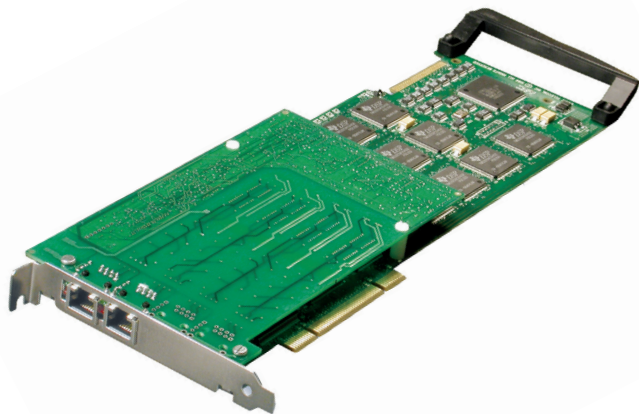
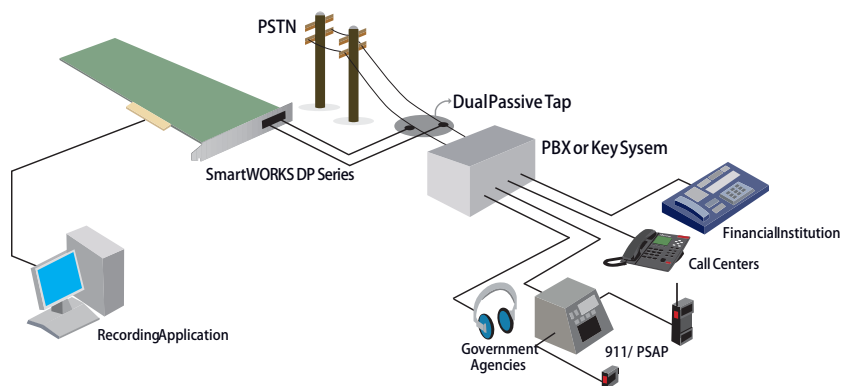


Ai-Logix Enabling Technology Products

SmartWORKS™ DP T1/E1 Passive Tap Card



- Software Switchable T1/E1 Interface
- ISDN Call State Monitoring
- True Dual Span Capabilities
- On-board DSP to Complete Voice Processing
- CODEC Support
- DPNSS, MFR2 (RAW), ABCD Signaling



Applied Use: With a proven field record, the SmartWORKS™ DP has been successfully deployed in various international agencies such as banking, law enforcement, trading and customer support centers.

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.

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 blade 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 common Channel Signaling (CAS), Non-Facility Associated Signaling (NFAS), DASS2 and any Q.931 based ISDN variant and RAW ABCD signaling. Trunk coding and framing is selected on a per framer basis. This allows a single blade 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. Framers and call statistics are available through standard API function calls.

COMMON SMARTWORKS™ API FEATURES:

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

Ai-Logix Enabling Technology Products

SmartWORKS™ DP

SPECIFICATIONS

System Requirements

| | |
|--------------------------|---|
| Hardware Requirements | Pentium 4/equivalent · 2 GHz, PCI motherboard or passive backplane with 3.3V power supply, PCI 2.2 bus (PCI express is also available with x1 connector) |
| Operating Systems | Windows2000 Professional/Server, WindowsXP Professional (SP3), Windows2003server (32-bit/64-bit), Windows2008 server (32-bit/64-bit), Widnows7 (32-bit/64-bit), Windows2012 Server (Call for variant details) |
| Technical Specifications | Max blades per system: 16 · Max ports per system: Up to 512 · Resource Sharing Bus H.100 |
| Physical Characteristics | Form Factor: Full PCI card (PCI express also available-full size only) |
| Environmental Conditions | Form Factor: Full-size PCI or PCIe card · Operating Temperature: 0C to +60C · Boards Status: On-board LEDs Clocking: Master/Slave · Storage Temperature: -20C to +85C · Humidity: 8% to 80% non-condensing Storage humidity: 8% to 80% non-condensing |
| Host Interface (PCI 2.2) | Bus Compatibility: PCISIG 2.2/PCI-X/PCI-E1.1/x1,x4, x8, x16 and Gen 2.0 PCI Express slots Bus · Specifications: Rev. 2.2 · Bus Speed: 33/66/2500MHZ Bus Mode: 32 bit bus master/target (PCI express available-1x connector) |

Telephony Interface

| | |
|----------------------------|--|
| Trunk type | T1/E1 · Trunk Interface Digital High Impedance (Z) · AC Impedance 1k Ohms · Input Impedance 1000 Ohm +/- 5% |
| Maximum Tap Length | 100 feed feet · T1=30m of Cat 3 or better and E1=16m · Connectors Two RJ-45 connectors |
| Signaling Protocol | ISDN, NFAS, CAS (Raw), DASS2 (E1 Only), DPNSS (E1 Only), MFR2 Brazil & China Call Control - All other countries RAW ABCD Signaling |
| 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 Clock and Data Recovery: Complies with AT&T TR6241.1 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 |
| 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 · Loss of Signal Detection per ITU-T G.775 · Alarm Detection and Integration: LOS, LOSMF, TS16, CRC, DPNSS, MFRZ (Raw) |
| 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 |

Software

| | |
|------------------------|---|
| SDK | Ai-Logix SmartWORKS™ API |
| Activity Detection | Programmable from API · Frequency Response: 300 - 3400 Hz (+/- 3dB) |
| 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 |
| 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

| | |
|-----------|---|
| DP3209 | +3.3 VDC 2.0A, +5 VDC 5mA, -12 VDC n/a, +12 VDC 20mA, Watts(MAX): 7W |
| DP6409 | +3.3 VDC 2.6A, +5 VDC 5mA, -12 VDC n/a, +12 VDC 20mA, Watts(MAX): 9W |
| DP3209-EH | +3.3 VDC 2.4A, +5 VDC 5mA, -12 VDC n/a, +12 VDC 20mA, Watts(MAX): 8.5W |
| DP6409-EH | +3.3 VDC 3.0A, +5 VDC 5mA, -12 VDC n/a, +12 VDC 20mA, Watts(MAX): 10.5W |

Certifications

| | |
|-----------|---|
| Safety | EN60950 IEC60950 (third edition) UL60950 · CAN · CSA-C22.2 No 60950-00 (third edition) |
| Emissions | EN55022 47 CFR FCC part 15 EN55024 |

Order Information

| | |
|-----------|--------------|
| DP3209 | 910-0308-002 |
| DP6409 | 910-0324-001 |
| DP3209-EH | 910-0703-001 |
| DP6409-EH | 910-0703-002 |

ABOUT AI-LOGIX

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.

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