

APPENDIX A - TRANSCEIVER CONNECTIONS

A.1. MICROPHONE / HANDSET CONNECTOR

The Transceiver front end-cap has an eight pin RJ45 Microphone / Control Unit / Serial Control / Programming connector:



Figure A.1 SRM9000 RJ45 Pinout (S1)

Name	Pin	Comment
Tx-Data (0,5V)	1	Output. Low = 25mA sink to GROUND, High = 3k3 Ohm pull-up to 5V via a series diode. Diode Clamped to -0.6V & 5.6V
Rx-Data (0,5V)	2	Input. Low < 0.5V, High > 2.5V Internal 6k8 Ohm Pull-up to 3.3V 780 Ohm in series with diode protection clamped to -0.6V & +3.3V
On/Off input	3	Input. Low < 5V, High > (Supply Volts - 1.5V) or O/C Internal 6k Ohm Pull-up to Supply Voltage Diode Clamped to -0.6V & 18V
Mic Ground	4	Connected internally to GROUND (see below)
+13.8V (Switched OP)	5	Switched + Supply Voltage 250mA max source current
Handset Audio OP (Flat)	6	Output: * Note-1 AC coupled (10uF) to 0/5V Op Amp Output 245mV RMS (nominal) for 60% RF deviation of 1000Hz tone. 600 Ohm series Impedance. Diode Clamped to ±5.6V.
GROUND	7	Internally connected to Transceiver -VE Supply Input.
Mic Audio IP	8	Input: * Note-2 40mV RMS at 1kHz = 60% RF Deviation >1k Ohm series Impedance. Diode Clamped to ±0.6V.

Note 1: The Handset Audio Output is same as passed to Loudspeaker, except that audio response is always flat (no de-emphasis). The Audio level on this pin is determined as follows:

- When Loudspeaker Muted: level is set by Data Volume setting (see Programmer parameters)
- When Received Audio is present at Loudspeaker: level is determined by User Volume setting.
- When an Alert is sounding: level is determined by Alert setting. The Alert Tone will also be present on this line.

Note 2: The Mic Audio Input may be either Pre-emphasised, or passed flat to the Transmitter. This is determined by the type of PTT command that keys the Transmitter.

A.2. EXTERNAL INTERFACE CONNECTOR

The Transceiver rear end-cap is fitted with a male DB15 connector:

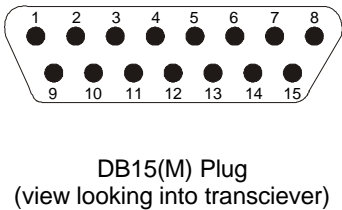


Figure A.2 SRM9000 External Interface Pin-out (P2)

Name	DB15 Pin numbers
-VE (Gnd)	1, 2, 9, 10
+VE (+13.8V)	4, 5, 11, 12
Speaker	6, 13
General Input-0 (PTT/RTS)	7
General Output-0 (CD/CTS)	8
Ignition Sense Input	3*
Audio Input	14
Audio Output/On/Off	15#

Note * : For Revision 8,9 Boards, pin 3 may be internally linked to provide Audio OP.

Note # : Revision 7 and earlier boards, had pin 15 permanently connected as On/Off.

APPENDIX B - SRM9010 MICROPHONE

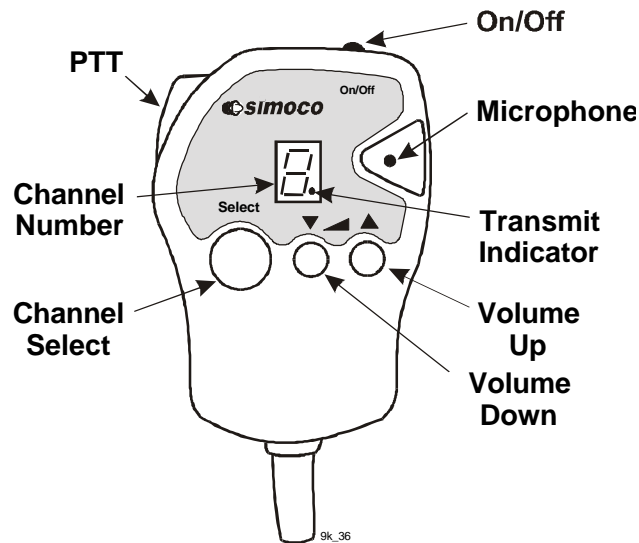


Figure B.1 SRM9010 Microphone

The microphone is arranged for connection to the RJ45 connector on the front of the SRM9000 Transceiver, either directly or via the extension lead accessory.

