

ECx Ethernet Option Guide

Version 1.0 for D-Show

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Contents

Chapter 1. Overview	1
ECx Capabilities and Features	1
ECx Components	1
System Requirements	1
Conventions Used in This Guide	2
Chapter 2. Installing ECx	3
Installing the ECx Card	3
Installing ECx Host Software	5
Chapter 3. Configuring and Using ECx	7
Overview	7
Connecting a Computer Directly to D-Show	7
Configuring and Connecting a Wireless Router or WAP to D-Show	7
Configuring TCP/IP Connections	8
Using Static IP Addressing	8
Using Dynamic IP Addressing (DHCP)	10
Changing the Ethernet Control Password	11
Installing the Ethernet Control Client Software	11
Establishing a Wireless Connection	12
Configuring the ECx Client	13

Chapter 1: Overview

Welcome to the ECx Ethernet Option for D-Show systems. The ECx Ethernet Option lets you control a D-Show system remotely over an Ethernet network, using compatible wired or wireless network equipment (purchased separately).

ECx Capabilities and Features

The ECx Option provides the following:

- Remote control of a D-Show system from a client computer, including a laptop or Tablet PC
- Exact duplication of the D-Show user interface on the remote client computer
- Support for Windows and Macintosh clients

ECx Components

The ECx Option package includes the following items:

- ECx card (installs into the D-Show FOH Rack)
- Ethernet cable for connecting the ECx card inside the FOH Rack
- ECx Ethernet Option Installer CD-ROM
- Registration card

System Requirements

The following are required to use the ECx Ethernet Option:

- A D-Show system that has already been installed and configured, running D-Show 1.1 or later
- A qualified router or wireless access point device
- A client computer running Windows XP or Mac OS X with wired or wireless Ethernet capability

For complete system requirements, visit the Digidesign Web site (www.digidesign.com).

Compatibility Information

Digidesign can only assure compatibility and provide support for hardware and software it has tested and approved.

For wireless communication with the ECx Ethernet Option, 802.11g or Pre-N capable devices are recommended.


For a list of Digidesign-qualified computers, operating systems, and wireless devices, refer to the latest compatibility information on the Digidesign Web site (www.digidesign.com/compato).


Conventions Used in This Guide


All Digidesign guides use the following conventions to indicate menu choices and key commands in D-Show and Pro Tools:


Convention	Action
Options > System Config	In the D-Show software screen, click Options to display the Options page, then click the System Config tab.
Control+N	Hold down the Control (Ctrl) key and press the N key
Control-click	Hold down the Control (Ctrl) key and click the mouse button

The following symbols are used to highlight important information:

 *User Tips are helpful hints for getting the most from your D-Show system.*

 *Important Notices include information that could affect data or performance.*

 *Shortcuts show you useful keyboard or mouse shortcuts.*

 *Cross References point to related sections in the D-Show or Pro Tools Guides.*

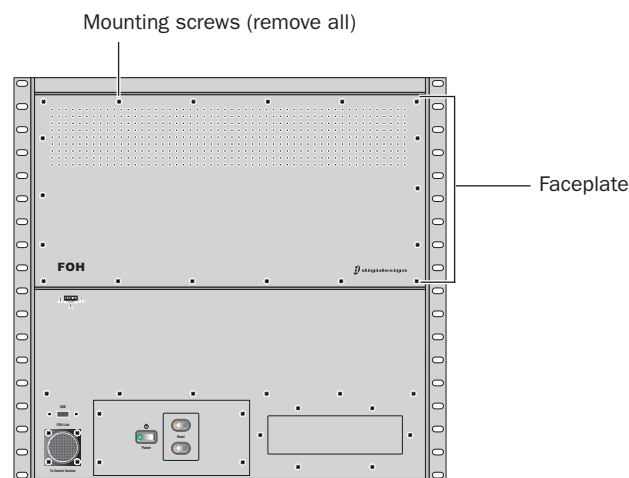
Chapter 2: Installing ECx

Installing the ECx Card

The ECx card is installed in the FOH Rack, and connected with the supplied Ethernet cable to the internal Ethernet port on the FOH motherboard.

