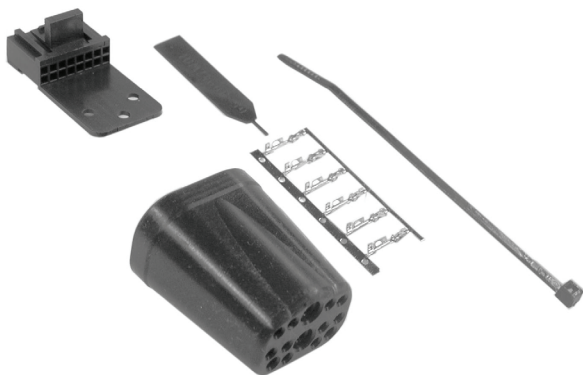



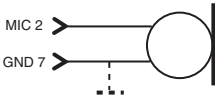
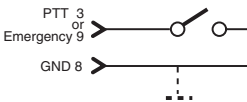
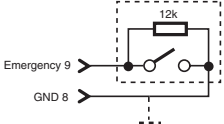
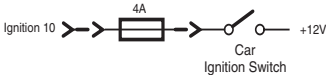
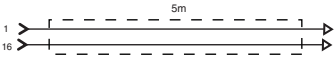
GMBN1021

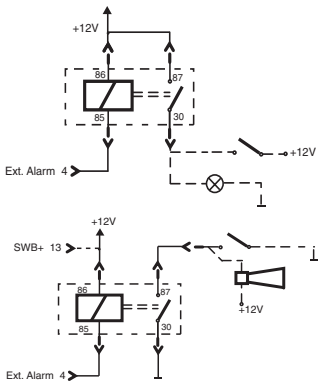
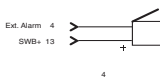


ACCESSORY CONNECTOR KIT

ACCESSORY CONNECTOR CONNECTIVITY

Connect accessories mentioned in this leaflet according the wiring diagram below and disregard the individual leaflet supplied with these accessories.

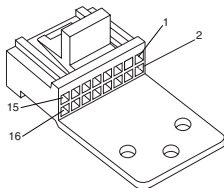
Part Number / Description	Cable Connectivity
GMSN4066 Speaker 13 W GMSN4078 Speaker 5 W RSN4001 Speaker 13 W (MOTOTRBO) HSN8145 Speaker 7.5 W (MOTOTRBO)	
GMMN4065 Visor Mounted Microphone	
RLN4856 Foot switch PTT RLN4857 Push button PTT RLN4858 Gooseneck PTT <i>These accessories could be used for PTT or Emergency function.</i>	
RLN4836 Tri-State Emergency Foot switch & Cable	
HKN9327 Ignition Sense Cable	
GMKN4084 Speaker Extension Cable	

Part Number / Description	Cable Connectivity
<p>GKN6272 External Alarm Relay and Cable</p> <p>Note: Not certified with MOTOTRBO.</p>	 <p>The diagram shows two circuit configurations for the GKN6272 relay. In the top configuration, the relay's coil (terminals 85 and 86) is connected to +12V. Terminal 87 is connected to a switch that is also connected to +12V. Terminal 30 is connected to a light bulb, which is then connected to ground. The Ext. Alarm 4 terminal is connected to the switch. In the bottom configuration, the relay's coil (terminals 85 and 86) is connected to +12V. Terminal 87 is connected to a switch that is also connected to +12V. Terminal 30 is connected to a speaker, which is then connected to ground. The Ext. Alarm 4 terminal is connected to the switch.</p>
<p>GLN7282 Buzzer</p> <p>Note: Not certified with MOTOTRBO.</p>	 <p>The diagram shows the GLN7282 buzzer connected to two terminals: Ext. Alarm 4 and SWB+ 13. The buzzer symbol has a '+' sign on its right side.</p>

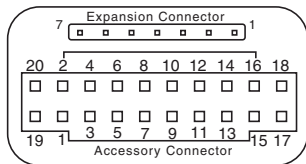
16-PIN ACCESSORY CONNECTOR BLOCK

The 16-pin connector block (P/N 1580922V01) plugs into the center of the 20-pin accessory connector on the back of the radio. (20-pin accessory connector P/N 1586184B01).