There are no repairable electronic components in the Microphone.

B.1 DISASSEMBLY

To gain access to the interior of the microphone:

1. Remove and retain the three screws (complete with three steel washers and three sealing washers), from the rear of the microphone.
2. Carefully lift the back of the microphone away from the front. Take care not to put too much tension on the connecting wires.

B.2 REPLACE THE ON/OFF/PTT KEYPAD AND SEAL

1. Remove the PTT Switch operating arm by lifting it off the pivot arm.
2. Carefully remove the damaged seal complete with the On/Off Keypad and PTT Keypad.
3. Fit the new seal, ensuring that both keypads are located correctly and that the seal is fitted inside the recess all around the microphone.
4. Refit the PTT Switch operating arm.

B.3 REPLACE THE CURLY CORD

1. Carefully pull the plug out of the connector on the PCB.
2. Remove the damaged cord.
3. Fit the new cord, ensuring that the seal is located properly and the cable is routed correctly .
4. Connect the plug into the connector on the PCB.

B.4 REPLACE THE PTT SWITCH

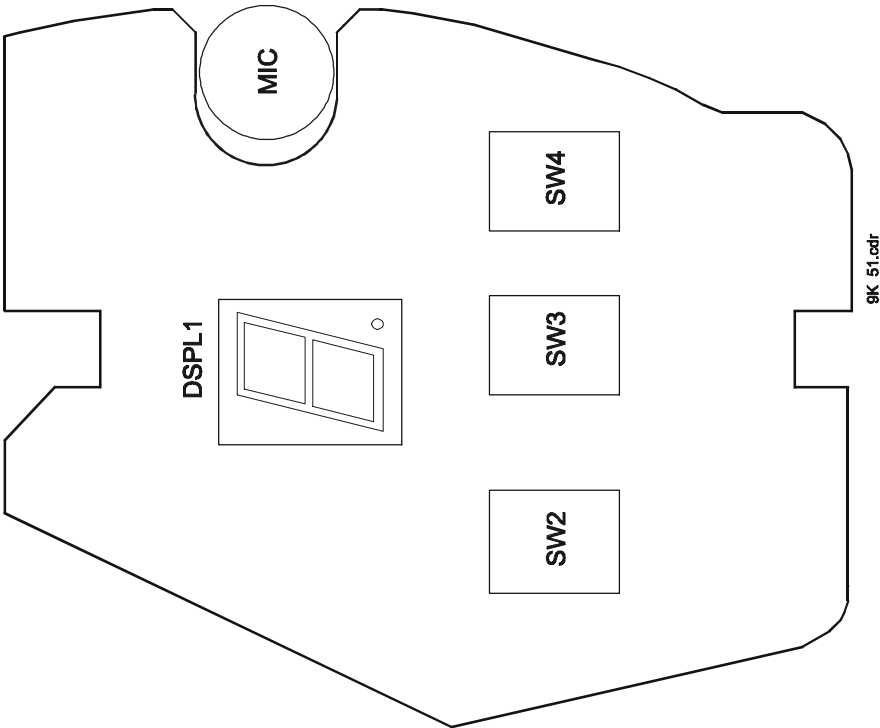
1. Remove the On/Off/PTT Keypad and Seal as described in B2.
2. Unsolder the three connectors and remove the PTT Switch.
3. Fit the new PTT Switch and solder the three connectors.
4. Refit the On/Off/PTT Keypad and Seal as described in B2.

B.5 RE-ASSEMBLY

Re-assembly is the reverse of the procedure described in B1.

