Dialogic
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Dialogic® DSI SPCI2S and SPCI4 Network Interface Boards

Installation Guide

1. Product Description

The Dialogic® DSI SPCI2S and SPCI4 Network Interface Boards (referred to as "DSI SPCI2S" and "DSI SPCI4" respectively, as "boards" collectively, and as "board" interchangeably) are multi-port, SS7 signaling interface boards designed for use in telecommunications environments. The boards support configurations of up to 4 SS7 signaling links that can operate at 64, 56, and 48 kbits/s.

The boards include the following components, shown in the **Physical Layout** illustration:

End Bracket: Bracket containing external interface connectors.

Port L1 to Port L4: Up to four primary rate telecommunication interface connectors that are run-time configurable to operate as T1 or E1 ports, with selectable line code and frame format.

V.11 Serial Interface Board: An optional V.11 (V.35 compatible) serial interface board provides two synchronous serial ports.

ADDR: A switch used to set the board address.

BOOT: A switch used to set the boot mode.

LEDS: Three general-purpose red LEDs that are available to user applications.

H.100 Connector: A CT Bus interface connector that allows connection to other H.100-compatible boards. Each board can operate as a CT Bus master or CT Bus slave.

ISA Edge Retainer: Mounting bracket used in systems that accommodate both PCI and ISA boards.

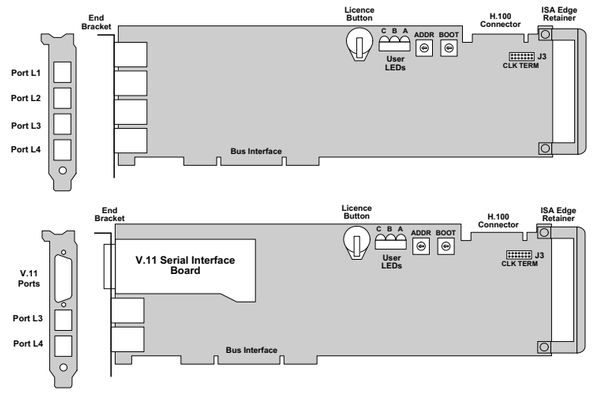
License Button Holder: A holder for a software license button; a device used to enable the software running on the board.

Bus Interface: The board is a 32-bit PCI board, but can also be installed in 64-bit PCI slots. The board is keyed as universal and can be installed in either 5 V or 3.3 V signaling environment slots.

Additional information about each board and the specifications to which it conforms is available in the following documents:

Part number: 64-0393-01

Physical Layout



Note: The illustration on top is a DSI SPCI4 board and the one on the bottom is a DSI SPCI2S board.

- The *Regulatory Notices* document, packed with each board, contains safety warnings and international and national requirements for proper installation and operation of telecommunications equipment.
- *Dialogic® DSI SPCI Network Interface Boards Programmer's Manual*, available at http://www.dialogic.com/support/helpweb/signaling, provides information about the software used with each board, including configuration parameters and command descriptions.
- The product data sheet, available at http://www.dialogic.com/products/list.asp, provides a functional description as well as information about applications and configurations, features, and technical specifications.
- The latest software, available at http://www.dialogic.com/support/helpweb/signaling.
- *ECTF H.100 Hardware Compatibility Specification*: *CT Bus,* available at http://www.ectf.org.
- *PCI Local Bus Specification Rev 2.1,* available at http://www.pcisig.com.

2. Before You Begin

Familiarize yourself with the safety aspects and other essential or national requirements in the *Regulatory Notices* document.

Protecting the Board from Damage

CAUTION: All computer boards are sensitive to electrostatic discharge ("ESD"). Handle all static-sensitive boards and components at a static-safe work area, and observe anti-static precautions at all times.

If you are not familiar with electrostatic discharge (ESD) safety precautions, visit http://www.dialogic.com/support/hwinstall to learn more.

Unpacking the Board

CAUTION: Do not remove the board from the anti-static packaging until you are ready to install it. Observe proper anti-static precautions at all times.

Inspect the packaging for any signs of damage that may have occurred during transit. In the event of damage or missing items notify both the carrier and the supplier immediately.

Unpack the DSI SPCI2S or DSI SPCI4 according to the following steps:

1. Prepare a static-safeguarded work area.
2. Carefully remove the board from the shipping carton and anti-static packaging. Handle the board by the edges and avoid touching the board's components.
3. Lay the board on the static-dissipative work surface.

Note: Place board in static-shielding bag when carrying board from station to station.

Software License Button

All software running on the boards is enabled by a removable software license button. Prior to installing a board, the correct license button must be fitted.

The license button may be supplied in a separate package and therefore may require installation.

To install the license button, locate the license button holder (see the **Physical Layout** illustration) and carefully slide the button into the holder ensuring that the contacts of the holder make good contact with the button casing.

The software enabled by the license button is indicated by a symbol engraved in the top of the button casing.

3. Configuring the Board

The boards include three hardware configurable components, the ADDR switch, BOOT switch, and H.100 clock termination links. The ADDR switch can be used to set the board address, but is normally set to 0. The BOOT switch should be set to 8. The H.100 clock termination links labeled CLK TERM should be fitted when the board is positioned at the end of the H.100 cable.

Software configurable parameters must be set, as described in the *DSI SPCI Network Interface Boards Programmer's Manual*. These include parameters relating to T1/E1 ports, pulse shape, line code, and frame format

4. Choosing a Slot

For restrictions, refer to the *DSI SS7SPCI Network Interface Boards Programmer's Manual* and the host computer documentation. Ensure that the creepage and clearance requirements are met, as specified in the *Regulatory Notices* document.

