

Professional Digital Two-Way Radio System

# MOTOTRBO™ Mobile

*Radio Installation Manual*

DM 3400 Numeric Display Mobile

DM 3401 Numeric Display Mobile (with GPS)

DM 3600 Display Mobile

DM 3601 Display Mobile (with GPS)



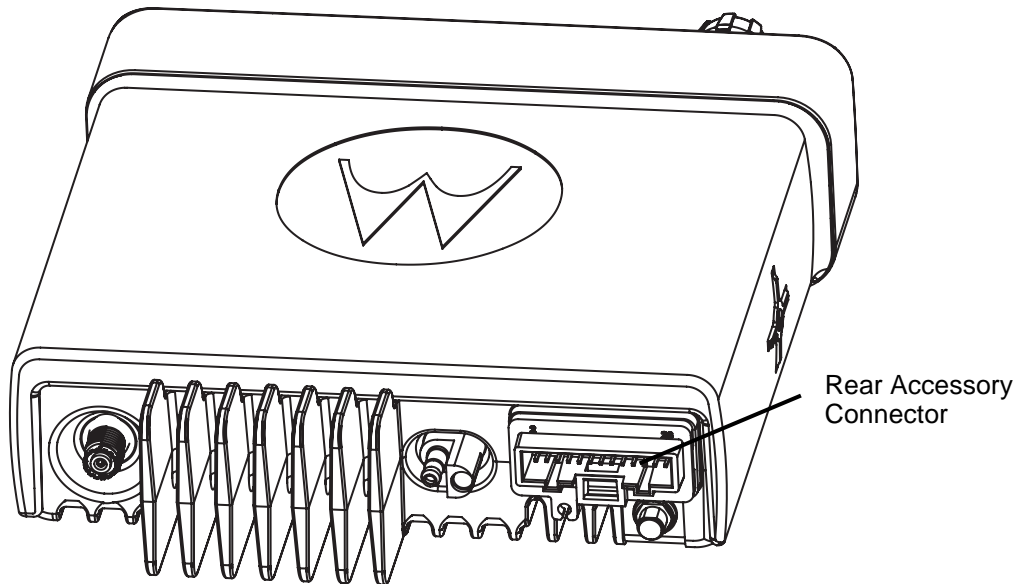
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## Chapter 4 Options and Accessories Installation

### 4.1 Accessory Installation

The accessories must be installed through the rear accessory connector that is located on the rear of the radio, adjacent to the power connector. Most of the Motorola-approved accessories are supplied with female terminals crimped to a 20-gauge wire specifically designed to fit the plug of the rear accessory connector.

Insert the female terminal into the accessory connector assembly in the appropriate locations. The accessory connector assembly is provided together with the accessory. Connect the accessory connector assembly to the rear accessory connector on the back of the mobile. Do not use other generic terminals in the plug. Generic terminals can cause electrical intermittences and may cause damage to the plug.



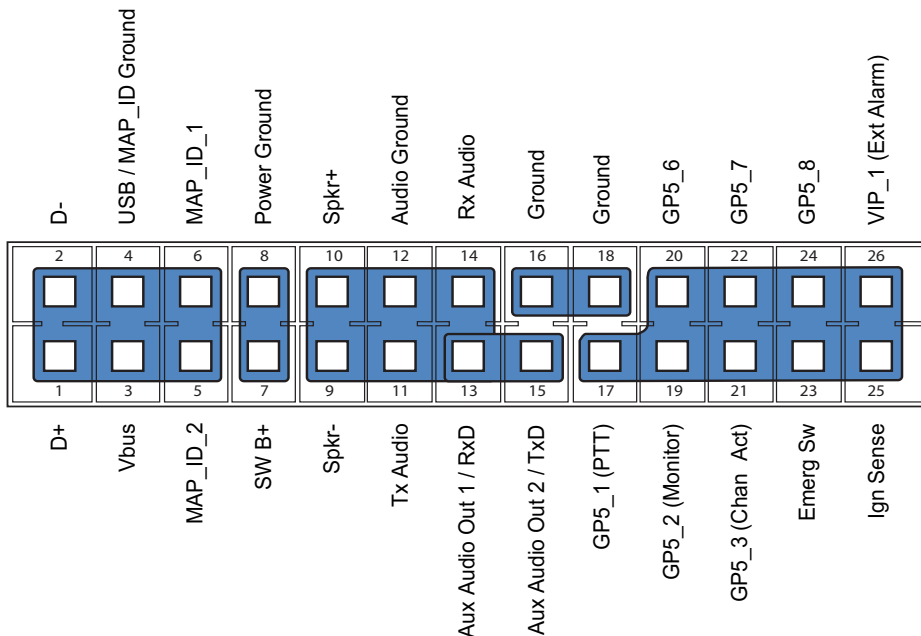
*Figure 4-1 Location of the Rear Accessory Connector*

