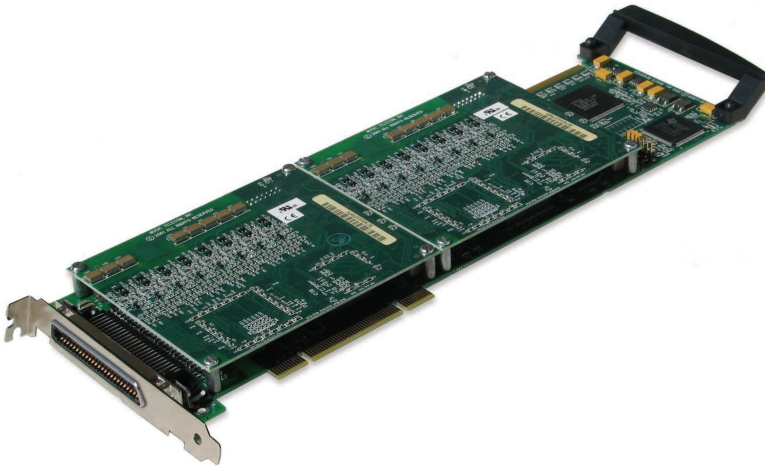


# AudioCodes Enabling Technology Products

## SmartWORKS™ NGX Single Card Solution to Passively Record Proprietary PBX Extensions



The **SmartWORKS™ NGX** is an all-in-one resource for logging behind a PBX. Every key pressed, call taken, and telephone action performed by an agent is automatically decoded and sent to the recording application. A powerful set of features, combined with PBX integration, makes the NGX a true single slot solution for call logging application providers.

### TAP ENVIRONMENT

The NGX is designed for tapping behind a proprietary PBX. Residing between the PBX and agent phones, the SmartWORKS™ NGX's high impedance receivers record both sides of a call without interrupting service. The NGX is available in 8, 16, and 24 port configurations. The SmartWORKS™ API supports a total of 512 channels per system. As a result, the SmartWORKS™ NGX is ideal for low to high-density environments.

### EXTENSIVE PBX SUPPORT

Designed with international deployment in mind, the SmartWORKS™ NGX taps 2-wire, 4-wire, BRI and full duplex PBX's. The list of PBXs that the NGX supports is constantly growing. Contact your AudioCodes sales representative for more information.

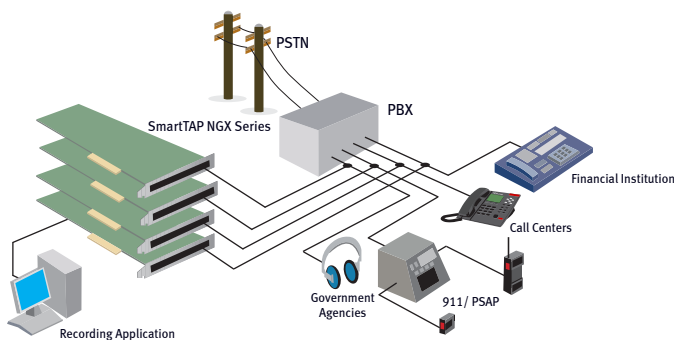
### BUILT-IN PERFORMANCE MONITORING

The SmartWORKS™ API provides framer alarms and network statistics to pass easily into performance monitoring applications. Event driven framer alarms are generated with a loss of signal condition. Network statistics are available for both sides of the conversation, incoming and outgoing. Statistics such as synchronization errors, line amplitude, noise or clipping are available via a simple API function call.

### 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

- Multiple PBX Support
- Firmware Upgradeable to any PBX
- Wide Spectrum of Trigger Events
- Summation
- CODEC Support



### NGX Application Model

Applied Use: The SmartWORKS™ NGX is perfectly suited for information centers, financial trading centers or call centers where tapping behind a proprietary PBX is required.

# AudioCodes Enabling Technology Products

## SmartWORKS™ NGX

### 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 x 1 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
Host Interface	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)
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

#### Telephony and Interfacing

Tap Interface	Insertion loss: <1dB · Isolation: Galvanic 500VDC +/-10%, 100VRMS 1 sec · Impedance: Soft-Switchable 1KOhms/1000hms External connector: RJ-21X 25 Pair female
Analog Jack	Audio Connector: 3-pin 0.1" ctr header · Output impedance: 3000hms · Input impedance: 33KOhms · Return loss: >25dB Mic bias: +5VDC @ 4.7KOhms · Input gain: +9dB · Output gain: 2.6dBm @ 3000hms · Full scale input: 370 mVRMS Full scale output: 1.5 VRMS open circuit
PBX Interface	PBX Support: Software Configurable
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)
Encoding & Decoding	5.3 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
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
D Channel Events	The following types of D-channel events are decoded:
PBX Event (Command Events)	Generated by the PBX and passed to the phone as a command to perform some type of action.
Signaling	These events indicate a call progress tone (dial tone, ring tones), or audio changes
LEDs	These events correspond to light changes on the phone
Display	These events indicate that the LCD on the phone has been updated. These are usually related to the clock display, or messages displayed on the LCD.
Phone Events	Generated by the phone indicating an action has been taken (i.e. button pressed).
Hook State	Off hook and on hook changes occur when the handset is removed or replaced
Button events	Indicate that a button on the phone was used. For example: digits pressed, speaker buttons etc.

#### Power Requirements

NGX (PCI 2.2 base)	+ 3.3 VDC: 0.9 A · +5 VDC: 1.5 mA · -12 VDC: 25 mA · +12 VDC: 25 mA
NGX (PCI 2.2 24 channel)	+ 3.3 VDC: 1.6 A · +5 VDC: 1.5 mA · -12 VDC: 35 mA · +12 VDC: 35 mA
NGX (PCI express base)	+ 3.3 VDC: 1.3 A
NGX (PCI express 24 channel)	+ 3.3 VDC: 2.0 A

#### 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

NGX800	910.0314.001
NGX1600	910.0314.002
NGX2400	910.0314.003
MX80	910.0315.001
NGX800-EH	910.0700.001
NGX1600-EH	910.0700.002
NGX2400-EH	910.0700.003
MX80A	910.1315.001

### 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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