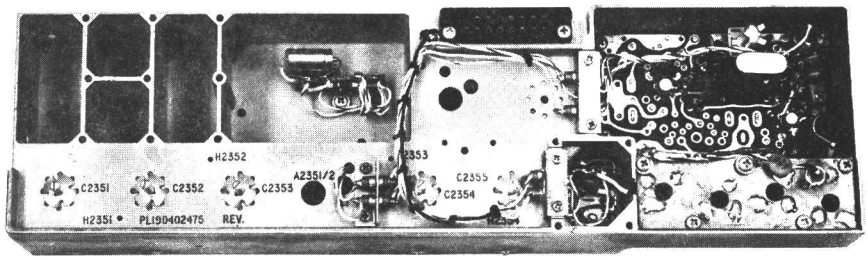
communications

MASTR Progress Line

132-174 MC DUAL FRONT END MODELS 19D402475-G1-G4 (WITH SEARCH-LOCK MONITOR)



SPECIFICATIONS *

DUAL FRONT END 19D402475-G1 thru -G4

FREQUENCY RANGE	132-174 MC	
SENSITIVITY		
	With One Antenna	With Two Antennas
12-db SINAD	0.4 microvolt	0.35 microvolt
20-db quieting	0.55 microvolt	0.5 microvolt
INTERMODULATION (EIA)	-60 db	
INPUT POWER	.010 Amps at 10 volts	
FREQUENCY STABILITY	.0005% (-30°C to +60°C)	
TRANSISTORS	4	
DIMENSIONS (HxWxD)	2-1/4" x 11-3/4" x 4-3/8"	

SEARCH-LOCK MONITOR 19A121599-G1

SEARCH RATE (Receiver squelched)	Samples each channel approximately four times per second.
INPUT POWER	.005 Amps at 10 volts
TRANSISTORS	3
TEMPERATURE RANGE	-30°C to +60°C (-22°F to +140°F)
DIMENSIONS (HxWxD)	2" x 2-3/4" x 3/4"

*These specifications are intended primarily for the use of the serviceman. Refer to the appropriate Certified and Guaranteed Specification Sheet for the complete specifications.

DUAL FRONT END 132-174 MC

GENERAL ELECTRIC

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ILLUSTRATIONS

DESCRIPTION

DUAL FRONT END

General Electric Dual Front End Model 19D402475-G1 through -G4 was designed for operation in the 132-174 megacycle band. The Dual Front End (DFE) is used with MASTR Progress Line Receivers to monitor two frequencies when the channel spacing is greater than 0.4% (±.2%).

The DFE is of single-unit construction, completely housed in an aluminum casting for maximum shielding and rigidity. The unit consists of an RF amplifier, mixer, oscillator and two multiplier stages. The output feeds directly into the receiver 1st mixer stage as shown in Figure 1. The chassis is mounted in a housing on the rear of the mobile frame, adding approximately three inches to the overall length of the mobile unit.

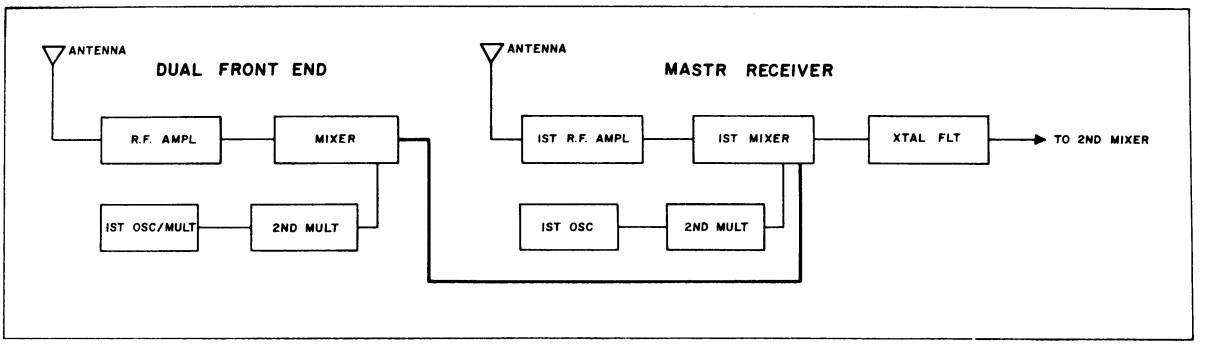


Figure 1 - Dual Front End Block Diagram

SEARCH-LOCK MONITOR (SLM)

Mobile combinations with Dual Front End are also equipped with Search-Lock Monitor to provide two-frequency monitoring. A three-position Search-Lock Monitor Switch (S705) is mounted on the Mobile Control Unit. The switch has F1, F1-F2 and F2 positions. When the switch is in the F1-F2 position, no voltage is fed from S705 to either receiver crystal-switching diode or the Dual Front End switching diode, and the Search-Lock Monitor operates. The Search-Lock Monitor then provides two-channel monitoring by alternately switching +10 volts between the receiver crystal-switching diode and Dual Front End switching diode at a rate of approximately four times per second. When a signal is received on either channel, the SLM "locks" on that frequency for the duration of the signal (see Figure 2).

Turning the switch to the F1 or F2 position applies +10 volts to the selected crystal-switching diode and overrides the SLM. Switching to the F1 or F2 position also connects the crystal-switching diode of the transmitter oscillator to ground, so that the receiver or Dual Front End will operate on the frequency determined by the selected transmitter and receiver/Dual Front End oscillator. With the switch in the F1-F2 position, the transmitter will operate on the F1 frequency only.

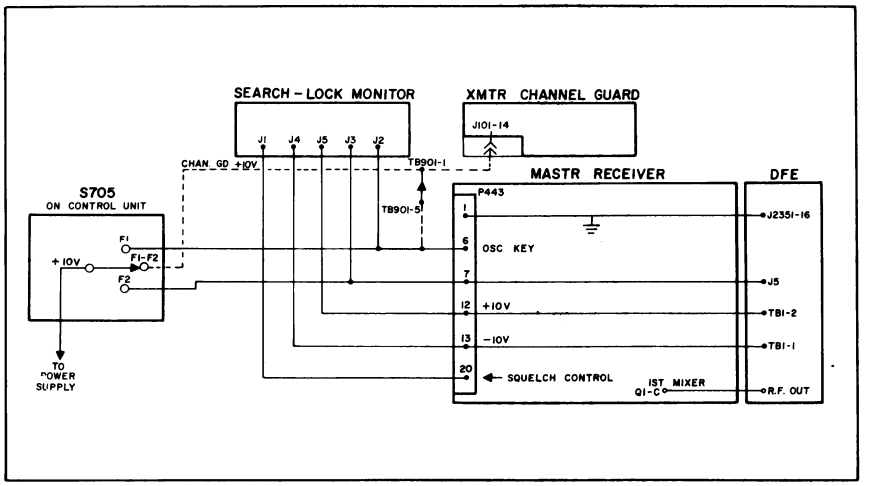


Figure 2 - Search-Lock Monitor Switching Diagram

In combinations equipped with Channel Guard, the receiver Channel Guard operates only in the F1 position. The transmitter Channel Guard operates in the F1 and F1-F2 positions.

The Search-Lock Monitor board is mounted on the rear of the mobile system frame between the Dual Front End and the receiver.

ANTENNA SYSTEMS

The Dual Front End and the receiver may use a common antenna or separate antennas. If the two frequencies are in the 132-174 megacycle range, one antenna will work satisfactorily. For crossband applications, where the receiver frequency is in the 25-50 megacycle range and the DFE in the 132-174 megacycle range, two antennas must be used to obtain maximum receiver sensitivity. The frequency range and antenna system used with each model DFE is shown in the following chart.

DUAL FRONT END	FREQUENCY RANGE	ANTENNA SYSTEM
19D402475-G1	132-150.8 MC	One Antenna
19D402475-G2	150.8-174 MC	One Antenna
19D402475-G3	132-150.8 MC	Two Antennas
19D402475-G4	150.8-174 MC	Two Antennas

Single Antenna System (Figure 3)

In the single antenna system, the antenna connects to jack J901 on the front of the mobile unit. From J901, the antenna connects to the common terminal of antenna relay K901. The transmitter connects to the normally open contact terminal of the antenna relay. The normally closed contact terminal of K901 is connected to the common terminal of the antenna "T" connector. One cable from the "T" connector goes to J1 on the Dual Front End and the other cable goes to J441 on the receiver.

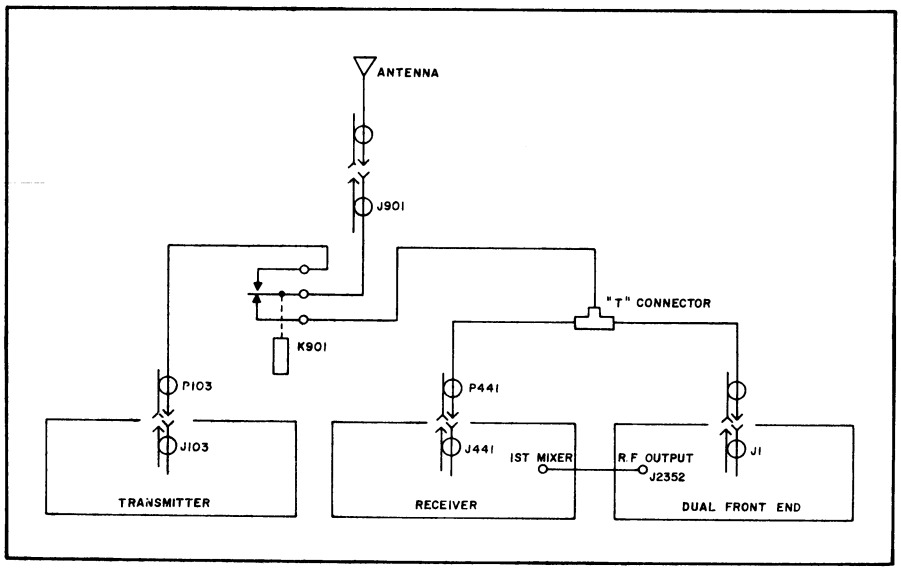


Figure 3 - Single Antenna Block Diagram

Dual Antenna System (Figure 4)

When two antennas are used, one antenna is connected through antenna jack J902 on the front of the mobile unit to jack J1 on the DFE. The second antenna is connected through J901 to the common terminal of antenna relay K901. The normally closed relay contact is connected to receiver antenna jack J441, and the normally open contact is connected to the transmitter.

