

CDA3-35

User's Guide

Version 1.0 05/2015



About This User's Guide

Intended Audience

This manual is intended for people who want to configure the CDA3-35's features via its Graphical User Interface (GUI).

How to Use this User's Guide

This manual contains information on each the CDA3-35's GUI screens, and describes how to use its various features.

- ▶ Use the [CDA3-35 Overview](#) on page 9 to see an overview of the topics covered in this manual.
- ▶ Use the [Table of Contents](#) (page 5), [List of Figures](#) (page 8) and [List of Tables](#) (page 9) to quickly find information about a particular GUI screen or topic.
- ▶ Use the [Index](#) (page 77) to find information on a specific keyword.
- ▶ Use the rest of this User's Guide to see in-depth descriptions of the CDA3-35's features.

Related Documentation

- ▶ **Quick Installation Guide:** see this for information on getting your CDA3-35 up and running right away. It includes information on system requirements, package contents, the installation procedure, and basic troubleshooting tips.

- ▶ **Online Help:** each screen in the CDA3-35's Graphical User Interface (GUI) contains a **Help** button. Click this button to see additional information about configuring the screen.

Document Conventions

This User's Guide uses various typographic conventions and styles to indicate content type:

- ▶ Bulleted paragraphs are used to list items, and to indicate options.
- 1 Numbered paragraphs indicate procedural steps.

NOTE: Notes provide additional information on a subject.



Warnings provide information about actions that could harm you or your device.

Product labels, field labels, field choices, etc. are in **bold** type. For example:

Select **UDP** to use the User Datagram Protocol.

A mouse click in the Graphical User Interface (GUI) is denoted by a right angle bracket (>). For example:

Click **Settings > Advanced Settings**.

means that you should click **Settings** in the GUI, then **Advanced settings**.

A key stroke is denoted by square brackets and uppercase text. For example:

Press **[ENTER]** to continue.

Customer Support

For technical assistance or other customer support issues, please consult your Hitron representative.

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1

Introduction

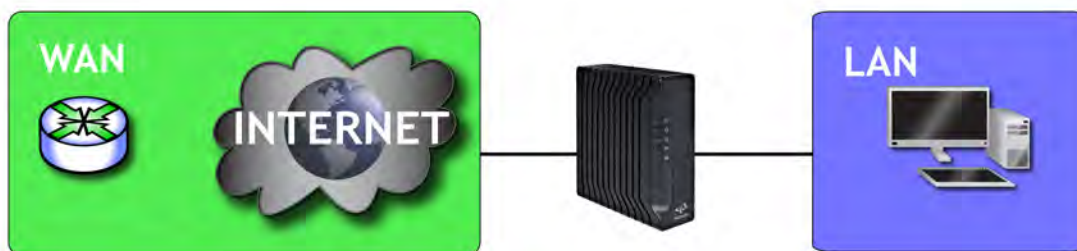
This chapter introduces the CDA3-35 and its GUI (Graphical User Interface).

1.1 CDA3-35 Overview

Your CDA3-35 is a cable modem that allows you to connect your computers and to the Internet via the cable connection.

Computers with a wired connection to the CDA3-35 User's Guide are on the Local Area Network (LAN) and the CDA3-35 connects to the service provider over the Wide Area Network (WAN).

Figure 1: Application Overview



1.1.1 Key Features

The CDA3-35 provides:

- ▶ Internet connection to cable modem service via **CATV** port (F-type RF connector)

- ▶ IPv4/IPv6 support
- ▶ Local Area Network connection via 10/100/1000 Mbps Ethernet port
- ▶ Dynamic Host Configuration Protocol (DHCP) for devices on the LAN
- ▶ LAN troubleshooting tools (Ping and Traceroute)
- ▶ Secure configuration interface, accessible by Web browser

1.2 Hardware Connections

This section describes the CDA3-35's physical ports and buttons.

Figure 2: Hardware Connections

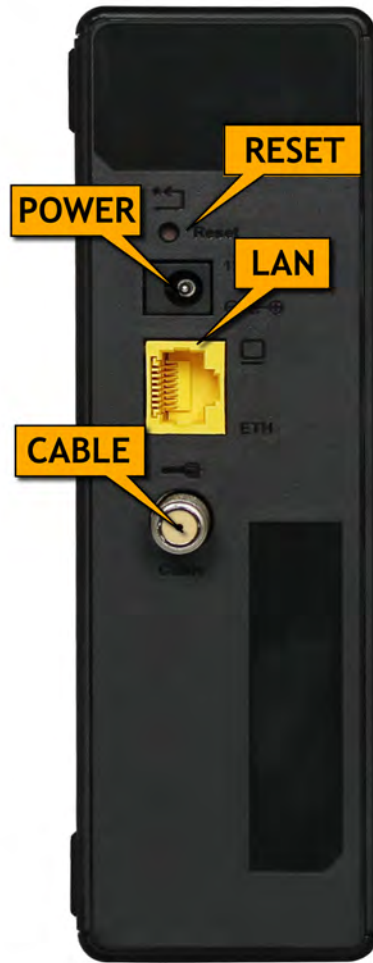




Table 1: Hardware Connections

<p>Reset</p>	<p>Use this button to reboot or reset your CDA3-35.</p> <ul style="list-style-type: none"> ▶ Press the button and hold it for less than five seconds to reboot the CDA3-35. The CDA3-35 restarts, using your existing settings. ▶ Press the button and hold it for more than five seconds to delete all user-configured settings and restart the CDA3-35 using its factory default settings. See Resetting the CDA3-35 on page 18 for more information on resetting the CDA3-35. <p>NOTE: Unless you previously backed-up the CDA3-35's configuration settings prior to resetting the CDA3-35, the settings cannot be recovered.</p>
<p>LAN</p>	<p>Use this port to connect your computer or network device, using Category 5 or 6 Ethernet cable with RJ45 connectors.</p>
<p>CABLE</p>	<p>Use this to connect to the Internet via an F-type RF cable.</p>
<p>POWER</p>	<p>Use this to connect to the 12v/1.5A power adapter that came with your CDA3-35.</p> <p> NEVER use another power adapter with your CDA3-35. Doing so could harm your CDA3-35.</p> <p>Figure 3: Power Adapter</p> 

1.3 LEDs

This section describes the CDA3-35's LEDs (lights).