Do not connect pins 17-20 except for MOTOTRBO. See MOTOTRBO Pin Definitions.



Accessory Connector Block

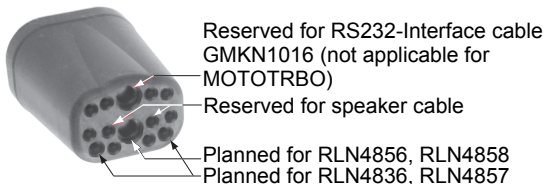


Radio's Accessory Connector

MOUNTING DESCRIPTION

If the accessory connector is used and the installation ambience requires a sealing rubber (IP54), demount the contacts with the enclosed tool (6680947W01). Push the cables through the sealing rubber. Use the holes with the correct diameter (see figure below).

SEALING RUBBER BREAKTHROUGH

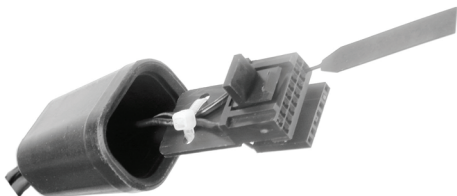


DEMOUNTING OF THE CONTACTS

It might be necessary to change the pin position in the connector housing. The following section describes how to remove the contacts from the connector housing.

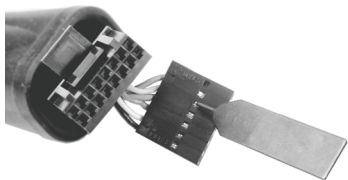
REMOVE CONTACTS FROM ACCESSORY CONNECTOR

To remove the contacts from the connector push the tool into the front side slot as shown in the diagram and pull out the contact.



REMOVE CONTACTS FROM RS232 CONNECTOR (Not applicable for MOTOTRBO)

Push with the tool into the slot and pull out the contact.



ASSEMBLING RS232 INTERFACE CABLE, ACCESSORY CONNECTOR KIT AND SPEAKER CABLE

The following pictures show the RS232 Interface Cable GMKN1016 (GMKN1016 is not applicable for MOTOTRBO) assembled with the speaker and the Accessory Connector Kit GMBN1021 with accessory connector. The front of both connector housings should be flush with each other.



All cables should be fixed with a strap (see figure below).



For more possibilities of the accessory connection, see the accessory connection plan.

PIN ASSIGNMENT OF THE ACCESSORY CONNECTOR

Pin	Function	Description
1	Speaker -	Speaker - and Speaker + (Pin 16) are used to connect an external speaker. The audio PA is a bridge amplifier with a minimum load resistance of 3.2 ohms.
2	EXT_MIC_AUDIO	External Microphone. This microphone signal is independent of the microphone signal on the microphone connector. The DC impedance is 660 ohms and the AC impedance is 560 ohms.
3	EXTERNAL_PTT	This is a digital input to trigger external PTT; active low; non active high
4	EXTERNAL_ALARM	This is a digital output for External Alarm / Fault Indication; active low; open collector with 4k7 Ohms pull up to B+
5	TX_AUDIO	This input is intended for injecting signals into the transmit path. Input impedance > 10 k Ohms; input level = 775mV _{RMS}
6	KEYFAIL	This line supports the encryption module and the flash mode. Service Aids: 12 volts at this pin during power up/on brings the radio into the flash mode.
7	ANA_GROUND	Analogue Ground
8	DIGITAL_GROUND	Digital Ground
9	EMERGENCY	To activate this functionality the pin has to be connected to ground. This will turn on the radio. The CPS details which functions may be assigned to this pin by the code plug.
10	IGNITION	Connecting this pin to the ignition line of the vehicle that will automatically turn on the radio if ignition of the vehicle is turned on. High active.
11	RX_AUDIO	This is the received RX signal. Output impedance approximate 600 Ohms; unsymmetrical; output level = 775mV _{RMS}
12	AUDIO_PA_ENABLE	This is a digital input. High level or pin open enables the audio PA; Low level disables the audio PA.
13	SWB +	This voltage is available when the radio is switched on. The max. current is 1A.
14	HOOK	This is a high active digital input. Low = on hook; High = off hook
15	SCI_DTR	Data Terminal Ready, used for clock input for high speed flashing. <i>Reserved for Service Aids.</i>
16	SPEAKER +	Positive output of radio's audio PA (see Pin 1).
17	SCI_CTS	Clear To Send. <i>Reserved for Service Aids.</i>
18	SCI_RTS	Request To Send. <i>Reserved for Service Aids.</i>
19	SCI_RXD	Receive Data. <i>Reserved for Service Aids.</i>
20	SCI_TXD	Transmit Data. <i>Reserved for Service Aids.</i>

