JERROLD

INSTRUCTION SHEET

DS-PIS-023 435-308.1

HI-OUTPUT BROAD-BAND TV/FM AMPLIFIER

MODEL 2880

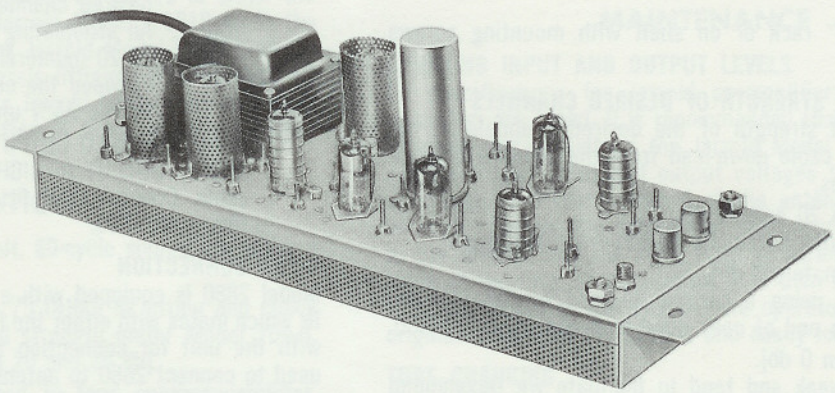


Fig. 1—MODEL 2880 (cover removed)

CONTENTS OF PACKAGE

- 1 Unit Model 2880
- 2 Mounting brackets
- 4 Mounting screws
- 2 Male connectors
  Model F-59 (separate ferrules)
  or Model F-59A (built-on ferrules)
- 1 Warranty Card 435-258
- 1 Instruction Sheet 435-308.1

SPECIFICATIONS

BANDWIDTH	54-108 and 174-216 mc
MINIMUM GAIN	
LO-BAND	41 db
HI-BAND	44 db
FM-BAND (92 mc)	41 db
(108 mc)	20 db (approx.)
IMPEDANCE (input and output)	75 ohms
OUTPUT CAPABILITY PER CHANNEL (for 7 channels at ½% cross-modulation)	1.0 v (60 dbj*)
FLATNESS OF RESPONSE	1.5 db p/v max.
TILT	Factory-aligned to compensate for 590′ of RG-59/U or 1180′ of RG-11/U.
INPUT PAD (lo-band)	Equipped with PIP-0. Replace with desired value PIP-3, 6, 9, 12, 15, 18 or 21.
GAIN CONTROLS (hi and lo-band)	Manual type, 14 db range.
AUTOMATIC OVERLOAD CONTROL	Available via plug-in Model OC-238.
TUBE COMPLEMENT	(1) 6EH7, (1) 6DJ8, (1) 6ES8, (2) 6EJ7, (2) 12BY7A, (3) TJ-880.
POWER SOURCE	117 v, 60 cps
POWER CONSUMPTION	92 watts
DIMENSIONS	17″ L, 7″ W, 5¼″ H
SHIPPING WEIGHT	18 lbs.

*0 dbj = 1,000 microvolts across 75 ohms.

DESCRIPTION

Jerrold Model 2880 is a high-output, high-gain, broad-band amplifier covering the entire TV/FM band. The high (one-volt) output makes Model 2880 the ideal amplifier for distribution systems in apartment buildings, hotels, schools, hospitals, or in similar installations where extra-long cable runs are desired. The unit is equipped with individual hi and lo-band manual gain controls. Plug-in attenuation of the lo-band input is provided to compensate for varying cable losses due to differences in frequency when the amplifier is used as a repeater in a system. In addition, each of the hi and lo-band amplifiers has been factory-set for tilt compensation. A receptacle is also provided for easy plug-in connection of an automatic overload control unit Jerrold Model OC-238.

INSTALLATION

GENERAL

Model 2880 is specifically designed for systems requiring extra-long cable runs. In order to take full advantage of the amplifier's output capabilities, it is necessary to measure in dbj the signal levels of the desired channels not only at the input and the output of the amplifier but also at the extremity of each feeder line in the system.