Figure 4: LEDs



Table 2: LEDs

LED	STATUS	DESCRIPTION
-----	--------	-------------

Table 2: LEDs

POWER 	Off	The CDA3-35 is not receiving power.
	Green, steady	The CDA3-35 is receiving power.
DS 	Green, blinking	The CDA3-35 is searching for a downstream frequency on the CABLE connection.
	Green, steady	The CDA3-35 has successfully located and locked onto a downstream frequency on the CABLE connection.
	Blue, steady	The CDA3-35 is engaged in channel bonding on the downstream connection.
	Off	There is no downstream activity on the CABLE connection.
US 	Green, blinking	The CDA3-35 is searching for an upstream frequency on the CABLE connection.
	Green, steady	The CDA3-35 has successfully located and locked onto an upstream frequency on the CABLE connection.
	Blue, steady	The CDA3-35 is engaged in channel bonding on the upstream connection.
	Off	There is no upstream activity on the CABLE connection.
Status 	Green, blinking	The CDA3-35's cable modem is registering with the service provider's CMTS.
	Green, steady	The CDA3-35's cable modem has successfully registered with the service provider and is ready for data transfer.
LAN 	Off	No device is connected to one of the LAN ports.
	Green, blinking	A device is connected to the LAN port via a Fast Ethernet (100Mbps) link, and is transmitting or receiving data.
	Green, steady	A device is connected to the LAN port via a Fast Ethernet (100Mbps) link, but is not transmitting or receiving data.
	Blue, blinking	A device is connected to the LAN port via a Gigabit Ethernet (1000Mbps) link, and is transmitting or receiving data.
	Blue, steady	A device is connected to the LAN port via a Gigabit Ethernet (1000Mbps) link, but is not transmitting or receiving data.

When you turn on the CDA3-35, the LEDs light up in the following order:

- ▶ **POWER**
- ▶ **DS**
- ▶ **US**
- ▶ The **Status and LAN** LEDs light up as soon as there is activity on the port IP Address Setup.

Before you start the CDA3-35's GUI, your computer's IP address must be in the same subnet as the CDA3-35. This allows your computer to communicate with the CDA3-35.

NOTE: See [IP Addresses and Subnets](#) on page 20 for background information.

The CDA3-35 has a built-in DHCP server that, when active, assigns IP addresses to computers on the LAN. When the DHCP server is active, you can get an IP address automatically. The DHCP server is active by default.

If your computer is configured to get an IP address automatically, or if you are not sure, try to enter the CDA3's IP address (default **192.168.100.1**) in the URL bar in a opened browser window (see [GUI Overview](#) on page 17).

- ▶ If the GUI screen displays, your computer is already configured correctly.
- ▶ If the GUI screen does not display, either the CDA3-35's DHCP server is not active or your computer is not configured correctly. Follow the procedure in [Manual IP Address Setup](#) on page 16 and set your computer to get an IP address automatically. Try again. If you cannot see the GUI screen, follow the manual IP address setup procedure again, and set a specific IP address as shown. Try again.

NOTE: If you still cannot see the GUI screen, your CDA3-35's IP settings may have been changed from their defaults. If you do not know the CDA3-35's new address, you should return it to its factory defaults. See [Resetting the CDA3-35](#) on page 18. Bear in mind that ALL user-configured settings are lost.

1.4 IP Address Setup

Before you use the CDA3-35's GUI, your computer's IP address must be in the same subnet as the CDA3-35. This allows your computer to communicate with the CDA3-35.

NOTE: [See IP Addresses and Subnets on page 20 for background information.](#)

The CDA3-35 has a built-in DHCP server that, when active, assigns IP addresses to computers on the LAN. When the DHCP server is active, you can get an IP address automatically. The DHCP server is active by default.

If your computer is configured to get an IP address automatically, or if you are not sure, try to enter the CDA3's IP address (default 192.168.100.1) in the URL bar in a opened browser window (see [GUI Overview on page 17](#)).

- ▶ If the **System Information** screen displays, your computer is already configured correctly.
- ▶ If the **System Information** screen does not display, either the CDA3-35's DHCP server is not active or your computer is not configured correctly. Follow the procedure in [Manual IP Address Setup on page 16](#) and set your computer to get an IP address automatically. Try again. If you cannot see the screen, follow the manual IP address setup procedure again, and set a specific IP address as shown. Try again.

NOTE: [If you still cannot see the System Information screen, your CDA3-35's IP settings may have been changed from their defaults. If you do not know the CDA3-35's new address, you should return it to its factory defaults. See Resetting the CDA3-35 on page 18. Bear in mind that ALL user-configured settings are lost.](#)

1.4.1 Manual IP Address Setup

By default, your CDA3-35's local IP address is **192.168.100.1**. If your CDA3-35 is using the default IP address, you should set your computer's IP address to be between **192.168.100.2** and **192.168.100.254**.

NOTE: [If your CDA3-35 DHCP server is active, set your computer to get an IP address automatically in step 5. The CDA3-35 assigns an IP address to your computer. The DHCP server is active by default.](#)

Take the following steps to manually set up your computer's IP address to connect to the CDA3-35:

NOTE: This example uses Windows XP; the procedure for your operating system may be different.

- 1 Click **Start**, then click **Control Panel**.
- 2 In the window that displays, double-click **Network Connections**.
- 3 Right-click your network connection (usually **Local Area Connection**) and click **Properties**.
- 4 In the **General** tab's **This connection uses the following items** list, scroll down and select **Internet Protocol (TCP/IP)**. Click **Properties**.
- 5 You can get an IP address automatically, or specify one manually:
 - ▶ If your CDA3-35's DHCP server is active, select **Get an IP address automatically**.
 - ▶ If your CDA3-35's DHCP server is active, select **Use the following IP address**. In the **IP address** field, enter a value between **192.168.100.2** and **192.168.100.254** (default). In the **Subnet mask** field, enter **255.255.255.0** (default).

