

User's Guide

P/N 070284-003

DCS 301



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There are U.S. and foreign patents pending.

Manual Change Record

This page records the changes to this manual. The manual was originally released as version 001.

Version	Date	Description of Change
002	7/01	Updated the user's guide to support DCS 301 v1.2: added HTML page support for dcBrowser and added TCP/IP device configuration among other changes.
003	10/01	Changed illustrations in Chapter 1.



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Before You Begin

This section introduces you to standard warranty provisions, safety precautions, warnings and cautions, document formatting conventions, and sources of additional product information. A documentation roadmap is also provided to guide you in finding the appropriate information.

Warranty Information

To receive a copy of the standard warranty provision for this product, contact your local Intermec support services organization. In the U.S.A. call 1-800-755-5505, and in Canada call 1-800-668-7043. If you live outside of the U.S.A. or Canada, you can find your local Intermec support services organization on the Intermec Web site at www.intermec.com.

Safety Summary

Your safety is extremely important. Read and follow all warnings and cautions in this book before handling and operating Intermec equipment. You can be seriously injured, and equipment and data can be damaged if you do not follow the safety warnings and cautions.

Do not repair or adjust alone Do not repair or adjust energized equipment alone under any circumstances. Someone capable of providing first aid must always be present for your safety.

First aid Always obtain first aid or medical attention immediately after an injury. Never neglect an injury, no matter how slight it seems.

Resuscitation Begin resuscitation immediately if someone is injured and stops breathing. Any delay could result in death. To work on or near high voltage, you should be familiar with approved industrial first aid methods.

Energized equipment Never work on energized equipment unless authorized by a responsible authority. Energized electrical equipment is dangerous. Electrical shock from energized equipment can cause death. If you must perform authorized emergency work on energized equipment, be sure that you comply strictly with approved safety regulations.

Warnings, Cautions, and Notes

The warnings, cautions, and notes in this manual use this format.



Warning

A warning alerts you of an operating procedure, practice, condition, or statement that must be strictly observed to avoid death or serious injury to the persons working on the equipment.

Avertissement

Un avertissement vous avertit d'une procédure de fonctionnement, d'une méthode, d'un état ou d'un rapport qui doit être strictement respecté pour éviter l'occurrence de mort ou de blessures graves aux personnes manipulant l'équipement.



Caution

A caution alerts you to an operating procedure, practice, condition, or statement that must be strictly observed to prevent equipment damage or destruction, or corruption or loss of data.

Conseil

Une précaution vous avertit d'une procédure de fonctionnement, d'une méthode, d'un état ou d'un rapport qui doit être strictement respecté pour empêcher l'endommagement ou la destruction de l'équipement, ou l'altération ou la perte de données.



Note: Notes are statements that either provide extra information about a topic or contain special instructions for handling a particular condition or set of circumstances.



About This Manual

This manual contains all of the information necessary to install, configure, operate, maintain, and troubleshoot the DCS 301.

This manual was written for users who want to know more about the DCS 301. It was also written for installers, applications analysts, systems engineers, and programmers who will install, operate, program, and troubleshoot the DCS 301 in a network. A basic understanding of data communications and networks is necessary.

What You Will Find in This Manual

This table summarizes the information in each chapter of this manual:

For Information On	Refer To
How the DCS 301 works	Chapter 1, "Learning About the DCS 301." Tells you about the DCS 301 and how it fits into your network. Explains how to get help.
Installing the DCS 301	Chapter 2, "Installing and Configuring the DCS 301." Tells you how to install the DCS 301 in your data collection network.
Configuring the DCS 301	Chapter 2, "Installing and Configuring the DCS 301." Provides an overview of how to configure the DCS 301. Detailed procedures and context-sensitive field information are provided in the online help.
Running the DCS 301 in a dcBrowser or Native environment	Chapter 3, "Running Applications." Explains how to run HTML applications in the dcBrowser environment and how to run Native applications in the Native environment.
Managing the DCS 301	Chapter 4, "Troubleshooting and Managing the DCS 301." Explains how to shut down, reboot, and upgrade the DCS 301. It also explains how to backup and restore the files on the DCS 301.
Troubleshooting the DCS 301	Chapter 4, "Troubleshooting and Managing the DCS 301." Provides general troubleshooting information and an overview of the diagnostics and the Product Support Web page.
Specifications	Appendix A, "Specifications." Provides the specifications for the DCS 301.

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Terminology

You should be aware of how these terms are being used in this manual:

Term	Description
DCS 301	DCS 301 Web Gateway Server, a member of the Data Collection Server family of products.
Native gateway	The DCS 301 software that passes data between the dcBrowser client or Native TE client and a Native host (serial or Ethernet).
dcBrowser gateway	The DCS 301 software that passes data between the dcBrowser client and a Web server.
dcBrowser client	The software that runs on a data collection device that lets it communicate through the DCS 301 to a Native host or a Web server.
UDP Plus device	Any data collection device that communicates using UDP Plus, such as the 2415.
WTP device	Any data collection device that communicates using WTP, such as the 6400.
TCP/IP device	Any data collection device that communicates using TCP/IP, such as the J2020.
Trakker Antares terminal	Any terminal in the Trakker Antares family of terminals that is communicating using any protocol.
JANUS device	Any device in the JANUS family of devices that is communicating using any protocol.
TE	Terminal emulation application.
IP host	A host on the Ethernet network that communicates using the IP protocol.

Before You Begin



Format Conventions for Input From a Keyboard or Keypad

This table describes the formatting conventions for input from PC or host computer keyboards and device keypads:

Convention	Description
Special text	Shows the command as you should enter it into the device. See “Format Conventions for Commands” later in this chapter.
<i>Italic text</i>	Indicates that you must replace the parameter with a value. See “Format Conventions for Commands” later in this chapter.
Bold text	Indicates the keys you must press on a PC or host computer keyboard. For example, “press Enter ” means you press the key labeled “Enter” on the PC or host computer keyboard.
	Shows the key you must press on the device. For example, “press  ” directs you to press the key labeled “Enter” on the device keypad.
	Shows a series of device keys that you must press and release in the order shown. For example, “Press    to boot the device.”
 	Shows a series of device keys that you must press and hold in the order shown. For example, “Press   to start communications with the dcBrowser gateway.”

Format Conventions for Bar Codes

You can scan the bar codes listed in this manual to enter data or perform a command. The bar code labels in this manual are printed in the Code 39 symbology. Each bar code includes the name and human-readable interpretation. For example:

Change Configuration	—————	<i>Name</i>
	—————	<i>Bar code (Code 39)</i>
\$+	—————	<i>Human-readable interpretation</i>

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The asterisks (*) at the beginning and end of the human-readable interpretation are the start and stop codes for a Code 39 bar code label. If you are creating bar code labels with a bar code utility, it may automatically supply the asterisks as the start and stop code, so that you only need to type the actual text of the command. You can also create and print configuration labels and reader command labels in Code 93, which has its own start and stop codes.

Format Conventions for Commands

This manual includes sample commands that are shown exactly as you should type them on your device. The manual also describes the syntax for many commands, defining each parameter in the command. This example illustrates the format conventions used for commands:

From the command line, type:

```
DCBJ24T dcs301ip 4055
```

where *dcs301ip* is the DCS 301 IP address.

This table defines the conventions used in this manual:

Convention	Description
Special font	Commands appear in this font. You enter the command exactly as it is shown.
<i>Italic text</i>	Italics indicate a variable, which you must replace with a real value, such as a number, filename, or keyword.
[]	Brackets enclose a parameter that you may omit from the command. Do not include the brackets in the command.
Required parameters	If a parameter is not enclosed in brackets [], the parameter is required. You must include the parameter in the command; otherwise, the command will not execute correctly.
where	This word introduces a list of the command's parameters and explains the values you can specify for them.

Before You Begin



Other Intermec Manuals

You may need additional information when working with the DCS 301 in a data collection system. Please visit our Web site at www.intermec.com to download many of our current manuals in PDF format. To order printed versions of the Intermec manuals, contact your local Intermec representative or distributor.



Learning About the DCS 301

This chapter describes the DCS 301 Web Gateway Server (DCS 301).

What is the DCS 301?

The DCS 301 Web Gateway Server lets data collection devices (UDP Plus, TCP/IP, WTP) that are running the Intermec Data Collection Browser™ (dcBrowser™) client or Native terminal emulation (TE) client send information to and receive data from hosts that are connected to the Internet, IP hosts, and a serial host. dcBrowser clients can communicate

- through a Web server to connected hosts. The DCS 301 tells the Web server which HTML page to send to a dcBrowser client and which host receives the client's data.
- through the legacy Native sockets interface to IP hosts that are connected to the Ethernet network.
- to a legacy Native async serial host that is serially-connected to the DCS 301.

WTP devices can continue to use the Native client to communicate through the DCS 301 to Native hosts, or you can use dcBrowser to communicate. The DCS 301 provides a migration path from a Native environment (serial or socket) to a HyperText Markup Language (HTML) application development environment.

Unpacking the DCS 301

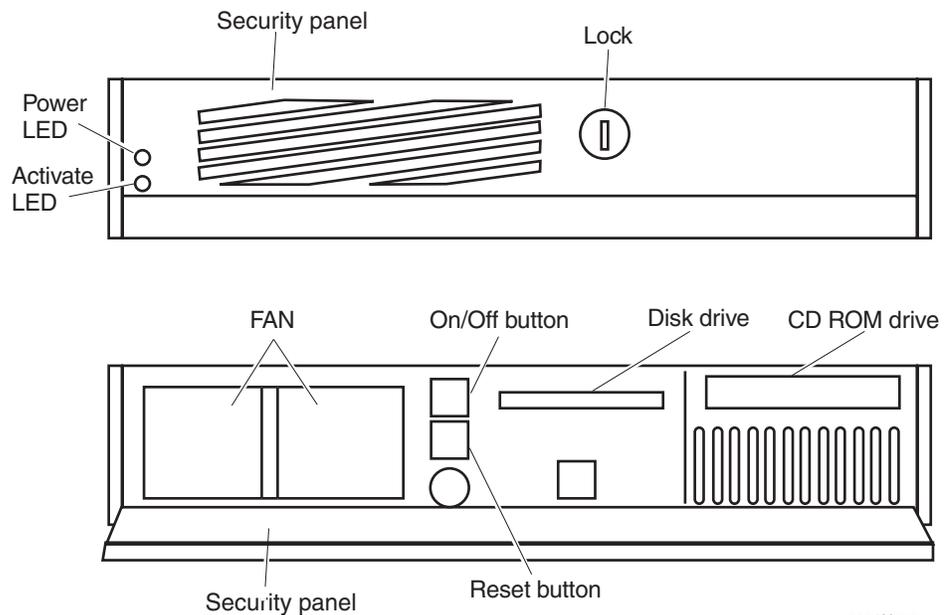
1. Set the DCS 301 box on a clean, stable, flat surface, and remove the accessories, packing material, and the DCS 301 from the shipping container.
2. Verify the contents of the shipping container against the list below. If any parts are missing, contact your local Intermec representative.
 - DCS 301
 - U.S. power cord, 100-120 VAC
 - Two rack handles and four flat head screws
 - Two rack ears and four round head screws

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- *Important DCS 301 Information*
 - *DCS 301 User's Guide*
3. Report any damage or defects. Intermec thoroughly tested and inspected the server before it was shipped to you. If any items are damaged, please take the following steps to correct the problem.
- Take photographs, if necessary.
 - Contact the transport carrier.
 - Return the DCS 301 package to Intermec.