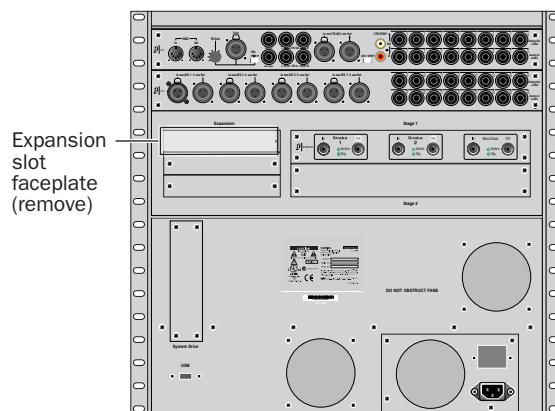
To install an ECx card:

- 1 Shut down D-Show.
- 2 Turn off power on the FOH Rack.
- 3 Disconnect all power, audio, FOH Link, and any other cables attached to the FOH Rack.
- 4 Remove the front panel faceplate by unscrewing its mounting screws (#1 Phillips). Keep the screws nearby for remounting the front panel later.



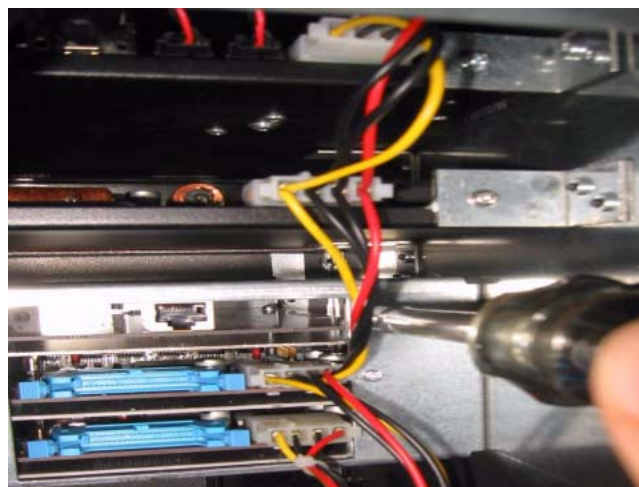
Front panel of the FOH Rack

- 5 On the back panel of the FOH Rack, remove the faceplate on any available expansion slot by removing the screws holding it in place. Keep the screws nearby for securing the ECx Card to the FOH Rack later.



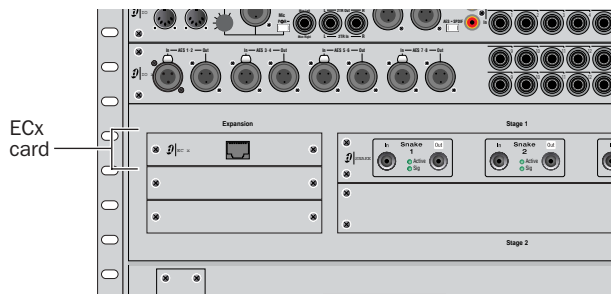
Back panel of the FOH Rack

- 6 Slide the ECx card into the expansion slot.
- 7 When the card is seated in its slot, secure it to the FOH chassis with the mounting screw at the end of the ECx mounting bracket (accessible from the open front panel of the FOH Rack).



Securing the ECx card to the chassis

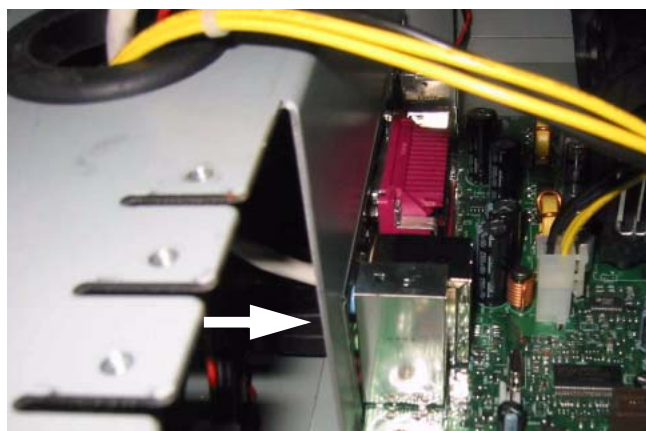
8 Secure the ECx card to the back panel of the FOH Rack using the two screws that held the faceplate.



Securing the ECx Card to the back panel of the FOH Rack

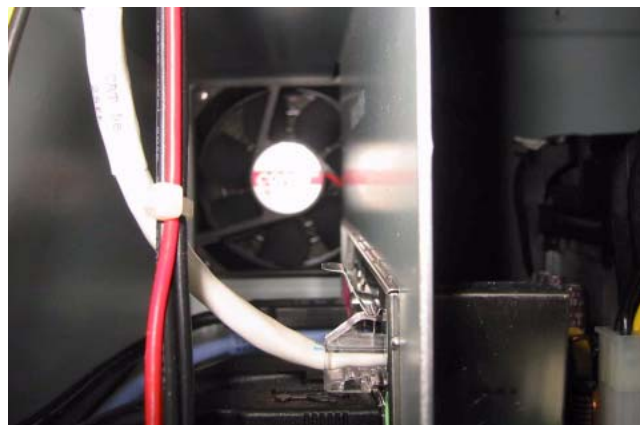
9 From the open front panel of the FOH Rack, carefully disconnect the ribbon cables from each Mix Engine card, and remove the TDM FlexCables from each of the cards.

