JERROLD®

INSTRUCTION SHEET

435-241.3

SINGLE TV CHANNEL OR FM BAND PREAMPLIFIERS

MODELS 501AP-* AND 406A-*

*Specify TV channel number or FM.

DESCRIPTION

Jerrold Model 501AP-* comprises a mast-mounted, single TV channel or FM band preamplifier Model 401A-* and a remote power supply Model 405-P. Jerrold Model 406A-* is similar to the 401A-* preamplifier except that it has a self contained power supply and is normally mounted indoors.

METHOD OF SHIPMENT

Model 501AP-* is shipped in one large carton containing two smaller cartons. These are respectively a 401A-* carton and a 405-P carton. For equipment replacement purposes, either of these smaller cartons may be shipped separately. Model 406A-* is shipped in a single carton.

INSTALLATION

LOCATING AND MOUNTING

1. 501AP-*
   a. 401A-*
      Choose mounting location on antenna mast as close as possible to the antenna output terminals. Remove dirt and/or oxides from chosen location to insure a good chassis ground and mount 401A-* with mast straps provided. Tighten thumbscrews as much as possible.
   b. 405-P
      Choose a location protected from the weather, sufficiently ventilated, and as near as possible to a 117 v ac power source and to the equipment (TV/FM receiver, amplifier, or coupler) to which the 405-P is to be connected. Mount 405-P on any flat surface with screws provided.
2. 406A-*
   a. Indoor (normal location and mounting)
      Choose a location protected from the weather, sufficiently ventilated, and as near as possible to a 117 v ac power source and to the equipment (TV/FM receiver, amplifier, or coupler) to which the 406A-* is to be connected. Mount 406A-* on any flat surface with screws provided.
   b. Outdoor (mast-mounting)
      Model 406A-* may be mounted outdoors provided it is housed in a weatherproof housing Jerrold Model 1683 and a 117 v ac power source is available.

CONTENTS OF CARTONS

501AP-* CARTON		406A-* CARTON
401A-* CARTON	405-P CARTON	1 Unit Model 406A-*
1 Unit Model 401-*	1 Unit Model 405-P	2 Male connectors (F-59 or F-59A)
2 Mast straps w/hdwr.	2 Male connectors (F-59 or F-59A)	2 Wood screws
2 Male connectors (F-59 or F-59A)	3 Wood screws	1 Instruction sheet 435-241.3
1 Instruction sheet 435-241.3		1 Warranty card
1 Warranty card		

ANTENNA CONNECTIONS

Models 401A-2 to 13 or 406A-2 to 13 may be used with any commercially available TV yagis cut to the particular channel and Models 401A-FM or 406A-FM may be used with any FM antenna.

INPUT CONNECTIONS

1. 401A-* or mast-mounted 406A-*
   a. 75-ohm antenna
      (1) Connect one end of a length of RG-59/U cable to the antenna output and run cable to 401A-* or 406A-* location. Prepare cable end for either an F-59 or F59A connector. 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 connector to cable.
         (a) F-59: Slide ferrule over outer jacket of cable. Push F-59 mandrel between cable dielectric and shield until cable shield touches mandrel stop. Check visually to insure cable dielectric fits snug to inside shoulder of swivelled fitting and that cable center conductor extends 1/16″ beyond the outer rim of swivelled fitting. See that ferrule is placed over the cable jacket, cable shield, and mandrel. Then crimp ferrule with Jerrold crimping tool Model PL-601 or PL-602.
         (b) F-59A: Push F-59A mandrel between cable dielectric and shield until built-on ferrule is completely over cable outer jacket. Crimp ferrule with Jerrold crimping tool Model PL-601 or PL-602.
      (3) Connect prepared cable end to the 75-ohm input fitting on 401A-* or 406A-* and hand-tighten the swivelled fitting on F-59 or F-59A firmly. Then wrench-tighten no more than 1/6 turn.
   b. 300-ohm antenna
      (1) Connect one end of a length of twin-lead (antenna wire) to the antenna output and run twin-lead to 401A-* or 406A-* location. Strip one inch of insulation from twin-lead and wrap each bared wire around one terminal of the 300-ohm screw terminals on 401A-* or 406A-*. Tighten screws firmly.
2. 406A-* (normal indoor location and mounting)
   a. 75-ohm antenna
      Keep cable run between antenna output and 406A-* as short as possible. Follow procedure given for con-