Understanding the Front Panel

The following illustration shows the front panel with the security panel up (lock showing) and with the security panel down (On/Off button showing).



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Understanding the Front Panel (continued)

Component	Description
Power LED	Indicates that the DCS 301 has power.
Activity LED	Indicates that the DCS 301 is on and is communicating.
Security panel and lock	Prevent unauthorized access to the Reset button, the On/Off button, the disk drive, and the CD-ROM drive.
Fan	Prevents your DCS 301 from overheating. When situating your DCS 301, do not place it where the fan is obstructed.
On/Off button	Turns the power on and off. See caution below.
Reset button	Reboots the DCS 301. See caution below.
Disk drive	Enables you to install dcBrowser licenses.
CD-ROM drive	Enables you to use the upgrade CD-ROM.



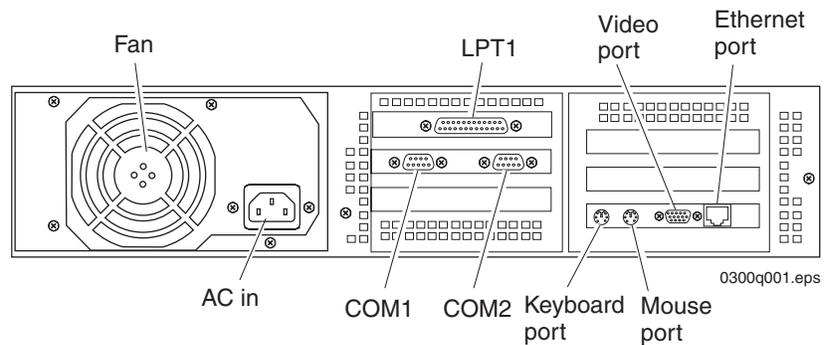
Caution

Always shut down the DCS 301 before turning it off. If you do not shut down the DCS 301 properly, you may damage files or lose data.

Conseil

Il faut toujours arrêter le DCS 301 avant de l'éteindre. Si vous n'arrêtez pas le DCS 301 correctement, vous risquez d'endommager des fichiers ou de perdre des données.

Understanding the Rear Panel



Component	Description
Fan	Prevents your DCS 301 from overheating. When situating your DCS 301, do not place it where the fan is obstructed.
AC in	Connects to one end of the AC power cord that provides power to the DCS 301.
COM1/COM2	Provides a serial port connection for the Native TE host.
LPT1	Provides a parallel port connection for a printer. Not supported.
Mouse port	Connects to a mouse cable. A mouse is not required.
Keyboard port	Connects to a keyboard cable.
Video port	Connects to a monitor.
Ethernet port	Provides an Ethernet connection.



About the dcBrowser Environment

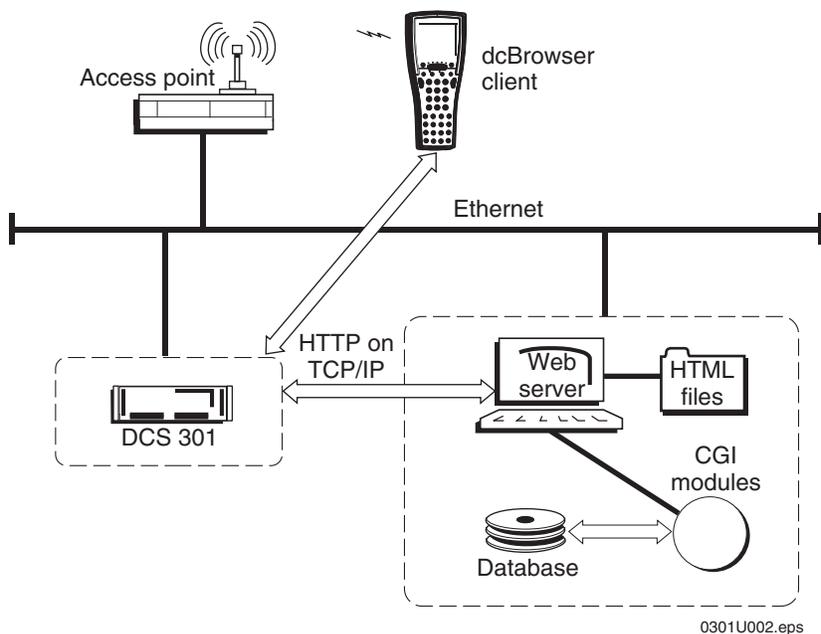
The Data Collection Browser (dcBrowser) provides an HTML application development environment for Intermecc data collection devices.

Using dcBrowser has many advantages:

- You can simplify application development by using state-of-the-art tools.
- You can leverage access to legacy information through existing HTML applications for your PC. You only need to develop new Web pages for the devices.
- You can use the same application for all your data collection devices, since the dcBrowser can reformat Web pages for different screen sizes.
- You can easily upgrade your applications since they reside in a central location on the Web server.
- You have reduced support costs. Since the devices get a Web page from the Web server each time they are turned on, the devices are not running a client application that has to be upgraded.
- You reduce project risk by using Web-based middleware servers. That is, you can deploy a data collection network and retain the flexibility to change the back-end system.
- You use less bandwidth in your data collection network since the data collection devices only provide the user interface and the Web server provides all of the computational power. And, the DCS 301 sends data to and receives data from the devices in a compressed data format.

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You create applications using standard Web technology software tools. These applications reside on a Web server. The dcBrowser gateway converts standard Web (HTML v3.2 syntax) pages received from Web servers into condensed ASCII and sends them to the dcBrowser client running on the device. Refer to the following illustration and explanation.



How dcBrowser works:

1. A device running the dcBrowser client is turned on and it requests a Web page.
2. The dcBrowser gateway on the DCS 301 identifies the Web home page for this device. The dcBrowser gateway requests this home page from the Web server.
3. The Web server sends the requested Web home page to the dcBrowser gateway.

4. The dcBrowser gateway interprets the Web home page, creates a compressed data format, and sends it to the device.
5. Information from the device is sent to the dcBrowser gateway, which converts the compressed data format to HTML and sends it to the Web server. The Web server may send other Web pages to the device based on information that it receives.

About the Native Environment

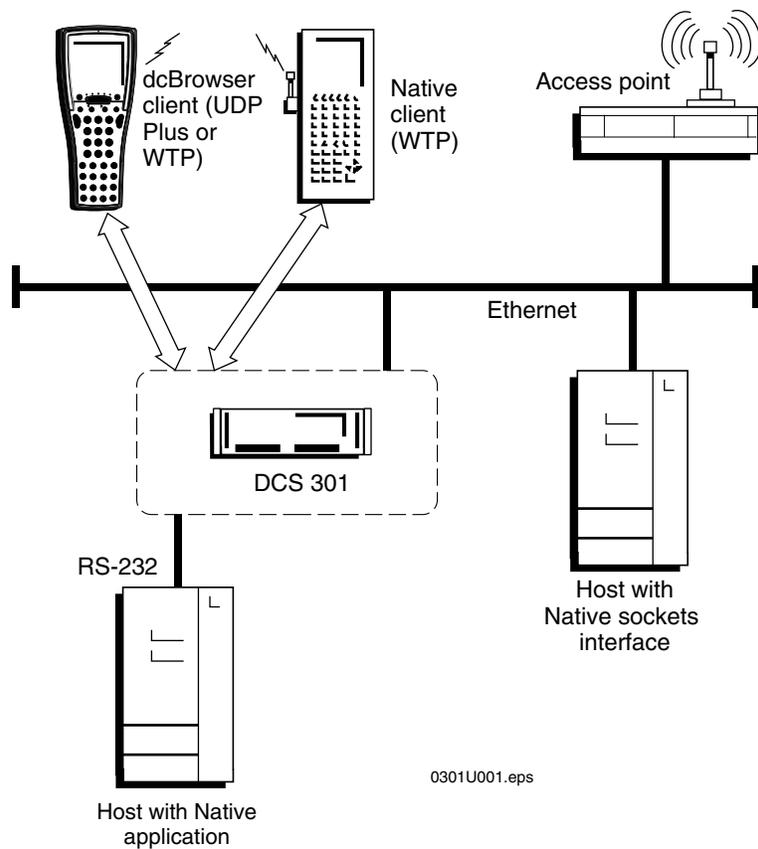
The DCS 301 supports UDP Plus devices and WTP devices running Native TE applications. These devices can connect to a Native async serial host or to IP hosts through the Native sockets interface. Refer to the illustration and the explanation on the next page.



Note: Currently, only UDP Plus devices and WTP devices can communicate with the Native async serial host or with IP hosts through the Native sockets interface. UDP Plus devices must have the dcBrowser client loaded on them. WTP devices can continue running their Native client.

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Native Environment



How the Native environment works:

1. A Native client sends data to the Native gateway on the DCS 301.
2. The Native gateway forwards this data to the Native host (serial or socket).
3. Information from the Native host is sent back to the device via the Native gateway.



Getting Help

If you need help installing, configuring, managing, or troubleshooting the DCS 301, you can use this user's guide and the online help. You may also want to use the Product Support page.

User's Guide This user's guide provides some introductory information about the DCS 301 and explains how to install it. This guide also provides an overview of how to configure the DCS 301, manage it, and troubleshoot it.

For help using dcBrowser, see the *dcBrowser Client User's Guide* (Part No. 070011).

