



A BROADBAND TV DISTRIBUTION AMPLIFIER ... Requiring No External Line Equalizer

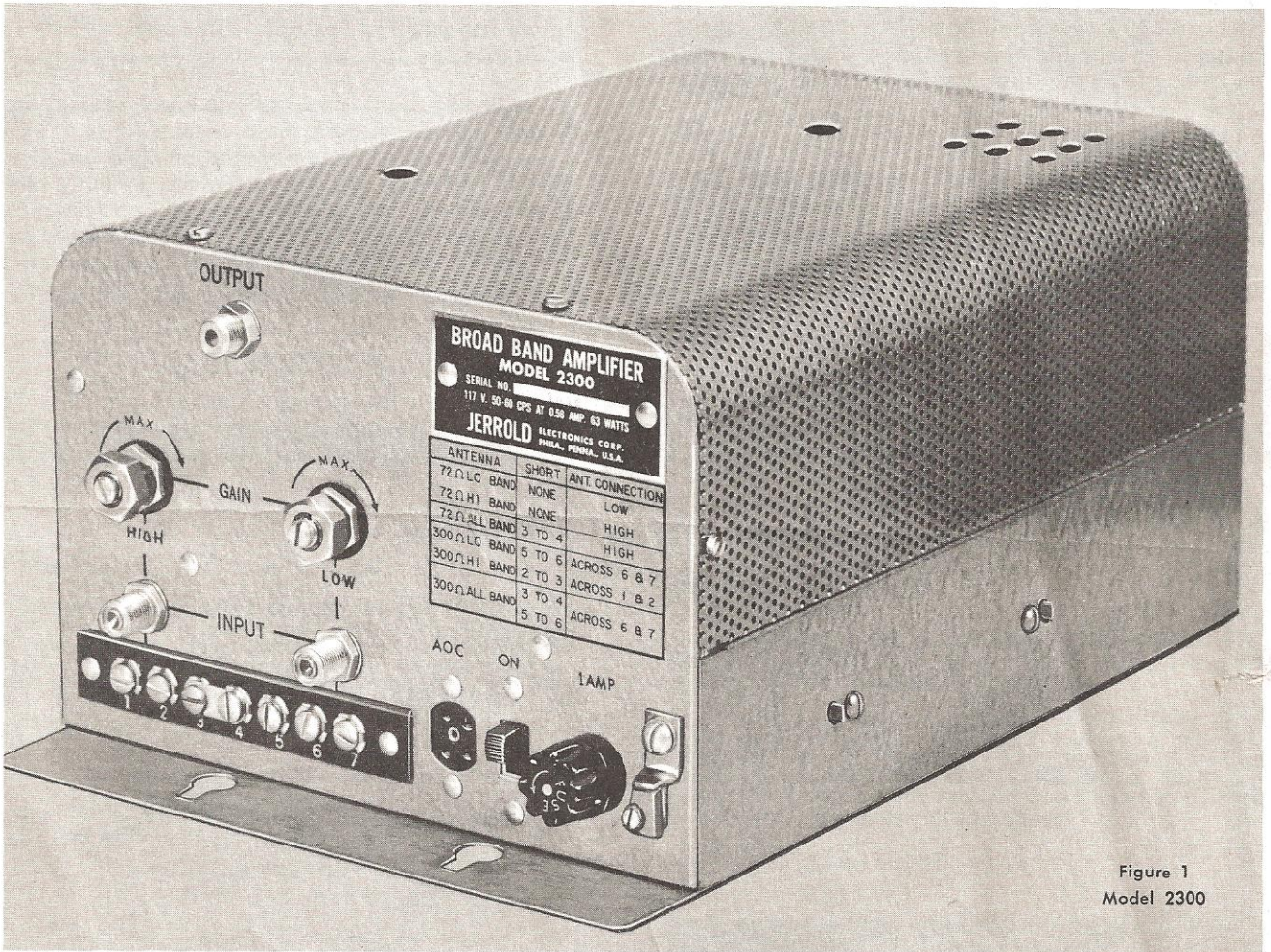


Figure 1
Model 2300

Features:

- Individual *Tilt* and *Gain* Controls on Both High and Low Bands
- Full VHF-TV Bandwidth
- 75 or 300 Ohm Input
- High Gain and Output
- Response Flat for Color
- Cascadable

