MOTOROLA

"HT600E" SERIES
"Handie-Talkie" Portable Radios

438-470 MHz

SPECIFICATIONS

GENERAL

FREQUENCY RANGE:	438-470MHz	
POWER SUPPLY:	Nickel-cadmium battery	
BATTERY DRAIN–	at 9.6Vdc	
Standby:	*44mA	
Standby with Scan:	*52mA	
Standby with Battery Saver:	*36mA	
Receive:	*149mA	
Transmit:	**825mA	

*Add 8mA with Remote Antenna
**Add 15mA with Remote Antenna

BATTERY LIFE:
Based on 5% transmit, 20% receive with rated af output, 75% standby with Battery Saver and Nickel-Cadmium battery, 8.7 hours/charge

DIMENSIONS:		
WIDTH:	2.70"	(66.8mm)
DEPTH:	1.55"	(39.4mm)
HEIGHT:		
Radio Only	3.89"	(99.0mm)
Radio with Battery High Capacity	6.98"	(177.3mm)

WEIGHT:		
Radio Only	13.5 oz	(383 g)
Radio with Battery (Nickel-Cadmium)		
Low Capacity	19.0 oz	(539 g)
Medium Capacity	21.6 oz	(612 g)
High Capacity	24.1 oz	(684 g)

TRANSMITTER

RF OUTPUT– Nickel-cadmium battery:	2.0W at 9.6Vdc
MODULATION:	Type 20K0F3E, ±5kHz for 100% modulation at 1000Hz (±4.0kHz min.) including PL modulation for PL models
PL MODULATION: ±1kHz max.	±500Hz min.
AUDIO DISTORTION:	Less than 5% at 1000Hz, 3kHz deviation
SWITCHING BANDWIDTH:	17MHz (no degradation)

FREQUENCY STABILITY:
±.0005% from −10°C to +50°C
(+25°C ref.)

SPURIOUS & HARMONIC FREQUENCIES:	0.25uW

FM NOISE:
At least 45dB below ±3.0kHz deviation at 1000Hz

AUDIO RESPONSE:
+1, −3dB from 6dB/octave pre-emphasis characteristic from 300-3000Hz

RECEIVER

AUDIO OUTPUT:	500mW at less than 5% distortion
SEC I-F FREQUENCY:	450kHz ± 1.5kHz measured at M1
SENSITIVITY:	0.35uV max. (12dB SINAD)
NOISE SQUELCH SENSITIVITY:	Noise compensated type, Programmable; opens from .18uV
SWITCHING BANDWIDTH:	3MHz (no degradation)

FREQUENCY STABILITY:
±.0005% from −10°C to +50°C
(+25°C ref.)

USEABLE BANDWIDTH:	±5kHz
SPURIOUS FREQUENCY REJECTION:	>60dB
IMAGE REJECTION:	>60dB
SELECTIVITY (CEPT):	>70dB
INTERMODULATION:	>70dB

Specifications Subject To Change Without Notice

NOTE:
- ALL BATTERIES MUST BE CHARGED PRIOR TO USE.
- USE OF CHEMICALS (DETERGENTS, ALCOHOL, AEROSOL SPRAY, PETROLEUM PRODUCTS) MAY BE HARMFUL AND DAMAGE THE RADIO HOUSING. WE RECOMMEND A MILD DISHWASHING SOAP FOR CLEANING THE EXTERIOR OF THE PRODUCT.
- O-RING SEALS MUST BE PROPERLY LUBRICATED AND ASSEMBLED TO INSURE CONFORMANCE TO MIL-810D SPECIFICATIONS FOR WATER INTRUSION.

Service Manual
68P81050C45-O

COMPUTER SOFTWARE COPYRIGHTS

RELATED PUBLICATIONS AVAILABLE SEPARATELY

Operating Instructions	68P81050C35
Theory/Maintenance Manual	68P81050C50
Programmer/Tuner User's Manual	68P81050C55

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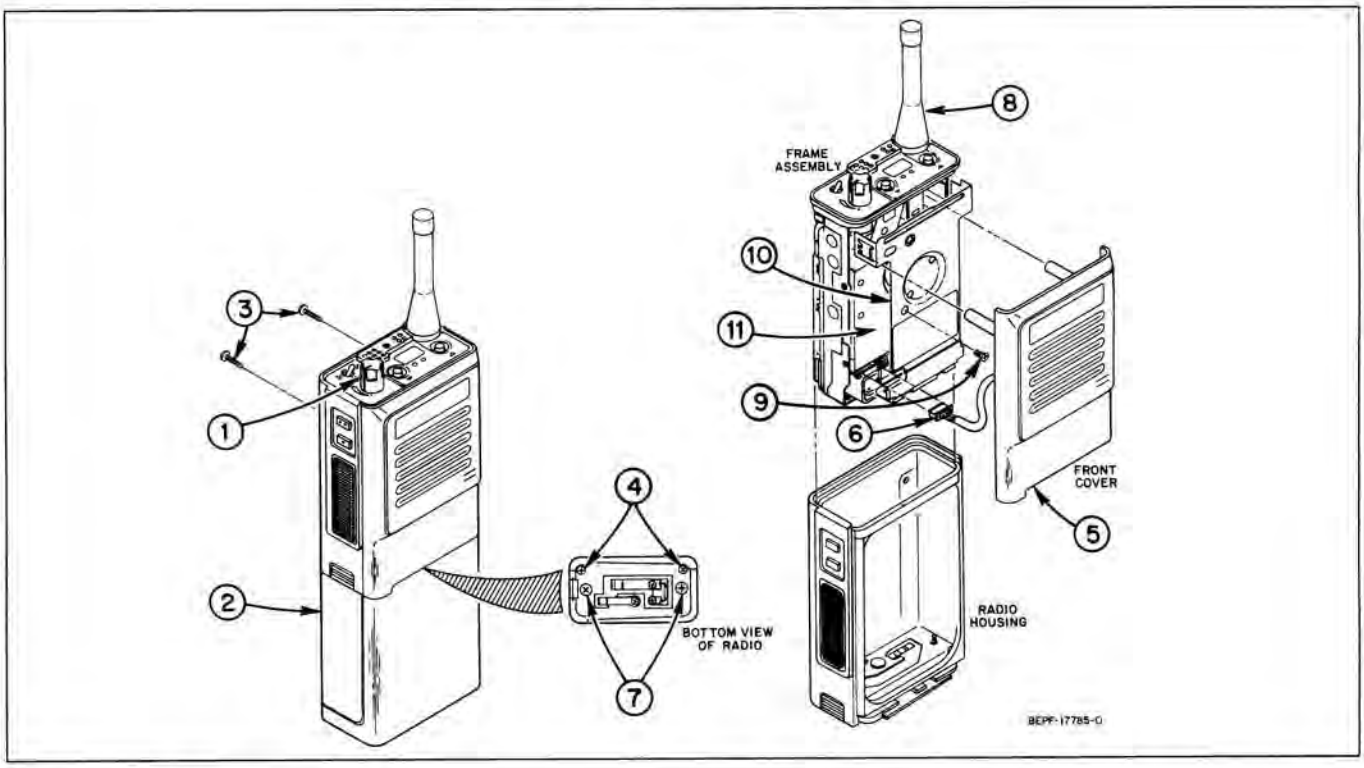
DISASSEMBLY PROCEDURE



1. Turn off the radio.
2. Remove the battery:
   While pushing the spring-loaded battery latch towards the top of the radio, slide the battery away from the latch, removing it from the baseplate on the bottom of the radio.
3. Remove the two screws from the back of the radio.
4. Remove the two screws on the bottom of the radio (baseplate corners).
5. Lift the front cover from the radio housing being careful not to pull against the speaker/microphone wires.
6. Disconnect the speaker/microphone connector from the controller flex by grasping the sleeved wires (near the plug) and pulling the plug straight out and away from the circuit board.
7. Loosen the two captive screws on the bottom of the radio (middle of each end of baseplate). Do not completely remove the captive screws from the baseplate.
8. With a thumb and forefinger, grasp the antenna at its base and pull lightly to remove the frame assembly from the radio housing. Do not press the PTT switch during removal.

CAUTION

REFER TO "CMOS" PRECAUTIONS" IN THEORY/ MAINTENANCE MANUAL.

9. Remove the screw that secures the front shield.
10. Remove the front shield by pulling it straight out and away from the radio.
11. Remove the controller carrier:

(A) Remove the four screws (two on each side) that secure the controller carrier to the frame.

NOTE

Be careful to pull each connector straight out and away from the mating socket so as not to bend or break the connector pins.

(B) Disconnect the two top flex connectors by carefully sliding them away from the controller carrier.

(C) Disconnect the two connectors at the bottom of the controller carrier.

(D) Lift the controller carrier (nearest the top of the radio) away from the radio just enough to gain access to the connector under the controller.

(E) Disconnect the connector under the controller.

(F) Lift the controller totally away from the radio.

NOTE

Refer to the Exploded View Diagram if further disassembly is necessary.

12. Assemble the radio in the reverse order of disassembly, making certain:

- to avoid damage to the flex circuits, connectors, and connector pins when reinserting the controller.
- not to depress the PTT switch when sliding the circuit board back into the housing.

CAUTION

Inspect the frame O-rings, front cover O-ring and control head O-ring. Replace if obvious damage exists.

GENERAL

THIS RADIO HAS BEEN FACTORY ALIGNED AND DOES NOT REQUIRE ANY ADJUSTMENTS. Realignment may be required if components are replaced or have aged, or if any transmitter/receiver frequencies are changed. If it is necessary to realign the radio, perform the following procedures:

1. When using the RTX-4005B test set, place the **MT PL** switch in the **OFF** position.
2. Remove the battery and front cover as described in the "DISASSEMBLY PROCEDURE."
3. Refer to the Test Set-Up Detail and connect the test equipment and Programmer/Tuner to the radio as illustrated.
4. Connect a dc power supply to the battery eliminator (RTL-4226A) and attach the battery eliminator to the radio.
5. Adjust the power supply for 9.6Vdc. Set current limit to 2.0A.
6. Set the PL/CS/SCAN switch to the CS (Þ) position.
7. Turn the radio off, then on to reinitialise the radio.
8. **Frequency Adjust (Synthesizer)** - Terminate the Programme/Test cable rf BNC connector, through a 30dB pad to a frequency counter or service monitor. Set the radio's channel select buttons to the desired channel. Key the radio using the test set PTT switch. Compare the frequency reading on the counter (or service monitor) to the customer frequency assigned to that channel. Adjust R120 if the frequency difference is more than ± 1250kHz.
9. Perform either the "RECEIVER ALIGNMENT" procedure or "TRANSMITTER ALIGNMENT" procedure or both procedures as required.

TRANSMITTER ALIGNMENT

Review "GENERAL" information section before performing TRANSMITTER ALIGNMENT

Preliminary Adjustments:

1. Terminate the Programme/Test cable (RTK-4205A) rf BNC connector, to a power meter through a 30dB pad.
2. Make all measurements at the Universal Interface Connector with the radio keyed through the test set PTT switch.
3. Programme new customer frequencies (if necessary).

Power Output Adjustments:

STEP	ADJUST	FOR	USING	NOTE
1	Check power output on all channels. **NOTE:** You must dekey before changing channels for the synthesizer to change frequencies. Set the channel select buttons to the channel with the lowest output power.			
2	P.A. Trimmer Capacitor (on U102)	2W power output with least current drain	RF Wattmeter and Ampmeter	Reading should be greater than rated rf power output, with current drain less than 840mA (2-Watt Models). **Note:** Two possible peaks, choose peak with least current drain. Adjust from component side.
3	Check remaining channels	Same power and current limits shown in STEP 2	RF Wattmeter and Ampmeter	
4	Repeat steps 2 and 3 if necessary.			

Deviation Adjustment:

1. Terminate the programme/test cable (RTK-4205A) through a 30dB pad to a service monitor (or deviation meter).
2. Place the **METER SELECTOR** switch on the RTX-4005B test set to the **MIC** position. Insert a 1kHz tone at the **AUDIO IN** port of the test set. Use an ac voltmeter to monitor the voltage at the **AC/DC METER** port of the test set. Using the PTT switch on the RTX-4005B test set to key the radio, adjust the level of the 1kHz tone until 45mV is present at the **AC/DC METER** port. Dekey the radio.
3. Set the radio's PL/SCAN switch to the PL position.
4. Connect the programme/test cable to the Radio Interface Box (RIB). Use the Programmer/Tuner to read the radio.
5. If the radio requires a change in frequency or options, make the appropriate changes to the personality file, and programme the radio.
6. Enter the Tuner menu of the Programmer/Tuner.
7. Set the channel select buttons on the radio's control top for the channel to be adjusted.
8. Press the **ENTER** key on the Programmer/Tuner to move the cursor to the **CHANNEL** position.
9. Press the up/down arrow keys to select the channel to be adjusted; this must be the same as the channel selected in step 7.
10. Proceed to the **TRANSMIT DEV** position in the Tuner menu.
11. Press and hold down the PTT switch on the RTX-4005B to continuously key the radio.
12. Press the up/down arrow keys until 4.6 to 4.8kHz of peak deviation is obtained.
13. Release the PTT switch on the RTX-4005B to dekey the radio.
14. Proceed to the **REFERENCE DEV** position in the Tuner menu.
15. Disconnect the 1kHz tone from the **AUDIO IN** port of the RTX-4005B.
16. Press and hold down the PTT switch on the RTX-4005B to continuously key the radio.
17. Press the up/down arrow keys to adjust the peak deviation of the 30Hz tone for 0.92 to 0.96kHz. **SEE NOTE.**
18. Release the PTT switch on the RTX-4005B to dekey the radio.
19. Reconnect the 1kHz tone to the **AUDIO IN** port of the RTX-4005B.
20. Repeat steps 7-21 for all channels to be adjusted.
21. Press F10 to exit from the Tuner menu. Press 6 in the main menu to programme the radio.
22. With the 1kHz tone applied, check the peak transmit deviation. It should be greater than 4.0kHz but less than 5.0kHz. Repeat the above procedure, if necessary.
23. For channels with transmit PL, remove the 1kHz tone from the **AUDIO IN** port of the RTX-4005B. Check the deviation of the PL signal; it should be greater than 500Hz but less than 1kHz. Repeat the above procedure, if necessary.

NOTE

While in the Tuner menu, changes to Reference Deviation and Transmit Deviation settings (using the up/down arrows) are made in the radio's RAM. If the radio is dekeyed and then rekeyed during the deviation adjustment, the radio's original information will be returned to the RAM. It will be necessary to toggle the up/down arrow keys to replace the programmer settings in the radio's RAM. Refer to the Programmer/Tuner User's Manual for more details.

RECEIVER ALIGNMENT

Review "GENERAL" information section before performing RECEIVER ALIGNMENT

Preliminary Adjustments:

1. Coils L9 through L13 are tuned at the factory for a 30MHz bandwidth and should never need retuning. Coils L1 and L2 adjust a 3MHz window anywhere across the 30MHz bandwidth. Perform the "Receiver Check" to determine if "RECEIVER ALIGNMENT" (tuning any portion of the receiver) is necessary.
2. Connect the programme/test cable (RTK-4205A) to the Radio Interface Box (RIB). Use the Programmer/Tuner to read the radio.
3. Enter into the Per Radio menu in the Programmer/Tuner. If the radio has been programmed for battery saver, disable the battery saver by pressing the space bar. Exit from the Per Radio menu, and then programme the radio.
4. When using the RTX-4005B test set, place the **AUDIO OUT** switch in the **B** position to set for proper speaker loading. Place the meter selector in the **AUDIO PA** position for receiver tests.
5. Connect the rf cable of the test cable to an rf generator or service monitor.

Receiver Check:

1. Use the Programmer/Tuner to program for new customer frequencies, if necessary.
2. Set the rf generator (or service monitor) for the appropriate frequency at a 1mV level with a 1kHz tone modulated at 3kHz deviation.
3. Connect the **AC/DC METER** port of the RTX-4005B to an ac voltmeter. Adjust the volume potentiometer (R140) for an ac voltmeter reading of 4.50Vrms.
4. Connect a SINAD meter to the **AC/DC METER** port of the RTX-4005B.
5. Reduce the rf level until 12dB of SINAD is obtained; record the rf level reading. Depress the monitor button while taking this measurement to ensure that the radio is not squelched. Also temporarily disconnect the test cable from the RIB to ensure that computer noise does not affect the measurement.
6. Perform SINAD measurements on all channels.
7. If the rf level required to produce 12dB SINAD is 0.35uV or less, *DO NOT REALIGN THE RECEIVER*; instead, proceed directly to "Squelch Sensitivity/Check Adjustment." If the rf required to produce 12dB SINAD is greater than 0.35uV, perform the "Receiver Alignment."

Receiver Alignment (Front End):

NOTE

The receiver front end tuning procedure can be accomplished with the radio in its housing. Coils L1 and L2 are tuned through the flex carrier while M1 is monitored on the controller flex.

