



Dialogic® D/240JCT-T1-EW Board Installation Guide

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1. Product Description

The Dialogic® D/240JCT-T1-EW board (“D/240JCT-T1-EW” or “board”) is a 24-channel voice and T1 network interface board in a full-length PCI Express form factor.

The Dialogic® D/240JCT-T1-EW board includes the following components, shown in the Physical Layout illustration:

SW100: Rotary switch used when setting board ID.

Power Budgeting Jumper P3: 3-pin jumper to set how the board responds to the system power budgeting function.

- P3 jumper in pins 2-3: Board adheres to power budgeting values set by system.
- P3 jumper in pins 1-2: Board ignores power budgeting values set by system.

Factory default is P3 jumper in pins 2-3.

P700: CT Bus termination jumper.

CT Bus connector: H.100 telephony bus connector.

Power LED: Indicates power status (green).

Loopback LED: Indicates remote loopback mode (red).

SW500: Remote loopback switch.

Green LED: Signal present LED; indicates board is powered up and receiving signal from external T1 source.

Yellow LED: Indicates loss of frame synchronization at far end of external network.

Red LED: Indicates loss of frame synchronization on incoming line from external network.

RJ-48C connector: Connects to external digital network interface.

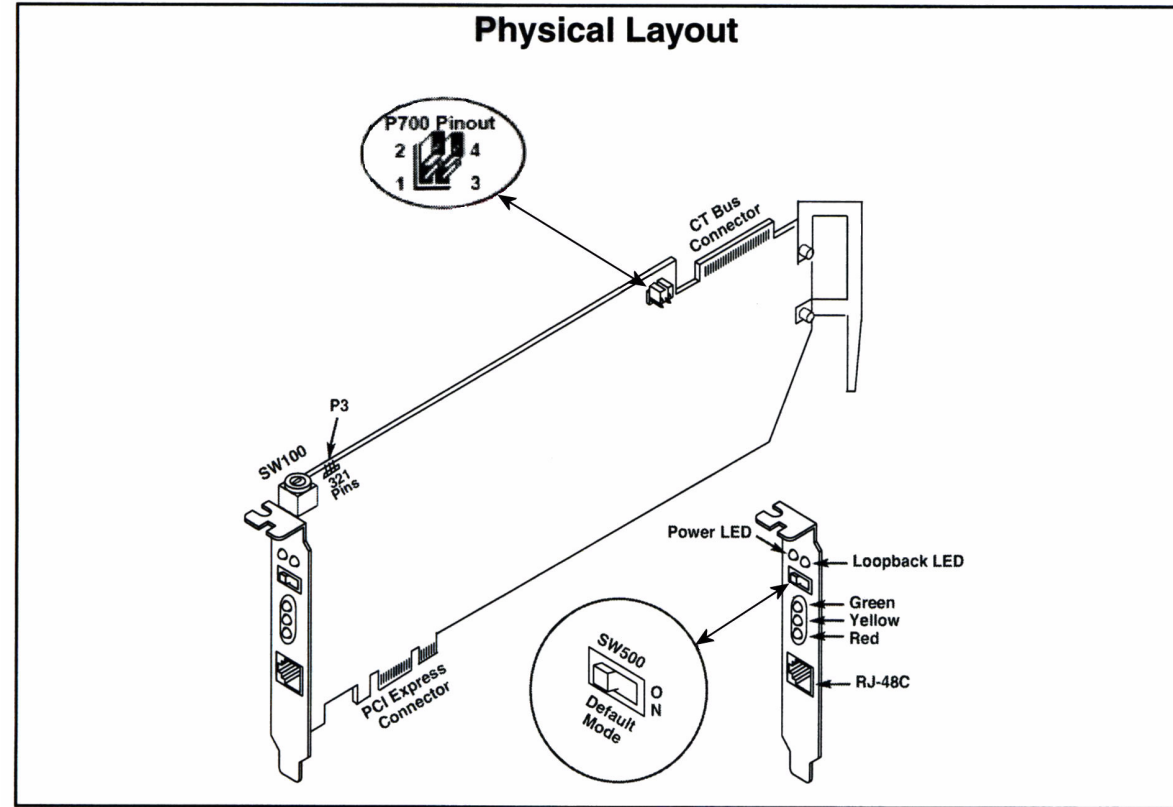
PCI Express connector: Host bus connector. Compatible with x1 or larger PCI Express Link connectors.

