THE NEW SOLUTION FOR PORTABLE, MOBILE AND EMERGENCY REPEATER COMMUNICATIONS

TACTICAL COMMUNICATIONS BRIDGE I (TCB-I)

- Operates from +12V making it ideal for portable and mobile radio interfacing
- Rapid field deployment during emergency operations
- Homeland Security and Search & Rescue applications
- Radio cross-band controller with two separate radio ports
- Built-in repeater controller with both simplex and duplex modes
- 2 Minutes of digital voice storage per radio port for simplex repeater operation
- Easy interfacing utilizing the built-in radio database
- Built-in digital audio delay per port with resolution from 0sec to 1.50 sec.

The Tactical Communications Bridge I performs as the connection point between two radio systems. The many features include simplex and duplex repeater operation, interoperability between different protocol radios, radio link extender and cross-band repeater operation. With its radio database, the user simply dials the radios being interfaced and they are linked. Ideal for search and rescue situations where set-up times can be the difference between success and failure.

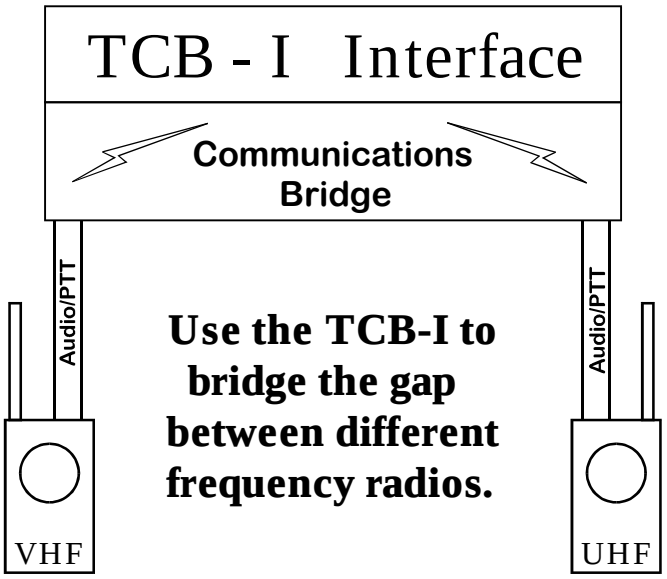
Never be unprepared when emergency operations are needed. Whether your situation is Homeland Security, Search & Rescue, or being prepared for rapid response in an emergency, the Tactical Communications Bridge I will meet your needs. Connect your radio cable to the TCB-I and you are ready for any situation.

Homeland Security

Link Communications Inc.

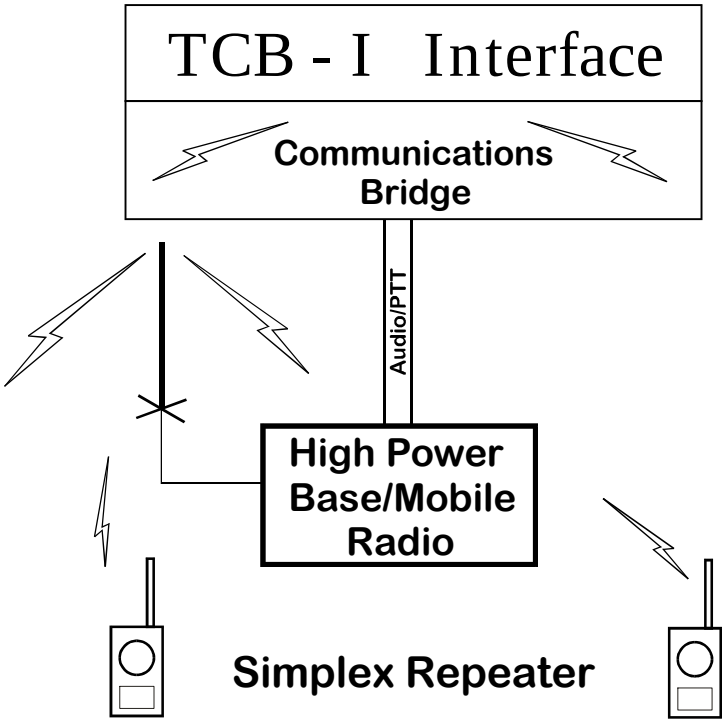
+406-245-5002 1-800-610-4085 http:\\www.link-comm.com