10 Remove all the Mix Engine cards from the FOH Rack so you have access to the Ethernet port that faces the inside left panel of the FOH Rack.



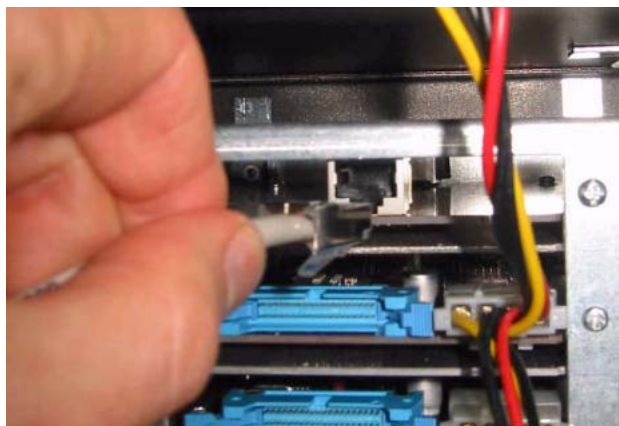
Ethernet port on the inside left of FOH motherboard

11 Connect one end of the provided Ethernet cable to the Ethernet port.



Ethernet cable connected to internal Ethernet port

12 Thread the Ethernet cable up through the hole in the left side of the FOH chassis and connect the other end to the back of the ECx card. Arrange the cable so that it is out of the way of other components.



Connecting the Ethernet cable to the back of the ECx card

13 Replace the Mix Engine cards and TDM FlexCables, and secure the cards in the FOH chassis. (See the Mix Engine card installation instructions in the *D-Show Expansion Options Guide* for details.)

14 Reconnect the ribbon cables to each of the Mix Engine cards.

15 Reattach the FOH Rack faceplate using its screws.

16 Reconnect power, audio, FOH Link, and any other cables to the FOH Rack.

17 Power on all D-Show components.

18 Proceed to the next section to install the ECx host software.

Installing ECx Host Software

The ECx host software enables D-Show to communicate with computers running the remote client software.

To install ECx host software on D-Show:

- 1 Insert the ECx Installer CD in the FOH Rack CD-ROM drive.
- 2 Put D-Show in Config mode.
- 3 Go to Options > System Config and click Update.
- 4 Click Yes to exit D-Show and begin the installation.
- 5 After the ECx software installation is complete, D-Show restarts.

Uninstalling ECx Host Software

If you need to uninstall ECx software from D-Show, you can do so from the system desktop.

To uninstall ECx host software from D-Show:

- 1 Put D-Show in Config mode.
- 2 Go to Options > System Config.
- 3 Hold the Control key and click Shut Down to go to the system desktop.
- 4 Locate and double-click the ECx host software uninstall program (C:\Program Files\D-Show Ethernet Control Software\Uninstall.bat).

The ECx host software is uninstalled, and D-Show automatically restarts.



The ECx folder will remain on the D-Show hard drive, but the ECx software will appear as uninstalled.

Chapter 3: Configuring and Using ECx

Overview

The D-Show system communicates with remote computers using standard VNC (Virtual Network Computing) protocol over TCP/IP, allowing remote access to the D-Show user interface with any compatible Windows or Macintosh computer that supports Ethernet.

This chapter covers the steps for configuring the ECx option, which include:

- ◆ Connecting the remote computer directly to the D-Show system using an Ethernet cable, or establishing a wireless connection using an Ethernet-based router or wireless access point (WAP).
- ◆ Assigning IP addresses to the D-Show system and to the client computer.
- ◆ Installing the ECx client application, and entering the IP address of the D-Show system in the application, which lets you operate all of D-Show's on-screen controls from the remote computer.

Connecting a Computer Directly to D-Show

If you are establishing a fixed remote control station and do not need a mobile connection, you can connect the remote computer directly to D-Show using an Ethernet cable.

To connect a computer directly to D-Show:

- 1 Connect one end of the appropriate Ethernet cable type (with RJ-45 connectors) to the ECx port on the FOH Rack, and the other end to the Ethernet port on the computer. The type of cable depends on the operating system of the remote computer:

Windows To connect a Windows computer directly to D-Show, an Ethernet crossover cable is required. Alternatively, you can use an Ethernet hub and connect standard Ethernet cables between D-Show, the hub and the remote computer.