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**Table 4-1 Rear Accessory Connector Pin Functions**

Pin No.	Pin Name	Pin Function	Pin No.	Pin Name	Pin Function
1	USB+	USB + (Data)	14	Rx Audio	Receive Live Audio <sup>2</sup>
2	USB-	USB - (Data)	15	AUX Audio 2	PUBLIC Address 2
3	VBUS	USB Power (5V from USB accessory/cable)	16	GND	Ground
4	USB/MAP_ID GND	USB/MAP_ID Ground	17	GP5-1 (PTT)	5V Level GPIO, PTT Input <sup>1</sup>
5	MAP_ID_2	Accessory Identifier	18	GND	Ground
6	MAP_ID_1	Accessory Identifier	19	GP5-2 (Monitor)	5V Level GPIO, Monitor Input <sup>3</sup>
7	SW B+	Switched Battery Voltage	20	GP5-6	5V Level GPIO
8	PWRGND	Ground	21	GP5-3	5V Level GPIO, Channel Activity Function
9	SPKR-	Speaker - (3.2 ohm minimum impedance)	22	GP5-7	5V Level GPIO
10	SPKR+	Speaker + (3.2 ohm minimum impedance)	23	EMERGENCY	Emergency Switch Input
11	Tx Audio	Rear External Microphone Input <sup>4</sup>	24	GP5-7	5V Level GPIO
12	Audio GND	Audio Ground	25	IGN SENSE	Ignition Sense <sup>5</sup>
13	AUX Audio 1	PUBLIC Address 1	26	VIP-1	12V Tolerant, 5V GPIO, External Alarm