NOTE: If your CDA3-35 is not using the default IP address, enter an IP address and subnet mask that places your computer in the same subnet as the CDA3-35.

- 6 Click **OK**. The **Internet Protocol (TCP/IP)** window closes. In the **Local Area Connection Properties** window, click **OK**.

Your computer now obtains an IP address from the CDA3-35, or uses the IP address that you specified, and can communicate with the CDA3-35.

1.5 GUI Overview

This section describes the CDA3-35's GUI.

Take the following steps to see the CDA3-35's GUI.

- 1 Open a browser window.
- 2 Enter the CDA3-35's IP address (default **192.168.100.1**) in the URL bar.
- 3 The **System Information** screen displays (see [The System Information Screen](#) on page 27).
- 4 Select the **Language**, if required. By default, the CDA3-35's interface displays in English.

Figure 5: GUI Overview

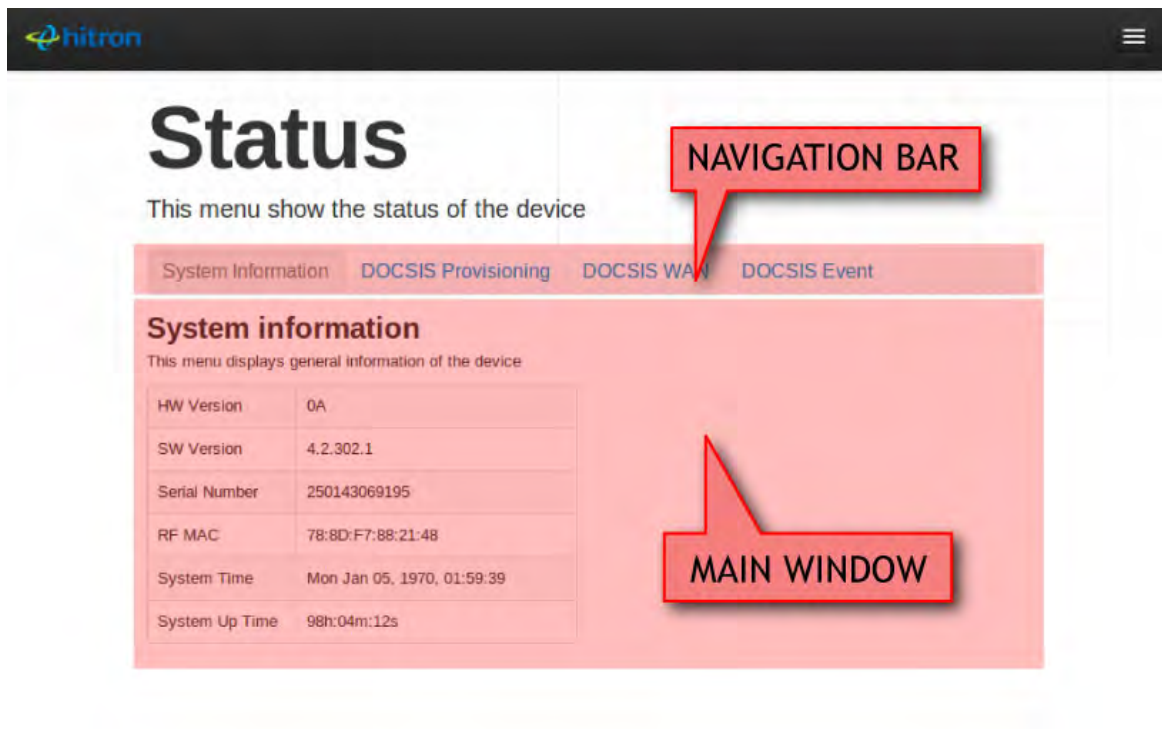


Table 3: GUI Overview

Navigation Bar	Use this section to move from one related screen to another.
Main Window	Use this section to read information about your CDA3-35's configuration, and make configuration changes.

1.6 Resetting the CDA3-35

When you reset the CDA3-35 to its factory defaults, all user-configured settings are lost, and the CDA3-35 is returned to its initial configuration state.

Here's the way to reset the CDA3-35:

- ▶ Press the **RESET** button on the CDA3-35, and hold it in for ten seconds or longer.

The CDA3-35 turns off and on again, using its factory default settings.

NOTE: Depending on your CDA3-35's previous configuration, you may need to re-configure your computer's IP settings; see [The Status and LAN LEDs light up as soon as there is activity on the port IP Address Setup.](#) on page 15.

2

Cable Overview

This chapter describes some of the concepts related to the **Cable** screens.

2.1 DOCSIS

The Data Over Cable Service Interface Specification (DOCSIS) is a telecommunications standard that defines the provision of data services (Internet access) over a traditional cable TV (CATV) network.

Your CDA3-35 supports DOCSIS version 3.0.

2.2 IP Addresses and Subnets

Every computer on the Internet must have a unique Internet Protocol (IP) address. The IP address works much like a street address, in that it identifies a specific location to which information is transmitted. No two computers on a network can have the same IP address.

2.2.1 IP Address Format

IP addresses consist of four octets (8-bit numerical values) and are usually represented in decimal notation, for example **192.168.100.1**. In decimal notation, this means that each octet has a minimum value of 0 and a maximum value of 255.

An IP address carries two basic pieces of information: the “network number” (the address of the network as a whole, analogous to a street name) and the “host ID” (analogous to a house number) which identifies the specific computer (or other network device).

2.2.2 IP Address Assignment

IP addresses can come from three places:

- ▶ The Internet Assigned Numbers Agency (IANA)
- ▶ Your Internet Service Provider
- ▶ You (or your network devices)

IANA is responsible for IP address allocation on a global scale, and your ISP assigns IP addresses to its customers. You should never attempt to define your own IP addresses on a public network, but you are free to do so on a private network.