Figure B.2 SRM9010 Microphone Schematic

SRM9010 Microphone PCB - Bottom Layout



SRM9010 Microphone PCB - Top Layout

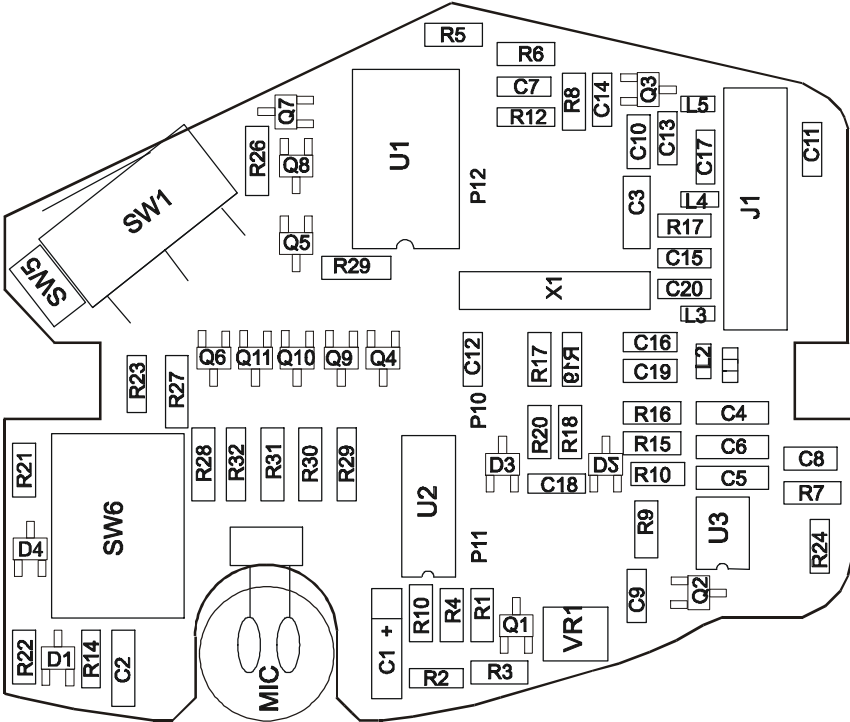


Figure B.3 SRM9010 Microphone PCB Layout

APPENDIX C - SRM9020 MICROPHONE

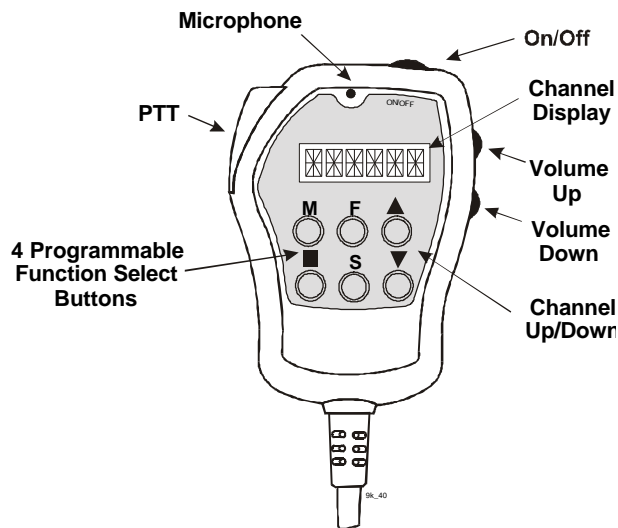


Figure C.1 SRM9020 Microphone

The microphone is arranged for connection to the RJ45 connector on the front of the SRM9000 Transceiver, either directly or via the extension lead accessory.

There are no repairable electronic components in the Microphone.

C.1 DISASSEMBLY

To gain access to the interior of the microphone:

1. Remove and retain the three screws (complete with three steel washers and three sealing washers), from the rear of the microphone.
2. Carefully lift the back of the microphone away from the front. Take care not to put too much tension on the connecting wires.

C.2 REPLACE THE ON/OFF/VOL/PTT KEYPAD AND SEAL

1. Remove the PTT Switch operating arm.
2. Carefully remove the damaged seal complete with the On/Off Keypad, the Volume Up and Down Keypad and the PTT Keypad.
3. Fit the new seal, ensuring that all three keypads are located correctly and that the seal is fitted inside the recess all around the microphone.
4. Refit the PTT Switch operating arm.

C.3 RE-ASSEMBLY

Re-assembly is the reverse of the procedure described in C1.