Procedural Help To learn how to configure the DCS 301, click Help from the DCS 301 home page. The Welcome page appears with Contents, Index, and Search tabs. Choose the Contents tab to display the "books" that are available. Double-click the books to display pages that contain procedures about configuring, running, maintaining, or troubleshooting the DCS 301.

The screenshot shows a web browser window with three tabs: 'Contents', 'Index', and 'Search'. The 'Contents' tab is active, displaying a list of help topics: 'Welcome', 'Configuring the DCS 301', 'Managing the DCS 301', and 'Troubleshooting the DCS 301'. The 'Welcome' page is open, titled 'Welcome to the DCS 301 Help'. The page content includes an introduction to the Data Collection Server 301 (DCS 301) and its interaction with UDP Plus data collection devices and TCP/IP data collection devices. It lists three communication methods: through a Web server, through the Native sockets interface, and to a serially-connected host. Each method includes a reference to an illustration. At the bottom, it notes that WTP data collection devices can continue to run the Native client and communicate to Native hosts, with a migration path provided.

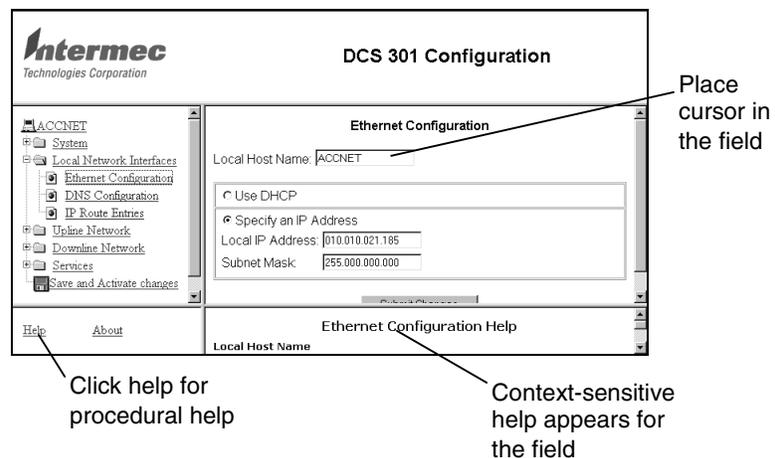


Note: Choose the Index tab or the Search tab to look for information on a specific topic or keyword.

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Context-Sensitive Help If you need to know what to enter into a field, place your cursor on the field. In the lower right side of the page, a short definition, the values or range of values for the field, and the default value appear.

You can get procedural help on configuring the DCS 301 by clicking Help in the lower left side of the page underneath the configuration menu tree.



Product Support The Product Support page provides FAQs, fax document retrieval services, telephone numbers, an e-mail address, a fax number, and a wizard for opening a new case with Intermec Product Support. For help, see “Using the Product Support Page” in Chapter 4.



Summary of Tasks

Device	Protocol	Application	Procedure
Trakker Antares terminal (2415, T2425, T2455, T248X)	TCP/IP UDP Plus	dcBrowser	<ol style="list-style-type: none"> 1. Verify dcBrowser client is loaded. If it is not loaded, load the client. For help, see the <i>dcBrowser Client User's Guide</i>. 2. Verify terminals are configured to communicate with access points and the DCS 301. 3. Configure dcBrowser gateway. 4. Develop HTML applications. 5. Test HTML applications. 6. Run applications.
Trakker Antares terminal (2415, T2425, T2455, T248X)	UDP Plus	Native async serial, Native sockets interface	<ol style="list-style-type: none"> 1. Verify dcBrowser client is loaded. If it is not loaded, load the client. For help, see the <i>dcBrowser Client User's Guide</i>. 2. Verify terminals are configured to communicate with access points and the DCS 301. 3. Run the Native TE application.
JANUS device (JG2010, JG2020, JG2050)	TCP/IP	dcBrowser	<ol style="list-style-type: none"> 1. Load dcBrowser client. For help, see the <i>dcBrowser Client User's Guide</i>. 2. Verify devices are configured to communicate with access points and the DCS 301. 3. Configure dcBrowser gateway. 4. Develop HTML applications. 5. Test HTML applications. 6. Run applications.

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Summary of Tasks (continued)

Device	Protocol	Application	Procedure
5020	TCP/IP UDP Plus	dcBrowser	<ol style="list-style-type: none">1. Load dcBrowser client. For help, see the <i>dcBrowser Client User's Guide</i>.2. Verify devices are configured to communicate with access points and the DCS 301.3. Configure dcBrowser gateway.4. Develop HTML applications.5. Test HTML applications.6. Run applications.
5020	UDP Plus	Native async serial, Native sockets interface	<ol style="list-style-type: none">1. Verify dcBrowser client is loaded. If it is not loaded, load the client. For help, see the <i>dcBrowser Client User's Guide</i>.2. Verify terminals are configured to communicate with access points and the DCS 301.3. Run the Native TE application.
6400	TCP/IP WTP	dcBrowser	<ol style="list-style-type: none">1. Verify dcBrowser client is loaded. If it is not loaded, load the client. For help, see the <i>dcBrowser Client User's Guide</i>.2. Verify terminals are configured to communicate with access points and the DCS 301.3. Configure dcBrowser gateway.4. Develop HTML applications.5. Test HTML applications.6. Run applications.



Summary of Tasks (continued)

Device	Protocol	Application	Procedure
1100, 1700, 6400	WTP	Native async serial, Native sockets interface	<ol style="list-style-type: none"> 1. Verify the Native client is loaded. If it is not loaded, load the client. 2. Verify devices are configured to communicate with access points and the DCS 301. 3. Run the Native TE application.
700 Series	TCP	dcBrowser	<ol style="list-style-type: none"> 1. Load dcBrowser client. For help, see the <i>dcBrowser Client User's Guide</i>. 2. Verify devices are configured to communicate with access points and the DCS 301. 3. Configure dcBrowser gateway. 4. Develop HTML applications. 5. Test HTML applications. 6. Run applications.

2

Installing and Configuring the DCS 301

This chapter describes how to install and configure the DCS 301 in an Ethernet network, a dcBrowser environment, and a Native environment (serial host or sockets interface). For detailed instructions on configuring these networks and environments, see the online help.

Plugging In the Power Cord

You need to attach the power cord before you can run the DCS 301. You must also plug the power cord into a surge protector or an uninterruptable power supply (UPS). Intermec requires that you use a surge protector in locations that use 115 VAC.

Intermec requires that you use a UPS in locations that have wide variations in AC power. In case of a power failure, the UPS provides enough backup power to allow you to properly shut down the DCS 301 and minimize the loss of data.

Equipment Needed

- Power cord, 110V U.S. cord (standard)
Or,
Power cord, 220-250 VAC for UK (Part No. 586266)
Power cord, 220-250 VAC for Europe (Part No. 586267)
- Uninterruptable power supply, North America (Part No. 589082)
Uninterruptable power supply, International (Part No. 589079)

To connect the power cord

1. Locate the AC in port on the rear panel of the DCS 301.
2. Insert the DCS 301 power cord 3-pin connector into the AC in port.
3. Plug the other end of the power cord into an AC power outlet, a surge protector, or a UPS.

Connecting an Uninterruptable Power Supply

Intermec requires that you connect an uninterruptable power supply (UPS) to your DCS 301. In case of a power failure, the UPS provides enough backup power to allow the DCS 301 to properly shut down and minimize the loss of data.

If you experience a power failure after installing a UPS, these events will occur:

- If power returns within 45 seconds, no error message is logged and no message appears on the monitor.
- If power does not return within 45 seconds, an error message is logged.

When data collection is stopped, the DCS 301 tries to shut down. Five minutes after the error message is logged, the UPS cuts off power to the DCS 301.

You can configure the DCS 301 to automatically restart downline network when power returns. Access the DCS 301 Configuration Web page, choose Services and Startup, and check the Downline Network check box.

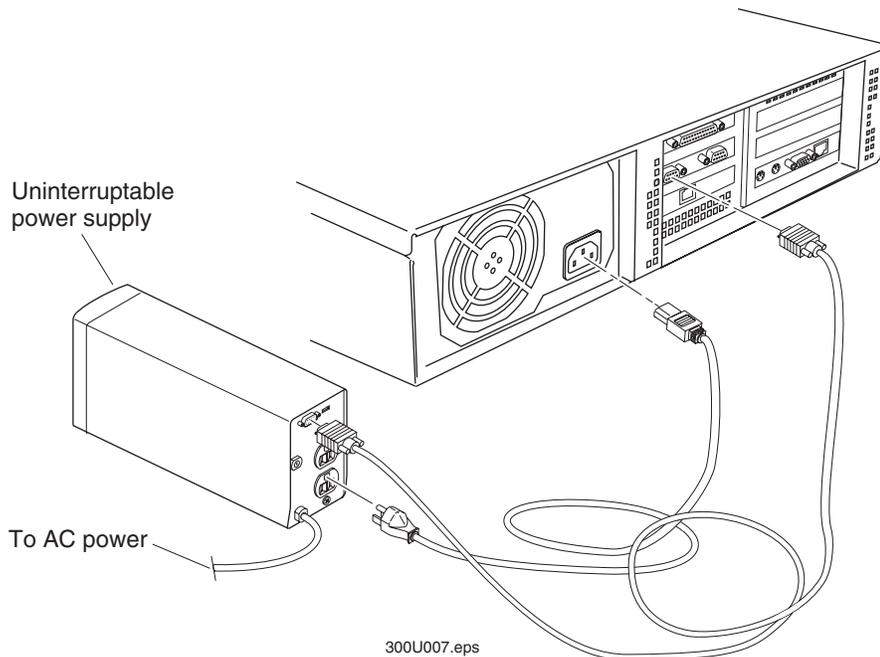
Equipment

- Uninterruptable power supply, North America (Part No. 589082)
Uninterruptable power supply, International (Part No. 589079)
- 9F-9M cable for auto-restoration (Part No. 589157)

To connect a UPS

1. Make sure the DCS 301 is turned off.
2. Insert the DCS 301 power cord 3-pin connector into the AC in port.
3. Plug the other end of the power cord into the UPS.
4. (Optional) Intermec recommends that you use a surge protector. Plug the power cord of the UPS into the surge protector or an AC power outlet.
5. Insert one end of the serial cable into the serial port on the UPS.