1. Select the customer frequency that is at the center of the specified customer frequencies. For two-frequency radios, or radios without an obvious center frequency, select the lower frequency. Set the channel select buttons for the appropriate frequency.
2. Tune coils L1 and L2 to the top of the coil form. This will be the position where the coils are nearest to the flex carrier.
3. With an ac voltmeter, monitor M1 on the controller flex. Set the ac voltmeter to the −40dB scale. Set the service monitor to the appropriate frequency and adjust the rf level so that the ac voltage can be read at M1. During the following procedure, adjust the rf level to keep the ac voltage at M1 within the −40dB scale.
4. Peak coil L1 for maximum ac voltage at M1. Select the peak where the coil's slug is closest to the flex carrier assembly.
5. Peak coil L2 for maximum ac voltage at M1. Select the peak where the coil's slug is closest to the flex carrier assembly.
6. Perform steps 2 through 7 of the "Receiver Check" procedure. Repeat the Receiver Alignment (Front End) procedure, if necessary.

Receiver Alignment (Back End/Injection Filter):

NOTE

The receiver back end coils L9, L10, and L11, and the injection filter coils L12 and L13 are factory tuned and should not need retuning. Should the mixer, crystal filter, i-f modules, or accompanying back end parts need replacing, it will be necessary to perform the back end procedure.

Back End

7. Remove the radio from its housing as described in the "DISASSEMBLY PROCEDURE," then remove the backplane shield (exploded view item #74).
8. Attach the battery adapter to the radio frame, then attach the battery eliminator to the battery adapter.
9. Selecting any one of the customer frequencies, adjust the rf generator or monitor for the appropriate frequency. Then, place the radio front side down so that the solder side (side 2) of the PC board is facing up.
10. Tune coils L9, L10, and L11 flush with the solder side of the board.
11. With an ac voltmeter, monitor M1 on the solder side of the PC board. Set the ac voltmeter to the −40dB scale, and adjust the rf level so that the voltage can be monitored at M1. During the following procedure, adjust the rf level to keep the ac voltage at M1 within the −40dB scale.
12. Peak coils L9, L10, and L11 (in that order) for maximum ac voltage at M1. Detune L11 for a dip, then repeak L10 and L9.
13. Perform the "Receiver Check" procedure, then repeat steps 10, 11, and 12 of the "Back End" procedure, if necessary.

Injection Filter

NOTE

Perform the following procedure only if the radio fails the receiver check and both receiver front end and back end alignments have been performed or if the buffer module is replaced. The radio should already be removed from the housing.

14. Tune coils L12 and L13 to be flush with the solder side of the PC board. Temporarily reprogramme channel 1 for the highest receiver band edge frequency.
15. Monitor M2 with a dc voltmeter.
16. Peak L12, then L13 for maximum dc voltage at M2.
17. Reprogramme channel 1 to its initial receive frequency.
18. Perform the "Receiver Check" procedure, then repeat steps 14, 15, and 16 of the "Injection Filter" procedure, if necessary.

Squelch Sensitivity Check/Adjustment:

1. Use the Programmer/Tuner to read the radio, then proceed to the Tuner menu.
2. Set the channel select buttons for the channel determined to have the poorest sensitivity on the "Receiver Check." Place the PL/SCAN switch in the carrier squelch position.
3. Connect an ac voltmeter to the **AC/DC METER** port of the RTX-4005B.
4. Set the rf generator or service monitor for the appropriate frequency and no modulation. Reduce the rf level to a minimum, then turn the rf off.
5. Depress the monitor button on the side of the radio and adjust the noise level for 2.2Vrms. Make a note of the level on the dB scale; this will be the reference level for quieting measurements.
6. Press the **ENTER** key on the Programmer/Tuner to select **TONE SQUELCH**. Turn the rf of the generator or monitor on, at the minimum possible level. Increase the rf level until squelch break occurs. Note the quieting level at squelch break. If squelch break occurs between 6 and 12dB of quieting, proceed directly to the carrier squelch check, step 9. If the quieting level is not within the 6 to 12dB range, continue on with step 7.
7. Press the up/down arrow keys to adjust the tone squelch setting to 0. Adjust the rf level for 6dB of quieting.
8. Holding the rf level constant, press the up arrow key to increment the tone squelch setting one step at a time until the radio squelches. This will be the tone squelch setting.
9. Reduce the rf level to minimum and turn the rf off. The radio should be squelched.
10. Proceed to the **CARRIER SQUELCH** position in the tuner menu.
11. Turn the rf of the generator or monitor on at the minimum possible level. Increase the rf level until squelch break occurs. Note the quieting level at squelch break. If squelch break occurs between 8 and 14dB of quieting, proceed directly to step 14. If the quieting level is not within the 8 to 14dB range, continue on with step 12.
12. Press the up/down arrow keys to adjust the carrier squelch setting to 0. Adjust the rf level for 8dB of quieting.
13. Holding the rf level constant, press the up arrow key to increment the carrier squelch setting one step at a time until the radio squelches. This will be the carrier squelch setting. **SCAN SQUELCH** level should be set to the same level obtained for carrier squelch.
14. Exit from the Tuner menu.
15. If the squelch settings required modification, programme the radio.

NOTE

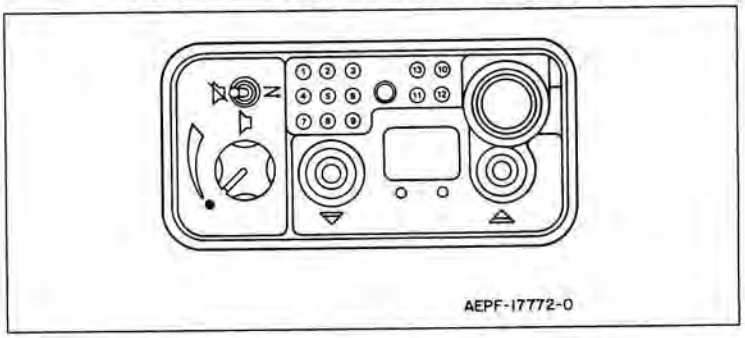
Upon completion of the receiver/squelch adjustments, it will be necessary to enable the battery-saver if this option was initially enabled and programme the radio.

Cloning Procedure:

(The content of radio A is to be duplicated into radio B)

1. Connect the cloning cable (NKN-6376A) to the Universal Connector of both radio A and radio B.
2. Set radio B to the lowest programmed channel on the display.
3. Turn off radio A and turn on radio B.
4. Place the PL switch on radio A to the carrier squelch position (▷) for full cloning, or to the PL position (▶) for partial cloning. Full cloning will duplicate the entire content of radio A to radio B. Partial cloning will duplicate the content of radio A to radio B, except for the deviation and squelch settings.
5. Simultaneously depress the PTT and monitor button on radio A and hold.
6. Turn on radio A. The green LED on radio B will flash indicating cloning is in progress.
7. Cloning is complete once the green LED turns off and an alert tone is heard from radio B. Release both the PTT and monitor button on radio A.

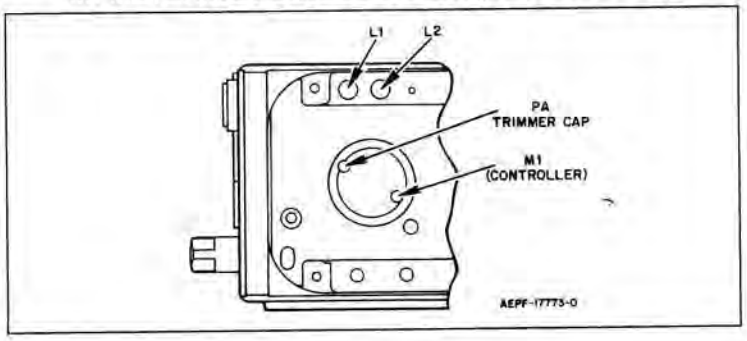
RADIO (TOP VIEW) UNIVERSAL CONNECTOR DETAIL AND PIN NUMBER ASSIGNMENT



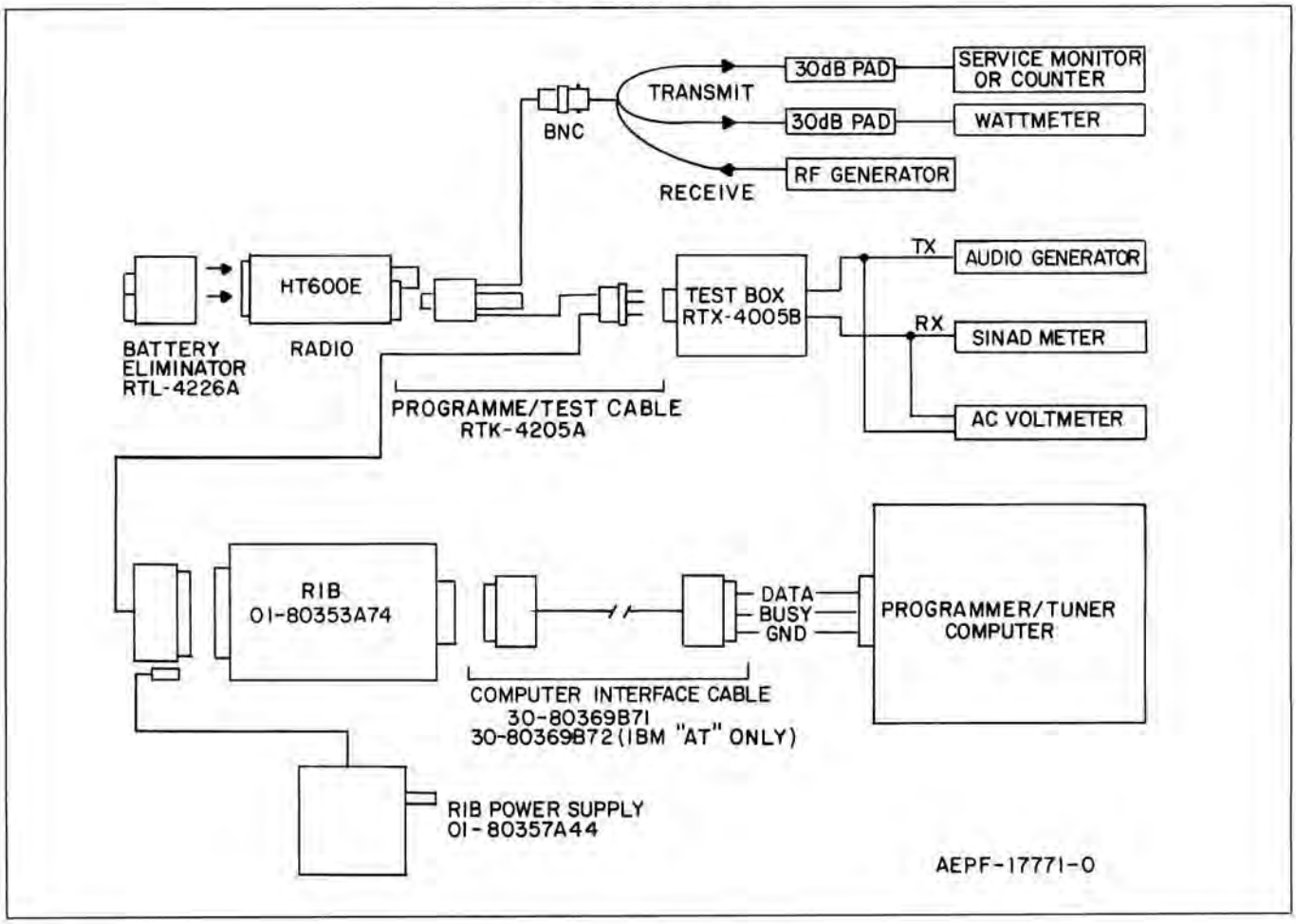
① EXTERNAL MICROPHONE
② EXTERNAL SPEAKER
③ OPTION B+
④ EXTERNAL PTT
⑤ GROUND (to Controller Board)
⑥ DATA
⑦ EXTERNAL SPEAKER SELECT
⑧ SPEAKER COMMON
⑨ BUSY
⑩ REMOTE RF
⑪ CVC SENSE
⑫ RF GROUND
⑬ REMOTE RF SELECT

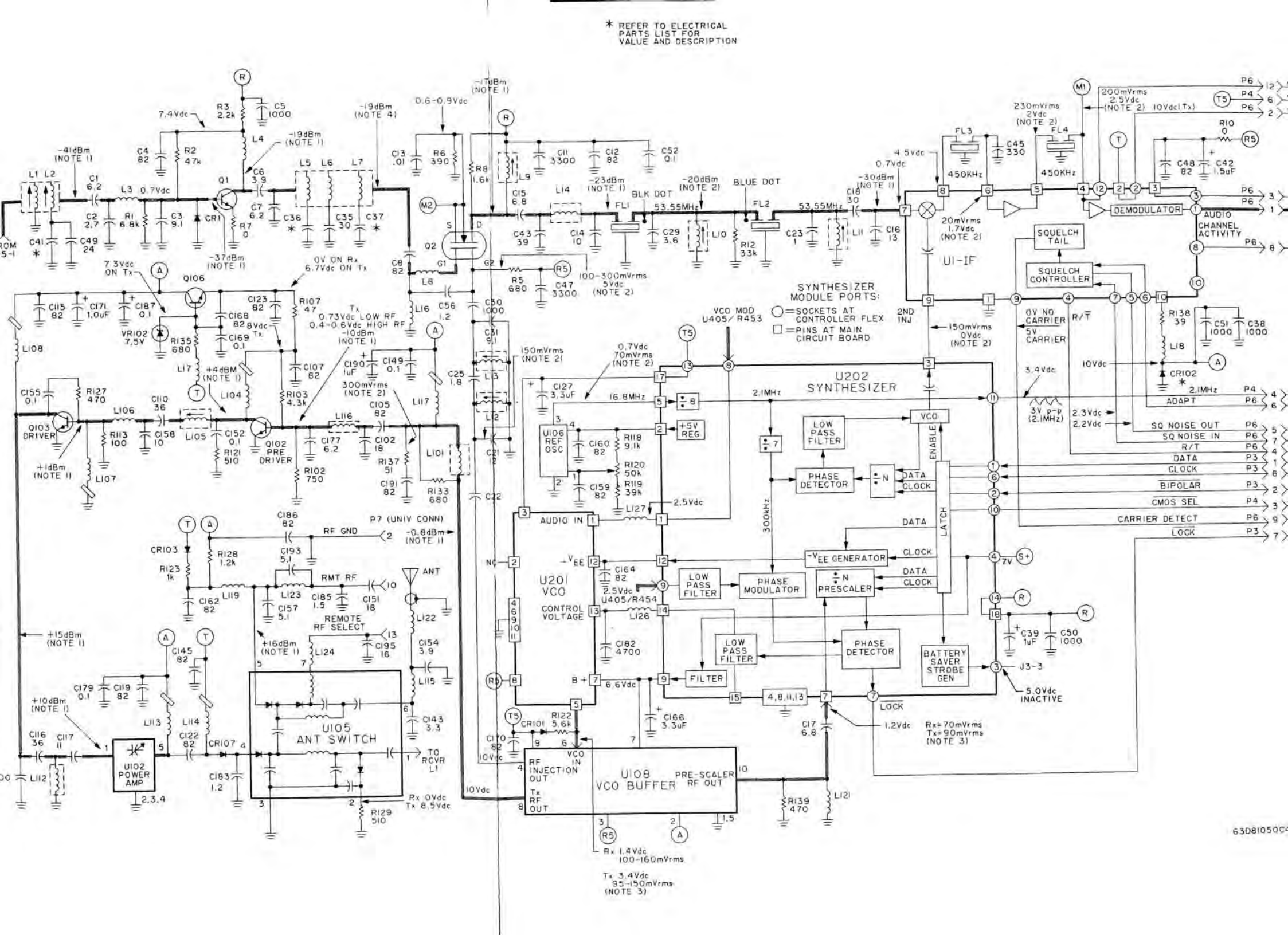
TEPF-17782-O

M1 METERING POINT LOCATION (CONTROLLER)



TEST SETUP DETAIL




* REFER TO ELECTRICAL PARTS LIST FOR VALUE AND DESCRIPTION
SYNTHESIZER MODULE PORTS:
○=SOCKETS AT CONTROLLER FLEX
□=PINS AT MAIN CIRCUIT BOARD
U202 SYNTHESIZER
U201 VCO
U105 ANT SWITCH
U102 POWER AMP
U108 VCO BUFFER PRE-SCALER
U1-IF
DEMODULATOR
SQUELCH TAIL
SQUELCH CONTROLLER
LOW PASS FILTER
PHASE DETECTOR
PHASE MODULATOR
PRESCALER
BATTERY SAVER STROBE GEN
LATCH
ENABLE
FILTER
AUDIO CHANNEL ACTIVITY
SQ NOISE OUT
SQ NOISE IN
R/T
DATA
CLOCK
BIPOLAR
CMOS SEL
CARRIER DETECT
LOCK
ADAPT
2ND INJ
5V CARRIER
0V NO CARRIER
5.0Vdc INACTIVE
TO RCVR L1
ANT
RF GND
RMT RF
REMOTE RF SELECT
P7 (UNIV CONN)
16.8MHz
2.1MHz
300kHz
450KHz
53.55MHz
BLK DOT
BLUE DOT
63D81050C4