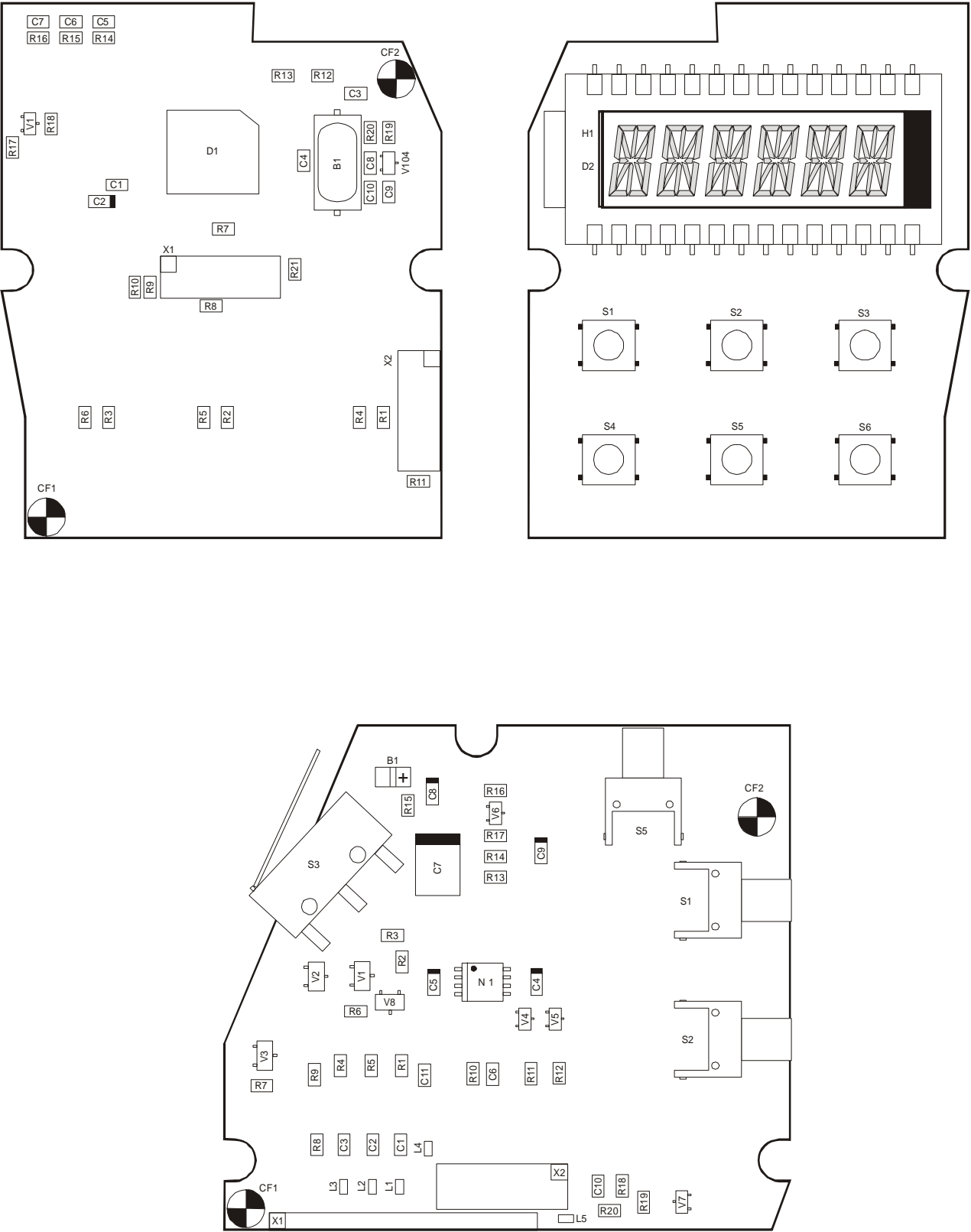


Figure C.2 SRM9020 Microphone Circuit Layout

APPENDIX D - SRM9025 HANDSET



Figure D.1 SRM9025 Handset

The Handset is arranged for connection to the RJ45 connector on the front of the SRM9000 Transceiver, either directly or via the extension lead accessory.

There are no repairable electronic components in the Handset.

