

SMARTWORKS™ NGX SERIES

CALL RECORDING FOR PROPRIETARY PBXs AND BRI

Standard Features for SmartWORKS™ Family of Call Recording Products

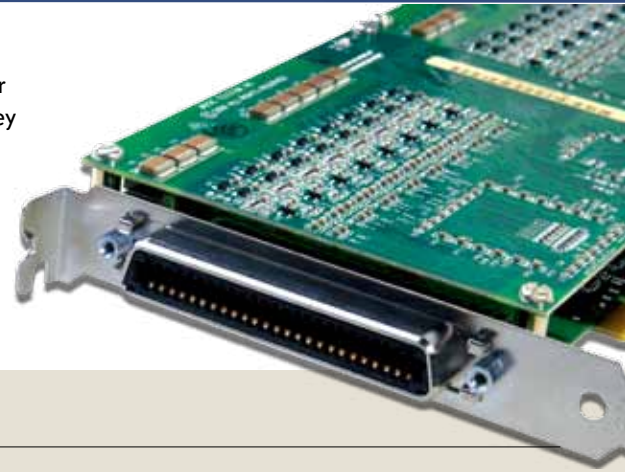
The SmartWORKS™ API provides a common interface that controls the following call recording features:

- 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
- Call Progress Monitoring (CPM)
- Full-duplex Channels
- Media Streaming
- Live Monitoring
- 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™ NGX is an all-in-one resource for logging behind a PBX or before a PBX on BRI. 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.



Key Features and Benefits

Multiple PBX support

A single board interfaces with a majority of industry leading PBXs and BRI to simplify the design of global call recording applications.

Firmware Upgraded

A simple firmware upgrade allows the NGX to adapt to different PBX environments.

Wide Spectrum of Trigger Events

Initiate and terminate recordings based on voice activity, raw D-channel, or Call Progress Monitoring (CPM) events.

Summation

Monitors up to 24 channels in real-time with on-board audio jack resources.

CODEC Support

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

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.

