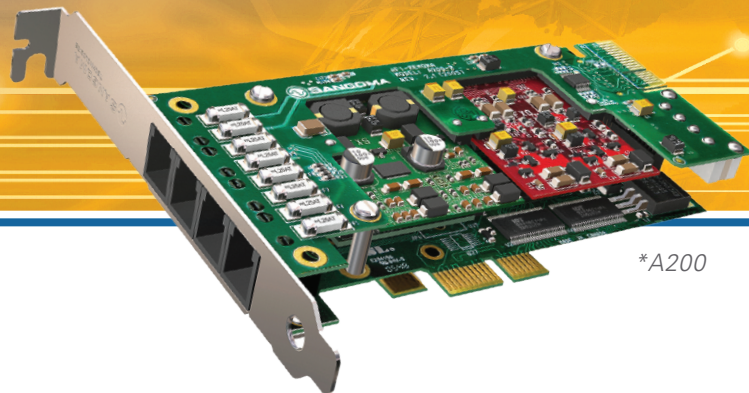


# Analog Telephony Cards



\*A200

## The Highest Quality Analog Telephony Interface Cards

For many SMBs and SOHO businesses, analog telephone lines are still their primary method of accessing the PSTN. For over three decades, Sangoma has been providing the highest quality analog telephony cards for FreePBX, PBXact UC, Asterisk, FreeSWITCH and many other proprietary phone systems to connect to the PSTN.

Sangoma telephony cards are compatible with virtually all Linux and Windows environments as well as standard servers. Included in thousands of worldwide projects, trust Sangoma analog cards for dependability, flexibility and interoperability. With lifetime warranty, you can't go wrong!

### Use Cases

- » Channel banks
- » Small Office Home Office (SOHO) applications
- » SMB applications
- » Analog trunks
- » Loopstart / Kewlstart applications

Our analog cards offer optional hardware telco grade echo cancellation to help provide superior echo cancellation and help eliminate the load that software echo cancellation has on the PBX.

Like all the cards in the award-winning Sangoma AFT series product line our analog cards provide crash-proof, field upgradable firmware, error-free faxing and click-free audio on analog-digital links.

**"Sangoma cards are guaranteed to work with FreePBX and PBXact UC systems with full plug&play support from the web GUI."**

### Quick Facts

- » 2-24 Ports of FXO / FXS (Scalable)
- » Optional Telco Grade Echo Cancellation
- » Onboard Diagnostic & Debugging Toolkit
- » Compatible with Most Motherboard, Linux & Windows Operating Systems
- » Plug&Play with PBXact UC & FreePBX
- » A200 & A400: Lifetime Warranty on Parts & Labor
- » B600: 5-Year Warranty on Parts & Labor

### ANALOG CARDS

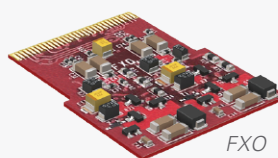
#### \*A200 & A400

Our A200 and A400 analog cards are scalable from 2-24 ports in a 2U form factor, per interface slot on the server. Simply add a Remora daughterboard to the base card to expand to up to 24 channels.

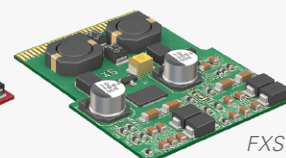


A400

Modular design lets you choose between the interchangeable FXS or FXO modules to create your channel requirements.



FXO



FXS

#### FXO

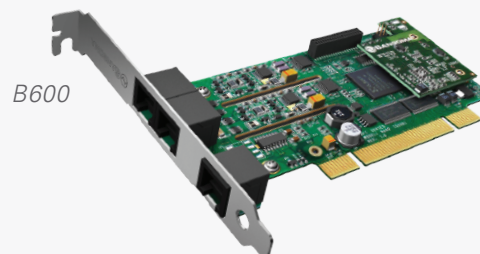
- » Each FXO module supports 2 analog lines
- » Used to connect analog PSTN telco lines to your PBX

#### FXS

- » Each FXS module supports 2 analog lines
- » Used when connecting analog telephones, fax machines or other devices that require ringing voltage

#### B600

For cost-conscious customers, our fixed density B600 analog card offers the same premium quality as our scalable cards, for smaller-budget installations.



