# **Hybrid Telephony Cards**

\*B601 Flex PRI

# Mix of BRI, E1/T1, FXS & FXO Support on a Single Card, Providing Maximum Flexibility

In the ongoing battle to provide maximum flexibility at reasonable prices, Sangoma introduced the world's first set of hybrid voice cards for the PBX market.

The B601 Flex PRI card offers up to 34 simultaneous PSTN calls and fax machine connectivity, the award winning B601 is optimized for voice and data applications for smaller budget applications, while guaranteeing unmatched quality and reliability. There are no modules or jumpers to configure, everything is onboard and ready to go.

The B700 Flex BRI lets you can connect your analog lines into your BRI system using only one interface card. This card is ideal for small or home offices, Sangoma's industry-leading hybrid FlexBRI solution will seamlessly integrate your analog fax machine with your BRI phone system, using only one PCI or PCI express slot and will fit in even the smallest 1U servers.

Both the B601 and B700 support optional on-board DSP for telco grade echo cancellation on all channels, helping to reducing CPU load at the same time.

#### **Use Cases**

- Connecting BRI or PRI networks to legaxy fax equipment using one PCI/PCIe interface
- Comprehensive connectivity options in compact platforms for PBX vendors
- » PSTN fallback in emergency scenario

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

Quick Facts

- Mixed BRI, E1/T1 & FXS / FXO on a Single PCI / PCIe Interface
- » Optional Telco Grade Echo Cancellation
- > Onboard Diagnostic & Debugging Toolkit
- Compatible with Most Motherboard, Linux & Windows Operating Systems
- Plug&Play with PBXact & FreePBX
- > 5-Year Warranty on Parts & Labor

#### HYBRID CARDS

# \*B601 Flex PRI

The B601 Flex PRI card is for cost conscious customers requiring E1/T1 connectivity as well as FXO/FXS Analog ports, the Sangoma B601 is your solution.



#### **B700 Flex BRI**

A single PCI or PCI Express slot hosts the connection for up to 4 ports of BRI and 2 ports of analog FXO or FXS and ensures common synchronous clocking for all channels with absolutely no signaling issues.



#### FXO

» Used for connecting telco PSTN lines to the PBX

#### FXS

- » Each FXS module supports 2 analog lines
- > Used for connecting devices like a fax machine or analog phone to the PBX

The color-coded BRI module offers TE or NT modes simply by inverting the module's orientation in the slot.



#### NT Mode

» Used when creating the source for BRI lines

#### **TE Mode**

» Used when connecting the port(s) to BRI telco

# **TECHNICAL SPECIFICATIONS**

#### Interfaces

#### **Telephony Interfaces:**

» B601

- > 1 E1/T1 ports
- » T1
- > Euro-ISDN
- > NI1/NI2 > AT&T 5ESS
- > DMS100
- > ISO QSIG

- > CAS R2MFC

# **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, 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

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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:

#### » B601

- > E1/T1 port: Standard pinouts on an RJ45 jack
- > FXO/FXS port: 4-pin RJ11/4 narrow jacks
- > FXO/FXS port: 4x 2m cables terminating in a narrow RJ11/4 plug at one end and a telephone-standard RJ11/6 plug at the other
- » B700
  - > BRI port: One S/T BRI module has two S/T four wire interfaces
  - > BRI port: 2m 8-pin RJ45 port splitter cables included
  - > FXO/FXS port: 4-pin RJ11/4 narrow jacks
  - > FXO/FXS port: 4x 2m cables terminating in a narrow RJ11/4 plug at one end and a telephone-standard RJ11/6 plug at the other

## Hardware

#### **Certification:**

- » B601
  - > FCC Part 15 Class A
  - > EN 55022/24 Class A
- » B700
  - > FCC Part 15 Class A
  - > FCC Part 68
  - > CE
  - > TBR 1

#### **Environmental:**

» Temperature range: 0 – 50 °C

#### **Dimensions:**

- » B601
  - > 2U form factor
  - > 140mm x 55mm for use in restricted chassis
- » B700
  - > 2U form factor
  - > 187mm 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:**

- » B601
  - > PCI: 7.5 W (1.5 A @ 5 V)
  - > PCI Express: 5.5 W (1.67 A @ 3.3 V)
- » B700
  - > 800mA peak, operational 300mA max at +3.3V or 5V



Due to ongoing improvements and revision, Sangoma reserves the right to make changes without notice.

- » B700 > 4 BRI ports
- > 4 FXO & 1 FXS port(s) > 2 FXO or 2 FXS ports
  - » E1

  - > ISO QSIG
  - > VN4

# > CAS (RBS)