

---

## Setting Up the FaxPress Premier Digital

**IMPORTANT!** Before beginning the steps described in this section, make sure you've carefully reviewed the **Required Setup Procedures on page 2-3**.

The FaxPress Premier Digital can support either T1 CAS E&M or T1 ISDN (PRI-ISDN.) The FaxPress Premier Digital's default settings support T1 with Signaling Protocol CAS E&M, Line Coding B8ZS, and Framing ESF. The Premier's default settings **must** be modified to support other T1 configurations, such as ISDN. If your T1 line configuration does not match the Premier's default settings, first review the requirements below, then see **T1 Line Type and Configuration Parameters on page 2-10**, **Configuring the FaxPress Premier Digital for a T1 with ISDN PRI Protocol on page 2-11**, **Configuring the FaxPress Premier's Fax Board for ISDN BRI Lines on page 2-14** and **Configuring the FaxPress Premier's Board Settings for your T1 on page 2-11** for details.

### FaxPress Premier Digital Requirements

The FaxPress Premier Digital requires:

- A CSU, CSU/DSU, or PBX
- that you know your T1 line type and configuration parameters in case the Premier's default settings require modifying.
- DNIS string information passed by your T1 line
- PBX programming, if necessary.
- An eight-conductor RJ-45 data cable provided by your T1 carrier.

Details regarding each of these requirements are provided in the following sections.

#### CSU Requirements

An FCC part 68 appropriately certified Channel Service Unit (CSU) or Channel Service Unit/Data Service Unit (CSU/DSU) or PBX must be in place before attaching FaxPress Premier Digital to the public T1 line. The FaxPress Premier Digital cannot be connected directly to the public telephone T1 network.

A CSU is highly recommended. CSUs provide line conditioning, loopback and diagnostic capabilities. The signals present on a T1 are susceptible to distortion as loop length increases and various types of interferences are encountered. The CSU reinforces these signals, keeps track of errors, and provides test modes to help resolve line issues.

Many CSUs also provide an especially useful "keep alive" feature which will keep the T1 link up even if your network interface device goes down. Your T1 line's activation is determined by customer premises equipment. That is, your carrier will turn off your T1 if the central office detects the network interface inactivity on your end. Having a CSU in place helps to avoid calls to your carrier to ask them to re-enable a T1 shutdown when equipment inactivity on your end is detected.

## DNIS String Information Requirements

To use the Premier's automatic inbound fax routing feature, DNIS string information from your T1 line is required. This includes number of DNIS digits, total length of the string including ANI digits (if any), and other characters. Contact your T1 provider for DNIS string information. You can also use the Premier's dtmf.log file diagnostic tool to determine your DNIS string information. See **Automatic Routing: PBX, DID, and DNIS Integration on page 5-23** and **Determining the Number of Mailbox ID Digits on page 5-31** for more information.

## PBX Requirements

The FaxPress Premier Digital can be integrated with a variety of digital PBX systems. The Premier Digital must receive the DNIS digits exactly as they are sent from the T1 line, with no digits added or removed by the PBX system. Your PBX may already be configured to pass only the T1 line digits, but if not, you'll need to program it to pass the T1 line's DNIS digits through to the Premier without changing them. Once the Premier is up and running, see **Automatic Routing: PBX, DID, and DNIS Integration on page 5-23** for more information.

## T1 Line Type and Configuration Parameters

T1 lines in US domestic areas are almost without exception one of two types: T1 CAS E&M and T1 ISDN (PRI-ISDN). The T1 CAS E&M has 24 fax channels; the T1 ISDN has 23 fax channels.

T1 line types, protocols, coding and framing can vary. Before continuing with the FaxPress Premier Digital setup, please determine:

- whether the Signaling Protocol is T1 CAS E&M or T1 ISDN (4ESS or 5ESS or DMS or NI2.)
- whether the Line Coding is B8ZS or AMI
- whether the Framing is ESF or D4 (most T1 ISDN requires ESF)
- what the T1 line's DNIS string configuration is – that is, how many digits the T1 line passes to the FaxPress Premier, and where in this
- what the fax number range (i.e. 555-0001 to 555-1000) will be.

The FaxPress Premier Digital's default settings support T1 with Signaling Protocol CAS E&M, Line Coding B8ZS, and Framing ESF. **The Premier's settings must be modified to support other T1 configurations, such as ISDN.** See **Configuring the FaxPress Premier Digital for a T1 with ISDN PRI Protocol on page 2-11**, **Configuring the FaxPress Premier's Board Settings for your T1 on page 2-11** and **Configuring the FaxPress Premier's Fax Board for ISDN BRI Lines on page 2-14** to modify the Premier's default settings.