A Jerrold Field Strength Meter Model 704-B is the ideal equipment for quickly determining precise signal levels in dbj. Therefore, the information given in this section is predicated upon the use of Model 704-B.

The only alternative to the use of a field strength meter is to first completely install the system and then to use a portable TV receiver to check picture quality at each feeder line extremity. An FM receiver may be used in the same way to check FM sound quality.

LOCATION

1. A 117-v, 60-cycle power source (non-switchable power available 24 hours a day) should be readily accessible.
2. Provide space for adequate separation of input and output cables as well as the power cord (i.e. these cables should **never** be lashed together to use one opening for leading into and out of the amplifier).
3. Provide sufficient ventilation and protection from the weather for the amplifier.
4. Provide adequate space for mounting any auxiliary equipment (preamplifiers, pads, mixing networks, splitters, etc.) which may be required.

MOUNTING

Mount 2880 in 19″ rack or on shelf with mounting screws provided.

DETERMINE SIGNAL STRENGTH OF DESIRED CHANNELS

Measure the signal strength of the desired channels at the end of the coaxial cable down-lead from the antenna or combination of antennas.

1. Signals between 20 and 25 dbj.
   No preamplification necessary to achieve rated output.
2. Signals approximately 0 dbj.
   We recommend using a Jerrold All-Band Amplifier Model ABD-1A between end of coax down-lead and input of 2880.
3. Signals **less** than 0 dbj.
   If signals are weak and tend to fluctuate we recommend the use of plug-in Jerrold Automatic Overload Control Model OC-238.
   a. Broad-band antennas
      We recommend using a Jerrold "De-Snower" broad-band, mast-mounted preamplifier either Model DSA-132 (amplifies TV channels only) or Model DSA-202 (amplifies TV and FM) between the antenna output and input of 2880.
   b. Cut-to-channel yagis
      We recommend using single-channel mast-mounted preamplifiers Jerrold Model DSA-(*) (* = specify channel) ahead of the mixing networks.

ANTENNA CONNECTIONS

Model 2880 may be used with any commercially available TV/FM antenna or with any combination of antennas.

1. 300-ohm antennas
   Accessory equipment required—Jerrold 75-300 ohm transformer Model TO-374 (mast mounted).
   a. Broad-band TV/FM antenna
      Connect output of antenna to twin-lead terminals on TO-374. Connect output of TO-374 to coaxial cable down-lead.
   b. Groups of broad-band antennas or antenna arrays
      The outputs of all combinations of 300-ohm output antennas are most efficiently combined by using the proper Jerrold Antenna Mixing Networks Models TX in in various combinations. These units may be mast-mounted singly or in groups between the antenna output and the input of transformer Model TO-374. Instruction Sheet 435-255 (shipped with all TX units) contains complete instructions.
2. 75-ohm antennas
   a. Lo-band TV/FM antenna and hi-band TV antenna. Accessory equipment required—Jerrold VHF Cross-over Network Model LHS-76.
      Connect lo-band TV/FM antenna output to LOW fitting on LHS-76 via RG-59/U cable and connect hi-band TV antenna output to HIGH fitting on LHS-76. Connect COM fitting on LHS-76 to 75 OHM IN fitting on 2880.
   b. Group of lo-band cut-to-channel yagis and hi-band cut-to-channel yagis. Accessory equipment required—Jerrold Antenna Mixing Networks Models AMN-LO and AMN-HI, and Jerrold VHF Cross-Over Network Model LHS-76.
      Connect the outputs of up to three non-adjacent lo-channel yagis to the INPUT fittings on AMN-LO via RG-59/U cable. Connect the outputs of up to four non-adjacent hi-channel yagis to the INPUT fittings on AMN-HI via RG-59/U cable.
      Note 1. Model AMN-LO is factory-aligned for channels 2, 4, and 5 and AMN-HI for channels 7, 9, 11, and 13. If channels other than these are desired, these units must be re-aligned for the desired channels.
      Note 2. An attenuating pad Jerrold Model PDL-3, 6, 10, or 20 (numerals indicate db) may be inserted between the output of any yagi and the input of the AMN unit.
      Connect AMN-LO OUTPUT to LOW fitting on LHS-76 and AMN-HI OUTPUT to HIGH fitting on LHS-76 via RG-59/U cable. Connect COM fittings on LHS-76 to 75 OHMS IN fitting on 2880.