PIN ASSIGNMENT OF THE MOTOTRBO RADIO ACCESSORY CONNECTOR

Pin	Function	Description
1	Speaker -	Speaker - and Speaker + (Pin 16) are used to connect an external speaker. The audio PA is a bridge amplifier with a minimum load resistance of 3.2 ohms.
2	EXT_MIC_AUDIO	External Microphone. This microphone signal is independent of the microphone signal on the front microphone connector. The nominal input level is 80 mV _{RMS} for 60% of the maximum deviation. The DC impedance is 660 ohms and the AC impedance is 560 ohms.
3	GPI_1 (EXT_PTT)	5 V Level GPI which can be set up to trigger on a PTT input. Active low; non-active high.
4	VIP_1 (EXT_ALARM)	12 V Supply which can be set up for a digital output for External Alarm/Fault indication; active low.
5	FLAT_TX_AUDIO	Data input. This input is for injecting signals into the transmit path that should be filtered; for example, the analog output of a modem. The nominal input level is 150 mV _{RMS} for 60% of the maximum deviation and the input impedance is greater than 25 K.
6	UART_CTS/GPIO_3	UART_CTS for MOTOTRBO Series 01 radios and it's intended for Motorola Internal Use Only. 5 V Level GPIO for MOTOTRBO Series 02 radios.
7	Ground	Radio Ground.
8	GPIO_4	5 V Level GPIO.
9	EMERGENCY_SW	To activate this functionality the pin has to be connected to ground. This will turn on the radio. The CPS details which functions may be assigned to this pin by the code plug.
10	IGNITION_SENSE	Connecting this pin to the ignition line of the vehicle that will automatically turn on the radio if ignition of the vehicle is turned on. The CPS details which functions may be assigned to this pin by the code plug; active high.
11	RX_AUDIO	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 mV _{RMS} per 1 kHz of deviation.
12	GPIO_7	5 V Level GPIO.
13	SWB +	This voltage is available when the radio is switched on. The max. current is 1.5 A.

Pin	Function	Description
14	GPIO_8	5 V Level GPIO.
15	RSSI	Receive Signal Strength Indicator. A receive signal strength of -120 dBm gives about 1.12 Vdc at pin 15. A receive signal strength of -60 dBm gives about 2.44 Vdc at pin 15. The receive signal strength for levels in between can be linearly calculated. For signals strengths greater than -60 dBm, the voltage stays relatively flat at ~ 2.44 Vdc.
16	Speaker +	Positive output of radio's audio PA (see Pin 1).
17	UART_TX / USB D+	UART_TX for MOTOTRBO Series 01 radios and it is intended for Motorola Internal Use Only. USB Data + for MOTOTRBO Series 02 radios. Caution: Applying greater than 5 V to the pin can cause damage to the circuit.
18	UART_RX / USB D-	UART_RX for MOTOTRBO Series 01 radios and it is intended for Motorola Internal Use Only. USB Data - for MOTOTRBO Series 02 radios. Caution: Applying greater than 5 V to the pin can cause damage to the circuit.
19	UART_RTS / VBUS	UART_RTS for MOTOTRBO Series 01 radios and it is intended for Motorola Internal Use Only. 5 V VBUS for MOTOTRBO Series 02 radios. Caution: Applying greater than 5 V to the pin can cause damage to the circuit.
20	Ground / USB Ground	Radio ground for MOTOTRBO Series 01 radios. USB ground for MOTOTRBO Series 02 radios.

NOTES



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