SmartWORKS™ DP Series

T1/E1 Passive Tap Card

Standard Features for SmartWORKS™ Family of Call Recording Products

The SmartWORKS™ API provides a common interface that controls the following call recording features:

- Media Control - CODECS
- CallerID/FSK/DTMF/MF Detection
- Activity / Silence Detectors
- Switching (H.100 and MVIP)
- Automatic Gain Control (AGC)
- Automatic Volume Control (AVC)
- Stereo Recording with AGC
- Call Progress Monitoring (CPM)
- Full-duplex Channels
- Media Streaming
- Start/Stop Call Recording Triggers

Since 1991, Ai-Logix has designed boards used in interactive and passive telephony applications. With global support for all types of telephone and radio systems - analog, digital, and enterprise PBXs, Ai-Logix products have set a new world standard in telephony communications. A single API, combined with event driven reporting simplifies application development by providing one standard for all types of networks.

The SmartWORKS™ DP sets the standard for passive tapping of T1/E1 trunks in high-density environments. The SmartWORKS™ DP is a reliable tool used globally by many of the world's largest call logging application providers.

Key Features and Benefits

Software Switchable T1/E1 Interface

Supports T1 and E1 using the same board. Automatically configures for all supported ISDN variants.

ISDN Call State Monitoring

Interprets the ISDN signaling protocol and reports the call states and call parameters via comprehensible API events.

True Dual Span Capabilities

A single RJ-45 interface is capable of recording both sides of a conversation, which maximizes the usefulness of each individual port.

On-board DSP to Complete Voice Processing

Robust call recording features combined with ISDN call control, eliminates the need for other resources on the system.

CODEC Support

SmartWORKS™ call recording products offer a large selection of voice CODECS. (including G.723.1, G.729A and MS GSM)

High Density Passive Tap Capabilities

Operating between a central office and PBX, the SmartWORKS™ DP's high impedance receivers records both sides of a call without interrupting service. Each board can process up to 60 channels, with a maximum of 512 channels per host. Service is never interrupted even if the SmartWORKS™ DP-equipped PC is shut down.

International Protocol Support

The SmartWORKS™ DP supports Channel Associated Signaling (CAS), Non-Facility Associated Signaling (NFAS) , DASS2 and any Q.931 based ISDN variant. Trunk coding and framing is selected on a per framer basis. This allows a single board to monitor two trunks, each with different settings.

Built in Performance Monitoring

Network conditions and call statistics are easily accessed via the SmartWORKS™ API. Event driven alarms are reported for loss of signal conditions or synchronization errors. Framer and call statistics are available through standard API function calls.

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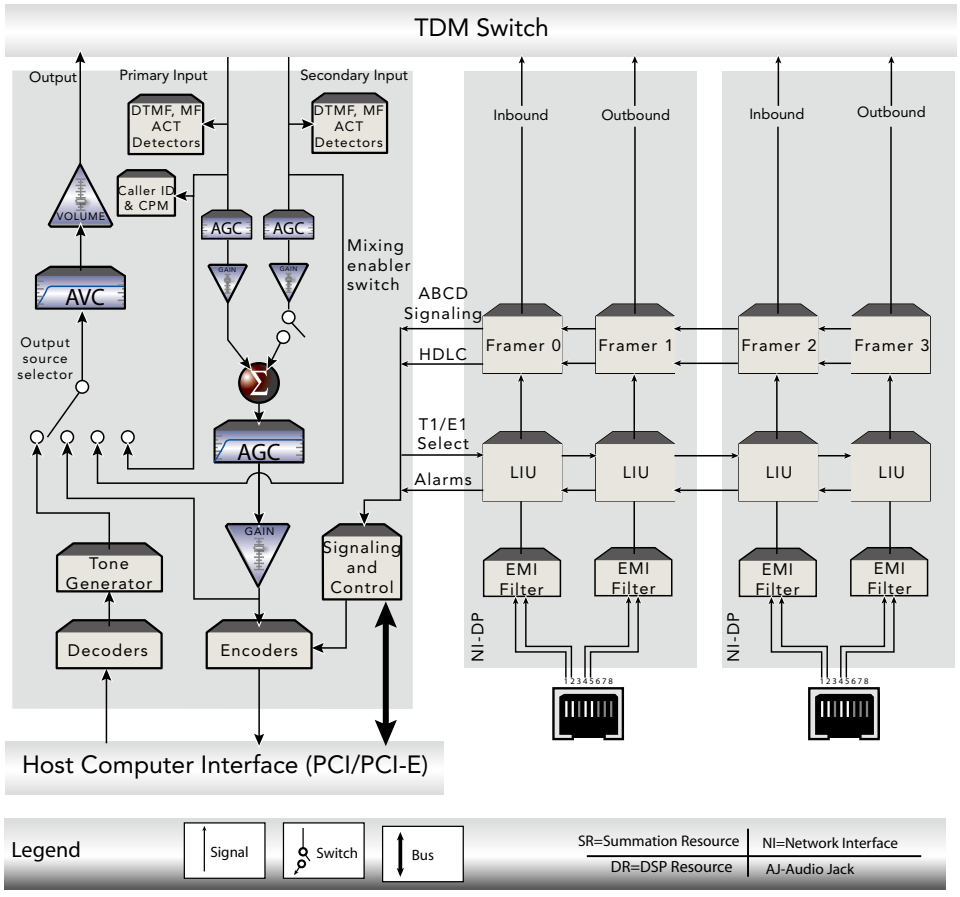
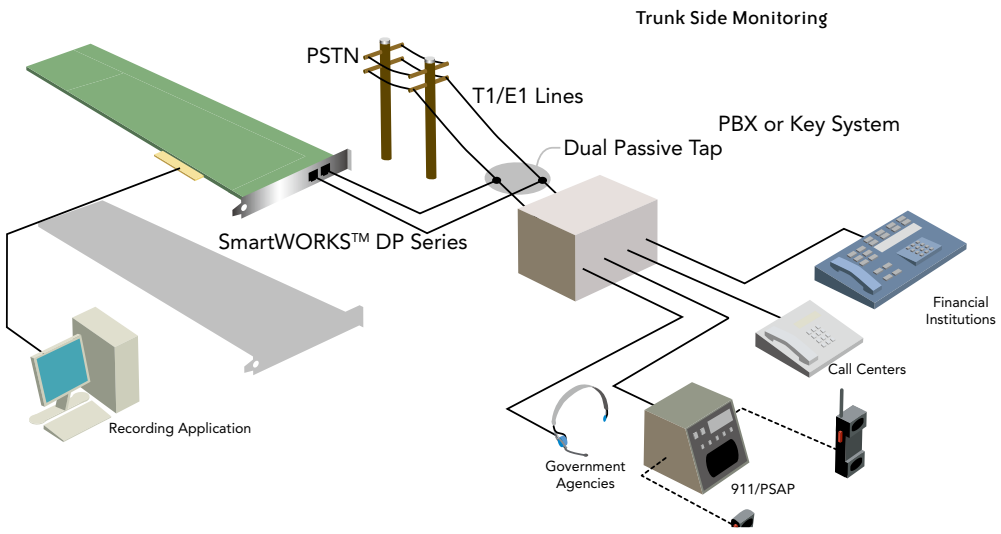
DP Logical Card Model



