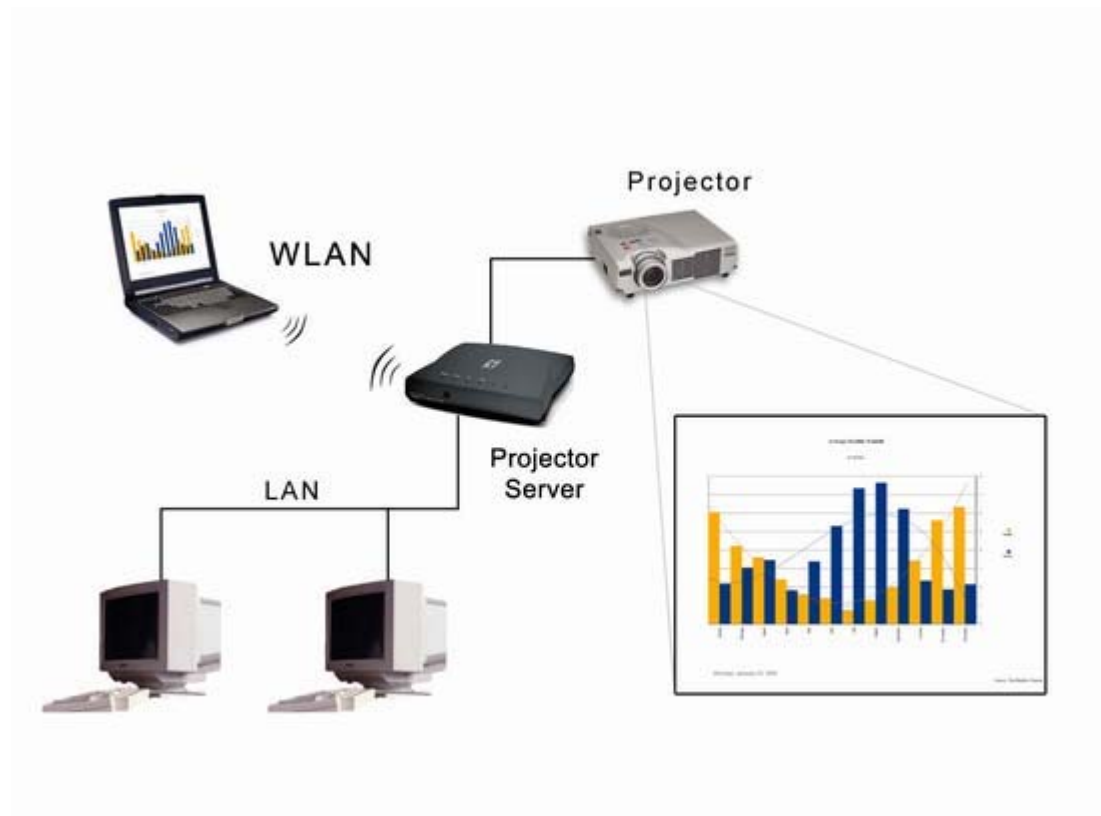


Introduction

The Projector Server

The Projector Server is an innovative appliance for networking and PC-less presentation. With build-in Ethernet and Wireless LAN networking, Projector Server will turn your data projector into a smart networked projector. No more passing the video cable around in a meeting. Just upload your presentation slides from your desk, or send live snap shots of your computer screen through the Projector Server to the projector.



Features

- z Project the screens of remote computers via LAN (local area network), wired or wireless
- z Build-in Image viewer to display image slides for computer-less presentation
- z Internal 64MB Flash disk for image storage
- z Plug and play, connects your projector to the LAN in a flash
- z Compact appliance design, easy to setup and maintain
- z Easy to use graphical on-screen menus
- z One standard 10Base-T/100Base-TX interface
- z IEEE 802.11g (DSSS) 2.4GHz wireless connection
- z Features wireless Access Point function
- z Up to 128-Bit WEP Encryption

Package Contents



- z One LevelOne 54Mbps wireless Projector Server
- z One Power Adapter.
- z One Utility CD-ROM

Getting to Know the Projector Server

The Projector Server's Ports



DC-IN Port The Power port (DC-IN) is where you will connect the power adapter.