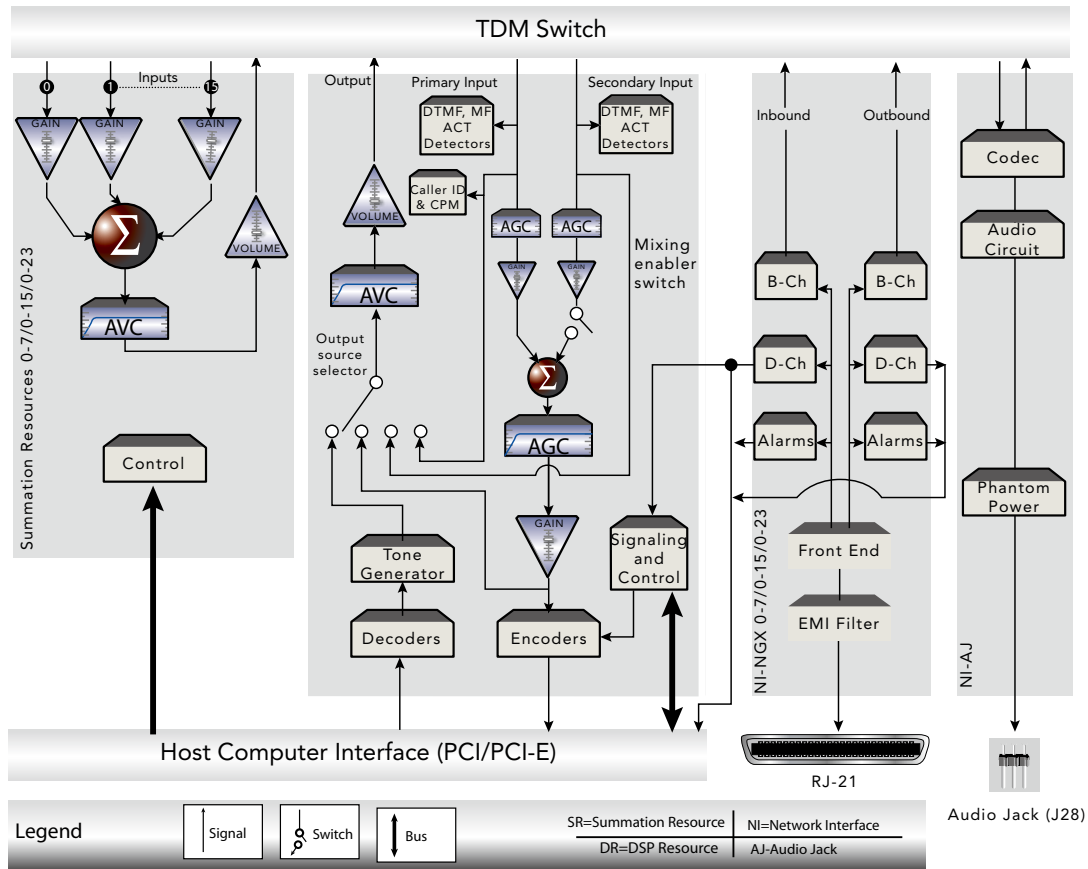
Extensive PBX Support

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

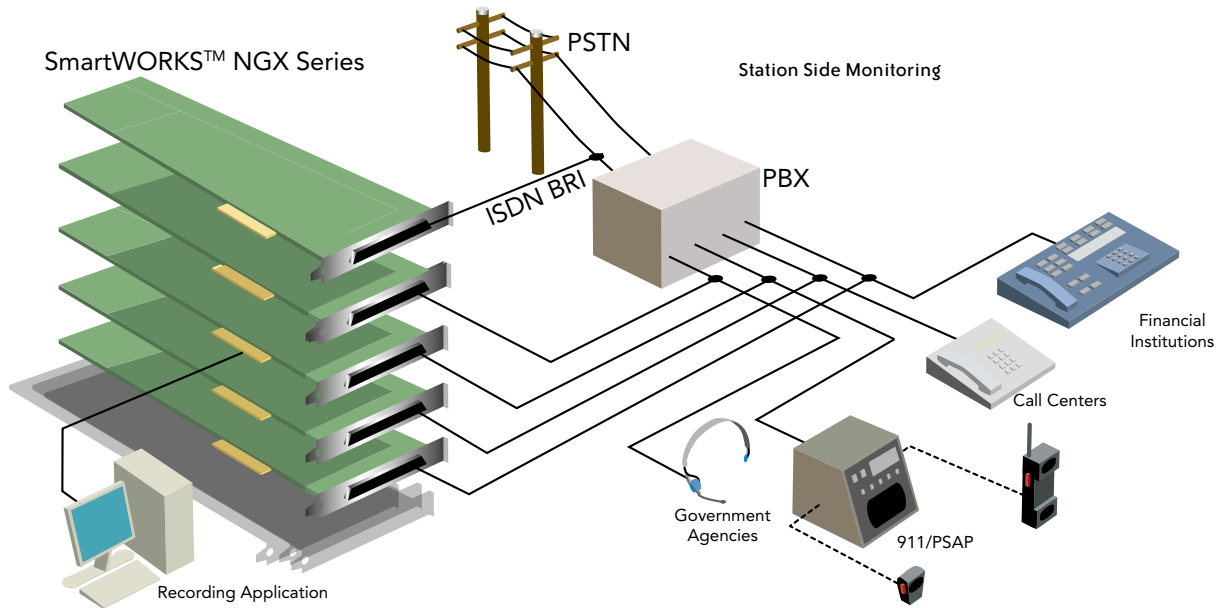
Built in Performance Monitoring

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.

NGX Logical Card Model



NGX Application Model



PRODUCT SPECIFICATIONS · SMARTWORKS™ NGX

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), Widnows7 (32-bit/64-bit), Windows8 Server (Call for variant details)

TECHNICAL SPECIFICATIONS

Max boards per system:.....Any combination up to 512 ports
Max ports per system:Up to 384
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

TAP INTERFACE

Insertion loss:<1dB
Isolation:Galvanic 500VDC +/-10%,
100VRMS 1 sec
Impedance:Soft-Switchable 1KOhms/100Ohms
External connector:RJ-21X 25 Pair female

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

ANALOG JACK

Audio Connector:3-pin 0.1" ctr header
Output impedance:300Ohms
Input impedance:33KOhms
Return loss:>25dB
Mic bias:+5VDC @ 4.7KOhms
Input gain:+9dB
Output gain:2.6dBm @ 300Ohms
Full scale input:370 mVRMS
Full scale output:1.5 VRMS open circuit

PBX INTERFACE

PBX Support:Software Configurable
Alcatel, Avaya, Bosch, Cisco, eON, Ericsson, Fujitsu, Harris, LG, Mitel, Nakayo,
NEC, Nortel, Panasonic, Philips, Rockwell, Samsung, Siemens, Tadiran, Telrad,
Toshiba, etc. (Contact for detail)

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

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

U.S.A

Somerset, NJ · 08873
T: +1-732-469-0880

ASIA

Shanghai, China
Tel +86-21-5358-0108

www.ai-logix.com.cn

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

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 AVAILABLE

NGX800/NGX800-eh:	8 ports
NGX1600/NGX1600-eh:	16 ports
NGX2400/NGX2400-eh:	24 ports
MX80/MX80A:	8 ports daughtercard