SPECIFICATIONS

		501AP-*	
	406A-*	401A-*	405-P
DIMENSIONS	3″ x 3⅞″ x 10⅞″	3⅝″ x 4⅝″ x 10⅜″	2¾″ x 4⅝″ x 6¾″
FINISH	Grey hammertone	Iridite	Grey hammertone
POWER SOURCE	117-v, 60-cycle	26-34 v ac	117-v, 60-cycle
POWER CONSUMPTION	15 watts		48 watts
GAIN	TV—28 db; FM—25 db		NA**
BANDWIDTH	TV—6 mc; FM—20 mc		NA
RESPONSE	TV—±0.5 db; FM—1.0 db		NA
NOISE FIGURE	LO TV/FM—5 db; HI TV—8 db		NA
OUTPUT	LO TV/FM—0.6 v rms HI TV—0.5 v rms		26-34 v ac in 2 db steps
TUBE COMPLEMENT	LO TV/FM—(1) 6BQ7A, (1) 6CB6 HI TV—(1) 6BQ7A, (1) 6AK5		NA
IMPEDANCE (INPUT)	75 or 300 ohms		75 ohms
IMPEDANCE (OUTPUT)	75 ohms		75 or 300 ohms
SHIPPING WEIGHT***	4½ lbs.		4½ lbs.

*Specify TV channel number or FM.
**Not applicable.
***Shipping weight of 501AP-* is 10 lbs.

necting 75-ohm antenna output to the input of a mast-mounted 406A-*.

NOTE: If RG-6/U cable is used, Jerrold Model F-56 male connectors will be required. If RG-11/U cable is used, Jerrold Model AF-101 male connectors will be required.

b. 300-ohm antenna
It is recommended that coaxial cable be used for the down-lead, using a mast-mounted 300-75 ohm impedance matching transformer Jerrold Model TO-374 between the antenna output and the 75-ohm input of the 406A-*. If there is **no** danger of strong-signal pickup by the down-lead, 300-ohm twin-lead may be used between the antenna output and the 300-ohm screw terminal input to 406A-*. Keep down-lead as short as possible and connect in the same manner as the 300-ohm antenna output is connected to a mast-mounted 406A-*.

CONNECTIONS BETWEEN REMOTE POWER SUPPLY 405-P AND 401A-*

Power is carried up and rf signal is carried down the same cable (or cable, TO-374 transformers, and wire) which interconnect Models 401A-* and 405-P. In any installation, Jerrold recommends a power loss of not less than two volts nor more than ten volts and an rf signal loss of not more than 22 db. Jerrold recommends the use of a Field Strength Meter Model 704-B to determine rf signal strength.

1. Determine the length of the necessary cable (or cable, TO-374 transformers, and open wire) run between Model 401A-* and Model 405-P power supply. It is recommended that coaxial cable (RG-59/U, RG-6/U, or RG-11/U) be used for this purpose if possible. See table for minimum and maximum lengths.

   NOTE: If RG-6/U cable is used, Jerrold Model F-56 male connectors will be required and if RG-11/U cable is used, Jerrold Model AF-101 connectors will be required. If twin-lead or open wire must be used, two TO-374 transformers will be required.

2. Model 405-P is shipped with transformer T-1 set to deliver 24 volts to 401A-*. This is position #1 on the terminal strip and there are four other positions following this position. See table to determine whether the original position may be used or a change is necessary.

   NOTE: To change setting, remove cover from 405-P and relocate the red lead to the proper terminal on the terminal strip.

Length of Cable in Feet (or Cable, Transformers and Wire) Between 401A-* and 405-P and Terminal Settings Necessary for 405-P

	TERMINAL SETTINGS FOR 405-P				
TYPE OF CABLE	#1	#2	#3	#4	#5
RG-59/U	26-52	52-88	88-122	122-157	157-192
RG-6/U	36-66	66-110	110-154	154-198	198-240
RG-11/U	250-490	490-700	-	-	-
Twin-lead*	62-135	135-225	225-315	315-405	405-500
#12 open wires*	250-790	790-1450	1450-2115	2115-2780	2780-3450

*Includes loss for two Model TO-374 transformers and necessary RG-59/U cable.