Macintosh To connect a Macintosh computer directly to D-Show, you can use either a standard Ethernet cable or an Ethernet crossover cable.

- 2 Configure the D-Show system and the client computer IP addresses manually. See "Using Static IP Addressing" on page 8.

Configuring and Connecting a Wireless Router or WAP to D-Show

D-Show works with standard wireless routers or wireless access point (WAP) devices.

Before connecting a wireless router or WAP device, you should configure the SSID of the device so that its wireless network can be easily identified on the client computer. You can specify any unique network name for the device, such as "D-Show Network").

To configure the SSID and any network security features of your wireless router or WAP, refer to the manufacturer's instructions.

To connect a wireless router or WAP device to D-Show:

- 1 Connect one end of the appropriate type of Ethernet cable to the ECx port on the FOH Rack, and the other end to the Ethernet connector port on the router or WAP. Use the following type of cable for the corresponding device type:

- Use a standard Ethernet cable to connect a wireless router to the FOH Rack.
- Use an Ethernet crossover cable to connect a wireless access point (WAP) device to the FOH Rack.

- 2 Do one of the following:

- If you are using a wireless router or WAP device that does not include a DHCP server function (such as the Cisco Aironet 1230AG) you must configure the D-Show system and the client computer IP addresses manually. See "Using Static IP Addressing" on page 8.
- If you are using a wireless router that includes a DHCP server function (such as the Belkin Pre-N) you can configure the D-Show system and the client computer to set the IP addresses automatically. See "Using Dynamic IP Addressing (DHCP)" on page 10.

Configuring TCP/IP Connections

TCP/IP configuration changes on D-Show and the host computer can take up to 2 minutes to become effective. After making software configuration changes or connecting Ethernet cables, make sure to allow sufficient time for the system to assign IP addresses and establish communication between all the components.

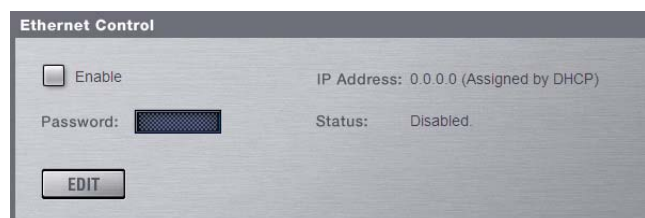
If network communication is not established after allowing sufficient time for IP addressing, then you can verify that you are using the correct cable types, have correctly connected the system, and have working cables.

Using Static IP Addressing

You can set the IP addresses of the D-Show system and client computer manually.

To manually set the IP address for D-Show:

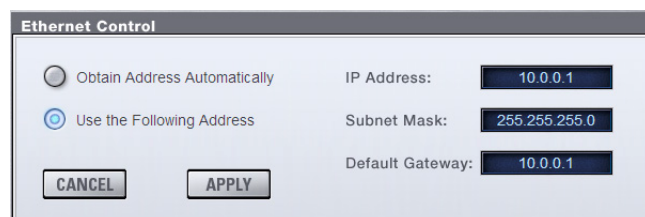
- 1 In D-Show, go to the Options page and click the Interaction tab.
- 2 Under Ethernet Control, click Edit.



Ethernet Control section of the Interaction page

- 3 Select “Use the Following Address” and enter the following:

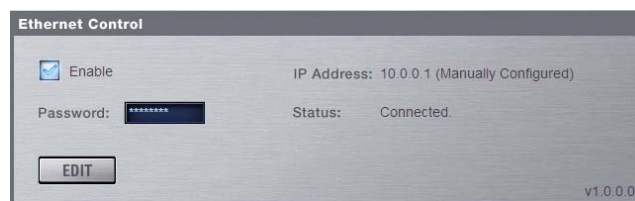
- IP address: 10.0.0.1
- Subnet Mask: 255.255.255.0
- Default Gateway: 10.0.0.1



Setting an IP address manually

- 4 Click Apply.

- 5 Select Enable to activate the D-Show ECx host.