6. Insert the other end of the serial cable into a COM port on the DCS 301.
7. Press the power button on the DCS 301.



Mounting the DCS 301 in a Rack

This section explains how to mount your DCS 301 in a rack. When installing the server in a closed or multi-unit rack assembly, you must follow these requirements:

- Do not exceed the maximum recommended ambient temperature (T_{mra}), which is 50°C. Make sure that you consider that the ambient temperature of the rack environment may exceed the room temperature.

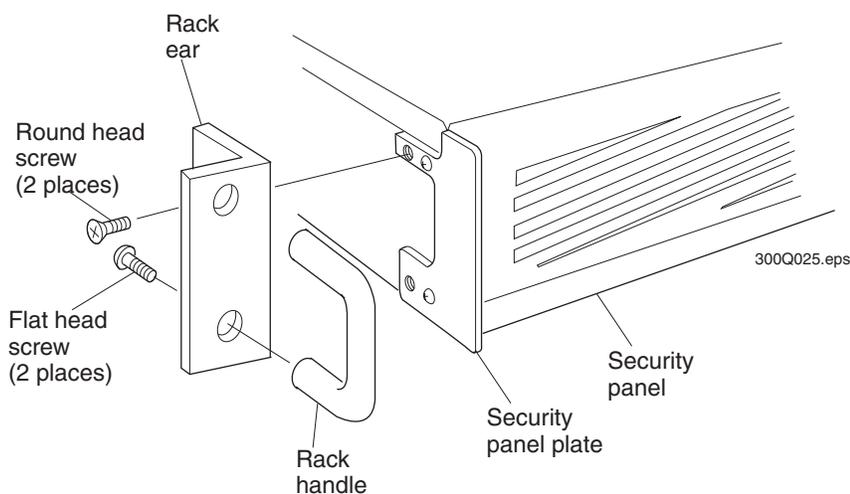
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- Do not block the vents found at the front or the rear of the server. If you reduce the amount of free air to these ventilation openings, you may affect the server operation.
- Do not mount the server in any way that may make the rack unstable because of uneven mechanical loading.
- Make sure that you consider the combined electrical loads on the supply circuit of all the equipment that is installed in the rack, including the overcurrent protection and the supply wiring. Use the nameplate ratings of the equipment.
- Make sure that you maintain the integrity of the earth ground. If the server is not connected directly to the branch circuit, then the power strip (or equivalent) must have a reliable earth ground connection.

To mount the DCS 301 in a rack

1. Locate the two rack handles, two rack ears, four flat head screws, and four round head screws that shipped with the DCS 301.
2. Secure the rack handles to the front of the rack ears with the flat head screws.
3. Secure the rack ears to the right and left sides of the DCS 301 over the security panel plates with the round head screws.

Mounting the DCS 301 in a Rack (continued)



Connecting to the Ethernet Network

The DCS 301 contains one 10/100 Mbps Ethernet card. To connect the DCS 301 to an Ethernet network, you must physically attach it to the wired network, assign it an IP address, access the DCS 301 home page, and configure the TCP/IP parameters by using DHCP or by manually entering them.

Installing the DCS 301

Equipment Needed

- An Ethernet connection where you can connect the DCS 301.
- An Ethernet cable that meets the requirements of your Ethernet network, such as an Ethernet CAT5 cable.

To install the DCS 301

1. Locate the Ethernet port on the rear panel of your DCS 301.

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2. Insert one end of the cable into the Ethernet port and the other end into the Ethernet connection.

Assigning the DCS 301 IP Address



Caution

You can only perform this procedure the first time you configure the Ethernet card. Make sure that you type in the correct MAC address and a valid IP address or you will not be able to access your DCS 301.

Conseil

Vous pouvez seulement exécuter cette procédure la première fois que vous configurez la carte Ethernet. Assurez-vous de saisir correctement l'adresse MAC et une adresse IP valide, sinon vous ne pourrez pas accéder à votre DCS 301.



Note: If you want to change the IP address, you can use a Web browser.

Before you begin configuring the DCS 301, you need the following information and network privileges:

Information or Privilege	Description
System privileges	You need root privileges on your UNIX system or administrator privileges on a Windows NT system.
Ethernet address	You need to know the MAC address of your Ethernet card to perform the installation. The MAC address of your card is located on a label on the rear panel of the DCS 301.
IP address	You must acquire an unused IP address from your network administrator. After you access the DCS 301 home page for the first time, you can configure the DCS 301 to use DHCP.

You set the IP address of the DCS 301 by using ARP (address resolution protocol), which is available in Windows 95, Windows 98, Windows NT, Windows 2000, and UNIX. ARP is an easy method to download IP addresses to individual cards. You cannot use this method over routers.

Using ARP in Windows 95

1. Start a DOS[®] window.
2. Type the following command:

```
arp -a
```

3. Verify that there are ARP entries in the table. If there are entries, go to Step 5.
4. Ping a device in your network by typing:

```
ping n.n.n.n
```

where *n.n.n.n* is the IP address for a device. This command puts an ARP entry in the table.

5. Type the following command:

```
arp -s n.n.n.n nn-nn-nn-nn-nn
```

```
ping n.n.n.n
```

```
arp -d n.n.n.n
```

where:

n.n.n.n is the IP address for the DCS 301.

nn-nn-nn-nn-nn is the MAC address for the Ethernet card.

Example

```
arp -s 192.168.3.191 00-40-8c-10-00-86
```

```
ping 192.168.3.191
```

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The host returns `Reply from 192.168.3.191 ...` or a similar message. This reply indicates that the address has been set and communications established. Type `arp -d 192.168.3.191` to delete this ARP entry from the translation table.

Using ARP in Windows 98, ME, NT, or 2000

1. Start a DOS window.
2. Type the following command:

```
arp -s nnn.nnn.nnn.nnn nn-nn-nn-nn-nn-nn
ping nnn.nnn.nnn.nnn
arp -d nnn.nnn.nnn.nnn
```

where:

`nnn.nnn.nnn.nnn` is the IP address for the DCS 301.

`nn-nn-nn-nn-nn-nn` is the MAC address for the Ethernet card.

Example

```
arp -s 192.168.3.191 00-40-8c-10-00-86
ping 192.168.3.191
```

The host returns `Reply from 192.168.3.191 ...` or a similar message. This reply indicates that the address has been set and communications established. Type `arp -d 192.168.3.191` to delete this ARP entry from the translation table.

Using ARP in UNIX

- Type the following command:

```
arp -s host_name nn:nn:nn:nn:nn:nn temp  
ping host_name
```

where:

host_name is the local host name that is mapped to the IP address.

nn:nn:nn:nn:nn:nn is the MAC address for the Ethernet card.

Example

```
arp -s dcsname 00:40:8c:10:00:86 temp  
ping dcsname
```

The host will return `dcsname is alive` or a similar message. This message indicates that the address has been set and communications established.

When you execute the ping command for the first time, you may experience a longer response time than is usual.

The ARP command can vary between different UNIX systems. Berkeley System Distribution (BSD) type systems expect the host name and node address in reverse order. IBM AIX[®] systems require the additional argument `ether`. For example:

```
arp -s ether hostname 00:40:8c:10:00:86 temp
```

Opening the DCS 301 Home Page

From the home page, you can configure, manage, and troubleshoot your DCS 301. Choose Home to return to this page.

Across the top of the window is the Web browser menu, which includes a File menu and an Edit menu. Below this menu are the Web browser buttons, such as Back and Home. On the left side of the window is a navigation menu with these links:

Home Choose this link to return to the DCS 301 home page.

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Configuration Choose this link to configure the DCS 301.

Management Choose this link to access a Web page that lets you reboot, shut down, back up files, restore files, and upgrade the DCS 301. From this Web page, you can also start or stop the downline network and the dcBrowser gateway. For help, see Chapter 4, "Troubleshooting and Managing the DCS 301."

Diagnostics Choose this link to troubleshoot the DCS 301. From this Web page, you can view the error log or run the dcBrowser diagnostics. For help, see Chapter 4, "Troubleshooting and Managing the DCS 301."

Support Choose this link to get information from Intermec Product Support. For help, see "Using the Product Support Page" in Chapter 4.

Help Choose this link to access the procedural online help. For help, see "Getting Help" in Chapter 1.

To open the DCS 301 home page



Note: If you access the Internet by using a proxy server, you **MUST** add the IP address of the DCS 301 to your Exceptions list. The Exceptions list contains the addresses that you do not want to use with a proxy server.

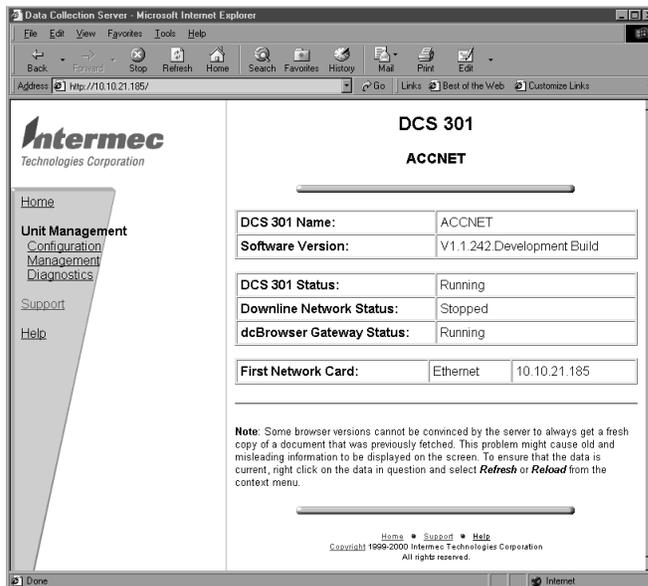
1. Start a Web browser on your PC.
2. In the Address field (Internet Explorer 4.0) or the Location field (Netscape Communicator 4.5), type:

`http://dcs301ip`

where *dcs301ip* is the DCS 301 IP address.

3. Press **Enter**. The DCS 301 home page appears.

DCS 301 Home Page



Configuring the Ethernet Network

This section provides an overview for configuring the Ethernet network. For detailed instructions, see the online help.

To configure the Ethernet network

1. From the DCS 301 home page, click Configuration to access the Configuration screen. If a security screen appears, type INTERMEC in the User Name field and in the Password field, and click OK. You must type Intermecc in uppercase letters.
2. In the Configuration screen menu tree, expand the Local Network Interfaces submenu. Three choices appear: Ethernet Configuration, DNS Configuration, and IP Route Entries. You obtain most of the values for these parameters from your network administrator.