D.1 DISASSEMBLY

To gain access to the interior of the microphone:

1. Using a sharp bladed knife, remove and retain the label located on the rear of the handset.
2. Remove and retain the two securing screws from the rear of the handset.
3. Press in the sides at the bottom of the rear case to release the two internal clips.
4. Carefully lift the back of the handset away from the front. Take care not to put too much tension on the connecting wires.

D.2 REPLACE THE PTT SWITCH KEYPAD

1. Remove the old PTT Switch Keypad.
2. Fit the new PTT Switch Keypad, ensuring that it locates correctly.

D.3 REPLACE THE CURLY CORD

1. Carefully pull the plug out of the connector on the PCB.
2. Remove the damaged cord.
3. Fit the new cord, ensuring that the seal is located correctly .
4. Connect the plug into the connector on the PCB.

D.4 REPLACE THE LCD ASSEMBLY

1. Remove and retain the four screws located at the corners of the LCD Assembly.
2. Carefully pull the plug out of the connector on the PCB and discard the old LCD Assembly.
3. Connect the plug on the new LCD Assembly into the connector on the PCB.
4. Secure the LCD Assembly using the four screws removed in Step 1.

D.5 REPLACE THE PTT SWITCH

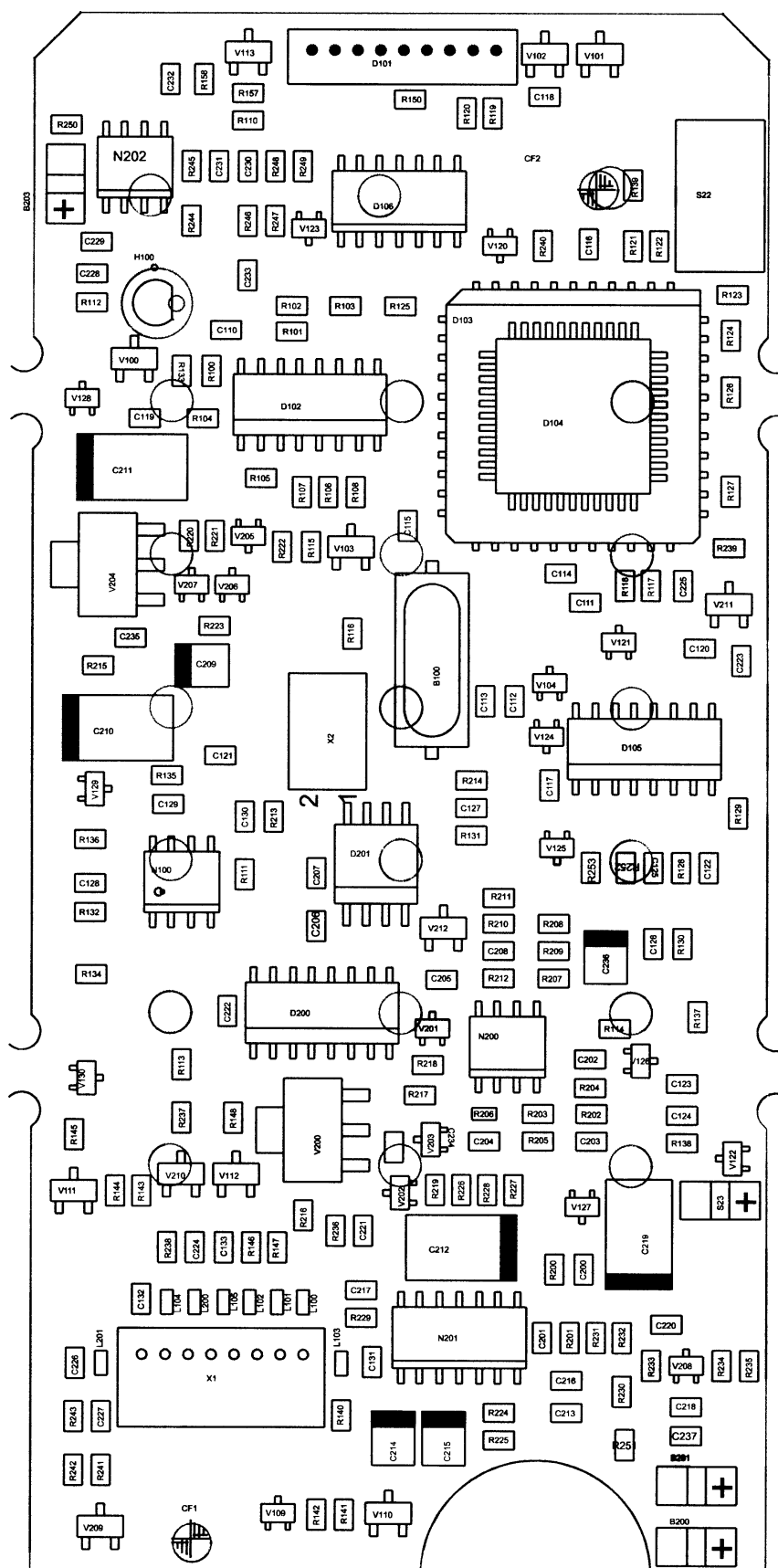
1. Remove the LCD Assembly as described in D4.
2. Remove and retain the four screws securing the PCB. *Note that the two top screws are not as long as the two bottom screws.*
3. Lift and pull the PCB towards the top of the handset to release the PCB from the retaining lugs on the case. Take care not to put too much tension on the connecting wires.
4. Unsolder the four connecting pins on the PTT Switch and discard the old switch.
5. Fit the new switch and solder the four connecting pins.
6. Reposition and secure the PCB using the four screws removed in Step 2. Ensure that the shorter screws are used in the top two positions.
7. Refit the LCD Assembly as described in D4.