B600

The B600 offers 4 FXO ports and 1 FXS Port on a single interface. Connect your PBX to 4 POTS lines and 1 internal device, such as a fax machine, without configuring FXO/FXS modules.

## TECHNICAL SPECIFICATIONS

### Interfaces

#### Telephony Interfaces:

- » A200 & A400
  - › 2-24 ports of FXO/FXS (Scalable)
- » A200
  - › Up to 4 ports on base card
- » A400
  - › Up to 12 ports per base card
- » B600
  - › 4 port FXO & 1 port FXS (Fixed density)

#### PCI Interfaces:

- » PCI or PCI Express
- » Fully PCI 2.2 compliant, compatible with all commercially available motherboards, and shares PCI interrupts
- » Autosense compatibility with 5 V and 3.3 V PCI busses
- » Single synchronous PCI interface for all ports
- » 32 bit bus master DMA data exchanges across PCI interface at 132 Mbytes/sec for minimum host processor intervention

### Features

#### PBX Support:

- » FreePBX, PBXact UC, Asterisk, FreeSWITCH...etc.

#### Operating System Support:

- » Windows 2003, Windows XP, Windows Server 2008, Windows Vista, Windows 7
- » Linux (All versions, releases and distributions from 1.0 up)

#### Server and Motherboard Support:

- » Compatible with most commercially available servers and motherboards

#### DSP Echo Canceller \*Optional:

- » G.168-2002 echo cancellation in the hardware
- » 1024 taps/128 ms tail per channel on all channel densities
- » DTMF decoding and tone recognition
- » Voice quality enhancement: music protection, acoustic echo control and adaptive noise reduction
- » No CPU load as a result of echo cancellation
- » Does not increase the physical size of the card, and no additional slot is required

#### Diagnostic Tools:

- » WANPIPEMON
- » SNMP
- » System logs

#### Wiring Connections \*Cables Included:

- » A200 & B600
  - › 4-pin RJ11/4 narrow jacks
  - › 4x 2m cables terminating in a narrow RJ11/4 plug at one end and a telephone-standard RJ11/6 plug at the other
- » A400
  - › DB25 connection to an included standard 12-line
  - › Color-coded telephone cable that is ready for hardwiring into a punch block at the PSTN connection

### Hardware

#### Certification:

- |                       |                       |
|-----------------------|-----------------------|
| » A200                | » A400                |
| › FCC Part 15 Class A | › FCC Part 15 Class A |
| › FCC Part 68         | › FCC Part 68         |
| › EN 55022 Class A    | › CISPR 22            |
| › ISO 9002            | › EN 55022 Class A    |
| » B600                | › CIPSR 24            |
| › FCC Part 15 Class A | › AFIC-S016           |
| › EN 55022/24 Class A | › IEC 60950           |
| › ISO 9002            | › ISO 9002            |

#### Environmental:

- » Temperature range: 0 – 50 °C

#### Dimensions:

- » A200
  - › 2U form factor
  - › 120mm x 55mm for use in restricted chassis
- » A400
  - › 2U form factor
  - › 290mm x 55mm for use in 2U chassis
- » B600
  - › 2U form factor
  - › 140mm x 55mm for use in restricted chassis

#### Mounting:

- » Includes both standard and short half-height compatible mounting clips for installation in 2U rack-mount servers
- » Compatible with all commercially available motherboards

#### Power Supply:

- » A200
  - › PCI: 3.75 W (0.75 A @ 5 V) + 4.2 W (0.35 A @ 12 V) per FXS module
  - › PCI Express: 2.64 W (0.8 A @ 3.3 V) + 4.2 W (0.35 A @ 12 V) per FXS module
- » A400
  - › 800 mA peak, operational 300 mA max at +3.3 V or 5 V
- » B600
  - › 3.6 W (0.3 A @ 12 V) and 1.65 W (0.5 A @ 3.3 V)