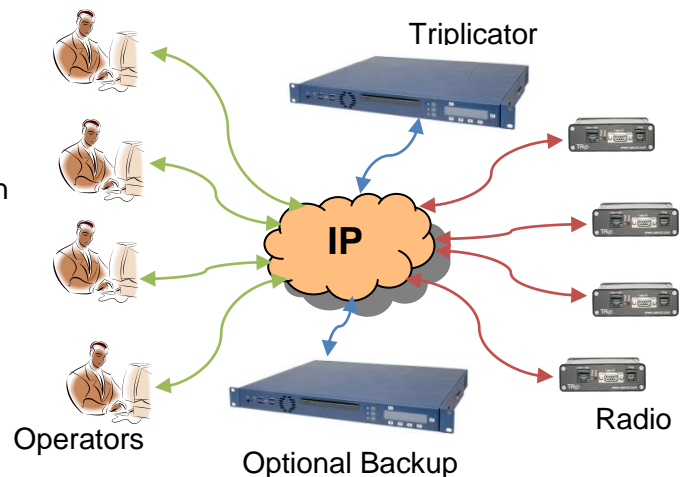




## TRICX – Triplicator Integrated Communications Switch

### Key Features

- Multiple operators / multiple radio switch
- Complete telephony integration
- Duplicated central switch with hot standby option
- Scalable from small to large systems
- Configurable PC based operator console
- Complete IP solution from operator to radio
- Multiple signalling standards
- Cost effective communications
- Standards based solution
- Fully configurable user interface



### In Brief

The TRICX is a multiple operator and multiple radio control system using packet switching technology over IP links to achieve the required communications paths. This has several major advantages over a circuit switched solution, such as the ability to remotely site the operators away from the main switch, increased reliability and high levels of resilience and a convergence of communications technology. The system has been designed to offer high levels of redundancy or no single point of failure options.

The Triplicator is a rack mounted industrial PC running the relevant applications and controlling the switching between operator and radio ports. As the system uses standard IP communications protocols an interface to IP telephony systems is also provided. For larger systems the TRICX will support multiple ISDN (basic and primary rate) interfaces allowing interconnect to many worldwide telephone systems using international standards.

The radio to IP interface is achieved by using our already proven TR*ip* IP radio interface.

### System Communication

The TRICX based communication system is comprised of four elements:-

- A PC based application (TRC-Ops) running independently on one or more personal computers at the same time providing a graphical user interface for one or more operators.
- An operators audio interface providing the necessary interfaces for the users headset, handset and footswitches where required, this unit interfaces to the TRC-Ops software.
- A PC based application (Triplicator) that resides on a server and receives the audio streams from TRC-Ops and TR*ip* units and combines them in the required order before passing them on to the appropriate operator / TR*ip* unit.
- A PMR to IP interface (TR*ip*) that is located adjacent to the radio base station and performs the function of converting the audio to and from an IP stream which is passed to the Triplicator unit.

The TRC-Ops application will communicate directly with its Triplicator unit and through this Triplicator control the TR/p units. The TRC-Ops application also communicates with the operator's audio interface to control the input and output of audio and push to talk functionality. The system will allow the use of a backup Triplicator component to provide additional resilience to the system.

## Operator Interface

The operator interface for the TRICX system is a PC based package running on the operators PC under a Windows environment. The screen layout is configurable so that the best layout for each individual application can be achieved easily. Users can log onto the system at several different levels, each level showing the appropriate screen controls for that level.

## System Facilities

Full selective calling capabilities are supported by the TRICX. These include a call stack, emergency call and call alert tones. The system also supports TETRA PEI signalling, MAP27 for MPT systems, telephony interconnect, automatic telephone/radio routing, M80 signalling and tone remote signalling. Alternatively the system can interface directly into our SR3400 base station using IP signalling protocols.

Audio recording facilities are provided at two locations within the TRICX system, centralised multi-channel recording is accessed via the recording output of the Triplicator, and this can be stored locally on the system hard drive or transferred over E1 / IP connections to an external recording device. Similarly, local recording and play back is available from the TRC-Ops operator unit. Audio play back is presented via the handset, headset or loudspeaker.

## System Specification

Power supply:	100 - 240 volts AC 50 - 60Hz	Line interface:	4wire 600 ohms
Dimensions:	1u /2u 19" standard enclosure	Line Level:	0 to -22dBm
Serial Interface:	RS232	Record Level:	-10dBm
Typical number of operators:	1 to 2000	Interface to IP based Call Loggers	
Typical number of radio ports:	1 to 2000	ISDN BRI Interface	
Typical number of telephony circuits:	1 to 2000	E1/T1/J1 Interface	
Operator intercom		POTS FXS/FXO Interface	
Conferencing			
Radio/telephony & radio/radio patching			

### Line Signalling Standards

Full M80 emulation Local or Remote Supervisories	MAP 27 for MPT systems
Motorola Tone Remote user selectable key tone	TETRA PEI
ETS 300-230 / BIIS1200	5/7 Tone signalling
IP V4 RTP/RTCP (RFC1889)	
Analogue outputs for local control of a directly connected base station	
Channel change / facility logic and serial control	

*In the interests of continued development, AWCSL reserves the right to change this specification without notice.*

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