONS

Gain "Set 1": Average Low Band (db)		Average High Band (db)	
Ch 2	18.25	Ch 7	13.8
Ch 3	17.4	Ch 8	13.2
Ch 4	16.7	Ch 9	12.6
Ch 5	17.4	Ch 10	12.0
Ch 6	18.2	Ch 11	12.6
FM	18.2 to 12 db	Ch 12	13.2
		Ch 13	13.9

**"Set 2" approx. 6 db down.

Maximum deviation from specification—
High band ± 1.4 db; low band $+ 1.1$ db $- 2.1$ db

Maximum Output: 32,000 microvolts per channel with seven channels in use at one-half of 1% inter-modulation distortion (0.5%).

Input Impedance: 300 ohms, balanced

Output Impedance: 300 ohms, balanced

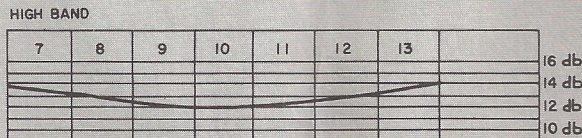
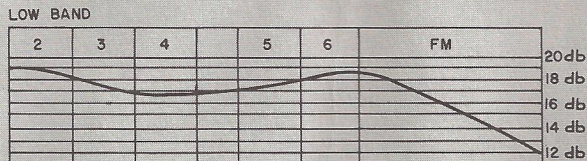
Noise Figure: 4.1 to 5.5 db, low band

5.4 to 7.0 db, high band

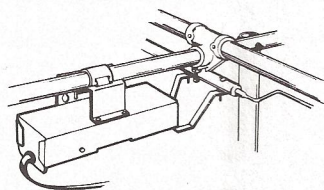
Power Consumption: 3 watts at 117 volts 60 cycle A.C.

Active Component: (1) 2N1742 Transistor

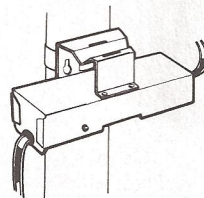
Typical Frequency Response and Gain*



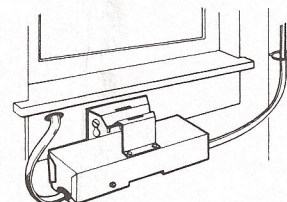
UNIVERSAL MOUNTING



Antenna
Fig. 2a



Mast
Fig. 2c



Window or Wall
Fig. 2b

If Model APM is mounted on the mast, on the side of the house, or indoors, it will be necessary to use twin-lead between the antenna terminals and the ANT terminal of Model APM. Other than this, the step-by-step procedure is the same.

EXTENDED RUNS BETWEEN MODEL APM AMPLIFIER AND MODEL 101 REMOTE POWER SUPPLY

When the Model APM amplifier is mounted on the antenna as shown in Figure 1 and is connected to the Model 101 remote power supply with no more than 200 feet of 300-ohm twin-lead between the two units, the signal at both the set #1 and set #2 outlets is amplified. Due to design, the signal at set #1 outlet is amplified twice as much as the signal at set #2 outlet.

In some cases, the location at which the antenna and the Model APM amplifier must be placed in order to receive a good picture may be more than 200 feet from the Model 101 remote power supply. In this case, the function of Model APM is to provide sufficient gain to overcome signal losses in the down-lead.

In other cases, it may be desirable to use coaxial cable with transformers between Models APM and 101 to insure against spurious signal or noise pick-up. Jerrold Model TO-374 transformers are recommended because they are specially designed to pass ac current.

The DISTANCE CHART gives the maximum distance in feet between Models APM and 101 according to various types of down-lead to insure that the signal loss in the down-lead is overcome when (a) both outlets on Model 101 are used and (b) when only set #1 outlet is used.

DISTANCE CHART

Distances in feet between Model APM amplifier and Model 101 remote power supply

<u>Types of Down-Lead</u>	<u>Using Set #1 & Set #2 Outlets</u>	<u>Using Set #1 Outlet Only</u>
RG-59/U*	70	170
RG-6/U*	100	230
RG-11/U*	130	320
300-Ohm Twin-Lead	300	600
#14 Copper Pair	560	1240
#12 Copper Pair	840	1840
#14 Copperweld Pair	170	360
#12 Copperweld Pair	340	740

*With two Jerrold Model TO-374 transformers.

