

Tricom Research, Inc.
TCR-SPK-02
Interface Control Document



90400-01238 REV P1

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Revision History

Date	Description	Version
11/15/15	Preliminary Release	REV P1

1. Introduction

1.1 Purpose – The purpose of this ICD is to document the various interfaces for the TCR-SPK-02 Amplified Speaker designed and manufactured by Tricom Research, Inc. This document describes the interfaces for the handset, radio, remote (DB15), and power input on the TCR-SPK-02.

1.2 Intended Audience – This document is intended to assist communications systems engineers integrate the TCR-SPK-02 into any tactical communications with tactical manpack or handheld radios.

2. Interfaces

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

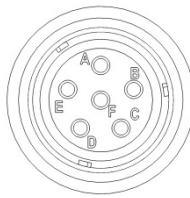


Figure 1 – Handset Interface

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	PTT "A"	I	Handset Push-To-Talk (PTT) "A"	
D	TX_AUDIO	I	Transmit audio from handset microphone	1.5 mV rms, Z = 150 Ohms
E	PTT "B"	I	Handset Push-To-Talk (PTT) "B"	
F	MIC BIAS			

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. Figure 2 and Table 2 describe the radio interface.

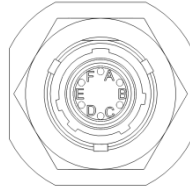


Figure 2 – Radio Interface

Pin#	Pin	I/O	Description	Electrical
A	GND	N/A	Audio reference	Ground
B	RX "A"	I	Variable receive audio input	Variable audio from radio handset jack Z = 600 Ohms when speaker is turned ON
C	PTT "A"	O	Handset Push-To-Talk (PTT) "A"	
D	TX_AUDIO	O	Transmit audio from handset microphone to radio	1.5 mV rms, Z = 150 Ohms
E	PTT "B"	I	Handset Push-To-Talk (PTT) "B"	
F	BIAS			

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.

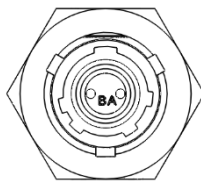


Figure 3 – Power Interface

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 DB15 (Remote) – The DB15 interface connector is a 15 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 DB15 interface.

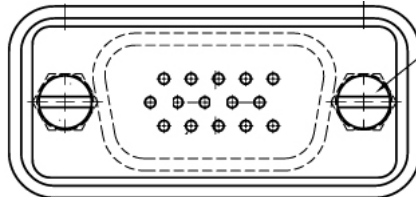


Figure 4 – DB15 (remote) Interface

Pin#	Pin Name	I/O	Description	Electrical
1	GND	N/A	Audio reference	Ground
2	RX_AUDIO "A"	I	Variable audio input	Variable audio from radio handset jack Z = 600 Ohms when speaker is turned
3	TX_PTT "A"	O	Handset Push-To-Talk (PTT)	
4	TX_AUDIO "A"	O	Transmit audio from handset microphone to radio	1.5 mV rms, Z = 150 Ohms
5	TX_AUDIO "B"	O	Transmit audio from handset microphone to radio	1.5 mV rms, Z = 150 Ohms
6	RX_AUDIO "B"	I	Variable audio input	Variable audio from radio handset jack Z = 600 Ohms when speaker is turned
7	TX_PTT "B"	O	Handset Push-To-Talk (PTT)	
8	GND	N/A	Audio reference	Ground
9	BIAS "A"			
10	BIAS "B"			
11	DC_PWR_IN	I	9-32 VDC input power	9-32 VDC input at 25 watts min
12	GND	I	Power input reference	Ground
13	N/C			
14	N/C			
15	N/C			

Table 4 – DB15 (Remote) Interface Connector Specifications