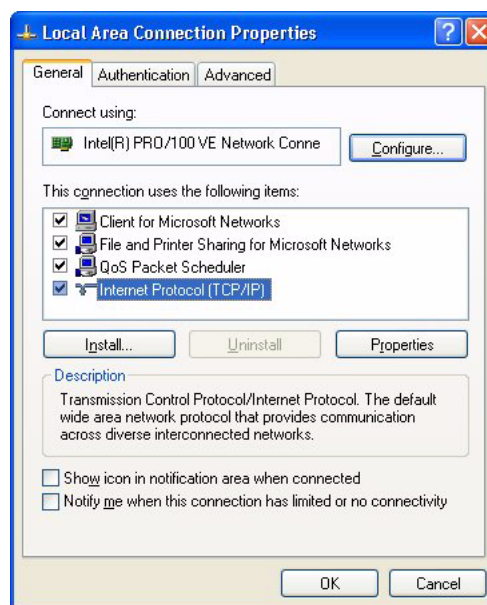


Enabling the D-Show ECx host

Setting the Client Computer IP Address Manually (Windows)

To manually set the IP address for a Windows client computer:

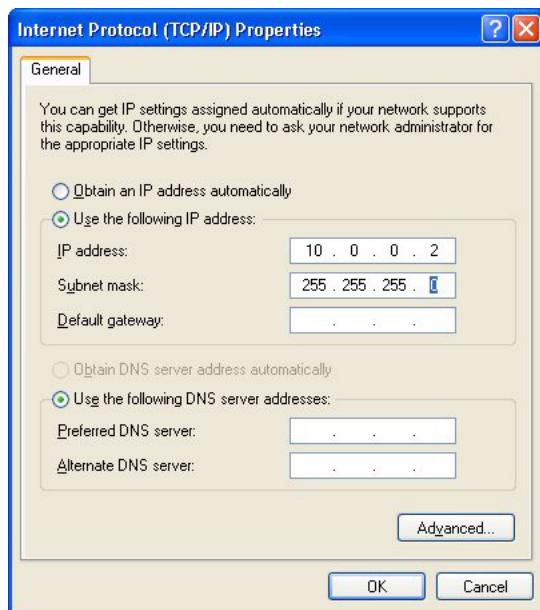
- 1 Go to Control Panels > Network Connections.
- 2 In the Network Connections window, do one of the following:
 - If you are connecting the computer directly to D-Show, right-click the Local Area Connection icon and choose Properties.
 - If you are connecting using a wireless router or WAP, right-click the Wireless Network Connection icon and choose Properties.
- 3 In the Connection Properties window, double-click Internet Protocol (TCP/IP).



Connection Properties window

4 In the Internet Protocol Properties window, select “Use the following IP Address” and enter the following:

- IP address: 10.0.0.2
- Subnet Mask: 255.255.255.0
- Default Gateway: (none required)



Internet Protocol Properties window

5 Click OK to close the Internet Protocol properties window.

6 Click OK to close the Network Connection Properties window.

7 Go to “Installing the Ethernet Control Client Software” on page 11 to install and configure the Windows client software.

Setting the Client Computer IP Address Manually (Macintosh)

To manually set the IP address for a Macintosh client computer:

1 Launch System Preferences > Network.

2 Do one of the following:

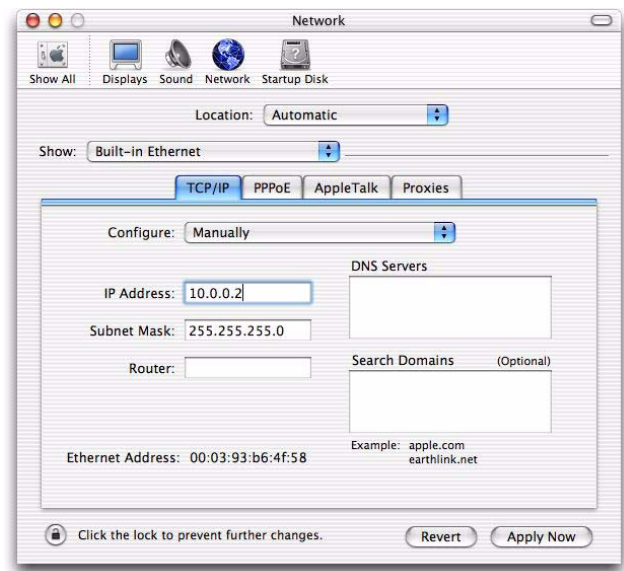
- If you are connecting the computer directly to D-Show, choose Built-In Ethernet from the Show menu.
- If you are connecting using a wireless router or WAP, choose Airport from the Show menu.

3 Click the TCP/IP tab.

4 Choose Manually from the Configure menu.

5 Enter the following:

- IP address: 10.0.0.2
- Subnet Mask: 255.255.255.0
- Router: (none required)



Network Preferences window

6 Click Apply Now.

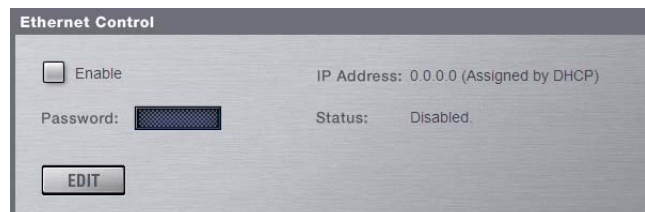
7 Go to “Installing the Ethernet Control Client Software” on page 11 to install and configure the Macintosh client software.