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3. To configure the Ethernet network, you must choose to:

- Use DHCP.

Or,

- Specify an IP address.

Depending on which method you choose, you must set these parameters:

Use DHCP

Local host name

Specify an IP Address

DCS 301 IP address

Subnet mask

You may also need to define IP routes so that the DCS 301 knows how to route packets to routers in your network. For help, see the online help.

If you have a DHCP network with a DNS server, you can use the local host name to open the DCS 301 home page instead of the IP address. The local host name configured in the DCS 301 must match the host name for the DCS 301 on the DNS server. For help configuring the DNS server, see the documentation that came with your server.

Connecting to the Downline Network

The DCS 301 communicates to the downline network (data collection devices) through the Ethernet network. Before you configure the DCS 301, verify that the access points are correctly installed and configured and that your devices are communicating with the access points.

To connect the DCS 301 to the downline network, you must connect it to the Ethernet network, configure the downline network, and configure the UDP Plus devices and the WTP devices. Then, you must start the downline network.

Configuring the Downline Network

This section provides an overview for configuring the downline network. For detailed instructions, see the online help.

Expand the Downline Network submenu. To configure the downline network, you must define parameters for the UDP Plus network and its devices and the WTP network and its devices. If a security screen appears, type `INTERMEC` in the User Name field and in the Password field, and click OK. You must type Intermec in uppercase letters.

Starting the Downline Network

You must start the downline network before you can perform any data collection. You can start the downline network manually, or you can set the downline network to automatically start when you reboot the DCS 301.

To start the downline network manually

- In the DCS 301 Management Web page, click the Start button after Downline Network. A message box appears confirming that the downline network has been started.

To start the downline network automatically

1. In the DCS 301 Configuration Web page, choose Services and Startup.
2. Check the Downline Network check box, and click Submit Changes.
3. Click Save and Activate changes and click Save and Reboot. Each time you reboot the DCS 301, the downline network automatically starts running.

To stop the downline network

1. In the DCS 301 Management Web page, click the Stop button after Downline Network. A message box appears confirming that you want to stop the downline network.
2. Choose OK. A message box appears informing you that the downline network has been stopped.

Connecting to the dcBrowser Environment

There are three environments you should understand:

Development Environment This environment is where you create the HTML application for your data collection devices. Your application development tool must support the HTML v3.2 syntax. For help, see the *dcBrowser Client User's Guide*. You should test and debug your application before you use the test environment.

Test Environment This environment is where you simulate running the HTML application. You copy your application and Web pages to a Web server. You then load a Web browser and the simulator on your PC. Using the Web server, the Web browser, and the simulator, you can run your application. The simulator contains a local dcBrowser gateway that runs on your PC and simulates the dcBrowser gateway on the DCS 301. For help, see the *dcBrowser Client User's Guide*.

Runtime Environment This environment is where you run the HTML application in your data collection network. You copy your application and Web pages to a Web server. You configure the dcBrowser gateway on the DCS 301 and you load the dcBrowser client on your devices. When you turn on your devices, they request a Web page from the Web server.

Setting Up the Runtime Environment

The runtime environment is where you run the HTML application in your data collection network. If necessary, you can download firmware from the Intermec Web site at www.intermec.com. For help upgrading your devices (or changing the network protocol), see your device user's manual.

Equipment Needed

- Web server
- Web browser—Internet Explorer 4.0 or higher/Netscape Navigator 4.5 or higher (not provided by Intermec)
- DCS 301
- Access points

- dcBrowser clients, which may include
 - Trakker Antares terminals (2415, T2425, T2455, T248X) v5.13.02 or higher
 - JANUS devices, 4MB (JG2010, JG2020, JG2050) v4.06 or higher
 - 6400 devices
 - 5020 Data Collection PCs
 - 700 Series Mobile Computer

To set up the runtime environment

1. Verify that the dcBrowser client is loaded on your device, load the dcBrowser client if necessary, and configure the devices to communicate with your network. For more information, see the *dcBrowser Client User's Guide*.
2. Verify that your devices are configured to communicate with the access points and the DCS 301. For help, see your device user's manual and your access point user's manual.
3. Verify that the DCS 301 is connected to and configured for your Ethernet network. For help, see "Connecting to the Ethernet Network" earlier in this chapter.
4. Start the dcBrowser gateway. For help, see "Starting the dcBrowser Gateway" in the next section.

Starting the dcBrowser Gateway

This section describes how to start and stop the dcBrowser gateway.

To start the dcBrowser gateway

- Access the DCS 301 Management Web page and then click the Start button after dcBrowser Gateway. The dcBrowser gateway starts and then you see a message confirming that the dcBrowser gateway has been started. Click Return to management screen.

Or,

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- Access the DCS 301 Configuration Web page, choose Services and Startup, and check the dcBrowser Gateway check box. When you reboot the DCS 301, the dcBrowser gateway automatically starts running.

To stop the dcBrowser gateway

1. In the DCS 301 Management Web page, choose Stop. A message box appears confirming that you want to stop the dcBrowser gateway.
2. Choose OK. The dcBrowser gateway stops and then you see a message confirming that the dcBrowser gateway has been stopped.
3. Click Return to management screen.

Configuring the dcBrowser Gateway

For the dcBrowser gateway to run, you must

- (optional) configure dcBrowser gateway capabilities, such as enabling the links feature, posting device ID, and converting all text to uppercase.
- add an upline IP host. This host is the Web server that has your HTML application on it.
- add a URL to the IP host. This URL is the Web server's home page.
- fill in the information for the downline devices. This information specifies what communication protocol your devices are using (TCP/IP, UDP Plus, or WTP), what logical name the individual devices have, and what their IP addresses are.

The following procedure gives an overview of doing these tasks. For detailed information, see the online help.

To configure the dcBrowser gateway

1. From the DCS 301 Home Page, click Configuration. The Configuration screen appears.

If a security screen appears, type INTERMEC in the User Name field and in the Password field, and click OK. You must type Intermec in uppercase letters.

2. Expand the Upline Network submenu and click dcBrowser Gateway. Set the features you want and click Submit Changes. For help, see the online help.
3. Under Upline Network, click IP Hosts.
4. Click Add New Host, fill in the fields, and click Add Host. For help, see the online help.
5. From the IP Hosts screen, click Add New URL, fill in the fields, and click Add URL. For help, see the online help.
6. Expand the Downline Network submenu; click either TCP/IP, UDP Plus, or WTP; and click Devices. Fill in or change the information for your devices as necessary. For help, see the online help.

Connecting to the Native Async Serial Host

The DCS 301 contains a serial port that lets you connect it to a Native async serial host. To connect the DCS 301 to this host, you must physically attach it to the host and then configure the DCS 301 serial port parameters to match the host serial port parameters.

Installing the DCS 301

Equipment Needed

- A serial port on the host where you can connect the DCS 301
- A null-modem cable to connect the DCS 301 to the host serial port

To install the DCS 301

1. Locate a COM port on the rear panel of your DCS 301. Refer to the figure in “Understanding the Rear Panel!” in Chapter 1.

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2. Insert one end of the cable into the COM port on the DCS 301 and the other end into the COM port on the serial host.

Configuring the Serial Host

This section provides an overview for configuring the serial host. For detailed instructions, see the online help.

In the configuration menu tree, expand the Upline Network submenu. To configure the serial host, choose Serial Host. You must make sure that the parameters that you define for the DCS 301 serial port match the parameters that are configured for the host serial port. If a security screen appears, type `INTERMEC` in the User Name field and in the Password field, and click OK. You must type Intermec in uppercase letters.

Setting Up the Trakker Antares and 5020 UDP Plus Devices

Trakker Antares UDP Plus terminals and 5020 UDP Plus devices can communicate to the Native async serial host through the DCS 301 if they have the dcBrowser client loaded on them. The Trakker Antares terminals and 5020 devices may already have the dcBrowser client (`DCBT24.BIN`) loaded on them.

To set up the Trakker Antares and 5020 UDP Plus devices

1. Verify the dcBrowser client is loaded. For help, see the *dcBrowser Client User's Guide*.
2. If you do not have the dcBrowser client loaded, you must load it. For help, see the *dcBrowser Client User's Guide*.
3. If you have the dcBrowser client loaded on your terminal, go to Chapter 3, "Running Applications."

You may still need to configure your terminals to communicate with the UDP Plus network and access points. For help, see your device user's manual and your access point user's manual.

Setting Up the WTP Devices

WTP devices can communicate with the Native async serial host through the DCS 301 by continuing to run their Native client. For each device, you must use the menus to configure Native communications, a terminal number, and the RF host name. Each terminal session must have a unique terminal number/RF host name combination.

From the DCS 301 Home Page, the path to configure Native communications for a serial host is

- Configuration
- Upline Network
- Serial Host

From the Configuration screen, the path to configure a terminal number is

- Upline Network
- Serial Host
- Device Mapping

From the Configuration screen, the path to configure the RF host name is

- Downline Network
- WTP

For help configuring Native communications, terminal numbers, and the RF host name, see the online help.

To set up each WTP device

1. In the Main Menu, press . The Enter Password prompt appears.
2. Type and press . The Set-up Parm menu appears.
3. Use the host setup screens to configure the terminal session for Native communications, the unit (terminal) number, and the RF host (DCS 301) name. Configure Host A, Host B, and Host C independently.
4. Press until the Set-up Parm menu appears.

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5. Press **[7]** to access more menus.
6. Press **[2]** to save your changes. The Enter Password prompt appears.
7. Type **[C][R][5][2][4][0][1]** and press **[↵]**. The Set-Up Params menu appears.
8. Press **[6]** to exit the menus.

This example walks you through the terminal screens to show you how to configure one of the terminal sessions for Host A, Native communications, terminal number 42, and RF host name MYHOST.

```
1) Host A
2) Host B
3) Host C
```

```
1) Native
2) 3270
3) 5250
4) VT220
```

```
Enter Unit
Number:
42
```

```
Native
Unit #      42
Enter Host Name
MYHOST
```

You may still need to configure your devices to communicate with the WTP network and access points. For help, see your device user's manual and your access point user's manual.

Connecting to the Native Sockets Interface

The DCS 301 can communicate to IP hosts through the Native sockets interface. To connect the DCS 301 to IP hosts, you must connect it to the Ethernet network and configure the IP hosts.

