



# Broadcast Equipment



**FM Transmitter  
Power Conversion Kit  
BTF-5E1 to BTF-20E1  
ES-560643A\***

\* for use with RCA BTF-5E1 transmitters shipped prior to October, 1972

IB-8027981

## LIST OF EQUIPMENT

ES-560643A

Quantity	Description	Reference
1	Power Determining Kit	MI-560510A
1	Blower: 0-7,500 ft., 60 Hz, or 0-3,000 ft., 50 Hz	MI-560347-A1
	3,000-6,500 ft., 50 Hz or 7,500-11,000 ft. 60 Hz	MI-560347-3
1	Rectifier	MI-560340-4
1	Plate Transformer	MI-560341-7
1	Power Supply	MI-560342-6
1	Wire, #2/0 AWG, 15 ft.	MI-560307-25
1	Harmonic Filter	
	87.5-108 MHz, unpressurized	MI-561509
1	Nameplate	MI-28180A
1	Driver Tube, 7203/4CX250B	MI-34726
1	PA Tube, 4CX15,000A	MI-34725
1	Blower Mounting Kit	MI-560517 or MI-560705
1	Frequency Determining Parts	ES-560272C*
2	Instruction Book, BTF-20E1	IB-8027531-1
2	Power Conversion Instruction Addendum	IB-8027981
	*Specify frequency	

## DESCRIPTION

### PURPOSE

RCA Power Conversion Kit, ES-560643A, provides for conversion of the RCA BTF-5E1 5 kW FM Transmitter to the RCA BTF-20E1 20 kW FM Transmitter. Materials supplied are identified by the List of Equipment in this Addendum. Figure numbers are referenced to illustrations appearing in the BTF-20E1 Instruction Book, IB-8027531-1, except as otherwise noted. Save shipping materials for use in returning to RCA the components listed below.

### COMPONENTS TO BE RETURNED TO RCA

Upon modification of the transmitter, your RCA Representative should be requested to obtain an authorization (MRA) for return of the following removed components, to RCA Meadow Lands, Pa. This is important since the price of the conversion kit is based upon receipt of these items:

Item	Quantity	Description	Reference
1	1	Power Determining Kit	MI-560508
2	1	Blower	MI-560347-2
3	1	Plate Transformer	MI-34507
4	1	Harmonic Filter	MI-27967-1 or MI-27967-2
5	1	Blower Mounting Kit	MI-560518
6	1	Power Supply	MI-560342-1
7	1	HV Rectifier	MI-560340-1

## TRANSMITTER MODIFICATION

### WARNING

Always discharge and ground circuits prior to touching them, to avoid personal injury or loss of life.

### GENERAL

Experience indicates that modification of the transmitter for this power increase can be accomplished by three men working three nights with no loss of air time for stations on an 18-hour operating schedule. Following is a suggested procedure.

### FIRST NIGHT

This work consists of replacing the 5 kW blower with the 20 kW blower, rewiring primary power, if necessary, and replacing the reflectometer and directional coupler. Remove 5 kW blower after removing air filters and manometer panel at front of transmitter. Then proceed as follows:

**1. Blower Installation.** If the transmitter is to be operated on 60 Hz power at altitudes above 7,500 feet, the larger blower (MI-560347-3) is required. With 50 Hz power, this blower is required above 3,000 feet. Blower mounting components for these installations are supplied as MI-560705, which also includes instructions for installing the blower.

The standard blower model MI-560347-A1 supplied for operation below 7500 ft. (60 Hz) and 3000 ft. (50 Hz) has an adjustable vane. Before installing this blower, first check vane setting and adjust, if necessary, as shown in Figure (a) of this addendum.