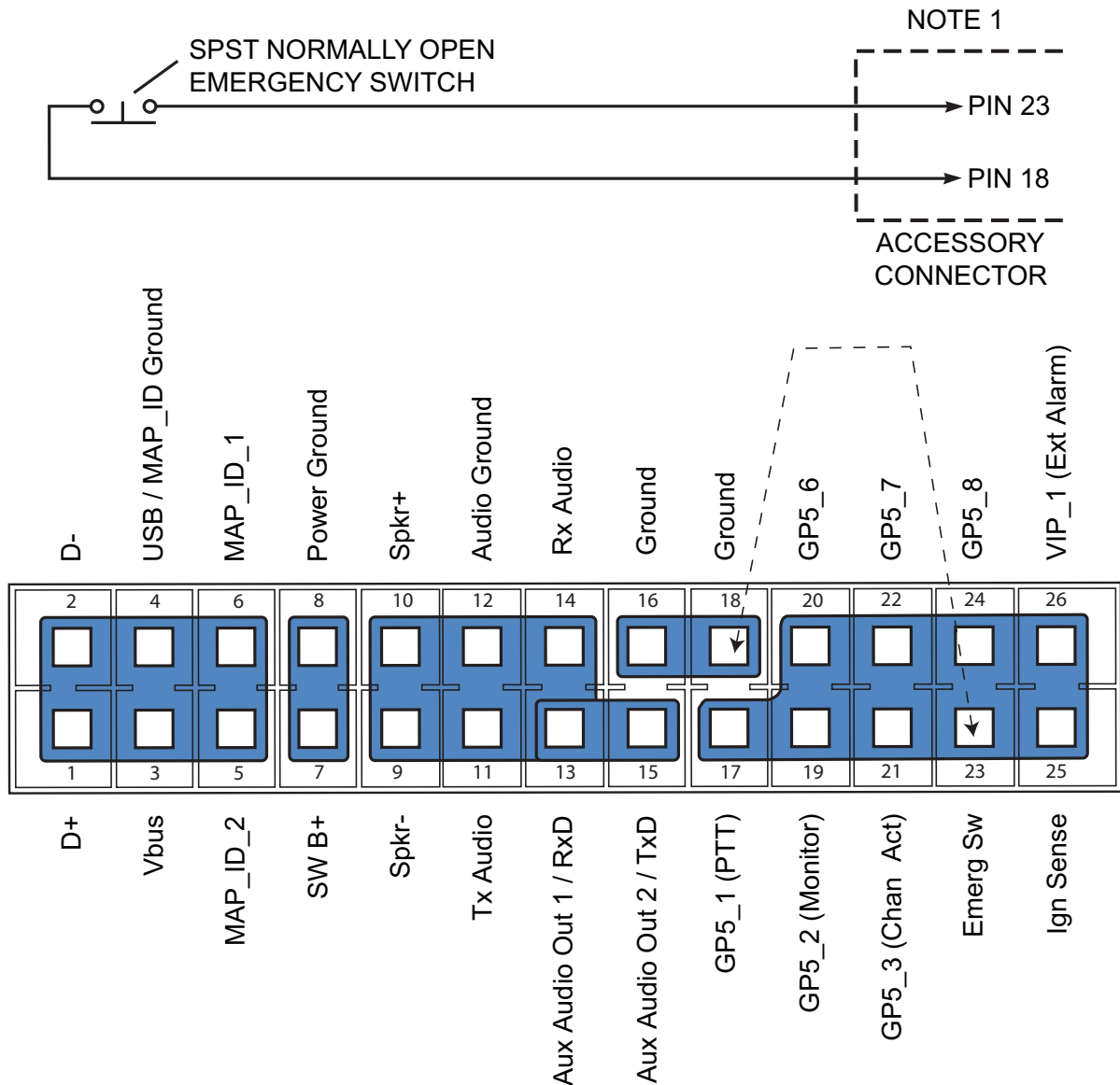
- <sup>1</sup> Pulling this line to ground will activate PTT function, activating the AUX\_MIC input.
- <sup>2</sup> Fixed level (independent of volume level) received audio signal, including alert tones. Flat or de-emphasis are programmed by CPS. Output voltage is approximately 330 mVrms per 1kHz of deviation.
- <sup>3</sup> This input is used to detect when a rear microphone accessory is taken off-hook, to override PL to alert the user to busy traffic prior to transmitting.
- <sup>4</sup> This microphone signal is independent of the microphone signal on the front microphone connector. The nominal input level is 80mVrms for 60% deviation. The DC impedance is 660 ohms and the AC impedance is 560 ohms.
- <sup>5</sup> See [Figure 3-2](#) and [Figure 3-8](#) for wiring information.



**Figure 4-2 Pin Configuration of Rear Accessory Connector (as viewed from the rear of the radio)**

### 4.1.1 Emergency Pushbutton or Footswitch Installation

Mount the emergency pushbutton (Motorola part number RLN5926\_) or the footswitch (Motorola part number RLN5929\_) using the hardware that comes with the kit. Press the terminal into the accessory connector housing. Connect the emergency switch wires to pins 23 and 18 (see [Figure 4-3](#)). Route the finished cable from the switch location to the control head location.