Additional Information

Additional information about the Dialogic® D/240JCT-T1-EW board is available from a number of sources.

The product data sheet, available at <http://www.dialogic.com/products>, provides a functional description as well as information about applications and configurations, features, and technical specifications.

Part number: 64-0248-03



Refer to the Release Guide and the online Release Update for your Dialogic® System Software release to verify that the Dialogic® D/240JCT-T1-EW board is supported in the release, and for information on any new features or issues that may relate to it.

The Regulatory Notices document that is packed with each Dialogic® D/240JCT-T1-EW board contains safety warnings and national requirements for proper operation of telecommunications equipment.

2. Before You Begin

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 ESD safety precautions, visit <http://www.dialogic.com/support/hwinstall> to learn more.

Unpacking the Board

Unpack the board 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 boards in static-shielding bags when carrying boards from station to station.

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.

3. Configuring the Board

The Dialogic® D/240JCT-T1-EW board uses Plug and Play technology to simplify installation. No user configuration is required for IRQ or memory address. However, you should review the following information to determine if any of the optional configuration items apply to your system:

- Board ID
- CT Bus termination
- Remote loopback

- Power budgeting (see Choosing a Slot section below)

Setting the Board ID

When the system is started, each Dialogic® telecom board is assigned a board instance ID number that application programs can use to identify individual boards in a multi-board system. The setting of SW100 controls the generation of the instance numbers.

Windows Systems: In a Windows system, leaving SW100 set to the 0 position (the factory default setting) on all Dialogic® telecom boards causes the system software to assign instance numbers geographically, based on the bus and slot numbers. Note that when using this method, there is no way to know what the instance numbers will be until the system is started and configured, and the instance number for any given board is likely to change when there is any change in the number or arrangement of boards in the system.

As an alternative, you may set SW100 on each board to a different position (0-9 or A-F) to explicitly assign specific ID numbers to the boards. Note that each board must be set to a different ID number.

In either case, you can read the ID numbers assigned to the boards in the Dialogic® Configuration Manager (DCM) after you start the system and invoke that tool.

Linux Systems: In a Linux system, you must explicitly specify the board ID numbers by setting SW100 on each board to a different position (0-9 or A-F). Refer to the Dialogic® Configuration Guide for Springware architecture products in your Dialogic® System Software documentation for further information about the board ID numbers.

Setting the CT Bus Termination

Note: If you are using this product by itself and not connecting it to other telephony boards via a CT Bus cable, you do not need to set the CT Bus termination jumpers.

Jumpers are used to terminate signals on the CT Bus. These settings apply to boards located at physical ends of the bus.

For CT Bus or SCbus, the signals CT_C8_A, CT_C8_B, CT_FRAME_A*, and CT_FRAME_B* are terminated using pins 3 and 4 of the P700 termination jumpers. For MVIP, C_2 and C_4* are terminated using pins 1 and 2 of the P700 termination jumpers. Bus signals are terminated when a jumper clip is installed over the indicated pins.

Note: Only the two boards at each end of the CT Bus ribbon cable must have their terminations enabled. All other boards must not have the jumper clips installed.

Setting the Remote Loopback Switch

The Dialogic® D/240JCT-T1-EW board is shipped with SW500 set for normal operation, with the switch in the off position. Setting SW500 to the ON position selects loopback mode. You can use loopback mode to verify the T1 connection after the firmware has been downloaded.