Reset Button The Reset button resets the Projector Server to its factory default settings.

Power Switch The Power On/Off Switch for the Projector Server.

VGA Port The VGA port is where you will connect to the input port of your projector.

LAN Port This LAN (Local Area Network) port connects to an Ethernet hub, switch, or router.

USB Port The USB port is where you can connect a standard mouse / keyboard.

The Projector Server's USB port currently does not support hot-plugging function for a USB mouse. If you wish to use it, make sure to plug it in before booting the system.

The Projector Server's Top Panel LEDs



POWER *Green*. The POWER LED will light up when the Projector Server is powered on.

READY *Green*. The READY LED will blink while the system is powering up. It will light up steadily when the Projector Server is ready.

LAN *Green*. The LAN LED will light up steadily when the LAN port is connected. It will blink when there is LAN traffic.

WLAN *Green*. The WLAN LED will light up steadily when the wireless LAN is on. It will blink when there is wireless traffic.

USB *Green*. The USB LED will light up when the USB port is connected.

The Projector Server's Front Panel



**Con
and
Setti
Up**

Connecting to Your Network

1. Plug one end of a standard UTP Category 5 (or better) Ethernet cable into the Projector Server's LAN Port.
2. Connect the other end of the Ethernet cable into a networked hub or switch. The distance between the Projector Server and the second device should not exceed 328 feet (100 meters).

Note: Some personal firewall software installed on the personal computer may block the connection of the player utility. Please stop the personal firewall when using the player utility, or configure the personal firewall to allow connection on port 4000, 4001 and 5900.

Connecting the Power

1. Plug the power adapter cord into the Projector Server's Power port.
2. Plug the power adapter into a power outlet.
3. Turn on the Power Switch, the Power LED will light up.
4. The LAN LED will become active. If the LAN LED does not light up, check your Ethernet cable connection.

Warning! Only use the power adapter packaged with the Projector Server. Using a different power adapter could damage the device.

Connecting to a Projector

1. Connect your projector to the Projector Server's Video (VGA) port with the VGA cable that came with your projector. Consult your projector's user manual for cabling specifications.
2. Power on your projector. The Projector Server's hardware installation is now complete, and you are now ready to use the Projector Server.

Configuring Network Address

The default configuration of the Projector Server should work in the local area network of most small office. The Projector Server will automatically set up its network address and parameters from the dynamic address service (DHCP) on your network.

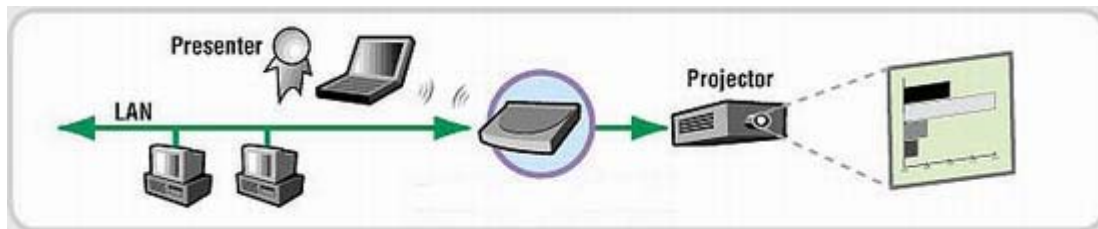
If you don't have a DHCP service or want to assign a fixed network address to the Projector Server. Please refer to the on-screen System Setup menu in next chapter. We also suggest that after the installation, you should change the host

name of the Projector Server to an easy to remember and unique name (e.g. Room301). Please refer to the Administration Utility for how to change the host name.