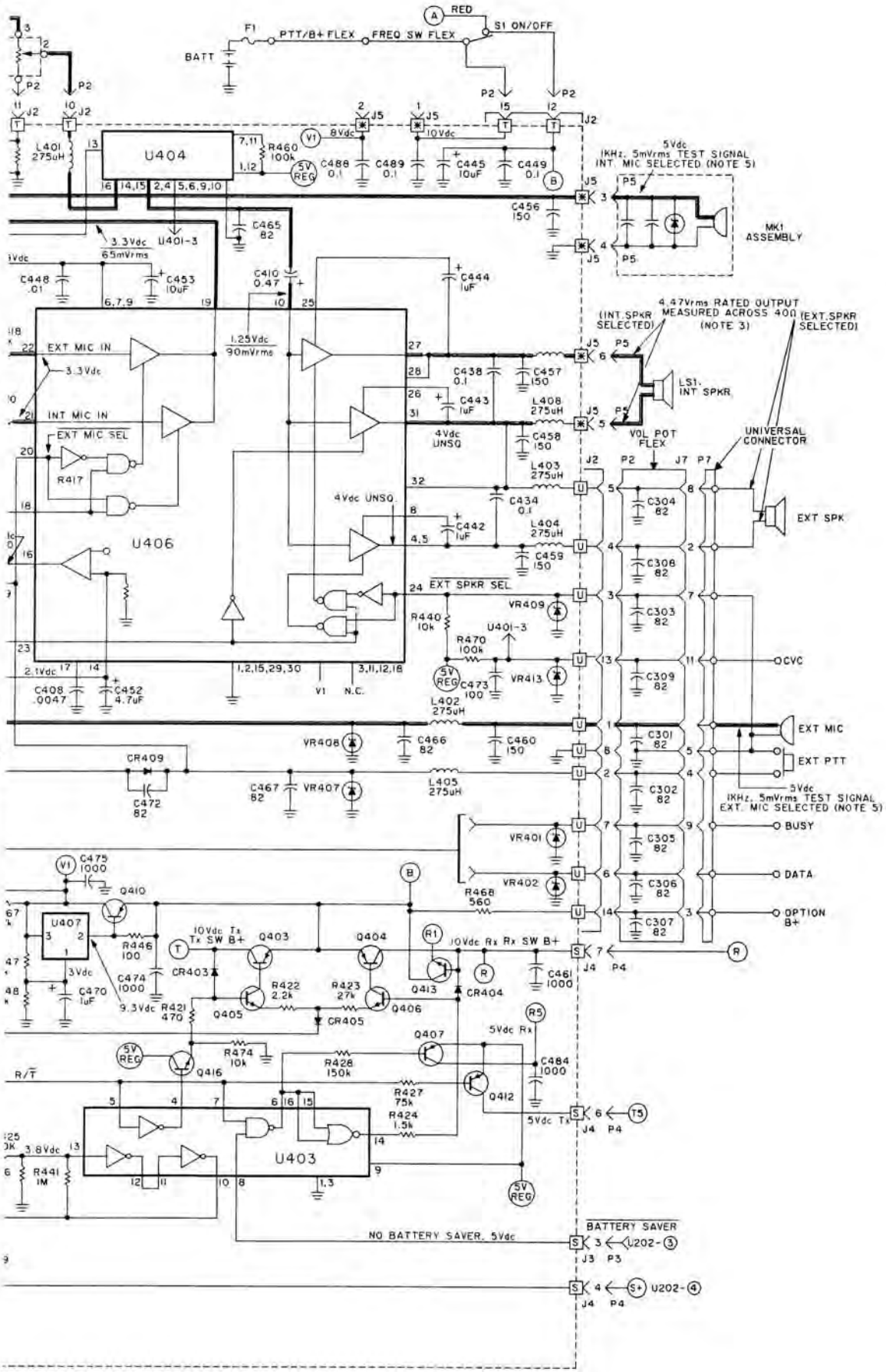
ELECTRICAL PARTS LIST

TPLF-3505-O

REFERENCE SYMBOL	MOTOROLA PART NO.	DESCRIPTION
		CAPACITOR, Fixed: pF ± 5%; 50V unless stated
C1	2160520A20	6.2 ± 0.25pF NPO
C2	2160520A11	2.7 ± 0.25pF NPO
C3	2160520A24	9.1 ± 0.25pF NPO
C4	2160520B23	82 NPO
C5	2160521A13	1000; 25V
C6	2160520A15	3.9 ± 0.25pF NPO
C7	2160520A20	6.2 ± 0.25pF NPO
C8	2160520B23	82 NPO
C9, 10	-----	Not Used
C11	2160521A19	3300; 25V
C12	2160520B23	82 NPO
C13	2160521A25	0.01uF; 25V
C14	2160520B01	10 NPO
C15	2160520A21	6.8 ± 0.25pF NPO
C16	2160520B04	13 NPO
C17	2160520A21	6.8 ± 0.25pF NPO
C18	2160520B12	30 NPO
C19, 20	-----	Not Used
C21	2160520B03	12 NPO
C22, 23	2160520A01	1 NPO
C24	-----	Not Used
C25	2160520A07	1.8 ± 0.25pF NPO
C26,27,28	-----	Not Used
C29	2160520A14	3.6 ± 0.25pF NPO
C30	2160521A13	1000; 25V
C31	2160520A24	9.1 ± 0.25pF NPO
C32,33,34	-----	Not Used
C35	2160520B12	30 NPO
C36, 37	0660076M01	Chip Resistor; 0Ω
C38	2160521A13	1000; 25V
C39	2360562A13	1uF ± 20%; 16V
C40	-----	Not Used
C41	0660076M01	Chip Resistor; 0Ω
C42	2360562A16	1.5uF ± 20%; 10V
C43	2160520B15	39 NPO
C44	-----	Not Used
C45	2160520C13	330 NPO
C46	-----	Not Used
C47	2160521A19	3300 NPO
C48	2160520B23	82 NPO
C49	2160520B10	24 NPO
C50, 51	2160521A13	1000; 25V
C52	2160521G37	0.1uF + 80 − 20%; 25V
C53,54,55	-----	Not Used
C56	2160520A03	1.2 ± 0.25pF NPO
C100	2160520A01	1.0 ± 0.25pF NPO
C101	-----	Not Used
C102	2160520B07	18 NPO
C103, 104	-----	Not Used
C105	2160520B23	82 NPO
C106	-----	Not Used
C107	2160520B23	82 NPO
C108, 109	-----	Not Used
C110	2160520B14	36 NPO
C111 thru 114	-----	Not Used
C115	2160520B23	82 NPO
C116	2160520B14	36 NPO
C117	2105454G02	11 N150
C118	-----	Not Used
C119	2160520B23	82 NPO
C120, 121	-----	Not Used
C122, 123	2160520B23	82 NPO
C124,125,126	-----	Not Used
C127	2360562A24	3.3uF ± 20%; 16V
C128 thru 142	-----	Not Used
C143	2160520A13	3.3 ± 0.25pF NPO
C144	-----	Not Used
C145	2160520B23	82 NPO
C146,147,148	-----	Not Used
C149	2160521G37	0.1uF + 80 − 20%; 25V
C150	-----	Not Used
C151	2160520B07	18 NPO
C152	2160521G37	0.1uF + 80 − 20%; 25V
C153	-----	Not Used
C154	2160520A15	3.9 ± 0.25pF NPO
C155	2160521G37	0.1uF + 80 − 20%; 25V
C156	-----	Not Used
C157	2160520A18	5.1 ± 0.25pF NPO
C158	2160520B01	10 NPO
C159, 160	2160520B23	82 NPO
C161	-----	Not Used
C162	2160520B23	82 NPO
C163	-----	Not Used
C164	2160520B23	82 NPO
C165	-----	Not Used
C166	2360562A24	3.3uF ± 20%; 16V
C167	-----	Not Used
C168	2160520B23	82 NPO
C169	2160521G37	0.1uF + 80 − 20%; 25V
C170	2160520B23	82 NPO
C171	2305499G13	1uF ± 20%; 25V
C172 thru 176	-----	Not Used
C177	2160520A20	6.2 ± 0.25pF NPO
C178	-----	Not Used
C179	2160521G37	0.1uF + 80 − 20%; 25V
C180, 181	-----	Not Used
C182	2160521C21	4700 ± 10%; 25V
C183	2160520A03	1.2 ± 0.25pF NPO
C184	-----	Not Used
C185	2160520A05	1.5 ± 0.25pF NPO
C186	2160520B23	82 NPO
C187	2105499G19	0.1uF ± 20%; 35V
C188, 189	-----	Not Used
C190	2105499G13	1uF ± 20%; 25V
C191	2160520B23	82 NPO
C192	-----	Not Used
C193	2160520A18	5.1 ± 0.25pF NPO
C194	-----	Not Used
C195	2160520B06	16 NPO
C301 thru 310	2160520B23	82 NPO
C400	2160521C19	3300 ± 10%
C401	2360562A07	0.47uF; 25V
C402	2360562A21	2.2uF; 20V
C403	2160521G37	0.1uF + 80 − 20%
C404	2360562A28	4.7uF; 10V
C405, 406	2360562A07	0.47; 25V
C407	-----	Not Used
C408	2160521C21	4700 ± 10%
C409	-----	Not Used
C410	2360562A07	0.47uF; 25V
C411 thru 414	-----	Not Used
C415	2360562A43	10uF; 16V
C416	2160521G37	0.1uF + 80 − 20%
C417,418,419	-----	Not Used
C420	2360562A13	1uF; 16V
C421, 422	2160620B14	36 NPO
C423	2160520G01	100 NPO
C424	2111032B13	0.1uF + 80 − 20%
C425	-----	Not Used
C426,427,428	2160520G01	100 NPO
C429, 430	-----	Not Used
C431	2160521G37	0.1uF + 80 − 20%
C432, 433	-----	Not Used
C434	2160521G37	0.1uF + 80 − 20%
C435,436,437	-----	Not Used
C438	2160521G37	0.1uF + 80 − 20%
C439,440,441	-----	Not Used
C442,443,444	2360562A13	1uF; 16V
C445	2360562A35	10uF; 25V
C446,447,448	2160521C25	0.01uF ± 10%
C449	2160521G37	0.1uF + 80 − 20%
C450, 451	-----	Not Used
C452	2360562A28	4.7uF; 10V
C453	2360562A43	10uF; 16V
C454, 455	-----	Not Used
C456 thru 460	2160220C05	150 NPO
C461	2160521A13	1000
C462	-----	Not Used
C463 thru 467	2160520F23	82 NPO
C468, 469	2160521C19	3300 ± 10%
C470, 471	2360562A13	1uF; 16V
C472	2160520F23	82 NPO
C473	2160520G01	100 NPO
C474, 475	2160521A13	1000
C476	2160520C13	330 NPO
C477	2360562A43	10uF; 16V
C478	2160520G01	100 NPO
C479, 480	-----	Not Used
C481	2360562A43	10uF; 16V
C482	-----	Not Used
C483, 484	2160521A13	1000
C485	2160520F23	82 NPO
C486	2360562A13	1uF; 16V

C487	2160521A13	1000
C488, 489	2160521G37	0.1uF +80 – 20%
C490	2160521A13	1000
C491	-----	Not Used
C492, 493	2111031A37	82
C501	2160520B23	82 NPO
C801	2160520G11	270
C802	2160521G37	0.1uF +80 – 20%
C803, 804	-----	Not Used
C805	2160521A14	1200
		DIODE: See Note I
CR1	4883654H06	Silicon
CR2	4805119G34	Silicon
CR101	4805494Q04	Silicon
CR102	4805490G02	Silicon
CR103	4883654H06	Silicon
CR104,105,106	-----	Not Used
CR107	4880010E05	Silicon
CR403,404,405	4805494Q04	Silicon
CR406,407,408	-----	Not Used
CR409	4805494Q04	Silicon
CR501	4805729G28	LED, Red
CR502	4805729G29	LED, Green
		LAMP:
DS501	6505018G01	Axial Lead
		CORE:
E103	7683960B04	Ferrite Bead
		FUSE:
F1	6505214E02	Axial, 2-Ampere
		FILTER:
FL1, FL2	4805245J20	Crystal, 53.55MHz (Matched pair) FL1 = Black Dot FL2 = Blue Dot
FL3	9105726Q02	Ceramic, 450kHz
FL4	9105726Q01	Ceramic, 450kHz
		JACK:
J1, 2	0905467R01	Socket, 15-position
J3, 4	0905577P01	Socket, 7-position
J5	0905249Q01	Socket, 6-position
J6	0105959M27	Header Assembly, 12-socket
J501	0905570R01	Female, 10-pin (Part of LCD Assembly 0105958N65
		JUMPER:
JU401	0660076M01	Chip Resistor; 0Ω
		COIL, RF: unless stated
L1, 2	0105957M23	Assembly, Preselector; 2-pole
L3, 4	2484238H02	11½ turns, close wound
L5	2405723J21	10¾ turns, Preselector
L6, 7	2405732J01	11 turns, Preselector
L8	2405559P13	5½ turns, air wound
L9	2405063H24	13 turns, space wound
L10	2405063H13	1.2uH Choke, tunable
L11	2405063H09	0.6uH Choke, tunable
L12, 13	2405523P35	1½ turns, space wound; with core
L14	2505129Q02	1.2uH Choke, tunable
L15	-----	Not Used
L16	2405027E19	Coil, RF
L17, 18	2462575A01	0.39uH Choke
L101	2405523P07	2½ turns, space wound
L102, 103	-----	Not Used
L104	0105951N35	Assembly, 0.085uH Choke, with bead and sleeving
L105	2405523P03	3½ turns, space wound, with core
L106	2405027E38	3½ turns, fixed
L107, 108	0105951N35	Assembly, 0.085uH Choke, with bead and sleeving
L109,110,111	-----	Not Used
L112	2405027E38	3½ turns, fixed
L113	0105955N19	Assembly, 0.2uH Choke, with bead and sleeving
L114	0105951N34	Assembly, 0.29uH Choke, with bead and sleeving
L115	2405559P19	4½ turns
L116	2484238H02	1½ turns
L117	0105951N34	Assembly, 0.29uH Choke, with bead and sleeving
L118	-----	Not Used
L119	2405452C08	275uH Chip
L120	-----	Not Used
L121	2405452C09	50uH Chip

L122	2405559P18	3½ turns, air wound
L123	2405027E38	3½ turns, fixed
L124	2482732H28	0.29uH
L125	-----	Not Used
L126,127,128	2462575A01	0.39uH Choke
L401 thru 408	2405452C08	Electrical Chip
		SPEAKER:
LS1	5005155Q01	Transducer, 39Ω
		MICROPHONE:
MK1	0105956M62	Assembly, microphone flex
		PLUG:
P1, 2	2805466R01	Connector, Male; 15-pin (Part of Freq. Adj. Flex 0105958N55)
P3, 4	-----	Part of U202 - 5105822P75
P5	-----	Part of MK1 - 0105956M62
P6	-----	Part of U1 - 5105822P62
		TRANSISTOR: See Note I
Q1	4880182D39	NPN
Q2	4805452G13	MOSFET, Dual Gate
Q102	4805128M84	NPN - SOT
Q103	4805474G48	NPN
Q104, 105	-----	Not Used
Q106	4805128M09	NPN - SOT
Q400	4805128M94	PNP - SOT
Q401	4805128M12	RH
Q402,403,404	4805128M94	PNP - SOT
Q405, 406	4805128M12	RH
Q407	4805128M94	PNP - SOT
Q408, 409	-----	Not Used
Q410	4805128M10	PNP
Q411	-----	Not Used
Q412	4805128M94	PNP - SOT
Q413	4805128M12	RH
Q414	4805128M94	PNP - SOT
Q415, 416	4805128M12	RH
		RESISTOR, Fixed: Ω ± 5%; ⅛W unless stated
R1	0660076A69	6.8k
R2	0660076A89	47k
R3	0660076A57	2.2k
R4	-----	Not Used
R5	0660076A45	680
R6	0660076A39	390
R7	0660076M01	Chip Resistor; 0Ω
R8	0660076A54	1.6k
R9	-----	Not Used
R10	0660076M01	Chip Resistor; 0Ω
R11	-----	Not Used
R12	0660076A85	33k
R102	0660076A46	750
R103	0660076A64	4.3k
R104 thru 106	-----	Not Used
R107	0660076A17	47
R108 thru 112	-----	Not Used
R113	0660076A25	100
R114 thru 117	-----	Not Used
R118	0660076A72	9.1k
R119	0660076A87	39k
R120	1805581P01	Pot., 50k
R121	0660076A42	510
R122	0660076A67	5.6k
R124,125,126	-----	Not Used
R127	0660076A41	470
R128	0660076A51	1.2k
R129	0660076A42	510
R130,131,132	-----	Not Used
R133	0660076A45	680
R134	-----	Not Used
R135	0660076C45	680
R136	-----	Not Used
R137	0660076A18	51
R138	0660076A15	39
R139	0660076A41	470
R140	1805100Q02	Pot., 25k (Volume-includes S1)
R400,401,402	0660076B01	100k
R403	0660076A67	5.6k
R404	0660065B01	100k
R405	0660076K49	10M
R406,407,408	0660076B01	100k
R409	0660076A47	820
R410	0660076A59	2.7k



