



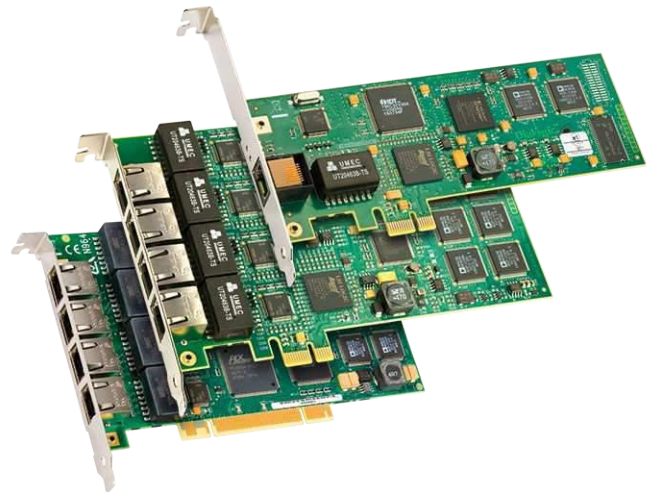
Sangoma Diva BRI

Media boards with
ISDN Basic Rate
Interface ports

[| Datasheet](#)

The Diva BRI offer voice, speech, conferencing, VoIP, modem and fax features, and can serve as a base for many communication applications. They are available in Low Profile or Half Size form factors and can be seamlessly combined with other Diva Media Boards — analog, E1/T1, ISDN PRI, and VoIP. The Diva 4BRI-8 PCI board shares the same features with its PCI Express version, so that migration from PCI Server to PCI Express hardware is easy and using PCI/PCIe versions in the same server is possible. The Diva BRI support the same set of interfaces as other Diva Media Boards: the three Diva APIs as well as CAPI, COM port, WAN Miniport and TTY. Thus applications written for another Diva Media Board will normally work without modification with Diva BRI.

The Diva UM-BRI-2 and UM-4BRI-8 support fax transmissions on half (50%) of their available channels. The feature-set of the Diva UM series has been designed to meet the needs of typical Unified Messaging applications. The Diva BRI-2 and 4BRI-8 boards support V.34 fax transmissions on all (100%) available channels. The Diva BRI-2 and 4BRI-8 boards are usually referred to as part of the Universal series.



✓ Onboard CPU with Large RAM & Powerful FPGA Chip

- For fast data streaming between the host CPU, the DSPs, the phone line, and the other active components onboard
- Remove performance bottlenecks by offloading key real-time tasks that would ordinarily place an excessive burden on the host server, allowing Quality of Service (e.g. voice quality and connection speed) to be more consistent

✓ One Powerful DSP Dedicated to Each Channel

- Real-time processing of complex operations (such as V.90 data modem, V.34 fax receiver and transmitter, voice compression, or echo cancellation) without reducing overall system performance, which lowers implementation costs

✓ Sophisticated HW Design; Plug-and-play Standards

- Operates with low power consumption
- Permits easy installation and operation

✓ Uses Supplementary Services, Signaling Protocols, Multinational ISDN Protocols

- Allows compatibility with major PBXs and can make a system based on Sangoma Diva technology ready for worldwide use

✓ Voice Packetization

- Real-time RTP, adaptive jitter buffer, voice compression (G.726, GSM), and Comfort Noise Generation (CNG)
- Permits legacy voice, speech, and conferencing applications to be used with VoIP clients and IP phones

✓ Up to 8 Diva Media Boards Operate in a Single Server

- Easy scalability and flexibility to address an organization's communications needs in changing environments, such as VoIP
- Maximizes the number of boards in the system

Technical Specifications

Quick Reference

Voice & Conferencing Resources

- 2 or 8

Fax Resources

- 2 or 8 (Universal series) and 1 or 4 (UM series)

Maximum Boards Per System

- 8 (tested by Sangoma); more than 8 are possible (application and server dependent)

CSP

- Yes

Form Factor

- Low Profile: 1-port PCIe; Half Size: 4-port PCI/PCIe

Resource Bus

- PCI rev 2.2 33 MHz or PCI Express 1.0a x1 lane (3.3/12 V)

Connection

- 1 or 4 RJ-45 connectors

Network Interface

- ISDN BRI (Basic Rate Interface) in TE and NT Mode

Signaling

- ETSI, NI-1, 4ESS, 5ESS, and all major ISDN protocols; QSIG; and more

Supported Operating Systems

- Linux, Windows: Details at <https://wiki.sangoma.com/display/DVC/Sangoma+Voice+Cards>

Volts

- PCI: 5; PCI Express: 3.3 and 12

Required Accessories

- None

Hardware

- 32-bit RISC CPU, 100 MHz, 131 MIPS
- 2 or 8 DSPs (32.76 MHz and 65 MIPS)
- Onboard SDRAM Memory: 16MB (4-port, PCI),

64MB (1-/4-port PCIe)

- Telephony interface:
 - 1 x RJ-45 (1-port), RJ-45/RJ-45 cable supplied
 - 4 x RJ-45 (4-port), RJ-45/RJ-45 cables supplied