Applications

A BROADBAND TV DISTRIBUTION AMPLIFIER IN

- Garden Courts
- Motels and Hotels
- Building Systems

Description

Jerrold Model 2300 is a deluxe broadband TV Distribution amplifier. Utilizing only seven tubes, the amplifier covers the complete high and low bands with a minimum gain of 38 db. The maximum undistorted output, for a single amplifier, is 0.3 V per channel. This output figure is true for nine channel operation—five channels in the low band, and four channels in the high band. The high band utilizes a 12BY7A output stage, a 6BQ7A driver stage, a 6CB6 amplifier stage and a 6BQ7A low noise input stage. The low band utilizes a 12BY7A output stage, a 6BQ7A driver stage and a 6BQ7A low noise input stage. The frequency response on both the high and low bands is flat within ± 1 db, permitting reasonable cascaded operation.

The high and the low bands are individually controlled for both gain and tilt, making the operation of the bands independent of each other. The variable tilt control makes it possible to set the output of any amplifier so that it will compensate for the cable it is feed-

ing, and give a flat input to the next amplifier. Since the tilt control may be considered a variable line equalizer, **NO EXTERNAL LINE EQUALIZERS ARE NEEDED WITH THE MODEL 2300.**

The input stage of Model 2300 may be set by adjustable links to accept a variety of either 300 or 75 ohm antennas with an input VSWR of less than 1.5. The output stage is designed for 75 ohm coaxial cable. This eliminates the possibility of R.F. feed-back from the output to the input of the unit.

Model 2300 is housed in a handsome silver-gray metal cabinet. A perforated cover affords protection and sufficient ventilation for the amplifier. All operating controls are located on the front panel for convenience. Access to the high and low band tilt-controls is easily made through ports in the perforated cover. Model 2300 is designed for a-c operation on 117 Volts 60 cps and requires only 63 watts of power.

SPECIFICATIONS

GAIN:

38 db minimum

BANDWIDTH:

34 MC LOW band

42 MC HIGH band

FLATNESS:

± 1 db

MAXIMUM UNDISTORTED OUTPUT:

0.3 Volt/Channel for 9 Channels
—1 unit.

0.15 Volt/Channel for 9 Channels
—5 units in cascade.

INPUT:

75 ohms or 300 ohms, VSWR less than 1.5.

OUTPUT:

Designed to work into a 75 ohm load.

GAIN CONTROL:

16 db range—Response flat within 1 db over the complete range.

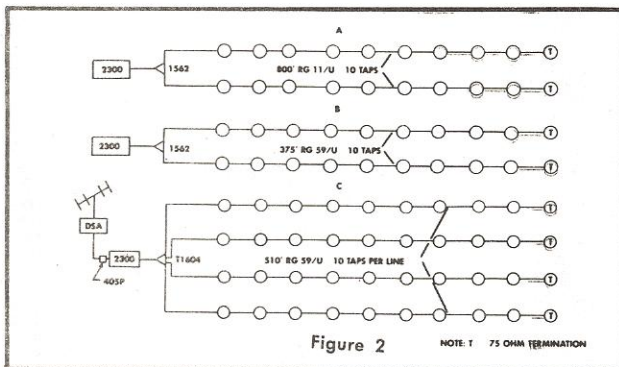
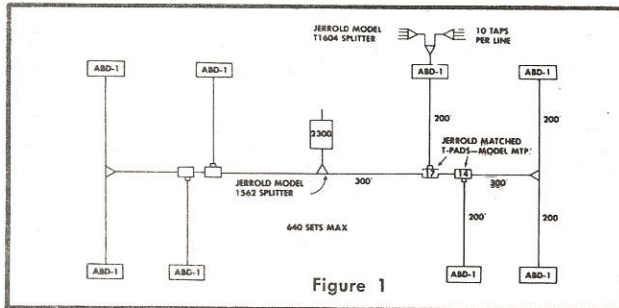
POWER

REQUIREMENTS:

117 V A-C, 0.58 amps, 63.0 watts.

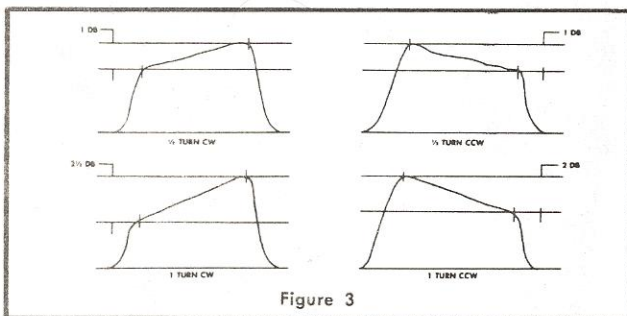
Applications

Figures 1 and 2 show some suggested ways of using the Model 2300 as distribution amplifiers. Figure 1 shows a large distribution system utilizing RG-11/U type cable and Figure 2 shows small distribution systems with both RG-11/U and RG-59/U type cable.



Tilt Control

The unit is pre-aligned through 800 feet of RG-11/U cable. This yields a tilt of 3.0 db on the low band and 2.6 db on the high band. The tilt controls are accessible through ports in the perforated cover of the amplifier. (L-30 controls the low band and L-7 controls the high band.) Figure 3 shows typical curve changes for both tilt controls.



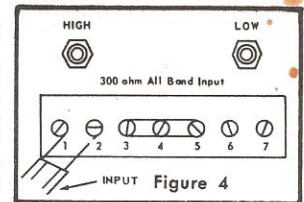
Input Connections

Model 2300 has been designed to permit utilization of virtually any type of television antenna.

For example, if a single 300 ohm antenna is used, the lead-in is connected to terminals 1 and 2. Connecting links are placed from 3 to 4 and from 4 to 5. The 75 ohm coaxial connectors are not used.

A type of installation that is most economical and can be utilized when all TV stations are in the same general direction is shown in Figure 4.

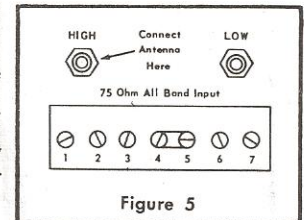
It may be more desirable to use separate high and low band 300 ohm antennas. In this case the high band is fed to terminals 1 and 2, and the low band is fed to terminals 6 and 7. Connecting links are placed from 3 to 4 and 5 to 6. Again, coaxial connectors are not used.



This type of installation is especially useful when low band channels are in one general direction and high band channels are in another. It is also useful when yagi type antennas are used.

Additional antenna gain may be realized by using a separate low band yagi type and high band yagi type even though stations are in the same general direction.

If a 75 ohm all band cable is used, connect the lead to the high band coaxial connector and place the jumper across terminals 4 and 5. If 75 ohm high and low antennas are used, leads are connected to the high and low coaxial inputs and NO CONNECTING LINK IS NEEDED.



Gain Control

The gain control potentiometers are equipped with lock-nuts. These may be tightened, after the desired output has been established, to prevent gain shifts from mechanical vibrations or shocks the amplifier may receive. For manual operation of the gain controls, the grids of V-1A, V-2 and V-5A are referenced to ground.

Mounting

Model 2300 may be shelf-mounted or hung on the wall. When hung, the unit may be reversed on the bottom plate so that the controls will face up or down.

The unit should be well ventilated at all times. If the amplifier is located in a rainproof housing, or placed in relatively close quarters, the perforated cover may be removed for maximum ventilation. If the Model 2300 is to be mounted outdoors, and exposed to the weather, it should be enclosed in a weather-proof cabinet.