In the case of the CDA3-35:

- ▶ The public network (Wide Area Network or WAN) is the link between the cable connector and your Internet Service Provider. Your CDA3-35's IP address on this network is assigned by your service provider.
- ▶ The private network is your Local Area Network (LAN), if enabled. You are free to assign IP addresses to computers on the LAN manually, or to allow the CDA3-35 to assign them automatically via DHCP (Dynamic Host Configuration Protocol). IANA has reserved the following blocks of IP addresses to be used for private networks only:

Table 4: Private IP Address Ranges

FROM...	...TO
10.0.0.0	10.255.255.255
172.16.0.0	172.31.255.255
192.168.0.0	192.168.255.255

If you assign addresses manually, they must be within the CDA3-35's LAN subnet.

2.2.3 Subnets

A subnet (short for sub-network) is, as the name suggests, a separate section of a network, distinct from the main network of which it is a part. A subnet may contain all of the computers at one corporate local office, for example, while the main network includes several offices.

In order to define the extent of a subnet, and to differentiate it from the main network, a subnet mask is used. This “masks” the part of the IP address that refers to the main network, leaving the part of the IP address that refers to the sub-network.

Each subnet mask has 32 bits (binary digits), as does each IP address:

- ▶ A binary value of **1** in the subnet mask indicates that the corresponding bit in the IP address is part of the main network.
- ▶ A binary value of **0** in the subnet mask indicates that the corresponding bit in the IP address is part of the sub-network.

For example, the following table shows the IP address of a computer (**192.168.1.1**) expressed in decimal and binary (each cell in the table indicates one octet):

Table 5: [IP Address: Decimal and Binary](#)

192	168	0	1
11000000	10101000	00000000	00000001

The following table shows a subnet mask that “masks” the first twenty-four bits of the IP address, in both its decimal and binary notation.

Table 6: [Subnet Mask: Decimal and Binary](#)

255	255	255	0
11111111	11111111	11111111	00000000

This shows that in this subnet, the first three octets (**192.168.100.1**, in the example IP address) define the main network, and the final octet (**1**, in the example IP address) defines the computer's address on the subnet.

The decimal and binary notations give us the two common ways to write a subnet mask:

- ▶ Decimal: the subnet mask is written in the same fashion as the IP address: **255.255.255.0**, for example.
- ▶ Binary: the subnet mask is indicated after the IP address (preceded by a forward slash), specifying the number of binary digits that it masks. The subnet mask **255.255.255.0** masks the first twenty-four bits of the IP address, so it would be written as follows: **192.168.1.1/24**.

2.3 DHCP

The Dynamic Host Configuration Protocol, or DHCP, defines the process by which IP addresses can be assigned to computers and other networking devices automatically, from another device on the network. This device is known as a DHCP server, and provides addresses to all the DHCP client devices.

In order to receive an IP address via DHCP, a computer must first request one from the DHCP server (this is a broadcast request, meaning that it is sent out to the whole network, rather than just one IP address). The DHCP server hears the requests, and responds by assigning an IP address to the computer that requested it.

If a computer is not configured to request an IP address via DHCP, you must configure an IP address manually if you want to access other computers and devices on the network. See [IP Address Setup](#) on page 16 for more information.

By default, the CDA3-35 is a DHCP client on the WAN (the CATV connection). It broadcasts an IP address over the cable network, and receives one from the service provider. By default, the CDA3-35 is a DHCP server on the LAN; it provides IP addresses to computers on the LAN which request them.

2.4 DHCP Lease

“DHCP lease” refers to the length of time for which a DHCP server allows a DHCP client to use an IP address. Usually, a DHCP client will request a DHCP lease renewal before the lease time is up, and can continue to use the IP address for an additional period. However, if the client does not request a renewal, the DHCP server stops allowing the client to use the IP address.

This is done to prevent IP addresses from being used up by computers that no longer require them, since the pool of available IP addresses is finite.

2.5 MAC Addresses

Every network device possesses a Media Access Control (MAC) address. This is a unique alphanumeric code, given to the device at the factory, which in most cases cannot be changed (although some devices are capable of “MAC spoofing”, where they impersonate another device’s MAC address).

MAC addresses are the most reliable way of identifying network devices, since IP addresses tend to change over time (whether manually altered, or updated via DHCP).

Each MAC address displays as six groups of two hexadecimal digits separated by colons (or, occasionally, dashes) for example **00:AA:FF:1A:B5:74**.

NOTE: Each group of two hexadecimal digits is known as an “octet”, since it represents eight bits.

Bear in mind that a MAC address does not precisely represent a computer on your network (or elsewhere), it represents a network device, which may be part of a computer (or other device). In the case of the CDA3-35, each internal module (cable modem module, Ethernet module, etc.) possesses its own MAC address.

2.6 Configuration Files

The CDA3-35's configuration (or config) file is a document that the CDA3-35 obtains automatically over the Internet from the service provider's server, which specifies the settings that the CDA3-35 should use. It contains a variety of settings that are not present in the user-configurable Graphical User Interface (GUI) and can be specified only by the service provider.

2.7 Downstream and Upstream Transmissions

The terms “downstream” and “upstream” refer to data traffic flows, and indicate the direction in which the traffic is traveling. “Downstream” refers to traffic from the service provider to the CDA3-35, and “upstream” refers to traffic from the CDA3-35 to the service provider.

2.8 Cable Frequencies

Just like radio transmissions, data transmissions over the cable network must exist on different frequencies in order to avoid interference between signals.

The data traffic band is separate from the TV band, and each data channel is separate from other data channels.

2.9 Modulation

Transmissions over the cable network are based on a strong, high frequency periodic waveform known as the “carrier wave.” This carrier wave is so called because it “carries” the data signal. The data signal itself is defined by variations in the carrier wave. The process of varying the carrier wave (in order to carry data signal information) is known as “modulation.” The data signal is thus known as the “modulating signal.”

Cable transmissions use a variety of methods to perform modulation (and the “decoding” of the received signal, or “demodulation”). The modulation methods defined in DOCSIS 3 are as follows:

- ▶ **QPSK**: Quadrature Phase-Shift Keying
- ▶ **QAM**: Quadrature Amplitude Modulation
- ▶ **QAM TCM**: Trellis modulated Quadrature Amplitude Modulation

In many cases, a number precedes the modulation type (for example **16 QAM**). This number refers to the complexity of modulation. The higher the number, the more data can be encoded in each symbol.

