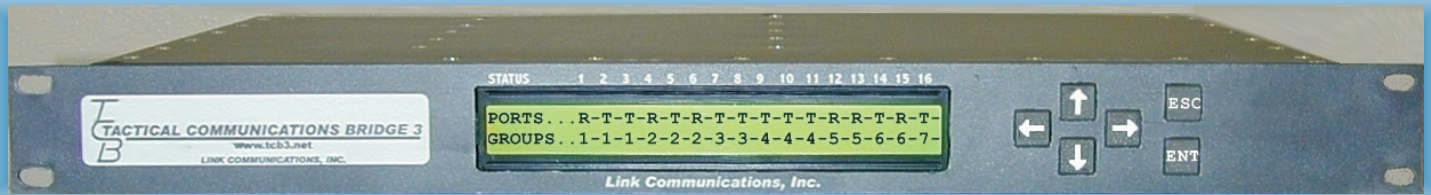




**TACTICAL COMMUNICATIONS BRIDGE**

[www.tcb3.net](http://www.tcb3.net)

**TCB-3**



- **Powerful multiple DSP based digital audio interface**
  - **Windows<sup>(TM)</sup> Graphical User Interface software package with embedded VOIP support. Lets you control and operate the TCB-3 remotely, or locally with a computer**
  - **Adjustable VOX detector Non-VOX based COR inputs**
  - **Supports Analog, Digital, Trunked and P-25 radios**
  - **Modular design with support for up to 32 radios with additional port cards**
  - **Support for cellular and PTT style mobile phones**
  - **Built-In Digital Audio Delay on each port minimizes Trunking receiver clipping**
  - **Analog Telephone module supports Pots/2/4 wire interface option available**
  - **Available in either a 16 channel, 1U (1-3/4") package or a 24-32 channel, 2U (3-1/2") package. Designed to mount in a standard 19" rack enclosure**
  - **Operates from +12VDC (AC Adapter Included)**
- **Large assortment of radio interface cables available for both handheld/mobile radios. NEXTEL<sup>(TM)</sup> interface modules enabling external powered operation for the phone, battery charging and mounted in a 2U (3.50") 19" enclosure. Non-powered cables available for i305, i315, i730 model series**
  - **The TCB-3 is available in the 1U slim line package which supports 16 channels, or the 2U (3 1/2") package which supports from 24 to 32 channels**

**Starting < \$12.5K for the 16 channel slim-line version**

The Tactical Communications Bridge 3 (TCB-3) performs as the connection point between multiple radio systems. Acting as the mode independent connection device, the TCB-3 offers interoperability for up to 32 ports (radio, telephone, VOIP), at an affordable price without sacrificing features.

The TCB-3 incorporates many features, including radio interoperability, simplex and duplex repeater operation, different protocol radio connection, radio link extender and cross-band repeater operation. The TCB-3 is an ideal interface between Analog and Digital trunked radio systems. Operators utilizing iDen PTT phones can easily connect the phone with other conventional or trunking radio systems, utilizing the available radio interface cables.

Radio interfacing is accomplished using the built-in radio setting's database along with one of the custom radio interface cables. The TCB-3's radio database contains all the settings needed for the selected radio to operate correctly with pre-defined audio level settings. This ensures that the connected radio's audio is correct and interfaced at the correct level.

Interfacing to a trunked radio system is accomplished by selecting the appropriate radio from the radio database. Within the radio's profile is the mode of operation for the radio. When a trunked radio is selected, the TCB-3 enables the digital audio delay feature. The delay minimizes the receiver clipping which can occur when connecting to a trunked system. The TCB-3 has a total of 5 seconds of digital audio delay capacity, per radio port, available during both conventional and trunked radio operation. The digital audio

delay is included as a no-cost standard feature.

Utilizing the Windows (TM) Graphical User Interface, the users can monitor a port's activity, input data and parameters. Utilizing Link's proprietary VOIP streaming audio protocol, the user can communicate and monitor the TCB-3 remotely. Supporting a maximum of four sessions, the TCB-3 is an ideal solution for multiple agency communications, on a single unit.

When configured with 32 ports, the user can configure the TCB-3 with 16 individual talk groups enabling multiple, isolated communications sessions. In addition to controlling the TCB-3 from a computer interface, the user can also manipulate the configuration of the sixteen radio talkgroups utilizing the radio's DTMF keypad.

Field service and upgrading of radio cards can be handled in the field of operation. Additional radio interface cards can simply be installed by sliding the new card into the desired slot, from the rear of the TCB-3. Each radio card supports 8 radios, which can be configured utilizing a unique configuration module (included). This enables the TCB-3 to support standard and custom interface requirements. Contact Link Communications for custom interfacing requirements.

