

# Dialogic® Blue™ Telephony Boards

Preliminary Datasheet

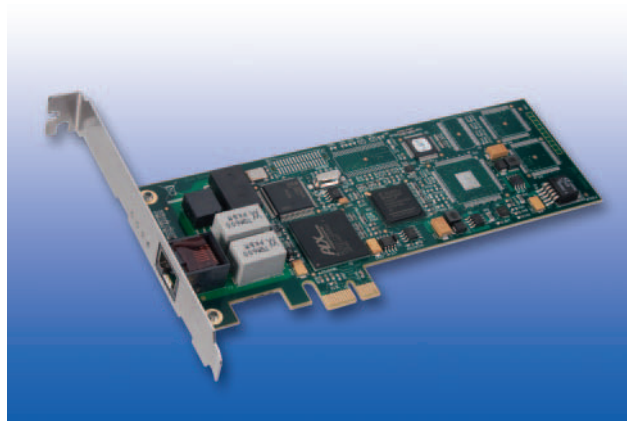
One to Eight Span Telephony Boards for the Open Source Market

## This datasheet discusses the following products:

- Dialogic® Blue™ OneSpan-24/30-S-LP Telephony Board
- Dialogic® Blue™ OneSpan-24/30-H-HL Telephony Board
- Dialogic® Blue™ TwoSpan-48/60-H-HL Telephony Board
- Dialogic® Blue™ FourSpan-96/120-H-HL Telephony Board
- Dialogic® Blue™ EightSpan-192/240-H-HL Telephony Board

Dialogic® Blue™ Telephony Boards are efficient host-based call-processing boards for the open source market, and they scale from one to eight E1/T1 ports. Their main features are call transfer emulation, line interconnect, G.711 support, Automatic Gain Control (AGC), and echo cancellation.

The entry-level offering is a low-profile one-span telephony board with software echo cancellation. The other Dialogic Blue Telephony Boards in the series have hardware echo cancellation and are available in one-, two-, four-, and eight-port versions with a half-length form factor. The entry-level board is suitable for installations of up to 2 ports, while the other boards scale to eight or more spans per system.



## Features

**Supports several APIs**

**Small PCIe form factors**

**Supports most of the signaling stacks in use today**

**Feature set well suited for use with the Asterisk telephony server**

**Software configurable**

**Compatible with Dialogic® Diva® Media Boards**

## Benefits

Can be used in a variety of environments

Uses space efficiently

Provides compatibility with major PBXs and phone lines worldwide

Brings Dialogic® technology to the Asterisk market

Easy to install and operate

Facilitates upgrade to a more powerful media board for increased scalability or extended feature set

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Because Dialogic Blue Telephony Boards support Linux and most of the features required for communications applications, they can be used in many Asterisk environments. Since they support many standard APIs, Dialogic Blue Telephony Boards are very useful when developing new applications.

## Choosing a Host Processor

For most operations, Dialogic Blue Telephony Boards rely on the host CPU to provide computing power for the functionality that an application requires. For this reason, the host CPU must be carefully selected to provide an appropriate feature set and system load capabilities. A system with 3 MB L3 cache and 2.26 GHz processor speed and 4 GB of DDR3 memory, for example, should be sufficient for smaller applications. Higher density applications may require faster systems.

Generally Dialogic Blue Telephony Boards are suitable for applications such as IVR systems, mid-density conferencing servers, monitoring applications, and other telephony applications that use a moderate amount of host resources.

Applications such as large conferencing servers with echo cancellation can also be created with Dialogic Blue Telephony Boards, but more demanding solutions may require more powerful systems and possibly more powerful telephony boards. For help in choosing an appropriate host system and/or telephony boards for your application, contact Dialogic. [Local Dialogic contact information](#) is available online.

Great care has been taken to allow easy upgrade from Dialogic Blue Telephony Boards to Dialogic® Diva® Media Boards when increased scalability or an extended feature set is required. Information on [Diva Media Boards](#) is available on the Dialogic website.

### Technical Specifications

#### Quick Reference

|                        |   |
|------------------------|---|
| Voice resources        | 24 to 192 (T1), 30 to 240 (E1)  |
| Max. boards per system | The number of boards that may be used is not fixed, but depends on the application and server hardware performance. In general, one board is suitable for a mid-level system and two for a higher-level system. |
| CSP                    | Yes   |
| Form factor            | Low Profile (OneSpan-24/30-S-LP), Half Length (OneSpan-24/30-H-HL to EightSpan-192/240-H-HL)  |
| Resource bus           | PCIe 1.0a x1 lane (3.3/12 V)  |
| Connection             | 1 to 8 RJ-45 connectors, 8 connectors via Y-Adapter (“Dongle”)  |
| Network interface      | E1/T1 and ISDN PRI in TE and NT Mode  |
| Signaling              | ETSI, NI-1, 4ESS, 5ESS, and major ISDN protocols; QSIG; and many more   |
| Operating system       | Linux Details at <a href="http://www.dialogic.com/systemreleases">www.dialogic.com/systemreleases</a>   |
| Volts                  | 3.3 and 5   |
| Required accessories   | Shielded RJ-45/RJ-45 cables   |

#### Hardware

- FPGA for fast streaming of TDM packets
- Physical dimensions:
  - OneSpan-24/30-S-LP: 167.65 mm x 68.90 mm (PCB), 181.38 mm x 80.06 mm (with LP bracket), 180.96 mm x 120.88 mm (with standard bracket)
  - All others (Half Length): 167.65 mm x 111.15 mm (PCB), 180.96 mm x 126.31 mm (with standard bracket)
- High-impedance mode for passive monitoring
- I/O addresses, memory, and interrupt allocated automatically
- Plug-and-play interface
- Production quality: ISO 9002

#### Power Consumption and Environmental

- Power consumption:
  - OneSpan-24/30-S-LP: 0.58 A @ 3.3 V (typical), 0.04 A @ 12 V (typical)
  - OneSpan, TwoSpan, FourSpan (Half Length): 0.57 A @ 3.3 V (typical), 0.25 A @ 12 V (typical)
  - EightSpan (Half Length): 0.76 A @ 3.3 V (typical), 0.25 A @ 12 V (typical)
- Operating temperature: 10°C to 50°C
- Storage temperature: 0°C to 70°C
- Maximum tolerance in voltage fluctuation: According to the PCI Express specification

### Technical Specifications *(continued)*

#### Dialogic® Diva® System Release Software and Dialogic® Diva® SDK Software

To allow an easy upgrade from Dialogic® Blue™ Telephony Boards to Dialogic® Diva® Media Boards, which is a more powerful product line with a richer feature set, the Dialogic Blue Telephony Boards use the Dialogic® Diva® System Release and Dialogic® Diva® SDK Software. Capabilities of the Diva System Release and Diva SDK include:

- Operating system: Linux
- M-adapter feature (patent pending): Combined Virtual Adapter, Internal Call Transfer, Explicit Call Transfer Emulation
- SNMP support
  - Linux: Net-SNMP v1, v2c and v3
- Application interfaces
  - Linux: Diva API, TTY, CAPI 2.0, extended CAPI, VoIP (SIP/RTP), Asterisk support via Chan\_capi driver

#### 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

### Technical Specifications *(continued)*

#### Media Processing

Because the Blue Telephony Boards are not full DSP boards, most of the tasks required for the features listed below are executed on the host CPU. For information about the level of performance of the host CPU needed for various feature sets, contact Dialogic. [Local Dialogic contact information](#) is available online.

- Fax tone detection
- DTMF tone detection and transmission
- Collection of DTMF post-dial digits
- Host-based switching and conferencing (line Interconnect)
- Host-based cross-board switching (line Interconnect on multiple boards)
- Automatic Gain Control (AGC) for conferencing
- G.168 echo cancellation (128ms in hardware and up to 256ms, depending on host CPU performance)
- Real-time Transport Protocol/ Real-time Transport Control Protocol (RTP/RTCP)
- Comfort Noise Generation (CNG) (voice codecs only)
- Voice Activity Detection (VAD) (voice codecs only)
- Dynamic anti-jitter buffer (reduces required buffer space)
- Audio Tap
- Full-duplex voice, barge-in
- G.711 coding (a-Law and  $\mu$ -Law)
- Call transfer emulation
- Clear Channel Data (transparent), HDLC, X.75/V.42bis, ISO8208, X.25
- SS7 MTP1/MTP2
- International protocol code support (ISDN, R2, T.1 RBS, Line Side E.1)

If you require features that are not available with the Dialogic® Blue™ Telephony Boards (for example, high-density fax or high-density modem support or high voice quality), you may want to use a Dialogic® Diva® Media Board. Information about [Diva Media Boards](#) is available on the Dialogic website.

#### Safety and EMC

Canada: ICES-003 Class B, CSA 60950-1

Europe: EN60950-1, EN55022, EN55024

United States: FCC Part 15 Class B, UL60950-1

#### Telecommunications

United States: TIA-968

Canada: CS03

#### Approvals, Compliance, and Warranty

Hazardous substances: RoHS compliance information at [www.dialogic.com/rohs](http://www.dialogic.com/rohs)

Country-specific approvals: Global product approvals at [www.dialogic.com/declarations](http://www.dialogic.com/declarations)

Warranty: Warranty information at [www.dialogic.com/warranties](http://www.dialogic.com/warranties)

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## Ordering Information

| Dialogic® Blue™ Telephony Board | Order Code | Description             |
|---------------------------------|------------|-------------------------|
| OneSpan-24/30-S-LP              | 306-420    | PCI Express, with SW EC |
| OneSpan-24/30-H-HL              | 306-452    | PCI Express, with HW EC |
| TwoSpan-48/60-H-HL              | 306-453    | PCI Express, with HW EC |
| FourSpan-96/120-H-HL            | 306-454    | PCI Express, with HW EC |
| EightSpan-192/240-H-HL          | 306-455    | PCI Express, with HW EC |



[www.dialogic.com](http://www.dialogic.com)

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