Mobile Communications

INTERNAL BATTERY STANDBY CHARGER

OPTION BC01 (9669), 9670 AND 9771 (FOR MASTR® II STATIONS)

Maintenance Manual

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Printed in U.S.A.

LBI-30869

TABLE OF CONTENTS

DESCRIPTION

The Battery Standby Charger (Option BC01 [9669]) consists of a voltage regulator and relay switching circuit mounted on a printed board to provide a charging current for the storage battery when the station power supply is operating normally. The relay switching circuit switches to battery power and switches the power supply bleeder resistor from the circuit in the event of a power failure. Typical charge time is 48 hours for a 55 AMP-HOUR automotive type lead-acid battery, that is in good condition.

Option 9670/9771 is the same as Option BC01 (9669) with the addition of an RF Relay and connecting cables. 9670 is used in tube stations, 9771 is used in solid state station applications. The operation is the same as Option BC01 (9669) in addition the RF Relay automatically switches the driver RF output directly to the antenna Relay, thereby bypassing the High Power RF Power Amplifier. The charger board mounts on the inside of the rear panel of the driver power supply and all necessary leads for connection to the power supply and battery are hanging from the board. The RF Relay mounts on the power panel of the High Power Station.

ADJUSTMENT AND TEST

Adjustment

R4 (R16 for Group 2) is set at the factory and normally doesn't need adjustment but if the voltage at the black and red battery leads (with the battery disconnected) exceeds 14.5 Volts DC, adjust R4 or R16 for 14 Volts with the battery disconnected.

Test

To test the operation of the Relay switching circuit, turn off the station power supply. The relay K1 should drop out and the station should now be operating on the battery supply.

CIRCUIT ANALYSIS

When the station power supply is operating normally, approximately 22 Volts AC appears at H3 and H4. This voltage provides the input voltage for the bridge rectifier CR1-CR4. The voltage and current regulator consists of Q1 (the pass transistor) and Q2 (the driver transistor). R2 is the current sensing resistor to limit the short circuit current. A voltage divider network made up of R3, R4 or R16 and R5, provides a variable voltage

adjusted with R4 or R16 to set the bias on the base of Q2 which in turn controls the conduction of Q1 (the pass transistor). C1 and C806 provide filtering of the input voltage. The output of the regulator is fused through F1 to provide over-load protection. The regulated voltage also provides the voltage to energize the K1 relay. When the station power supply is off for any reason the regulator is off because no input voltage is fed to it. With no voltage applied K1 de-energizes and the battery is switched in as the power source and the power supply bleeder resistor is switched out of the circuit. Refer to Figure 1 and Figure 2 for curves of RF Power output of the transmitter against time for intermittent and continuous duty stations.