Extended Distances Between Mast-Mounted 406A-* and Equipment

TYPE OF CABLE	MAXIMUM DISTANCE
RG-59/U	370′
RG-6/U	510′
RG-11/U	700′
Twin-Lead	500′

OUTPUT CONNECTIONS

1. 405-P
   a. To 75-ohm equipment
   Remove shorting link between C and D screw terminals on 405-P. Prepare a length of RG-59/U cable with F-59 or F-59A connectors and interconnect the 75-ohm VHF output to receiver of the 405-P with the 75-ohm rf input fitting of equipment.
   b. To 300-ohm equipment.
   Connect one end of a length of twin-lead to screw terminals A and B of 405-P and the other end to the 300-ohm rf input terminals of the equipment.
   c. Plug TV/FM receiver into convenience outlet on 405-P.
   d. Plug power cord on 405-P into 117-v, 60-cycle power source.
   e. Turn ON-OFF switch to ON position.
2. 406A-*
   a. To 75-ohm equipment.
   Prepare a length of RG-59/U cable with F-59 or F-59A connectors and interconnect the OUTPUT fitting on 406A-* with 75-ohm rf input fitting of the equipment.
   b. To 300-ohm equipment
   Use a 75 to 300-ohm matching transformer (Jerrold Model T-372, T-375, or T-377) between the output of 406A-* and the input to the 300-ohm equipment.
   c. Plug power cord on 406A-* into 117-v, 60-cycle power source.

MAINTENANCE

Jerrold Models 501AP-* and 406A-* have been designed for long, trouble-free, continuous operation. All components have been carefully tested and coils have been factory-aligned for optimum performance.