Configuring the IP Hosts

This section provides an overview for configuring the IP hosts. For detailed instructions, see the online help.

In the configuration menu tree, expand the Upline Network submenu. To configure the IP hosts, ports, and URLs, choose IP Hosts. If a security screen appears, type INTERMEC in the User Name field and in the Password field, and click OK. You must type Intermec in uppercase letters.

If you want dcBrowser to see the IP host as a Web server, you need to configure the URL instead of the port. You need to set the port for hosts other than Web servers, such as Native hosts. For help configuring the port and URL, see the online help.

Setting Up the UDP Plus Devices

Trakker Antares UDP Plus terminals, 5020 UDP Plus devices, and JANUS UDP Plus devices can communicate with IP hosts through the Native sockets interface through the DCS 301 if they have the dcBrowser client loaded on them. For help, see the *dcBrowser Client User's Guide*.

Setting Up the WTP Devices

WTP devices can communicate with IP hosts through the Native sockets interface through the DCS 301 by continuing to run their Native client. For each device, you must use the menus to configure Native communications, a terminal number, and the RF host name. Each terminal session must have a unique terminal number/RF host name combination. For help, see “Setting Up the WTP Devices” earlier in this chapter.

3

Running Applications

This chapter provides guidelines about running your HTML application and running your UDP Plus devices and WTP devices in the Native environment using the DCS 301.

Running Your HTML Application

Use the runtime environment to run your HTML application in your data collection network. You need to start the Web server, the dcBrowser gateway, and the dcBrowser clients. The DCS 301 supports up to 127 terminal sessions.

To run dcBrowser

1. Be sure that
 - the dcBrowser client is loaded on your data collection devices.
 - your device's host IP address is set to the DCS 301 IP address.
 - the network port is set to 4055 for TCP/IP or 5555 for UDP Plus.For help, see "Setting Up the Runtime Environment" in Chapter 2.
2. From your Web browser, open the DCS 301 home page. For help, see "Opening the DCS 301 Home Page" in Chapter 2.
3. Start the dcBrowser gateway. For help, see "Starting the dcBrowser Gateway" in Chapter 2.
4. For UDP Plus and WTP devices, start the downline network. For help, see "Starting the Downline Network" in Chapter 2.
5. Configure the dcBrowser gateway. For help, see the online help.
6. Start the Web server and copy your HTML application and Web pages to it. For help, see "Starting the Web Server" in the next section.
7. Turn on your devices and start your application. For help, see the *dcBrowser Client User's Guide* (Part No. 070011).

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Starting the Web Server

Before you can run your application, you must copy your application and Web pages to your Web server and start the Web server. For help, see the documentation that came with your Web server.

To run your application

1. Copy your .EXE files to the CGI-BIN directory for your Web server.



Note: If you put your CGI scripts in a different directory than CGI-BIN, you may need to modify your HTM files to tell them where to look for the CGI scripts.

2. Copy your .HTM files to the HTML directory for your Web server.
3. Start your Web server.

Using the DCS 301 as a Web Server

The DCS 301 comes with a Web server application installed. The following procedure explains how to set up the DCS 301 for use as a Web server.

To run your application

1. Copy the .EXE files for your application to D:\USERDATA\CGI-BIN on the DCS 301.



Note: If you put your CGI scripts in a different directory than CGI-BIN, you may need to modify your HTM files to tell them where to look for the CGI scripts.

2. Copy your .HTM files to D:\USERDATA\HTDOCS on the DCS 301.

3. Configure your URL, HTML, and CGI script to use the following virtual directories:
 - /USERDATA/CGI-BIN
 - /USERDATA/HTDOCS/HTMLFILE.HTMOr /USER/HTMLFILE.HTM
where *HTMLFILE.HTM* is your HTML application

Setting Up the dcBrowser Sample Application and Web Pages

After you start the Web server and the dcBrowser gateway, you can start running your HTML application on your devices. For help, see the *dcBrowser Client User's Guide*.

When you load the dcBrowser simulator, a sample application and Web page are also loaded. You can also download these samples from the Intermec Web site at www.intermec.com. Before you run your application and Web pages in the test environment, test your test environment using the sample application and Web pages.



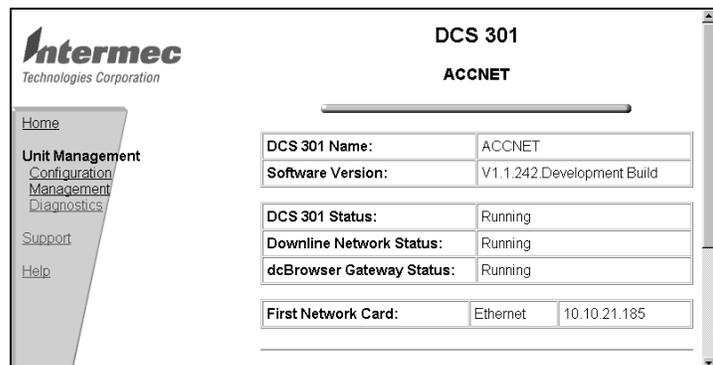
Note: The CGI scripts in \INTERMEC\DCBROWSER\EXAMPLES\CGI_BASED\CGI\BIN were compiled as DOS-based executables.

To set up the sample application and Web pages

1. Copy the .EXE files from the \INTERMEC\DCBROWSER\EXAMPLES\CGI_BASED\CGI\BIN directory to the CGI-BIN directory for your Web server.
2. Copy the .HTM files from the \INTERMEC\DCBROWSER\EXAMPLES\CGI_BASED\HTML directory to the HTML directory for your Web server.
3. Start your Web server.
4. Start the local dcBrowser gateway. A DOS window appears.
5. Start your Web browser.

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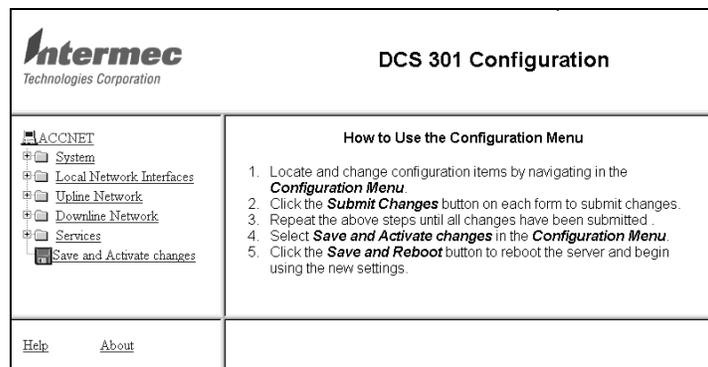
6. In the Address field or the Go to field, type the IP address of your DCS 301. The DCS 301 home page appears.



7. Click Configuration from the menu on the left side of the screen. A security screen appears.
8. In both fields, type:

INTERMEC

The DCS 301 Configuration screen appears.



9. Click Upline Network, and then click IP Hosts from the list that appears. The IP Hosts screen appears.

IP Hosts Screen

IP Hosts		
Host Name	Port/URL Name	Address
Roy		10.20.13.24
	t2425roy	65535
	rt2425	/example.com

[Add New Host](#) [Add New Port](#) [Add New URL](#)

10. If no hosts are configured or you want to use a new host, click Add New Host and add a new host. For help, see the online help.
If the host you want is already listed, choose the host name.
11. Click Add New URL. The Add New URL screen appears.

Add New URL	
Host Name:	<input type="text" value="Select Host"/>
URL Name:	<input type="text"/>
HTTP Server Port:	<input type="text" value="80"/>
Page URL:	<input type="text"/>
<input type="button" value="Add URL"/>	

12. Select a host and then add a URL name, HTTP server port, and page URL. Click Add URL.

Understanding Your Native TE Application

Native applications are proprietary terminal emulation (TE) applications. The DCS 301 can communicate with a Native async serial host and with other IP hosts through the Native sockets interface.

Currently, only UDP Plus devices and WTP devices can run in the Native environment. The UDP Plus devices must have the dcBrowser client loaded on them, but WTP devices can continue running their Native client.

About the Native Async Serial Host

If your host application was written to work with WNAS or legacy serially-connected controllers (RD(B)4030, RC3250, 6910 IGAP), it should also work with the DCS 301. That is, you do not need to make any changes to your existing Native TE host applications. For help updating your Native applications, see the *Native Terminal Emulation Programmer's Guide* (Part No. 977-055-006).



Note: If you are replacing a legacy serially-connected controller with the DCS 301, you must have a 9F-25M RS-232 adapter (Part No. 589182), since the DCS 301 has a 9-pin serial port.

About the Native Sockets Interface

Native sockets are a subset of the Native async serial syntax. If your host application was written to work with the Native sockets interface, it should also work with the DCS 301. If your host application was written to work with WNAS or legacy serially-connected controllers and are now communicating with hosts through the Native sockets interface, you may need to make some changes to your Native TE host applications so they work with the DCS 301. For help updating your Native applications, see the *Native Terminal Emulation Programmer's Guide*.



Note: If your devices are communicating through Native sockets, you must use a line feed (LF) as the delimiter. You cannot use a carriage return (CR).

For example, if your host application was written to work with the 6950 EGS, it should also work with the DCS 301 as long as the host application separates packets using an LF character. If you did not write your host application for the 6950 EGS using delimiters, you must add an LF after each command. After you add the LFs, your host application will work with both the 6950 EGS and the DCS 301.

New feature You can now send the terminal session name and the terminal address to the host. In the Add New Port page, check the Send Terminal ID to Host check box. For more information on this feature, see “Devices Send Different Start-Up Packets” later in this chapter.

Unsupported Native sockets command The DtE Terminal Echo-back Diagnostic command is not supported when a device is communicating to a host through the Native sockets interface.

Differences Between Legacy Controllers and the DCS 301

Native applications were originally intended to be transaction-based. That is, when a host sent a command to the device, the host expected a response from the device before it sent the next command; therefore, some legacy controllers can only buffer one message per device. If the host sends an unsolicited message to the device, there is no guarantee that the controller can deliver the first message to the device before the second message overwrites its buffer.

Other legacy controllers and the DCS 301 can buffer multiple messages for each device. If you are replacing a controller that can only buffer one message per device with the DCS 301, users may see unsolicited messages from the host flash across the devices’ screens.

Differences Between WTP Devices and UDP Plus Devices

There are two major differences between the WTP devices and the UDP Plus devices:

1. WTP devices and UDP Plus devices send different start-up packets.

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2. The displays of the 1100, 1700, and 6400 work differently than the displays of the 2415 and T2425.