NOTE: In modulated signals, each distinct modulated character (for example, each audible tone produced by a modem for transmission over telephone lines) is known as a symbol.

Since more information can be represented by a single character, a higher number indicates a higher data transfer rate.

2.10 TDMA, FDMA and SCDDMA

Time Division Multiple Access (TDMA), Frequency Division Multiple Access (FDMA) and Synchronous Code Division Multiple Access (SCDDMA) are channel access methods that allow multiple users to share the same frequency channel.

- ▶ TDMA allows multiple users to share the same frequency channel by splitting transmissions by time. Each user is allocated a number of time slots, and transmits during those time slots.

- ▶ FDMA allows multiple users to share the same frequency channel by assigning a frequency band within the existing channel to each user.
- ▶ SC-DMA allows multiple users to share the same frequency channel by assigning a unique orthogonal code to each user.

3

Status

This chapter describes the screens that display when you click **Status** in the toolbar. It contains the following sections:

- ▶ [The System Information Screen](#) on page 27
- ▶ [The DOCSIS Provisioning Screen](#) on page 28
- ▶ [The DOCSIS WAN Screen](#) on page 29
- ▶ [The DOCSIS Event Screen](#) on page 32
- ▶ [The LAN Port Status Screen](#) on page 34
- ▶ [The Spectrum Screen](#) on page 34

3.1 The System Information Screen

Use the System Info screen to see general information about your CDA3-35's hardware, its software, and its connection to the Internet.

NOTE: Most of the information that displays in this screen is for troubleshooting purposes only. However, you may need to use the MAC Address information when setting up your network.

Click **Status** > **System Information**. The following screen displays.

Figure 6: The Status: System Information Screen

System information	
This menu displays general information of the device	
HW Version	0A
SW Version	4.2.302.1
Serial Number	250143069195
RF MAC	78:8D:F7:88:21:48
System Time	Mon Jan 05, 1970, 01:59:39
System Up Time	98h:04m:12s

The following table describes the labels in this screen.

Table 7: The Status: System Information Screen

HW Version	This displays the version number of the CDA3-35's physical hardware.
SW Version	This displays the version number of the software that controls the CDA3-35.
Serial Number	This displays a number that uniquely identifies the device.
RF MAC	This displays the Media Access Control (MAC) address of the CDA3-35's RF module. This is the module that connects to the Internet through the Cable connection.
System Time	This displays the current date and time.
System Uptime	This displays the number of days, hours, minutes and seconds since the CDA3-35 was last switched on or rebooted.

3.2 The DOCSIS Provisioning Screen

This screen displays the steps successfully taken to connect to the Internet over the **Cable** connection.

Use this screen for troubleshooting purposes to ensure that the CDA3-35 has successfully connected to the Internet; if an error has occurred you can identify the stage at which the failure occurred.

Click **Status > DOCSIS Provisioning**. The following screen displays.

Figure 7: The Status: DOCSIS Provisioning Screen

DOCSIS Provisioning Status	
This menu displays the connectivity status of the modem and its boot state	
HW init	Success
Find Downstream	Success
Ranging	Success
DHCP	Success
Time of Day	Process...
Download CM Config File	Success
Registration	Success
EAE status	Disable
BPI status	AUTH:authorized, TEK:operational

For each step:

- ▶ **Process** displays when the CDA3-35 is attempting to complete a connection step.
- ▶ **Success** displays when the CDA3-35 has completed a connection step.

3.3 The DOCSIS WAN Screen

Use this screen to discover information about:

- ▶ The nature of the upstream and downstream connection between the CDA3-35 and the device to which it is connected through the **CABLE** interface.
- ▶ IP details of the CDA3-35's WAN connection.

Click **Status > DOCSIS WAN**. The following screen displays.

Figure 8: The Status: DOCSIS WAN

DOCSIS WAN					
This menu displays both upstream and downstream signal parameters					
DOCSIS Overview					
CM Configuration file name	Cisco_10k_IPv6_Bundle_1.cfg				
Network Access	Permitted				
IP Address	2001:0:180:0:7ce3:4ac1:4b4d:3906/192.168.50.86				
Subnet Mask	255.255.255.0				
Gateway IP	192.168.50.254				
DHCP Lease Time	D: 00 H: 02 M: 00 S: 00				
Downstream Overview					
Port ID	Frequency (Hz)	Modulation	Signal strength (dBmV)	Signal noise ratio (dB)	Channel ID
1	507000000	256QAM	7.000	44.626	39
2	465000000	256QAM	2.400	40.946	32
3	471000000	256QAM	3.700	40.946	33
4	477000000	256QAM	4.100	43.377	34
5	483000000	256QAM	4.100	40.946	35
6	489000000	256QAM	7.200	41.616	36
7	495000000	256QAM	6.900	43.377	37
8	501000000	256QAM	6.400	43.377	38
Upstream Overview					
Port ID	Frequency (Hz)	BandWidth (Hz)	Modulation Type	Signal Strength (dBmV)	Channel ID
1	36800000	1600000	ATDMA	46.000	2
2	40200000	1600000	ATDMA	46.250	4
3	38500000	1600000	ATDMA	46.000	3
4	35100000	1600000	ATDMA	43.500	1

The following table describes the labels in this screen.