Using Dynamic IP Addressing (DHCP)

You can configure the D-Show system and client computer to set their IP addresses automatically using DHCP.

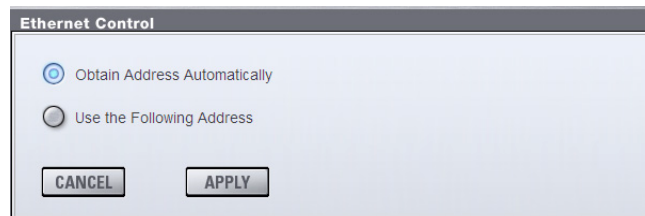
To configure D-Show to set its IP address automatically:

- 1 In D-Show, go to the Options page and click the Interaction tab.
- 2 Under Ethernet Control, click Edit.



Ethernet Control section of the Interaction page

- 3 Select “Obtain Address Automatically.”



Configuring Ethernet Control in D-Show

- 4 Click Apply.
- 5 Wait until the D-Show system is assigned an IP address. This may take time (up to two minutes). If no DHCP server is found, D-Show will self-assign an IP address.

💡 *Make a note of the IP address assigned to D-Show, as you will need to enter it into the client software.*

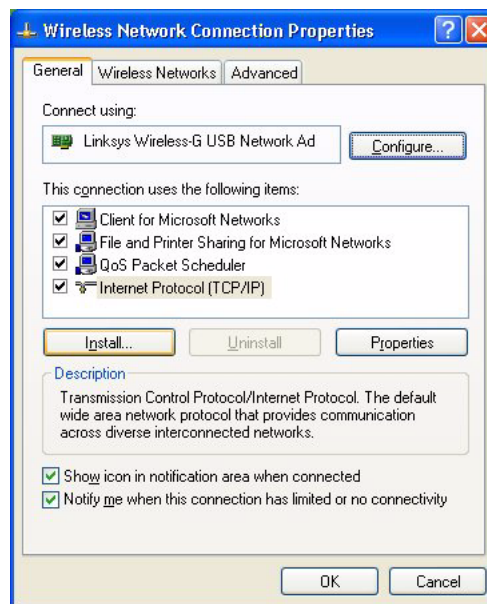
- 6 Select Enable to activate the D-Show ECx host.
- 7 Go to the following sections to automatically set the IP address of the client computer for your operating system.

Setting the Client Computer IP Address Automatically (Windows)

To configure a Windows client computer to set its IP address automatically:

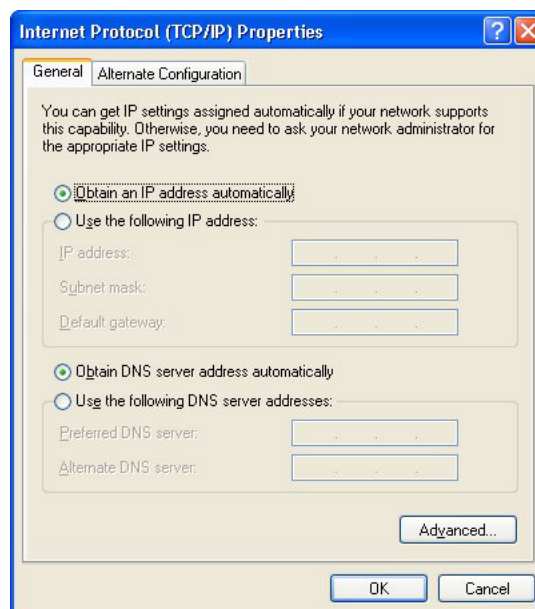
- 1 Go to Control Panel > Network Connections.
- 2 Right-click the Wireless Network Connection icon and choose Properties.

- 3 In the Connection Properties window, double-click Internet Protocol (TCP/IP).



Connection Properties window

- 4 In the Internet Protocol Properties window, select “Obtain an Address Automatically.”