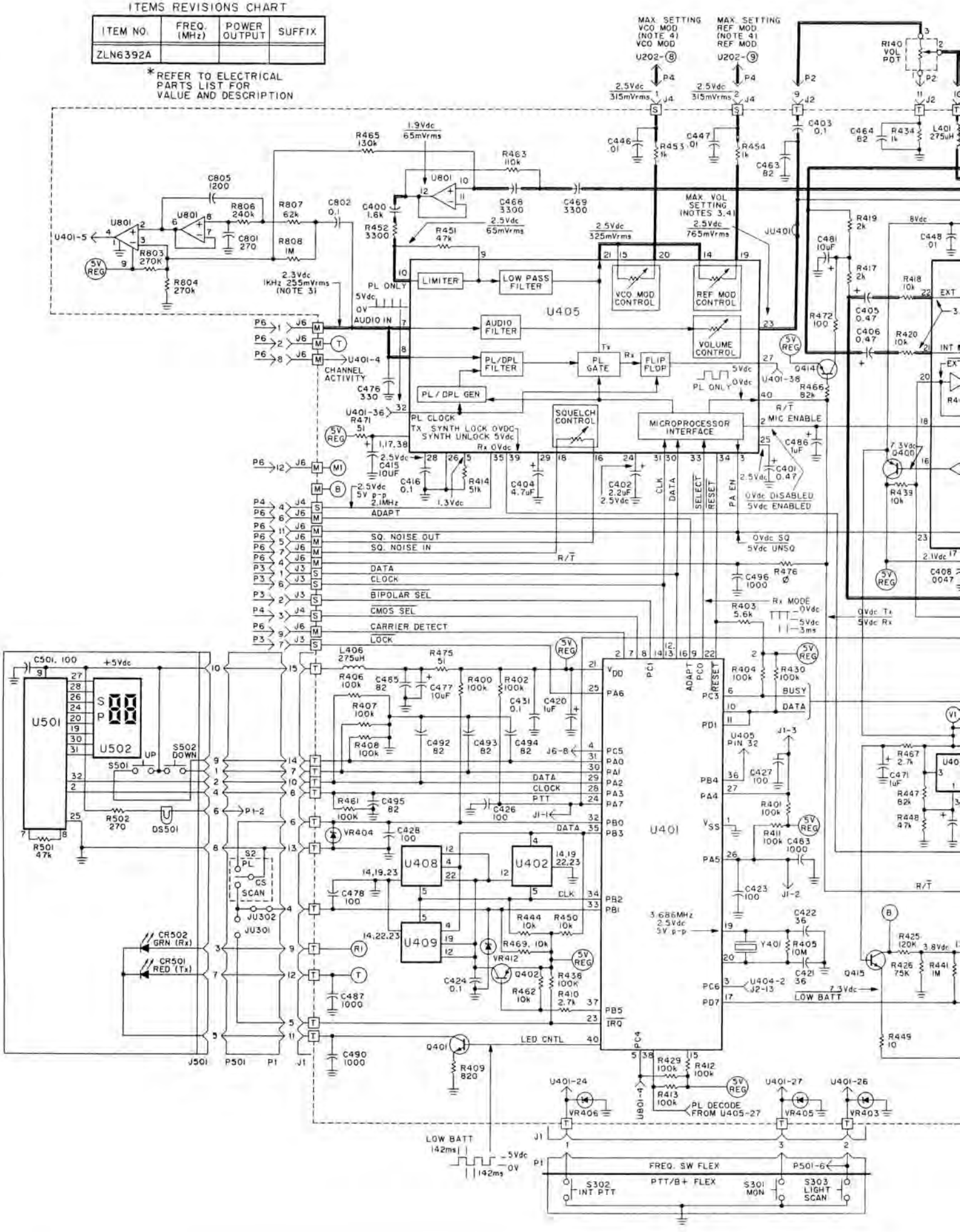
OL-DEPF-17775-0

CONTROLLER FLEX SCHEMATIC DIAGRAM

ITEMS REVISIONS CHART

ITEM NO.	FREQ. (MHz)	POWER OUTPUT	SUFFIX
ZLN6392A			

*REFER TO ELECTRICAL PARTS LIST FOR VALUE AND DESCRIPTION



R411,412,413	0660076B01	100k
R414	0660076A90	51k
R415, 416	-----	Not Used
R417	0660076A56	2k
R418	0660076A73	10k
R419	0660076A56	2k
R420	0660076A73	10k
R421	0660076A41	470
R422	0660076A51	1.2k
R423	0660076A83	27k
R424	0660076A53	1.5k
R425	0660076F03	120k
R426	0660076E94	75k
R427	0660076A94	75k
R428	0660076B05	150k
R429, 430	0660076B01	100k
R431,432,433	-----	Not Used
R434	0660076A49	1k
R435,436,437	-----	Not Used
R438	0660076B01	100k
R439, 440	0660076A73	10k
R441	0660076B25	1M
R442, 443	-----	Not Used
R444	0660076A73	10k
R445	-----	Not Used
R446	0660076A25	100
R447	0660076E95	82k
R448	0660076E89	47k
R449	0660076A01	10
R450	0660076A73	10k
R451	0660076A89	47k
R452	0660076A54	1.6k
R453, 454	0660076A49	1k
R455 thru 459	-----	Not Used
R460, 461	0660076B01	100k
R462	0660076A73	10k
R463	0660076A93	120k
R464	-----	Not Used
R465	0660076B08	240k
R466	0660076A95	82k
R467	0660076A59	2.7k
R468	0660076A43	560
R469, 470	0660076B01	100k
R471	0660076A18	51
R472	0660076A25	100
R473	-----	Not Used
R474	0660076A57	2.2k
R475	0660076A18	51
R476	0660076M01	Chip Resistor; 0Ω
R501	0660076A89	47k
R502	0660076A35	270
R803, 804	0660076B11	270k
R805	-----	Not Used
R806	0660076B10	240k
R807	0660076A92	62k
R808	0660076B25	1M

		SWITCH:
S1	-----	ON/OFF, Part of R140
S2	4005101Q01	MODE SELECT, 3-Position Toggle
S301	3905834K04	MONITOR, Snap Dome
S302	3905834K04	INT PTT, Snap Dome
S303	3905834K04	LIGHT/SCAN, Snap Dome
S501	3805558R01	UP, Elastomeric
S502	3805558R01	DOWN, Elastomeric
		CIRCUIT MODULE: See Note I
U1	5105822P62	I-F
U102	5105822P71	2-Watt PA
U103, 104	-----	Not Used
U105	5105822P63	Antenna Switch
U106	5105729E52	Reference Oscillator, 16.8MHz
U107	-----	Not Used
U108	5105822P50	VCO Buffer
U201	5105822P56	VCO, 438-470MHz
U202	5105822P75	Synthesizer
U401	0105954P16	Computer
U402	0105954P14	Code Plug
U403	0105957N87	Hex Gate
U404	0105954P13	Analog Switch
U405	0105957N86	Audio Filter
U406	0105952P27	Audio PA
U407	5160870F01	5-Volt Regulator
U408, 409	0105954P14	Code Plug
U501	0105954P15	LCD Driver
U502	5105165R27	LCD
U801	0105957N83	Op Amp
		DIODE: See Note I
VR102	4805189E05	Zener; 7.5V
VR401 thru 409	4805129M42	Zener; 5.6V
CR410, 411	-----	Not Used
VR412, 413	4805129M42	Zener; 5.6V
		CRYSTAL: See Note II
Y401	4805664G33	3.6864MHz

NONREFERENCED ITEMS

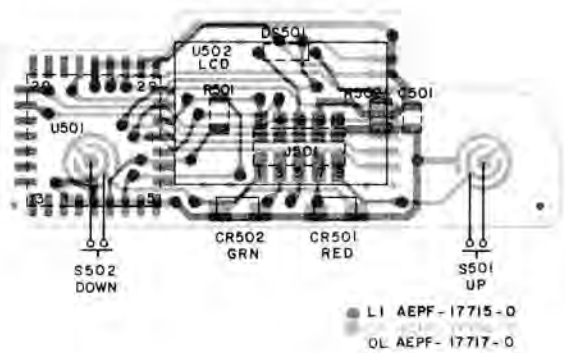
	0105955G27	ASSEMBLY, Tuning Slug (for L1, L2)
	0105957M24	SHIELD CAN (for L5,L6,L7)
	0705196A04	BOOT (for FL1, FL2)
	0705766R01	SUPPORT, Rubber (for Contact)
	0905557R01	CONTACT STRIP, Elastomeric (for LCD Display)
	1305559R01	BEZEL, Display (for LCD Display)
	2605524P03	SHIELD CAN (for L12,L13,L105)
	2605524P01	SHIELD CAN (for L14, L126)
	3700132562	TUBING, Heat Shrinkable (for L14)
	3905509R02	CONTACT (Solder-side of NUE6912B to Main Back Shield)
	6105566R01	DIFFUSER (for LCD Display)
	7505295B07	BASE PAD (for FL1,FL2)
	7505560R01	PAD, Diffuser (for LCD Display)
	7505695R01	PAD (for U106)
	8405748R01	FLEX, Controller

NOTES:

I. For optimum performance, order replacement diodes, transistors, and circuit modules by Motorola part number only.

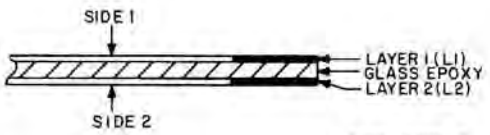
II. When ordering crystal units, specify carrier frequency, crystal frequency, crystal type number, and Motorola part number.

VIEWED FROM SIDE 2
(SOLDER SIDE)



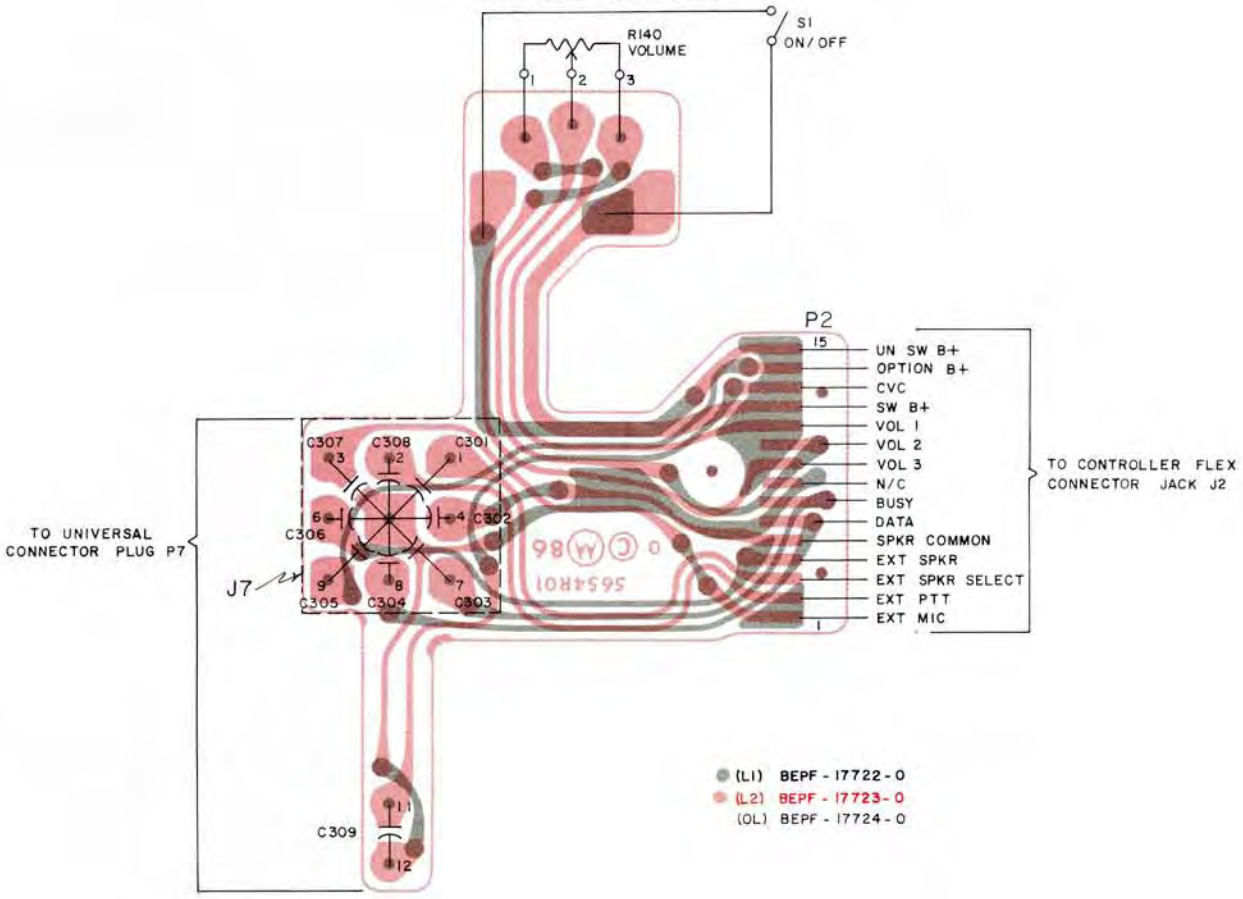
L1 AEPF-17715-O
OL AEPF-17717-O

2-LAYER CIRCUIT BOARD COPPER DETAIL VIEWING COPPER STEPS AT EDGE OF BOARD IN PROPER LAYER SEQUENCE.