Table 8: [The Status: DOCSIS WAN Screen](#)

DOCSIS Overview	
CM Configurator file name	This displays the name of the configuration file that the CDA3-35 downloaded from your service provider. This file provides the CDA3-35 with the service parameter data that it needs to perform its functions correctly.
Network Access	This displays whether or not your service provider allows you to access the Internet over the CABLE connection. <ul style="list-style-type: none"> ▶ Permitted displays if you can access the Internet. ▶ Denied displays if you cannot access the Internet.
IP Address	This displays the CDA3-35's WAN IP address. This IP address is automatically assigned to the CDA3-35
Subnet Mask	This displays the CDA3-35's WAN subnet mask.
Gateway IP	This displays the IP address of the device to which the CDA3-35 is connected over the CABLE interface.
DHCP Lease Time	This displays the time that elapses before your device's IP address lease expires, and a new IP address is assigned to it by the DHCP server.
Downstream Overview	
NOTE: The downstream signal is the signal transmitted to the CDA3-35.	
Port ID	This displays the ID number of the downstream connection's port.
Frequency (MHz)	This displays the actual frequency in Megahertz (MHz) of each downstream data channel to which the CDA3-35 is connected.
Modulation	This displays the type of modulation that each downstream channel uses.
Signal Strength (dBmV)	This displays the power of the signal of each downstream data channel to which the CDA3-35 is connected, in dBmV (decibels above/below 1 millivolt).
Signal Noise Ratio (dB)	This displays the Signal to Noise Ratio (SNR) of each downstream data channel to which the CDA3-35 is connected, in dB (decibels).
Channel ID	This displays the ID number of each channel on which the downstream signal is transmitted.

Table 8: The Status: DOCSIS WAN Screen (continued)

Upstream Overview	
NOTE: The upstream signal is the signal transmitted from the CDA3-35.	
Port ID	This displays the ID number of the upstream connection's port.
Frequency (MHz)	This displays the actual frequency in Megahertz (MHz) of each upstream data channel to which the CDA3-35 is connected.
Modulation	This displays the type of modulation that each upstream channel uses.
Signal Strength (dBmV)	This displays the power of the signal of each upstream data channel to which the CDA3-35 is connected, in dBmV (decibels above/below 1 millivolt).
Signal Noise Ratio (dB)	This displays the Signal to Noise Ratio (SNR) of each upstream data channel to which the CDA3-35 is connected, in dB (decibels).
Channel ID	This displays the ID number of each channel on which the upstream signal is transmitted.

3.4 The DOCSIS Event Screen

Use this screen to discover information about:

- ▶ The nature of the upstream and downstream connection between the CDA3-35 and the device to which it is connected through the **CABLE** interface.
- ▶ IP details of the CDA3-35's WAN connection.

Click **Status > DOCSIS Event**. The following screen displays.

Figure 9: The Status: DOCSIS Event Screen

Docsis Logs				
The docsis event logs is shown here				
No	Time	type	Priority	Event
1	01/04/70 16:22:30	68010300	error	DHCP RENEW WARNING - Field invalid in response v4 option;CM-MAC=78:8d:f7:88:21:48;CMTS-MAC=00:1d:70:cc:1b:4f;CM-QOS=1.1;CM-VER=3.0;
2	01/04/70 17:22:18	68000403	error	ToD request sent- No Response received;CM-MAC=78:8d:f7:88:21:48;CMTS-MAC=00:1d:70:cc:1b:4f;CM-QOS=1.1;CM-VER=3.0;
3	01/04/70 17:22:31	68010300	error	DHCP RENEW WARNING - Field invalid in response v4 option;CM-MAC=78:8d:f7:88:21:48;CMTS-MAC=00:1d:70:cc:1b:4f;CM-QOS=1.1;CM-VER=3.0;
4	01/04/70 18:21:05	68000403	error	ToD request sent- No Response received;CM-MAC=78:8d:f7:88:21:48;CMTS-MAC=00:1d:70:cc:1b:4f;CM-QOS=1.1;CM-VER=3.0;
5	01/04/70 18:22:31	68010300	error	DHCP RENEW WARNING - Field invalid in response v4 option;CM-MAC=78:8d:f7:88:21:48;CMTS-MAC=00:1d:70:cc:1b:4f;CM-QOS=1.1;CM-VER=3.0;
6	01/04/70 19:20:12	68000403	error	ToD request sent- No Response received;CM-MAC=78:8d:f7:88:21:48;CMTS-MAC=00:1d:70:cc:1b:4f;CM-QOS=1.1;CM-VER=3.0;
7	01/04/70 19:22:31	68010300	error	DHCP RENEW WARNING - Field invalid in response v4 option;CM-MAC=78:8d:f7:88:21:48;CMTS-MAC=00:1d:70:cc:1b:4f;CM-QOS=1.1;CM-VER=3.0;

The following table describes the labels in this screen.

Table 9: The Status: DOCSIS Event Screen

No.	This displays the arbitrary, incremental index number assigned to the DOCSIS event.
Time	This displays the time and date of the DOCSIS event.
Type	This displays the type of the DOCSIS event. NOTE: The definitions of the type of DOCSIS event follow DOCSIS's specification accordingly.
Priority	This displays the priority of the DOCSIS event. NOTE: The definitions of the priority of DOCSIS event follow DOCSIS's specification accordingly.
Event	This displays a description of the DOCSIS event.

3.5 The LAN Port Status Screen

Use this screen to discover information about the status between the CDA3-35 and the device to which it is connected through the **LAN** interface.

Click **Status > LAN Port Status**. The following screen displays.

Figure 10: The Status: LAN Port Status Screen

LAN Port Status	
This menu displays the link status of the LAN port	
Status	Up
Speed	1000Mbps
Duplex	Full

The following table describes the labels in this screen.

Table 10: The Status: LAN Port Status Screen

Status	This displays the status between the CDA3-35 and the device to which it is connected through the LAN interface.
Speed	This displays the speed between the CDA3-35 and the device to which it is connected through the LAN interface.
Duplex	This displays the status of the duplex between the CDA3-35 and the device to which it is connected through the LAN interface.