D.6 REPLACE THE MAIN KEYPAD

1. Remove the PCB as described in D5.
2. Remove and discard the Main Keypad.
3. Fit the new Main Keypad. Ensure that all keys are located correctly.
4. Refit the PCB Assembly as described in D5.

D.7 RE-ASSEMBLY

1. Ensure that all components are located correctly.
2. Position the rear case to the front case so that the tops are aligned and press them together to fasten the top clip.
3. Press the front and rear cases together at the bottom to fasten the two bottom clips.
4. Refit the two securing screws.
5. Stick the label back in place to cover the securing screws.



APPENDIX E - SRM9030 CONTROL HEAD



Figure E.1 SRM9030 Control Head

The Control Head is arranged for connection to the RJ45 connector on the front of the SRM9000 Transceiver, either directly or via the extension lead accessory.

There are no repairable electronic components in the Microphone.

E.1 REPLACE THE VOLUME KNOB AND SEALING WASHER

1. Pull the old Volume Knob off the spindle.
2. Remove and discard the old washer.
3. Fit the new washer.
4. Align the flat edge inside the new Volume Knob with the flat edge of the spindle and push the knob firmly into position.

E.2 DISASSEMBLY

To gain access to the interior of the Control Head:

1. Remove the Volume knob and washer as described in E1.
2. Using a flat bladed screwdriver, or similar tool, gently prise open the flaps on either end of the Control Head to release the securing clips.
3. Pull the front panel of the Control Head away from the main body.

E.3 REPLACE THE MAIN KEYPAD

1. Remove and retain the gasket from the top of the old Keypad.
2. Remove and discard the old Keypad.
3. Fit the new Keypad.
4. Refit the gasket.

E.4 REPLACE THE PRIORITY KEY KEYPAD

1. Remove and retain the gasket from the top of the old Keypad.
2. Remove and discard the old Keypad.
3. Fit the new Keypad.
4. Refit the gasket.

E.5 REPLACE THE VOLUME/ON/OFF POTENTIOMETER

1. Remove the Main and Priority Keypads as described in E3 and E4.
2. Using a flat bladed screwdriver, or similar tool, press down the retaining clip at the back of the Control Head to release the PCB assembly.
3. Unsolder the five connecting pins on the potentiometer and discard.
4. Fit the new potentiometer and solder the five connecting pins.
5. Refit the PCB ensuring that it is located correctly before clipping into place.
6. Refit the Main and Priority Keypads as described in E3 and E4

E.6 RE-ASSEMBLY

Re-assembly is the reverse of the procedure described in E2.

