



ELITE

Redefining the possible

TX/communications is pleased to introduce the highly anticipated Class 5 ELITE system. After years of extensive research and development in the area of large communication switches, TX has released the ELITE Class 5 switching system to address the need for small and large switching platforms in one package. The ELITE can be configured to service from 512 to 40,000 lines while still offering the benefits and features of the TX/communications INFINITY TX2400 switches. Coupled with an industry standard OC3 interface and an internal voice mail system, the ELITE offers a highly featured cost effective platform with which to grow.

Using state-of-the-art technology, TX engineers have been able to minimize the amount of hardware required without affecting performance. Control shelf and line shelf functions are combined in one shelf, the Universal Line Shelf (ULS); only one main ULS is required in an entire ELITE system. Each ULS is totally non-blocking, providing 512 ports with 512 time slots and 512 DTMF Receivers and Generators. It also provides redundancy right to the level of port redundancy. The hardware required for the main ULS includes the minimum of a DC-to-DC converter, a Master Communication Controller (MCC), and a Peripheral Communication Controller (PCC). The Universal Line Interface (ULI) and Universal Digital Interface (UDI) designed by TX engineers for the TX2400 family have proven so successful that they have been incorporated into the ELITE design.

Each ULS provides 512 ports. By adding 16 ULSs to the main ULS the ELITE can provide 8192 true non-blocking ports in one system. 16K X 16K switching matrix is optional. If more lines are required, this configuration can be repeated to provide over 40,000 lines with concentration. If the application requires trunking, simply install a Universal Digital Interface and plug in the appropriate Daughter board for ISDN, SS7 or CAS signaling. Road map features include a wireless local loop interface and an Integrated Voice over IP interface providing either 32 or 512 active calls.

To accommodate connection to PSTN, the ELITE offers the benefit of an OC-3/E3 direct connection without the need for a digital MUX. This significantly reduces the cost of the system. TX took the traditional E1 & T1 connection one step further by eliminating the external hardware required for large public applications. This is accomplished by implementing OC-3 in the system. Up to 4 OC-3s can be connected to the main ULS.

The innovative thinking behind ELITE can provide solutions for almost every communications need. At TX we not only anticipate technical advances but also welcome them with switches like ELITE that are designed to change with your needs and easily implement future additions and modifications.

ELITE Central Office at a Glance

Specifications:

- PCM-TDM Technique
- **SPC** (Stored Program Control)
- ITU-T, *Bellcore*, ETSI UL1459, FCC, UL and CSA Conformity
- HW/SW fully modular and scalable
- Optional **16K x 16K** non-blocking, full available Switching Network
- Universal Slot, Universal Shelf, Universal Cabinet
- Five Card Variety (MCC, PCC, PSU, ULI, UDI)
- Inter-System Communications on Redundant 2Mbps differential (RS-422) HDLC and LVDS Links
- Intelligence : On all Control, Power/Ring Supply and Universal (Analog/Digital Interface) Cards
- Customized Application Capability due to the use of FPGA, CPLD, DSP on all Cards
- 15 External built-in Alarm Sensors per shelf
- Temperature measurement of each shelf:
 - Air temperature intake
 - Air temperature exhaust
 - Ambient temperature
 - Thermal shutdown
- Alarm input to detect motion, water, open door, vibration, broken, fire, etc. (Sensors available in industry)
- Capacity : 40K Ports expandable to 64K Ports including WLL Ports
- Caller ID feature for all Lines complies with ETSI and Bellcore
- Message Waiting feature for all Lines complies with ETSI and Bellcore
- Microprocessors : 16, 32, 64 bits wide powerful Processors @ [25MHz (**MC68302**, IMP), 100MHz (**i960**, **RISC**), 200 MHz (Power **QUICC II**, **RISC**)]
- 1 Erlang traffic/Port, Tone (DTMF, R1, R2) Processing Capability
- Redundancy capability for Port Interface Cards.
- BHCA: 300,000 @ 100 Sec. Average Holding Time
- Interfaces :
 - Analog: All types of Analog Lines and Trunks
 - Digital: E1, T1, J1, ISDN-PRA, and ISDN-BRA
 - **Transmission Rates:** E1, E3, STM1 and **OC3**
 - **Network:** 10BaseT, 100BaseT Ethernet Connection Interface
 - **WLL:** System Built-in **GSM** design in progress
- Signaling : Loop Start (600/900 Ohm), Ground Start (600/900 Ohm), Battery Reversal, DTMF, R1, R2, CAS, CCS#5, CCS#7, ISDN-PRI, V5.2
- **X** Signaling to **Y** Signaling **Converter/Translator**
- System Built in WLL based on **GSM** Standard (Flexibility exists to meet other frequency allocation plans) design in progress
- 155 Mbps Point to Point ADM (Add-Drop Multiplexing) interface on **SDH**

Ring

- Highly reliable common control equipment with extensive fault detection and recovery capabilities and component level troubleshooting
- Built in Remote maintenance facility
- Built in Remote LCD display on remote location
- Multiple ISDN Operators Console operation
- Blind ISDN Operator Console
- Voice recording capability on all ports
- Built in directory
- Management monitoring and control features
- Flexible Numbering Plan
- 2 Hours of Digital Voice Intercept Messaging per shelf
- 1000 Hours Voice Mail Capability per voice card
- Automatic Voice recording for malicious calls
- Interactive Voice Response (I.V.R)
- Three Way Conference Call for all lines with injection of any separate message to each of the parties on the conference call without any interruption of live calls.
- 32 Channel ADPCM Voice Compression/Decompression on **IVM** (Integrated **Voice Mail**) Card
- Stratum 4 or Stratum 3 Clock

- Application : Central Office, Transit Switch, Local/Tandem Switch, Rural Exchange, Intermediate Gateway Switch
- Power Consumption : Less than 0.5W/Port @ High traffic loads
- Built in 33.6K Modem on PCC, MCC and LCD Module
- Voice scrambling option available

Built in RS232 serial port on all ULI and UDI cards for future applications

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