



CORNET SWITCHING SYSTEMS

TVCS InterConnect 40



Cornet Switching Systems's TVCS InterConnect 40 is a feature-rich compact interoperability switch that delivers tactical cooperation among multiple communication devices and is a vital force multiplier tool in the hands of warfighters and first responders. Its user-friendly interface enables different types of radios (military, LMR, P25) to interoperate with land lines, mobile phones, satellitenphone and VoIP devices. The TVCS Interconnect's on-demand any-to-any connectivity feature is essential in supporting the military with full situational awareness and public safety emergency communication applications.

Key Features

- Radio Frequency Bands supported: all common HF, VHF and UHF bands and various brands of radios using individualized cables
- Volume control and active noise filtering for every radio port
- Automated Gain Control (AGC) for all interfaces
- COR, VOX and VMR support
- Built-in test (BITE) support
- Under 50 mSec of connection time
- Remote unit management using a dispatch console
- CS-Commander™ or IntelView™ element manager
- Options
 - One single mode or multi-mode fiber connection for IP

Advantages

Military and Emergency Communication Interoperability

- Interfaces with Radios (HF, VHF, UHF), cellular/mobile, VoIP, land lines, and SATCOM telephones for two-way conversations or multi-party conferences
- Offers radio patching/crossbanding among multiple radio frequency bands
- Acts as a Combat Net Radio (CNR) gateway interconnecting different networks
- Operator assisted or operator-free enabled call connectivity or conference sessions. (Field-users have the ability to set-up a call or a conference without operator assistance.)
- SIP trunking protocol to connect multiple InterConnect units using IP network

Gateway to IP

- Links upstream commands and commanders to the battlefield communication using IP network
- Uses wired/wireless/satellite based tactical IP network through VoIP protocol
- Supports tactical VoIP phones/terminals with PTT functionality

Modularity and Scalability

- A Main Board with 4 TI/EI ports and 128 VoIP voice interfaces
- The 4-slot chassis can accept any combination of the following interface daughter cards:
 - 4 port Radio card with radio control/data
 - 4 port E&M card
 - 4 port FXS/FXO card
 - 2 port GSM/CDMA card
 - 2 port Magneto card

Specifications

Standard

Controller Card: Main system controller

TI/EI/PRI: 4 ports per card conforms to ITU G.703

Line Rate: 2.048 Mbps +/- 50 ppm

Framing: As per ITU G.704

Line Code: HDB3

Impedance: 120 ohm/75 ohm

Voice Gateway: Supports 128 VoIP phones

Signaling Protocol: SIP, SIP Trunking

CODECS: G.711, G.726, G.729, and T.38

DTMF Generation: DTMF relay, SIP info

Ethernet: Four RJ-45 ports - 10/100/1000Base-T copper

Optional: One fiber port - 1000Base-FX SM or MM

Power Supply Module: Two Redundant Supplies

AC Input: 90-240 VAC 47-63 Hz

DC Input: 18-75 VDC

Max. Power Consumption: 120W

Unit Management:

Console Port: Front panel COM port access for local serial terminal access

Remote Management: IntelView PC application and CS-Commander Dispatch Console

Access Control: Password protected, multiple simultaneous management accesses

Physical Size:

Dimensions: 4.445 cm H x 36 cm D x 48.26 cm (1.75" H x 14" D x 19" W)

Standard 1U rack mount chassis

Weight: Less than 8 lbs depending on the number of daughter cards used

Environmental:

Operating Temperature: -25°C to +55°C

Storage Temperature: -40°C to +85°C

Humidity: 0% to 95% non condensing

EMI/EMC: Designed to operate in noisy environments

Optional

Radio Card: 4 ports per card
Input/Output Impedance: Balanced and unbalanced 600 ohms

Input Levels: -46 dBm to +12 dBm adjustable 300 Hz to 3400 Hz

Output Levels: -20 dBm to +12 dBm adjustable 300 Hz to 3400 Hz

COR/Squelch Input

Impedance: 47K ohm pullup to +5V

COR/Squelch Input

Polarity: Active low or high selectable

PTT Output Type: Open drain

PTT Output Polarity: Active low

Support for Specific Radios: Provided by specific cable for each radio type

Radio Control/Data: Asynchronous RS-232

FXS and FXO Card:

4 ports per card (each port selectable as FXS or FXO)

FXS and FXO Encoding: μ -law and A-law

FXS Nominal Loop res: 1200 ohms

FXO Open Loop Resistance: >10K ohms

FXS Polarity reversal: Supported

FXS Ringing Voltage: 75 VAC

FXO Ring voltage Detection: Minimum 15 VRMS

FXS Ringing Frequency: 20 Hz

FXS Loop Voltage Feed: -48 VDC

FXO Dial: DTMF

FXS/FXO Surge Protection: Yes

Dial Pulse Speed: 8-12 pps

GSM/CDMA Card:

GSM/CDMA: 2 ports per card operates simultaneously either GSM or CDMA

E&M Card:

4 ports per card

Encoding: μ -law and A-law

Impedance: Balanced 600 ohms

Wire Mode: 4-wire

Signaling: Type I - V

Magneto Card:

2 ports per card

Encoding: μ -law and A-law

Impedance: Balanced 600 or 900 ohms, selectable

Longitudinal Conversion Loss: >45 dB

Frequency Response: -25 to -1 dB from 300 to 3400 Hz, ITU-T G.712

Idle Channel Noise Max.: -65 dBm

Min. Detect. Ringing Voltage: 16 Vrms

Crank Detected Time: Valid crank >250 ms

Ringing Generation: Invalid crank <160 ms

Voltage: 76 Vrms (sine wave)

Frequency: 20 Hz

Companion Product:

TVCS Omni (16-slot version)
CS-Commander - Command VoIP Terminal and Configurator
IntelView Management Software