For more information on the TCB-3, currently supported radios, options, documentation and pricing, contact your nearest authorized dealer or visit the TCB-3's support site, [www.tcb3.net](http://www.tcb3.net).



**Link Communications Inc.**  
 +406-245-5002 1-800-610-4085 <http://www.link-comm.com>

## Tactical Communications Bridge 3 Specifications

<b><i>Power and Size</i></b>	
Voltage / Current / Temperature	11V .. 18V DC / 1500mA DC @ +12V/DC 2 pin Anderson Power Pole Connector -4 ° F to 158 ° F (-20 ° C to 70 ° C) 85VAC .. 250VAC, 47 Hz .. 63 Hz, 17W maximum power consumption, 3 prong IEC Power Connector
Size/Weight	12.0" deep x 19" width x 1-3/4" high (Slim-Line Package), 3-1/2" high (24/32 port Package)
Included Radio Ports: Slim Line	16 radio ports, RJ-45 connector (Balanced Input / Output, COR and VOX). Opto-Isolated COR input
Included Radio Ports: 24/32 Port	24 radio ports, RJ-45 connector (Balanced Input / Output, COR and VOX). Opto-Isolated COR input
<b><i>Audio Characteristics</i></b>	
Input Level / Range / Response	150mV p-p .. 8V p-p, 96dB (16 bit digital conversion ADC). > 50K ohms, AC Coupled, 2Hz - 3.5 KHz (-3dB point)
Output Level / Range / Response	0V p-p .. 4.30V p-p, 96dB (16 bit ADC). 600 ohms, AC Coupled. 15Hz - 3.5 KHz (-3dB Point), (600 Ohm Load)
<b><i>I/O Characteristics</i></b>	
External COR Input	0V - 100V, Optical Isolated with a 4.7K ohm load. Programmable active high/low condition
Access Modes	VOX (Activates on audio) and COR
PTT Output	0V - 200V, 2 Amp, Opto-Isolated FET (RJ-45)
Optional I/O boards	Contact Link Communications, Inc for you analog/digital I/O requirements
<b><i>Digital Characteristics</i></b>	
DSP Processor / Firmware	Two 200 MIPS floating point Analog Devices DSP's per radio card. 66 MIPS Motorola system control uProcessor
Audio CODEC	16 Bit @ 16 KHz sample rate, 8 KHz input/output bandwidth
Liquid Crystal Display (LCD)	40 Character x 2 Lines, Monochrome LCD with Backlight. LCD Backlight either ON, OFF or User Adjustable Timer
RS-232 and Ethernet Port	RS-232 port up to 115 K baud. 10/100 Ethernet port. Windows(tm) Remote Control Software GUI included
Voice Over Internet Protocol (VOIP)	16 Bit @ 8 KHz PCM (TCB-3 to TCB-3 Connections) and (TCB-3 to Windows(tm) GUI Interface)
<b><i>Operating Modes</i></b>	
Conventional, Trunked, Duplex	Half /Full duplex radios. Duplex repeater mode enables on-site repeater operation from a TCB-3 single radio port
<b><i>Audio Delay Description</i></b>	
Fixed Audio Delay	Each radio ports receiver supports a digital audio delay up to 5.0 seconds, adjustable in 0.1 second increments
<b><i>Database Description</i></b>	
Radio Database	The TCB-3 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 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.
<b><i>Options Available</i></b>	
Radio Cables	Most handheld / mobile radios are supported and more are added weekly. Custom cables are available for most radios that are listed in radio database. Contact Link Communications for pricing and availability cables and radios not listed.
Additional Radio Port Cards	The TCB-3 supports 32 port interfaces. It comes with 2 interface cards, 8 radio ports/card. Additional Cards Available
Telephone Interface Module (TIM)	The TCB-3 TIM supports a single analog telephone line. Features on the telephone are similar to the radio ports
Reverse Telephone Interface Module (RTIM)	The TCB-3 RTIM enables a single analog telephone set to be connected. The TCB-3 can ring a telephone from a Talk Group or users can pick-up the telephone and have the TCB-3 answer the incoming call. Incident Commanders will love it!
E&M Type Interfaces	The TCB-3 supports several E&M interfaces utilizing special interface modules. Contact Link for more information
24 to 32 Port Enclosure	The user can order the TCB-3 in two enclosure configurations. The standard Slim-Line version supports two radio cards, or 16 channels. In order to expand the capacity of the TCB-3, the larger enclosure is required. The 2U enclosure will support four radio cards or 32 ports. This option can be ordered with 16, 24 or 32 ports installed. The Slim Line enclosure is 1-3/4" tall and the larger case is 3-1/2" tall.
Nextel(tm) phone interface	The powered Nextel(tm) interface is housed in a 2U (3 1/2") 19" rack mount shelf and a non-powered cable is also available.