

- **Completely self contained VHF, UHF and 800 Mhz rapid deployment package**
- **Incorporates either a 25 watt VHF or a 25 watt UHF repeater system, with duplexer (\*)**
- (\* Minimum duplexer spacing of 5 MHz)
- **Includes everything needed for operation on NPSAC and Federal Interoperation frequencies**
- **Large 5.7" Color LCD touch panel display user interface enables radio and talk group operation without the need for a computer**
- **Kenwood Radios meets NTIA requirements**
- **Package includes radios, repeater, two STI-CO triband antenna, 50' cable and mount, 300Watt sine-wave DC to AC power inverter and battery operation all housed in a rugged 10U mobile case**
- **A User can plug in a specific radio in the TCB's VOIP feature from the User/Local connector. This enables the system to access local and statewide trunking networks**
- **Four additional ports can be added for larger radio deployment needs**
- **10 W local Speaker and microphone feature supports local dispatch operator position**

**GSA Advantage  
GS-35F-0061R**



Don't be caught without the ability to communicate with local, state and Federal first responders; introducing the Tactical TCB-4 Incident Command Package. This new package includes the radios and a repeater required for a successful deployment and only requires three connections for setup. Rapid deployment to operational in less than five minutes, including deploying the antenna systems.

The package includes a Kenwood VHF radio, Kenwood UHF radio and a Kenwood 800 MHz radio. The radios are preprogrammed with the Federal Interoperability and NPSAC frequencies and has room for hundreds of additional user programmed frequencies.

For seamless onsite communications, one full-duplex, 25 watt repeater is included. The VHF or UHF repeater can operate independent of the other radios, or be included in the talk groups. The repeater utilizes its own antenna system and can be removed up to 50' from the TCB package, therefore minimizing any possible interference to the Tactical Bridges VHF, UHF and 800 Mhz radios.

Designed for rugged deployment, the Incident Command Package is housed in an 8U (22-1/4" tall x 28" wide) shock-mounted industrial case. The package includes both front and back latching covers.

Setup to operation involves assembling the two antennas, masts and radial system. Each antenna is connected to the TCB's multiband coupling modules. The user must then apply either +12VDC or 110VAC ~ 240VAC power. A total of three connections are involved in setting up the package.

Users can operate the system with a single press of the screen to connect or disconnect the three radio

bands. Additional manipulation and setup is available by hitting the ADVANCED button on the screen.

When operating from external DC (or battery), a 300 watt, pure sine-wave 110VAC output power inverter is available. This feature is priceless when recharging radio batteries, operating computers or anything that requires AC voltage to operate.

When AC is applied, the system can recharge the attached battery automatically. When AC is interrupted, the system switches to DC operation enabling uninterrupted operation.

The user can easily attach several additional Tactical TCB-4 packages when needing additional radios or operating positions by plugging in standard CAT-5 cable between the multiple systems.

The Tactical TCB-4 also includes an Ethernet port for computer and network access to the package. Utilizing our Remote Computer Interface for Windows(TM) software, the user can access and control the TCB from a computer. The TCB-4 includes streaming VOIP for network based audio support from a computer.

Up to five additional radios can be attached to the package. Port 2 is reserved for either VOIP or a user radio, and ports 7, 8, 9 and 10 are available by adding additional dual radio DSP support cards. The TCB will support a maximum of 9 radios and one front panel operating position.

For more information on supported radios, options and pricing, contact your nearest authorized dealer or visit the TCB-4's support site, www.tcb4.net.

# TACTICAL TCB-4 SPECIFICATIONS



**TCB-4 System**



**Multi-Unit Conference Bridge**



**Kenwood VHF Radio**



**Kenwood UHF Radio**



**Kenwood 800 MHz Radio**

Designed for rapid field deployment, the Tactical TCB-4 is outfitted with a bright LCD display. This feature enables the user to control, setup and manipulate the operation of the system by simply touching the required selection on the LCD Touch Panel Interface.

Operation of the unit is broken into two modes, Basic and Advanced. Basic mode enables single button touch to enable and disable group connections. By pressing the CONNECT button, the TCB-4 will make one NET and put all ports (VHF, UHF, 800MHz, User Radio and Port 5) into a single NET. By pressing the DISCONNECT button, the TCB-4 breaks all connections and releases the NET. When the TCB-4 is operating in the ADVANCED mode, the user can assign up to five NET's with any assortment of the installed ports.

The standard Tactical TCB-4 package comes outfitted with support for five radio ports and one front panel console operator position. An additional four radio or telephone interface ports can be installed by adding additional Dual Port DSP radio cards to the TCB-4 unit.