5. Installing the Board

CAUTION: These procedures assume familiarity with the general terminology associated with electronic equipment and with the safety practices and regulatory compliance required for using and modifying electronic equipment. These procedures should be performed only by qualified technical personnel.

WARNING! Unplug the equipment before performing the procedures described here. Failure to disconnect the power before you open the chassis can result in personal injury. Ensure that the system is disconnected from its power source and from all telecommunications links, networks, or modem lines whenever the chassis cover is removed. Do not operate the system with the cover removed.

CAUTION: Observe proper anti-static precautions at all times while handling and installing the board.

To install the boards, perform the following steps:

1. Turn off the computer and disconnect the power cable and network connections.
2. Remove the cover from the computer.
3. Select an empty, PCI bus slot and remove the blanking plate (if fitted) by removing the retaining

screw at the top of the plate. Keep the blanking plate for future use

CAUTION: To prevent damage to the board or computer, care should be taken to ensure correct alignment of the connector and board guide before final insertion.

4. Using the board guides in the computer, align the board with the slot and press the board firmly until fully seated.
5. Secure the board using the retaining screw at the top of the end bracket.
6. Use the CT Bus cable to connect the board to other boards that use the CT Bus. Refer to the *Regulatory Notices* document.
7. Replace the cover on the computer and reconnect the power cable and network connections.
8. Turn on the computer.

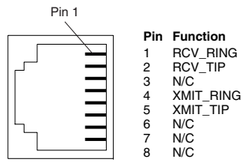
6. Connecting to External Equipment

Connecting T1 or E1 Cables

Connect T1 or E1 cables to the Port L1 to Port L4 connectors on the end bracket. Connector pinouts for the Port L1 to Port L4 connectors are shown in the following figure.

Note: Cables must be twisted pair, shielded, and grounded at both ends.

Port L1 to Port L4 Connector Pinouts



Pin	Function
1	RCV_RING
2	RCV_TIP
3	N/C
4	XMIT_RING
5	XMIT_TIP
6	N/C
7	N/C
8	N/C

Connecting a V.11 Serial Cable

Connect a shielded serial cable to the AUX Port connector on the end bracket. Both ports are presented in the same female 26 way high density D-type connector and use V.11 (V.35 compatible) electrical interface characteristics.

Note: The ferrite clamp provided must be fitted to the cable close to the board.

The serial port interface may be clocked either by an internally generated clock or by an externally applied clock. In both cases, the same clock is used for both the transmit data and the receive data.

For internal clock operation, use the transmit clock pins and make no connection to the receive clock pins on the connector. For external clock operation connect the clock source to the receive clock pins on the connector and make no connection to the transmit clock pins.

V.11 Serial Port Connector Pinouts

Pin No.	Direction	Function
1		Chassis ground
2	Output	V11 Tx inverted clock Port B
3	Output	V11 Tx clock Port B
4	Output	V11 Tx inverted data Port B
5	Output	V11 Tx true data Port B
6	Input	V11 Rx inverted clock Port B
7	Input	V11 Rx clock Port B
8	Input	V11 Rx inverted data Port B
9	Input	V11 Rx true data Port B
10		Signal ground
11 .. 18		Do not connect
19	Output	V11 Tx inverted clock Port A
20	Output	V11 Tx clock Port A
21	Output	V11 Tx inverted data Port A
22	Output	V11 Tx true data Port A
23	Input	V11 Rx inverted clock Port A
24	Input	V11 Rx clock Port A
25	Input	V11 Rx inverted data Port A
26	Input	V11 Rx true data Port A

7. After Installing the Board

After installing the DSI SPCI2S or DSI SPCI4, refer to the *DSI SPCI Network Interface Boards Programmer's Manual* for software installation and configuration instructions. Ensure that the configuration is compliant with all local requirements.

Refer to the *DSI SPCI Network Interface Boards Programmer's Manual* for software licensing instructions.

8. Removing the Board

CAUTION: Components may be hot.

When the board is removed from a system, the board may contain hot components. To avoid risk of burns, the board should only be handled by the end bracket until the components have had time to cool.

Removal of the board is essentially the reverse of the installation procedure described in Section 5, Installing the Board, as summarized in Step 1 through Step 6 below:

1. Observe anti-static precautions.
2. Disconnect the telephony cables.
3. Remove the computer's power cord.
4. Remove the computer's cover.
5. Remove and set aside the board's retaining screw.
6. Remove the board and place it in static protective packaging.

9. Warranty and Return Information

Warranty Period

For specific warranty information for this board, refer to the Warranty section of the Products page, located at this URL: http://www.dialogic.com/warranties/.

Contacting Technical Support

Dialogic provides technical support for its products through a network of value added distributors who are trained to answer technical questions on installing and configuring Dialogic® products. If you are unsure how to contact your support channel, please call Dialogic in the United States at 973-967-6600 (9am-5pm EST) and we will assist in obtaining the appropriate support channel.

Outside the United States please refer to http://www.dialogic.com/support/contact to obtain local contact information. Dialogic also provides direct support via Dialogic® Pro™ Services agreements. For more details of direct support from Dialogic please refer to: http://www.dialogic.com/support/DialogicPro.

Returning a Product

To return a board for warranty repair or any other returns, refer to the following: http://www.dialogic.com/support/hwfaults.

10. Sales Assistance

If you have a sales question, please contact your local Sales Representative or the Regional Sales Office for your area. Address, telephone and fax numbers, are available at the Dialogic website located at: http://www.dialogic.com/contact.htm.

To purchase Dialogic® products, please refer to the following website to locate the appropriate supplier: http://www.dialogic.com/purchase.htm.