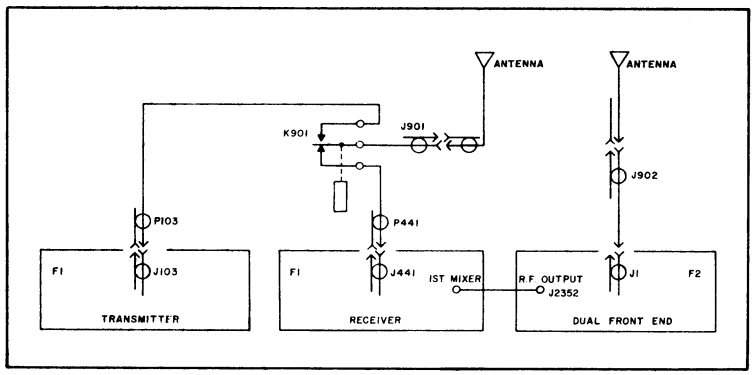


Figure 4 - Dual Antenna Block Diagram

CIRCUIT ANALYSIS

DUAL FRONT END (19D402475-G1 through -G4)

The MASTR Progress line Dual Front End is completely transistorized, using four silicon transistors. A regulated 10 volts is used for all stages of the Dual Front End.

Centralized metering jack J2351 is provided for use with the General Electric Test Set EX-3-A for ease of alignment and servicing. The Test Set meters the oscillator, multipliers, and the regulated 10 volts.

RF Amplifier (A2351-A2352)

RF Amplifier A2351 (132-150.8 MC) or A2352 (150.8-174 MC) consists of three tuned helical resonators and an RF amplifier stage (Q1). The RF signal from the antenna is coupled by RF cable W2351/W2352 to a tap on L2351/L2354. The tap is positioned to insure the proper impedance match to the antenna. RF energy is coupled through the three helical resonators by openings in the shield walls, to the base of RF Amplifier Q1. The output of Q1 is L-C coupled through transformer T1/T2 to helical resonators L2357/L2359 and L2358/L2360, and then to the 1st mixer (A2353-Q1).

1st Oscillator and MULT-1 (A2356-A2357)

The receiver 1st oscillator operates in a transistorized Colpitts oscillator circuit. The oscillator crystal operates in a fundamental mode at a frequency of approximately 13 to 18 megacycles. The crystal is cut to provide temperature compensation at the high end of the temperature range and is thermistor compensated at low temperatures. This provides ±.0005% frequency stability as soon as the receiver is energized -- without having to wait for crystal ovens to warm up.

Regulated 10 volts is supplied to the crystal circuit to forward bias diode CR1. Forward biasing the diode reduces its impedance, so that the crystal frequency is applied to the base of oscillator transistor Q1. Feedback for the oscillator is developed across C21. The oscillator output is fed through C24 to the base of the 1st multiplier Q2.

The output of the 1st multiplier (tripler Q2) is transformer-coupled (T1/T2) to the 2nd multiplier assembly. The 1st multiplier tank is tuned to three times the crystal frequency and is metered at centralized metering jack J2351-4 through metering network CR5, R16, R2353 and C32.

2nd Multiplier (A2354/A2355)

Transformer T1/T2 couples the 1st multiplier to the anode of multiplier diode CR1. Three resonant LC circuits (T3/T4, T5/T6 and T7/T8) follow CR1 and are tuned to nine times the crystal frequency. The 2nd multiplier output is fed through C13 to the base of the 1st mixer.

1st Mixer (A2353)

The RF signal from the RF amplifier and the low-side injection voltage from the 2nd multiplier are applied to the base of 1st mixer A2353-Q1.

From J2352, the output is connected to the collector of the receiver 1st mixer stage.

Centralized metering jack J2351 is provided for maintenance and alignment of the 1st multiplier. The four leads from the receiver plug P443 supplies the regulated 10 volts for the Dual Front End circuit, crystal switching, system negative, and ground connections.

SEARCH-LOCK MONITOR (19A121599-G1)

The SLM circuit consists of a pulse generator (Q1) and a bi-stable multivibrator circuit (Q2 and Q3). The pulse generator operates at a nominal frequency of eight pulses per second.

When the receiver is squelched, 9 volts from the collector of the receiver DC amp (Q8) is fed through J1 and R2 on the SLM board to the base of pulse generator Q1. This voltage causes Q1 to operate, sending a series of pulses to the base of switching transistors Q2 and Q3. These pulses activate the switching circuit which alternately applies +10 volts to each receiver oscillator-switching diode at a rate of approximately four times per second.

When a signal is received, the receiver squelch opens; and the voltage at the base of Q1 drops almost to zero. This disables the pulse generator and switching circuit, and the +10 volt input from J5 is applied through R11 and Q2 or Q3 to the receiver oscillator. For example, if the first call is received on F1, the +10 volt is applied to the F1 receiver oscillator through R11 and Q2, locking the receiver on F1. Subsequent signals at F2 will not be heard while the F1 signal is being received.

When the signal at F1 stops, the receiver squelches and 9 volts is fed to the base of pulse generator Q1. Then Q2 and Q3 begin to switch back and forth until another signal is received.

Back bias is prevented from reaching the collectors of Q2 and Q3 by CR1 and CR2. CR4 biases Q3 off while Q2 is conducting, thereby preventing Q3 from conducting while Q2 is operating. The pulse generator circuit consists of R1, R2, R3, C1, C2 and Q1.

RF CABLE LENGTHS

When changing frequencies or units in single antenna systems, the RF cables from the "T" connector to the receiver and DFE must be cut to the lengths calculated from the "Cable Length Chart" (Figure 6). This is particularly important when F1 and F2 are only a few channels apart.

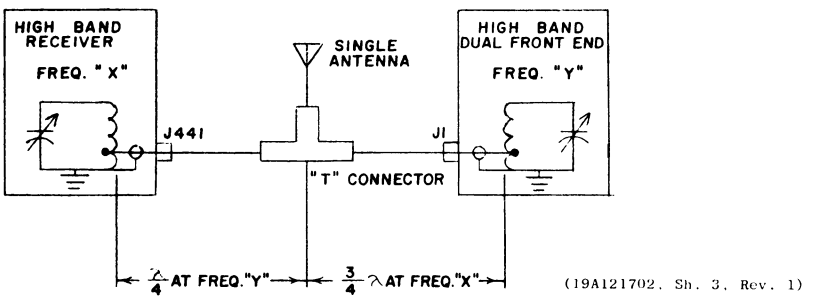
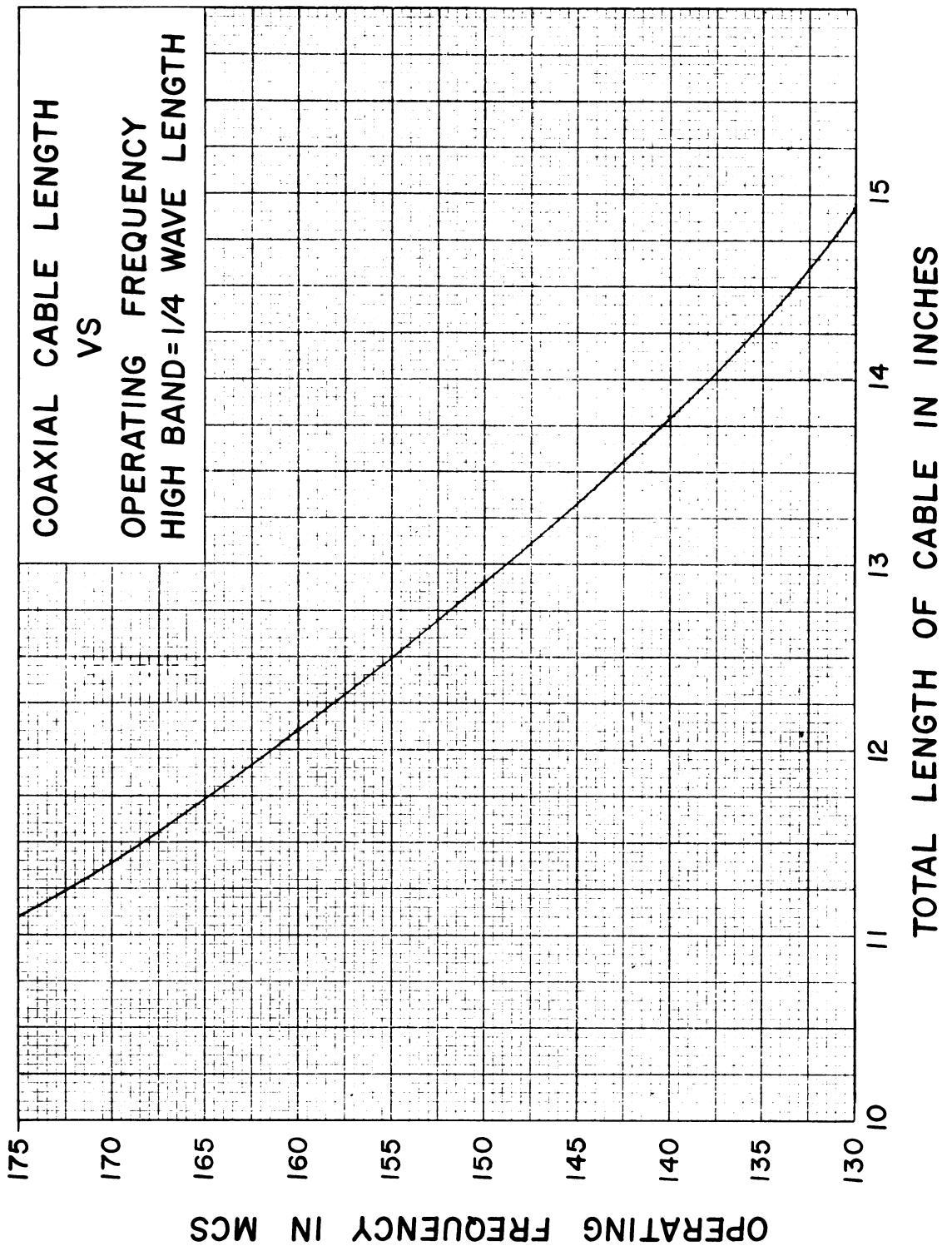