- Physical dimensions:
 - 1-port PCIe: 167.65 mm x 64.41 mm (PCB)
 - 1-port PCIe: 181.36 mm x 80.06 mm (with Low Profile bracket)
 - 1-port PCIe: 180.96 mm x 120.88 mm (with standard bracket)
 - 4-port PCI/PCIe: 174.63 mm x 106.86 mm (PCB)
 - 4-port PCI/PCIe: 187.84 mm x 126.37 mm (with standard bracket)
- High-impedance mode for passive monitoring
- I/O addresses, memory and interrupt allocated automatically
- Plug-and-play interface
- PCI: PCI 2.2, 33 MHz, 32 bit (also supports 64 bit dual address cycle DMA), 5 V supply required, 3.3 V, or 5 V universal signaling, supported in backwards compatible PCI-X slots
- Production quality: ISO 9002

Power Consumption and Environmental

Power Consumption (Typical)

- 1-port PCIe: 0.27A @ +3.3 V and 0.17A @ 12 V
- 4-port PCI: 0.58A @ +5 V
- 4-port PCIe: 0.42A @ +3.3 V and 0.19A @ 12 V

Operating Temperature

- 10°C to +50°C

Storage Temperature

- 0°C to +70°C

Maximum Tolerance in Voltage Fluctuation

- According to the respective PCI or PCI Express specification Sangoma Diva System Release Software and Sangoma Diva SDK Software

Sangoma Diva System Release Software and Sangoma Diva SDK Software

Supported Operating Systems

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M-adapter Feature (Sangoma Patented Technology)

- Combined Virtual Adapter, Internal Call Transfer, Explicit Call Transfer Emulation

SNMP support

- Windows: v2c
- Linux: Net-SNMP v1, v2c and v3

Application Interfaces (Provided by Sangoma Diva System Release Software and Sangoma Diva SDK)

- Microsoft: Diva API, Diva API for .NET, Diva Component API (VB.NET), COM Port, WAN Miniport, CAPI 2.0, extended CAPI, VoIP (SIP/RTP)
- Linux: Diva API, TTY, CAPI 2.0, extended CAPI, VoIP (SIP/RTP)

Features — Signaling

- DSS1 (Euro-ISDN), NI-1 (North America National ISDN 1), 5ESS (North America), 1TR6 (Germany), INS Net 64 (Japan), VN3 (France), CT1 (Belgium), QSIG
- Call progress analysis:
 - Busy tone detection
 - Ring back tone detection
 - Special Information Tone (SIT) detection
 - Fax/modem detection
 - Dial tone detection
- ISDN supplementary services:
 - Number identification services (CLIP, CLIR, COLP, COLR, KEY, MSN, DDI, SUB)
 - Call offering services (TP, CFU, CFB, CFNR)
 - Call completion services (CW, HOLD, ECT)
 - Charging services (AoC)
 - Three-party conference
 - Large conference

Features — Media Processing

- Voice and speech:
 - G.711 coding (A-law, μ -law selectable)
 - DTMF detection, generation, clamping & filtering

- Generic tone detection and generation
- Pulse tone detection
- Full-duplex voice, barge-in
- Voice Activity Detection (VAD)
- Silence detection
- Human talker detection
- Recording Automatic Gain Control (AGC)
- Pitch control
- Audio tap
- G.168 echo cancellation, up to 128 ms tail length
- ⦿ Voice over IP (VoIP):
 - G.711 voice coder (64 kbps, μ -law, A-law)
 - G.726 voice coder (32 kbps)
 - G.729 voice coder (VoIP licenses required)
 - GSM voice coder (13 kbps)
 - Adaptive jitter buffer
 - Voice Activity Detection (VAD)
 - Comfort Noise Generation (CNG)
 - Real-time Transport Protocol (RTP) framing
- G.168 echo cancellation, up to 128 ms tail length
- ⦿ Switching and conferencing:
 - Onboard and cross-board switching and (large) conferencing via line interconnect (call tromboning)
 - Automatic Gain Control (AGC)
- ⦿ Support for Fax Class 1 and 2
- ⦿ Support for Fax Group 3, T.30:
 - V.17, V.29, V.27ter, V.21, V.34 modulation
 - Fax polling/ fax on demand
 - Up to 33.6 kbps with each channel (send & receive)
 - Page formats: ISO A4, B4, A3
 - Fax compression MH, MR, MMR
 - Error Correction Mode (ECM)
 - Standard, fine, super-fine and ultra-fine resolution
 - Color fax (JPEG-format)
- ⦿ Data modem (Remote Access, POS and other Low Bit Rate (LBR) applications):
 - V.21, V.22, V.22bis, Bell 103, Bell 212A, V.32, V.32bis, V.34, V.42, V.42bis, V.90, MNP4, MNP5, V.110, V.120
- Modem with extension: V.18, V.21, Bell 103, V.23, EDT, Baudot45/47/50 incl. DTMF, V.42, V.42bis
- B-channel protocols: Transparent HDLC, Transparent Voice, Synchronous PPP and MLPPP, X.75 (LAPB), X.75/V.42bis, LAPD, T.90NL, T.70NL, X.25, X.31, Rate adaption (56 kbps), PIAFS 1.0 / 2.0, SDLC

Approvals, Compliance and Warranty

Country-specific Safety and Telecom Approvals

- ⦿ <https://portal.sangoma.com/>

Warranty Information

- ⦿ <https://www.sangoma.com/warranties>

Ordering Information

- ⦿ Please see the Models tab for this product