APPENDIX F - ANCILLARIES

The following equipment is available to connect to the Transceiver or SRM9030 Control Head to enhance the functionality and operation of the radio:

- | | |
|---------------------------------|--------------|
| • Basic Microphone | MA-9030MIC |
| • Desk Microphone | MA-DESKMIC |
| • Handset | MA-9030HSET |
| • Remote Speaker | MA-LOUDSPKR |
| • Handsfree Kit | MA-HFREE |
| • Extension Lead | MA-MICEXTEND |
| • Pivot Mounting Kit | MA-9030PIVOT |
| • Quick Release Mounting Cradle | MA-QRCRADLE |

F.1 Basic Microphone



Figure F.1 Basic Microphone

The microphone is arranged for connection into the rear of the SRM9030 Control Head.

There are no repairable or replaceable components in the Microphone. If any component fails, the Microphone must be replaced in its entirety.

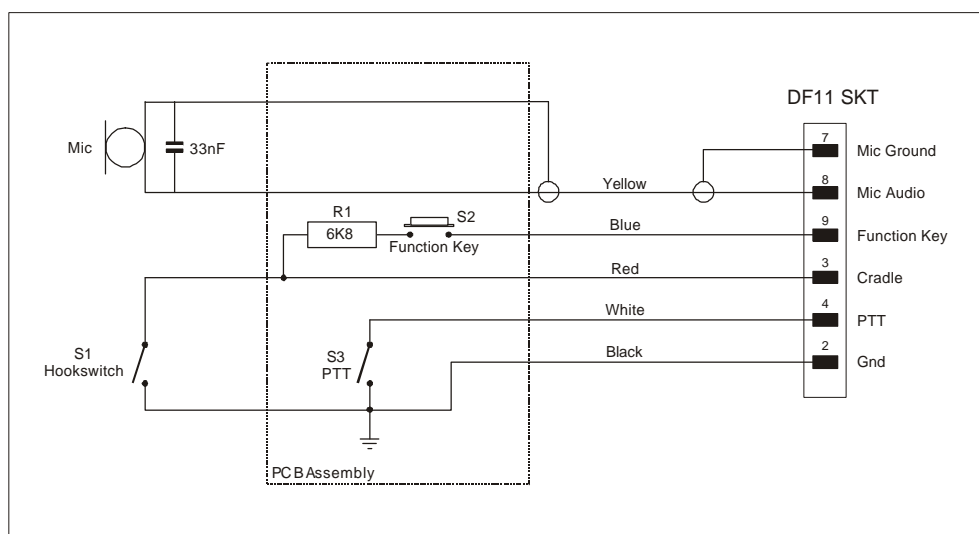


Figure F.2 SRM9030 Microphone Circuit Diagram

F.2 Desk Microphone

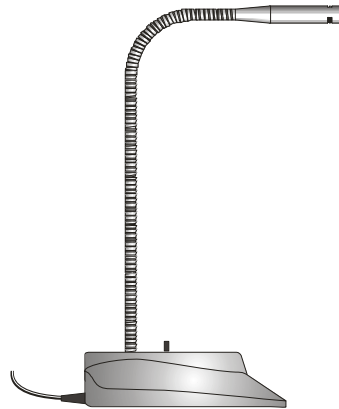


Figure F.3 Desk Microphone

The Desk Microphone is arranged for connection into the rear of the SRM9030 Control Head. There are no repairable electronic components in the Microphone.

F.2.1 Disassembly

To gain access to the interior of the Desk Microphone:

1. Remove the three securing screws and washers from the base of the unit and remove the base plate.

F.2.2 Replace the Curly Cord

1. Unsolder the cables from the PCB, taking note of their positions.
2. Remove the plastic cable-tie and pull the cable out through the cable grommet.
3. Push the new cable through the grommet.
4. Solder the cables to the PCB in the same positions as removed in Step 1.
5. Fit a new plastic cable-tie.

F.2.3 Replace the PTT Switch/PCB Assembly

1. Remove the Curly Cord as described in F.2.2.
2. Remove and retain four securing screws and washers and discard the old PTT Switch/PCB Assembly.
3. Fit a new PTT Switch/PCB Assembly and secure using the four screws and washers.
4. Refit the Curly Cord as described in F.2.2.

