

SIGNALPATH™ 230 SIGNALING GATEWAY

The SignalPath™ 230 (SP230) is an advanced signaling protocol converter designed to facilitate interoperability between incompatible communication networks. The SP230 enables a seamless interface between in-band and out-of-band networks, and between out-of-band networks and other out-of-band networks.

Different types of telephony communication protocols, both in-band and out-of-band, circuit-switched or packet, exist globally. In fact, there could be as many as six or seven protocols in use within one network. The SP230 breaks down the communication barriers presented by these different protocols and enables the flow of information across any network.

Not only can you increase your potential to connect to a larger portion of the world market, but you can also eliminate charges you may be currently paying to one or more companies for network connections. This means more revenue in your corporate pocket.

EXTENSIVE PROTOCOL SUPPORT

Multiple protocol support in a single platform means better inventory management and lower overall operating cost. Protocols supported are:

- R1, R2, DTMF
- ANSI SS7 (ANSI), ITU-T C7, ETSI ISUP, Spanish ISUP, NOM112, C7 variants (e.g., Argentina, Chile, Peru, Spain)
- NI2 and ETSI PRI-ISDN
- Custom variants of both in-band and out-of-band protocols are available.

SUPERIOR MAINTENANCE AND DIAGNOSTICS

- Multiple maintenance features enable quick and cost-effective resolution of network problems.
- Trace functionality is available to aid in troubleshooting configuration and network problems.
- Visual and dry contact alarms allow for remote and local monitoring.
- The “hot plug-in” feature enables insertion and removal of modules without affecting operation.

REDUNDANCY

- Redundant common module capability translates to less equipment down-time.
- Redundant power supplies are input and output isolated.



SCALEABLE ARCHITECTURE

- The SP230 has a modular design, with a capacity of up to 52 E1 or T1 interfaces, allowing users to scale the product to fit small or large applications while incurring a low upfront investment.
- Chassis-based, the SP230 is designed specifically for today's high standards in the communications environment.

OTHER PRODUCT FEATURES

- Standard connections (RJ48, BNC)
- Up to 52 E1 or T1 trunks (full duplex, 104 ports)
- Up to 1,612 DS0s per chassis
- Dynamic bi-directional μ -Law/A-Law T1/E1 conversion
- 19 in. (48.26 cm) rack-mountable chassis

STANDARDS CONFORMANCE

R1	Q.310–Q.331
R2	Q.400–Q.490
DTMF	BellCore TR-TSV-002275, Subsection 6.13
SS7	BellCore TR-NWT-00246, ANSI T1.111a, T1.112, T1.113a, T1.114, T1.116, T1.234–T1.236
C7	ITU-T White Book: Q.767, Q.701– Q.704, Q.705, Q.708, Q.709, Q.780– Q.782, Q.784, Q.788
ISDN-ETSI	ETSI 300-102, Q.931, Q.921
ISDN-NI2	BellCore TR-NWT-001268, TR-NWT-002343; Q.931, Q.921

AGENCY COMPLIANCE

Safety	EN 60950, European Safety (CE Mark) UL 1950 3rd Edition, U.S. Safety C22.2 No. 950, Canadian Safety
EMC	EN 300 386-2: 1997 EU EMC (CE Mark)
Emissions	FCC Part 15, Sub-part J, Class A

HARDWARE SPECIFICATIONS**Physical**

<i>Height</i>	10.5 in. (26.7 cm)
<i>Width</i>	19 in. (48.26 cm)
<i>Depth</i>	14 in. (35.6 cm)

Input

<i>Power</i>	-48 to -56 VDC
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Environmental

<i>Temperature</i>	32° to 122° F (0° to 50° C)
<i>Humidity</i>	Up to 95% non-condensing
<i>Altitude</i>	Up to 10,000 ft. (3,048 m)

SYSTEM CAPACITY

Aggregate Cards	Up to 13 per chassis
Interfaces	Up to eight E1 or T1 trunks per Aggregate card; up to 104 full duplex trunks per chassis
Channels	Up to 31 per trunk; up to 248 per Aggregate card; up to 3,224 per chassis
SS7/C7	Four per AGC card
Signaling Links	Eight per card set Up to 52 per chassis

INTERFACE SPECIFICATIONS

Framing	E1: G.732 or G.704 T1: D4 SF or D4ESF
Bit Rate	E1: 2,048 Mbps T1: 1.544 Mbps
Clocking	E1: ± 30 ppm internal E1: ± 100 ppm external T1: ± 30 ppm internal T1: ± 150 ppm external
Impedance	E1: 120 ohm balanced E1: 75 ohm unbalanced T1: 100 ohm balanced
Coding	E1: AMI or HDB3 T1: AMI or B8ZS
Alarms	E1: Loss of carrier signal, multi-frame carrier signal, sync; alarm indication signal (AIS); receipt of remote alarm; receipt of multi-frame remote alarm T1: Loss of carrier signal; loss of frame; receipt of alarm indication signal (AIS); receipt of remote alarm
Diagnostics	E1/T1: signaling state report, digit report
Performance	E1: G.703, G.704, G.732, G.823 T1: ATT Pub. 62411

