

Tricom Research, Inc.
TCR-SPK-01
Interface Control Document



90400-01172 REV P1

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Revision History

Date	Description	Version
4/8/2013	Preliminary Release	REV P1

1. Introduction

1.1 Purpose – The purpose of this ICD is to document the various interfaces for the TCR-SPK-01 Amplified Speaker designed and manufactured by Tricom Research, Inc. This document describes the interfaces for the handset, radio, remote (DB9), and power input on the TCR-SPK-01.

1.2 Intended Audience – This document is intended to assist communications systems engineers integrate the TCR-SPK-01 into any tactical communications with tactical manpack or handheld radios that use a standard H-250 handset.

2. Interfaces

2.1 Handset – The handset connector is a six pin GC638S waterproof connector. Figure 1 and Table 1 describe the handset interface.

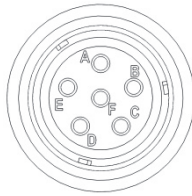


Figure 1 – Handset Interface

Pin#	Pin Name	I/O	Description	Electrical
A	GND	N/A	Audio reference	Ground
B	RX_AUDIO	O	Variable receive audio output	Variable audio from radio handset jack
C	TX_PTT	I	Handset Push-To-Talk (PTT)	Ground when PPT is pressed on handset, open circuit when PTT is not pressed
D	TX_AUDIO	I	Transmit audio from handset microphone	1.5 mV rms, Z = 150 Ohms
E			Reserved	
F			Reserved	

Table 1 – Handset Connector Specifications

2.2 Radio – The radio interface connector is a six pin 71-533722-06P circular waterproof connector that interfaces the handset connector described in paragraph 2.1 to the handset connector on the radio. All signals are bypassed when the speaker is turned OFF. Figure 2 and Table 2 describe the radio interface.

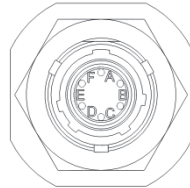


Figure 2 – Radio Interface

Pin#	Pin	I/O	Description	Electrical
A	GND	N/A	Audio reference	Ground
B	RX_AUDIO	I	Variable receive audio input	Variable audio from radio handset jack Z = 600 Ohms when speaker is turned ON
C	TX_PTT	O	Handset Push-To-Talk (PTT)	Ground when PPT is pressed on handset, open circuit when PTT is not pressed
D	TX_AUDIO	O	Transmit audio from handset microphone to radio	1.5 mV rms, Z = 150 Ohms
E			Reserved	
F			Reserved	

Table 2 – Radio Interface Connector Specifications

2.3 Power – The power interface connector is a two pin 71-533721-02P circular waterproof connector used to apply power to the speaker. Figure 3 and Table 3 describe the power interface.

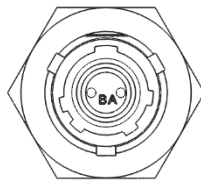


Figure 3 – Power Interface

Pin#	Pin	I/O	Description	Electrical
A	DC_PWR_IN	I	9-32 VDC input power	9-32 VDC input at 25 watts min
B	GND	N/A	Power input reference	Ground

Table 3 – Power Interface Connector Specifications

2.4 DB9 (Remote) – The DB9 interface connector is a nine pin male waterproof connector that can be used to simplify remoting and integrating the speaker into portable or vehicular tactical communications systems by using a single cable for power and audio connections. Figure 4 and Table 4 describe the DB9 interface.

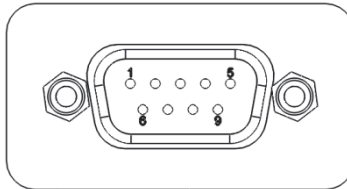


Figure 4 – DB9 (remote) Interface

Pin#	Pin Name	I/O	Description	Electrical
1	GND	N/A	Audio reference	Ground
2	RX_AUDIO	I	Variable audio input	Variable audio from radio handset jack Z = 600 Ohms when speaker is turned ON
3	TX_PTT	O	Handset Push-To-Talk (PTT)	Ground when PPT is pressed on handset, open circuit when PTT is not pressed
4	TX_AUDIO	O	Transmit audio from handset microphone to radio	1.5 mV rms, Z = 150 Ohms
5			Reserved	
6			Reserved	
7			Reserved	
8	DC_PWR_IN	I	9-32 VDC input power	9-32 VDC input at 25 watts min
9	GND	N/A	Power input reference	Ground

Table 4 – DB9 (Remote) Interface Connector Specifications