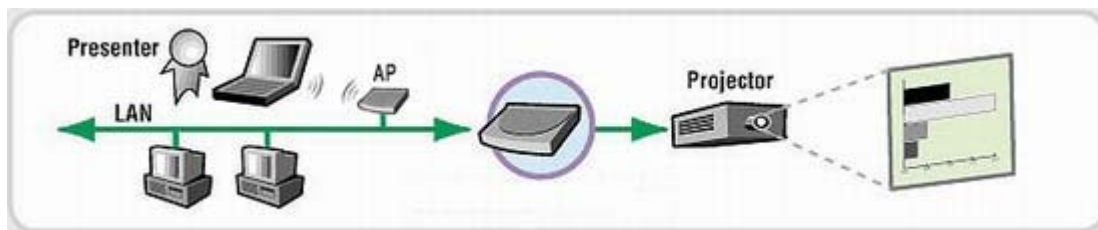
Using the Projector Server

There are several ways to use the Projector Server, here is a quick summary of three different scenarios.

Scenario 1: Computer in Meeting Room



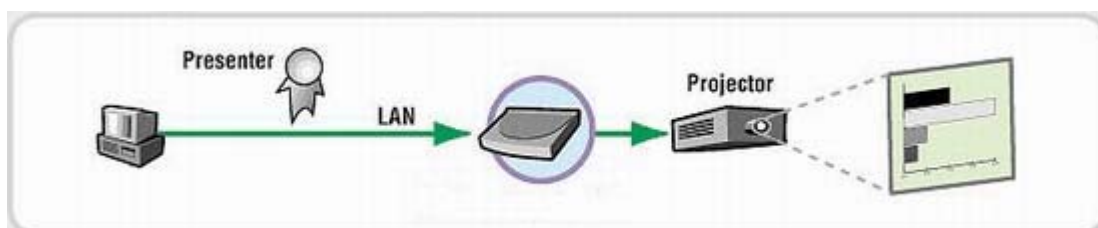
(W: for wireless model only)



For a computer in the same meeting room with the Projector Server, use the Player utility on the computer to send live screen updates through the Projector Server to the projector.

1. Start the Player Utility on your computer
2. The Player utility will search the Projector Server.
3. Select which Projector Server to use.
4. Click the **PLAY** button to start displaying the computer's screen through the Projector Server.
5. Make your presentation from this computer.

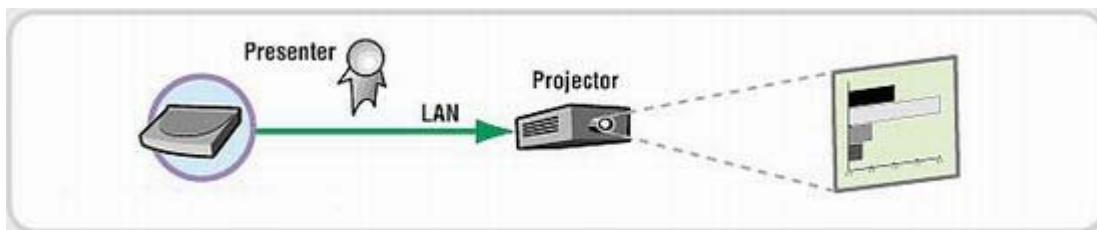
Scenario 2: Computer outside Meeting Room



For a computer not in the same meeting room with the Projector Server, control it and show its screen through the network.

1. Start the Player utility on the computer
2. Register the computer into the Projector Server.
3. Go into the meeting room, and switch to the Remote Display menu of the Projector Server.
4. Select the computer you just registered and click **Play** button to start.
5. You can control your presentation and the remote computer from the Projector Server (with the IR remote control or an keyboard/mouse attached to the Projector Server).

Scenario 3: Presentation without Computer



To make a presentation without connecting to a computer,

1. Use the Player utility on the computer to upload your presentation to the Projector Server first. The utility will convert your PowerPoint file into JPEG images, and upload them to the Projector Server through local area network.

NOTE: When presenting in this mode, as the file is converted to JPEG files, the presentation will not have any animations.

2. Select the Slide Show menu from the Projector Server on-screen menu,
3. Browse and select the folder with your presentation, and press **PLAY** to display your presentation slides.

Using the Projector Server Player Utility

Installing the Player Utility

If you're installing over an old version of the Player Utility, please stop the Player Utility and uninstall it via "Start/Settings/Control Panel/Add and Remove Software" first.