## Fractional T1 Line Configuration

The FaxPress Premier Fractional T1 unit will use the **first 8** channels of the 24 channels on a T1 line. Confirm with your T1 carrier that the T1 line they're providing you has the **first 8** channels activated rather than the last 8 channels or the middle 8 channels.

---

## Configuring the FaxPress Premier Digital for a T1 with ISDN PRI Protocol

A T1 board configured to use ISDN rather than CAS protocol provides 23 fax channels. The 24th channel is used for data. Supporting a T1 with ISDN Signaling Protocol will require you to:

1. Configure the Premier's fax board to use ISDN protocol, according to the procedure described in **Configuring the FaxPress Premier's Board Settings for your T1 on page 2-11**.
2. Disable channel 24 in the Premier's Line Settings. See **Configuring the FaxPress Premier Digital on page 5-28** for details. The Premier will still display 24 channels in Faxmain, but channel 24 will be disabled.

---

**Note:** For the FaxPress Premier to make international and domestic calls at the same time, the T1 carrier's central office switch must be configured to accept calls where the CalledNumberType value is 'Unknown,' rather than 'International' or 'National.' Most T1 carriers and lines support the 'Unknown' CalledNumberType value, and use the DNIS dialstring value to determine if the outgoing call is 'International' or 'National.' Very rarely, however, some carriers will configure the central office switch on their T1 PRI ISDN (4ESS) lines to accept only 'International' or 'National' CalledNumberType values, and so will not support the 'Unknown' CalledNumberType value of the FaxPress Premier's Intel CPI/2400CT-T1 board. **When ordering T1 PRI ISDN (4ESS) lines, always make sure your carrier's central office switch will accept the FaxPress Premier board's 'Unknown' CalledNumberType value, or the FaxPress Premier will be unable to make international and domestic calls at the same time.**

---

## Configuring the FaxPress Premier's Board Settings for your T1

The FaxPress Premier Digital's default setting is T1 with Signaling Protocol CAS E&M, Line Coding B8ZS, and Framing ESF. If your T1 line configuration matches the Premier's default configuration, you won't need to change the Premier's digital board configuration.

If your T1 line configuration is different from the Premier's default configuration, however – that is, if your T1 Signaling Protocol is ISDN PRI rather than CAS E&M, or if your Line Coding is AMI rather than B8ZS, for example – you'll need to modify the FaxPress Premier's digital board configuration.

---

**Note:** Implement the following changes **very carefully**. Incorrect parameter value changes may compromise fax board function.

---

To change the Premier's default digital board configuration to match your T1 line's configuration, follow these steps:

1. Attach a mouse, keyboard, and monitor to the FaxPress Premier Digital. Although Remote Desktop can be used for configuring other aspects of the Premier system, it can't be used for this.
2. Power on the Premier Digital.

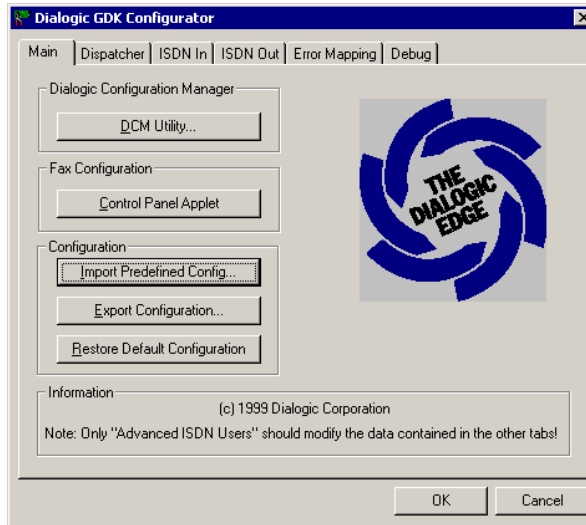
3. Log into the Premier system as **Administrator**. The default password is **castelle**. Make sure **castelle** is all lower case.
4. Open the **Services** directory. (**Start>Settings>Control Panel>Administrative Tools>Services**.)
5. Stop all **Castelle** services.
6. Stop the **GammaLink System** service.
7. Stop the **Dialogic System Service**.
8. Use **Windows Explorer** to browse to the **C:\Program Files\Dialogic\Data** directory.
9. Find the group of three **.config**, **.pcd**, and **.fcd** files that correspond to your T1 line. Start by looking in the **gdk\_T1** T1 list. If your T1 is ISDN, find the group files related to T1 ISDN, and then find the three **.config**, **.pcd**, and **.fcd** files that specifically match your T1 ISDN's configuration.
10. Select the group of group of three **.config**, **.pcd**, and **.fcd** files that apply to your T1 line and make backup copies of them.
11. Use Notepad to open the **.config** file, modify it with your T1's specific Line Coding and Framing parameters, and save it.
12. From a command prompt, change directory to **C:\Program Files\Dialogic\Bin**, and type:

```
fcdgen c:\program files\dialogic\data\modified_ config_filename.config
```