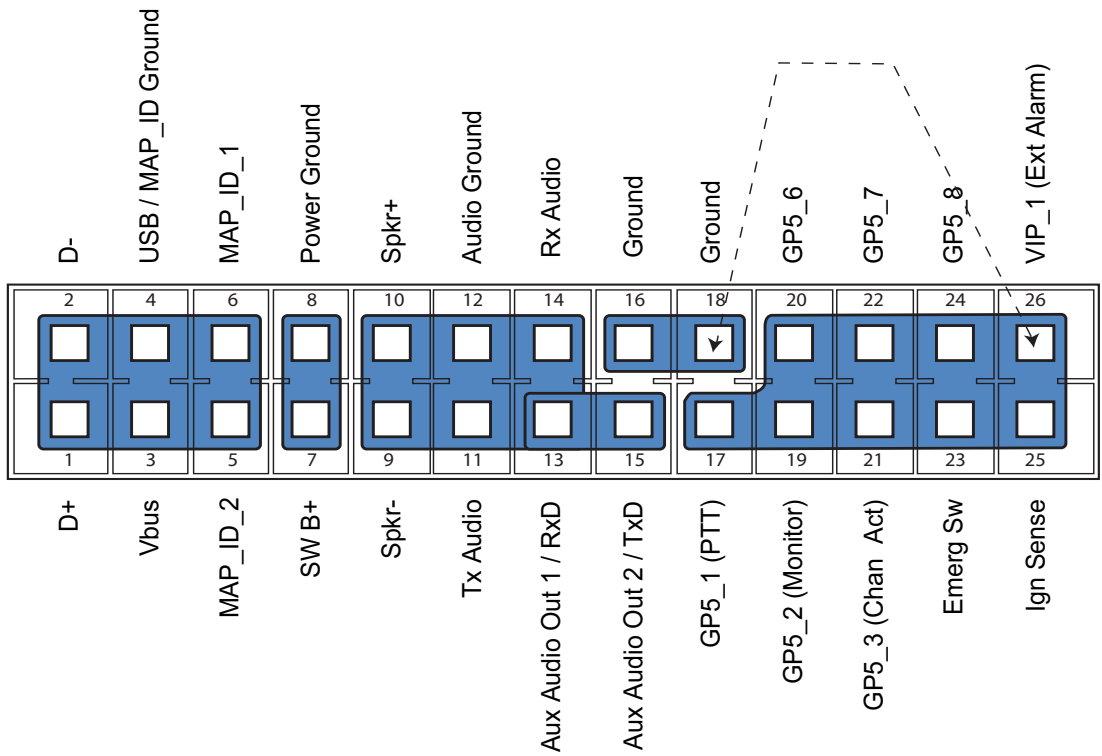
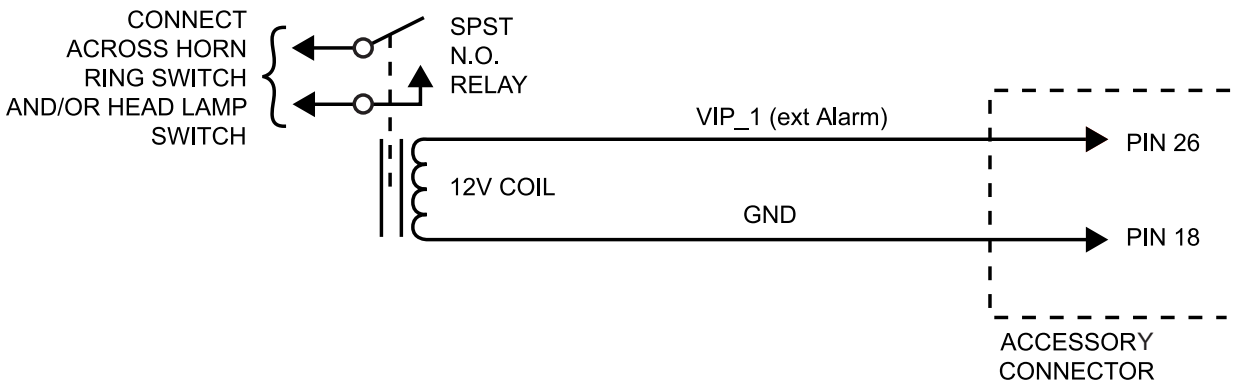


**Figure 4-3** Emergency Switch Wiring Diagram

### 4.1.2 Horn and Lights (External Alarm) Relay

For installations that use the horn/lights option, select a suitable location for mounting (normally under the dash) and, referring to [Figure 4-4](#), perform the following procedure:

1. Horn Relay – Connect the relay contacts across the horn ring switch, typically found in the steering column. Connect the two control wires (female pins) into locations 26 and 18 of the connector.
2. Lights Relay – Connect the relay across the headlamp ON/OFF switch, typically found in the steering column. Connect the two control wires (female pins) into locations 26 and 18 of the accessory connector.



**Figure 4-4** Horn and Lights Wiring Diagram



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