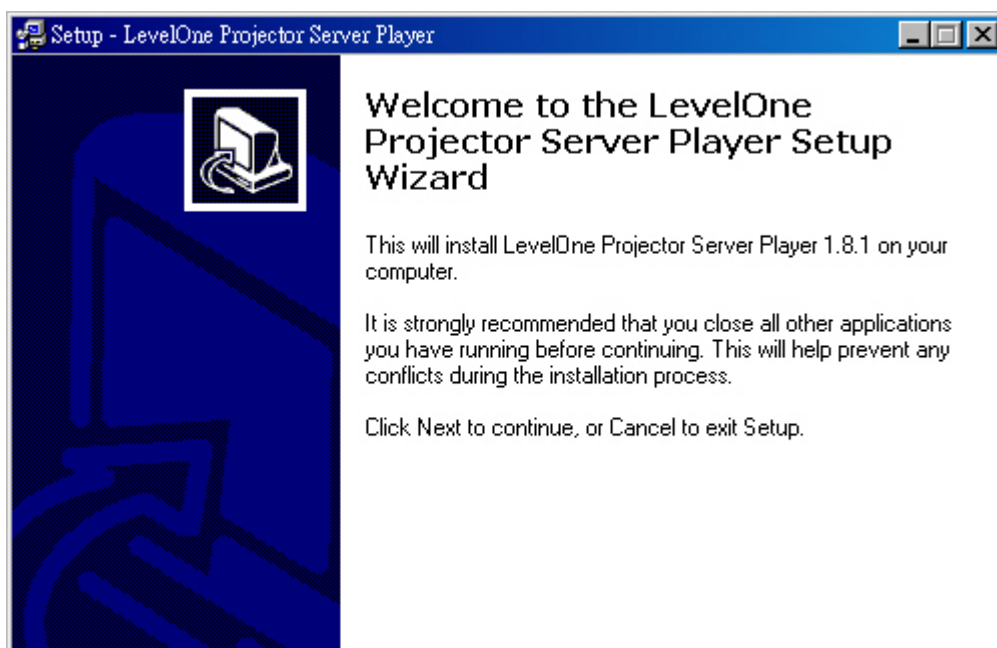
- z **From CD-ROM** - Load the **Utility** CD-ROM into the CD-ROM drive of your computer. The Setup utility should run automatically, and the **Welcome Screen** shown below should appear. If it does not, click the Start button and choose Run. In

the box that appears, enter **D:\setup.exe** (where “D” is the letter of your CD-ROM drive).

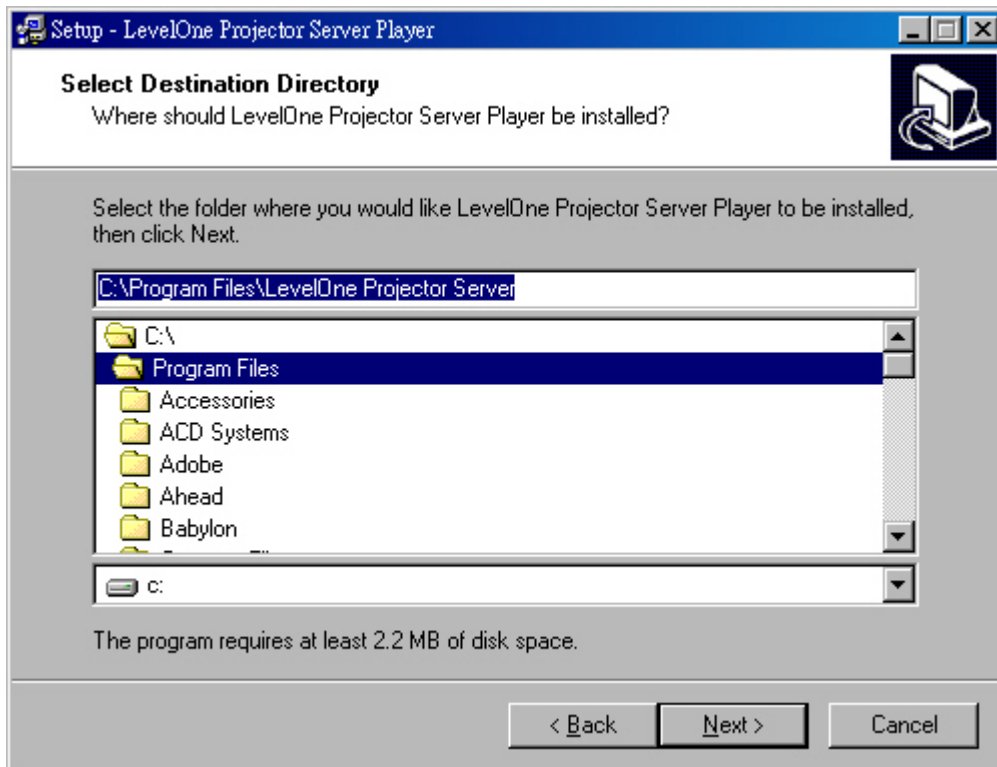
- z **From Web Browser Download** - Alternatively, you can download the installation package file from the Projector Server with a web browser.
 - a. Use the IP address of the Projector Server to open the administration web page.