Devices Send Different Start-Up Packets

There are some differences between the packet that the WTP devices send and the packet that UDP Plus devices send when you have Send Terminal ID to Host checked in the Add New Port dialog. WTP devices send a power-up packet that contains a 2-byte device number followed by the device type. The UDP Plus device sends a power-up packet that contains an "I" followed by a 4-byte hex representation of the IP address followed by the terminal type. The power-up packet contains the device ID in a space padded string with a comma delimiter before the "I," for example, "UDP001 , Ixxxx" where xxxx is the 4-byte hex information mentioned earlier.

Displays Work Differently

When the 1100, 1700, or 6400 turns on, the display can show from 12 to 27 characters. The data wraps independently from the display width. It wraps according to the Host View Size setting on the device, which can be from 1 to 80 characters wide. The host application can send a Set Screen command that sets the Host View Size setting on the device to 16 or 21 characters wide.

When the 2415 or T2425 turns on, the display is either 10 or 20 characters wide, depending on the font selection. When the data exceeds the display width, the data wrap to the next line. These devices have partially implemented this Set Screen command. If the host application sends this command to set the data to wrap at 16 characters and the device's display is set to 20 characters wide, all characters are visible. If the host sends the command to set the data to wrap at 21 characters, however, the screen will truncate the last character.

Running Your Native TE Application

To run the Native application, you must start the downline network, the dcBrowser clients, and the Native clients.

To run the Native application

1. Ensure that the dcBrowser client is loaded on your UDP Plus devices. For help, see “Setting Up the Runtime Environment” in Chapter 2.
2. Ensure that the Native client is loaded on your WTP devices.
3. Access the DCS 301 home page. For help, see “Opening the DCS 301 Home Page” in Chapter 2.
4. Start the downline network. For help, see “Starting the Downline Network” in Chapter 2.
5. Turn on your devices and start your application. For help, see “Starting the Native Applications” in the next section.

Starting the Native Applications

After you have loaded the dcBrowser client, configured your devices, and started your downline network, you can run the Native application on a UDP Plus or WTP device.

Trakker Antares UDP Plus Terminals

- Scan this bar code:

Run Program C:DCBT24.BIN



//C:DCBT24.BIN

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Or,

1. On your terminal, access the TRAKKER Antares 2400 Menu System by pressing **[f]** **[2]** **[4]** **[8]** or by scanning this bar code:

Enter Test and Service Mode



..



Note: If your terminal has a Left Enter key, you must use that key when entering the key sequence in Step 1; otherwise, just use the **[↵]** key.

2. From the Main Menu, choose System Menu and then choose File Manager. The File Manager screen appears.
3. Select drive C and press **[↵]**. A list of applications that are loaded on your terminal appear.
4. Select DCBT24.BIN and press **[↵]**.

The dcBrowser client starts. If you checked Send Terminal ID to Host, the terminal sends a power-up packet that contains an "I" followed by a 4-byte hex representation of the IP address followed by the terminal type.

If communications between the client and the DCS 301 are disconnected, press **Ctrl-[P]** to restart communications.

WTP Devices

The Native client starts when you turn on the device. If you checked Send Terminal ID to Host, the WTP devices send a power-up packet that contains a 2-byte device number followed by the device type.

4

Troubleshooting and Managing the DCS 301

This chapter describes how to troubleshoot and manage the DCS 301.

General Troubleshooting



Note: You can remotely access the DCS 301 if you have a network modem connected to your Ethernet network. For more information, contact your local Intermec representative.

If you have problems running the DCS 301 in your data collection network, look for your symptom in the table below and then try the solutions in the order that they are listed. If your problem is not listed in the table, you can look at the error log, the diagnostics, or the Product Support page.

Symptom

From your PC, you cannot connect to the DCS 301. Or, the DCS 301 pages do not display properly.

You have a DHCP network and do not know the IP address of the DCS 301.

Solution

The DCS 301 works best with Internet Explorer 4.0 or higher or Netscape Navigator 4.5 or higher on Windows 95/98/NT/2000.

You may access the Internet by using a proxy server. Make sure that you have added the DCS 301 IP address to your Exceptions list.

Make sure the DCS 301 is connected to and configured for the Ethernet network. Use a PC that is connected to the Ethernet network to ping the DCS 301 IP address.

In a DHCP network with a DNS server, you can access the DCS 301 home page by entering the DCS local host name in your browser's Address or Location field. The DCS local host name has to match the host name for the DCS 301 on the DNS server.

To get the DCS 301 IP address, use the DCS 301 local host name to find the IP address on the DHCP server.

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General Troubleshooting (continued)

Symptom

From your device, you cannot connect to the dcBrowser gateway.

The following error message appears: "A network error occurred. Unable to connect to server. The server may be down or unreachable."

Solution

Make sure the DCS 301 is connected to and configured for the Ethernet network. Use a PC that is connected to the Ethernet network to ping the device IP address and ping the DCS 301 IP address.

Make sure that the dcBrowser client is running on the device and that the device is communicating with the DCS 301. On the device, press **Ctrl-[M]** to ping the DCS 301.

Make sure that the device is communicating with the access point.

On the device, make sure that you have set the host IP address parameter to the DCS 301 IP address and the network port to 4055 for TCP/IP or 5555 for UDP Plus.

If you are using WTP devices, make sure that the host name configured in the device matches the RF host name configured in the WTP parameters on the DCS 301.

After making the configuration changes, save and activate the configuration. At the DCS 301 Configuration screen, choose Save and Activate from the menu tree. The Save and Activate page displays "Changes are pending." Click Save and Reboot to activate the new configuration.

Click OK. Start the dcBrowser gateway.

General Troubleshooting (continued)

Symptom

After you reboot the DCS 301, the response time between the device and the Web server is slower than expected.

You click Help from the DCS 301 home page and the Contents menu does not display on the left side of the help page.

You try to access the online help and nothing appears.

Solution

You can continue to send data from the device. The network will speed up in about 30 minutes.

Stop the dcBrowser gateway. Start the dcBrowser gateway, and then turn on ONE device. When the device gets its home page, then you can turn on the other devices.

You may have more than one help page open. Close all help pages and click Help again.

The online help works best in Internet Explorer 4.0 or above.

The Java 1.3 plug-in may not be installed. It should automatically download from <http://java.sun.com/products/plugin/>.

If you move or rename the Java plug-in directory on your PC, the Java plug-in installation may be corrupted. Reinstall the Java plug-in.

You may need to configure the Java 1.3 plug-in. Choose Java Plug-in Control Panel from the Start menu on your PC. Choose Proxies to change the proxy configuration options. You may need to clear the "Use Browser Settings" check box. For help, see the documentation at <http://java.sun.com/products/plugin/>.

About the DCS 301 Error Log

The error log provides a static view of all the status and error messages. If new status or error messages are generated while you are viewing the error log, you will not see them until you refresh the screen. To refresh the screen, right click on the error log text and choose Refresh if you have Internet Explorer or Reload Frame if you have Netscape Navigator.

The error log is limited to 700K.

Error log error messages are divided into the following lines:

- The first line contains the date and time the message was generated and information about the message, including the source that generated it.

w-xxxx-yyyy

where:

w is the subsystem number (the DCS 301 is system 7)

xxxx is the module number of the source code

yyyy is the specific message number

- The second line contains the specific message.
- Other lines that appear contain arguments pertaining to the error.

To view the error log

1. From the DCS 301 home page, click Diagnostics. The DCS 301 Diagnostic Tools page appears.
2. Click View Error Log. If a security screen appears, type INTERMEC in both the User Name and the Password fields, and click OK. You must type Intermec in uppercase letters.
3. Choose OK. The DCS 301 Error Log page appears.

DCS 301 Error Log Page

```
DCS 301 Error Log
lab301

2000-02-17 11:45:41 7-1003-956
Rebooting

2000-02-17 11:46:54 7-1391-1476
Native Serial adapter started

2000-02-17 11:46:58 7-1006-950
Startup
Version = V1.0

2000-02-17 12:02:09 7-1003-956
Rebooting

2000-02-17 12:03:22 7-1391-1476
Native Serial adapter started

2000-02-17 12:03:29 7-1006-950
Startup
Version = V1.0

2000-02-17 12:23:41 7-1001-951
Downline Network started
Version = V1.0
```

About the dcBrowser Diagnostics

This section provides an overview of the dcBrowser diagnostics. For detailed explanations of the diagnostics, see the online help.

The dcBrowser has a full set of diagnostics that let you view current connections, hash table sizing and contents, executing threads, and many other statistics. You can use these monitoring aids to troubleshoot your application and your data collection network. Each diagnostic reflects the current state of the process. Most of them are only meaningful if you have the help of Intermec Product Support. For help contacting Product Support, see “Using the Product Support Page” later in this chapter.

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To access the diagnostics screen

1. From the DCS 301 home page, click Diagnostics. The DCS 301 Diagnostic Tools page appears.
2. Click View dcBrowser Diagnostics. The dcBrowser Diagnostics page appears.

dcBrowser Diagnostics (Up 4820 Seconds)
Diagnostics

Self	Name	SetupCursor	DetailsColumn	DetailsCursor
003428bc	Connections	000419b8	* None *	NULL
001855a4	Counters	000387a4	* None *	NULL
00237d74	Cursors	000543c8	* None *	NULL
00232794	DescriptionCache	0005a1f0	* None *	NULL
001821c4	Descriptions	0004c460	* None *	NULL
00180cec	Diagnostics	00052d2c	* None *	NULL
00182eec	Events	00023668	* None *	NULL
00187db4	GetURLs	0003339c	* None *	NULL
0018170c	HashAccess	0004fac0	Name	0005026c
001814d4	HashConfig	0004fac0	Name	0005026c
001816a4	HashSizing	0004fac0	Name	0005026c
0018039c	Heaps	00044ef8	Name	00044ffc
0018293c	MutexAccess	00023658	* None *	NULL
001829a4	MutexOwners	00023658	* None *	NULL
00180b04	PointerArrays	00025730	Name	000262cc
0018478c	Queues	000562e0	Name	0005674c
0023259c	RequestURLs	000333bc	* None *	NULL
001865b4	ScrollingLogs	00046fac	Name	00046fbc
001860b4	ScrollingLogs	00046fac	Name	00046fbc
0023196c	Statistics	0003810c	* None *	NULL
0018611c	stdout	00042058	* None *	NULL

This table explains the columns that appear when you access the dcBrowser diagnostics.