Figure 5 - Cable Lengths for Single Antenna Systems



(19A121702, Sh. 4, Rev. 1)

Figure 6 - Cable Length Chart

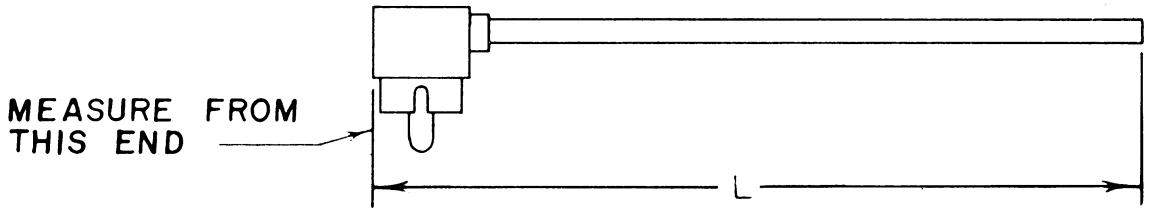
Procedure

Prepare the one-quarter wavelength coaxial cable to connect the receiver to the "T" connector as follows:

1. From Figure 6, determine the proper length for the receiver cable by using the Dual Front End frequency.

2. Subtract four inches from the length found in Step 1 (for the length of cable inside the receiver). This gives you the cutting length for the cable.

3. Measure the cable as shown in Figure 7 and cut the cable to length.



(19A121772, Sh. 1, Rev. 0)

Figure 7 - Receiver Cable Length (1/4-Wavelength at DFE Freq.)

4. Strip the cable as shown in Figure 8 and solder the phono-type connector onto the cable as shown in Figure 9. Be sure that the center conductor is even with the tip of the phono connector.

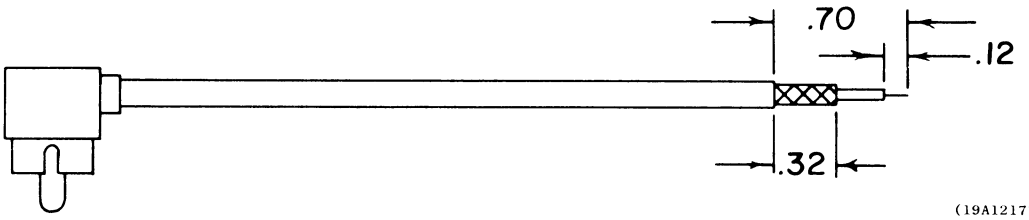


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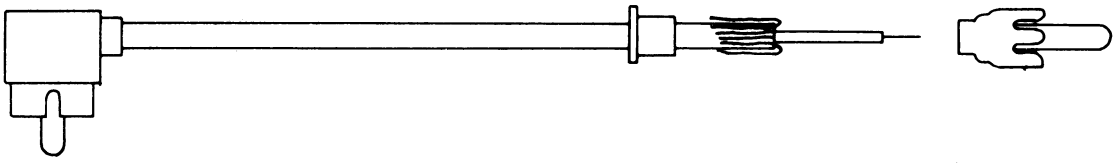
Figure 8 - Stripping Lengths for Receiver Cable



(19A121772, Sh. 2, Rev. 0)

Figure 9 - Assembling Phono Connector on Receiver Cable

5. Plug the cable from J441 on the receiver to the "T" connector. Replace the cable beneath the cable clamp.

Prepare the three-quarter wavelength coaxial cable to connect the Dual Front End to the "T" connector as follows:

1. From Figure 6, determine the value of one-quarter wavelength at the receiver frequency. Multiply this by three to find three-quarter wavelength. This gives you the cutting length for the Dual Front End cable.

2. Measure the cable as shown in Figure 10 and cut the cable to length.

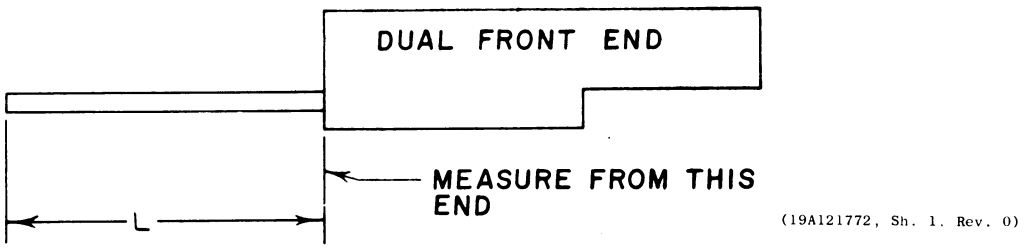


Figure 10 - DFE Cable Length (3/4-Wavelength at Rcvr Freq.)

3. Strip the cable as shown in Figure 11 and solder the phono connector onto the cable as shown in Figure 12. Be sure that the center conductor is even with the tip of the phono conductor.

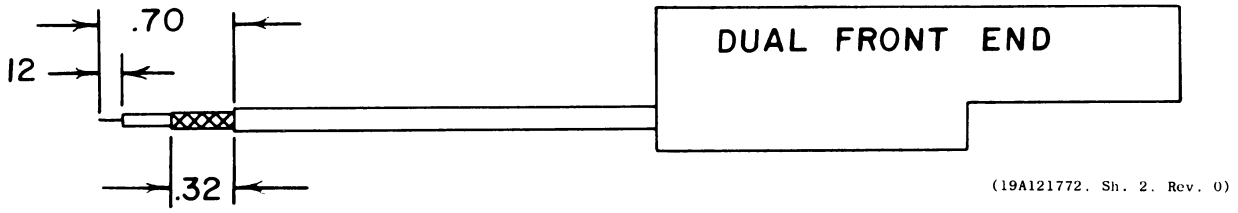


Figure 11 - Stripping Lengths for DFE Cable

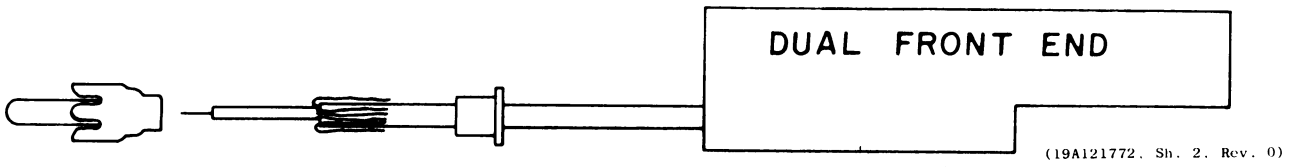


Figure 12 - Assembling Phono Connector on DFE Cable

MAINTENANCE

DISASSEMBLY

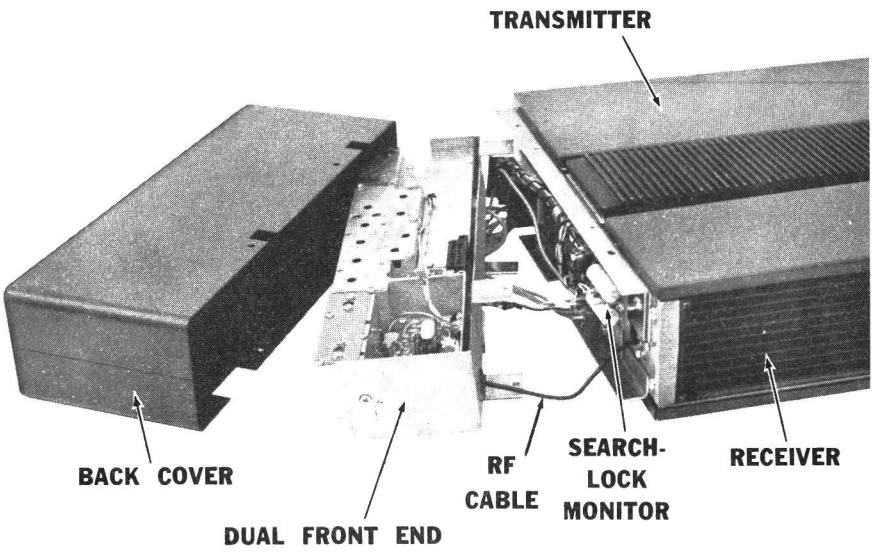


Figure 13 - Dual Front End Disassembly

Removing Dual Front End and/or Search-Lock Monitor:

Dual Front End

1. Pull locking handle down and pull radio out of mounting frame.

2. Remove the four screws holding back cover to system frame. Slide cover back and lift off (see Figure 13).

3. Remove four screws from angle brackets holding Dual Front End to the system frame.

4. Carefully swing Dual Front End chassis out for servicing.

Search-Lock Monitor

1. Same as Steps 1 through 4 above.

2. Remove three screws holding circuit board to system frame (at rear of receiver).

TEST PROCEDURES

Dual Front End

SYMPTOM	CHECK
No Signal	1. Connections to P443. 2. Cable from J2352 to receiver mixer board. 3. Antenna terminal connections. 4. Search-Lock Monitor switching circuit. 5. Check 10-volt supply with G-E test meter at pin 13 on DFE centralized metering jack J2351.
Low Sensitivity	1. DFE alignment. 2. Cable and relay connections. 3. RF Amplifier Q1 voltages. 4. 1st Oscillator Q1 voltages.
Low Oscillator Reading	1. Oscillator alignment 2. Voltage readings at 1st Oscillator Q1. 3. Crystal Y1.