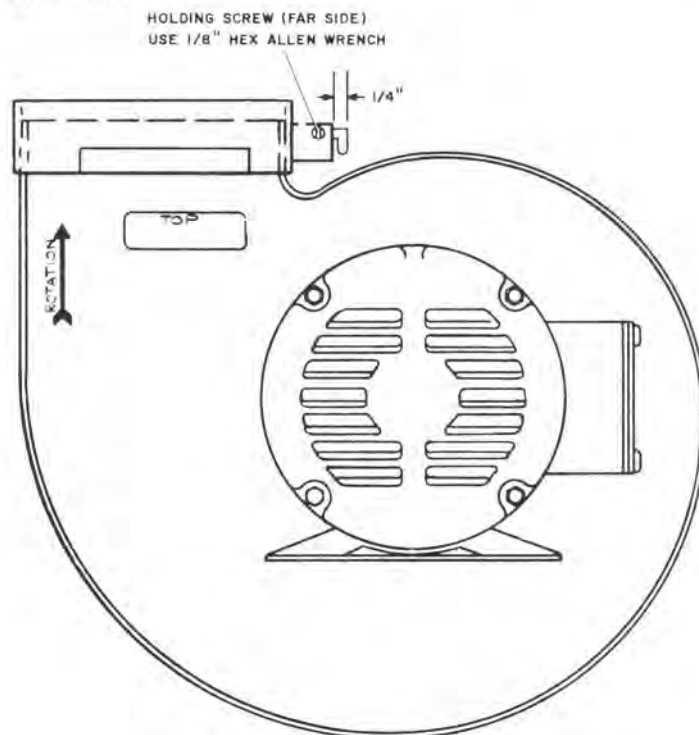


Figure (a). Blower Vane Setting.

After making adjustment, lock vane in place with Allen locking screw, using 1/8" hex wrench. The vane should be fully open.

Install MI-560347-A1 blower as follows, using components from Kit (MI-560517) and with reference to installation drawing figure (b) of this addendum. Certain Item numbers of MI-560517 are identified in the drawing.

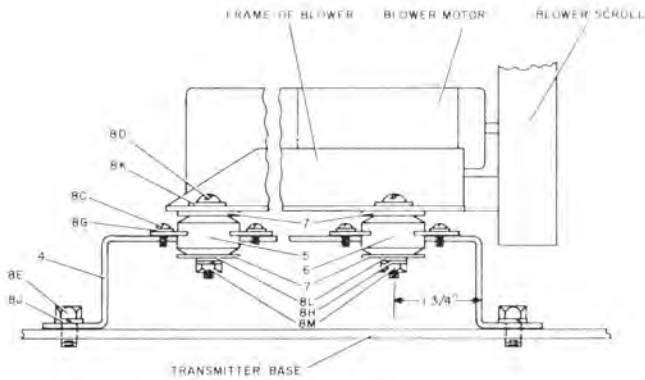


Figure (b). Installation of Blower, MI-560347-A1.

a. Using sixteen .138" (6)-32 x .38" long screws (Item 8C) and lockwashers (Item 8G), install four shockmounts (Items 5 and 6) on top of blower mounting bracket (Item 4). The 20-pound shockmounts (Item 6) should be assembled to the mounting holes that are on 4-7/8" centers and 1-3/4" from the right angle bend in the bracket. After assembly, these shockmounts should be at the side of the mounting bracket nearest the front of the transmitter cabinet.

b. Using ten .164" (8)-32 screws (Item 8A) and ten lockwashers (8F), attach blower exhaust cover assembly (Item 1) to the underside of the blower enclosure top cover.

c. Mount blower air boot (Item 2) on exhaust cover assembly using two clamps (Item 3), two .164" (8)-32 x .50" long screws (Item 8B), two #8 lockwashers (Item 8F) and two #8 nuts (Item 8N).

d. As shown, mount blower to shockmounts, using the .250" (1/4)-20 hardware. Orient blower so that outlet scroll is adjacent to the two shockmounts (Item 6).

e. Move assembled blower and mounting bracket into position in blower enclosure, positioning blower outlet inside air boot. Secure blower mounting bracket to transmitter base, using four .312" (5/16)-18 x .63" long bolts (Item 8E) and four .312" (5/16) lockwashers (Item 8J).

f. Secure air boot to blower using remaining clamps (Item 3) and #8 hardware (Items 8B, 8F and 8N).

g. Replace front panel and air filters.

2. **Primary Power Rewiring.** Rewire primary power source, if necessary, to handle maximum power consumption of approximately 36,000 watts.