ELIMINATING INTERFERENCE FROM STRONG LOCAL STATION

The Powermate is ideally suited for fringe and semi-fringe area reception; however, as is the case with any tube or transistor unit, a strong local signal can overload the pre-amplifier. This condition is evidenced by windshield wiper and vertical instability on the TV screen. Jerrold manufactures special low-priced band-pass filters (Model TX) to combat this problem. Ask for special bulletin.

REPLACEMENT PARTS LIST AMPLIFIER—MODEL APM

<u>Schematic Designation</u>	<u>Description</u>	<u>Jerrold Part No.</u>
CAPACITORS		
C-5, 6	Disc 100 MMF \pm 20%	124-111
C-7	Disc 15 MMF 5% CRL DD	124-114
C-8	1000 MMF	123-115
C-9	Gim. 0.47 MMF 10% Q C	122-002
C-10	1000 MMF	123-115
C-11	Disc 13 MMF 5%	124-115
C-12	100 MMF 24 V C-D BBRX-100-25 w/Sleeve	127-031
C-13	Disc 24 MMF 5% Dia. $\frac{3}{8}$ " CRL DD	124-104
C-14	Disc 3.3 MMF 5%	124-113
C-15	1000 MMF	123-115
C-16	Disc 75 MMF 10%	124-052

<u>Schematic Designation</u>	<u>Description</u>	<u>Jerrold Part No.</u>
TRANSISTOR		
Q-1	2N1742 Philco	130-002

<u>Schematic Designation</u>	<u>Description</u>	<u>Jerrold Part No.</u>
RESISTORS		
R-6	1.0 Meg. Ohm 20% $\frac{1}{2}$ W	112-743
R-7	1.0 Meg. Ohm 20% $\frac{1}{2}$ W	112-743
R-8	12 K Ohm 10% $\frac{1}{2}$ W	112-500
R-9	2700 Ohm 10% $\frac{1}{2}$ W	112-416
R-10	1 K Ohm 10% $\frac{1}{2}$ W	112-362

<u>Schematic Designation</u>	<u>Description</u>	<u>Jerrold Part No.</u>
RECTIFIER		
SR-1	Special Int'l. Q1H. Reverse Current Below 0.25 MA @ 20 V DC	137-252

<u>Schematic Designation</u>	<u>Description</u>	<u>Jerrold Part No.</u>
TRANSFORMERS		
T-3	Coil	156-009
T-4	Coil	156-009
T-5	Coil	156-009