Search-Lock Monitor

1. Turn the SLM switch to the F1-F2 (Search-Lock) position and make sure that the receiver is squelched.

2. Connect positive probe of multimeter to junction of R1 and CR1 (for F1) or R22 and CR2 (for F2) on the oscillator board. Connect negative probe to J442-8 (negative). If SLM is operating, meter should vary from zero to a positive voltage approximately two to four times per second.

3. Next, unsquelch the receiver. The Search-Lock circuit will lock on one of the channels. Meter reading should be less than one volt on OFF channel (not conducting) and 6.6 volts on ON channel (conducting).

4. Switch to the F1 position. Reading at junction of R1 and CR1 should be approximately 6.6 volts. Then switch to the F2 position. Reading at junction of R2 and CR2 should be approximately 6.6 volts.

DUAL FRONT END ALIGNMENT

EQUIPMENT REQUIRED

1. G-E Test Set Model 4EX3A10 (or a 20,000 ohm-per-volt multimeter).
2. Signal Generator (132-174 MC range). Connect a one-inch piece of insulated wire no larger than .065-inch diameter to generator output probe.

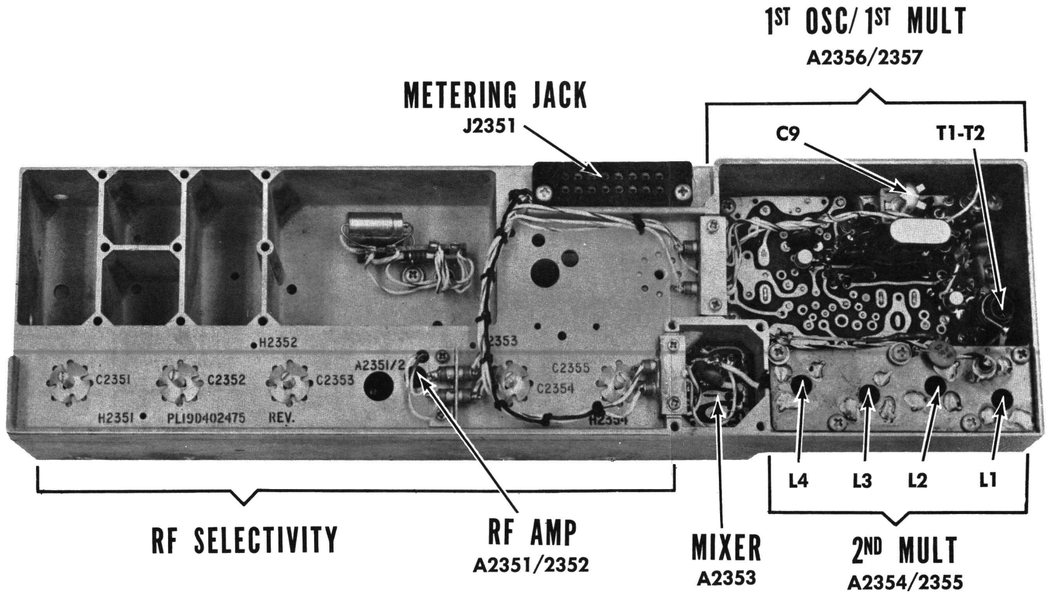
PRELIMINARY CHECKS AND ADJUSTMENTS

1. With Test set in position J, check for regulated +10 volts. If using multimeter, measure from metering jack J2351-13-16.
2. If using Multimeter for alignment, connect positive lead to J2351-16 (ground).

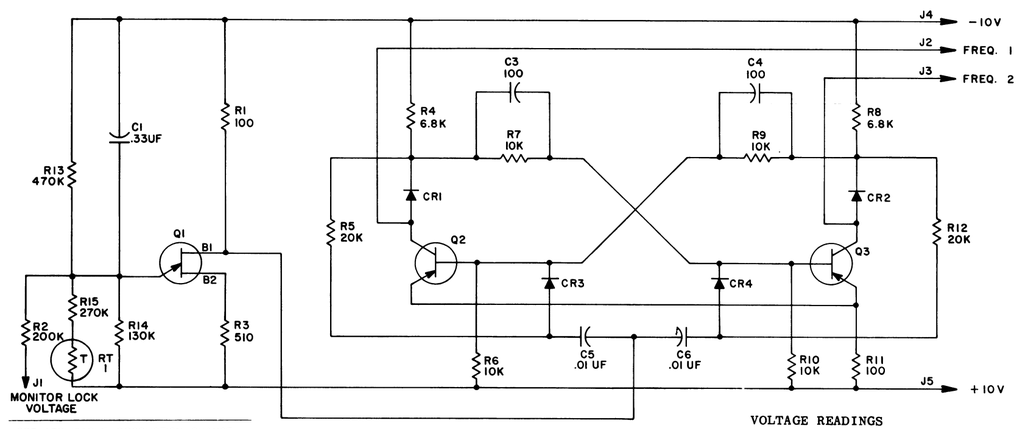
*NOTE -- If Receiver and Dual Front End operating frequencies are less than 1 MC apart, connect the signal generator directly into the Dual Front End antenna connector J1, not into the "T" connector.

Refer to Receiver MAINTENANCE MANUAL for Receiver Mixer and IF Alignment Procedure.

STEP	METERING POSITION: G-E Test Set or Meter Panel	METERING POSITION: Multimeter Minus at J2351	TUNING CONTROL	METER READING	PROCEDURE
OSCILLATOR AND MULTIPLIER					
1			C9 on OSC-MULT Bd		Adjust to approximately mid-frequency range, set selector switch on F2.
2	D	pin 4	T1-T2 on OSC-MULT Bd	Max	Tune for peak.
3	D	pin 4	L1 on 2nd MULT	Min	Tune for minimum reading.
4	E	pin 5	T1-T2 on OSC-MULT Bd L1 on 2nd MULT	Max	Tune for peak.
5	A	pin 10	Signal Generator		Adjust for zero reading on discriminator meter.
6	B	pin 2	L2, L3, L4 on 2nd MULT.	Max	Tune for peak reading.
*RF CIRCUITS					
1	B	pin 2	C2355, C2354, C2352 & C2353 on RF AMP	Max	Insert Generator Probe in Hole Only deep enough to obtain reading. Peak 2354 . . . . . C2355 2353 . . . . . C2354 2352 . . . . . L1, C2353 2351 . . . . . C2352
2	B	pin 2	C2351	Max	Connect Generator to W2351 and peak C2351.
3	B	pin 2	C2351 thru C2355 on RF AMPL		Retune for best sensitivity.



SCHEMATIC DIAGRAM



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

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.

VOLTAGE READINGS

ALL READINGS ARE TYPICAL VOLTAGES MADE WITH A 20,000 OHM-PER-VOLT METER, MEASURED TO J442-8 (NEGATIVE).

S = SQUELCH CONTROL FULLY COUNTERCLOCKWISE
US = SQUELCH CONTROL FULLY CLOCKWISE

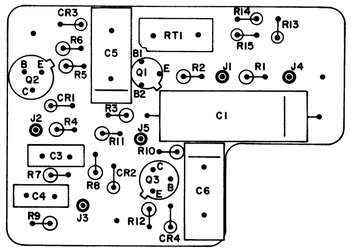
ALL RESISTORS ARE 1/2 WATT UNLESS OTHERWISE SPECIFIED AND RESISTOR VALUES IN OHMS UNLESS FOLLOWED BY K=1000 OHMS, OR MEG=1,000,000 OHMS. CAPACITOR VALUES IN MICROFARADS (EQUAL TO MICROMICROFARADS) UNLESS FOLLOWED BY UF=MICROFARADS. INDUCTANCE VALUES IN MICROHENRYS UNLESS FOLLOWED BY MH=MILLIHENRYS OR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

(19B204847, Rev. 3)

OUTLINE DIAGRAM

CONNECTIONS			
FROM		TO	
WIRE COLOR	SEARCH LOCK MONITOR BD.	MOBILE	STATION
G-BK-R	J1	P443-20	P443-20 (RECEIVER)
W-Y-BR	J2	P443-6	TB502-9 (EP-38-A)
W-Y-R	J3	P443-7	TB502-8 (EP-38-A)
W-O	J4	P443-13	TB501-12 (EP-38-A)
W-R	J5	P443-12	TB501-7 (EP-38-A)

SEARCH-LOCK MONITOR BOARD



(19C303818, Rev. 1)

OUTLINE & SCHEMATIC DIAGRAM

SEARCH-LOCK MONITOR
19A121599-G1

PARTS LIST

LBI-3626B

SEARCH LOCK MONITOR KIT
PL-19A121599-G1 (Mobile)
PL-19A121647-G1 (Station)