3. **Reflectometer, Directional Coupler Replacement.** The reflectometer, 1Z5, and directional coupler, 1Z7 (if used), must be replaced with their high power counterparts from the Power Determining Kit. To remove 1Z5, open left hand back door and remove panel above plate resistors 1R25, 1R26 and 1R27 (figure 14). Be careful not to damage diodes when removing 1Z5 because diodes are loose in their sockets when the DC output connectors are removed.

a. Install reflectometer, 1Z5, (MI-560510A, Item 8) in output transmission line above transmitter rf unit. Use transmission line coupling supplied with transmitter rack. Each transmission line coupling consists of:

- 1 outer sleeve
- 1 inner conductor connector
- 2 hose clamps

Install two dc output connectors (1Z5-P1 and 1Z5-P2) at the mating jacks on 1Z5. These connectors are connected to wires 241 and 245 (See Figure 39). Check that a diode is present in each jack on 1Z5. Secure 1Z5 in place using hose clamp (Item 20) at the top of 1Z5.

b. The special miter elbow (MI-560510A, Item 17) has a hole provided for use with monitor assembly (Item 19). Position monitor assembly over hole in side of elbow so that rf pickup coil enters hole without touching the sides. Secure in place using two hose clamps (Item 20).

NOTE: Rf pickup coil may be positioned for best signal pickup by removing the four screws which hold the coaxial connector in place, then rotating it in either direction for maximum pickup (consistent with alignment of mounting holes). If necessary, pickup coil may be altered by removing or adding turns to obtain required signal.

c. Mount elbow, with monitor assembly attached, at transmitter output using a transmission line coupling (Item 18). The elbow is normally mounted with the long leg vertical.

d. If remote control is not planned, directional coupler 1Z7 may be omitted. If remote operation is to be used, install directional coupler, 1Z7 (Item 22) at open end of elbow, using a transmission line coupling at each end of 1Z7. One transmission line coupling is used for connection to the harmonic filter. For additional instructions, refer to IB-8027531-1, Page 16.

e. Using the shielded wire provided (Item 23), install the dc output lead from 1Z7 to 1TB1-11. Ground the shield near 1TB1, using terminal board mounting screw.

**4. Blower Rotation Check.** Check blower for proper direction of rotation to pressurize PA and driver stages. For details on reversing blower rotation, refer to IB-8027531-1, Page 23.

## SECOND NIGHT

**5. Filament Transformer Replacement.** Replace 1T2 using the new transformer supplied (MI-560510A, Item 6). Mount, using hardware supplied (Items 28B, 28C, 28K) in same location as original unit. Refer to Wiring Diagram, figure 39, and connect as previously wired on primary side. Make connections from secondary terminals of 1T2 to PA filament feedthrough capacitors 1C115 and 1C116, using filament connecting cables supplied (Items 9 and 10). Tighten outer nuts on 1C115 and 1C116 tightly to avoid future trouble with high resistance contact. **Do not tighten inner nuts on 1C115 and 1C116 beyond finger tight**, or the ceramic insulator may be cracked.

The PA filament voltage should be set to approximately 6.3 volts before the PA tube is installed. Setting of the filament voltage is described in the BTF-20E1 instruction book, Pages 24 and 26.

**6. New High Voltage Filter.** Install new high voltage filter capacitors, 1C7 and 1C8 (Item 1), using .375"-16 hardware supplied (Item 16). Refer to figure 15 in IB-8027531-1. Install new high voltage reactor 1L3 (Item 3) at location shown in figure 15 in IB-8027531-1. Position as shown (in figure 15). Follow wiring diagram, figure 39, and connect high voltage leads to 1L3. Do **not** interchange high voltage wires 233 and 234.

**7. Filter Capacitor Grounds.** Refer to figure 39 and install grounds at high voltage filter capacitors 1C7-2 and 1C8-1 using 0.128" diameter tinned copper wire (Item 12) and terminals (Items 13 and 14) as required. Also connect a jumper using the 0.128" bare wire between terminals 1C7-1 and 1C8-2. Use terminals required (MI-560510A, Item 13).

