



All Digital High Reliability 100% Non Blocking

APPLICATIONS

The PROCOM-2000 Series Integrated Voice Communication Switching Systems (VCSS) provide audio switching and control of multiple radios, landlines, interphone and intercom for:

- Air Traffic Control Communications
- Mobile Tactical Control Communications
- Command Center Communications
- Marine Traffic Control Communications
- Communications Training and Simulation
- Emergency Services Dispatch - Fire, Police, Disaster Communication

FEATURES

- Systems consist of modular components
- All digital audio processing
- Up to 248 interface ports per node
- Full Non-blocking and Conferencing with multiple access to ICOM, TELCO, CRYPTO, RADIO, P.A. and AUX audio devices
- On-site reconfigurable and upgradable
- Digital link to Operator Stations (OpS)
- RS-232 Data Port available on OpS link
- Independent record port for each interface.
- DC source powered 24, 28 or 48 UDC
- Built to meet MIL-STD-461 EMI/RFI standards
- Designed for MIL-STD-810 Environment and Ruggedness (Type IV Mobility hard mounted)
- Easily mounted in standard 19" EIA rack or console
- Optional Red/Black capability

OVERVIEW

PROCOM-2000 Series Communication Control Systems are integrated using modular building blocks, to meet the user's exacting needs. Three standard rack-mountable System Nodes provide 56, 120, and 248 port interface capacity each as a stand-alone system. Nodes can be interconnected to build up systems with thousands of interfaces, all fully non blocking. (56 port 'mini' system shown above.)

Touch Screen Operator Stations provide intuitive, easy to use access to all the interfaces of the system. All button functions are fully programmable. The system database remembers each user/function's station preferences, and recalls them for rapid station reconfiguration. Operator positions can be located 6km away on a simple 2-wire line, or remot-ed to another continent using standard communication systems.

All critical functions can be made fully redundant, with hot swappable modules. Incoming communication lines can even be switched between logical modules to bypass defective modules with the optional auto transfer connector card capability.

This Commercial Off-the-Shelf (COTS) system was developed from the ground up for hard mounting in a transportable environment such as a mobile shelter or vehicle. PROCOM systems have been used and proven on many military and commercial programs.

Easy system integration is assured through the use of standard VME style system enclosures, and standard connector types on all interfaces. A fully documented Windows® based System Administration tool provides for either online or offline configuration and optimization of the system.

Audio Signals

Frequency Response	Less than +/-0.5 dB, 300 to 3400 Hz.
Distortion	Less than 2% THD, 300-3400 Hz
Signal to noise ratio	More than 50 dB at 1020 Hz.
Idle channel noise ratio	Less than -60 dBm at 3000 Hz
Crosstalk Isolation:	Better than 90 dB between channels, 100 to 10k Hz
Recording:	All operator, telephone, & radio traffic, 600 ohm interfaces to analog recorder, E1 channel to digital recorders

Signal Capacity

All signals in the PROCOM 2000 switching nodes are digitally processed, switched and combined. External analog audio is digitized by Line Interface Units. Each switching node has internal switching capacity for 512 channels. Systems with thousands of channels can be built up by networking nodes.

External Interfaces

External signals are processed by interface specific Line Interface Units. The signals are converted, processed, synchronized and assigned to internal channels. The available interfaces are:

ISDN	BRI (Basic Rate Interface) PRI (Primary Rate Interface)
Analog	4-wire E&M with PTT Facility Intercom Public Address 2-wire Central Office / PBX
Telephone	2-wire POTS Local Battery systems
Digital	E1 / T1 Ethernet LAN TCP/IP RS-232/485 VOIP (future) RS-530 (64k) channel

Features

- Real Time Operating System
- Full DSP Audio Processing
- Intercom and Interphone Operation
- Fully Programmable Keys
- Touch Entry Displays
- IEEE 1101 Enclosures
- Windows® based System Administration Tools



Rear view of PROCOM 2056 Node

Environmental

Temperature:	0°C to +50°C (operating) -40°C to +70°C (non-operating)
Altitude:	0 to +10,000 feet (operating) 0 to +50,000 feet (non-operating)
Humidity	10% to 90% (noncondensing)
Transport	Intended for Type IV Mobility

Power Requirement

System Node	-48 VDC standard (+/- 20%) +24 VDC optional (+/- 20%) OpS powered locally.)
	100 watt, 2056 Node, (56 port) 400 watt, 2120 Node, (120 port)
OpS (Operator Station)	12 watt (standard) 18 watt (Hi Bright)
CAU Station	4/12 watt (normal/maximum)

Dependability

MTBF Critical	Better than 100k hours
Availability:	> .99999
MTTR	< 30 minutes
Other	99% BIT failure detection

Dimensions & Weight

2056 Node (56 port)	19"W x 8.75"H x 16"D (32 lb empty) 480 x 222 x 406 mm (14 kg)
2120 Node: (120 port)	19"W x 14"H x 16"D (62 lb empty) 480 x 355 x 406 mm (28 kg)
Standard OpS (Desktop)	10.6"W x 7.9"H x 3.7"D (3.9 lb) 267 x 199 x 94 mm (1.7 kg)
(Console)	12"W x 9.0"H x 3.7"D (4.7 lb / 2.1 kg)
(Rack mount)	19"W x 10.5"H x 3.7"D (9.1 lb / 4.1 kg)
CAU (48 button)	19"W x 5.25"H x 9"D (7 lb.) 480 x 133 x 233 mm (3.2 kg)