When SW500 is in the ON position, the switch overrides any board modes set by your application.

4. Choosing a Slot

The Dialogic® D/240JCT-T1-EW board is a full length x1 form factor PCI Express board that requires 25W of power. The following explanation and guidelines are provided to ensure proper configuration of the product.

Power Budgeting is a new feature, introduced in the PCI Express Specification, that provides a mechanism to enable a system to negotiate power consumption requirements for add-in devices.

Per PCI Express Card Electromechanical Specification Revision 1.0a or higher, a x1 add-in card can draw no more than 10W in a x1 slot unless the board's required power is successfully negotiated and allocated by the system (power budgeting). However, implementation of power budgeting by a vendor's system is not a compliance requirement per the PCI Express Card Electromechanical Specification Revision 1.0a or higher. Therefore, some chassis may not support this feature. Power Budgeting jumper P3 is designed to ensure proper configuration of the product.

The Dialogic® D/240JCT-T1-EW board must be installed in a slot that can be allocated 25W.

If Power Budgeting is **not** implemented by a vendor's system, the Dialogic® D/240JCT-T1-EW board **must** be plugged into a x4 or higher slot with the P3 jumper in position 1-2 (power budgeting ignored). This is allowed per PCI Express Card Electromechanical Specification Revision 1.0a or higher because a x4 or greater slot must be able to support a minimum of 25W.

If Power Budgeting is implemented by a vendor's system, the Dialogic® D/240JCT-T1-EW board **can** be plugged into a x1 slot but the P3 jumper must be in position pins 2-3 (power budgeting adhered to).

WARNING! Installing the Dialogic® D/240JCT-T1-EW board in a x1 slot with the P3 jumper in position 1-2 will void the warranty of the D/240JCT-T1-EW board.

If the Dialogic® D/240JCT-T1-EW board will be connected to other telephony boards via a CT Bus cable, you should install the boards to minimize

unused connectors on the CT Bus cable (in addition to ensuring that the power requirements are met):

- Install boards in adjacent slots whenever possible.
- If the Dialogic® D/240JCT-T1-EW board will be connected to one or more PCI boards, use the PCI Express slot(s) closest to the PCI slots.

5. Installing the Board

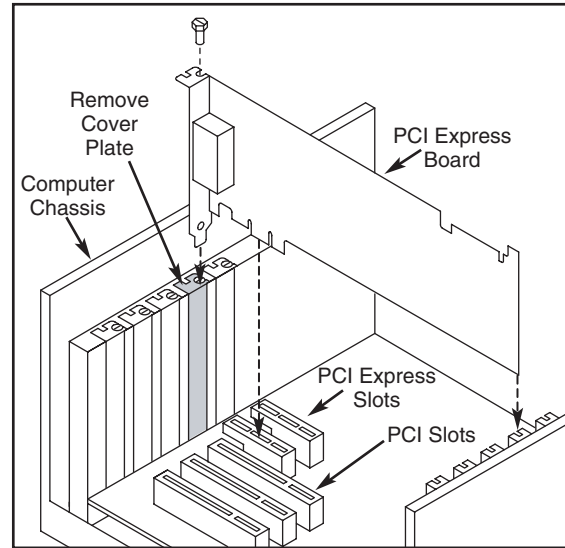
WARNING! Unplug the equipment before performing the procedures described here. Failure to disconnect the power before you open the chassis can result in personal injury. Ensure that the system is disconnected from its power source and from all telecommunications links, networks, or modem lines whenever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

CAUTION: To avoid possible damage to the board, remove power from the computer before beginning installation. Observe proper anti-static precautions at all times while handling and installing the board.