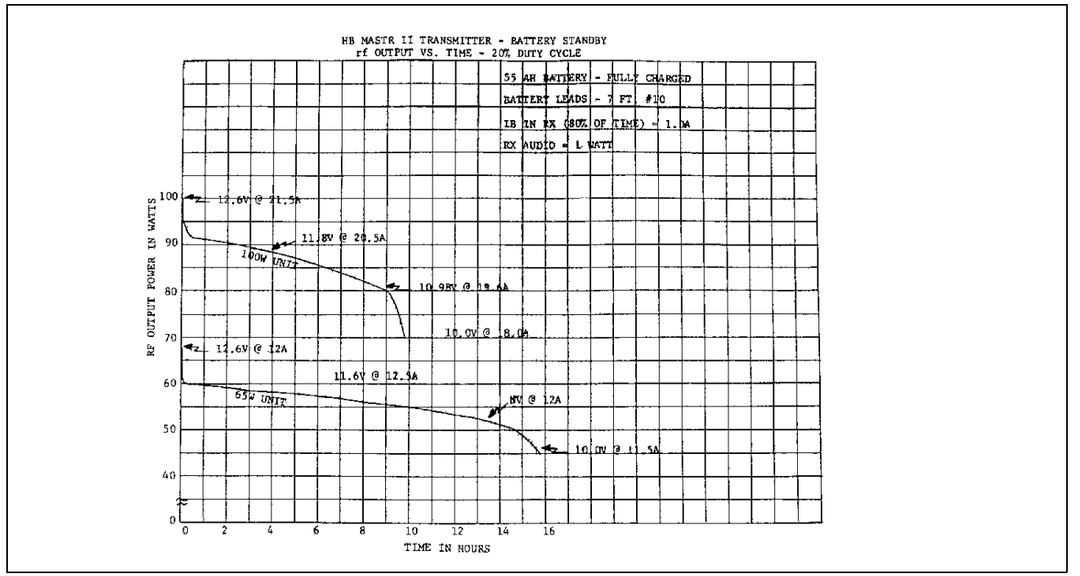

Figure 1 - RF Power Output Versus Time Intermittent Only

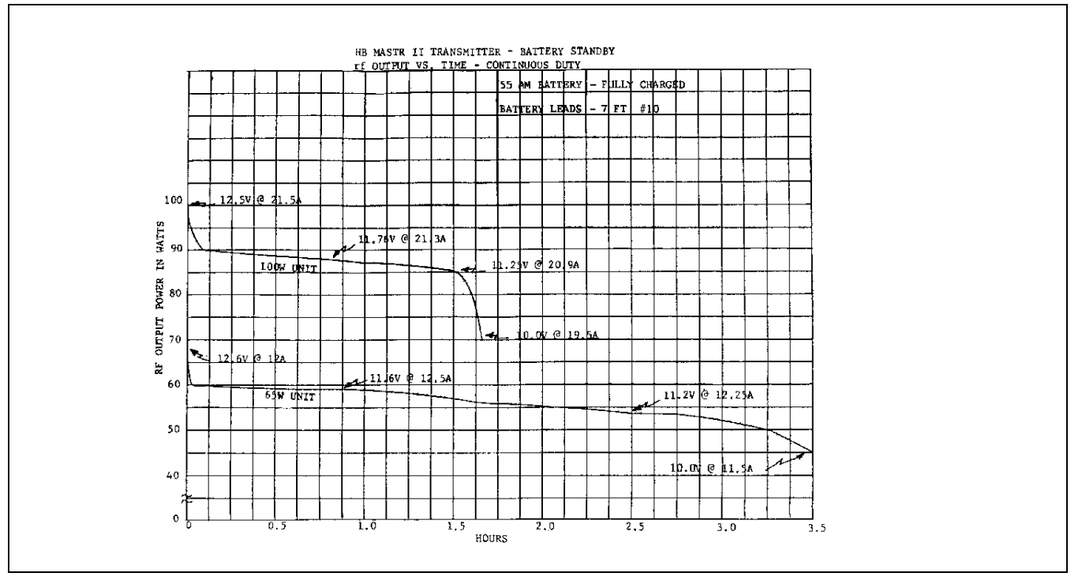

Figure 2 - RF Power Output Versus Time Continuous Duty

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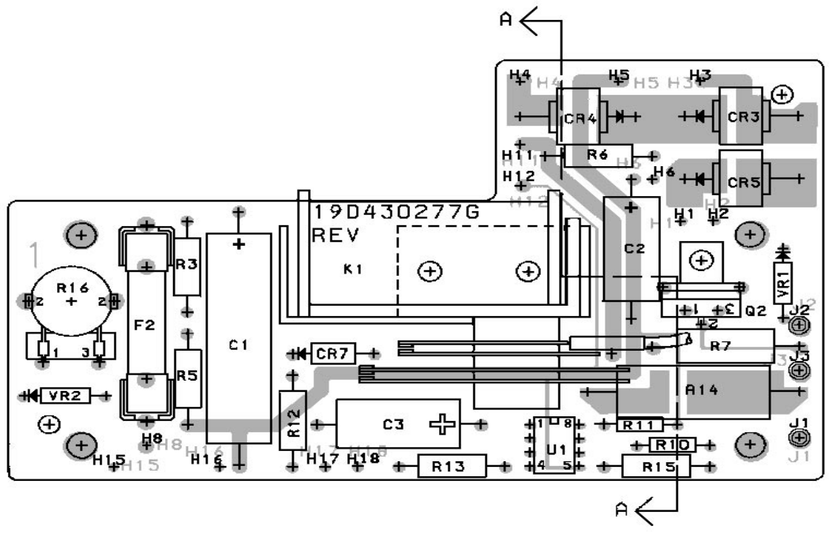
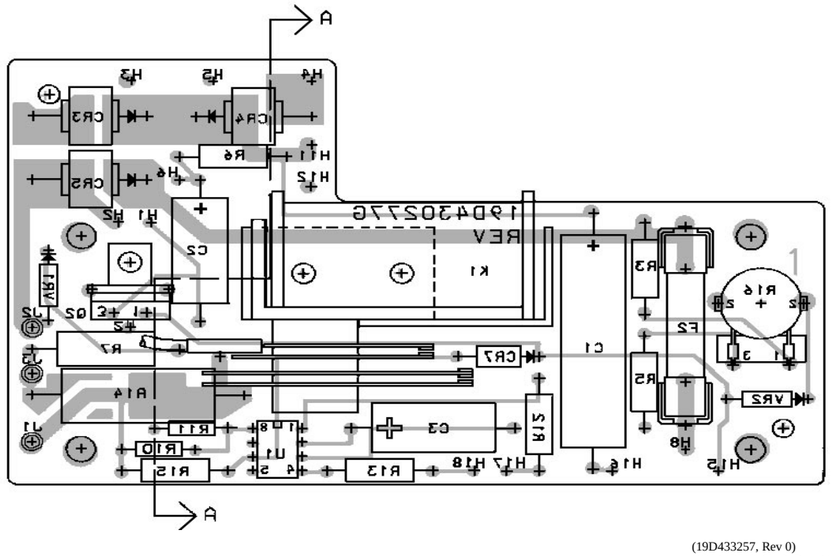
CHARGER

COMPONENT SIDE



(19D433257, Rev 0)
(19A143749, Sh. 1, Rev. 1)

SOLDER SIDE

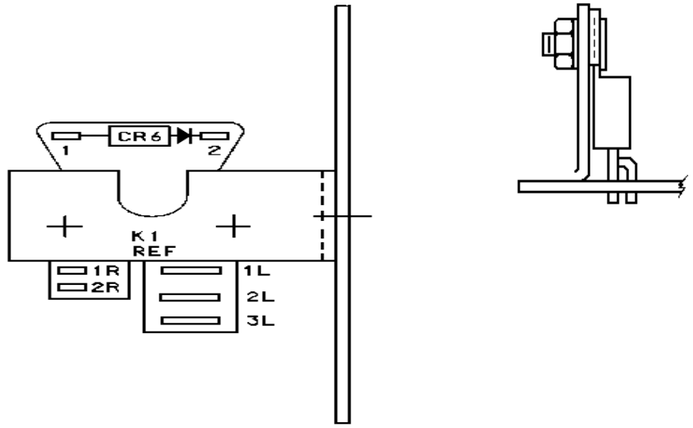


(19D433257, Rev 0)
(19A143749, Sh. 2, Rev. 1)

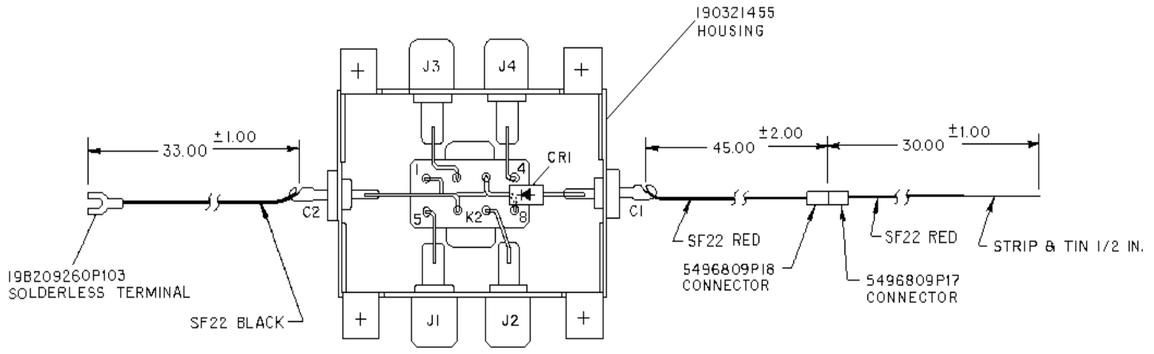
CHARGER 19A138358G2
RF RELAY ASSEMBLY 19C321398G1, 2

