MOTOROLA

Professional Radio
GP Series

Keypad and Flex
Service Information

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Chapter 1

THEORY OF OPERATION

1.0 Keypad and Flexible Connectors

1.1 Keypad

The keypad block diagram is shown in Figure 1-1. U602 is a comparator that will compare the voltage when any one of the keypad row or keypad column keys is being pressed. Therefore when a key is being pressed, it will send a message to the microprocessor through the output (KEY_INT) telling it that a key has been pressed. The microprocessor then sample the analog to digital voltages at the keypad row and keypad column and map it with a table so that the key pressed being can be identified. Once the key has been identified, the message that corresponds to the key will show up at the display.

The LED_EN setting is set by the codeplug. When the value is set to high, the LED does not light up during power up and vice versa.

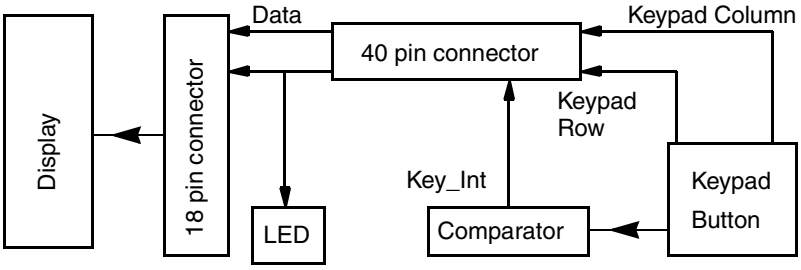

Figure 1-1 Keypad Block Diagram

1.2 Flexible Connectors

Flexible ribbon circuits (flexes) are used to connect the keypad and radio front panel components with the circuit boards. The flexes are locked into place in their connectors by latches which must be released before the flexes may be disconnected during maintenence disassembly.

Two types of flexible ribbon circuits are used in the radios:

- Keypad/Controller Interconnect flex - used for connecting the keypad with the main board circuits.
- Universal Flex connector - used to make connections to the Speaker, Microphone and accessory connector.

2.0 Troubleshooting Chart

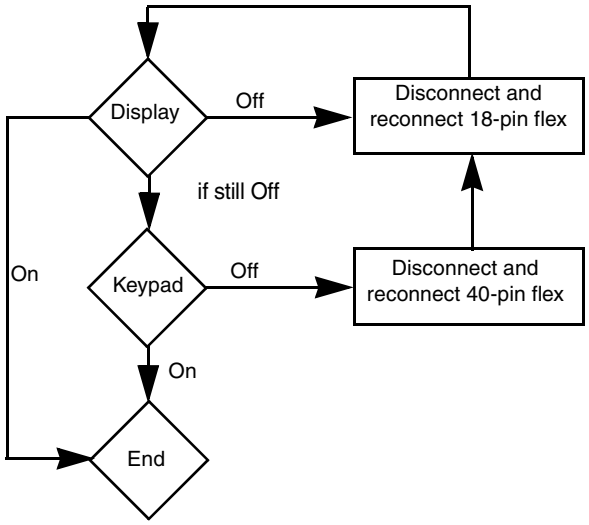

Figure 1-2 Keypad Board Troubleshooting Chart

Chapter 2

PCB / SCHEMATICS / PARTS LISTS

1.0 Allocation of Schematics and Circuit Boards

The printed circuit boards (PCB) and schematic diagrams related to the Flexible Connectors and the Keypads are shown in the tables below:

1.1 Flexible Connectors

Table 2-1: Keypad /Controller Flex

Flex : 8480475Z02	
Flex	Page 2-3
Schematic	Page 2-3

Table 2-2: Universal Speaker/Microphone Flex

Flex : 8480549Z05	
Flex	Page 2-4
Schematic	Page 2-4

1.2 Keypad PCBs

Table 2-3: Standard Keypad

PCB : 8480574Z06	
PCB Layout	Page 2-5
Schematic	Page 2-6
Parts List	Page 2-7

Table 2-4: GP1280 Keypad

PCB : 8480682Z04	
Flex	Page 2-8
Schematic	Page 2-9
Parts List	Page 2-10