**8. PA Tube and 1C113 Removal.** Remove PA tube from its socket and remove plate blocking capacitor 1C113 (See figure 18).

**9. 1XV103 Socket Installation.** Remove filler plate mounted to driver stage shelf immediately below driver socket 1XV101. Retain plate mounting hardware. Install 1XV103 socket assembly (MI-560510A, Item 15) as shown in figures 21 and 22. Use the 4-40 x .38" long screws and lockwashers formerly used to hold the filler plate in place. Install suppressor network 1Z102 (Item 24) between center (control grid) terminal of 1XV103 and bottom terminal (insulator side) of capacitor 1C102.

Connections between 1XV101 and 1XV103 are made by means of three jumper wires which are supplied connected to the 1XV103 socket assembly. Refer to Wiring Diagram, figure 39 and connect jumpers as follows:

Wire #57, C134 to C129

Wire #58, C132 to C139

Wire #59, C131 to C128

Note that socket assembly for 1XV103 (Item 15) includes a clamp assembly used for connection to the anode of driver tube 1V103. Refer to figure 22. Mount 1V103 (7203/4CX250B) in socket 1XV103 and mount clamp assembly loosely on anode of 1V103.

**10. Plate Strap Installation.** Install plate strap (MI-560510A, Item 25) between clamp assembly and to the junction of capacitor 1C111 and inductor 1L103.

**11. PA Tube Installation.** Install new PA tube (4CX15000A) observing procedures outlined in the instruction book. Then set new plate blocking capacitor 1C113 (Item 7) down over top of PA tube, carefully aligning 1C113 with tube and socket so that finger stock will not be damaged. With reference to note below and to figure 18, install and tighten 1C113 mounting hardware (Items 28L and 28I) after orienting 1C113 as required to connect to rf choke 1L07

NOTE: The 12 10-32 x .25" long brass screws are to be used to mount 1C113 to the top of the spacer ring (Item 157 in figure 17); while on the underside, the 10-32 x .75" long plastic pan head screws are to mount the spacer ring to the shelf (Item 11 in figure 17). Do not use metal screws to mount the plastic ring to the plastic mounting shelf. Install plastic screws at 10-, 2-, 5- and 7-o'clock positions (the 6-o'clock metal screw being nearest front of cabinet). Additional screws can be obtained from RCA Parts and Accessories, Deptford, N.J., by ordering Stock Number 249529.

**12. Meter 1M4 Installation.** Install meter bypass capacitor 1C10 (Item 2) at the terminals of plate ammeter 1M4 (Item 4). Mount 1M4 in meter bezel (Item 21) and install assembly in meter panel, replacing original unit. Connect original wiring at rear of 1M4, referring to figure 39 for wiring information.

**13. Frequency Determining Parts.** Install frequency determining parts, replacing original parts and following procedure in transmitter instruction book. In some cases, the original parts are used.

**14. Rectifier Stack Removal.** Remove and lay aside high voltage rectifier stack (refer to figure 35 in IB-8027529) and screen voltage resistors 1R15 and 1R16 (figure 16, in IB-8027531-1). The 6,300-ohm resistors, 1R13 and 1R14 will keep the screen effectively at ground for the next few steps.

**15. Driver and PA Tuning.** Power the transmitter, starting the plate time delay cycle. Place reflectometer switch 1S3 in the DISABLE position.

Press POWER LOWER pushbutton to run power down to zero (when plate voltage is turned on).

Depress PLATE ON pushbutton and hold POWER RAISE pushbutton depressed until driver cathode current increases to approximately 100 mA. Adjust DRIVER PLATE TUNING for a dip in driver cathode current.

Rotate MULTIMETER switch 1S2 to the PA  $I_g$  position. If grid current is low, or zero, increase driver output by pressing POWER RAISE pushbutton. Do not exceed 400 mA driver cathode current. Observe driver screen current; if screen current exceeds 30 mA and PA grid current is low (less than 60 mA.) it will be necessary to reset inductors 1L111 and 1L112 (See figure 20). Note that in some transmitters, depending upon frequency, the inductors may not be used.

