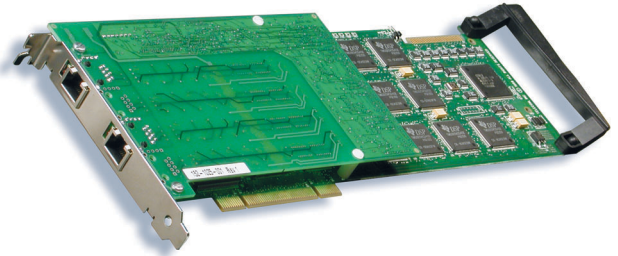


SMARTTERM DT Series

Features

- Software Switchable between T1 / E1
- On-board DSP providing Tone Detection & Voice Processing of up to 64 full-duplex channels
- Passive Connection for non-intrusive monitoring and live monitoring
- Caller ID / FSK /DTMF/MF
- Full-Time/On-Demand Recording/Event Driven record
- Uses SmartWORKS API (Common to all SmartWORKS products)
- Expansive Speech CODEC support (20+)
- Automatic Gain and Volume Control (AGC/AVC)
- Advanced Streaming to prevent data loss regardless of system resource demand
- Available for Windows NT 4.0, Windows 2000, Windows XP, Linux

Single or Dual T1/E1 Terminate Card



SmartTERM DT

Overview

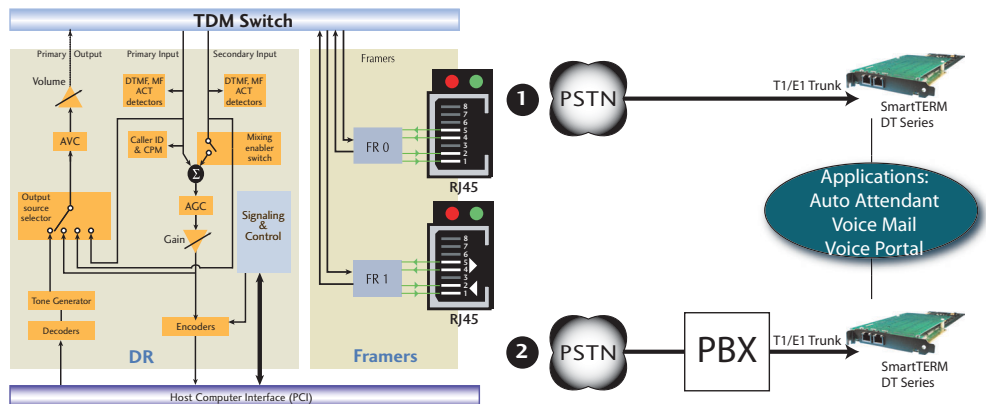
The SmartTERM DT series delivers proven SmartWORKS performance to the Terminate market. The DT is designed and tested to deliver all industry standard protocols, call progress, tone detection and audio compression. The DT easily allows developers to record, play, store and manipulate speech and data while supporting both T1 and E1 trunks through a software switch.

The native SmartWORKS API allows scalability from 48-192 T1 channels or 30-240 E1 channels without developers having to overhaul their applications. The NGX has a built-in audio jack on each board allowing headset audio record/playback with Windows WAV support.

The SmartTERM DT series utilizes the latest in low bit-rate coders such as GSM and G.726 and is configurable on a per channel basis.

Applications

- Quality Assurance
- Service Observation
- IVR



The diagram above shows the DT's Logical Card Model, which shows how the DT functions with the SmartWORKS API..

DT cards connect directly to a CO(1) or PBX(2) and provide all required line supervision to answer inbound or generate outbound calls.

Product	Part Number	Available
DT6400 Digital Terminate card:	910-0313-001	Beta 7/15/02 · Release 9/23/02

Product Specifications

HARDWARE SYSTEM REQUIREMENTS

Pentium II or equivalent 400 MHz or better
 ATX PCI motherboard or passive backplane with 3.3V ATX power supply
 PCI 2.2 bus

OPERATING SYSTEMS

Windows NT® 4.0 · Windows 2000 · Windows XP · Linux*

TECHNICAL SPECIFICATIONS

Max boards per system: 4 boards (T1 192 ports/E1 240 ports)
 Resource Sharing Bus: MVIP or H.100
 Boards Status: 2 LEDs per Trunk
 Clocking: Master/Slave

ENVIRONMENTAL CONDITIONS

Operating Temperature: 0C to +50C
 Storage Temperature: -20C to +85C
 Humidity: 8% to 80% non-condensing
 Storage humidity: 8% to 80% non-condensing