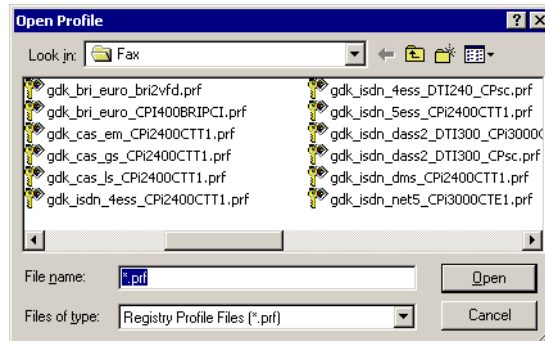
where **modified\_config\_filename.config** is the one you just modified in step 11.

13. Enter to generate a new **.fcd** file, **filename.fcd**.
14. Next, launch **Program Folders\Intel\Dialogic System Software\Configuration Manager- DCM**.
15. Right-click on **Configured Devices on computer\_name** and select **Restore Device Defaults**.
16. The **Intel Dialogic Configuration Manager** will re-scan the board and let you select the newly generated **.fcd** file,
17. Select the associated **.pcd** file and click **OK** to reload the new **.pcd** file.
18. Next, in the **Intel Dialogic Configuration Manager**, select the **GDK\_T1 0** board and click the green **Start Service** button from the menu bar. This starts the Dialogic System Service you stopped in step 7.
19. Launch **Program Folders\Intel\Dialogic System Software\Configure GDK**.
20. In the **Dialogic GDK Configurator** window, click the **Control Panel Applet** button.
21. In the **Dialogic GammaLink Fax Configuration** window, click the **Auto Detect** button.
22. Click **OK** to the warning message.
23. Verify the number of fax channels list match the number of fax channels of your FaxPress Premier.
24. Click **OK** to exit **Auto detect**.

25. Back in the **Dialogic GDK Configurator** window, click the **Import Predefined Config...** button.



26. Select the **.prf** file that specifically matches your T1 line, then click **Open**.



27. Select how many T1 trunks you're using (the default is 1 for one T1 line) and click **OK**.



28. Click **OK** to exit the **Dialogic GDK Configurator**.

29. Start the **GammaLink System Service**, start **Castelle** services.

**Note:** Very infrequently, the T1 line will not synchronize properly between the Premier and the central office. This will cause issues with sending and receiving multiple page faxes. In this case, the Premier fax board can be configured to synchronize with the connected T1 line. See **Synchronizing the Premier Fax Board with the T1 on page 25-3 in Chapter 25, Troubleshooting** for information.

---

### Configuring the FaxPress Premier's Fax Board for ISDN BRI Lines

In ISDN BRI digital line environments, any unused BRI board **must** be disabled using the FaxPress Premier's **Configuration Manager**. Leaving the board active with no cable connected could result in the FaxPress Premier trying to send fax jobs through that port, even though no cable is attached.

To disable an unused board or boards in the Configuration Manager, follow these steps:

1. Attach a mouse, keyboard, and monitor to the FaxPress Premier Digital. Although Remote Desktop can be used for configuring other aspects of the Premier system, it can't be used for this.
2. Power on the FaxPress Premier Digital.
3. Log into the FaxPress Premier system as **Administrator**. The default password is **castelle**. Make sure **castelle** is all lower case.
4. Open the **Services** directory. (**Start>Settings>Control Panel>Administrative Tools>Services**.)
5. Stop the **Castelle FaxPress Intel Fax Board Driver**, **Gammalink System Service** and **Dialogic System Service**.
6. Go to **Configuration-DCM** and disable the board or boards without a line or lines attached.
7. Run **Configure GDK** auto detect lines/channels, make sure the number of channels is correct and then exit the Configure GDK.
8. Restart the services you disabled in step 1, i.e. **Castelle FaxPress Intel Fax Board Driver**, **Gamma-link System Service** and **Dialogic System Service**.

### Connecting the FaxPress Premier Digital to your Network

The FaxPress Premier Digital requires an eight-conductor RJ-45 data cable. Use the RJ-45 cable provided by your digital line carrier.

To connect the Premier Digital to your network and digital line, follow these steps:

1. Connect the network cable to the Premier server's Ethernet port.
2. Connect the T1 or PBX line to the FaxPress Premier Digital's fax data port.
3. Plug the power cable into the FaxPress Premier server.
4. Plug the power cable into a power source.
5. To power on the Premier, see the next section, "**Powering on the FaxPress Premier Server**".