Adjust inductors 1L111 and 1L112 by loosening screws and sliding inductors as required, until maximum grid current is reached with minimum screen current at dip of cathode current in 1PA. Normal driver screen current should be 5-15 mA. (Typical PA grid current at 20 kW power output is about 80-110 mA.). Retighten screws.

**16. PA Neutralization.** Before neutralizing PA stage, check feedthrough power from driver stage, using neutralization setup procedure given in transmitter instruction book. If with normal drive PA feedthrough power is over one watt, it will be necessary to neutralize the stage as described. A feedthrough power of less than one watt should be possible.

**17. Connection to Dummy Load.** Shut down transmitter. Place output into dummy load. Replace screen resistors 1R15 and 1R16 and high voltage rectifier stack. Be sure that shorting bar is clear. Depress POWER LOWER pushbutton 1S12, holding depressed until powerstat 1T5 is at zero output position.

**18. Transmitter Tuneup.** Power the transmitter. Apply plate voltage and start to raise power. With approximately 1.5 amperes plate current, peak up PA grid drive by tuning DRIVER PLATE TUNING and PA PLATE TUNING for maximum power output.

Advance power output to previously licensed output for the next day's operation. Return REFLECTOMETER switch 1S3 to the NORMAL position.

#### WARNING

Never leave transmitter in DISABLE position. After transmitter is tuned and up to power, always return 1S3 to NORMAL operate position.

#### THIRD NIGHT

**19. Harmonic Filter Replacement (MI-561509).** Remove original harmonic filter. Install new harmonic filter (a horizontal mounting position is recommended). The filter should be located to permit a reasonable amount of ventilation. Under no circumstances should this unpressurized

filter be located out of doors where "breathing" of the unit, due to temperature changes, may lead to condensation. The alternate pressurized filter (MI-561507) permits filter mounting outdoors or indoors on the antenna side of the gas stop.

When installing the filter, keep in mind the clearances necessary for the various size transmission line inner and outer conductors. A clearance of 1/8" is required at each joint for all outer conductors and for 1-5/8" line inner conductors. Inner conductors of 3-1/8" lines require a clearance of 3/16" at each joint. Clearances required by other line sizes should be determined and allowed for. Be sure the harmonic filter is adequately supported from the ceiling to avoid excessive strain on the output line. Once installed, the filter is ready for operation since it requires no tuning or adjustment.

**20. Overload Relay Shunt Resistor.** Replace high voltage supply overload relay shunt resistor 1R24 with new resistor (Item 5). Solder original leads to new resistor. Refer to figure 39 for connections. 1R24 is located on transmitter side panel behind variable transformer 1T5 (See figure 15).

**21. High Voltage Power Supply Removal.** Remove high voltage power supply by disconnecting the three-phase wiring and connections to plate transformer. Disconnect and label high voltage lead coming from transmitter. Disconnect power supply grounding strap. Disconnect and label control circuit leads at terminal board 2TB1 in high voltage power supply. Each of these leads will go to an identically numbered terminal in the new power supply cabinet. Pull out all leads and lift power supply case clear of plate transformer.

**22. Plate Transformer Replacement.** Remove original plate transformer. Place new high voltage plate transformer 3T1 in position and fasten it to the floor. The power supply cabinet is then moved into position over the transformer. This is done by removing the lower front access panel and sliding the cabinet into place over the transformer. Be sure cabinet is centered over transformer. Then fasten cabinet securely to the floor. **A safe clearance of at least 2½" must be provided between closest point of plate transformer and power supply cabinet.**

**23. Equipment Grounding.** Care should be taken to provide an adequate ground system for the transmitter. Before power is applied to the equipment, the following ground connections must be completed:

a. Connect power supply cabinet to main transmitter cabinet using 1-1/2" wide copper strap. This connection should be made from one of the copper-flashed angle brackets welded inside the power supply cabinet below the rectifier mounting shelf, to one of the copper-flashed side channels in the main transmitter rack.

b. Connect the main transmitter cabinet to the station ground using 1-1/2" wide copper strap. It is also advisable to connect the power supply cabinet to the station

ground using an equivalent conductor. If intact, the copper strap originally supplied should be satisfactory.