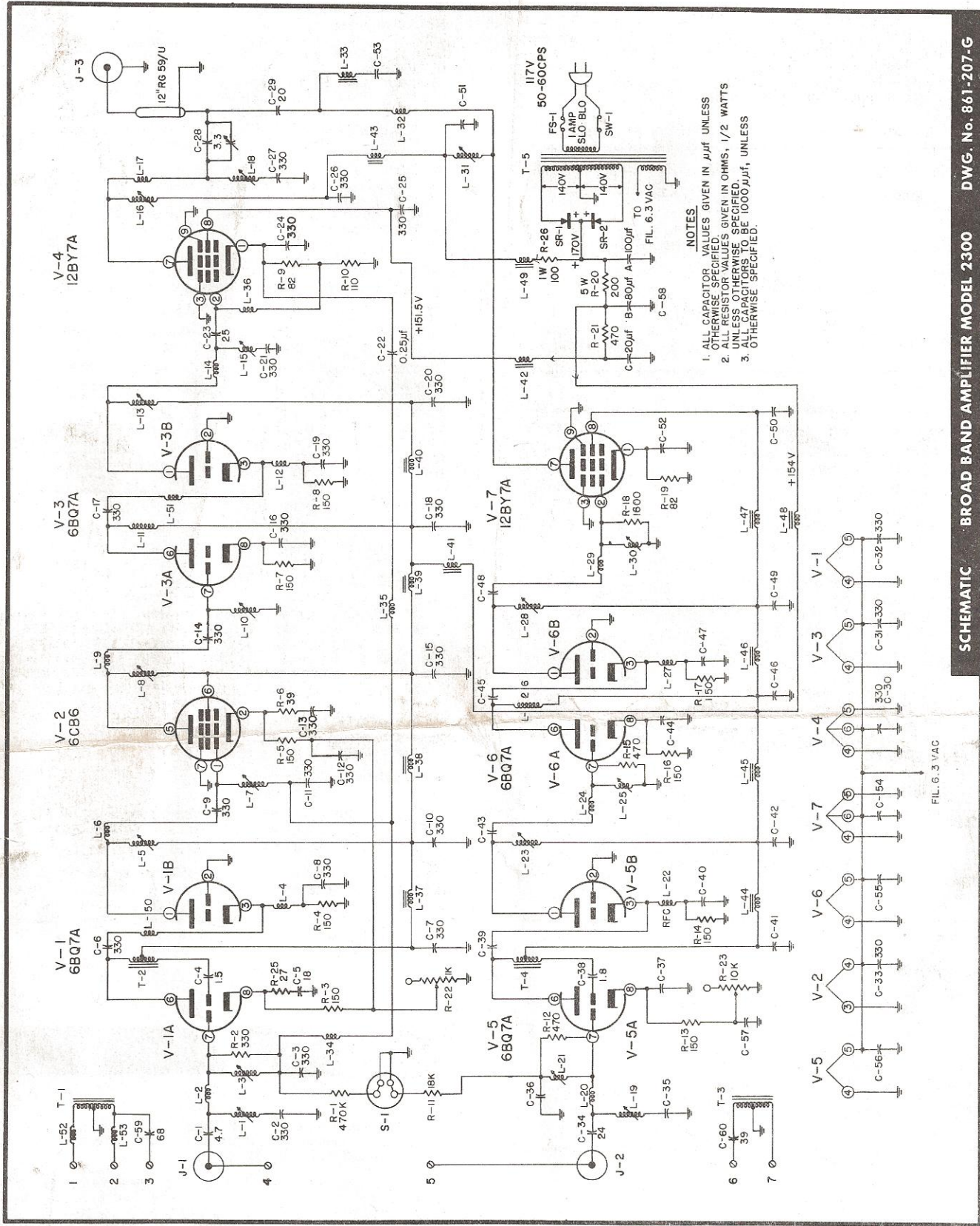
MAINTENANCE

All tube replacements should be made by the direct substitution method while observing the effect on the gain of the amplifier.

All components of this unit are designed for continuous service and long life. In the event of component failure, refer to the attached schematic A-1600 for operating voltages and circuit data. For complete alignment data, write to Jerrold Electronics Corporation.

The Model 2300 is warranted against defective workmanship or material for a period of 90 days from date of sale. Should any defect arise from the above causes within the warranty period, we will promptly repair or replace the unit upon our inspection of it. To protect your warranty, fill out and mail the enclosed warranty card immediately.

If replacement parts are required for servicing they may be ordered from Jerrold Electronics Corporation.



- NOTES**
1. ALL CAPACITOR VALUES GIVEN IN μ F UNLESS OTHERWISE SPECIFIED.
 2. ALL RESISTOR VALUES GIVEN IN OHMS, 1/2 WATTS UNLESS OTHERWISE SPECIFIED.
 3. OTHERWIS SPECIFIED.

FIG. 6.3 VAC

Data subject to change without notice.

JERROLD ELECTRONICS CORPORATION

15th Street and Lehigh Avenue • Philadelphia 32, Pennsylvania
 CANADA: Jerrold Electronics (Canada) Ltd., Toronto, Canada.