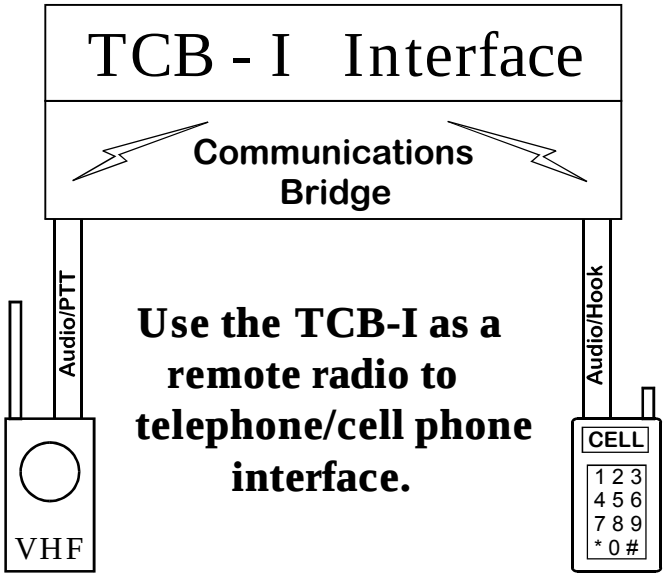
Search and Rescue



Use the dual port design of the TCB-I to bridge the gap between separate frequency radios. Simply connect each radio's receiver and transmit audio along with its PTT signal, and the TCB-I will do the rest. You can also use the TCB-I to function as a full-duplex repeater controller with a supported link port.

A common problem that occurs during many search & rescue operations is the inability to communicate with the search parties. Using the TCB-I's simplex repeater mode solves this with a flick of a switch. Simply connect a higher power radio (perhaps in a vehicle) to the TCB-I, and locate the radio in a higher location. Now your handheld radios can communicate to each other, with the help of the higher powered, better location radio. This is possible because the TCB-I contains a 2 minute Digital Voice Recorder on each radio port that can operate as a voice store and forward simplex repeater





Use the TCB-I to interface between a base, mobile or handheld radio and a cell phone as a method of linking two (or more) radio systems together. This is helpful during large area Search and Rescue operations where you need a wider coverage area. Utilizing the cell phone as the connection link, along with the TCB-I, you can tie a minimum of two systems together.

You can also use this mode to connect a central command center, to the remote field operational units, located at a different location.

SPECIFICATIONS

DC and Functional Characteristics

Operating Voltage/Current	11V .. 18V DC / 350mA DC @ +12V/DC
Power Input Connection	2 pin Phoenix Power Connector
Temperature Range	-4 ° F to 158 ° F (-20 ° C to 70 ° C)
Size	5.2" deep x 8.375" width x 2.625" high
Weight with mobile bracket	2.75 Lbs (1.25kg)

Radio and Audio Characteristics

Radio Ports	2 radio ports DB-9 connector (Unbalanced Input, COR/VOX) RJ-45 connector (Balanced Input, VOX only) Full duplex or half duplex modes
Audio Input Level	150mV p-p .. 8V p-p
Input dynamic range	96dB (16 bit digital conversion ADC)
Audio Input Impedance	> 50K ohms, AC Coupled
Audio Frequency Response	2Hz - 3.5 KHz (-3dB point)
Audio Output Level	0V p-p .. 4.30V p-p
Output dynamic range	96dB (16 bit digital conversion ADC)
Audio Output Impedance	600 ohms, AC Coupled
Audio Frequency Response	15Hz - 3.5 KHz (-3dB Point), (600 Ohm Load)
Digital Voice Storage	4 minutes total, per radio port 2 minutes for Simplex Repeater function
Digital Audio Delay	1.50 Seconds, per radio port or 3 seconds total 0.1 sec steps from 0mS to 1.500 sec
Local Speaker	4", 6 watts nominal, 10 watts max 1/8" mono external speaker jack
Local Microphone	RJ-45 style (HMN-3596a or equivalent) User directed to either Radio port 1 or 2

Input / Output Characteristics

COR and CTCSS Inputs	0V - 30V, (12 bit digital converted ADC) Programmable Pull-up/Pull-down load 55K Ohm input load
Access Modes	COR, CTCSS, COR and CTCSS, COR or CTCSS Voice presence detector (Activates on audio)
PTT Output	0V - 40V, 100mA maximum current
User Output Lines	7 (user programmable function) 750mA sink capacity, 50V maximum voltage

Digital Characteristics

Processor	40 MIPS Motorola DSP
Audio CODEC	16 Bit @ 4 KHz input/output bandwidth
LCD	16 character by 2 line
Firmware	Program and Data storage Flash memory based
RS-232 Port	300 baud - 115 K baud selectable

Operating Modes (available on each radio port)

Simplex repeater	Receiver audio is recorded, then played back once receiver goes inactive. User can program the record time with a 2 minute maximum. This mode is ideal for rapid deployment communications needs.
Duplex repeater	Receiver audio is routed to Transmitter when receiver is active. Hang timer, time-out timer and courtesy (roger) beep function supported.
Cross-band Connection	Radio 1's receiver and transmitter connected to Radio 2's receiver and transmitter. When one receiver is active, the opposing port's transmitter is controlled on. The user can program a time-out timer for each port along with a unique courtesy beep if desired. The mode is ideal for Interoperability between two different protocol radio modes or conventional to trunked linking.