**24. Checking Grounds.** After connections have been completed check each ground for mechanical strength and continuity. All soldered joints should be tested for mechanical strength as well as continuity.

**25. Installation of Power Supply Components.** It will be necessary to install and wire in new plate contactor 2K1 and circuit breaker 2S1:

a. Install plate contactor 2K1 (MI-560510A, Item 26) on contactor mounting plate in power supply, MI-560342-6. This plate is behind the power supply front panel and has mounting holes labeled "A-B" or "W" for either an Allen-Bradley or Westinghouse contactor. Use mounting hardware supplied (Items 28G, 28H, 28I, 28J).

b. Install circuit breaker 2S1 (Item 27) adjacent to 2K1 in power supply MI-560342-6, using two .250"-20 x 5" long screws (Item 28A), flat washers (Item 28B), lockwashers (Item 28C) and hex nuts (Item 28D) in the lower two 2S1 mounting holes. At the two upper mounting holes for 2S1 install spacer plate (Item 29) between 2S1 and the power supply cabinet using two .250"-20 x 4" long screws (Item 28E) and special nuts (Item 28F). Avoid overtightening 2S1 mounting hardware to prevent damage to the plastic breaker housing. Install pressure type terminals supplied (Item 30) at the three top terminals of 2S1. These are used to connect to the three-phase power source.

c. Using the size 2/0 power cable supplied (Item 11), install jumper wires from the bottom terminals of 2S1 to the top terminals of 2K1. Refer to the transmitter schematic diagram, figure 38 for connections. Strip insulation from each end of the three jumpers to fit the pressure type connectors on 2S1 and 2K1.

**26. High Voltage Rectifier Installation.** Mount high voltage rectifier assembly (MI-560340-4) in new power supply cabinet. Place in position on ceramic insulators supplied as part of power supply. If necessary, move two of the insulators to the position marked "MI-560340-4" on the power supply chassis. Secure the rectifier assembly in place, using the .190" (10)-32 hardware supplied in place at the tops of the insulators.

Check high voltage grounding switch 2S4 for free operation. With power supply cover raised, use an ohmmeter to assure that 2S4 grounds the high voltage positive terminal.

### 27. Equipment Connections.

a. Make necessary connections between transmitter cabinet and power supply cabinet, referring to figures 38, 39 of the instruction book and Table 1 of this addendum. Use original, labeled wires for these connections.

**TABLE 1. TRANSMITTER/POWER SUPPLY INTERCONNECTIONS**

From Power Supply Terminal	To Transmitter Terminal
2TB1-1	1TB1-1
2TB1-2	1TB1-2
2TB1-3	1TB1-3
2TB1-4	1TB1-4
2TB1-5	1TB1-5
2TB1-6	1TB1-6
2TB1-7	1TB1-7
2TB1-8	1TB1-8
2TB1-9	1TB1-9

b. Using original wiring, connect high voltage dc output (at high voltage rectifier assembly connector designated HV+ in power supply cabinet) to 1TB1-101. This is the high voltage terminal in the upper right hand corner of the transmitter cabinet (viewed from the rear).

c. In power supply cabinet, connect contactor 2K1 to the primary of transformer 3T1 using high current wire, #2/G AWG (Item MI-560307-25).

d. Also in power supply cabinet, connect secondary of transformer 3T1 to the high voltage rectifier assembly at the AC1, AC2 and AC3 terminals using high voltage wire originally supplied with transmitter.

e. Remove protective safety shield from circuit breaker 2S1 in power supply cabinet, and connect 3-phase power source of proper voltage to terminals 1, 2 and 3. Replace protective safety shield. Do not apply power at this time.

f. Check all connections for accuracy, continuity and mechanical strength.

**28. Low Voltage Circuit Breaker Adjustment.** Circuit breaker 1S6 gives fast acting protection against short circuit conditions in low voltage power supply circuitry. To prevent spurious tripping, dismount 1S6 and adjust trip setting on each pole to its highest value. Remount 1S6.

**29. Overload Relay Adjustment.** It will be necessary to adjust overload relays 1K1, 1K2 and 1K4 (on control panel behind left hand cabinet door) to carry the increased currents caused by higher power operation.