Utilizing the front panel Multi-Unit Conference Bridge, the user can connect additional Tactical TCB-4 units to the first one. All units can operate independently, but can be connected, when needed, by adding Port 5 into the needed NET. Connection of the units is as convenient as plugging in a straight thru CAT-5 Ethernet cable between the two units. This allows the units to be separated by as much as 1000 feet, to minimize unit to unit interference. If a additional units are not attached, then Port 5 can be utilized as a standard radio connection port.

The Tactical TCB-4 Package includes a Kenwood TK-7180 VHF 2-way radio. This radio meets NTIA requirements and can operate on all VHF Interoperability frequencies. When utilizing the optional Kenwood programming software, hundreds of customer frequencies can be programmed in the radio as well.

Frequency Range: 136 MHz - 174 MHz  
Receiver Sensitivity: 0.25uV - 0.28uV  
LCD Display: 12 digit alphanumeric

Operating Mode: Wide (25 KHz), Narrow (12.5 KHz)  
Transmit Power: 1W to 30W, Adjustable  
Frequency Stability: 2.5ppm (-30C ~ +60C)

The Tactical TCB-4 Package includes a Kenwood TK-8180 UHF 2-way radio. This radio meets NTIA requirements and can operate on all UHF Interoperability frequencies. When utilizing the optional Kenwood programming software, hundreds of customer frequencies can be programmed in the radio as well.

\* Frequency Range: 400 MHz - 470 MHz  
Receiver Sensitivity: 0.25uV - 0.28uV  
LCD Display: 12 digit alphanumeric

Operating Mode: Wide (25 KHz), Narrow (12.5 KHz)  
Transmit Power: 1W to 30W, Adjustable  
Frequency Stability: 2.5ppm (-30C ~ +60C)

\* Special Order Frequency Band: 450 MHz - 512 MHz  
Contact Link Communications for details

The Tactical TCB-4 Package includes a Kenwood TK-980 800 MHz 2-way radio. This radio meets NTIA requirements and can operate on all NPSPAC 800 MHz frequencies. When utilizing the optional Kenwood programming software, hundreds of customer frequencies can be programmed in the radio as well.

\* Frequency Range: 806 MHz - 870 MHz  
Receiver Sensitivity: 0.25uV  
LCD Display: 12 digit alphanumeric

Operating Mode: Wide (25 KHz), Narrow (12.5 KHz)  
Transmit Power: 1W to 15W, Adjustable  
Frequency Stability: 1.5ppm (-30C ~ +60C)

\* Frequency range is broken into bands, including the NPSPAC frequency bands

# TACTICAL TCB-4 SPECIFICATIONS

The Incident Command package includes a built-in repeater, including duplexer. The repeater supports a maximum transmitter power of 25W. The VHF repeater can operate between 146 .. 174 MHz. The UHF repeater is available in two bands; 400 .. 430 MHz or 450 .. 470 MHz. The built-in duplexer is and repeater is tuned at the factory before installation therefore the repeaters transmit and receive frequencies must be specified at the time of ordering.

The built-in duplexers are limited to a minimum split of 5 MHz. Because of the packages size, larger split duplexers were required. The larger the duplexer, the smaller the allowed splits. If your application requires a smaller transmit/receive split, contact Link Communications to discuss your options.

The Incident Command package utilizes a rugged shock mounted mobile 19" rack. Designed for rugged deployment, all the equipment contained internally is floating on rubber supports. This ensures that most of the mobile vibrations and jarring that occur during transport will be dampened from reaching the equipment. The covers have a moisture seal to minimize external environmental conditions from affecting the equipment. The shock-mount enclosure weighs 120 pounds (loaded weight).

Equipment is mounted on both sides of the enclosure, with the front intended for the operator (if present), and the rear contains the antenna and power interfacing.

The package measures: 27-5/8" W x 27-1/8" D x 22-1/4" H with front/back covers installed.

Never get caught without AC power during a deployment. Only available on the First Responder Package, the Tactical TCB-4 provides a 300 Watt, pure sine-wave +12VDC input --> 110VAC output power inverter. (This feature enables the user to attach computers, radio battery chargers and essential devices to the package.) The power inverter converts +12VDC from an external battery into AC voltage with a constant load capable of supplying 300 watts of power. A 600 watt version is available, contact Link Communications for details.

The AC inverter is a pure sine-wave model. This ensures correct and stable operation of attached devices that require clean AC power for operation. Many low cost inverters are not pure sine-wave models and result in inconsistent operation. When in a deployment condition, stable operation is required, therefore a better inverter was developed for this application.

A 40 amp +12VDC input is required for full-power inverter operation. The Tactical TCB-4 package provides a 120 amp battery terminal connection to operate both the 40 Amp radio system as well as the 40 Amp inverter. The battery connections utilize two Anderson Power Pole (TM) connectors which are included in the package.