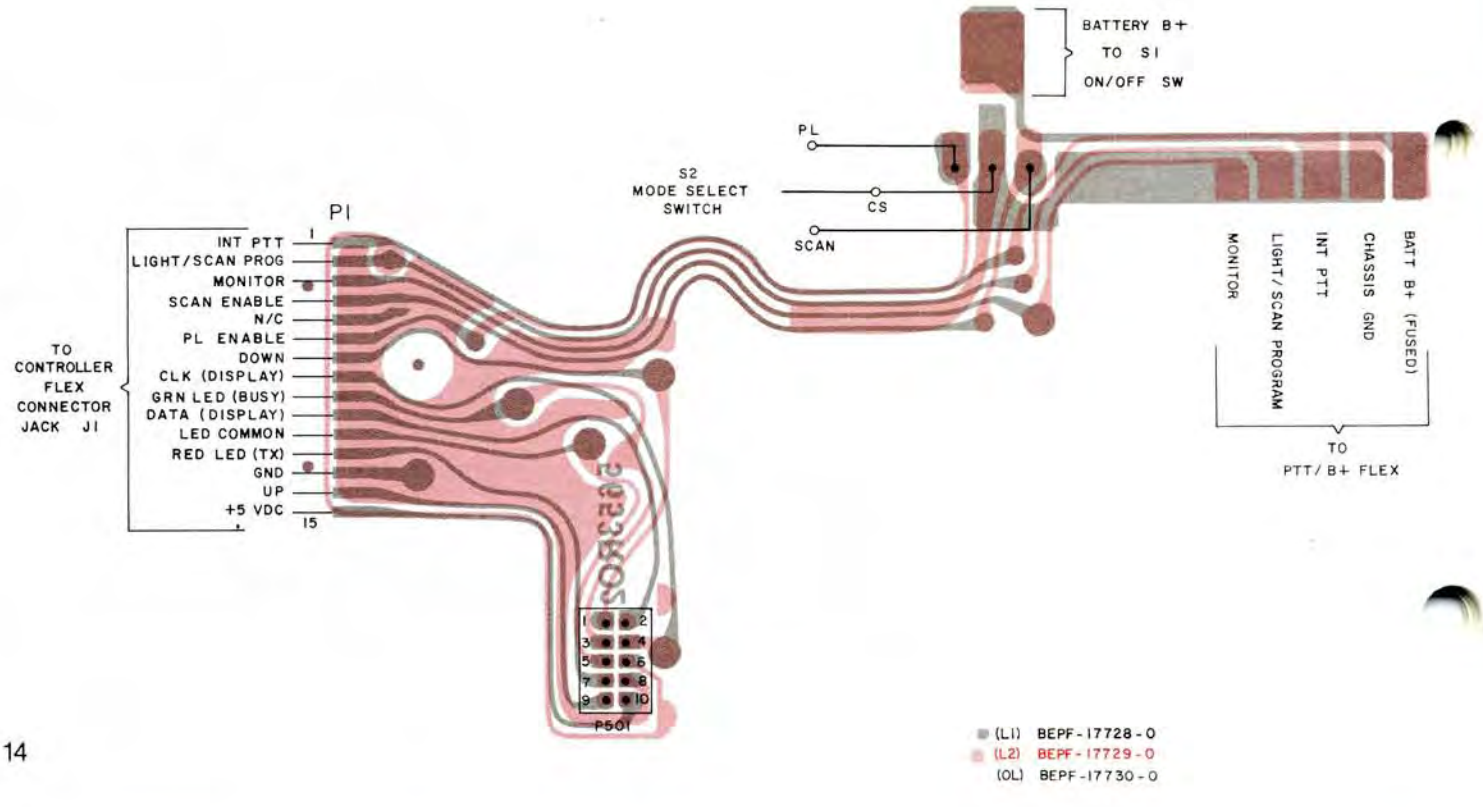


AEPF-16805-O

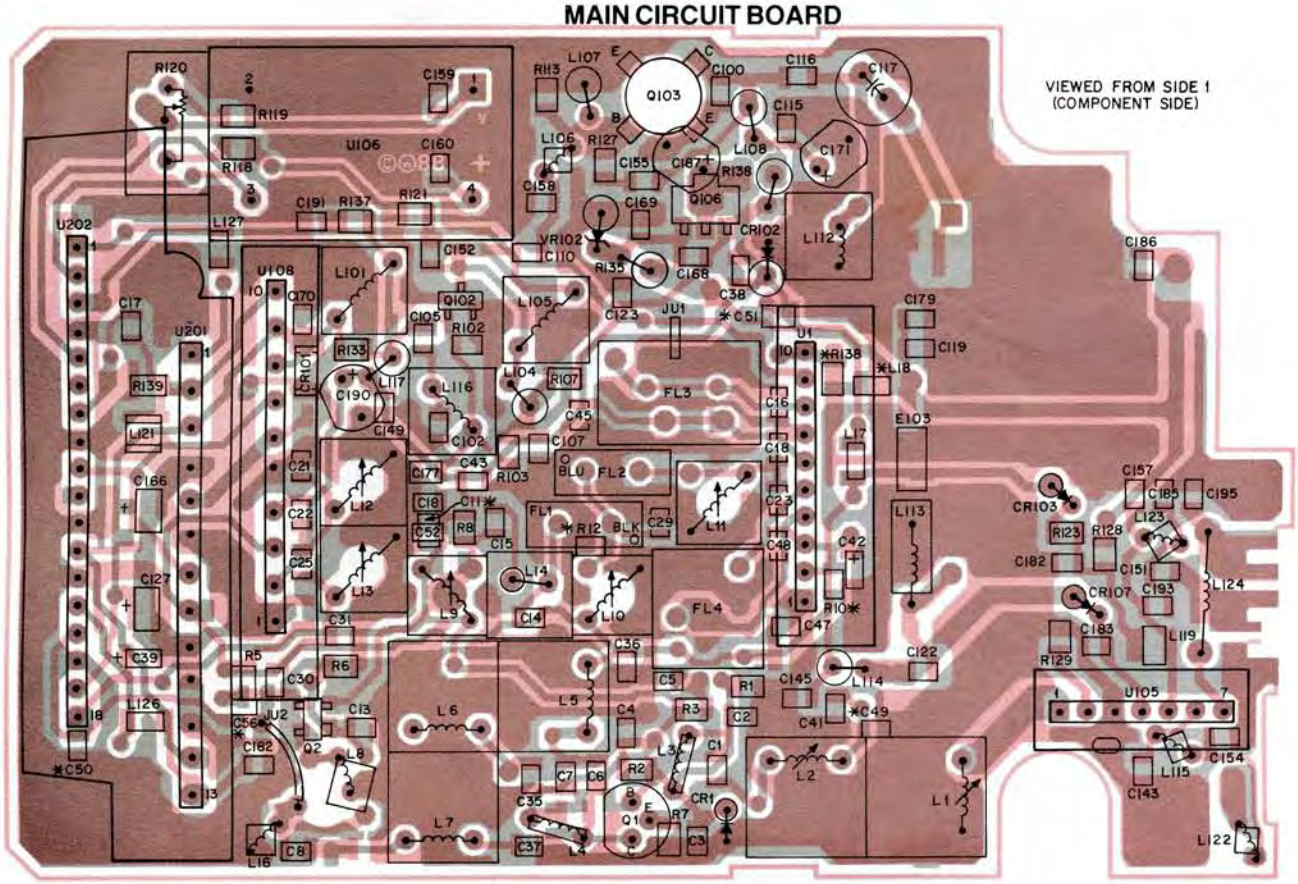
VOLUME POT FLEX



FREQUENCY SWITCH FLEX

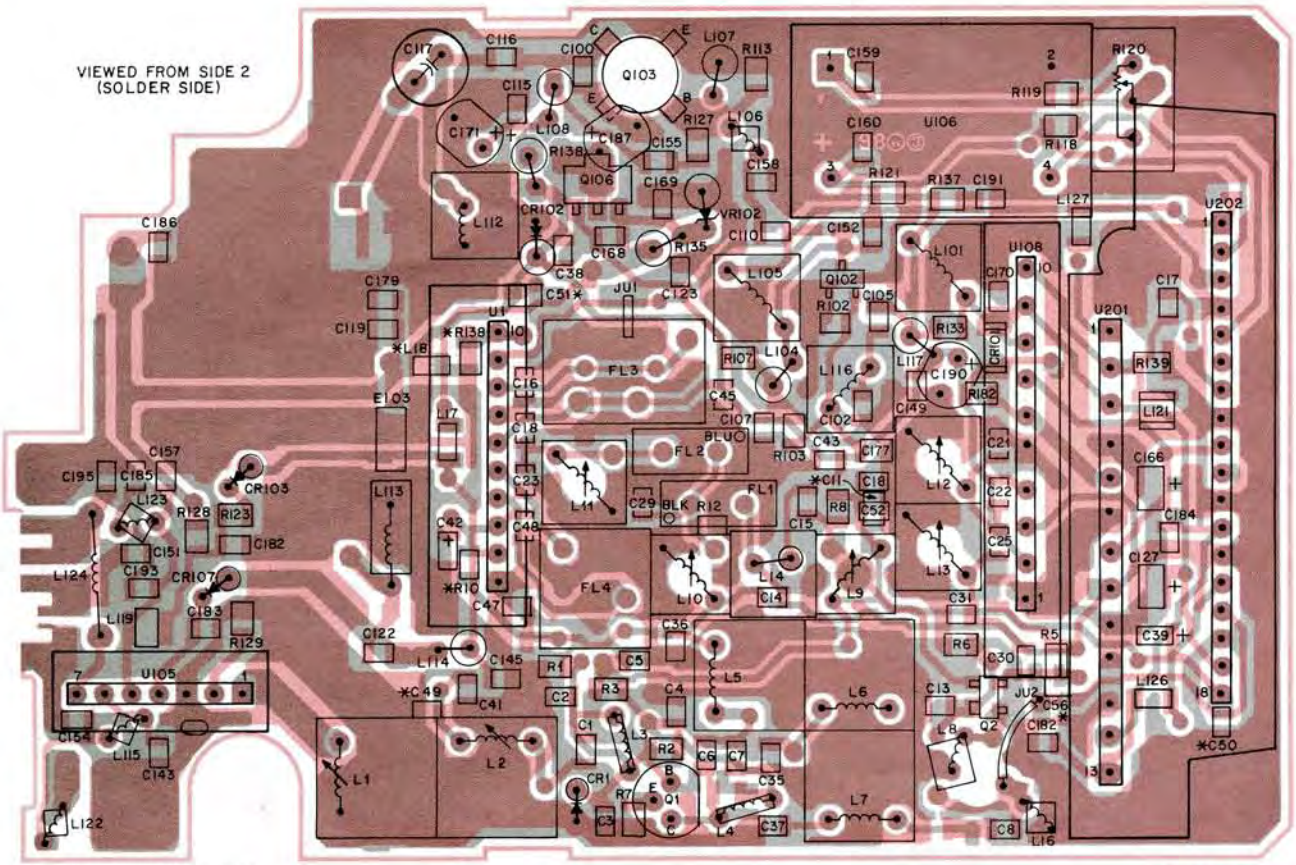


MAIN CIRCUIT BOARD



*= MOUNTED ON SOLDER SIDE

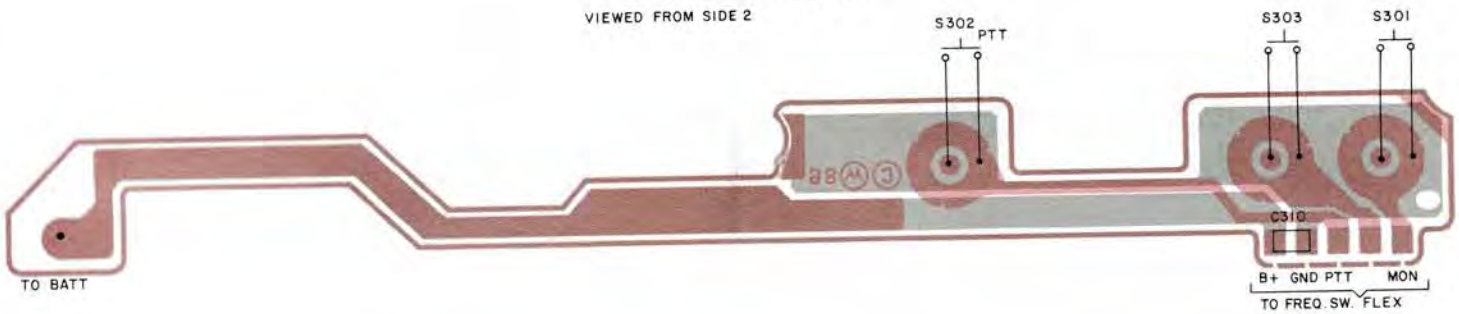
L1-CEPF-17709-0
L2-CEPF-17710-0
OL-CEPF-17711-0



* = MOUNTED ON SOLDER SIDE

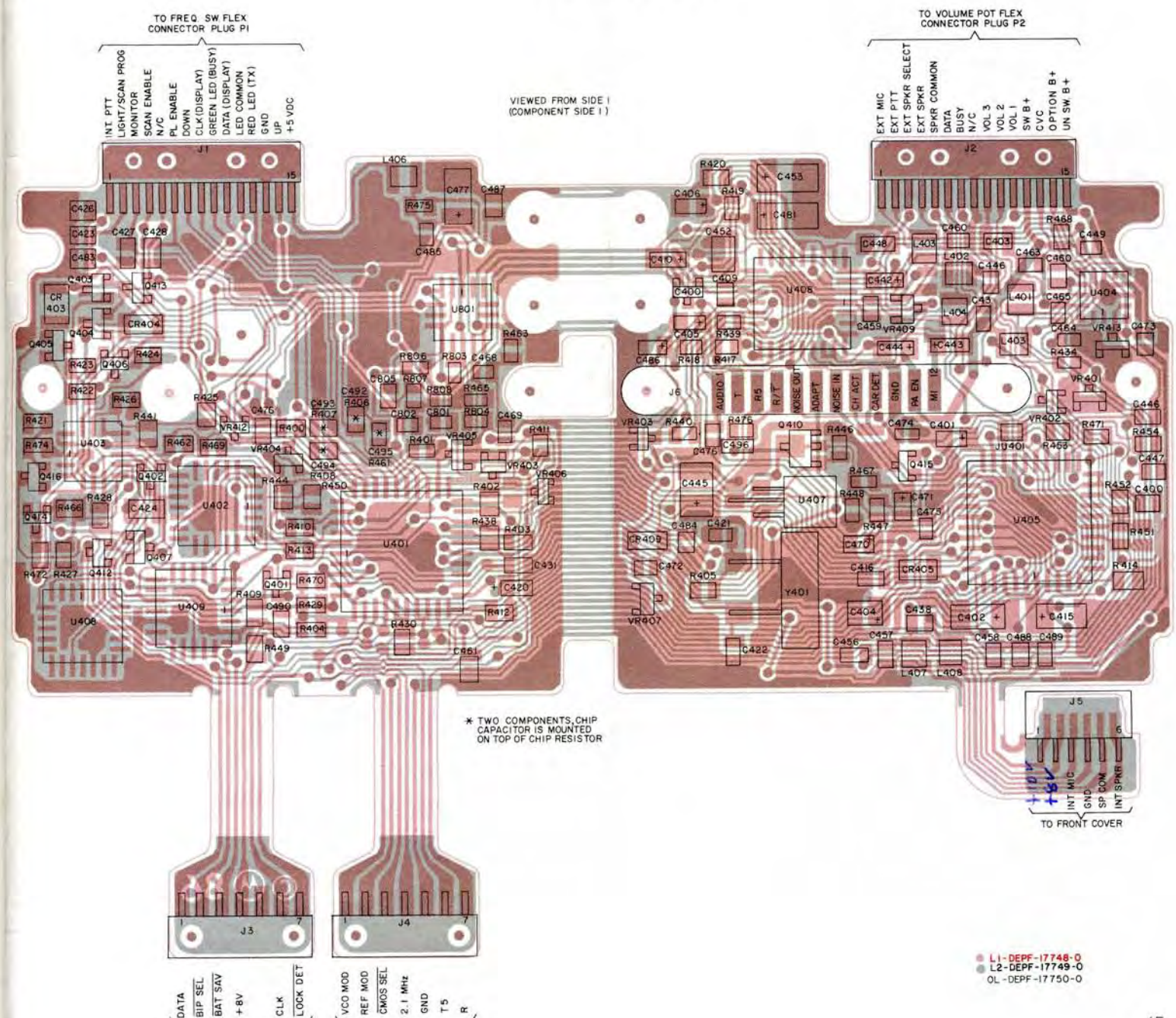
L1-CEPF-17712-0
L2-CEPF-17713-0
OL-CEPF-17714-0

PTT / B+ FLEX



L1 - BEPF-17058-A
L2 - BEPF-17059-A
OL - BEPF-17060-B

CONTROLLER FLEX



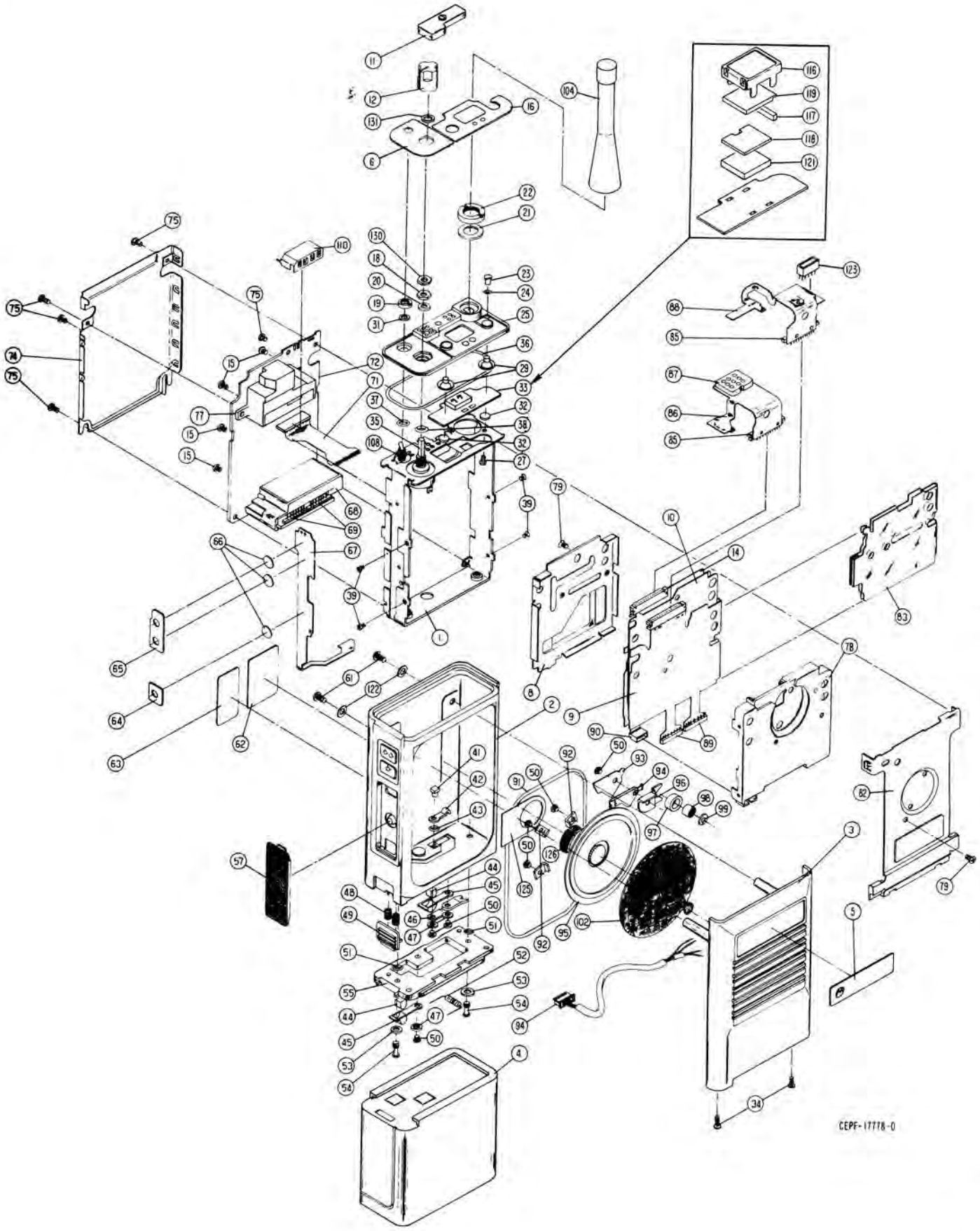
L1 - DEPF-17748-O
L2 - DEPF-17749-O
OL - DEPF-17750-O