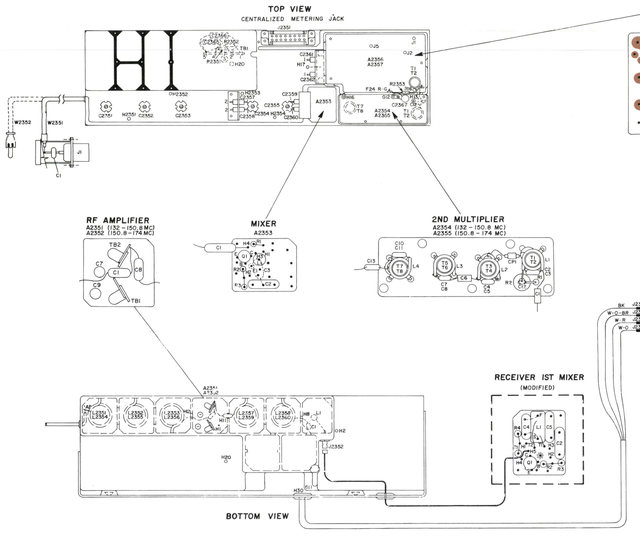
SYMBOL	G-E PART NO.	DESCRIPTION
		- - - - - - - - - - DIODES - - - - - - - - - -
CR5	5494922-P1	Silicon: sim to Type 1N456. (used with 19A121599-G1 only).
		COMPONENT BOARD ASSEMBLY PL-19B204748-G1
		- - - - - - - - - - CAPACITORS - - - - - - - - - -
C1	7491930-P11	Tubular, Mylar® dielectric: axial leads, 0.33 µf ±20%, 100 VDCW; sim to G-E Type 61F.
C2*	7491930-P11	Tubular, Mylar® dielectric: axial leads, 0.33 µf ±20%, 100 VDCW; sim to G-E Type 61F. Deleted by REV. A.
C3 and C4	5490008-P127	Silver mica, dipped phen: radial leads, 100 pf ±10%, 500 VDCW; sim to Electro Motive Type DM-15.
C5 and C6	19A115028-P107	Mylar® dielectric, dipped phen: radial leads, .01 µf ±20%, 200 VDCW.
		- - - - - - - - DIODES AND RECTIFIERS - - - - - -
CR1 thru CR4	5494922-P1	Silicon; sim to Type 1N456.
		- - - - - - - - JACKS AND RECEPTACLES - - - - - - -
J1 thru J5	4033513-P4	Contact, electrical: sim to Bead Chain L93-3.
		- - - - - - - - - - TRANSISTORS - - - - - - - - - -
Q1	19A115364-P1	Silicon, unijunction; sim to Type 2N2646.
Q2 and Q3	19A115706-P1	Silicon, PNP; sim to Type 2N1024.
		- - - - - - - - - - RESISTORS - - - - - - - - - -
R1	3R152-P101K	Fixed composition: 100 ohms ±10%, 1/4 w.
R2	3R152-P204J	Fixed composition: 0.2 megohm ±5%, 1/4 w.
R3	3R152-P511K	Fixed composition: 510 ohms ±10%, 1/4 w.
R4	3R152-P682J	Fixed composition: 6800 ohms ±5%, 1/4 w.
R5	3R152-P203K	Fixed composition: 20,000 ohms ±10%, 1/4 w.
R6 and R7	3R152-P103J	Fixed composition: 10,000 ohms ±5%, 1/4 w.
R8	3R152-P682J	Fixed composition: 6800 ohms ±5%, 1/4 w.
R9 and R10	3R152-P103J	Fixed composition: 10,000 ohms ±5%, 1/4 w.
R11	3R152-P101J	Fixed composition: 100 ohms ±5%, 1/4 w.
R12	3R152-P203K	Fixed composition: 20,000 ohms ±10%, 1/4 w.
R13	3R152-P474J	Fixed composition: 0.474 megohm ±5%, 1/4 w. Added by REV. A.
R14	3R152-P134J	Fixed composition: 0.134 megohm ±5%, 1/4 w. Added by REV. A.
R15	3R152-P274J	Fixed composition: 0.274 megohm ±5%, 1/4 w. Added by REV. A.
		- - - - - - - - - -THERMISTER - - - - - - - - - -
RT1	5490828-P37	Rod: thermal, 0.12 megohms ±10% at 25°C. Added by REV. A.
		- - - - - - - - -MISCELLANEOUS - - - - - - - - -
	19A121648-G1	Station Support Assembly.
	19A121592-G1	Mobile support assembly.
		- - - - - - - - - - CABLES - - - - - - - - - -
	19A121603-G1	Cable Assembly, 24" long. (Used with PL-PL-19A121592-G1 only).
	19B204903-G1	Cable Assembly, 23" long (Used with PL-19A121647-G1 only).

*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES.

PRODUCTION CHANGES

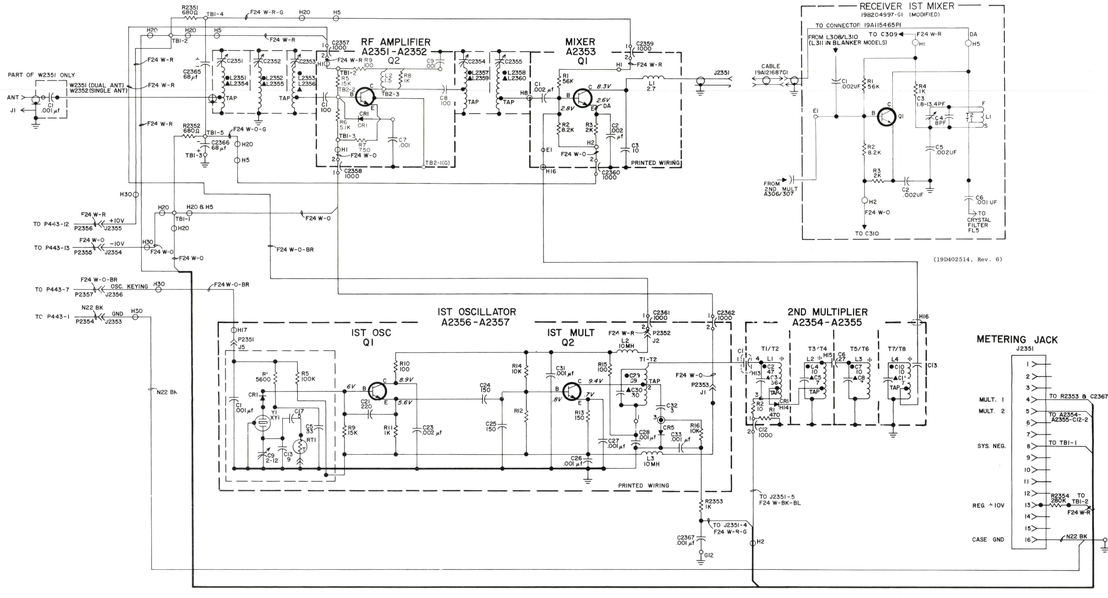
Changes in the equipment to improve performance or to simplify circuits are identified by a "Revision Letter", which is stamped after the model number of the unit. The revision stamped on the unit includes all previous revisions. Refer to the Parts List for descriptions of parts affected by these revisions.

REV. A - To increase search rate.
Deleted C2 and added R13, R14, R15, and RT1.



OUTLINE DIAGRAM

(19B620750, Rev. 2)



SCHEMATIC DIAGRAM

(19B620726, Rev. 3)

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 1/4 WATT UNLESS OTHERWISE SPECIFIED AND RESISTOR VALUES IN OHMS UNLESS FOLLOWED BY K=1000 OHMS OR MEG =1,000,000 OHMS. ALL CAPACITORS ARE IN MICROFARADS (EQUAL TO MICROMICROFARADS) UNLESS FOLLOWED BY UF= MICROFARADS, INDICATING VALUES IN MICROHENRYS, UNLESS FOLLOWED BY MH= MILLIHENRYS, OR H=HENRYS.

SEE APPLICABLE PRODUCTION CHANGE SHEETS IN INSTRUCTION BOOK SUPPLEMENT FOR DESCRIPTION OF CHANGES UNDER EACH REVISION LETTER.

THIS ELEM DIAG APPLIES TO

MODEL NO	REV LETTER
PLI9D402475G1-4	A

● 130-150.8 MC.
▲ 150.8-174 MC.

ALL READINGS ARE TYPICAL VOLTAGES MADE WITH A 20,000 OHM-PER-VOLT METER, MEASURED TO J2351-8 (NEGATIVE).