DP Application Model



Technical Specs ➡

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Hardware System Requirements

Pentium 4 or equivalent · 2 GHz or better

PCI2.2/PCI3.0/PCI-X/PCI-E with 3.3V power supply

Operating Systems

Windows2000 Professional/Server, WindowsXP Professional (SP3), Windows2003 server (32-bit/64-bit), Windows2008 server (32-bit/64-bit), Windows7 (32-bit/64-bit), Windows8 Serve (Call for variant details)

Technical Specifications

Max boards per system:	Any combination up to 512 ports
Max ports per system:	Up to 512
Resource Sharing Bus:	MVIP or H.100
Boards Status:	On-board LEDs
Clocking:	Master/Slave

Environmental Conditions

Operating Temperature:	0C to +60C
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

SDK

Ai-Logix Native SmartWORKS™ API
SmartControl (Control Panel)
SmartVIEW (Card functionality test application)

Host Interface

Bus Compatibility:	PCISIG 2.2/PCI-X/ PCI-E1.1/x1,x4, x8, x16 and Gen 2.0 PCI Express slots
Bus Speed:	33/66/2500MHZ
Bus Mode:	32/64 bit bus

DTMF Tone Detection

DTMF digits:	0 - 9, *, #, A, B, C, D
Dynamic range:	-38 dBm to 0 dBm
Minimum tone detection:	40 ms / programmable
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

Telephony Interface

Trunk type:	T1/E1
Trunk Interface:	Digital High Impedance (Z)
AC Impedance:	1k Ohms
Input Impedance:	1000 Ohm +/- 5%
Maximum Tap Length:	30m (100 feed) of CAT 3 cable
Connectors:	Two RJ-45 connectors

T1 Interface

Receive Clock Rate:	1.544 MHz +/- 200ppm
Transmit Clock:	Recovered RX clock or 50 ppm
Input Level:	LBO 0dB to -22dB
Framing:	SF (D4), ESF
Line Coding:	AMI, B8ZS
Signaling Protocol:	ISDN, NFAS, CAS
Clock and Data Recovery:	Complies with AT&T TR62411 and Bellcore TA-TSY-000170
Loss of Signal Detection:	ANSI T1.231
Alarm Detection and Integration:	LOS, LOF, Yellow, and AIS per ANSI T1.231
Binary Sequence Detector:	Per ITU-T 0.151

E1 Interface

Receive Clock Rate:	2.048 +/- 175ppm
Transmit Clock:	Recovered RX clock or 50 ppm
Input Level:	3.2V down to 0.45 V
Framing:	Basic G.704, CRC-4
Line Coding:	AMI, HDB3
Signaling Protocol:	ISDN, DASS2, CAS
Loss of Signal Detection:	per ITU-T G.775
Alarm Detection and Integration:	LOS, LOSMF, TS16, CRC
Binary Sequence Detector:	Per ITU-T 0.151

Audio Signal

Receive range:	-68 dBm to + 3 dBm
Input gain control:	+24 to -50 dB
Silence Detection:	Programmable from API
Transmit volume control:	+24 to -50 dB to MVIP/H.100
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)

5.3 Kb/s	G.723.1
6.3 Kb/s	G.723.1
8 Kb/s:	G.729A
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 (signed & unsigned)
96 Kb/s:	6 Khz 16 bit linear PCM(signed)
128 Kb/s:	16 bit linear PCM (signed & unsigned)
Wave file formats:	Microsoft GSM, Linear signed 8 & 16-bit PCM
Digitization selection:	Programmable per channel, independent for encode and decode

POWER REQUIREMENTS

PCI 2.2:	+ 3.3 VDC: 2.8 A +5 VDC: 5 mA -12 VDC: n/a +12 VDC: 20 mA
PCI express:	+ 3.3 VDC: 3.2 A

SAFETY AND CERTIFICATIONS

Telecom:	DOC
Emissions:	FCC Part 15 class A · EN 55022
Immunity:	EN 55024
Safety:	EN 60950
Estimated MTBF:	250,000 hours per Bellcore Method I

MODELS AVAIABLE

DP3209/DP3209-eh:	Single E1/T1
DP6409/DP6409-eh:	Dual E1/T1

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