EXPLODED VIEW PARTS LIST

TPLF-3506-O

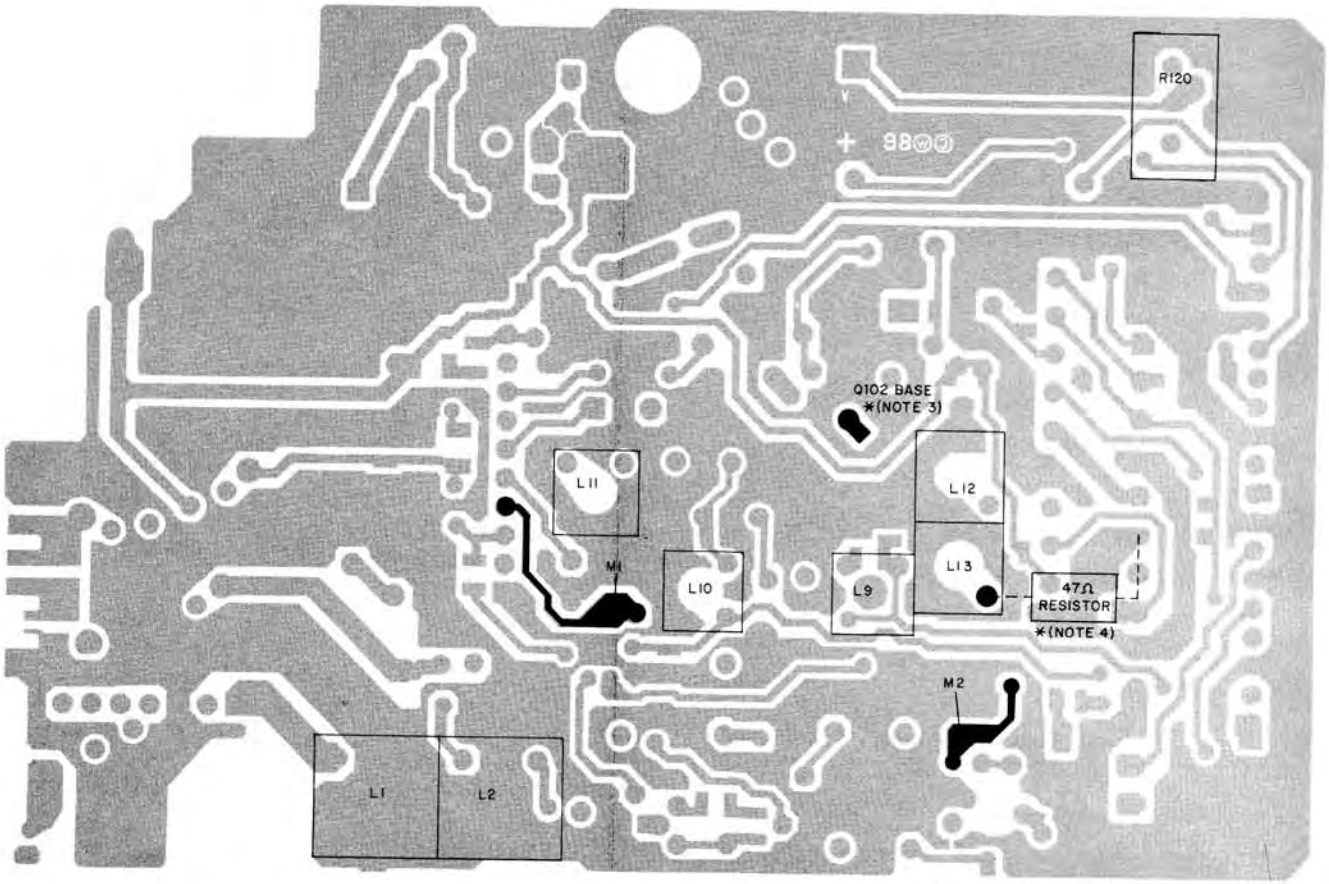
ITEM NO.	MOTOROLA PART NO.	DESCRIPTION
1	0105958N59	FRAME
2	NHN6419A	HOUSING KIT; includes: items 41 thru 57
3	NTN5017A	FRONT COVER KIT; includes: items 5, 50, 91 thru 99, 102, 125, 126
4	NTN5048A	BATTERY; 900mAH
5	3305260Q03	NAMEPLATE
6	1305564R01	ESCUTCHEON; ON/OFF Volume
7A	ZLN6392A	CONTROLLER FLEX KIT; includes: items 8, 9, 10, 14, 78, 79, 83
7B	1505784R01	CONTROLLER FLEX CARRIER; Top
8	2605184Q01	CONTROLLER FLEX CARRIER; Bottom
9	0105951P19	CONTROLLER FLEX
10	2605499R01	CENTER SHIELD; Top Carrier Side
11	1505221Q01	DUST COVER
12	0105951N79	KNOB, Volume
14	2605499R01	CENTER SHIELD; Bottom Carrier Side
15	0300136772	SCREW, Phillips; 2-56 × 5/16"
16	1305563R01	ESCUTCHEON, Display
18	0205629L01	NUT HEX; (Volume Pot.) 0.75 × 8 × 1.6mm
19	0205163Q01	NUT, Spanner (Toggle Switch)
20	0405162Q02	WASHER, Flat (Volume Pot.)
21	0405216L04	WASHER, Flat (Antenna)
22	0205765L02	NUT, Spanner (Antenna)
23	0205562R01	NUT, Plate
24	3205556R02	SEAL, Nut Plate
25	0105958N64	CONTROL TOP
27	0305573R01	SCREW, Phillips; 2-56
29	3805558R01	SWITCH, Elastomer
31	0405162Q01	WASHER, Flat (Toggle Switch)
32	7505561R01	PAD, LCD
33	0105958N65	LCD DISPLAY ASSEMBLY
34	0300140041	SCREW, Phillips; 2-56 × 1/4"
35	1805100Q02	POTENTIOMETER, Volume, 25k
36	3205141Q02	O-RING, Control Top
37	3205141Q03	O-RING (Toggle Switch)
38	3205082E01	O-RING (Volume Pot.)
39	0300140369	SCREW, Flat Head; 2-56 × 1/8"
41	4605945K05	CONTACT STUD, Battery
42	3905127Q01	CONTACT B+
43	3205082E24	O-RING, Gasket (Stud)
44	0705830C02	SUPPORT, Contact
45	3905421C07	CONTACT, Battery
46	2905124Q01	LUG, Fuse
47	0400002625	LOCKWASHER
48	4105944K01	SPRING, Battery Latch
49	5505536P01	LATCH
50	0300139982	SCREW, 2056 × 5/32"
51	3205082E03	O-RING, Gasket
52	6505214E02	FUSE, 2 Ampere
53	0400009761	LOCKWASHER
54	0305941K01	SCREW, Captive 4-40
55	6405531P01	PLATE, Base
57	4505535P01	LEVER, PTT
61	0305137Q01	SCREW, Phillips; 4-40 × 1/2"
62	3305408R??	LABEL 1
63	3305408R??	LABEL 2
64	3205231Q01	SEAL, Dome (PTT)
65	3205196Q01	SEAL, Dome (MON/LIGHT)
66	3905834K04	CONTACT, Snap Dome
67	0105951N40	B + FLEX KIT; Includes: items 64, 65, 66
68	See Note	(P/O U201)
69	2805144Q01	PLUG, 7-position (P/O U202)
71	See Note	(P/O U1)
74	0105955N90	MAIN BACK SHIELD
75	0300136772	SCREW, 2-56 × 5/16"
77	See Note	(P/O U102)
79	0300138620	SCREW, Phillips; Flat Head, 2-56 × 5/16"
82	0105951P28	FRONT PLANE SHIELD
83	1405264Q01	INSULATOR, Flex
86	0105958N56	VOLUME, Flex (P2)
88	0105958N55	FREQ. ADJUST FLEX (P1)
91	3205141Q01	O-RING, Gasket (Front Cover)
92	4205140Q01	CLAMP, Speaker
93	1405135P01	INSULATOR, Mic
94	0105956M62	MIC FLEX KIT; includes: items 97, 98
95	5005155Q01	SPEAKER, 39Ω
96	4205140Q01	CLAMP, Mic
97	1405299L01	BOOT, Mic
98	5005227J01	MIC, Element
99	7505582P01	PAD, Mic Boot
102	3505143Q05	FELT, Speaker
104	NAE6232A	ANTENNA, Heliflex (Green)
108	4005101Q02	SWITCH, 3-position Toggle
116	1305559R01	BEZEL, LCD
117	0905557R01	CONTACT STRIP, Elastomeric
118	6105566R01	DIFFUSER
119	5105165R27	LCD
121	7505560R01	PAD, Diffuser
122	0484345A06	WASHER, Seal
125	1405299Q01	INSULATOR, Speaker
126	7505501R02	PAD, Speaker
130	0405534R01	WASHER, Flat Octagonal
131	0405749R01	WASHER, Flat (Kapton)
136	7505501R03	PAD
137	0305103S01	SCREW, Captive 4-40

NOTE: Refer to Electrical Parts List for part number and description.



EXPLODED VIEW PARTS LIST AND DIAGRAM

ALIGNMENT/ADJUSTMENT LOCATIONS



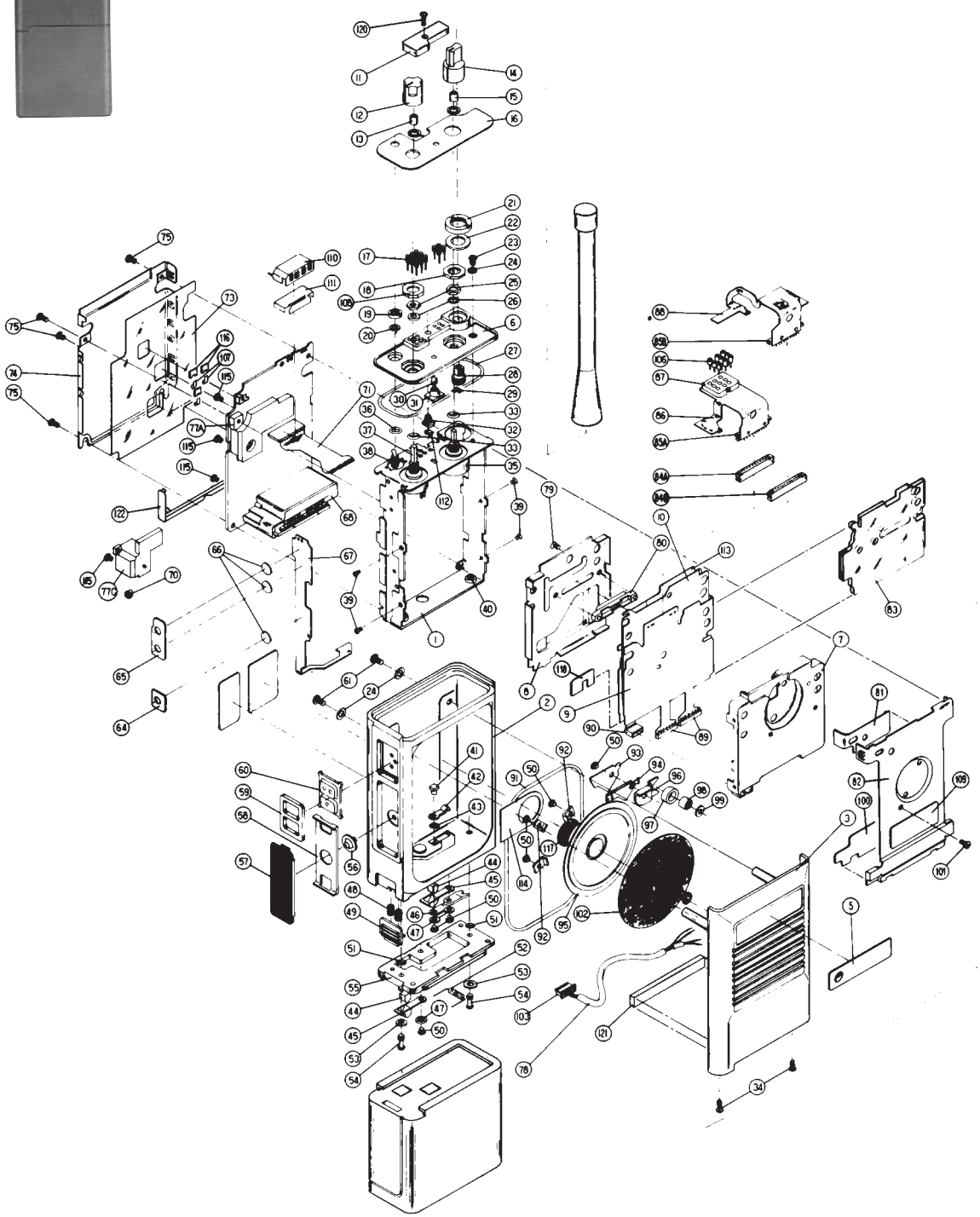
* REFER TO VOLTAGE OVERLAY AND WAVEFORM NOTE INDICATED.