3.6 The Spectrum Screen

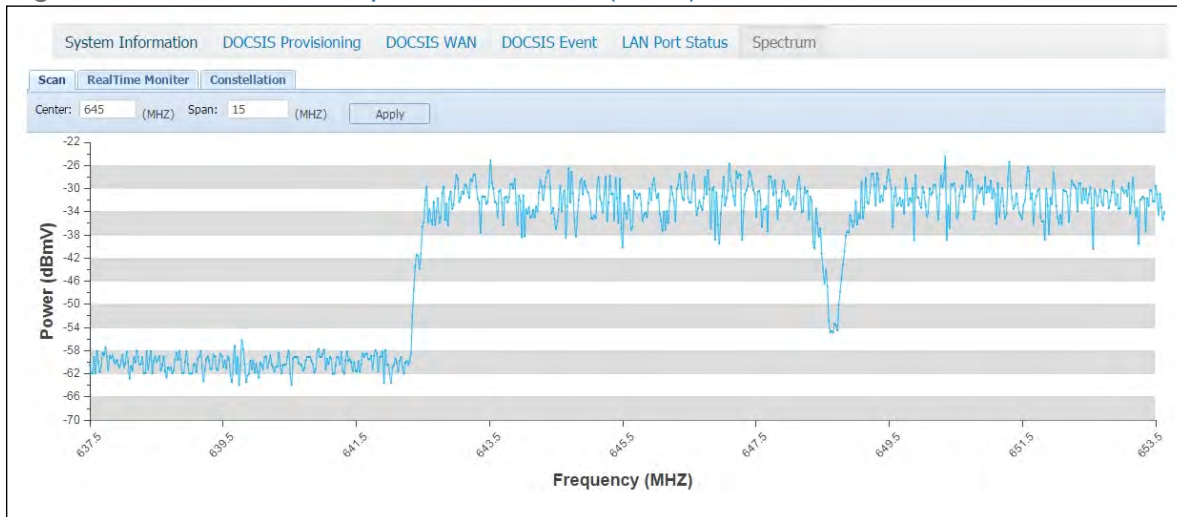
Use these screens to configure your CDA3-35's spectrum analysis tool.

Click **Status > Spectrum**. The following screen displays.

3.6.1 Scan

Click **Status > Spectrum**, then click the **Scan** tab. The following screen displays.

Figure 11: The Status: Spectrum Screen (Scan)



The following table describes the labels in this screen.

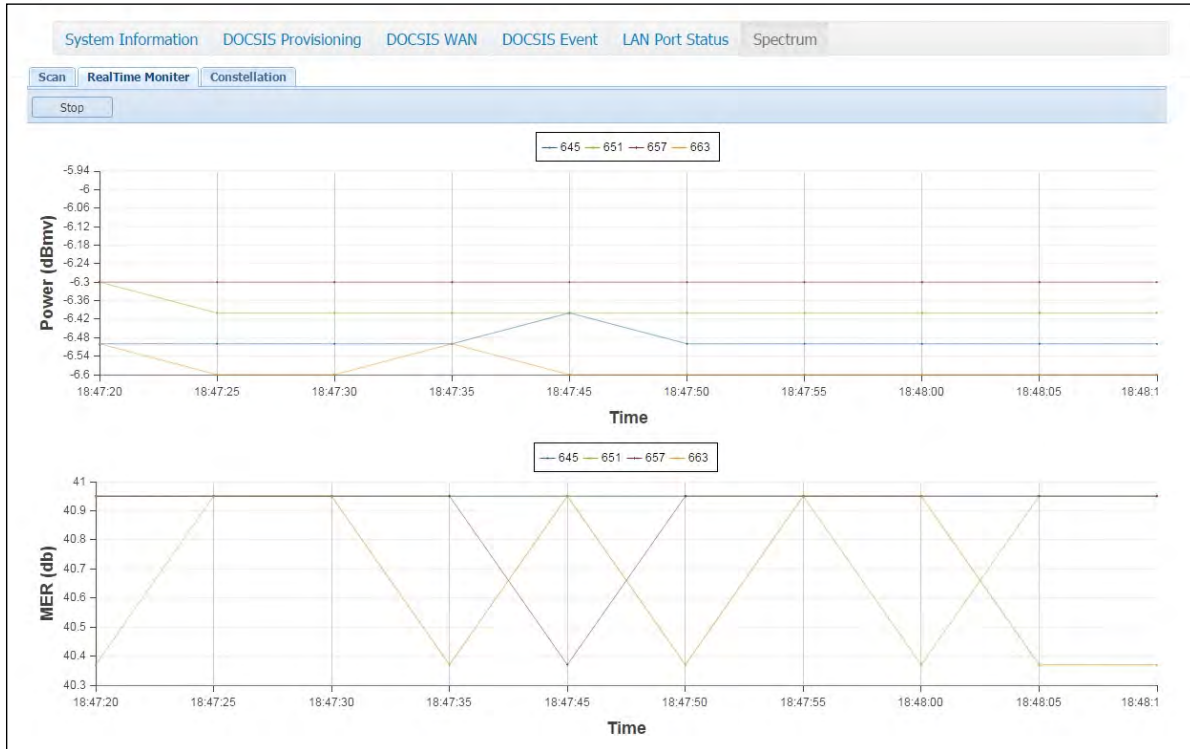
Table 11: The Status: Spectrum Screen (Scan)

Center	Enter the center frequency of the scan.
Span	Enter the frequency range of the scan.
Apply	Click this to start the scanning.
Power (dBmV)	This displays the power level of the spectrum.
Frequency (MHz)	This displays the frequency of the measurement.

3.6.2 RealTime Monitor

Click **Status > Spectrum**, then click the **RealTime Monitor** tab. The following screen displays.

Figure 12: The Status: Spectrum Screen (RealTime Monitor)



The following table describes the labels in this screen.

