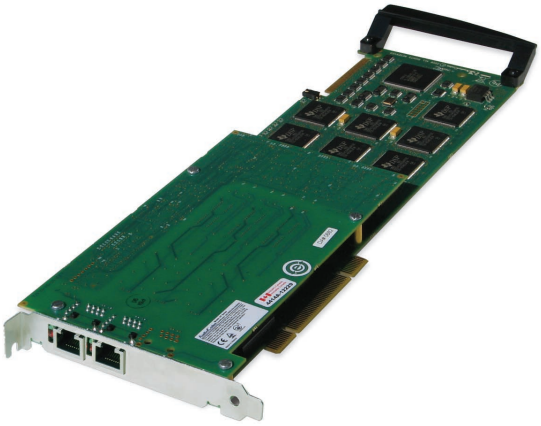
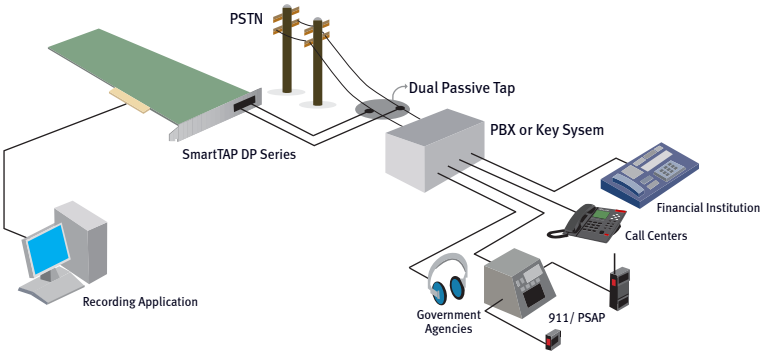
SmartWORKS™ DP T1/E1 Passive Tap Card



- 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. Framer 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 Cancelation
- Call Progress Monitoring (CPM)
- Full-duplex Channels
- Media Streaming
- Live Monitoring
- Start/Stop Call Recording Triggers

AudioCodes

AudioCodes Enabling Technology Products

SmartWORKS™ DP

Specifications

System Requirements	
Hardware Requirements	Pentium 4 or equivalent · 2 GHz or better · PCI motherboard or passive backplane with 3.3V power supply, PCI 2.2 bus (PCI express is also available with 1x connector)
Operating Systems	Windows XP, 2003 and 2008 32 bit, Windows 64 bit (planned), Linux (Call for variant details)
Technical Specifications	Max blades per system: 16 · Max ports per system: Up to 512
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: Complies with PCISIG Bus Specifications, Rev. 2.2 · Bus Speed: 33 MHz 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 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
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 Detectionper 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	AudioCodes Native 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 AudioCodes

AudioCodes Ltd. (NasdaqGS: AUDC) designs, develops and sells advanced Voice over IP (VoIP) and converged VoIP and Data networking products and applications to Service Providers and Enterprises. AudioCodes is a VoIP technology leader focused on VoIP communications, applications and networking elements, and its products are deployed globally in Broadband, Mobile, Cable, and Enterprise networks. The company provides a range of innovative, cost-effective products including Media Gateways, Multi-Service Business Gateways, Residential Gateways, IP Phones, Media Servers, Session Border Controllers (SBC), Security Gateways and Value Added Applications. AudioCodes underlying technology, VoIPerfectHD™, relies primarily on AudioCodes leadership in DSP, voice coding and voice processing technologies. AudioCodes High Definition (HD) VoIP technologies and products provide enhanced intelligibility, and a better end user communication experience in emerging Voice networks.

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