L2-CEPF-17713-0
OL-CEPF-17777-0

MOTOROLA

HT600 Series

Parts List



MOTOROLA

HT600 Series

Parts List

REF. NO.	PART NO.	DESCRIPTION
1	**0105956M63**	Assembly, Frame; includes: *Item 1 Frame *Item 40
2	**0105955N18**	Assembly, Housing; includes: *Item 2 Housing *Items 56, 58, 59, and 60
3	**1505527P01**	Cover, Front
5	**3305543P01**	Nameplate, Front
6	**0105951N41**	Assembly, Top Control Panel; includes: *Item 6 Panel *Items 17, 28, 29, and 32
7	**1505185Q01**	Carrier, Flex Top
8	**2605764R01**	Shield, Bottom
9	**REX1020A**	Assembly, Controller Flex; includes: *Item 9 Controller Flex *Items 10, 80, 84, 89, and 90 (The Controller Flex Assembly also includes electrical parts. See Note)
10	See Note	*Shield, Center; part of item 9
11	**0102706J99**	Cover, Dust
12	**0105951N79**	Assembly, Knob; includes: *Item 12 Knob *Item 13
13	**4205123Q02**	Clip, Push; part of item 12
14	**0105950N92**	Assembly, Knob; includes: *Item 14 Knob *Item 15
15	See Note	*Clip, Push; part of item 14
16	**1305676R01** or **1305676R02**	Escutcheon (2-Freq. Radios) Escutcheon (6-Freq. Radios)
17		*Pin, Contact (P7); (not field replaceable, order top control panel assembly 0105951N41)
18	**0405218Q01**	Washer
19	**0205163Q01**	Nut, Spanner
20	**0405162Q01**	Washer, Flat
21	**0205765L02**	Nut, Spanner
22	**0405216L04**	Washer, Flat
23	**0300136785**	Screw, Phillips Hd., 4-40 x 3/16″
24	**0484345A06**	Washer, Seal
25	**0205629L02**	Nut, Hex; 2 req'd
26	**0405162Q02**	Washer, Flat; 2 req'd
27	**3205141Q02**	Gasket, "O" Ring
28	See Note	*Bushing, Antenna; part of item 6
29	See Note	*Lug, Antenna; part of item 6
30	**4805729G24**	LED, Bicolor (CR413A/CR413B)
31	**3205157Q01**	Seal, LED
32	**4605159Q01**	Stud, Insert; part of item 6
33	**3205082E01**	Gasket, "O" Ring
34	**0300132342**	Screw, Phillips; 2-56 x 1/4″
35	**4005148Q05**	Switch, Frequency (S2)
36	**3205141Q03**	Gasket, "O" Ring
37	**1805100Q04**	Switch/Pot, On-Off/Volume (S1/R140)
38	**4005101Q01**	Switch, PL (S3)
39	**0300140369**	Screw, Flat Hd.; 2-56 x 1/8″
40	See Note	*Insert, Frame; part of item 1
41	**4605945K05**	Contact Stud, Battery
42	**3905127Q01**	Contact, B+
43	**3205082E24**	Gasket, "O" Ring
44	**0705830C02**	Support, Contact
45	**3905421C13**	Contact, Battery
46	**2905124Q01**	Lug
47	**0400002625**	Lockwasher, Split #2
48	**4105944K01**	Spring, Battery Latch
49	**5505536P01**	Latch
50	**0300139444**	Screw, Phillips Hd.; 2-56 x 5/32″
51	**3205082E03**	Gasket, "O" Ring
52	**6505214E05**	Fuse (F1)
53	**0400009761**	Lockwasher, Split #4
54	**0305941K01**	Screw
55	**6405531P02**	Plate, Base
56	**3805236Q01**	*Actuator, PTT part of item 2
57	**4505535P01**	Lever, PTT
58	**4205534P01**	*Retainer, PTT part of item 2
59	**6405186Q01**	*Plate, Actuator Button; part of item 2
60	**3805187Q01**	*Button, Actuator; part of item 2
61	**0305137Q04**	Screw, Phillips; 4-40 x 1/2″
64	See Note	*Seal, Dome (PTT); part of item 67
65	See Note	*Seal, Dome, (Mon); part of item 67
66	See Note	*Contact, Snap Dome; part of item 67
67	**0105951N40**	Assembly, B+ PTT Flex; includes: *Item 67 Flex *Items 64, 65, and 66
68	**1505533P01**	Housing, VCO
70	**1300139939**	Screw, Flat Hd.; 2-56 x 5/32″
74	**2605775R02**	Shield, Main Back
75	**0300136772**	Screw, Phillips Hd.; 2-56 x 5/16″
76	----	Not used
77B	----	Not used
77C	**2605578P02**	Heatsink (Low Power Models)
78	See Note	*Tubing, Heat Shrink; part of item 98
79	**0300138620**	Screw, Phillips; 2-56 x 5/16″
80	See Note	*Header, part of item 9
81	**1405753R01**	Insulator, Front Shield
82	**2605711R03**	Shield Front
83	**1405264Q01**	Insulator, Flex
84A	See Note	*Jack (J2), part of item 9
84B	See Note	*Jack (J1), part of item 9
85A	See Note	*Jack (P2), part of item 86
85B	See Note	*Jack (P1), part of item 88
86	**REX1074A**	Assembly, Volume Pot Flex; includes: *Item 86 Volume Pot Flex *Items 85A and 106
88	**0105956M68**	Assembly, Frequency Switch Flex; includes: *Item 88 Frequency Switch Flex *Item 85B
89A	See Note	*Jack (J3), part of item 9
89B	See Note	*Jack (J4), part of item 9
90	See Note	*Jack (J5), part of item 9
91	**3205141Q01**	Gasket, "O" Ring
92	**4205140Q01**	Clamp, Speaker
93	**1405135P01**	Insulator, Microphone
94	See Note	*Flex, Microphone; part of item 98
95	**5005155Q03**	Speaker (LS1)
96	**4205139Q01**	Retainer, Microphone
97	See Note	*Boot, Microphone; part of item 98
98	**0105956M62**	Assembly, Microphone; includes: *Item 98 Microphone *Items 78, 94, 97, 98, and 103
99	**7505582P01**	Pad, Microphone Boot
101	**0300138620**	Screw, Flat Phillips Hd.; 2-56 x 1/16″
102	**3505143Q04**	Felt, Speaker
103	See Note	*Plug (P5), part of item 98
105	----	Not used
106	See Note	*Sockets (J7), part of item 86
107	**3905509R02**	Contact, 3 req'd
108	**0405534R01**	Washer, Flat
109	**540_244J06**	Label, Instruction
110	**2605494R01**	Shield, I-F
111	**1405496R01**	Insulator, I-F Shield
112	**3905130N01**	Contact Strip
113	**2605573S01**	Shield
114	**1405299Q01**	Insulator, Speaker
115	**0300136771**	Screw, Phillips; 2-56 x 3/16″
117	**7505501R02**	Pad, Speaker
118	**2605762R01**	Shield, Controller Flex
120	**0305103S01**	Screw, Captive
121	**7505501R03**	Pad, Front Cover
122	2605123S01	Shield, Back

NOTE: *Not field replaceable, order parent Assembly.

MOTOROLA

HT600 Series
Portable Accessories

CHARGERS

Rapid/Regular Rate Desktop Chargers

A variety of chargers are available to fit the charging capabilities of your batteries. Choose rapid or regular rate, single unit chargers. The rapid chargers are equipped with red and green lights to indicate rapid charging or charge complete. All desktop units will accept any of the three battery sizes, with or without radio attached.

NTN4633C

NTN4636A Desktop, Regular Charge Rate, 220V, 50-60 Hz, (supplied with 2 prong plug)

NTN4633C Desktop, Rapid Charge Rate, 117V

NTN4634B Desktop, Rapid Charge Rate, 220V, 50-60 Hz, (supplied with 2 prong plug)

Compact Chargers

The compact charger provides a 16 hour charge rate. The charger's small size and weight make it ideal for users who occasionally charge their radio at home.

NTN4666B Compact, Regular Charge Rate, 117V

NTN4667A Compact, Regular Charge Rate, 220V, 50-60 Hz, (supplied with 2 prong plug)

NTN4635B Desktop, Regular Charge Rate, 117V

NTN4666B

CHARGERS

Multi-Unit Chargers

NTN4668B Multi Unit Desktop, Rapid Rate, 117V AC, 50-60 Hz

NTN4668B

NTN4922B Multi-Unit 220V, Rapid Rate

NLN7967A

NLN7967A Wall Mount for 6 Unit Charger

Vehicular Chargers

NTN5438A* 12V DC, Vehicular Charger (16 hour charge rate) PAC-RT compatible

NKN6428A 12V Cable Kit. (Only required if not used with a PAC-RT/mobile system)

NTN5368A RF Adapter (Utilizes universal connector, incompatible with audio accessories)

NTN5368A

NKN6408A RF Cable Kit (Does not include antenna)

NKN6408A

*Not compatible with Kits NKN6149A, NKN6150A and NKN6151A.

MOTOROLA

HT600 Series
Portable Accessories

BATTERY MAINTENANCE SYSTEM PLUS (BMS Plus)

Using interchangeable battery adapters (sold separately), the BMS Plus is capable of charging and discharging, analyzing, conditioning and cycle test on batteries; tracking battery voltage and capacity (mAh).

The BMS Plus offers a 3 year warranty. Its easy-to-use design supports hundreds of 2-way, cellular, and camcorder batteries with printer port* (Serial-RS-232C port – uses female 9-pin to male 25-pin cable).

WPLN4079AR Six Station, 110V AC, 50/60 Hz

WPLN4080AR Six Station, 230V AC, 50/60 Hz

WPLN4079AR

Adapter

TDN9441A Standard Adapter, HT600

BATTERY OPTIMIZING SYSTEM (BOS)

The Battery Optimizing System accommodates NiCD, NiMH, Li-Ion, and SLA. Four independent stations for simultaneous service of 4 batteries. Reads battery capacity in percentage of nominal rating; verifies voltage; measures battery temperature and displays battery impedance in milliohms. (Adapter sold separately).

WPLN4071AR

WPLN4071AR 4 Station, 110V AC, 50/60 Hz

WPLN4073AR 4 Station, 230V AC, 50/60 Hz

Adapters

RL-71173 Standard Adapter, HT600

*Compatible with the STAR Micronics SP200 series printers, available from any STAR Micronics distributor, and other printers with STAR emulation.

MOTOROLA CONDITIONING CHARGER (MCC)

The MCC will help extend battery life and enhance battery operation. It will safely condition and charge your specified Nickel Cadmium (NiCD) and Nickel Metal Hydride (NiMH) batteries in approximately an hour.

WPPN4009AR 110V AC Base Charge Unit with Adapter Plate

WPPN4010AR 220V AC Base Charge Unit with Adapter Plate

3080384G15 Cigarette Lighter Adapter Cord

MCC Multi-Unit Conditioning Chargers

WPPN4074AR Four-station, 110V with permanent adapter plates

WPPN4075AR Four-station, 220V with permanent adapter plates

BATTERY DISCHARGE TESTER

Tester determines a battery's delivered capacity by discharging a fully charged battery. 'LED' indicates cycle status by turning "ON" when fully charged battery is placed in adapter and "OFF" when discharge is complete. Plug-in adapters allow one console to discharge most batteries. No AC power source required (console is powered by discharging battery).

RLN4201B

RLN4201B Single Unit Battery Discharge Tester, Requires Battery Adapter or Cable/Clip Lead

RLN4047A Battery Adapter, HT 600

RKN4038A Cable/Clip Lead, 10V

MOTOROLA

HT600 Series
Portable Accessories

BATTERY ELIMINATOR

The Battery Eliminator saves battery life by drawing power from the vehicle's battery while providing overvoltage protection. Use by sliding eliminator onto radio in place of battery and plugging adapter into cigarette lighter.

RLN4265A

RLN4265A Battery Eliminator, Coil Cord, Cigarette Lighter Adapter

CARRYING ACCESSORIES

NTN5460B

Carrying Cases

A variety of carrying accessories are available for your comfort and convenience. The carrying cases are made of top quality leather and are available in sizes designed to fit your radio and battery. Cases are available with standard belt loop or swivel back covers, with a restraining T-strap.

Standard

NTN5460B Leather Carry Case with T-Strap and Spacer, for High or Medium Capacity Battery (Snap)

Swivel

NTN5461B Leather Carry Case with T-Strap, Spacer and 2½″ Belt Loop, for High or Medium Capacity Battery (Snap)

NTN5883A Leather Carry Case with T-strap, Spacer, and Belt Loop, for High or Medium Capacity Battery (Snap), fits 3″ Belt

NTN5450B Leather DTMF Swivel Carry Case, Long (Snap), fits 2¼″ Belt

NTN5884A Leather DTMF Carry Case, Long (Snap), fits 3″ Belt

CARRYING ACCESSORIES

Belt Loops

4282421J06 Swivel Belt Loop, 2½″

4205857B01 Swivel Belt Loop, 2″

4282421J06

NTN4813B

Belt Clip

NTN4813B Belt Clip, 1½″

NTN5389B Belt Clip, 2¼″

NTN5602A Public Safety Full 3″ Clip, Black Aluminum

NTN4814C

Belt Clip Carry Holder

NTN4814C Belt Clip Carry Holder, fits 2¼″ Belt

NTN5827A Belt Clip Carry Holder, fits 3″ Belt

Portable Radio Hanger

The portable radio hanger slides over and hangs from the door panel in a vehicle. The radio's belt clip slides onto the portable hanger allowing convenient, easy mounting. Two sizes are available to fit door panels.

TDN9327A Portable Radio Hanger, for Door Panels up to 2¾″

TDN9373A Portable Radio Hanger, for Door Panels 2¾″ to 3¼″

TDN9327A

MOTOROLA

HT600 Series
Portable Accessories

CARRYING ACCESSORIES

NTN5243A

Carrying Strap

NTN5243A Carrying Strap, Black

Belt

4200865599 2˝ Wide Leather Belt, for all models

4200865599

4205386S01

T-Straps

4205386S03 T-strap, Nylon for Leather Carrying Cases (Snap)

4205386S01 T-Strap, Nylon for Leather Carrying Cases (Velcro)

4205447R03 T-Strap, Urethane, for Carry Holder (Snap)

4205447R03

Spacer

Enables light capacity battery to fit in a small case and medium capacity battery to fit in a medium case. Spacer is included in every carry case.

4305525R02 Spacer (spare)

Button Back Cover

NTN5497A T-Bar Button Back Cover Kit, Black (order swivel belt loop separately)

NTN5497A

CARRYING ACCESSORIES

Universal Carry Accessories

HLN6602A Universal Chest Pack with Radio Holder, Pen Holder and Velcro Secured Pocket

HLN6602A

RLN4815A Universal RadioPAK™ with Radio Holder. Worn around waist with adjustable belt.
Includes attached 6” by 8” zippered pouch for other job necessities

4280384F89 Universal RadioPAK™ belt lengthener; fits waists larger than 40”

AUDIO ACCESSORIES

NMN6156B

Remote Speaker Microphone

This speaker microphone provides remote talk and listen capability. By attaching the microphone to the universal connector, you can use the remote speaker microphone to transmit or receive while the radio remains comfortably on the belt in the case.

NMN6145B Remote Speaker Microphone with Clip, Coil Cord and 2.5 mm Earphone Jack

NMN6156B Remote Speaker/ Microphone with Clip and Coil Cord

NTN5493A UHF Public Safety Remote Speaker Microphone with Clip Back and Straight Cord (Order required antenna separately)

MOTOROLA

HT600 Series
Portable Accessories

AUDIO ACCESSORIES

NTN5050A UHF Public Safety Speaker Microphone with velcro back and straight cord (order antenna and velcro patch separately)

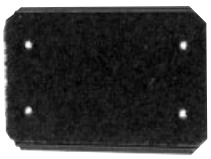
Antennas for Public Safety Microphones

8505355K03 .....400-440 MHz

8505355K04 .....440-470 MHz

8505309N11 .....470-512 MHz

NLN8410A Velcro pin attachment



NLN8410A

Ear Piece

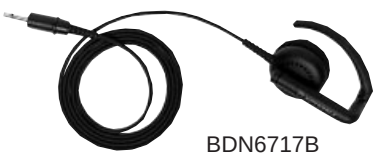
5083693B01 Earphone and volume control (requires NTN4812B)

5083693B04 Earpiece and Volume Control (2.5 mm)

5880378B84 2.5 to 3.5 Jack Adapter

5880380B35 3.5 to 2.5 Jack Adapter

NTN4812B Earphone Jack Adapter



BDN6717B

Ear Receiver

BDN6717B Ear receiver with 3.5 mm plug, to be used with adapter NTN4812

Surveillance

ZMN6031A Three wire surveillance accessory with earpiece, microphone and push-to-talk as separate pieces. Factory Mutual Approved. Requires NTN5075B

ZMN6031A

ZMN6032A Two wire surveillance accessory with earpiece, microphone and push-to-talk. Microphone and PTT are combined. Factory Mutual Approved. Requires NTN5075B

NTN5075B Hirose Adapter for Two-and Three-Wire Surveillance Accessories.

AUDIO ACCESSORIES

RLN4294A

Epaulet Strap

Black leather epaulet straps secure remote speaker microphones to epaulet of shirts or jackets and attach around cord. Allows reliable communications in hostile environments with Velcro or clip style strap.

RLN4294A Epaulet Strap, Velcro

RLN4295A

RLN4295A Epaulet Strap, Small Clip

Ear Mikes

Single unit microphone and speaker worn in the ear. Eliminates the need for handheld microphones or conventional headsets. Compact, rugged design allows use under hearing protectors and protective clothing. Order cable separately.

RMN4001B Ear Mike, EM200

RMN4001B

0180359A39 Interface Cable for HT600

0180359A51 Optional PTT Ring Switch for RMN4001A only

0180359A51

0180356B97 Optional PTT Ring Switch for RMN4001B Only

MOTOROLA

HT600 Series
Portable Accessories

AUDIO ACCESSORIES

Ear Microphone System

This compact unit picks up the voice through bone vibrations in the ear canal. Ideal for use in high noise environments. Available in PTT or Voice activated (VOX) capabilities for total hands free communications. **Order Interface Module separately.**

BDN6677A

BDN6677A* Ear Microphone for Standard Noise Levels (up to 95 db), Black

BDN6678A* Ear Microphone for Standard Noise Levels (up to 95 db), Beige

BDN6641A* Ear Microphone for High Noise Levels (up to 105 db), Grey

BDN6657B
(shown with BDN6677A)

Interface Modules

BDN6656B* Push To-Talk Interface Module

BDN6657B* Voice-Activated Interface Module

Optional Accessories

0180300E25 Earguard with Adjustable Loop

0180358B38* Remote Push-To-Talk Ring Switch

0180358B38

0180358B32 Earholders, Black, Size Small; Secures microphone in ear

0180358B33

0180358B33 Earholder, Black, Size Medium; Secures microphone in ear

0180358B34 Earholder, Black, Size Large; Secures microphone in ear

0180358B35 Earholder, Clear, Size Small; Secures microphone in ear

0180358B36 Earholder, Clear, Size Medium, Secures microphone in ear

0180358B37 Earholder, Clear, Size Large; Secures microphone in ear

4280369E44 Replaceable Belt Clip with Screws

5080358B28 Eartips, Black, Size Medium (10 per pack)

5080358B29 Eartips, Black, Size Large (10 per pack)

5080358B30 Eartips, Beige, Size Medium (10 per pack)

5080358B31 Eartips, Beige, Size Large (10 per pack)

AUDIO ACCESSORIES

Headsets

High noise level headset (up to 125 dB) with noise cancelling microphone and push-to-talk switch located on ear cup. Vox module contained within headset on voice activated units. Factory Mutual Approved. NOTE: Can be worn with or without hard hat or fire helmet.

BDN6645A

BDN6639A Radio Adapter Cable for BDN6635, BDN6636 and BDN6645

BDN6645A Push-To-Talk Headset with Boom Microphone, Requires Adapter Cable.