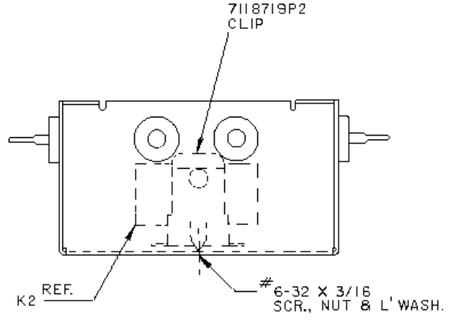
VIEW IN DIRECTION OF ARROW A-A

PARTIAL



RF RELAY ASSEMBLY

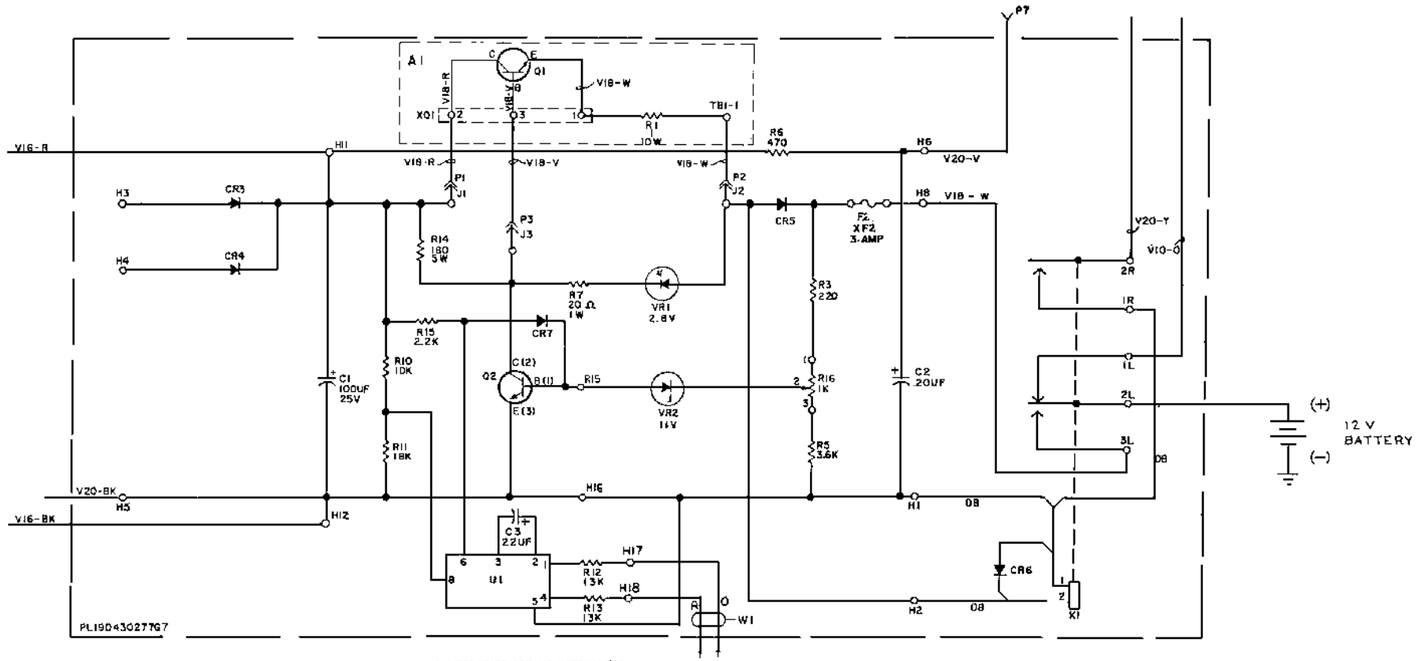




(19C321634, Rev 0)

ALL RESISTORS ARE 1/2 WATT UNLESS OTHERWISE SPECIFIED AND RESISTOR VALUES IN OHMS UNLESS FOLLOWED BY K=1000 OHMS OR MEG=1,000,000 OHMS. CAPACITOR VALUES IN PICOFARADS (EQUAL TO MICROMICROFARADS) UNLESS FOLLOWED BY UF= MICROFARADS. INDUCTANCE VALUES IN MICROHENRYS UNLESS FOLLOWED BY MH=MILLIHENRYS OR H=HENRYS.

MODEL NO.	REV. LETTER
PL19D430277G7	
PL19C331529G1	



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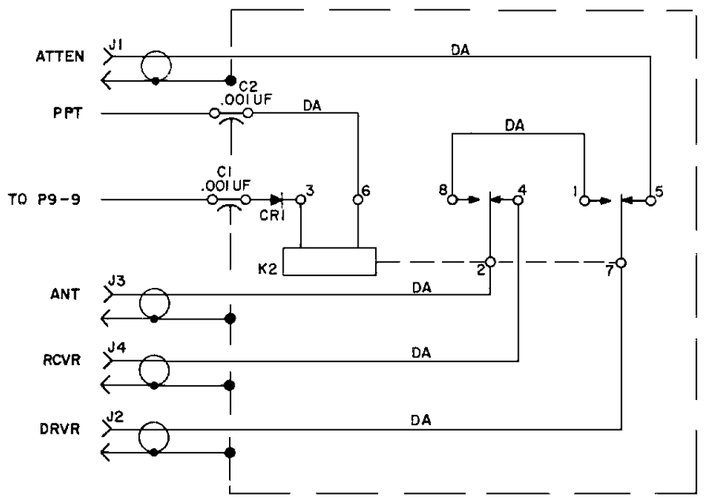


SEE APPLICABLE PRODUCTION CHANGE SHEETS IN INSTRUCTION BOOK SECTION DEALING WITH THIS UNIT, FOR DESCRIPTION OF CHANGES UNDER EACH REVISION LETTER

THIS ELEM DIAG APPLIES TO

MODEL No.	REV LETTER
PL19C321398G1	

IN ORDER TO RETAIN RATED EQUIPMENT PERFORMANCE, REPLACEMENT OF ANY SERVICE PART SHOULD BE MADE ONLY WITH A COMPONENT HAVING THE SPECIFICATIONS SHOWN ON THE PARTS LIST FOR THAT PART.

ALL RESISTORS ARE 1/2 WATT UNLESS OTHERWISE SPECIFIED AND RESISTOR VALUES IN OHMS UNLESS FOLLOWED BY K=1000 OHMS OR MEG=1,000,000 OHMS. CAPACITOR VALUES IN PICOFARADS (EQUAL TO MICROMICROFARADS) UNLESS FOLLOWED BY UF=MICROFARADS. INDUCTANCE VALUES IN MICROHENRYS UNLESS FOLLOWED BY MH=MILLIHENRYS OR H=HENRYS.

BATTERY STANDBY CHARGER 19A138358G2
RELAY ASSEMBLY 19C321398G1, 2

BATTERY STANDBY CHARGER
19A136358G2
ISSUE 4

SYMBOL	GE PART NO.	DESCRIPTION
		- - - - - - - - - - CAPACITORS - - - - - - - - - -
C806	19A134033P7	Electrolytic: 8700 uF +50%-10%, 30 VDCW; sim to GE 92F212ANB.
		STANDBY CHARGER POWER SUPPLY BOARD 19D430277G7
		- - - - - - - - - - CAPACITORS - - - - - - - - - -
C1	19A115680P5	Electrolytic: 100 uF +150-10%, 25 VDCW; sim to Mallory Type TTX.
C2	19A115680P3	Electrolytic: 20 uF +150-10%, 25 VDCW; sim to Mallory Type TTX.
C3	19A700064P2	Electrolytic: 22 uF ±10%, 25 VDCW.
		- - - - - - - - - - DIODES - - - - - - - - - -
CR1 thru CR5	19A116783P1	Rectifier, silicon: 100 VDC blocking, 6 amp; sim to MR751.
CR6 and CR7	T324ADP1041	Rectifier, silicon; general purpose.
		- - - - - - - - - - FUSES - - - - - - - - - -
F2	1H16P6	Quick blowing: 3 amps at 250 v; sim to Littelfuse 312003 or Bussmann AGC-3.
		- - - - - - - - - - JACKS - - - - - - - - - -
J1 thru J3	4033513P4	Contact, electrical: sim to Bead Chain L93-3.
		- - - - - - - - - - RELAYS - - - - - - - - - -
K1	19B209492P1	Open: 12.6 VDC, 80 amps ±10%, coil res, 1 form C contact, 15 amps @ 28 VDC; sim to Magnecraft 22NR134A.
		- - - - - - - - - - TRANSISTORS - - - - - - - - - -
Q2	19A116118P1	Silicon, NPN.
		- - - - - - - - - - RESISTORS - - - - - - - - - -
R3	19A700113P47	Composition: 220 ohms ±5%, 1/2 w.
R5	3R77P362J	Composition: 3.6K ohms ±5%, 1/2 w.
R6	19A700113P55	Composition: 470 ohms ±5%, 1/2 w.
R7	3R78P200J	Composition: 20 ohms ±5%, 500 VDCW, 1 w.
R10	19A700106P87	Composition: 10K ohms ±5%, 1/4 w.
R11	19A700106P93	Composition: 18K ohms ±5%, 1/4 w.
R12 and R13	19C314256P31302	Metal film: 13K ohms ±1%, 1/2 w.
R14	5493035P7	Wirewound: 180 ohms ±5%, 5 w.
R15	19A700113P71	Composition: 2.2K ohms ±5%, 1/2 w.
R16	19B209358P3	Variable, carbon film: 50-1000 ohms ±20%, .2 watt; sim to CTS U-201.
		- - - - - - - - INTEGRATED CIRCUITS - - - - - - -
U1	19A702220P1	Optoelectronic coupler: AC-DC threshold detector; sim to Hewlett Packard HCPL-3700.
		- - - - - - - - VOLTAGE REGULATORS - - - - - - -
VR1	4036887P2	Silicon, zener: sim to 1N5223B.
VR2	4036887P8	Zener: 500 mW, 11.0 v. nominal.