OUTLINE & SCHEMATIC DIAGRAM

DUAL FRONT END, 132 — 174 MC
19D402475-G1 thru G4

Issue 2

PARTS LIST

LBI-3642A
132-174 MC DUAL FRONT END
PL-19D402475 G1-4

SYMBOL	G-E PART NO.	DESCRIPTION
		- - - - - - - SUBASSEMBLIES - - - - - - - -
A2331* and A2332		RF AMPLIFIER ASSEMBLY 19C303414-G5 Added by REV. A
		- - - - - - - - CAPACITORS - - - - - - - -
C1	7489162-P127	Silver mica, dipped phen: radial leads, 100 pf ±10%, 500 VDCW; sim to Electro Motive Type DM-15.
C7	5493392-P7	Ceramic, feed-thru: .001 pf +100% -0%, 500 VDCW; sim to Allen Bradley Type FASC.
C8	7489162-P127	Silver mica, dipped phen: radial leads, 100 pf ±10%, 500 VDCW; sim to Electro Motive Type DM-15.
C9	5493392-P7	Ceramic, feed-thru: .001 pf +100% -0%, 500 VDCW; sim to Allen Bradley Type FASC.
		- - - - - - DIODES AND RECTIFIERS - - - - - - -
CR1	4038642-P1	Germanium
		- - - - - - - - - INDUCTORS - - - - - - - - -
L2	7488079-P7	Choke, RF: 1.5 µh ±10%, 0.5 ohms DC res max, sim to Jeffers 4411-10.
		- - - - - - - - TRANSISTORS - - - - - - - - -
Q2	19A115666-P1	Silicon, NPN.
		- - - - - - - - - RESISTORS - - - - - - - - -
R5	3R152-P153K	Fixed composition: 1500 ohms ±5%, 1/4 w.
R6	3R152-P112J	Fixed composition: 5100 ohms ±5%, 1/4 w.
R7	3R152-P751J	Fixed composition: 750 ohms ±5%, 1/4 w.
R8	3R152-P102K	Fixed composition: 1000 ohms ±10%, 1/4 w.
R9	3R152-P101K	Fixed composition: 100 ohms ±10%, 1/4 w.
		- - - - - - - TERMINAL BOARDS - - - - - - -
TB1 & TB2	7487424-P15	Miniature, phen: 2 terminals. In Models earlier than Rev. A:
		RF AMPLIFIER ASSEMBLY A2331 19C303414-G1 (19D402475-G1, 3) A2332 19C303414-G2 (19D402475-G2, 4)
		- - - - - - - - - CAPACITORS - - - - - - - - -
C1	7489162-P127	Silver mica, dipped phen: radial leads, 100 pf ±10%, 500 VDCW; sim to Electro Motive Type DM-15.
C2 and C3	5493392-P107	Ceramic, stand-off: .001 pf +100% -0%, 500 VDCW; sim to Allen-Bradley Type 885A.
		- - - - - - DIODES AND RECTIFIERS - - - - - -
CR1	4038642-P1	Germanium.
		- - - - - - - - - TRANSISTORS - - - - - - - - -
Q1	19A115342-P1	Silicon, NPN.
		- - - - - - - - - RESISTORS - - - - - - - - -
R1	3R152-P333J	Fixed composition: 33,000 ohms ±5%, 1/4 w.
R2	3R152-P153J	Fixed composition: 15,000 ohms ±5%, 1/4 w.
R3	3R152-P471J	Fixed composition: 470 ohms ±5%, 1/4 w.
R4	3R152-P101K	Fixed composition: 100 ohms ±10%, 1/4 w.

*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES.

SYMBOL	G-E PART NO.	DESCRIPTION
		- - - - - - - - - TRANSFORMERS - - - - - - - - -
T1 and T2		COIL ASSEMBLY T1 19A121076-G1 (19D402475 G1, 3) T2 19A121076-G2 (19D402475 G2, 4)
		- - - - - - - - - CAPACITORS - - - - - - - - -
C4	5496218-P244	Ceramic disc: temp-comp, radial leads, 15 pf ±5%, 500 VDCW; temp coef -80 PPM. (Used in PL-19D402475-G1, 3).
C5	5496218-P241	Ceramic disc: temp-comp, radial leads, 10 pf ±0.25 pf, 500 VDCW, temp coef -80 PPM. (Used in PL-19D402475-G2, 4).
C6	5496218-P239	Ceramic disc: temp-comp, radial leads, 8 pf ±0.25 pf, 500 VDCW, temp coef -80 PPM.
		- - - - - - - - - INDUCTORS - - - - - - - - -
L1	PL-19A121078-G1	Coil.
		- - - - - - - - MISCELLANEOUS - - - - - - - -
	5491798-P5	Tuning slug.
		- - - - - - - TERMINAL BOARDS - - - - - - -
TB1	7487424-P15	Miniature, phen: 2 terminals.
		- - - - - - - - - SOCKETS - - - - - - - - -
XQ1	5490277-P5	Transistor, phen: 3 contacts rated at 1 amp at 400 VRMS; sim to Alcon 121L2.
A2353		FIRST MIXER ASSEMBLY PL-19D204898-G1
		- - - - - - - - - CAPACITORS - - - - - - - - -
C1 and C2	5494481-P14	Ceramic disc: radial leads, .002 µf ±10%, 500 VDCW; sim to RMC Type JF Discap.
C3	5496218-P241	Ceramic disc: temp-comp, radial leads, 10 pf ±0.25 pf, 500 VDCW, temp coef -80 PPM.
		- - - - - - - - - INDUCTORS - - - - - - - - -
L1	7488079-P36	Choke, RF: 2.7 µh ±10%, 0.7 ohm DC res; sim to Jeffers 4411-10.
		- - - - - - - - - TRANSISTORS - - - - - - - - -
Q1	19A115342-P1	Silicon, NPN.
		- - - - - - - - - RESISTORS - - - - - - - - -
R1	3R152-P563J	Fixed composition: 56,000 ohms ±5%, 1/4 w.
R2	3R152-P822J	Fixed composition: 8200 ohms ±5%, 1/4 w.
R3	3R152-P202J	Fixed composition: 2000 ohms ±5%, 1/4 w.

SYMBOL	G-E PART NO	DESCRIPTION
A2354 and A2355		MULTIPLIER ASSEMBLY A2354 19B304423-G1 (19D402475-G1, 3) A2355 19B304423-G2 (19D402475-G2, 4)
		- - - - - - - - CAPACITORS - - - - - - - -
C1	5491601-P120	Tubular, molded: axial leads, 1 pf ±5%, 500 VDCW; sim to Quality Components Type MC.
C6	5491601-P107	Tubular, molded: axial leads, 0.27 pf ±5%, 500 VDCW; sim to Quality Components Type MC.
C12	5493392-P7	Ceramic, feed-thru: .001 pf +100% -0%, 500 VDCW; sim to Allen-Bradley Type FASC.
C13	5496218-P34	Ceramic disc: temp-comp, radial leads, 3 pf ±0.25 pf, 500 VDCW, temp coef 0 PPM.
		- - - - - - - - INDUCTORS - - - - - - - -
		- - - - - - DIODES AND RECTIFIERS - - - - - -
CR1	19A115443-P1	Silicon.
		- - - - - - - - RESISTORS - - - - - - - -
R1	3R152-P471J	Fixed composition: 470 ohms ±5%, 1/4 w.
R2	3R152-P100J	Fixed composition: 10 ohms ±5%, 1/4 w.
		- - - - - - - - TRANSFORMERS - - - - - - - -
T1 and T2		COIL ASSEMBLY T1 19A121109-G1 (19D402475-G1, 3) T2 19A121109-G2 (19D402475-G2, 4)
		- - - - - - - - CAPACITORS - - - - - - - -
C2	5496218-P255	Ceramic disc: temp-comp, radial leads, 47 pf ±5%, 500 VDCW, temp coef -80 PPM. (Used in PL-19D402475-G1, 3).
C3	5496218-P252	Ceramic disc: temp-comp, radial leads, 36 pf ±5%, 500 VDCW, temp coef -80 PPM. (Used in PL-19D402475-G2, 4).
		- - - - - - - - INDUCTORS - - - - - - - -
L1	19A121108-P1	Coil.
		- - - - - - - - MISCELLANEOUS - - - - - - - -
	5491798-P5	Tuning slug.
T3 and T4		COIL ASSEMBLY T3 19A121095-G1 (19D402475-G1, 3) T4 19A121095-G2 (19D402475-G2, 4)
		- - - - - - - - CAPACITORS - - - - - - - -
C4	5496218-P241	Ceramic disc: temp-comp, radial leads, 10 pf ±0.25 pf, 500 VDCW, temp coef -80 PPM. (Used in PL-19D402475-G1, 3).
C5	5496218-P238	Ceramic disc: temp-comp, radial leads, 7 pf ±0.25 pf, 500 VDCW, temp coef -80 PPM. (Used in PL-19D402475-G2, 4).
		- - - - - - - - INDUCTORS - - - - - - - -
L2	19A121094-P1	Coil.
		- - - - - - - - MISCELLANEOUS - - - - - - - -
	5491798-P5	Tuning slug.

SYMBOL	G-E PART NO	DESCRIPTION
T5 and T6		COIL ASSEMBLY T5 19A121097-G1 (19D402475-G1, 3) T6 19A121097-G2 (19D402475-G2, 4)
		- - - - - - - - - CAPACITORS - - - - - - - - -
C7	5496218-P241	Ceramic disc: temp-comp, radial leads, 10 pf ±0.25 pf, 500 VDCW, temp coef -80 PPM. (Used in PL-19D402475-G1, 3).
C8	5496218-P238	Ceramic disc: temp-comp, radial leads, 7 pf ±0.25 pf, 500 VDCW, temp coef -80 PPM. (Used in PL-19D402475-G2, 4).
		- - - - - - - - - INDUCTORS - - - - - - - - -
L3	19A121096-P1	Coil.
		- - - - - - - - MISCELLANEOUS - - - - - - - -
	5491798-P5	Tuning slug.
T7 and T8		COIL ASSEMBLY T7 19A121111-G1 (19D402475-G1, 3) T8 19A121111-G2 (19D402475-G2, 4)
		- - - - - - - - CAPACITORS - - - - - - - -
C10	5496218-P241	Ceramic disc: temp-comp, radial leads, 10 pf ±0.25 pf, 500 VDCW, temp coef -80 PPM. (Used in PL-19D402475-G1, 3).
C11	5496218-P238	Ceramic disc: temp-comp, radial leads, 7 pf ±0.25 pf, 500 VDCW, temp coef -80 PPM. (Used in PL-19D402475-G2, 4).
		- - - - - - - - - INDUCTORS - - - - - - - - -
L4	19A121110-P1	Coil.
		- - - - - - - - MISCELLANEOUS - - - - - - - -
	5491798-P5	Tuning slug.
A2356 and A2357		FIRST OSCILLATOR ASSEMBLY A2356 19B304419-G1 (19D402475-G1, 3) A2357 19B304419-G4 (19D402475-G2, 4)
		- - - - - - - - CAPACITORS - - - - - - - -
C29	5496218-P253	Ceramic disc: temp-comp, radial leads, 39 pf ±5%, 500 VDCW, temp coef -80 PPM. (Used in PL-19D402475-G1, 3).
C30	5496218-P250	Ceramic disc: temp-comp, radial leads, 30 pf ±5%, 500 VDCW, temp coef -80 PPM. (Used in PL-19D402475-G2, 4).
C32	5496218-P34	Ceramic disc: temp-comp, radial leads, 3 pf ±0.25 pf, 500 VDCW, temp coef 0 PPM.
C33	5494481-P12	Ceramic disc: radial leads, .001 pf ±10%, 500 VDCW; sim to RMC Type JF Discap.
		- - - - - - - DIODES AND RECTIFIERS - - - - - - -
CR5	5491705-P2	Silicon.
		- - - - - - - - - INDUCTORS - - - - - - - - -
L1	19A121093-P1	Coil.