Column	Description
Self	In-memory address of the information block
Name	Diagnostic name. Refer to the next table for descriptions.
SetupCursor	Address of the cursor setup routine for diagnostic information
DetailsColumn	Name of the link variable to the detailed diagnostic display
DetailsCursor	Address of the detailed cursor setup routine

This table provides a short description of the dcBrowser diagnostics that are available. For more detailed explanations of each diagnostic, see the online help.

Diagnostic Name	Description
Connections	Lists all of the active dcBrowser gateway connections, inbound and outbound
Counters	Lists the various diagnostic counters
Cursors	Lists the currently active cursors
Description Cache	Provides data structure descriptions cached from other processes
Descriptions	Provides locally-owned data structure descriptions
Diagnostics	Lists the available root-level diagnostics
Events	Lists the currently active event notification semaphores
Get URLs	Lists the URLs that support the GET method
Hash Access	Accesses statistics for hash tables
Hash Config	Provides configuration information for hash tables
Hash Sizing	Provides sizing information for hash tables
Heaps	Provides allocated size and statistics for heaps
Mutex Access	Provides mutual exclusion semaphore access information
Mutex Owners	Provides mutual exclusion semaphore owner information
Pointer Arrays	Lists the active pointer arrays
Queues	Lists the active queues
Request URLs	Lists the URLs that support the X-REQUEST method
Scrolling Logs	Lists the available scrolling logs
Statistics	Lists the performance statistics
stdout	Provides direct access to stdout scrolling log
Symbols	Lists the defined symbols and their values
Threads	Lists the active and idle threads

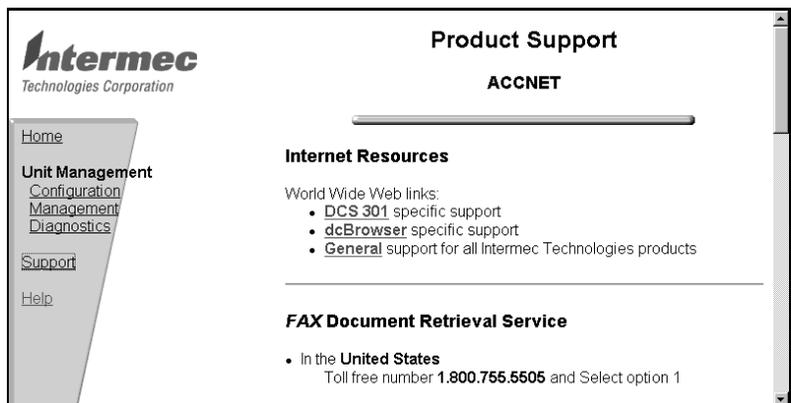
Using the Product Support Page

The Product Support page provides many ways to get help:

- Internet resources for linking to the Product Support home page for the DCS 301 and other Intermec products.
- Fax document retrieval services for accessing many Intermec documents, frequently asked questions, and other literature at any time.
- Case wizard to open an issue with Product Support.
- E-mail address and fax number for asking Product Support.
- Telephone numbers for contacting Product Support.

To access the Product Support page

- From the DCS 301 home page, click Support. The Product Support page appears.



For help using the case wizard, see the online help.

Managing the DCS 301



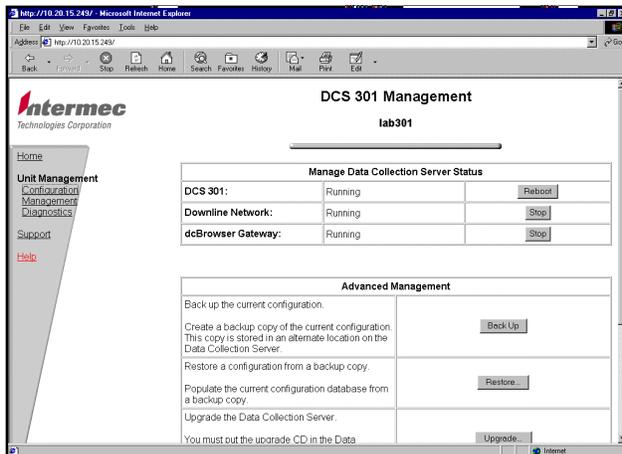
Note: You can remotely access the DCS 301 if you have a network modem connected to your Ethernet network. For more information, contact your local Intermec representative.

From the DCS 301 Management page, you can:

- Start or stop the downline network.
- Start or stop the dcBrowser gateway.
- Reboot or shut down the DCS 301.
- Back up the current configuration.
- Restore a previously saved configuration.
- Upgrade the DCS 301.

To access the DCS 301 Management page

- From the DCS 301 home page, click Management. The DCS 301 Management page appears.



Rebooting the DCS 301

1. From the DCS 301 home page, click Management. If a security screen appears, type INTERMEC in the User Name field and in the Password field, and click OK. You must type Intermec in uppercase letters.
2. Click Reboot. A message box appears confirming that you want to shut down and reboot the DCS 301.
3. Click OK. The DCS 301 reboots.

Shutting Down the DCS 301



Caution

Always shut down the DCS 301 before turning it off. If you do not shut down the DCS 301 properly, you may damage files or lose data.

Conseil

Il faut toujours arrêter le DCS 301 avant de l'éteindre. Si vous n'arrêtez pas le DCS 301 correctement, vous risquez d'endommager des fichiers ou de perdre des données.

If you need to turn off the DCS 301 for maintenance or relocation, make sure you follow this procedure. The DCS 301 must perform a series of shutdown activities to ensure that you do not lose any system files or data.

To shut down the DCS 301

1. From the DCS 301 home page, click Management. If a security screen appears, type INTERMEC in the User Name field and in the Password field, and click OK. You must type Intermec in uppercase letters.
2. Click Shutdown. A message box appears confirming that you want to shut down the DCS 301.

3. Click OK. The DCS 301 shuts down.

The Web browser informs you that the host is unavailable. It is now safe for you to turn off the DCS 301.

Backing Up the DCS 301

You can manually back up the current configuration of the DCS 301 to a different location on the DCS 301. When you back up the configuration, it is stored with the current date. After you have backed up the configuration, you can move the configuration off of the DCS 301.



Note: The DCS 301 also performs automatic backups of the current configuration. Every time you save and activate changes, the DCS 301 backs up the configuration. For more information on saving and activating changes, see the DCS 301 online help.

To back up the current configuration

1. From the DCS 301 home page, click Management. If a security screen appears, enter the user name and password and choose OK. The DCS 301 Management page appears.
2. Choose Backup. A message box appears confirming that you want to back up the current configuration of the DCS 301.



Note: Backing up the current configuration will overwrite any previous backups you have done. The automatic backups are not overwritten with this procedure.

3. Choose OK. A message box appears informing you when the backup is completed.
4. Choose OK.

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To move the backup files

1. Start an FTP client and connect to the DCS 301. For help, see the documentation for your FTP client.
2. At the login, type `anonymous` as the user name or select Anonymous FTP.
3. Open the backups subdirectory.
4. Open either the user or automatic subdirectory. The user subdirectory contains the configuration you created using the Backup button at the DCS 301 Management page. The automatic subdirectory contains the configuration that the DCS 301 automatically backs up.
5. Select the files and move them to the new location.
6. Disconnect from the DCS 301 and close the FTP client.

Restoring a Configuration

You can reset the DCS 301 to the factory default configuration and you can restore a previously saved configuration of the DCS 301.

When you manually back up the configuration, it is stored with the current date. The DCS 301 also performs periodic automatic backups. You can either restore a manual backup or an automatic backup.

To reset to the factory default configuration

1. From the DCS 301 home page, click Management. If a security screen appears, enter the user name and password and choose OK. The DCS 301 Management page appears.
2. Choose Restore. The Restore Configuration page appears.
3. Choose Reset to Factory Defaults.
4. Choose Begin Restore. When the DCS 301 finishes restoring the default configuration, you must reconfigure the DCS 301's IP address to be able to communicate with it. For help, see "Assigning the DCS 301 IP Address" in Chapter 2.

To restore a previously saved configuration on the DCS 301

1. From the DCS 301 home page, click Management. If a security screen appears, enter the user name and password and choose OK. The DCS 301 Management page appears.
2. Choose Restore. The Restore Configuration page appears.
3. Choose Last User Initiated Backup or choose Last Automatic Backup.
4. Choose Begin Restore. A message box appears informing you when the restore is completed.
5. Choose OK.

To restore a previously saved configuration from a host

1. Start an FTP client and connect to the DCS 301. For help, see the documentation for your FTP client.
2. At the login, type `anonymous` as the user name or select Anonymous FTP.
3. Open the backups subdirectory.
4. Open either the user or automatic subdirectory. The user subdirectory contains the configuration you created using the Backup button at the DCS 301 Management page. The automatic subdirectory contains the configuration that the DCS 301 automatically backs up.
5. Move the files from your host to the DCS 301.
6. Disconnect from the DCS 301 and close the FTP client.
7. Restore the configuration. For help, see the previous procedure.



Note: The Restore Configuration page displays the date the configuration was transferred to the DCS 301, not when the configuration was backed up.

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Upgrading the DCS 301

You can easily upgrade the DCS 301 to another software version using an upgrade CD. For help, use the instructions that ship with the CD. For the price and availability of upgrades, contact your local Intermecc representative.



Specifications



This appendix provides the specifications for the DCS 301.

Specifications

Physical Specifications

Length: 45.72 cm (18.0 in)
Height: 8.84 cm (3.48 in)
Width: 43.18 cm (17.0 in)
Weight: 13.5 kg (29.8 lb)

Electrical Specifications

100-120 VAC
200-240 VAC
47-63 Hz
300 Watts maximum
North American or International power via autoswitching

Environment Specifications

Operating: 0° to 50°C (32° to 122°F)
Storage: -40° to +60°C (-40° to +140°F)
Humidity: 10 to 90% (non-condensing) operating
Shock (operating): 30g acceleration peak (11ms pulse)
Vibration (operating): 5 to 7 Hz 0.5-inch double amplitude displacement
7 to 2,000 Hz, 1.5g acceleration

Regulatory Approvals

CE Marked for both EMC and Low Voltage Directives, UL Recognized, cUL Recognized, C-Tick (meets requirements), FCC-Part 15 Class A, UL 1950 3rd edition