*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES

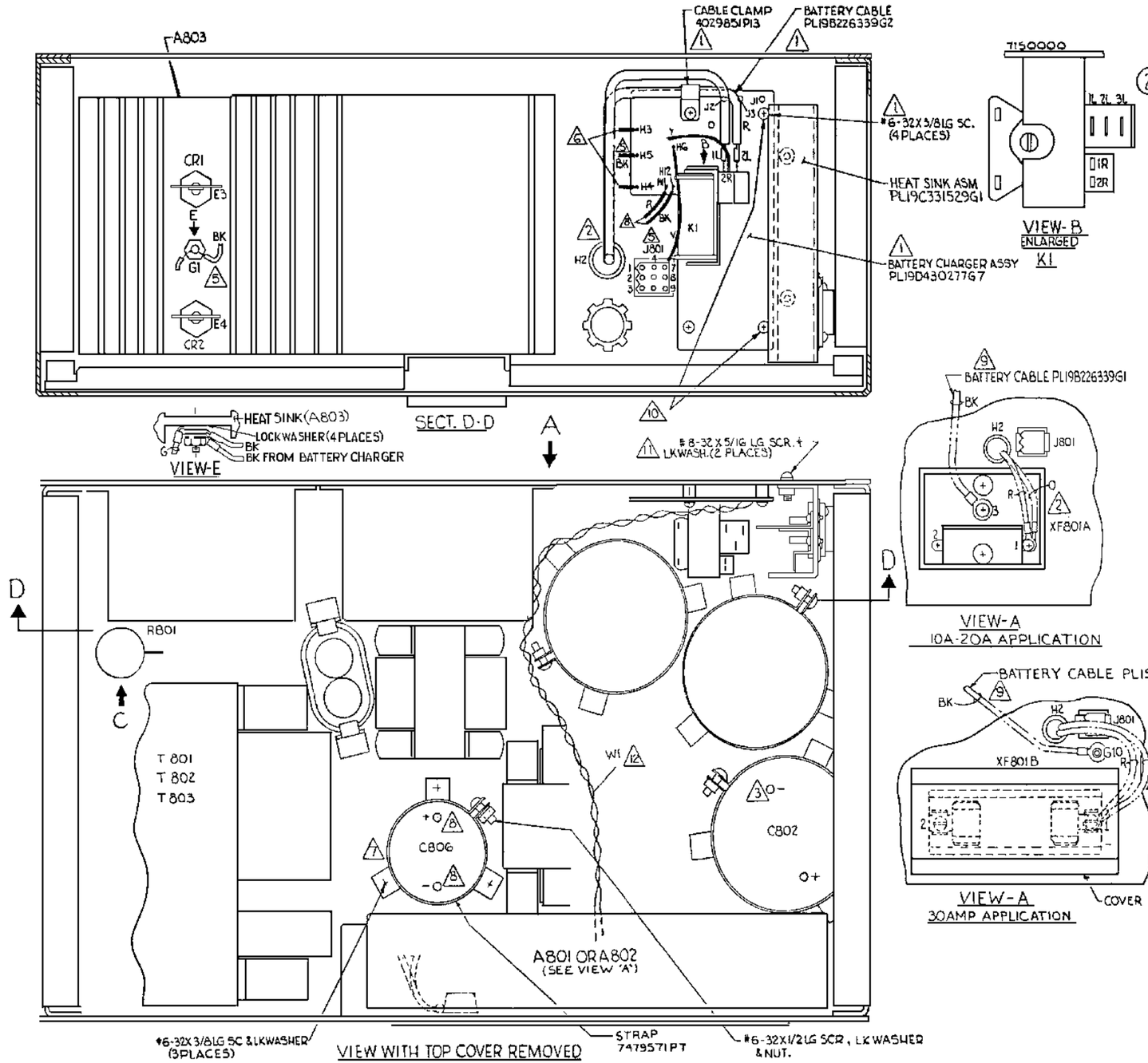
SYMBOL	GE PART NO.	DESCRIPTION
		- - - - - - - - - - CABLES - - - - - - - - - -
W1	19B234390G1	2 conductor: Includes (2) 19B209268P101 terminals.
		- - - - - - - - - - SOCKETS - - - - - - - - - -
XF1	19A116688P1	Fuse clip: sim to Littelfuse, Inc. 102071. (Quantity 2).
XQ1	5491888P1	Transistor, power, phen: sim to Cinch 133-92-10-034.
		HEAT SINK 19C331529G1
		- - - - - - - - - - TRANSISTORS - - - - - - - - - -
Q1	19A116753P1	Silicon, NPN.
		- - - - - - - - - - RESISTORS - - - - - - - - - -
R1	5493035P28	Wirewound: 1 ohm ±10%, 10 watts.
		- - - - - - - - - - TERMINAL BOARDS - - - - - - - - - -
TB1	7775500P44	Phenolic: 1 insulated, 1 ground.
		- - - - - - - - - - MISCELLANEOUS - - - - - - - - - -
	19B226339G1	Battery cable: approx 10 ft. long. (BLACK).
	19B226339G2	Battery cable: approx 10 ft. long. (RED).
	7479571P7	Retainer. (C806).
	19A701863P13	Cable clip. (Secures positive battery cable).
	19A701863P6	Cable clamp. (Secures negative battery cable).
	N80P13008B6	Machine screw: No. 6-32 x 1/2. (Secures C806 retainer to housing).
	N403P16B6	Lockwasher, internal tooth: No. 8. (Secures C806 retainer to housing & 19C331529G1 heat sink to housing).
	N80P15006B6	Machine screw, phillips head: No. 8-32 x 5/16. (Secures 19C331529G1 heat sink to housing).
	N80P13006B6	Machine screw, phillips head: No. 6-32 x 3/8. (Secures battery charger board).
	N404P13B6	Lockwasher, internal tooth: No. 6. (Secures battery charger board).
	19A129799P1	Support. (K1).
	19C320284P1	Support. (Q2).
	19D430277G5	Harness.
	19A116023P1	Insulator, plate. (Used with Q2).
	19A116022P1	Insulator, bushing. (Used with Q2).
	19B234005P1	Clip. (Secures R1).
	5490342P6	Nut. (Secures Q1).
	4029974P1	Insulator, plate: aluminum. (Used with Q1).
	N130P1208B6	Screw, thread forming: No. 6-20 x 1/2. (Secures Q1).

