

SX-200 | E1 R2 Signaling Solutions

Analog-to-Digital Migration

The world is changing from analog to digital. In some locations, this change has been slower to occur, but the transformation is taking place nonetheless. For example, carriers in Latin America, Mexico, the Caribbean and other countries are converting to digital trunks because they are less expensive than supporting numerous analog trunks.

There are several good reasons to migrate from analog to digital equipment when passing voice traffic over a PBX network to a Public Switched Telephone Network (PSTN). The most compelling is the cost savings realized by the significant reduction in the number of transport lines required in networks that have many analog trunks already in use.

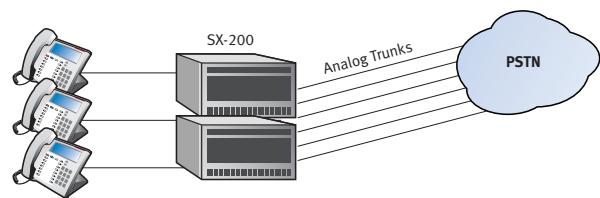
Signaling Solutions

Another reason is that E1 R2 support is required for entry to networks in many countries around the world. Carriers, eager to move customers from old analog trunks due to shortages in copper lines, are upgrading their equipment to digital E1 lines. As a result, carriers are now offering E1 services at bargain prices as an incentive to customers to begin using E1 interfaces on their PBX equipment.

E1 is a standard interface, and there are many different types of signaling protocols that can be used between the PBX and the PSTN over an E1. One of the most widely used around the world is R2. Although R2 is a standard signaling protocol, there are many country-specific variants of R2 in use today. In fact, multiple variants can exist within a single country. This presents a major challenge for PBX equipment vendors who want to penetrate international markets.

SX-200 as an Analog Solution

Existing Mitel Networks™ SX-200® customers, looking to take advantage of the cost savings the carriers are offering, are now demanding that the PBX include or provide access to an E1 interface.

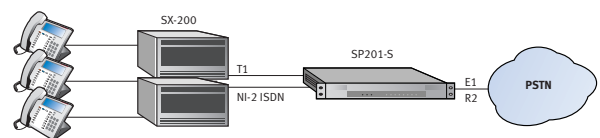


The E1 Upgrade Solution

In response to customer requirements, Mitel Networks is providing the SignalPath™ 201-S (SP201-S) Signaling Converter to handle E1 connectivity. Positioned between the SX-200 and the PSTN, the SP201-S provides a cost-effective solution for transporting voice traffic from T1 to E1 trunks with R2 signaling protocols.

Mitel Networks and its resellers are now able to offer their existing customers an E1 upgrade package for the SX-200, which includes two T1 links for the SX-200 and an SP201-S unit. This will enable PBX networks to connect to PSTNs in countries using R2 protocols over E1 trunks.

NI-2 ISDN over 2 T1s to R2 over 1 E1



NI-2 ISDN to R2 (SP201S-A9-B)



it's about **YOU**

Specifications

Standards Conformance		
R2		Q.400-Q.490 (ITU-T R2 Signaling Recommendations)
DTMF		BellCore TR-TSV-002275, Subsection 6.13
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 FCC Part 15, Sub-part J, Class A
Immunity		EN 50082-1: 1997
Emissions & Immunity		EN 55022 (Europe)
Hardware Specifications		
Physical	Height	1.75 in. (4.45 cm)
	Width	19 in. (48.26 cm)
	Depth	10 in. (25.4 cm)
Input	Power	100 to 240 VAC, 50 to 60 Hz
Environmental	Temperature	32° to 122° F (0° to 50° C)
	Humidity	Up to 95% non-condensing
	Altitude	Up to 10,000 ft. (3,048 m)
System Capacity		
Interfaces		Up to one E1 or two T1 trunks per chassis
Channels		Up to 30 E1 or 48 T1 per chassis
Interface Specifications		
Framing		E1: G.732 or G.704 T1: D4SF 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

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