F.2.4 Re-assembly

1. Refit the base plate and secure using the three screws and washers.

F.3 Handset

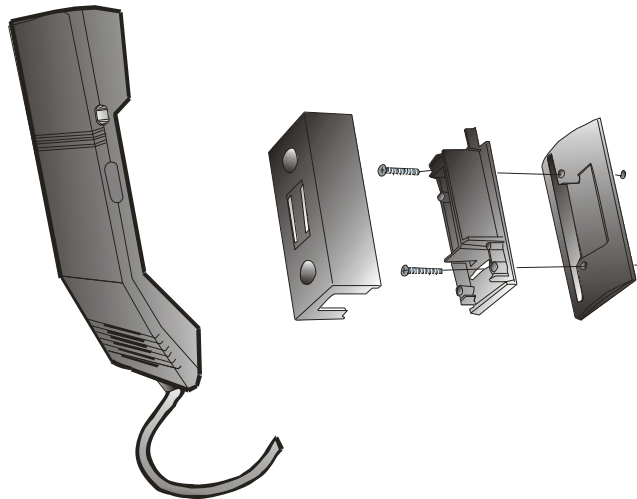


Figure F.4 Handset and Cradle

The Handset is arranged for connection into the rear of the SRM9030 Control Head.

There are no repairable electronic components in the Handset.

F.3.1 Disassembly

To gain access to the interior of the Handset:

1. Using a small, flat-bladed screwdriver or similar tool, remove and retain the clear plastic insert on the underside of the handset.
2. Remove and retain the three securing screws from the underside of the handset.
3. Press in the sides at the top end of the underside case to release the two internal clips.
4. Carefully lift the underside of the handset away from the top. Take care not to put too much tension on the connecting wires.

F.3.2 Replace the Curly Cord

1. Remove and retain the four securing screws and bracket.
2. Disconnect the two plugs on the PCB and discard the old Curly Cord.
3. Connect the two plugs of the new Curly Cord to the PCB ensuring that the cables marked Red fit in the socket marked Red and the cables marked Blue fit in the socket marked Blue.
4. Refit the bracket using the four securing screws removed in Step 1.

F.3.3 Re-assembly

Re-assembly is the reverse of the procedure described in F.3.1.

F.4 Remote Speaker

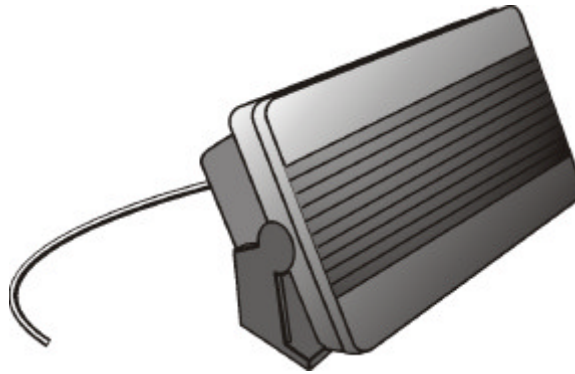


Figure F.5 Remote Speaker

The Speaker is arranged for connection into the SRM9000 Transceiver.

There are no repairable or replaceable components in the Speaker. If any item fails, the Speaker must be replaced in its entirety.

F.5 Handsfree Kit



Figure F.6 Handsfree Microphone

The Handsfree Kit is arranged for connection into the rear of the SRM9030 Control Head.

There are no repairable or replaceable components in the Handsfree Kit. If any item fails, the Handsfree Kit must be replaced in its entirety.

F.6 Extension Lead

The Extension Lead is designed to allow greater distance between the Control Head or Microphone and the Transceiver.

There are no repairable or replaceable components in the Extension Lead. If any item fails, the Extension Lead must be replaced in its entirety.

F.7 Pivot Mounting Kit

The Pivot Mounting Kit is designed to allow the user to set the optimum viewing angle of the SRM9030 Control Head.

There are no repairable or replaceable components in the Pivot Mounting Kit. If any item fails, the Pivot Mounting Kit must be replaced in its entirety.

F.8 Quick Release mounting Cradle

The Quick Release Mounting Cradle is designed to allow the user to remove and insert the SRM9000 Transceiver easily and quickly.

There are no repairable or replaceable components in the Quick Release Mounting Cradle. If any item fails, the Quick Release Mounting Cradle must be replaced in its entirety.