LBI4906D

COAXIAL RELAY AND CABLE 19C321398G1
RF CABLE 19A130449G1,G2
RF CABLE 5491689P117

SYMBOL	GE PART NO.	DESCRIPTION
		RELAY ASSEMBLY 19C321398G1 TUBE STATION 19C321398G2 SOLID STATE STATION
		- - - - - - - - DIODES AND RECTIFIERS - - - - - - - -
CR1	T324ADP1051	Rectifier, silicon; general purpose.
		- - - - - - - - - - RELAYS - - - - - - - - - -
K2	19A700061P1	Hermetic sealed: 180 to 341 ohms coil res, 8-16.3 VDC; sim to GE 3SAV1760A2, CP Clare HFW-1201558, or Potter-Brumfield KCM6160.
		- - - - - - - - - - MISCELLANEOUS - - - - - - - - - -
	7118719P2	Clip, spring tension: sim to Prestole E-50001-003. (Used with K2).
	198209260P103	Solderless terminal; sim to AMP 60495-1.
	5496809P17	Contact, pin: female, brass; sim to Molex Products 1381-T.
	5496809P18	Contact, pin: male, sim to Molex Products 1380-T.
		RF CABLE ASSEMBLY 19A130449G1
	19A116979P1	Plug, coaxial: sim to Amphenol 83-822.
	7105381P2	Adapter: sim to UG-176/U.
		RF CABLE ASSEMBLY 19A130449G2
	19B209018P5	Receptacle: sim to Automatic Metal Products Corp. 100-N1000A or UG-536B/U.
	5491689P116	RF cable: approx 43 inches long.
		RF CABLE 5491689P117

*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES



(2) THESE INSTRUCTIONS COVER THE INSTALLATION OF THE BATTERY CHARGER PL19D430277G7 IN THE POWER SUPPLY PL19D430272. FOR MATERIAL SEE KIT PL19A138358G2

INSTRUCTION FOR INSTALLING THE BATTERY CHARGER ARE AS FOLLOWS:

DISCONNECT POWER SUPPLY FROM ITS POWER SOURCE.

1. ROUTE RED BATTERY CABLE (PL19B226339G2) THRU 'H2' HOLE AND CONNECT TO K1-2L TERMINAL ON BATTERY CHARGER ASSY. SECURE RED CABLE WITH CLAMP 402985IP13 AND RED, VIOLET AND BLACK WIRE WITH CLAMP 402985IP8 AS SHOWN AND ASSEMBLE BATTERY CHARGER ASSY. TO POWER SUPPLY REAR PANEL WITH (4) 6-32 X 3/8 LG SCREW & LOCKWASHERS
2. ROUTE ORANGE CABLE THRU 'H2' HOLE AND ATTACH TERMINAL END TO XF801A-1 OR XF801B-1. (SEE VIEWS 'A')
3. DISCONNECT BLACK WIRE BETWEEN R801-1 & C802 (-) & DISCARD. REMOVE (1) LOCKWASHER, SEE NOTE 9 FOR USAGE. TIGHTEN TERMINAL SCREW AT C802(-)
4. SOLDER THE YELLOW WIRE FROM THE BATTERY CHARGER TO R801-1. (SEE VIEW 'C')
5. CONNECT THE BLACK WIRE FROM THE BATTERY CHARGER TO A803-G1. APPLY (1) #8 LOCKWASHER (A LOCKWASHER SHALL BE ON BOTH SIDES OF TERMINALS). SEE VIEW E. CONNECT THE VIOLET WIRE TO J801-7
6. FOR T801, T802, T803 SOLDER THE #13 WIRE TO 'H3' AND #14 WIRE TO 'H4' ON BATTERY CHARGER PC BD.
7. ASSEMBLE C806 TO POWER SUPPLY CHASSIS.
8. CONNECT THE RED WIRE FROM THE BATTERY CHARGER PC BD 'H1' TO THE (+) OF C806. CONNECT THE BLACK WIRE FROM THE BATTERY CHARGER PC BD 'H2' TO THE (-) OF C806. TIGHTEN TERMINAL SCREWS.
9. 10A-20A APPLICATIONS, CONNECT 'BK' BATTERY CABLE TO XF801A-3. 30A APPLICATIONS, CONNECT 'BK' BATTERY CABLE TO 'G10' APPLY (1) #10 LOCKWASHER. (A LOCKWASHER SHALL BE ON BOTH SIDES OF TERMINAL.) CONNECT OTHER END OF 'R' & 'BK' BATTERY CABLES TO BATTERY AS SHOWN ON DIAGRAM 19C330104.
10. FOR INSTALLATION OF CHARGER KIT IN OLDER UNITS: USING PWB AS A TEMPLATE, DRILL (2) .149 HOLES AND USE SPACER 7150186P107, SCREW N80P13008C6, L'WASHER N404P13C6, NOT N210PT3C6 (2) PLACES.
11. FOR INSTALLATION OF CHARGER KIT IN OLDER UNITS: POSITION HEAT SINK AS SHOWN AND DRILL (2) .177 HOLES AND INSTALL SCREW N80P15005C6, L'WASHER N403P16C6 (2) PLACES.