PHYSICAL CHARACTERISTICS

Form Factor: Full-size PCI card

HOST INTERFACE

Bus Compatibility: Complies with PCISIG Bus Specifications, Rev. 2.2
 Bus Speed: 33 MHz
 Bus Mode: 32 bit bus master/target

TELEPHONY INTERFACE

Trunk type: T1/E1
 Trunk Interface: Digital network interface

DIGITAL TRUNK INTERFACE

Receive clock rate: 1.544 MHz +/-200ppm (2.048 +/-175ppm)
 TX: Recovery or 50 ppm
 3.2 V down to 0.45V (LBO 0 dB to -22 dB)
 Input level: 1000 Ohm +/- 5%
 Input impedance: 30 m (100 feet) of CAT 3 cable
 Maximum tap length: SF (D3/D4), ESF, CRC-4
 Framing: AMI, B8ZS, HDB3
 Line Coding: Complies with AT&T TR62411 and
 Bellcore TA-TSY-000170
 Connectors: Two RJ-48C connectors
 Telephony bus connector: MVIP : 40 pin Dual row
 H.100 : 68 pin fine pitch card edge connector
 Loss of Signal Detection: Per ITU-T G.775 and ANSI T1.231
 Alarm Detection and Integration: RED, Yellow and AIS, per ANSI T1.231
 Binary Sequence Detector: Per ITU-T O.151

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ROBBED BIT T1

Signaling Mechanism: E & M immediate, E & M Wink, Fxs, Fxo

ISDN PROTOCOLS*

AT&T (SESS, 4ESS)	KDD Japan (ISDN 2.0)
Australia Telecom (Austel ISDN TS013-1990)	NTT Japan (INS-64 Version 3)
British Telecom (ISDN-2, ETSI)	N-ISDN-1 USA
RTT Belgium VN1 (CT1/07731)	Deutsche Telecom (1TR6)
Northern Telecom DMS100	France Telecom (VN2, VN3, VN4)
ETSI Euro ISDN (ETS 300 102)	

MF R2 SIGNALING · DTMF CAS SIGNALING

MF R2 Digits: All 15 digits, forward and reverse per Q.441
 DTMF Digits: All 16 digits
 Signaling Mechanism Supported: ABCD bits and DTMF digits reported per channel.
 Dynamic range for detection: -25 to 0 dBm per frequency
 Acceptable twist: 10 dB
 Acceptable frequency variation: 1%

POWER REQUIREMENTS

+3.3 VDC: 2.5 Amp
 +5 VDC: Not Required
 -12 VDC: Not Required
 +12 VDC: 20 mA

TRIGGER CONDITIONS

Event Driven: Caller ID, Min/Max silence · Min/Max activity

AUDIO SIGNAL

Receive range: -68 dBm to +3 dBm
 Input gain control: +24 to -64 dB
 Silence Detection: Programmable from API
 Transmit volume control: +24 to -64 dB
 Automatic Gain Control (AGC): Programmable from API
 Automatic Volume Control (AVC): Programmable from API
 Activity Detection: Programmable from API
 Frequency Response: 300 - 3400 Hz (+/- 3dB)

AUDIO DIGITIZING (ENCODING & DECODING)

13 Kb/s: GSM 6.10, Microsoft GSM
 16 Kb/s: G.726
 24 Kb/s: G.726, OKI
 32 Kb/s: G.726, OKI
 40 Kb/s: G.726
 64 Kb/s: μ -law or A-law per G.711, 8 bit linear PCM
 128 Kb/s: 16 bit linear PCM
 Wave file formats: Microsoft GSM, 16-bit PCM
 Digitization selection: Programmable per channel, independent for encode and decode

DTMF TONE DETECTION

DTMF digits: 0 - 9, *, #, A, B, C, D
 Dynamic range: -38 dBm to 0 dBm
 Minimum tone detection: 40 ms
 Interdigit timing: 40 ms min.
 Acceptable twist: Per LSSGR sec. 6, 8 dB forward, 4 dB reverse
 Frequency variation: Accept all +/- 1.5%, reject all +/-2.5%
 Noise tolerance: Per LSSGR sec. 6
 Talk off: Bellcore TR-TSY-000762

SAFETY AND CERTIFICATIONS

Telecom: CFR Part 68 · DOC
 Emissions: FCC Part 15 class A · EN 55022
 Immunity: EN 55024
 Safety: EN 60950
 Estimated MTBF: 150,000 hours per Bellcore Method I

WARRANTY:

3 years standard

*Call For availability



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