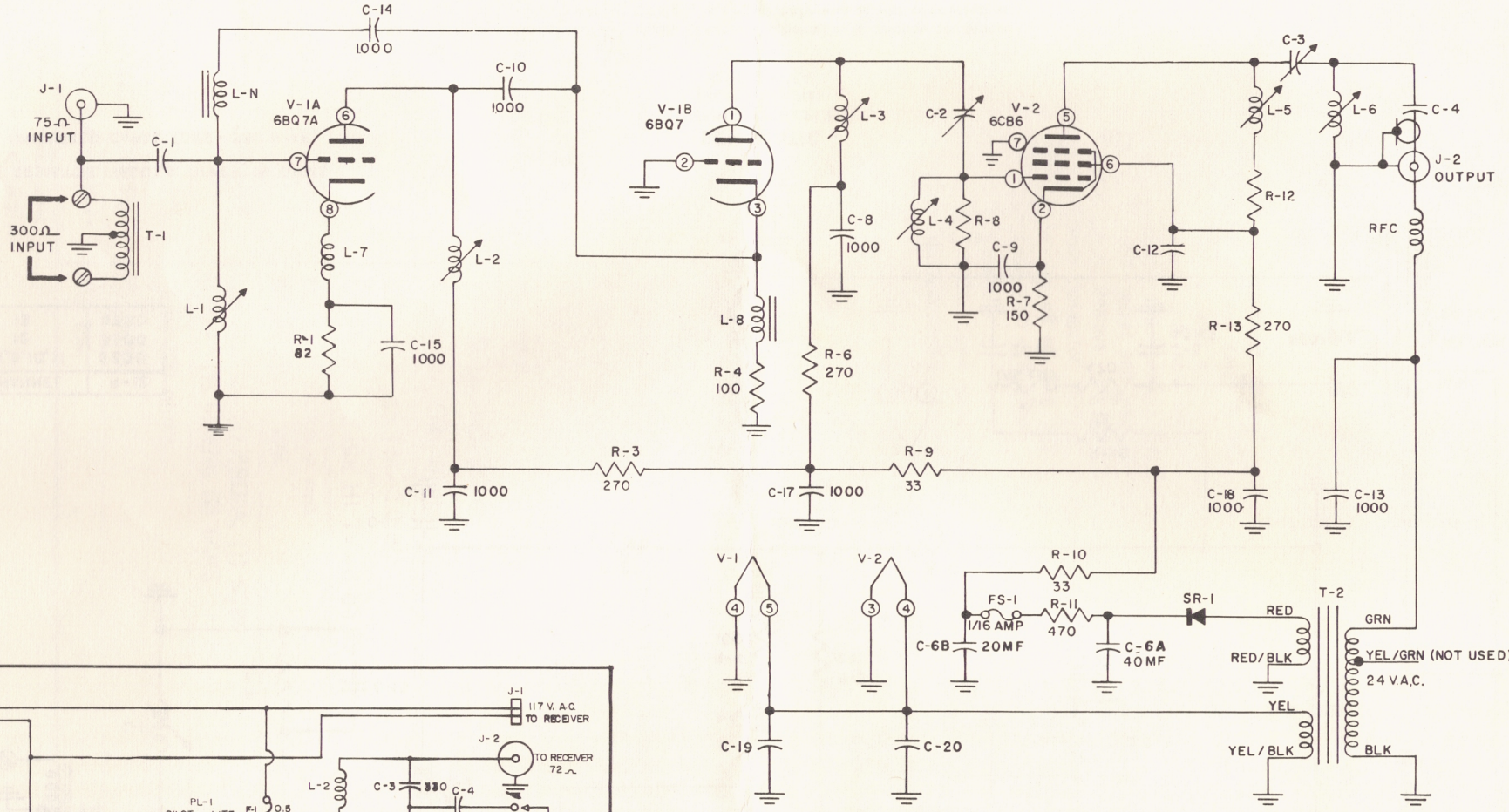
TUBE REPLACEMENT

Replace faulty tubes with new tubes of an exactly equivalent type.

FUSE REPLACEMENT

Replace fuses with values specified.

NOTE: Be sure to disconnect equipment from 117 vac power supply when servicing equipment.



SCHEMATIC

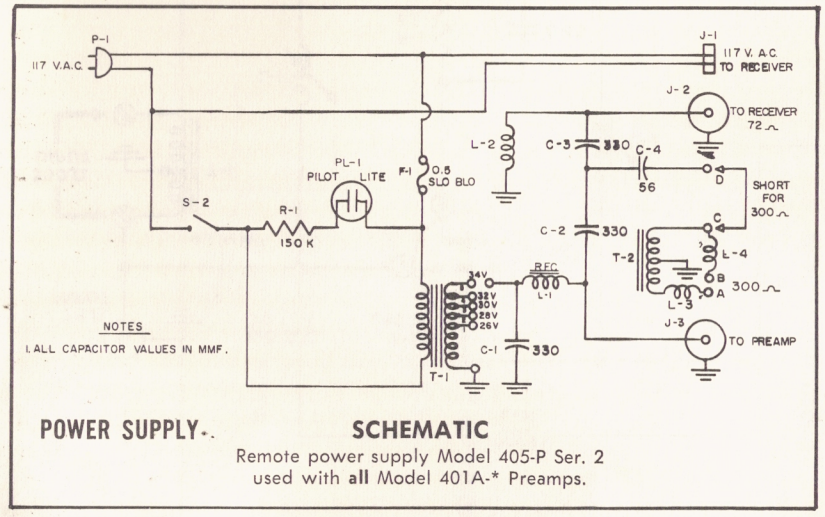
ANTENNA PREAMPLIFIER
LOW CHANNEL
MODEL 401A

Model 406A-* (low channels) schematic is similar to Model 401A-* except that J-2 is **output only** and is **not** connected to T-1, the RFC choke and C-13 are deleted, and 117-v ac goes to the primary of T-1 via F2 (not shown), a 1/4 amp fuse.

All resistor values given in ohms.
All capacitor values given in mmf unless otherwise specified.