SYMBOL	G-E PART NO	DESCRIPTION
		- - - - - - JACKS AND RECEPTACLES - - - - - - -
J1 and J2	4033513-P4	Contact, electrical: sim to Bead Chain L83-3.
J3	4033513-P4	Contact, electrical: sim to Bead Chain L83-3.
		- - - - - - - - - INDUCTORS - - - - - - - - -
L2 and L3	7488079-P16	Choke, RF: 10 µh ±10%, 0.6 ohm DC res; sim to Jeffers 4431-7.
		- - - - - - - - TRANSISTORS - - - - - - - -
Q1 and Q2	19A115330-P1	Silicon, NPN.
		- - - - - - - - RESISTORS - - - - - - - - -
R1	3R152-P563J	Fixed composition: 5600 ohms ±5%, 1/4 w.
R5	3R153-P104K	Fixed composition: 0.1 megohm ±10%, 1/4 w.
R9	3R152-P153J	Fixed composition: 15,000 ohms ±5%, 1/4 w.
R10	3R152-P101K	Fixed composition: 100 ohms ±10%, 1/4 w.
R11 and R12	3R152-P103J	Fixed composition: 1000 ohms ±5%, 1/4 w.
R13	3R152-P151J	Fixed composition: 150 ohms ±5%, 1/4 w.
R14	3R153-P103J	Fixed composition: 10,000 ohms ±5%, 1/4 w.
R15	3R152-P101K	Fixed composition: 100 ohms ±10%, 1/4 w.
		- - - - - - - - THERMISTORS - - - - - - - -
RT1	19B209284-P5	Disc: 43 ohms res nominal at 25°C, color code green.
		- - - - - - - - TRANSFORMERS - - - - - - - -
T1 and T2		COIL ASSEMBLY T1 19B304421-G1 (19D402475-G1, 3) T2 19B304421-G2 (19D402475-G2, 4)
		- - - - - - - - CAPACITORS - - - - - - - -
C29	5496218-P253	Ceramic disc: temp-comp, radial leads, 39 pf ±5%, 500 VDCW, temp coef -80 PPM. (Used in PL-19D402475-G1, 3).
C30	5496218-P250	Ceramic disc: temp-comp, radial leads, 30 pf ±5%, 500 VDCW, temp coef -80 PPM. (Used in PL-19D402475-G2, 4).
C32	5496218-P34	Ceramic disc: temp-comp, radial leads, 3 pf ±0.25 pf, 500 VDCW, temp coef 0 PPM.
C33	5494481-P12	Ceramic disc: radial leads, .001 pf ±10%, 500 VDCW; sim to RMC Type JF Discap.
		- - - - - - - DIODES AND RECTIFIERS - - - - - - -
R2553	3R152-P102K	Fixed composition: 1000 ohms ±10%, 1/4 w.
R2554	5485948-P444	Deposited carbon, epoxy coated: 0.28 megohm ±1%, 1/2 w; sim to Texas Instrument Type CEC/RNR.
		- - - - - - - - TERMINAL BOARDS - - - - - - - -
TB1	7487424-P7	Miniature, phen: 4 terminals.

SYMBOL	G-E PART NO	DESCRIPTION
		- - - - - - - - - RESISTORS - - - - - - - - -
R16	3R152-P103K	Fixed composition: 10,000 ohms ±10%, 1/4 w.
		- - - - - - - - MISCELLANEOUS - - - - - - - -
	5491798-P5	Tuning slug.
		- - - - - - - - SOCKETS - - - - - - - - - -
XY1		Refer to Mechanical Parts (RC-1236).
		- - - - - - - - CRYSTALS - - - - - - - - -
		When reordering give G-E Part No, and specify exact freq needed. Crystal freq = (OF -5.30 MC) ÷ 9.
Y1	19B204576-P4	Quartz: freq range 16077,777 to 16166,666 KC, temp range -30°C to +85°C. (Used in PL-19D403475-G1, 3).
Y1	19B204576-P5	Quartz: freq range 16166,667 to 18744,444 KC, temp range -30°C to +85°C. (Used in PL-19D403475-G2, 4).
		- - - - - - - - - CAPACITORS - - - - - - - - -
C2365 and C2366	5496267-P11	Tubular, hermetically sealed, tantalum, dry solid: axial leads, 68 µf ±20%, 15 VDCW; sim to Sprague Type 150D.
C2367	5494481-P12	Ceramic disc: radial leads, .001 pf ±10%, 500 VDCW; sim to RMC Type JF Discap.
		- - - - - - JACKS AND RECEPTACLES - - - - - - -
J2351	1982090135-P2	Connector: 18 contacts rated at 5 amps min per contact, 500 VDC max.
J2352	19A115465-P1	Receptacle, coaxial: 500 v; sim to Micon Electronics Type 1104.
J2353 thru J2356	7147199-P1	Connector, brass: male contact; sim to Winchester Electronics 21803.
		- - - - - - - - - PLUGS - - - - - - - - - -
P2351 thru P2353	4029860-P2	Contact, electrical: solder coated brass; sim to Amp 42827-2.
		- - - - - - - - - RESISTORS - - - - - - - - -
R2351 and R2352	3R152-P681K	Fixed composition: 680 ohms ±10%, 1/4 w.
R2353	3R152-P102K	Fixed composition: 1000 ohms ±10%, 1/4 w.
R2354	5485948-P444	Deposited carbon, epoxy coated: 0.28 megohm ±1%, 1/2 w; sim to Texas Instrument Type CEC/RNR.
		- - - - - - - - TERMINAL BOARDS - - - - - - - -
TB1	7487424-P7	Miniature, phen: 4 terminals.

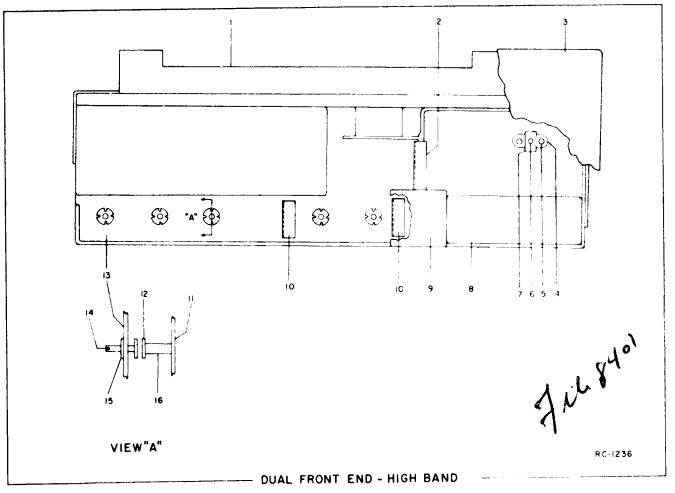
SYMBOL	G-E PART NO	DESCRIPTION
		- - - - - - - - - CABLES - - - - - - - - -
W2351		CONNECTOR ASSEMBLY PL-19B204535-G1 (Used in PL-19D402475-G3, 4)
		- - - - - - - - - CAPACITORS - - - - - - - - -
C1	19B209141-P1	Ceramic disc: axial leads, .001 pf ±10%, 500 VDCW.
		- - - - - - JACKS AND RECEPTACLES - - - - - - -
J1	2B22-P3	Receptacle, panel, coaxial: mica-filled insert, UHF contact. Signal Corps SO-239 or sim to Amphenol 83-1R.
		- - - - - - - - MISCELLANEOUS - - - - - - - -
	1982090144-P19	Cable, RF: 1200 VRMS max, approx 40 inches.
W2352	1982090144-P19	RF: 1200 VRMS max, approx 48 inches. (Used in PL-19D602475-G1, 2).
		RF CIRCUIT ASSEMBLY 19C303653-G1 (19D402475-G3, 3) 19C303653-G2 (19D402475-G4, 4)
		- - - - - - - - - CAPACITORS - - - - - - - - -
C2351 thru C2355		Refer to Mechanical Parts (RC-1236).
C2357 thru C2362	1982090135-P1	Tubular, ceramic, hi dielectric: feed-thru, 1000 pf +150% -0%, 500 VDCW.
		- - - - - - - - - INDUCTORS - - - - - - - - -
L2351	PL-19B204461-G4	Coil. (Used in PL-19D602475-G3, 3).
L2352	19B200616-P2	Coil. (Used in PL-19D602475-G3, 3).
L2353	PL-19B204461-G4	Coil. (Used in PL-19D602475-G3, 4).
L2354	PL-19B204461-G1	Coil. (Used in PL-19D602475-G3, 4).
L2355	19B200616-P1	Coil. (Used in PL-19D602475-G3, 4).
L2356	PL-19B204461-G1	Coil. (Used in PL-19D602475-G3, 4).
L2357*	PL-19B204461-G13 PL-19B204461-G4	Coil. (Used in PL-19D602475-G3, 3). In Models earlier than Rev. A Coil. (Used in PL-19D602475-G3, 3).
L2358	PL-19B204461-G6	Coil. (Used in PL-19D602475-G3, 3).
L2359*	PL-19B204461-G14 PL-19B204461-G3	Coil. (Used in PL-19D602475-G3, 4) In Models earlier than Rev. A: Coil. (Used in PL-19D602475-G3, 4)
L2360	PL-19B204461-G5	Coil. (Used in PL-19D602475-G3, 4).