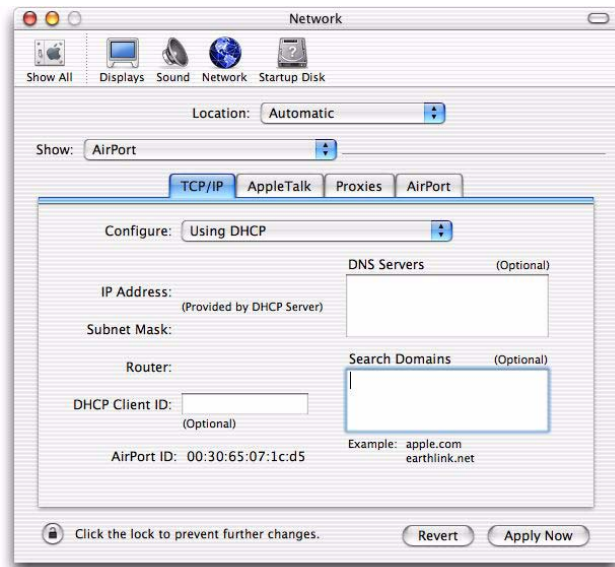
Internet Connection Properties window

- 5 Click OK to close the Internet Protocol properties window.
- 6 Click OK to close the Network Connection Properties window.

Setting the Client Computer IP Address Automatically (Macintosh)

To configure a Macintosh client computer to set its IP address automatically:

- 1 Launch System Preferences > Network.
- 2 Choose Airport from the Show menu.
- 3 Click the TCP/IP tab.
- 4 Choose Using DHCP from the Configure menu.



Network Preferences window

- 5 Click Apply Now.

Changing the Ethernet Control Password

You can change the password that users need to enter in order to control D-show from a remote client.

💡 By default, the D-Show Ethernet Control password is "password" (all lowercase).

To change the Ethernet Control password:

- 1 In the Ethernet Control section of the Options > Interaction page, double-click the Password field.
- 2 Enter a new password and press Enter.

💡 Make a note of the new password, as you will need to enter it into the client software.

Installing the Ethernet Control Client Software

The ECx Installer CD-ROM contains remote control applications for both Windows (Windows XP) and Macintosh (Mac OS X) platforms. You can install these applications on any compatible computer with Ethernet capability.

Installing the ECx Client on Windows XP

To install the ECx control client application ("Ultr@VNC") on Windows XP:

- 1 Insert the ECx Installer CD-ROM in the computer CD drive.
- 2 Open the Ethernet Control Clients folder.
- 3 Open the Windows XP folder.
- 4 Double-click the Ultr@VNC Setup file.
- 5 Follow the on-screen installation instructions to complete the installation.

Installing the ECx Client on Mac OS X

To install the ECx control client application ("Chicken of the VNC") on Mac OS X:

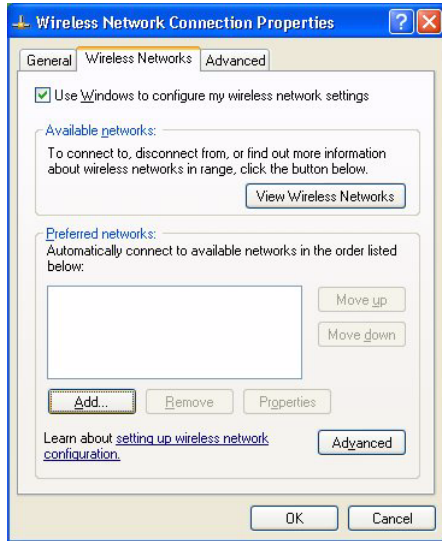
- 1 Insert the ECx Installer CD-ROM in the computer CD drive.
- 2 Open the Ethernet Control Clients folder.
- 3 Open the Mac OS X folder.
- 4 Double-click the "Chicken of the VNC" installer file.
- 5 In the window that opens, drag the "Chicken of the VNC" icon to copy it to a location on your hard drive.
- 6 Drag the disc image icon to the trash after installation is complete.

Establishing a Wireless Connection

Once TCP/IP addresses are set, you can establish a connection to the wireless network.

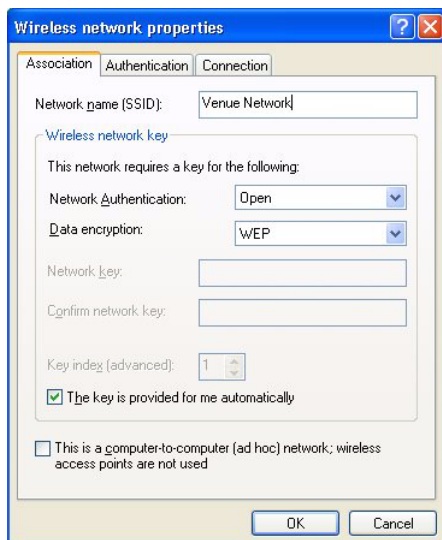
To establish a wireless connection in Windows:

- 1 Go to Control Panel > Network Connections.
- 2 Right-click the Wireless Network Connection icon and choose Properties.
- 3 In the Connection Properties window, click the Wireless Networks tab.