When responding to a deployment, planned or otherwise, the setup that requires the most time and attention is typically the antenna system. The First Responder package includes a specialized combined antenna system that eliminates the issues involved with setting up the antenna. Located on the back of the package is an antenna module that is connected to the VHF, UHF and 800 MHz radios. This module combines the signals into a format that can be fed to a single antenna, over a single antenna cable.

Installation requires the user to extend the telescoping mast, attach the magnetic mounted antenna to the mast, attach the bottom radials to the antenna mount, snap the mast into the mounting bracket (located on the shock-mount case) and screw the cable to the antenna module (located on the back of the package). In less than 1 minute the antenna system is attached and ready for operation. A tripod and 50' of low-loss coax is included to locate the antenna away from the Tactical TCB-4 package.

The user will need to provide a separate antenna and mounting method for the User Specific Radio, if installed. Link Communications offers several quality VHF, UHF and 800 MHz single banded antenna solutions.

An additional tri-band antenna system is included for use with the repeaters. This allows the user to setup two antenna's for complete package operation. The second antenna system only uses the VHF and UHF ports of the antenna leaving the 800 MHz port available for use. If your installed User Radio happens to be an 800 MHz radio, simply connect the User antenna port to the unused 800 MHz port on the second antenna system. This feature is only available for 800 MHz radios.

Link Communications systems are built and manufactured in Billings, Montana, at our headquarters. Engineering, manufacturing and technical support are provided to our customers utilizing telephone, fax or email. Custom configurations are available, contact Link Communications for complete ordering and delivery details.

**Link Communications exclusively uses and recommends STI-CO Antenna's**



**Kenwood TKR 25W Repeater and Duplexer**



**8U Industrial Mobile Shock Case**



**300 Watt Sine-Wave AC Inverter**



**VHF, UHF, 800 MHz Tri-Band Antenna**

# TACTICAL TCB-4 SPECIFICATIONS

## Public Safety Table

V-TAC Channels			U-TAC Channels			ITAC Channels		
Channel 1:	155.7525	V-Call	Channel 1:	453.2125	U-Call	Channel 1:	866.0125	I-Call
Channel 2:	151.1375	V-TAC1	Channel 2:	453.4625	U-TAC1	Channel 2:	866.5125	I-TAC1
Channel 3:	154.4525	V-TAC2	Channel 3:	453.7125	U-TAC2	Channel 3:	867.0125	I-TAC2
Channel 4:	158.7375	V-TAC3	Channel 4:	453.8625	U-TAC3	Channel 4:	867.5125	I-TAC3
Channel 5:	159.4725	V-TAC4				Channel 5:	868.0125	I-TAC4

### VHF Frequencies Available upon Request

Channel 6:	155.475	Law Mutual Aid
Channel 7:	154.265	Fire Mutual Aid #1
Channel 8:	154.280	Fire Mutual Aid #2
Channel 9:	154.295	Fire Mutual Aid #3

156.7 Hz CTCSS Tone available on all channels  
 All TAC channels are 12.5 KHz Narrow-Band Modulation  
 Transmit Power: 3W low, 30W high (15W on 800 MHz)

**Specify Public Safety when ordering**

## Federal Frequency Table

### NTIA VHF Incident Response Channels

Channel 1:	169.5375R/164.7125T	NC1 Calling
Channel 2:	170.0125R/165.2500T	IR 1
Channel 3:	170.4125R/165.9625T	IR 2
Channel 4:	170.6875R/166.5750T	IR 3
Channel 5:	173.0375R/167.3250T	IR 4
Channel 6:	169.5375/Simplex	IR 5
Channel 7:	170.0125/Simplex	IR 6
Channel 8:	170.4125/Simplex	IR 7
Channel 9:	170.6875/Simplex	IR 8
Channel 10:	173.0375/Simplex	IR 9

### NTIA UHF Incident Response Channels

Channel 1:	410.2375R/419.2375T	NC2 Calling
Channel 2:	410.4375R/419.4375T	IR 10
Channel 3:	410.6375R/419.6375T	IR 11
Channel 4:	410.8375R/419.8375T	IR 12
Channel 5:	413.1875 Simplex	IR 13
Channel 6:	413.2125 Simplex	IR 14
Channel 7:	410.2375 Simplex	IR 15
Channel 8:	410.4375 Simplex	IR 16
Channel 9:	410.6375 Simplex	IR 17
Channel 10:	410.8375 Simplex	IR 18

All NTIA Channels are 12.5 KHz Narrow-Band Modulation (11K25F3E)  
 CTCSS will not be use on the Calling Channels  
 CTCSS will be available on all 'IR' channels set to 167.9 Hz (Tone 1) or 156.7 (Tone 2)  
 Transmit Power: 3W low, 30W high (15W on 800 MHz)

**Specify NTIA when ordering**

**For user programmable frequencies, request the Radio Programming Kit**



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