This is accomplished by use of an ammeter of the proper range in series with a 6-ampere dc supply which is adjustable from 0.5 to 1.5 volts. A convenient supply is an "A" battery such as the RCA VS006C in series with a rheostat of from 5 to 10 ohms maximum resistance. When adjusting 1K2, use a series rheostat of approximately one ohm. Remove relay cover, and with rheostat set for maximum resistance, connect supply and series ammeter across relay coil. Slowly decrease

resistance to obtain current reading given in Table 2. Adjust spring tension on relay so that it pulls in at the specified current. After adjustment, increase and decrease current several times to check operation. Replace relay covers.

**TABLE 2. OVERLOAD RELAY SETTINGS**

Relay	Circuit	Pull-in Current
1K1	LV Rectifier	1.5 A
1K2	PA Plate Current	5.0 A
1K4	Driver Cathode Current	0.6 A

**30. Blower Overload Relay (1K15) Adjustment.** The overload portion of 1K15 is normally tested and shipped set for manual reset operation only. This is done to avoid accidents which could possibly occur if the relay should operate (shutting down the transmitter), and then automatically recycle, energizing transmitter circuitry while operating personnel are investigating the cause of interruption.

However, the relay can be adjusted for automatic reset by turning the small screw (next to the manual reset button) to the extreme clockwise position. The automatic reset option may be desired in remotely controlled stations.

If it should be necessary to change the trip setting of 1K15, use this procedure:

- a. Remove snap-on cover from overhead relay part of 1K15 assembly.
- b. Adjust variable trip setting dial to desired value. A setting of 6.5 amperes is recommended in BTF-20E1 transmitters using the MI-560347-A1 blower. A different type overload relay is used with the MI-560347-3 high-altitude blower. This relay, part of MI-560705, should be set at 8.5 amperes.
- c. Replace snap-on cover.

**31. Transformer Primary Check.** Ensure that the primary taps in use on plate transformer 3T1 and PA filament transformer 1T2 are compatible with the line voltage source. See Table 3 in the instruction book.

**32. Transmitter Tuning.** Power the transmitter. Depress POWER LOWER pushbutton to reduce power output considerably from last operating value. Apply plate voltage. Tune transmitter and adjust power as described in BTF-20E1 instruction book, IB-8027531-1.

**33. PA Saturation.** If problems are experienced with AM noise, the PA stage may not be receiving enough drive to saturate. The grid current of this stage should be 80 mils or more and could be as high as 250 mils with some tubes. Drive may be increased by setting control 1R38 (figure 12) to raise the voltage on the driver screen. Also, PA plate and output load tuning (figure 12) should be touched up. Saturation and limiting in the PA can be detected by pushing the raise power button. An increase in final plate current with no increase in power output indicates that the PA stage is saturated. With this condition, the AM noise level should be normal.

**34. Nameplate Change.** Replace BTF-5E1 transmitter nameplate with new BTF-20E1 nameplate, MI-28180A.

#### EQUIPMENT LOST OR DAMAGED IN TRANSIT

Unpack and thoroughly inspect equipment upon receipt. If shortages or damaged parts are found, immediately notify RCA and the carrier, and secure an inspection report from the carrier. Notification of equipment loss or damage must be made in writing to RCA, Communications Systems Division, Camden, New Jersey 08102 WITHIN 15 DAYS after receipt of material.

#### WARRANTY ITEMS

Parts or equipments covered by warranty may be replaced by contacting the local RCA Sales Office. Avoid delays by supplying complete information such as Original Invoice Number, MI-Number, Type Number, Model Number, Serial Number, Stock Number and Description.

#### REPLACEMENT PARTS

Replacement parts bearing a **Stock Number** should be ordered by Item Description and stock Number from RCA Parts and Accessories, Deptford, New Jersey 08096. Parts listed under a **Master Item (MI-) Number** should be ordered from RCA, Communications Systems Division, Camden, New Jersey 08102. Parts bearing no number are not stocked.

**RCA** Broadcast  
Equipment

Communications Systems Division/Front and Cooper Streets/Camden, New Jersey, U.S.A., 08102

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