Configuring a wireless connection in Windows

- 4 Under Preferred Networks, click Add, and type the SSID of the wireless router or WAP device connected to D-Show.
- 5 Choose the Network Authentication and Data Encryption settings to match the corresponding router or WAP configuration settings.

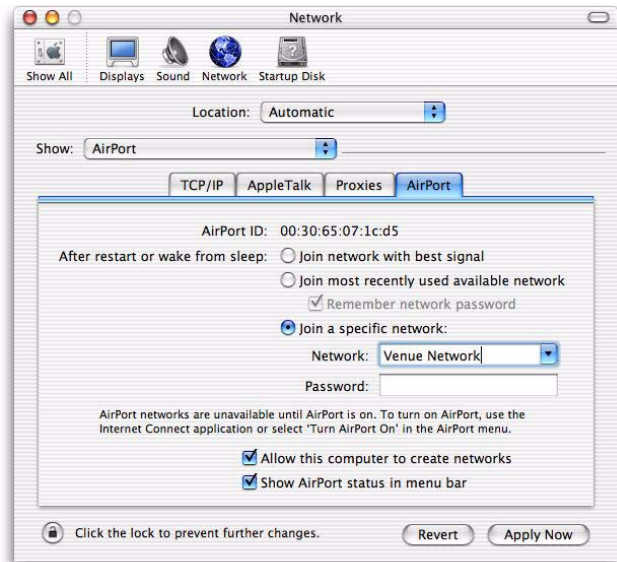


Entering an SSID and choosing settings in Windows

- 6 Click OK. The D-Show SSID should appear in the list of available wireless networks.

To establish a wireless connection on the Macintosh:

- 1 Go to System Preferences > Network.
- 2 Choose Airport from the Show menu.
- 3 Click the Airport tab.
- 4 Select Join a Specific Network and enter the SSID of the wireless router or WAP device connected to D-Show.



Configuring a wireless connection on the Macintosh

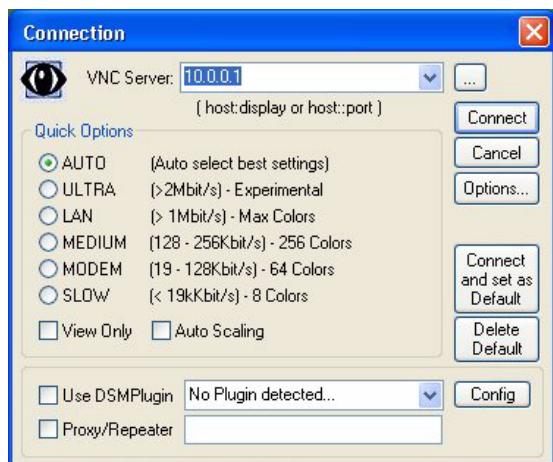
- 5 Click Apply Now. The D-Show SSID should appear in the list of available wireless networks.

Configuring the ECx Client

The ECx client computer and software must be configured to connect to the D-Show ECx host.

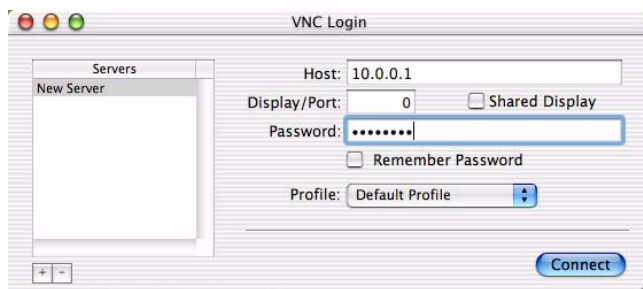
To configure and connect the ECx client:

- 1 Set up your computer to access the wireless network by using the Network Connections Control Panel (Windows) or by enabling AirPort communication (Macintosh).
- 2 Do one of the following:
 - In Windows, double-click the “Ultr@VNC Viewer” icon to launch the Ultr@VNC Viewer application, enter the IP address of the ECx host, and click Connect. Enter the password when prompted.



Configuring the Windows ECx client

- On the Macintosh, double-click the “Chicken of the VNC” icon to launch the application, enter the IP address of the ECx host, enter the password, and click Connect.



Configuring the Macintosh ECx client

The client launches and displays the D-Show screen. You can then view and operate all on-screen controls from the client computer.

To disconnect the ECx client, do any of the following:

- Close the ECx client application by doing one of the following:
 - In Windows, move the pointer to the top of the screen until the control strip appears, and click the close box.
 - On the Macintosh, press Command+Q to quit.
- On the D-Show system, deselect Enable in the Ethernet Control section of the Options > Interaction page.