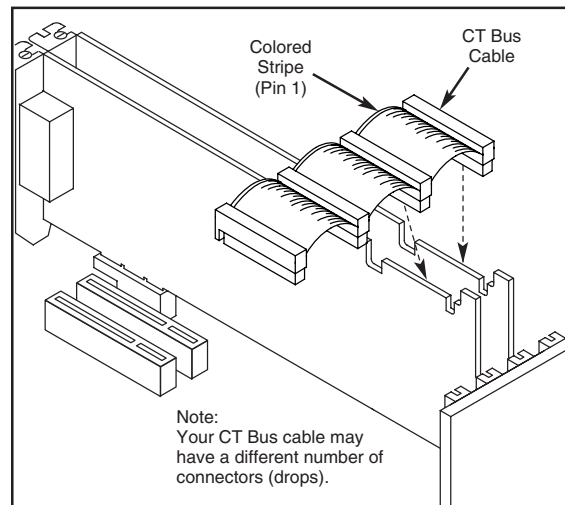
To install the Dialogic® D/240JCT-T1-EW board, perform the following steps:

1. Turn off all power to the system and disconnect the system's power cords.
2. Remove the computer's cover.
3. Choose an empty PCI Express expansion slot and remove the slot's retaining screw and access cover plate.

Note: If you are not installing the board in a full-length form-factor PCI Express slot, remove the slot retainer bracket from the end of the board before installation.
4. Insert the board's edge connector into the bus slot, and apply firm pressure to the top edge of the board until the board is fully seated in the edge connector.



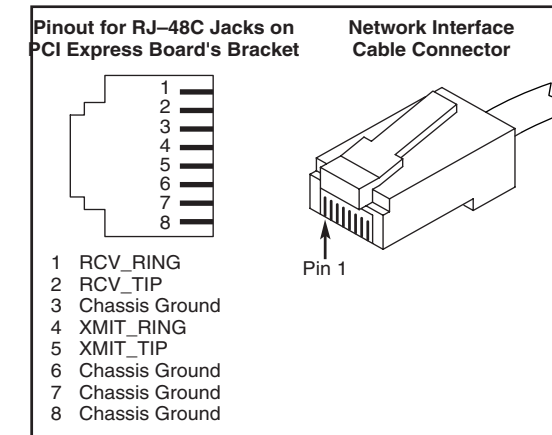
5. Reinstall the retaining screw.
6. Repeat Step 3 through Step 5 for any additional boards you are installing.
7. If applicable, connect the telephony boards together with a CT Bus cable of the appropriate size (not included). If possible, use a cable assembly that matches the number of boards in your system. If the cable has more than one unused connector, install the cable so that all the unused connectors are at one end of the cable.
8. Replace the computer's cover.
9. Reconnect the computer's power cord.



6. Connecting to External Equipment

The RJ-48C jack on the Dialogic® D/240JCT-T1-EW board's bracket supports a single T1 digital network interface. Use an appropriate cable to connect the RJ-48C jack to your CSU or other network termination equipment.

The following figure illustrates the pinout of the RJ-48C jack.



7. After Installing the Board

The Dialogic® D/240JCT-T1-EW board requires the use of a Dialogic System Software version that specifically supports it.

If this is the first Dialogic® telecom board you have installed in your system, you will need to install an appropriate version of the Dialogic® System Software and configure the software for the specific board(s) you are using. Refer to the installation and configuration documentation that accompanies the release for instructions.

If you are installing the Dialogic® D/240JCT-T1-EW board in a system that already has the Dialogic® System Software installed, you should verify that your installed software version supports the board. If not, you will need to obtain and install a Service Update that does support the Dialogic® D/240JCT-T1-EW board before configuring the system for the newly installed board(s).

When configuring the system for the Dialogic® D/240JCT-T1-EW board, use the same menu selections and configuration settings that are documented for the PCI version of the D/240JCT-T1.

Please refer to the Release Update document for your release version for up-to-date information about support for PCI Express boards and any known issues relating to their use.

8. Removing the Board

Removal of the Dialogic® D/240JCT-T1-EW board is essentially the reverse of the installation procedure:

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

9. 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>.

10. Returning a Product

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

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