INPUT CONNECTION

Model 2880 is equipped with a 75-ohm input fitting 75 OHMS IN which mates with either the F-59 or F-59A connector supplied with the unit for connection to the RG-59/U cable normally used to connect 2880 to antenna down-lead or to other equipment. If RG-11/U cable is used, a Jerrold Model AF-101 connector will be required. If RG-6/U cable is used, a Jerrold Model F-56 connector will be required.

1. Prepare RG-59/U cable (F-59 or F-59A connectors). See Fig. 2. Cut cable flush. Remove 7/16″ of outer jacket without nicking shield. Fan back shield over outer jacket and trim off shield close to outer jacket. Remove ¼″ of dielectric without nicking center conductor. Without bending center conductor, scrape off any fuzz and inspect end for burrs. If present, trim with cutters.
2. Attach F-59 or F-59A connector to cable.
   F-59: Place ferrule on outer jacket of prepared cable end. Push F-59 mandrel between cable dielectric and shield as far as possible. Center conductor should now project about 1/16″ beyond the outer rim of the swivelled fitting. Slide ferrule over the cable jacket, cable shield, and mandrel. Crimp ferrule with Jerrold crimping tool Model PL-601 or PL-602.
   F-59A: Push F-59A mandrel between cable dielectric and shield until built-on ferrule is complete over cable outer jacket. Crimp ferrule with Jerrold crimping tool Model PL-601 or PL-602.

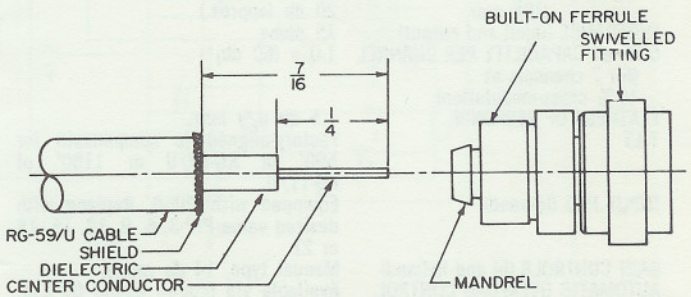


Fig. 2—RG-59/U Prepared for F-59 or F-59A Male Connector

3. Connect prepared cable end to 75 OHMS IN fitting on 2880. Hand-tighten the swivelled fitting on F-59 or F-59A firmly and then wrench-tighten no more than 1/6 turn.

OUTPUT CONNECTION

The output fitting 75 OHMS OUT on Model 2880 is exactly similar to the input fitting and coaxial cable is connected to it in the same manner.

The output of Model 2880 may be used to feed another amplifier or to feed as many as 8 feeder lines. If two feeder lines are required we recommend the use of one of the Jerrold two-way splitters Models 1502, 1562, or 1582. If four feeder lines are required the Jerrold four-way splitter Model 1514 should be used. A combination of either of Models 1502, 1562, or 1582 with two Model 1514 splitters will feed eight feeder lines.

In addition, the output of Model 2880 may be fed to either the new eight-way coaxial splitter Jerrold Model G-1518 or to the new four-outlet isolation network Jerrold Model G-1404. These units employ new "GAMMA" chassis fittings which accept new push-on coaxial cable connectors Jerrold Model G-59 to permit quick connection and disconnection of their respective output cables.

OPERATION

1. Plug Model 2880 into 117-volt, 60-cycle source and allow a few minutes warm-up.
2. Disconnect input cable from 75 OHMS IN fitting and check input signal levels with field strength meter Model 704-B. Signals should read between 20 and 25 dbj.
3. If Model 2880 is to be used to feed another amplifier, determine the length and type of cable used to reach the next amplifier location. Then replace PIP-0 pad with the proper value PIP pad (PIP-3, 6, 9, 12, 15, 18, or 21) to compensate for the difference in attenuation between hi and lo-band signals traveling through the same length of cable. If Model 2880 is used to feed up to eight feeder lines, leave PIP-0 in place.
4. If automatic overload control is to be used, plug Jerrold Model OC-238 into proper receptacle.
5. Re-connect input cable and turn HIGH BAND GAIN ADJ and LOW BAND GAIN ADJ controls fully clockwise (maximum gain).
6. Disconnect output cable from 75 OHMS OUT fitting and use Model 704-B to measure output signal levels.
7. Set desired output signal levels by adjusting the manual gain controls on Model OC-238 (if used) or on Model 2880 if Model OC-238 is not used.
8. Re-connect output cable to complete 2880 installation.