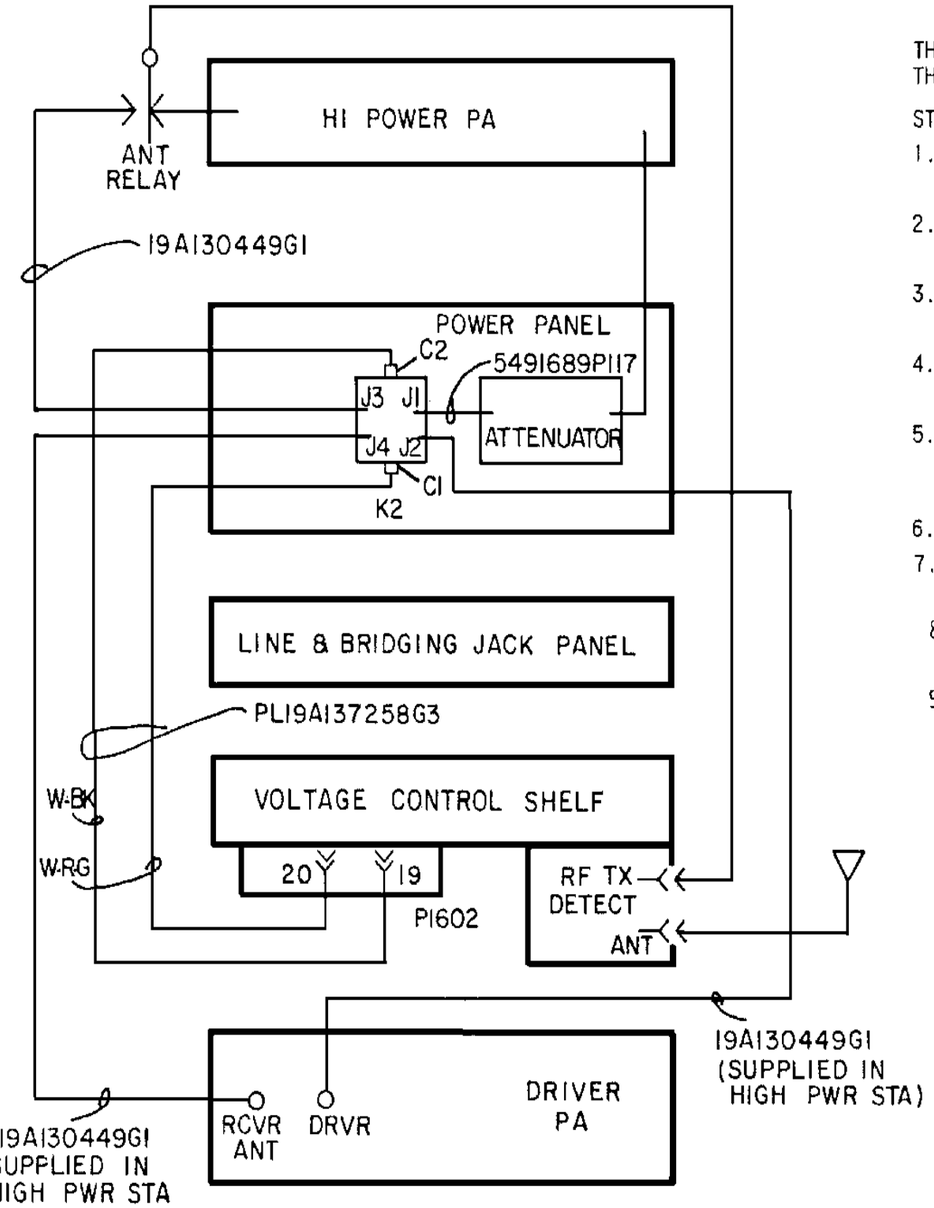
WIRE CHART		
FROM	TO	WIRE
HEAT SINK ASM	J1	RED
	J2	WHITE
	J3	VIOLET

12. THE LUGS ON THE FREE END OF W1 (ORANGE-RED TWISTED PAIR CABLE) COMING FROM P.W.B. ASSEMBLY 19D430277G7 ARE INSTALLED ONTO TERMINAL BLOCK TB1 LOCATED BEHIND THE DOOR ON THE FRONT OF THE POWER SUPPLY. THEY ARE CONNECTED AS FOLLOWS:

POWER SUPPLY	W1 - RED LEAD	W1 - ORANGE LEAD
19D430272G1,2,4,5	A801-TB1-4	A801-TB1-1
19D430272G3, 6	A801-TB1-5	A801-TB1-4

BATTERY STANDBY CHARGER
19A138358G2
OPTION BC01

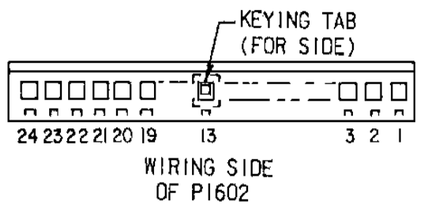
(19D430298, Sh. 2, Rev. 1)



THESE INSTRUCTIONS COVER THE INSTALLATION & MODIFICATION OF THE 19C321398 RELAY FOR Fo OPERATION IN THE IMTS STATION.

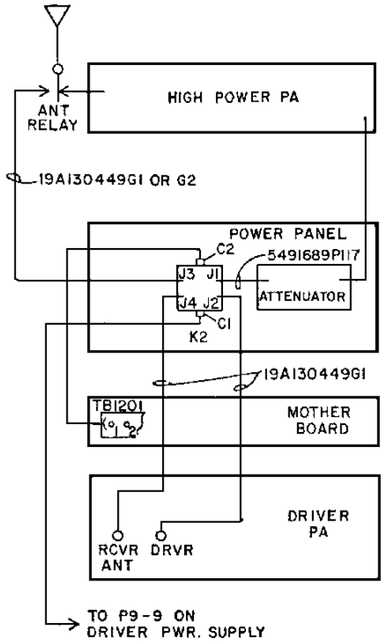
STEPS:

1. DISCONNECT ALL RF CABLES FROM THE BACK OF THE RADIO EXCEPT THE CABLE FROM THE HIGH POWER PA TO THE ATTENUATOR.
2. MOUNT THE RF RELAY ASSY K2 (19C321398) ON THE POWER PANEL, USING THE HARDWARE PROVIDED.
3. UNSOLDER WIRE FROM C2 & SOLDER W-BK WIRE ON C2. (WIRE SUPPLIED IN 19A137258G3, CABLE KIT)
4. UNSOLDER WIRE FROM C1 & SOLDER W-R-G WIRE ON C1. (WIRE SUPPLIED IN 19A137258G3, CABLE KIT)
5. ROUTE WIRES OF C1 & C2 ON RELAY TO P1602 ON 19B232219 HARNESS. INSERT W-BK WIRE INTO P1602-19 AND W-R-G WIRE INTO P1602-20 SPOT TIE WIRES IN PLACE.
6. INSERT SF22W-BL-O WIRE BETWEEN P1602-22 AND P9-9 AND SPOT TIE IN PLACE.
7. INSERT CONTACT ON 30" LENGTH OF SF22-R WIRE INTO J801-9 ON THE DRIVER POWER SUPPLY CHASSIS AND CONNECT OTHER END TO R801-1.
8. CONNECT THE 8" RF CABLE (5491689P117) BETWEEN J1 ON THE RF RELAY AND THE ATTENUATOR PAD (IN LINE CONNECTOR ON UHF UNITS).
9. CONNECT THE 19A130449G1 CABLES AS FOLLOWS:
   A. J2 ON RF RELAY TO DRIVER RF OUTPUT.
   B. J4 ON RF RELAY TO RECEIVER ANTENNA CONNECTOR.
   C. J3 ON RF RELAY TO ANTENNA SWITCHING RELAY ON THE HIGH POWER PA. WHEN TWO ANTENNAS ARE USED, OMIT B ABOVE AND CONNECT RCVR ANTENNA DIRECTELY TO RCVR ANTENNA CONNECTOR.



RF RELAY ASSEMBLY
19C321398G, G2
OPTIONS 9670 & 9771

(19B232304, Rev. 3)



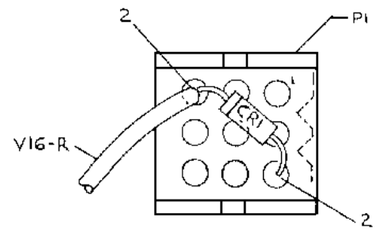
THESE INSTRUCTIONS COVER THE INSTALLATION OF THE MASTR II HIGH POWER BASE STATION RF COAX RELAY FOR USE WITH THE BATTERY STANBY-CHARGER OPTIONS.

1. DISCONNECT ALL rf CABLES FROM THE BACK OF THE RADIO EXCEPT THE CABLE FROM THE HIGH POWER PA TO THE ATTENUATOR.
2. MOUNT THE rf RELAY ASM. K2 (19C321398) ON THE POWER PANEL, USING THE HARDWARE PROVIDED.
3. CONNECT THE SF22 BK WIRE FROM C2 TO TB1201-1 ON THE MOTHER BOARD.
4. INSERT CONTACT ON END OF SF-22 R WIRE FROM C1 INTO P9-9 ON THE DRIVER POWER SUPPLY CHASSIS.
5. INSERT CONTACT ON 30 INCH LENGTH OF SF22 R WIRE INTO J801-9 ON THE DRIVER POWER SUPPLY CHASSIS AND CONNECT OTHER END TO R801-1.
6. CONNECT THE 8" rf CABLE (5491689P117) BETWEEN J1 ON THE rf RELAY AND THE ATTENUATOR PAD (IN-LINE CONNECTOR ON UHF UNITS).
7. CONNECT THE 19A130449G1 CABLES AS FOLLOWS:
   A. J2 ON rf RELAY TO DRIVER rf OUTPUT.
   B. J4 ON rf RELAY TO RECEIVER ANTENNA CONNECTOR.
   C. J3 ON rf RELAY TO ANTENNA SWITCHING RELAY ON THE HIGH POWER PA. (ON UHF BAND, THIS CABLE IS 19A130449G2).

   WHEN TWO ANTENNAS ARE USED OMIT B ABOVE AND CONNECT RCVR ANTENNA DIRECTLY TO RCVR ANTENNA CONNECTOR.