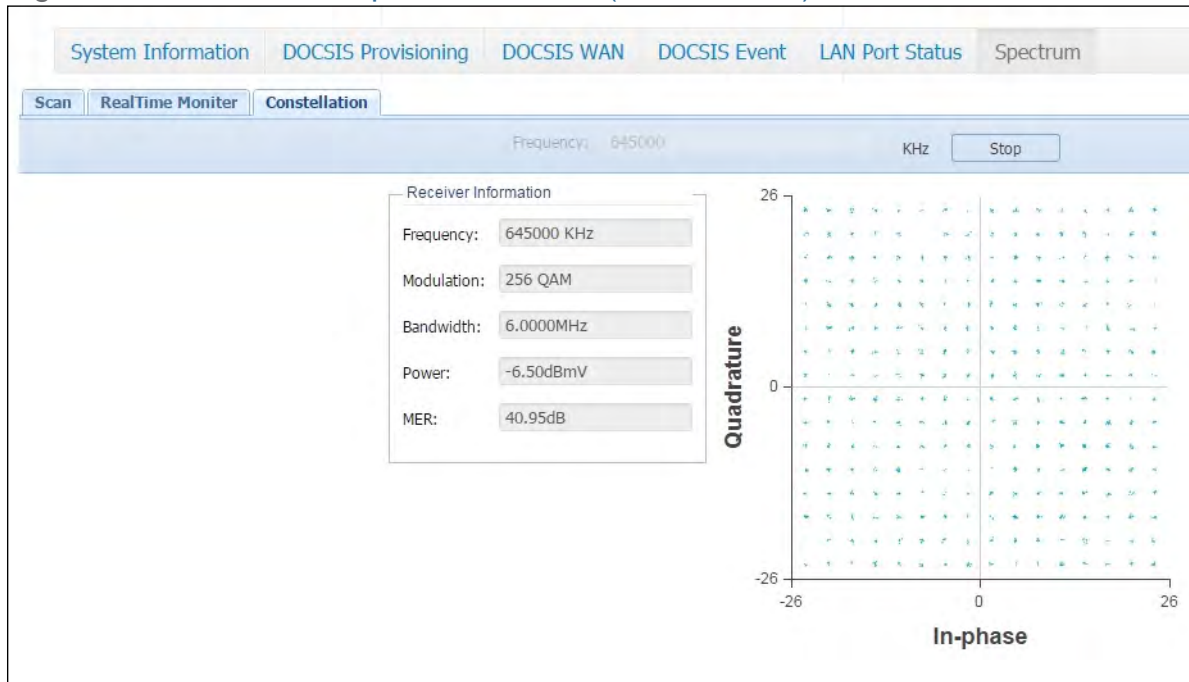
Table 12: The Status: Spectrum Screen (RealTime Monitor)

Power (dBmV)	This displays the power level of the spectrum.
MER (db)	This displays the modulation error ratio.
Stop	Click this to stop the scanning.

3.6.3 Constellation

Click **Status > Spectrum**, then click the **Constellation** tab. The following screen displays.

Figure 13: The Status: Spectrum Screen (Constellation)



The following table describes the labels in this screen.

Table 13: The Status: Spectrum Screen (Constellation)

Receiver Information	This displays the information of the current receiver frequency.
Frequency	This displays the frequency of the measurement.
Modulation	This displays the modulation of the measurement.
Bandwidth	This displays the bandwidth information.
Power	This displays the power level of the spectrum.
MER	This displays the modulation error ratio.
Quadrature x In-phrase	This displays the spectrum constellation.
Stop	Click this to stop the scanning.

4

Troubleshooting


Use this section to solve common problems with the CDA3-35 and your network. It contains the following sections:

- ▶ [None of the LEDs Turn On](#) on page 38
- ▶ [One of the LEDs does not Display as Expected](#) on page 39
- ▶ [I Forgot the CDA3-35's IP Address](#) on page 39
- ▶ [I Forgot the CDA3-35's Username or Password](#) on page 39
- ▶ [I Cannot Access the CDA3-35 or the Internet](#) on page 40
- ▶ [I Cannot Access the Internet and the DS and US LEDs Keep Blinking](#) on page 40

Problem: **None of the LEDs Turn On**

The CDA3-35 is not receiving power, or there is a fault with the device.

- 1 Ensure that you are using the correct power adaptor.

 **Using a power adaptor other than the one that came with your CDA3-35 can damage the CDA3-35.**

- 2 Ensure that the power adaptor is connected to the CDA3-35 and the wall socket (or other power source) correctly.
- 3 Ensure that the power source is functioning correctly. Replace any broken fuses or reset any tripped circuit breakers.

- 4 Disconnect and re-connect the power adaptor to the power source and the CDA3-35.
- 5 If none of the above steps solve the problem, consult your vendor.

Problem: One of the LEDs does not Display as Expected

- 1 Ensure that you understand the LED's normal behavior (see [LEDs](#) on page 13).
- 2 Ensure that the CDA3-35's hardware is connected correctly; see the Quick Installation Guide.
- 3 Disconnect and re-connect the power adaptor to the CDA3-35.
- 4 If none of the above steps solve the problem, consult your vendor.

Problem: I Forgot the CDA3-35's IP Address

- 1 The CDA3-35's default LAN IP address is **192.168.100.1**.
- 2 You can locate the CDA3-35's GUI by entering the LAN domain suffix into your browser's address bar (on a computer connected to the LAN).
- 3 Depending on your operating system and your network, you may be able to find the CDA3-35's IP address by looking up your computer's default gateway. To do this on (most) Windows machines, click **Start > Run**, enter "cmd", and then enter "ipconfig". Get the IP address of the **Default Gateway**, and enter it in your browser's address bar.
- 4 If you still cannot access the CDA3-35, you need to reset the CDA3-35. All user-configured data is lost, and the CDA3-35 is returned to its default settings.

Problem: I Forgot the CDA3-35's Username or Password

- 1 The default username is **cusadmin**, and the default password is **password**.
- 2 If the default username and password do not work, you need to reset the CDA3-35. All user-configured data is lost, and the CDA3-35 is returned to its default settings.

Problem: I Cannot Access the CDA3-35 or the Internet

- 1 Ensure that you are using the correct IP address for the CDA3-35.
- 2 Check your network's hardware connections, and that the CDA3-35's LEDs display correctly (see [LEDs](#) on page 13).
- 3 Make sure that your computer is on the same subnet as the CDA3-35; see [The Status and LAN LEDs light up as soon as there is activity on the port IP Address Setup.](#) on page 15.
- 4 If the above steps do not work, you need to reset the CDA3-35. All user-configured data is lost, and the CDA3-35 is returned to its default settings. If the problem persists, contact your vendor.

Problem: I Cannot Access the Internet and the DS and US LEDs Keep Blinking

Your service provider may have disabled your Internet access; check the **Status > System Info** screen's Network Access field (see [The System Information Screen](#) on page 27).

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