MAINTENANCE

CHECKING INPUT AND OUTPUT LEVELS

All specifications for Jerrold preamplifiers and distribution amplifiers are listed. It is recommended that a calibrated Field Strength Meter, such as the Jerrold Model 704-B, be used to set the proper input and output voltages to the Model 2880. It is suggested that a record of the antenna signal available on each antenna, the output and input level of each amplifier in the system, and the input level to various TV receivers be made at the time of installation. If it then becomes necessary to locate faults in the system, the operator can refer to the original records of the system and easily locate the trouble.

TUBE CHANGING

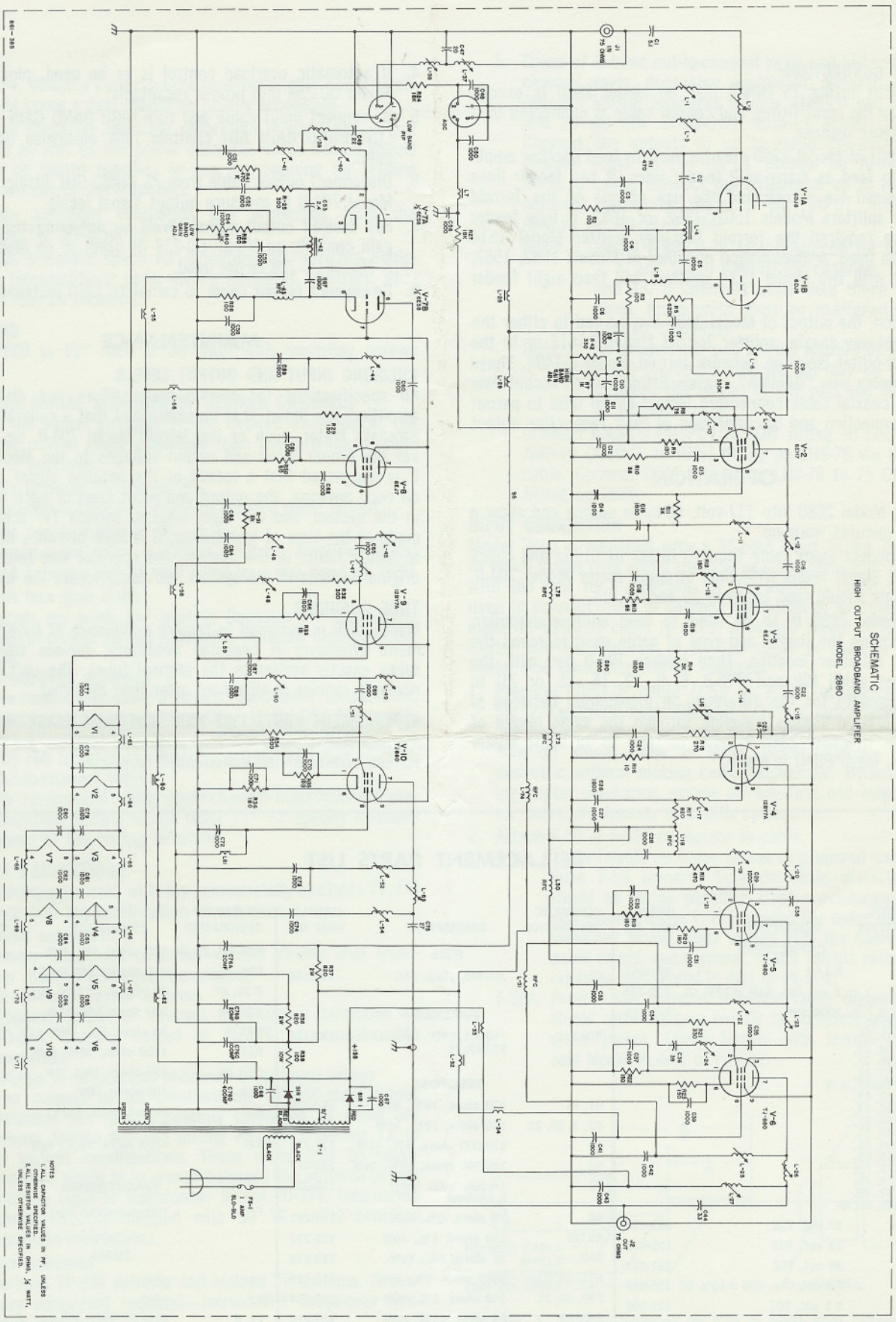
Model 2880 is designed to require a minimum of tube replacement. Whenever it becomes necessary, replace tubes with tubes exactly similar to the original tubes. The unit will not normally require re-alignment after tube changing.