BATTERY STANDBY CHARGER
HIGH POWER TUBE STATION
RF COAXIAL RELAY
OPTION 9670

(19B226736, Rev. 4)

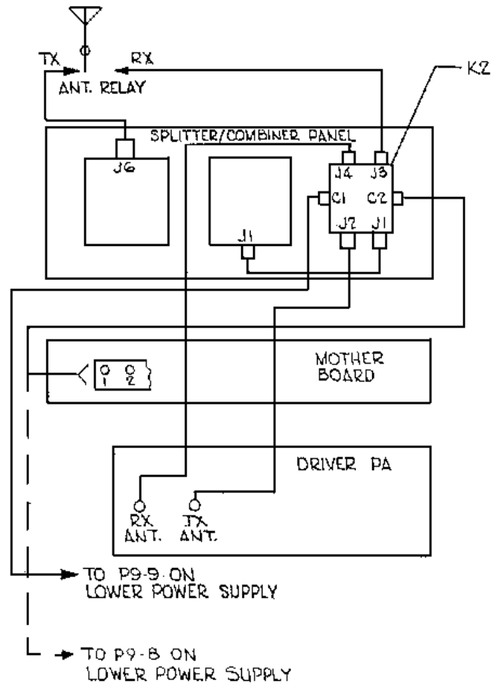


(19B234291, Rev. 1)

THIS MOD INSTRUCTION DESCRIBES CHANGES REQUIRED FOR INSTALLATION OF OPTIONS 9771, 9775, BU03, & BU04 (CHARGER OPTIONS) IN HIGH POWER SOLID STATE STATIONS.

PROCEDURE

1. REMOVE V16-R WIRE AND CONTACT FROM P9-3 ON LOWER POWER SUPPLY. (THIS IS LEAD FROM COAX RELAY ASSY.)
2. FREE WIRE FROM HARNESS SO THAT IT CAN REACH J801 ON UPPER POWER SUPPLY.
3. REMOVE CONTACT FROM FREE END OF WIRE
4. CRIMP ITEM 2 ON FREE END OF WIRE TOGETHER WITH CATHODE LEAD OF CR1.
5. TERMINATE ANODE LEAD OF CR1 WITH ITEM 2.
6. INSTALL CONTACTS IN P1 AS SHOWN.
7. PLUG COMPLETED CONNECTOR INTO J801 ON UPPER POWER SUPPLY.



These instructions cover the installation of the MASTR II High Power Solid State Base Station RF Coax Relay for use with the Battery-Standby Charger Options.

1. Disconnect the RF cables between the Ant. Relay and the Rx ANT connector and the Tx ANT connector on the Driver PA and J1 on the Splitter/Combiner Panal.
2. Mount the RF Relay ASM X2 (19C321398) on the right side of the Splitter/Combiner Panel using the pressed in nuts in the panel and the hardware provided.
3. Connect the SF22 BK wire from C2 to TB1201-1 on the Mother Board. If first two digits of combination are S3, connect BK wire into P9-8 with W-BL wire.
4. Insert contact on 30-inch length of SF22 R wire into J801-9 on the Lower Power Supply Chassis and connect other end to R801-1.
5. Insert contact on end of SF22-R wire from C1 into P9-9 on Lower Power Supply Chassis.
6. Connect the RF cables (19A130449) as follows:

   (G3) J1 on RF Relay to J1 on Splitter/Combiner Panel

   (G1) J2 on RF Relay to Driver PA Tx ANT

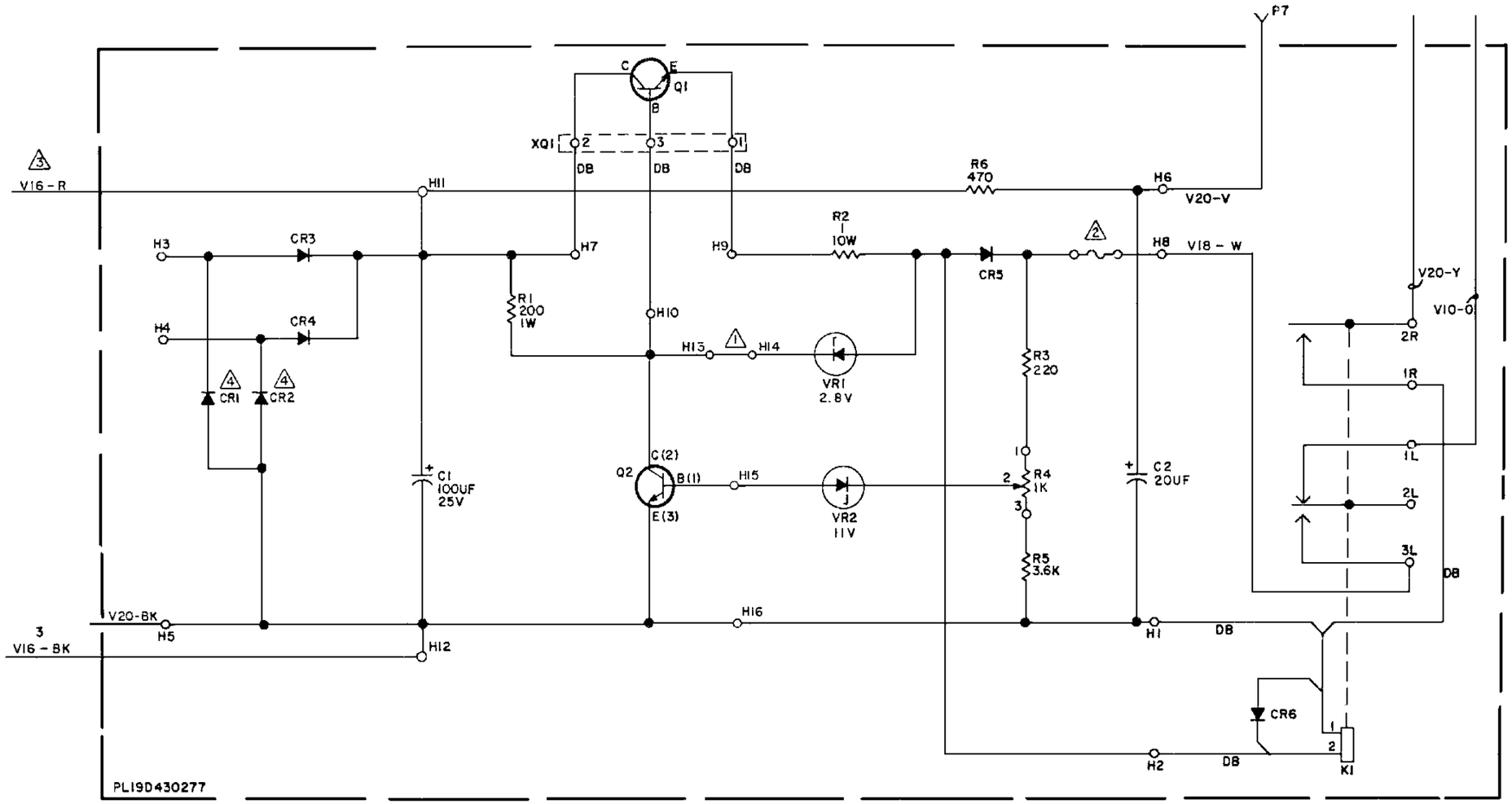
   (G1) J4 on RF Relay to Rx ANT on Driver PA Chassis

   (G2) J3 on RF Relay to Rx port on Antenna Relay

   When two antennas are used, omit (G1) J4 to Rx ANT above and connect Receiver Antenna directly to Rx ANT Connector on Driver PA thassis.