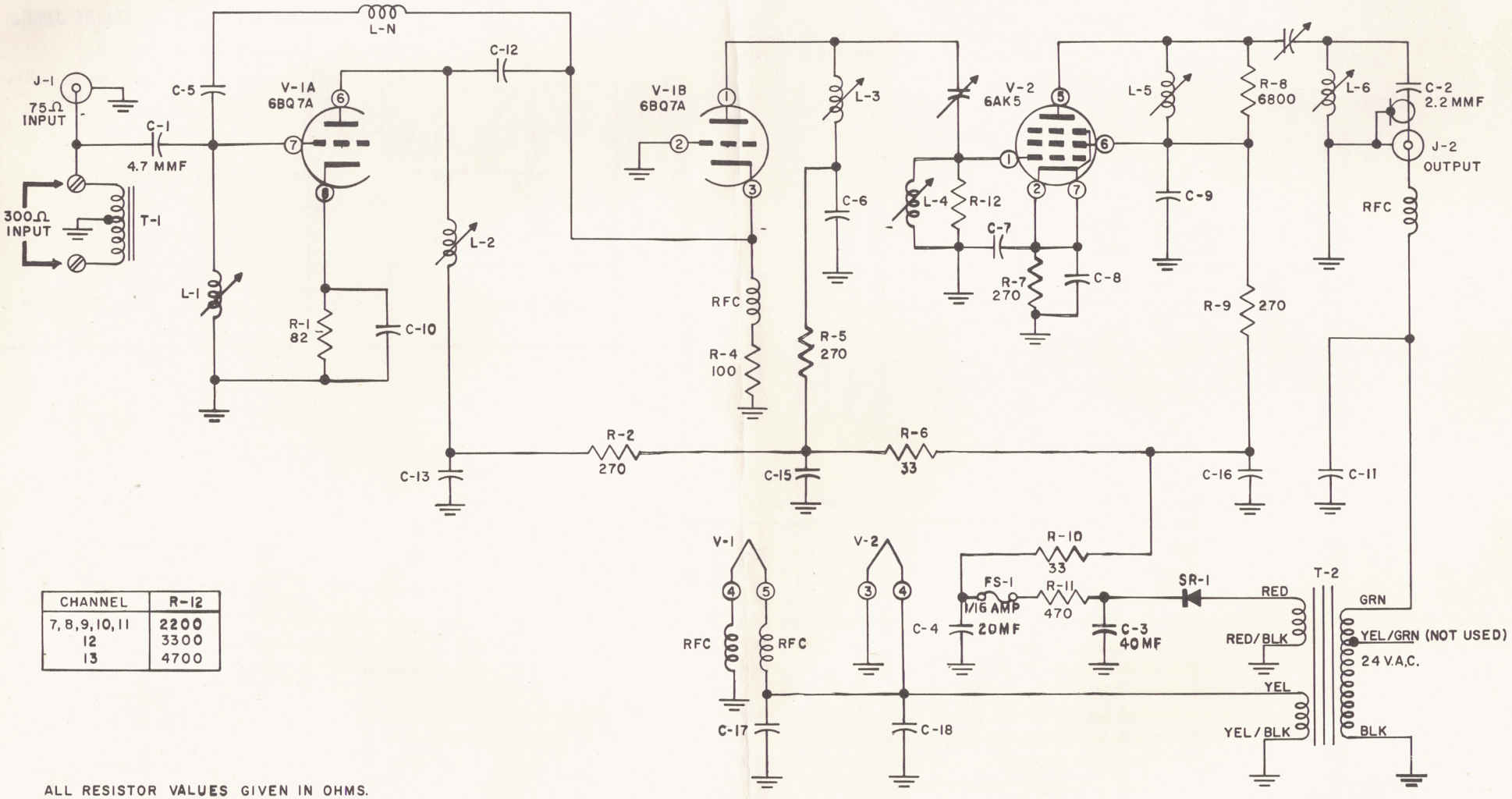
COMPONENT	CHANNEL				
	2	3	4	5	6
C-1(MMF)	12	10	10	10	10
* C-2 "	1	0.68	0.68	0.5	0.5
* C-3 "	1	1	0.68	0.68	0.68
C-4 "	10	10	6.8	6.8	6.8
R-8 (OHMS)	1800	2200	2700	3300	3300
R-12 (OHMS)	47	47	33	33	33

* IN PARALLEL WITH SPLIT RING



POWER SUPPLY-. SCHEMATIC

Remote power supply Model 405-P Ser. 2
used with **all** Model 401A-* Preamps.



CHANNEL	R-12
7, 8, 9, 10, 11	2200
12	3300
13	4700

ALL RESISTOR VALUES GIVEN IN OHMS.

ALL UNMARKED CAPACITORS = 330 MMF.