BDN6635B Voice-Activated Headset with Boom Microphone, Requires Adapter Cable, Includes 110V Charger

BDN6636B Voice-Activated Headset with Throat Microphone, Requires Adapter Cable, Includes 110V Charger

BDN6636B

RMN4015A Lightweight Headset with Swivel Boom Microphone, single speaker and in-line PTT

0180357B05 Spare Vox Headset Charger

6881126E79 Instruction Manual for BDN6645A

6881126E78 Instruction Manual for BDN6635B and BDN6636B

*Factory Mutual approved

MOTOROLA

HT600 Series

Accessories, Antennas

VEHICULAR ADAPTER

The Basic MVA console kits may be ordered separately. These items allow use of the portable radio in a mobile application. Order antenna separately.

NTN5612A

NTN5612A Basic MVA console, includes Power Cables and Mounting Hardware.

NSN6054A

NSN6054A 12-watt External Speaker

HMN1035C Microphone, Heavy-Duty Palm

HMN1056D Microphone, Compact Palm

HMN3013A Microphone, DTMF

HMN1056D

PORTABLE ANTENNAS

Heliflex Antenna

Motorola Heliflex antennas are specifically engineered for maximum output and greatest communication coverage.

8505816K01
Heliflex Molded, 136-150.8 MHz, 6.5”

8505816K03
Heliflex Molded, 150.8-162 MHz, 6”

8505816K05
Heliflex Molded, 162-174 MHz, 6”

8505816K07
Heliflex Molded, 403-433 MHz, 3”

8505816K08
Heliflex Molded, 450-470 MHz, 3”

8505816K09
Heliflex Molded, 470-512 MHz, 3”

8505816K05

8505816K09

Flexible Whip

Flexible Whip antennas have a one-piece finish and steel core for optimal radiation characteristics. Provides more comfort when radio is worn on the belt.

8505247K06
Flexible Whip, 403-512 MHz, 5.5”

8505247K06

MOTOROLA

HT600 Series

Batteries, Tools

PORTABLE BATTERIES

Nickel-Cadmium

NTN5414BR

Part Number: **NTN4564B**
Charge: Rapid
Volts: 10V
Avg. MAH: 550
Height: 2 7/16″
FM Rating: IS

Part Number: **NTN4584BR**
Charge: Rapid
Volts: 10V
Avg. MAH: 630
Height: 2 7/16″
FM Rating: NI

Part Number: **NTN5414BR**
Charge: Rapid
Volts: 10V
Avg. MAH: 1100
Height: 3 5/16″
FM Rating: NI

NTN4564B

Part Number: **NTN5415B***
Charge: Rapid
Volts: 10V
Avg. MAH: 1000
Height: 3 5/16″
FM Rating: IS

Nickel Metal Hydride

NTN7016A

Part Number: **NTN7016A**
Charge: Rapid
Volts: 10V
Avg. MAH: 950
Height: 2 7/16″
FM Rating: (NA)

*Factory Mutual approved for Intrinsically Safe Models

ALIGNMENT TOOL

6605106N01 Tuning Tool, Adjusts Tunable Coils, Preselector, Reference Oscillator Frequency and Trimmer Capacitors

6605106N01

SERVICE TOOLS

RSX4043A Torque Screwdriver, Order Bits Separately

6680321B86 #0 Phillips Bit for Radio Screws

6680321B79 #1 Phillips Power Bit for Radio Screws

6680370B95 Spanner Tool Bit for Toggle Switch Nut

6680371B34 Spanner Bit for Antenna Bushing

6680371B03 Nut Driver Bit for Volume Control and Frequency Select Switch

MOTOROLA

HT600 Series
Service Aids

SERVICE AIDS

Battery Eliminator

The Battery Eliminator acts like a battery with a cable to access a DC external power supply. It is ideal to inspect transmitters and receivers on incoming radios. Reverse supply polarity protection and input fuse protection are provided.

RTL4226B Battery Eliminator

RTL4226B

Battery Adapter

Replaces radio housing during servicing and provides easy mounting for battery eliminator, RTL4226B.

1580368B62 Battery Adapter

1580368B62

Cloning Cable

Enables the frequencies, squelch codes, squelch and deviation settings to be duplicated from one radio to another. Only identical models and sub-models are compatible for cloning.

NKN6376A

NKN6376A Cloning Cable

Antenna Adapters

NTN5368A Adapter for HT600

NKN6408A Cable Adapter for HT600

SERVICE AIDS

RTK4205C

Radio Test and Programming Cable

Used with Portable Radio Test Set, RTX4005, for transmitter, receiver alignment and performance checks. Also used in programming radio.

RTK4205C Test and Programming Cable

Radio Interface Box

Links radio programming cable and computer interface together. Provides required voltage shift to enable communications between radio and computer. Requires computer interface cable, radio test and programming cable, and a 9 volt snap type battery (6082728J01), order separately.

RLN4008B

RLN4008B Radio Interface Box

Computer Interface Cable

Used to connect computer's serial adapter to radio interface box.

3080369B71 Cable, RIB to 25 pin D

3080369B72 Cable, RIB to 9 pin D

3080369B71

MOTOROLA

HT600 Series

Service Aids, Manuals

SERVICE AIDS

REN4000A

Controller Flex Extender

Allows access to all electrical points on the controller flex and the interior of the RF board for troubleshooting purposes.

REN4000A Controller Flex Extender

Wall Mounted Power Supply

Used to supply power to the radio interface box, RLN4008B

0180357A57 Wall Mounted Power Supply, 110 Volts

0180358A56 Wall Mounted Power Supply, 220 Volts

01800357A57

SERVICE AIDS

Field Modification Kit

Allows for quick field modification of RTX4005 “A” test sets to provide operation with the HT600 Radio.

RPX4665A Field Modification, RTX4005A

RPX4665A

Programming Aid

Enables programming of the DTMF pad from outside of HT600 DTMF optioned radios.

0180358A59 Programming Aid

Programming Software

Utilizing your personal computer, this software enables you to add or reprogram frequencies as your requirements change. Compatible with IBM, XT, AT, Model 30 50, 60 and 80. Requires Radio Interface Box and proper cables, order separately.

RVN4005G Programming Software, 3½″ diskettes (includes manual and software box)

SERVICE MANUALS

6881065C75 Service Manual

VHF SPECIFICATIONS

GENERAL

FREQUENCY RANGE: 136-174MHz

POWER SUPPLY: Nickel-cadmium battery

BATTERY DRAIN-

at10Vdc	H33	H43
Standby:	*43mA	*43mA
Receive:	*163mA	*163mA
Transmit:	**875mA	**1600mA

*Add 8mA with Remote Antenna
**Add 25mA with Remote Antenna

DIMENSIONS:

WIDTH:	2.63"	(66.8mm)
DEPTH:	1.39"	(35.3mm)
HEIGHT:		
Radio Only	3.90"	(99.0mm)
Radio with Battery		
Medium Capacity	6.35"	(161.3mm)
High Capacity	7.26"	(184.4mm)

WEIGHT:

Radio Only	13.5 oz	(383g)
Radio with Battery (Nickel-Cadmium)		
Medium Capacity	21.6 oz	(612g)
High Capacity	24.2 oz	(686g)

TRANSMITTER

RF OUTPUT-	**H33**	**H43**
Nickel-cadmium battery:	2.0W at 10Vdc	5.0W at 10Vdc

MODULATION: Type 20K0F3E, ±5kHz for 100% modulation at 1000Hz (±4.0kHz min.) including PL modulation for PL models

PL MODULATION:
±1kHz max. ±500Hz min.

AUDIO DISTORTION: Less than 5% at 1000Hz, 3kHz deviation

MAX. PERMISSIBLE CHANNEL SEPARATION: 6MHz (no degradation)

FREQUENCY STABILITY:
±.0005% from -30°C to +60°C (+25°C ref.)

SPURIOUS & HARMONIC FREQUENCIES:
More than 60dB below carrier

FM NOISE:
At least 45dB below ±3.0kHz deviation at 1000Hz

AUDIO RESPONSE:
+1, -3dB from 6dB/octave pre-emphasis characteristic from 300-3000Hz

RECEIVER

AUDIO OUTPUT: 500mW at less than 5% distortion

SECOND I-F FREQUENCY: 450kHz ± 1.5kHz measured at M1

SENSITIVITY: 0.25µV max. (12dB SINAD), 0.35µV max. (20dB quieting)

NOISE SQUELCH SENSITIVITY: Noise compensated type, Programmable

MAX. PERMISSIBLE CHANNEL SEPARATION: 6MHz (no degradation)

FREQUENCY STABILITY:
± .0005% from -30°C to +60°C (+25°C ref.)

USEABLE BANDWIDTH: ±5kHz

SPURIOUS FREQUENCY REJECTION:
More than 70dB below carrier

IMAGE REJECTION:
More than 65dB below carrier

SELECTIVITY:
More than 70dB at ± 30kHz (12dB SINAD)

INTERMODULATION:
More than 70dB at adjacent channel

CHANNEL SPACING: 30kHz

Specifications Subject To Change Without Notice

NOTE:

- ALL BATTERIES MUST BE CHARGED PRIOR TO USE
- USE OF CHEMICALS (DETERGENTS, ALCOHOL, AEROSOL SPRAY, PETROLEUM PRODUCTS) MAY BE HARMFUL AND DAMAGE THE RADIO HOUSING. WE RECOMMEND A MILD DISHWASHING SOAP FOR CLEANING THE EXTERIOR OF THE PRODUCT.
- O-RING SEALS MUST BE PROPERLY LUBRICATED AND ASSEMBLED TO INSURE CONFORMANCE TO MIL-810D SPECIFICATIONS FOR WATER INTRUSION.

UHF SPECIFICATIONS

GENERAL

FREQUENCY RANGE: 403-433MHz
438-520MHz

POWER SUPPLY: Nickel-cadmium battery

BATTERY DRAIN-

at10Vdc	H34	H44
Standby:	*48mA	*48mA
Receive:	*166mA	*166mA
Transmit:	**875mA	**1600mA

*Add 8mA with Remote Antenna
**Add 15mA with Remote Antenna

DIMENSIONS:

WIDTH:	2.63"	(66.8mm)
DEPTH:	1.39"	(35.3mm)
HEIGHT:		
Radio Only	3.90"	(99.0mm)
Radio with Battery		
Medium Capacity	6.35"	(161.3mm)
High Capacity	7.26"	(184.4mm)

WEIGHT:

Radio Only	13.5 oz	(383g)
Radio with Battery (Nickel-Cadmium)		
Medium Capacity	21.6 oz	(612g)
High Capacity	24.2 oz	(686g)

TRANSMITTER

RF OUTPUT-	**H34**	**H44**
Nickel-cadmium battery:	2.0W at 10Vdc	4.0W at 10Vdc

MODULATION: Type 20K0F3E, ±5kHz for 100% modulation at 1000Hz (±4.0kHz min.) including PL modulation for PL models

PL MODULATION:
±1kHz max. ±500Hz min.

AUDIO DISTORTION: Less than 5% at 1000Hz, 3kHz deviation

MAX. PERMISSIBLE CHANNEL SEPARATION: 8MHz (no degradation)

FREQUENCY STABILITY:
±.0005% from -30°C to +60°C (+25°C ref.)

SPURIOUS & HARMONIC FREQUENCIES:
More than 53dB below carrier

FM NOISE:
At least 45dB below ±3.0kHz deviation at 1000Hz

AUDIO RESPONSE:
+1, -3dB from 6dB/octave pre-emphasis characteristic from 300-3000Hz

RECEIVER

AUDIO OUTPUT: 500mW at less than 5% distortion

SECOND I-F FREQUENCY: 450kHz ± 1.5kHz measured at M1

SENSITIVITY: 0.35µV max. (12dB SINAD), 0.50µV max. (20dB quieting)

NOISE SQUELCH SENSITIVITY: Noise compensated type, Programmable

MAX. PERMISSIBLE CHANNEL SEPARATION: 8MHz (no degradation)

FREQUENCY STABILITY:
± .0005% from -30°C to +60°C (+25°C ref.)

USEABLE BANDWIDTH: ±5kHz

SPURIOUS FREQUENCY REJECTION:
More than 70dB below carrier

IMAGE REJECTION:
More than 65dB below carrier

SELECTIVITY:
More than 70dB at ± 25kHz (12dB SINAD)

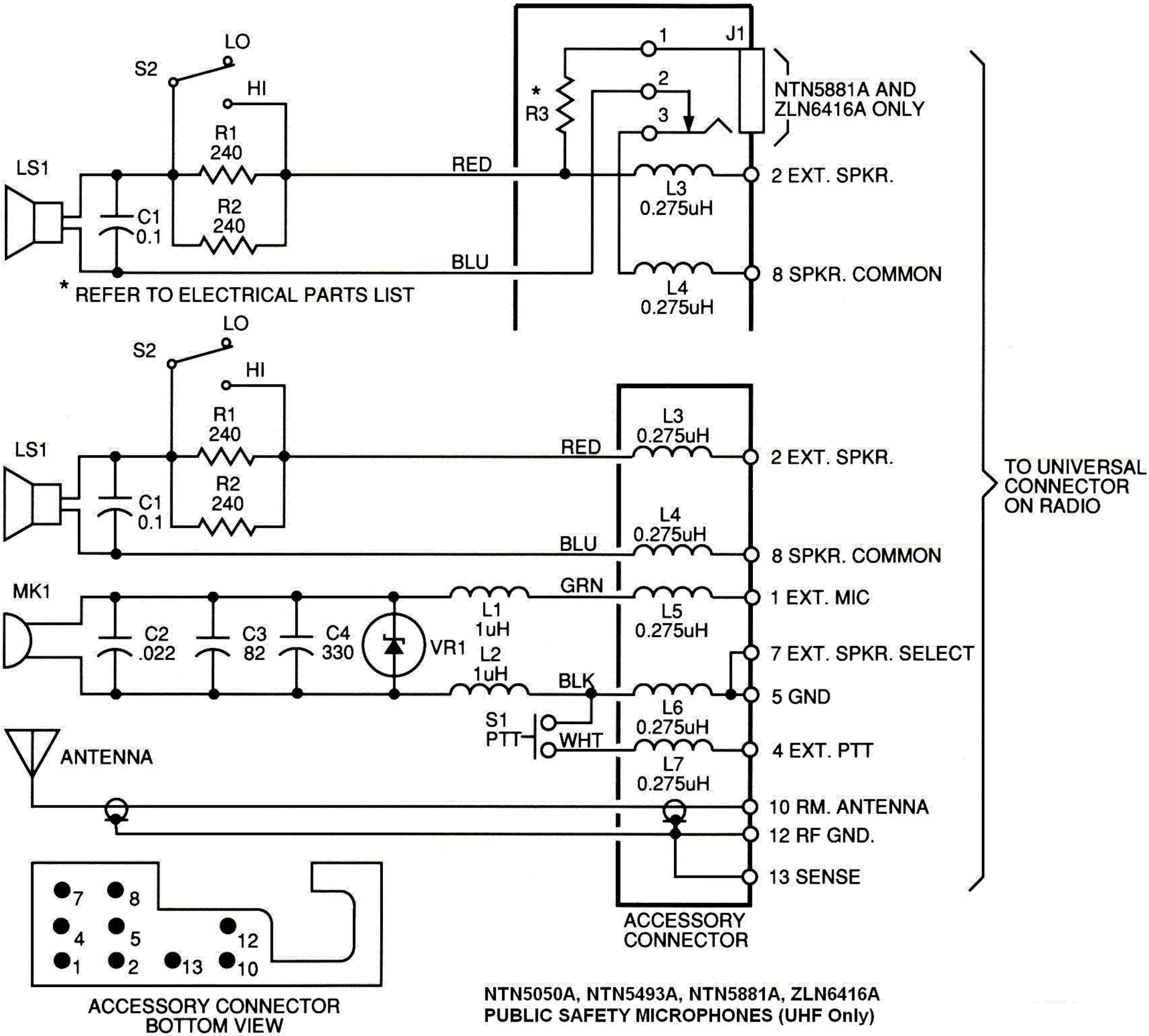
INTERMODULATION:
More than 68dB at adjacent channel

CHANNEL SPACING: 25kHz

Specifications Subject To Change Without Notice

NOTE:

- ALL BATTERIES MUST BE CHARGED PRIOR TO USE
- USE OF CHEMICALS (DETERGENTS, ALCOHOL, AEROSOL SPRAY, PETROLEUM PRODUCTS) MAY BE HARMFUL AND DAMAGE THE RADIO HOUSING. WE RECOMMEND A MILD DISHWASHING SOAP FOR CLEANING THE EXTERIOR OF THE PRODUCT.
- O-RING SEALS MUST BE PROPERLY LUBRICATED AND ASSEMBLED TO INSURE CONFORMANCE TO MIL-810D SPECIFICATIONS FOR WATER INTRUSION.



NTN5050A, NTN5493A, NTN5881A, ZLN6416A
PUBLIC SAFETY MICROPHONES (UHF Only)