Adaptive Digital Audio Delay

When a port is configured as a trunked port, the TCB-I configures its digital audio delay into an adaptive audio delay. This allows the delayed audio to be varied based on the information received back from the trunked radio during transmit. For best operation, configure the trunked radio to generate the "Channel Available" tone while in transmit. The TCB-I will then delay the audio as long as the tone is present. When the tone goes away, the TCB-I will begin playing back the delayed audio. This ensures that no audio information is lost during the trunking channel acquisition time.

Radio Database (available on each radio port)

The Tactical Communications Bridge I contains a radio database that has the set-up information for up to 50 radio types. The user can simply select the type of radio connected to each radio port. Once selected, the receiver and transmitter setting will be automatically recalled for the selected radio. No adjustments should be needed when setting up a radio. The radio's settings are preset at the factory (some level differences may occur as no two radios are exactly alike). The radio technician can also edit the radio's settings to exactly match the connected radio. If a radio is not found in the radio database, the radio technician can develop their own profiles using the radio set-up utility.

Custom radio cables

Custom cables are available for most radios that are listed in radio database. Contact Link Communications for pricing and availability on custom cables.

LC Link Communications Inc.
Phone: (406) 245-5002 Fax: (406) 245-4889 Order Only: 1-800-610-4085
Web Address: www.link-comm.com

Radios for which Interfacing Cables are Available

Manufacturer	Radio Models
EF Johnson	**5100, 7700 Series, 8100 Series**
Icom	**F3, F3G, F3GS, F3S, F4, F4G, F4GS, F4S, F11, F21, F30G, F31, F31GS, F31GT, F40G, H2, H6, J12, M5, U12, U16**
Kenwood	**TK-208, TK-2100 (Pro Talk), TK-2102 (Pro Power), TK-2130 (Pro Talk XLS), TK-2140, TK-220, TK-240, TK-240D, TK-248, TK-250, TK-260, TK-260G, TK-270, TK-270G, TK-272G, TK-280, TK-290, TK-308, TK-3100 (Pro Talk), TK-3101 (Free Talk XL), TK-3102 (Pro Power), TK-3130 (Pro Talk XLS), TK-3131 (Free Talk XLS), TK-3140, TK-320, TK-340, TK-340D, TK-348, TK-350, TK-353, TK-360, TK-360G, TK-370, TK-370G, TK-372G, TK-380, TK-390, TK-430, TK-431, TK-480, TK-481**
Maxon	**SL25, SL55, SL100, SP120, SP130, SP140, SP200, SP200K, SP210, and Legacy Series: PL1145, PL2245, PL2215P, PL2245P, PL2415, PL2445, PL5151, PL5161, PL5164**
Motorola	**CT150, CT250, CT450, CT450LS, EX500, EX600, GL2000, GP1280, GP140, GP2000, GP300, GP308, GP320, GP328, GP328Plus, GP329, GP338,GP338Plus, GP339, GP340, GP344, GP360, GP380, GP388, GP640, GP650, GP680, GP68, GP88, GP900, GP9000, GTI, GTX, HT1000, HT1250, HT1250LS, HT1550, HT1550XLS, HT750, JT1000, LTS2000, MT2000, MTS2000, MTX8000, MTX8250, MTX8250LS, MTX838, MTX850, MTX850LS, MTX900, MTX9000, MTX9250, MTX950, MTX960, MTX-LS, P040, P080, P110, P1225, P1225LS, P200, PRO3150, PRO5150, PRO5150 Elite, PRO5350, PRO5450, PRO5550, PRO5750, PRO7150, PRO7350, PRO7450, PRO 7550, PRO7750, PRO9150, PTX700, PTX760, PTX780, SP10, SP21, SP50, XTN446, XTN500, XTN600, XTS2500, XTS3000/Astro, XTS3500, XTS5000, Visar Series**
Vertex	**VX-10, VX-160, VX-180, VX-210, VX-210A, VX-300, VX-400, VX-600, VX-800, VX-900, VXF-1**