(19C331532, Rev. 1)

BATTERY STANDBY CHARGER
HIGH POWER SOLID STATE RF COAXIAL RELAY
OPTION 9771



NOTES:

1. IN G1 USE CA WIRE. IN G2 USE R7, 20Ω, 1W.
2. IN G1 USE F1, XF1, 2 AMP. IN G2 USE F2, XF2, 3 AMP.
3. IN G2 ONLY.
4. IN G1 ONLY.

ALL RESISTOR'S ARE 1/2 WATT UNLESS OTHERWISE SPECIFIED AND RESISTOR VALUES IN OHMS UNLESS FOLLOWED BY K=1000 OHMS OR MEG=1,000,000 OHMS. CAPACITOR VALUES IN PICOFARADS (EQUAL TO MICROMICROFARADS) UNLESS FOLLOWED BY UF=MICROFARADS. INDUCTANCE VALUES IN MICROHENRYS UNLESS FOLLOWED BY MH=MILLIHENRYS OR H=HENRYS.

MODEL NO.	REV LETTER
PL19D430277G1	A
PL1D430277G3	A

BATTERY STANDBY CHARGER
19A138558G1

(19D430280 Rev. 2)
****

BATTERY STANDBY CHARGER
19A138358G1
ISSUE 2

SYMBOL	GE PART NO.	DESCRIPTION
		- - - - - - - - - - CAPACITORS - - - - - - - - - -
C806	19A134033P7	Electrolytic: 8700 uF +50%-10%, 30 VDCW; sim to GE 92F212ANB.
		STANDBY CHARGER POWER SUPPLY BOARD 19D430277G2
		- - - - - - - - - - CAPACITORS - - - - - - - - - -
C1	19A115680P5	Electrolytic: 100 uF +150 -10%, 25 VDCW; sim to Mallory Type TTX.
C2	19A115680P3	Electrolytic: 20 uF +150-10%, 25 VDCW; sim to Mallory Type TTX.
		- - - - - - - - - - DIODES - - - - - - - - - -
CR3 thru CR5	19A116783P1	Rectifier, silicon: 100 VDC blocking, 6 amp; sim to MR751.
CR6	T324ADP1041	Rectifier, silicon: general purpose.
		- - - - - - - - - - FUSES - - - - - - - - - -
F2	1R16P6	Quick blowing: 3 amps at 250 v; sim to Littelfuse 312003 or Bussmann AGC-3.
		- - - - - - - - - - JACKS - - - - - - - - - -
J1 thru J3	4033513P4	Contact, electrical: sim to Bead Chain L93-3.
		- - - - - - - - - - RELAYS - - - - - - - - - -
K1	19B209492P1	Open: 12.6 VDC, 80 amps ±10%, coil res, 1 form C contact, 15 amps @ 28 VDC; sim to Magnecraft 292XX134A.
		- - - - - - - - - - TRANSISTORS - - - - - - - - - -
Q1	19A116753P1	Silicon, NPN.
Q2	19A116118P1	Silicon, NPN.
		- - - - - - - - - - RESISTORS - - - - - - - - - -
R1	19A700112P46	Composition: 200 ohms ±5%, 1 w.
R2	5493035P28	Wirewound: 1 ohm ±10%, 10 watts.
R3	19A700113P47	Composition: 220 ohms ±5%, 1/2 w.
R4	19B209358P103	Variable, carbon film: approx 50 to 1K ohms ±10%, 0.2 w; sim to CTS Type X-201.
R5	3R77P362J	Composition: 3.6K ohms ±5%, 1/2 w.
R6	19A700113P55	Composition: 470 ohms ±5%, 1/2 w.
R7	3R78P200J	Composition: 20 ohms ±5%, 500 VDCW, 1 w.
		- - - - - - - - - - VOLTAGE REGULATORS - - - - - - - - - -
VR1	4036887P2	Silicon, zener: sim to 1N5223B.
VR2	4036887P8	Zener: 500 mW, 11 v. nominal.
		- - - - - - - - - - SOCKETS - - - - - - - - - -
XF1	19A116688P1	Fuse clip: sim to Littelfuse, Inc. 102071. (Quantity 2).
XQ1	5491888P1	Transistor, power, phen: sim to Cinch 133-92-10-034.
		- - - - - - - - - - MISCELLANEOUS - - - - - - - - - -
	19B226339G1	Battery cable: approx 10 ft. long. (BLACK).
	19B226339G2	Battery cable: approx 10 ft. long. (RED).
	7479571P7	Retainer. (C806).
	19A701863P13	Cable clip. (Secures Positive battery cable).
	19A701863P6	Cable clip. (Secures Negative battery cable).
	N80P13006B6	Machine screw, Phillips head: No. 6-32 x 3/8. (Secures battery charger board).
	N80P13008B6	Machine screw, Phillips head: No. 6-32 x 1/2. (Secures C806 Retainer to Housing).
	7141225P3	Hex Nut: No. 6-32.
	N404P13B6	Lockwasher, internal tooth: No. 6. (Secures battery charger board).
	N403P16B6	Lockwasher, internal tooth: No. 8. (Secures C806 Retainer to Housing).
	19D430277G5	Harness.
	19A116022P1	Insulator, bushing. (Used with Q2).
	19A116023P1	Insulator, plate. (Used with Q2).
	4029974P1	Insulator, plate: aluminum. (Used with Q1).
	N130P1208B6	Screw, thread forming: No. 6-20 x 1/2. (Secures Q1).
	19A129799P1	Support. (K1).
	19C320294P1	Support. (Q1).

*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES

LBI4906E

COAXIAL RELAY AND CABLE 19C321398G1
RF CABLE 19A130449G1,G2
RF CABLE 5491689P117

SYMBOL	GE PART NO.	DESCRIPTION
		RELAY ASSEMBLY 19C321398G1 T0BE STATION 19C321398G2 SOLID STATE STATION
		- - - - - - - DIODES AND RECTIFIERS - - - - - - -
CR1	T324ADP1051	Rectifier, silicon; general purpose.
		- - - - - - - - - - RELAYS - - - - - - - - - -
K2	19A700061P1	Hermetic sealed: 180 to 341 ohms coil res, 8-16.3 VDC; sim to GE 30AV1760A2, CP Clare HFW-1201558, or Potter-Brumfield HCM6160.
		- - - - - - - - - MISCELLANEOUS - - - - - - - - -
	7118719P2	Clip, spring tension: sim to Prestole 8-50001-003. (Used with K2).
	19B209260P103	Solderless terminal; sim to AMP 60495-1.
	5496809P17	Contact, pin: female, brass; sim to Molex Products 1381-T.
	5496809P18	Contact, pin: male, sim to Molex Products 1380-T.
	N80P8004B6	Machine screw: No. 4-40 x 1/4.
	N404P11B6	Lockwasher, internal: No. 4.
		RF CABLE ASSEMBLY 19A130449G1
	19A116979P1	Plug, coaxial: sim to Amphenol 83-822.
	7105381P2	Adapter: sim to UG-176/U.
	5491689P116	RF cable: approx 43 inches long.
		RF CABLE ASSEMBLY 19A130449G2
	19B209018P5	Receptacle: sim to Automatic Metal Products Corp. 100-N1000A or UG-536B/U.
	5491689P116	RF cable: approx 43 inches long.
		RF CABLE 5491689P117

*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES