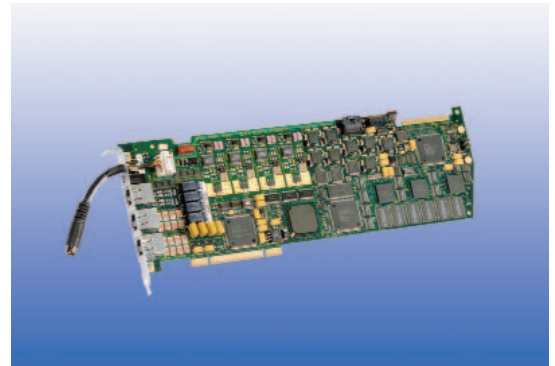


Dialogic® DI/0408-LS Switching Board

The Dialogic® DI/0408-LS Switching Board is a single-slot, richly configured trunk and station interface board designed for use in small- to mid-size, server-based Private Branch eXchanges (PBXs) and contact center systems. The DI/0408-LS is highly reliable and cost effective, offering an optimized and selectable combination of interfaces and resources for switching applications.



The full-size, single PCI slot assembly can function as a standalone solution or can be combined with other hardware via a CT Bus interface (H.100). The DI/0408-LS is a second-generation board that reduces the overall hardware to a single baseboard from the previous baseboard and daughterboard design, while increasing resource availability and options. It is designed to comply with a range of international approvals.

The DI/0408-LS supports up to twelve channels of Voice over IP (VoIP) capability. There is no on-board Ethernet NIC interface on the DI/0408-LS; therefore, both the call control and media processing are done through the host Ethernet NIC port. Call control is implemented by host-based stack technology (call control library, IPT CCLib). The media processing of the RTP/RTCP packets is performed by the IP Media Service developed for the DI/0408-LS.

The board's DM3 architecture provides access to independent, high-performance, firmware-based network protocol and media processing resources, which can be operated and integrated on compatible hardware platforms.

Features

Benefits

Four loop start trunk interfaces, dedicated call control and tone detection, Caller ID detection, and power fail transfer, plus access to sharable voice, conference, and fax resources

High degree of integration on a single board

VoIP capability allows a VoIP call to be connected to the CT Bus

Well-suited for single-board IP-to-PSTN gateway solutions

Up to eight boards supported in a single PC chassis

Enables easy and cost-effective system expansion up to 32 trunks and 64 stations

Up to twelve play and record resources, either dedicated to each trunk and station, or independent with transaction record

Well-suited for voice messaging, Interactive Voice Response (IVR), and other applications

Up to four channels of routable Continuous Speech Processing (CSP) resources; up to three conferences with up to nine simultaneous conferees maximum in single or multiple conferences; soft fax send-and-receive resources right on board

Support for CSP, conferencing, and fax on a single board provides efficiency

Direct trunk-to-station connections on four analog stations is provided on board if the server loses power or becomes unavailable

Provides high reliability by ensuring basic service availability

Technical Specifications

Number of ports	12
Maximum boards per system	8
Analog network interface	4 loop start
Station interfaces	8 analog
Voice play/record resources	12 dedicated or 8 sharable w/transaction record
Conference resources	9
Fax ports	2 (V.17 Soft Fax)
IP resources	12 dedicated or 4 sharable with voice, conferencing, and fax
CLASS signaling	Frequency Shift Keying (FSK)
Resource sharing bus	CT Bus (H.100 compliant)
Control microprocessor	ARM7 TDMI
Digital signal processors	3 Motorola 56311 DSPs @ 150 MHz, each with 150 MIPS minimum
Supported operating system	Windows®, Linux. Details at http://www.dialogic.com/systemreleases
CSP	Yes
Signaling	Loop start originate

Host Interface

Bus compatibility	Universal PCI. Complies with PCI Local Bus Specification 2.2
Bus speed	33 MHz maximum
Bus mode	32- to 16-bit conversion in target mode
Shared memory	128 KB page

Platform

Form factor	PCI long card 12.3 in. (31.24 cm) long (without edge retainer) or 13.3 in. (33.78 cm) long (with edge retainer) 0.79 in. (2 cm) wide (total envelope) 3.87 in. (9.83 cm) high (excluding edge connector)
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Power Requirements (from Host PCI Slot)

+5 VDC	1.2 A maximum
+12 VDC	10 mA maximum
-12 VDC	10 mA maximum

Environmental

Operating temperature	+32°F (0°C) to +122°F (+50°C)
Storage temperature	-4°F (-20°C) to 158°F (+70°C)
Humidity	8% to 80% non-condensing
Cooling Conditions for Maximum Operating Temperatures	
50°C	0.6 CFM per board
40°C	0.4 CFM per board
30°C	0.3 CFM per board

Trunk Interface

Trunk type	Analog loop start (EIA/TIA 464B)
Loop current range	20 mA to 120 mA
Ring detection	40 Vrms to 130 Vrms; 15.3 Hz to 68 Hz
Ringer equivalence number (REN)	0.6B
Battery reversal detection	Yes
Echo return loss	-24 dB minimum
Connector	RJ-61 (four trunk interfaces)

Technical Specifications (cont.)

Station Interface

Signaling type	Loop start originate
Open loop voltage	20.5 VDC \pm 1 VDC
Closed loop current	-25 mA \pm 5 mA
External power supply option	One required per board
Internal power supply option	Supports up to three boards
Ring frequency	20 Hz
Ring amplitude	40 Vrms @ 20 Hz minimum into 4 REN
2-wire return loss	25 dB
Maximum loop length	3500 ft. (1050 m) using 24 AWG
Connector	Two RJ-61 (four station interfaces each)

Dialogic® Analog Station Interface Usage WARNING

This Dialogic analog station interface product is designed to support analog station equipment only within the walls of a single standalone building or structure (i.e., on-premise). It is *not* designed to sustain electrical overstress from external sources and factors such as severe weather conditions. Electrical overstress can be introduced on cables extending outside the walls of a single standalone building or structure (i.e., off-premise), such as in a campus environment or other multi-building facility. Severe electrical overstress caused by misuse of this interface product with cables extending outside the walls of a single standalone building or structure could cause property damage and/or personal injury and/or death. Such misuse voids the warranty for this interface product.

Audio Input Interface

Input impedance	1000 Ohms, AC coupled
Maximum input level	600 mVpp
Connector	1/8 in. (.31 cm) mini-phone jack

Facsimile Specifications

Fax resources	2
Fax compatibility	V.17
Transmission speed	14.4 kb/s
Automatic step-down	12 kb/s, 9.6 kb/s, 7.2 kb/s, 4.8 kb/s
Transmit/receive data modes	MH, MR, MMR, all with or without ECM
Binary file transfer	Yes
Image width	A3, A4, B4
Image resolution	Normal (203 lines/in. x 98 lines/in., 203 lines/2.5 cm x 98 lines/2.5 cm) Fine (203 lines/in. x 196 lines/in., 203 lines/2.5 cm x 196 lines/2.5 cm)

Conferencing

Conference resources	9
Conference size	2 to 9 conferees
Number of conferences	Up to 3
Features	Automatic gain control Dynamic create/destroy Dynamic add/delete Echo cancellation Coach/pupil mode DTMF volume control Tone clamping Active talker notification

Technical Specifications (cont.)

Approvals and Compliance

Hazardous substances	RoHS Compliance information at http://www.dialogic.com/rohs
<i>Safety and EMC Certifications</i>	
Canada	ICES-003 Class A ULc CSA 950 File E96804
Europe**	EN60950 EN55022 EN55024
Japan	VCCI Class A
United States	FCC Part 15 Class A UL 1950 File E96804
International	IEC60950 CISPR 22 CISPR 24
<i>Telecom Approvals</i>	
United States	EBZUSA-43010-VM-T
Canada	IC:885 10992 A
European Union	DoC 01/10/2003
China	LN: 13-2296-011544
Hong Kong	ML 502054
Korea	T-B41-01-1362
Malaysia	TADJ/04A/0502/S
Singapore	PSTN2-0020-2002
Country-specific approvals	See the Product & Global Approvals list at http://www.dialogic.com/declarations/ or contact your Authorized Distributor

Reliability/Warranty

Estimated MTBF	Per Telecordia Method I PCI: 101,000 hours
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Warranty

Warranty information at <http://www.dialogic.com/warranties>

DI/0408-LS Hardware Variants

DI0408LSW	United States, Canada, International approvals, equipped for use with external MSI-Global Power Module
DI0408LSWEU	EU approvals, equipped for use with external MSI-Global Power Module

Hardware System Requirements

- PC with processor compatible to a Pentium processor with full-size PCI card slots that are 32-bit, 33 MHz, and 3.3 V or 5 V signaling compatible
- Additional system hardware requirements based on Windows® NT or Windows® 2000 operating system requirements
- Additional system hardware requirements based on application requirements

Technical Specifications (cont.)

Additional Components

MSI-Global Power Module

The MSI-Global Power Module generates -24 V and -70 V to power the DI station interface loop. One power module is required per DI board when station modules are used. The power module connects to a pre-wired power cable attached to the DI/0408-LS board.

Connectors

Input connector	Standard North American AC input
Output connector	6-pin female mini-DIN
Internal fusing	Not user replaceable

Power Requirements

Input voltage	90 VAC to 265 VAC, 47 Hz to 63 Hz
Output voltage	-24 VDC : 1.0 A -70 VDC : 300 mA
Output ripple	Less than 100 mV (peak-to-peak main)
Percent regulation	$\pm 2.5\%$ for -24 V $\pm 7.5\%$ for -70 V
Operating temperature	$+32^{\circ}\text{F}$ (0°C) to $+122^{\circ}\text{F}$ ($+50^{\circ}\text{C}$)
Dimensions	Length: 6.5 in. (16.25 cm) Width: 3.75 in. (9.375 cm) Height: 2.17 in. (2.425 cm)

Warranty

Warranty information at <http://www.dialogic.com/warranties>

Country-specific approvals See the Product & Global Approvals list at <http://www.dialogic.com/declarations/> or contact your Authorized Distributor

Safety Certifications

UL	1950 3rd edition File No: E148586
TUV	EN60950 File No: B970624072005
CE	CUL (CSA 950) File No: E160908 DENAN: PS-E MEL 080801-NC 4339

Telephone Interface Adapters and Cable Options

The DI/0408-LS Breakout Kit includes three RJ-61 cables and an RJ-11 breakout box. The RJ-61 cables connect trunk and stations loops from the DI/0408-LS boards to the RJ-11 breakout box. The RJ-11 breakout box splits the RJ-61 leads into modular RJ-11 jacks for four individual loop start trunk interface inputs and eight individual analog station interface outputs.

The RJ-61 Tri-Dongle Kit includes three RJ-61 cables equipped with a four-way RJ-11 splitter at one end. This kit can be used to break out trunks and stations from the DI/0408-LS boards to RJ-11 jacks.

Ordering Information

Product Code	Order Code	Description
DI0408LSW	884-440	8-port Analog Station, PCI
DI0408LSWEU	884-424	8-port Analog Station, PCI, Europe
DI0408BOBKIT18W	886-402	DI/0408 Breakout Kit: Breakout panel to 12 RJ-11 jacks, 3 RJ-61 cables included
DI0408CBLKITQ	885-062	RJ-61 Tri-Dongle Kit: RJ-61 cable with integrated RJ-11 (4 jack) splitter, 3 per kit

To learn more, visit our site on the World Wide Web at <http://www.dialogic.com>

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Positive Answering Machine Detection/Positive Voice Detection

These performance results were measured using specific computer systems and/or components within specific lab environments and under specific system configurations. Any difference in system hardware, software design, or configuration may affect actual performance. The results are furnished for informational use only and should not be construed as a commitment by Dialogic. Dialogic assumes no responsibility or liability for any errors or inaccuracies.

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**Approvals apply to DIO408LSWEU version only

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