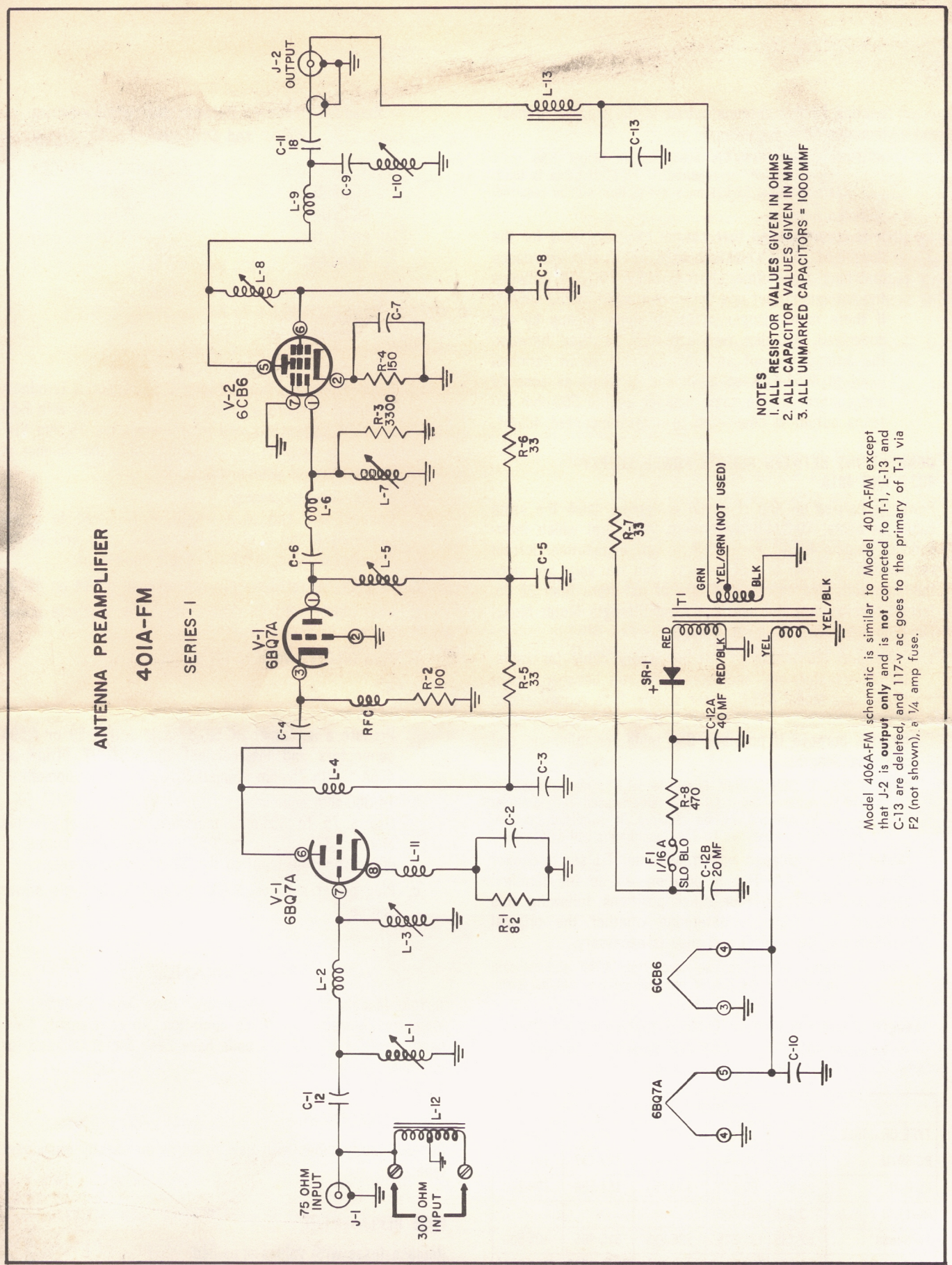
SCHEMATIC
ANTENNA PREAMPLIFIER
HIGH CHANNEL
MODEL 401A

Model 406A-* (high channels) schematic is similar to Model 401A-* except that J-2 is **output only** and is **not** connected to T-1, the RFC choke and C-11 are deleted, and 117-v ac goes to the primary of T-1 via F2 (not shown), a ¼ amp fuse.

ANTENNA PREAMPLIFIER

401A-FM

SERIES-1



NOTES
1. ALL RESISTOR VALUES GIVEN IN OHMS
2. ALL CAPACITOR VALUES GIVEN IN MMF
3. ALL UNMARKED CAPACITORS = 1000MMF

Model 406A-FM schematic is similar to Model 401A-FM except that J-2 is **output only** and is **not** connected to T-1, L-13 and C-13 are deleted, and 117-v ac goes to the primary of T-1 via F2 (not shown), a 1/4 amp fuse.

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JERROLD ELECTRONICS

A subsidiary of THE JERROLD CORPORATION

LM, August, 1964 Printed in U.S.A. 435-241.3