SYMBOL	G-E PART NO	DESCRIPTION
		ASSOCIATED EQUIPMENT
		SINGLE ANTENNA MODIFICATION KIT PL-19A131709-G1
		- - - - - - JACKS AND RECEPTACLES - - - - - -
	7104941-P11	Plug, phono type, phen: 350 VRMS max; sim to Accurate A10033-5. (Mates with "T" connector).
	19A115324-P1	Connector, "T", coaxial: sim to Component Mfg Service A1173. (Mounts on frame).
J1	19A115465-P1	Receptacle, coaxial: 500 v; sim to Micon Electronics Type 1104. (Mounts in receiver casting).
		- - - - - - - - - CABLES - - - - - - - - -
	5491689-P56	RF, coaxial: includes phono type plug, 350 VRMS max, approx 12 inches.
	PL-19B304924-G1	Cable: includes (4) female (P2354-2357) connectors, approx 14-3/4 inches.
	PL-19A121687-G1	Cable: includes (2) push-on plugs, approx 21-1/2 inches. (Connects to receiver mixer stage).
		FIRST MIXER ASSEMBLY PL-19B204897-G1
		- - - - - - - - - CAPACITORS - - - - - - - - -
C1 and C2	5494481-P14	Ceramic disc: radial leads, .002 pf ±10%, 500 VDCW; sim to RMC Type JF Discap.
C3	5491271-P106	Variable, air dielectric, subminiature; approx 1.8-12.4 pf, 750 v peak; sim to RF Johnson 189-505.
C2357 thru C2362	1982090135-P1	Tubular, ceramic, hi dielectric: feed-thru, 1000 pf +150% -0%, 500 VDCW.
C4	5496218-P239	Ceramic disc: temp-comp, radial leads, 8 pf ±0.25 pf, 500 VDCW, temp coef -80 PPM.
C5	5494481-P14	Ceramic disc: radial leads, .002 pf ±10%, 500 VDCW; sim to RMC Type JF Discap.
		- - - - - - - - - INDUCTORS - - - - - - - - -
L1	PL-19A121796-G1	Coil.
		- - - - - - - - - TRANSISTORS - - - - - - - - -
Q1	19A115342-P1	Silicon, NPN.
		- - - - - - - - - RESISTORS - - - - - - - - -
R1	3R152-P563J	Fixed composition: 56,000 ohms ±5%, 1/4 w.
R2	3R152-P822J	Fixed composition: 8200 ohms ±5%, 1/4 w.
R3	3R152-P203J	Fixed composition: 2000 ohms ±5%, 1/4 w.
R4	3R152-P103J	Fixed composition: 1000 ohms ±5%, 1/4 w.

CONT'D ON PAGE 15)

(CONT'D FROM PAGE 14)

SYMBOL	G-E PART NO	DESCRIPTION
		DUAL ANTENNA MODIFICATION KIT PL-19A121709-G2
		- - - - - - JACKS AND RECEPTACLES - - - - - - -
	19A115465-P1	Receptacle, coaxial: 500 v; sim to Micon Electronics Type 1104. (Mounts in receiver casting).
		- - - - - - - - - - CABLES - - - - - - - - - -
	PL-19B204924-G1	Cable: includes (4) female (P2354-2357) connectors, approx 14-3/4 inches.
	PL-19A121687-G1	Cable: includes (2) push-on plugs, approx 11-1/4 inches. (Connects to receiver mixer stage).
		FIRST MIXER ASSEMBLY PL-19B204997-G1
		- - - - - - - - - CAPACITORS - - - - - - - - -
C1 and C2	5494481-P14	Ceramic disc: radial leads, .002 µf ±10%, 500 VDCW; sim to RMC Type JF Discap.
C3	5491271-P106	Variable, air dielectric, subminiature: approx 1.98-12.4 pf, 750 v peak; sim to EF Johnson 189-6-5.
C4	5496218-P239	Ceramic disc: temp-comp, radial leads, 8 pf ±0.25 pf, 500 VDCW, temp coef -80 PPM.
C5	5494481-P14	Ceramic disc: radial leads, .002 µf ±10%, 500 VDCW; sim to RMC Type JF Discap.
		- - - - - - - - - INDUCTORS - - - - - - - - -
L1	PL-19A121796-G1	Coil.
		- - - - - - - - - TRANSISTORS - - - - - - - - -
Q1	19A115342-P1	Silicon, NPN.
		- - - - - - - - - RESISTORS - - - - - - - - -
R1	3R152-P563J	Fixed composition: 56,000 ohms ±5%, 1/4 w.
R2	3R152-P822J	Fixed composition: 8200 ohms ±5%, 1/4 w.
R3	3R152-P202J	Fixed composition: 2000 ohms ±5%, 1/4 w.
R4	3R152-P102J	Fixed composition: 1000 ohms ±5%, 1/4 w.
		PLATE ASSEMBLY - TRUNK MOUNT PL-19B204446-G3
		- - - - - - - - MISCELLANEOUS - - - - - - - -
	19A121759-P1	Thumbscrew: approx 1/4-20 x 1 inch.
	4036436-P2	Nut, push-on: sim to Fastex 8063-21-00.
	19B204417-P3	Plate: approx 11-1/2 x 2-11/16 x 1/8 inches.
		PLATE ASSEMBLY - TRUNK MOUNT PL-19B204446-G4
		- - - - - - - - MISCELLANEOUS - - - - - - - -
	19A121759-P1	Thumbscrew: approx 1/4-20 x 1 inch.
	4036436-P2	Nut, push-on: sim to Fastex 8063-21-00.
	19B204417-P4	Plate: approx 5-1/4 x 2-11/16 x 1/8 inches.
		MECHANICAL PARTS (SEE RC-1236)
1	19C303649-P1	Support. (Mounts cover).
2	19A121222-P1	Angle support: approx 1-5/32 x 11/32 x 9/32 inches. (Used with C2361-2362 in RF Cicuit Assembly, PL-19C303653-G1, 2).
3	19B204383-P1	Cover: approx 12-1/4 x 2-3/4 x 1 inches.
4	4039307-P1	Crystal socket. (Part of XY1 in A2356, 2357).
5	4033751-P1	Electrical contact: sim to Methode 752 V (PB). (Part of XY1 in A2356, 2357).
6	19B200525-P8	Rivet. (Part of XY1 in A2356, 2357).
7	4033089-P1	Clip. (Part of XY1 in A2356, 2357).
8	19B204396-P1	Support: approx 3 x 1 x 1/32 inches thick. (Used in A2354, 2355).
9	19A121071-P1	Plate: approx 1-11/32 x 1-5/16 x 1/32 inches thick. (Used in A2353).
10	19A121221-P1	Angle support: approx 15/16 x 5/16 x 1/32 inches. (Used with C2357-2362 in RF Circuit Assembly, PL-19C303653-G1, 2).
11	19B204397-P1	RF plate: approx 8-5/8 x 2-5/8 x 1/32 inches thick. (Access to RF Circuits).
12	PL-4036765-G2	Screw: approx 1/4 x 1/16 inches dia, with 6/32 threads. (Part of C2351-2355 in RF Circuit Assembly, PL-19C303653-G1, 2).
13	19C303562-P1	RF chassis: approx 13-3/4 x 3-1/4 x 1-13/16 inches. (Used in RF Circuit Assembly, PL-19C303653-G1, 2).
14	PL-4036765-G4	Screw: approx 9/16 x 1/16 inches dia, with 6-32 threads. (Part of C2351-2355 in RF Circuit Assembly, PL-19C303653-G1, 2).
15	7117825-P1	Spring, washer: approx 15/32 inch dia, with 6-32 threads; sim to Tinnerman C4578B-632-24. (Part of C2351-2355 in RF Circuit Assembly, PL-19C303653-G1, 2).
16	4036899-P4	Ceramic insulator: approx 1 x 3/8 inches dia; sim to Centralab 3BX845C. (Part of C2351-2355 in RF Circuit Assembly, PL-19C303653-G1, 2).



DUAL FRONT END - HIGH BAND

PRODUCTION CHANGES

Changes in the equipment to improve performance or to simplify circuits are identified by a "Revision Letter", which is stamped after the model number of the unit. The revision stamped on the unit includes all previous revisions. Refer to the Parts List for descriptions of parts affected by these revisions.

REV. A. - For PL-19D402475-G1 thru -G4

To increase reliability of the RF Amplifier.
Changed: A2351 from PL-19C303414-G1 to PL-19C303414-G5;
A2352 from PL-19C303414-G2 to PL-19C303414-G5;
L2357 from PL-19B204461-G4 to PL-19B204461-G13; and
L2359 from PL-19B204461-G3 to PL-19B204461-G14.

ORDERING SERVICE PARTS

Each component appearing on the schematic diagram is identified by a symbol number, to simplify locating it in the parts list. Each component is listed by symbol number, followed by its description and G-E Part Number

Service parts may be obtained from Authorized G-E Communication Equipment Service Stations or through any G-E Radio Communication Equipment Sales Office. When ordering a part, be sure to give:

1. G-E Part Number for component
2. Description of part
3. Model number of equipment
4. Revision letter stamped on unit

These instructions do not purport to cover all details or variations in equipment nor to provide for every possible contingency to be met in connection with installation, operation or maintenance.

Should further information be desired, or should particular problems arise which are not covered sufficiently for the purchaser's purposes, contact the nearest Radio Communication Equipment Sales Office of the General Electric Company.

MAINTENANCE MANUAL

LBI-3641

DF-8401

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