J0403 ACCESSORY CONNECTOR

Pin	Signal	Description
1	SPKR+	
2	INT SPKR+	
3	SPKR-	
4	GND	Digital Ground
5	BUSY	
6	BUS+	
7	I/O 6	Hub-Monitor
8	I/O 5	Car Radio Mute/Carrier Detect
9	EMERGENCY	
10	GND	Analog Ground
11	RX HI:FIL AUDIO	Discriminator Audio Out
12	AUX RX IN2	
13	MIC IN	TX Audio IN
14	SW B+	+12 VDC When Radio On
15	IGNITION	
16	I/O 2	Horn/Lights
17	RESET	
18	BUS-	
19	SCI RX DATA	
20	I/O 4	Not Used
21	I/O 3	PTT (GND=PTT)
22	RSSI OUT	
23	EXTERNAL MIC IN	
24	AUX TX IN2	
25	BUFFERED DISCRIMINATOR	Univ IO Out

HLN6412A = DB25 Connector and Shell
TE/AMP 1658537-2 = Connector Socket Terminals

An option can reset the radio by driving the LH RESET line to a logic 1. This gets buffered by Q0409 and Q0425 and goes to the reset input of SLIC (U0104-A8). This then causes the reset input of the µP (U0103-50) RESET to go to a logic 0 resulting in the µP restarting operation.

General Purpose Input/Output

(Refer to IO Buffers schematic page 10-28 for reference)

Five general purpose I/O lines (GP I/O 2 through GP I/O 6) are provided to interface to external options. Each of these lines is configured under software control to be either an input or an "open collector" output. To make an I/O line an input the corresponding output line is set to a logic 0; for example to make GP I/O 6 (J0403-7) an input pin, OUT 6 (U0104-K8/U0003-24) is set to a logic 0. This turns off Q0423 and allows an external device to either turn on or off Q0424 which is sensed by U0104-H2/U0003-36 IN6/RTSB.

The GP I/O 2 line is different to the other 4 GP I/O lines. The output transistor (Q0425) can drive an external relay (HLN4435 or similar) for use with the vehicle horn or lights. This can also drive a non relay device, but the device must be designed to take a SW B+ input.

Selected GP I/O lines have secondary functions. If the line is used for the secondary function then it can not be used as an I/O line. The following secondary functions are supported (not all radio models support the RS-232 function, refer to the description for your radio).

Table 7-2   Secondary I/O Functions

I/O line	Standard	VRM500	VRM100	Alternate	Flashport
GP I/O 2	Horn/Lights	Horn/Lights	Horn/Lights	External Alarm Out	n/a
GP I/O 3	PTT	Data PTT	Data PTT	n/a	Bootstrap Vpp
GP I/O 4	Not Used	Not used	Data Mode Request (Modem)	RS-232 TX Data	Bootstrap Data
GP I/O 5	Car Radio Mute	Not used	Transmit Enable (Modem)	RS-232 CTS	n/a
GP I/O 6	Hub-Monitor	Not used	Channel Grant (Modem)	RS-232 RTS	n/a

The 470 pF and 10 nF capacitors serve to filter out any AC noise which may ride on the GPIO lines.

Microprocessor Operation

(Refer to schematic

page 10-19 for

reference)

For this radio, the µP, U0103, is configured to operate in one of two modes, expanded and bootstrap. In expanded mode the µP uses external memory devices to operate, whereas in bootstrap operation the µP uses only its internal memory. In normal operation of the radio the µP is operating in expanded mode as described below. See "Bootstrap Microprocessor Operation" on page 7-16 for bootstrap information.

ACCESSORY CONNECTOR

J0403-1

1 SPK+

2 INT_SPK+

3 SPK-

4

5 BUSY

6 BUS+

7 IO_6

8 IO_5

9 EMERGENCY

10

11 RX_HI:FIL_AUDIO

SW_B+

12 AUX_RX_IN2

13 MIC_IN

14

15 IGNITION

16 IO_2

17 RESET

18 BUS-

19 SCI_RX_DATA

20 IO_4

21 IO_3

22 RSSI_OUT

23 EXTERNAL_MIC_IN

24 AUX_TX_IN2

25 BUFFERED_DISCRIMINATOR