REPLACEMENT PARTS LIST REMOTE POWER SUPPLY—MODEL 101

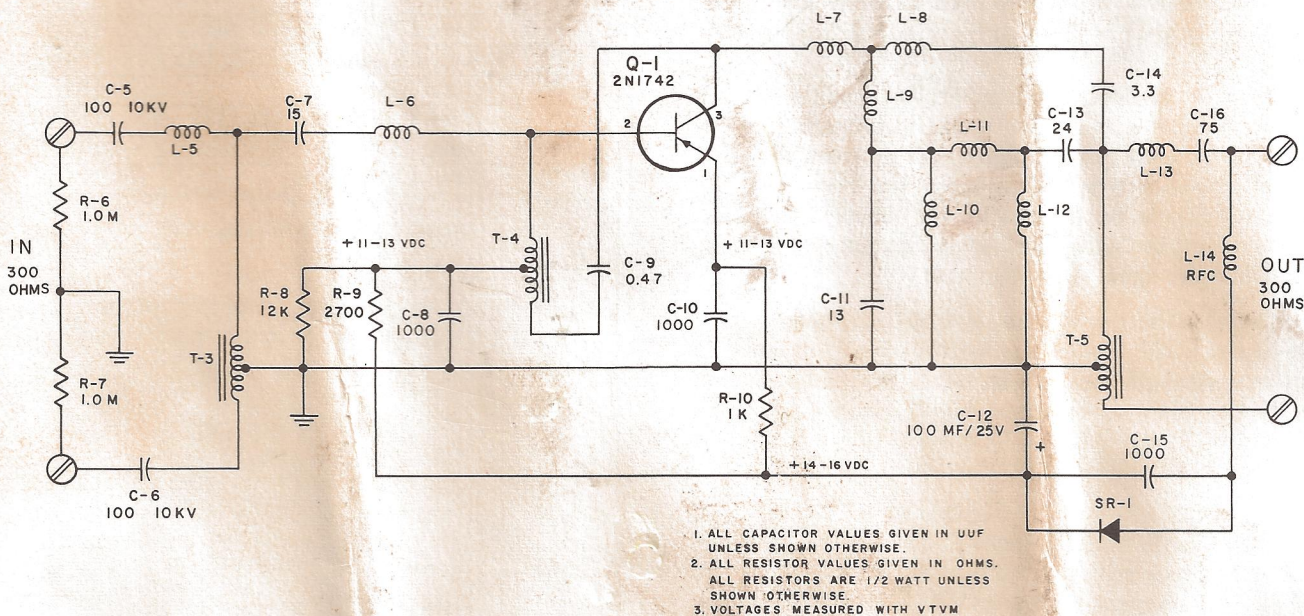
<u>Schematic Designation</u>	<u>Description</u>	<u>Jerrold Part No.</u>
CAPACITORS		
C-1A	Disc. Dual.	
C-1B	.001-.001 MF GMV 600 V DC	124-051
C-2	Cer. Disc. 330 MMF 600 V Erie GP-2-831	124-036
C-3	Cer. Disc. 330 MMF 600 V Erie GP-2-831	124-036
C-4	Tub. Cer. 1.0 MMF \pm .25 MMF 600 V TCZ	121-003

<u>Schematic Designation</u>	<u>Description</u>	<u>Jerrold Part No.</u>
RESISTORS		
R-1	1.0 Meg. Ohm \pm 20% $\frac{1}{2}$ W	112-743
R-2	510 Ohm \pm 5% $\frac{1}{2}$ W	112-326
R-3	1.0 Meg. Ohm \pm 20% $\frac{1}{2}$ W	112-743
R-4	68 Ohm \pm 20% $\frac{1}{2}$ W	112-218
F-5	68 Ohm \pm 20% $\frac{1}{2}$ W	112-218

<u>Schematic Designation</u>	<u>Description</u>	<u>Jerrold Part No.</u>
TRANSFORMERS		
T-1	Line Transformer 115/15 V	141-177
T-2	Coil	156-390

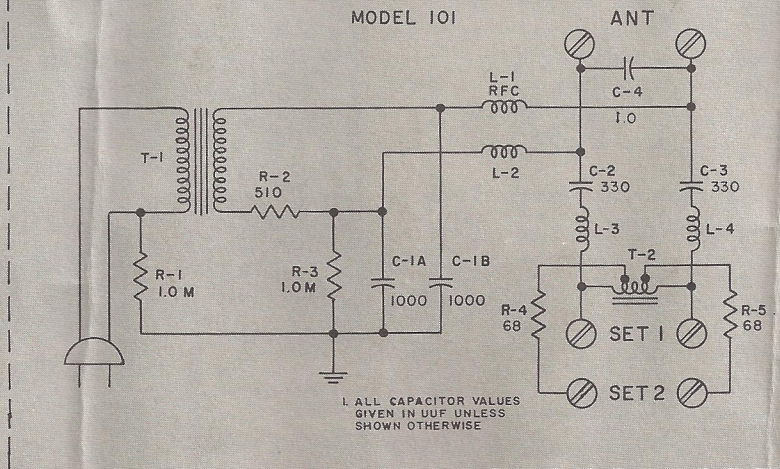
SCHEMATIC

PREAMPLIFIER (CHANNELS 2-13) MODEL APM



SCHEMATIC

REMOTE POWER SUPPLY MODEL 101



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