REPLACEMENT PARTS LIST AND SCHEMATIC DIAGRAM

A replacement parts list and schematic diagram are included for the benefit of the experienced technician.

REPLACEMENT PARTS LIST

SCHEMATIC DESIGNATION	DESCRIPTION	JERROLD PART NO.
	CAPACITORS	
C1	5.1 uf	121-051
C2	1 uuf Cap. GIM ±10% QC	122-004
C3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 21, 22, 24, 26, 27, 28, 29, 30, 31, 33, 34, 35, 37, 39, 41, 42, 43, 48, 50, 51, 52, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88	1000 uuf	123-115
C75	27 uuf, TCZ	121-018
C23	18 uuf, TCZ	121-046
C36	39 uuf, TCZ	121-022
C38, 53	2.4 uuf, Cap. GIM ±10% QC	122-032
C44	3.3 uuf, TCZ	121-006
C47	20 uuf, TCZ	121-014
C49	22 uuf, TCZ	121-015
C76A, B, C, D	TL Elec. Cap. 400-100-20-20/150V Aerovox E4D-1370	127-951
	FUSE	
FS-1	Slo-Blo, 1¼A, 3AG	101-346
	RECTIFIER	
SIR-1, 2	750 mA, 600V, PIV, Solitron ST-CER-71	137-708
	RESISTORS	
R1, 18	470 ohms, 10%, ½W	112-320
R2, 3, 26, 28	100 ohms, 10%, ½W	112-236
R5	620,000 ohms, 5%, ½W	112-713
R6	330,000 ohms, 10%, ½W	112-677
R7	1K pot. w/SL Shaft & Locknut	118-004
R8	75 ohms, 5%, ½W	112-221
R9, 29	130 ohms, 5%, ½W	112-251
R10	36 ohms, 5%, ½W	112-179
R11, 14, 31	3000 ohms, 5%, ½W	112-419
R12, 22, 23	150 ohms, 5%, ½W	112-254
R13, 30	68 ohms, 10%, ½W	112-215
R15	270 ohms, 10%, ½W	112-290
R16	10 ohms, 5%, ½W	112-107
R17	820 ohms, 5%, ½W	112-350
R19, 20, 35, 36	180 ohms, 5%, ½W	112-266
R21, 42	330 ohms, 10%, ½W	112-299
R 24, 27	18,000 ohms, 10%, ½W	112-521
R25, 32	300 ohms, 5%, ½W	112-293
R33	12 ohms, 5%, ½W	112-119
R34	1500 ohms, 10%, ½W	112-383
R37, 38	820 ohms, 10%, 2W	112-355
R39	100 ohms, 10W	113-017
R40	1K pot. w/SL Shaft & Locknut	118-004
R41	470K ohms, 10%, ½W	112-698
	TRANSFORMER	
T1	Transformer	141-179
	TUBES	
V1	6DJ8	131-329
V2	6EH7	131-339
V3, 8	6EJ7	131-340
V4, 9	12BY7A	131-403
V5, 6, 10	TJ880	131-605
V7	6ES8	131-341



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