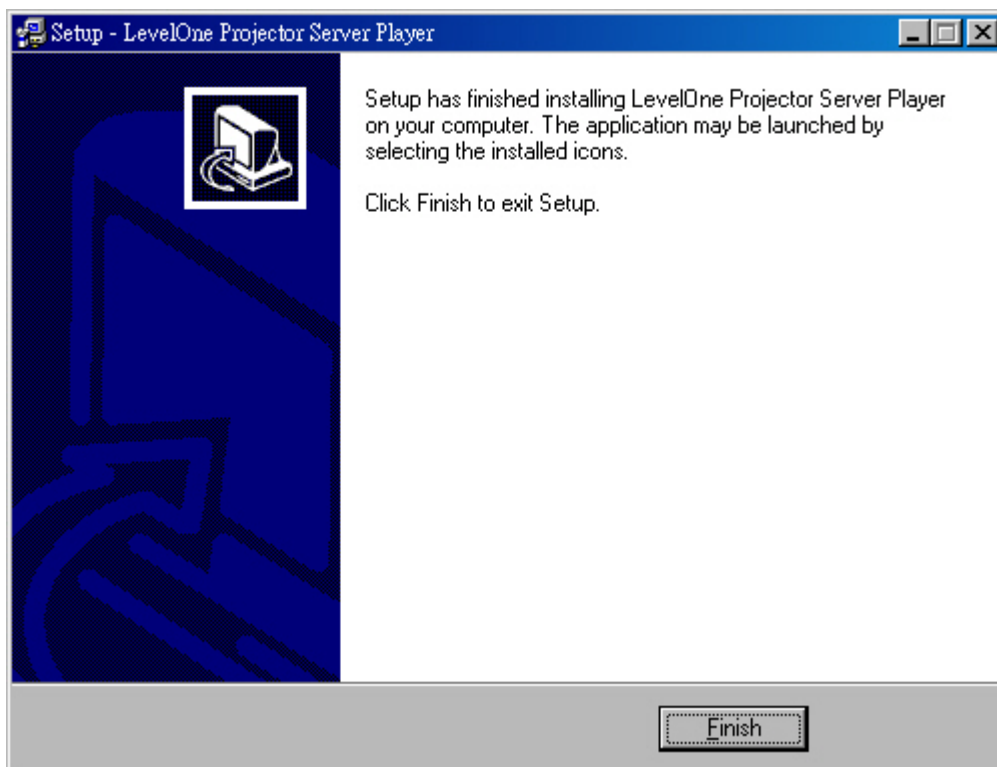
- b. Click the "Download Player Utility" link near the bottom of the page and save the file on your computer.
 - c. Double click on the icon of the saved file. A Self-extraction Box will appear. It will extract and start the setup utility.
- 1. **Welcome Screen.** The setup utility will start with the following welcome screen, click the **Next** button to continue.



- The setup utility will choose a default folder to install the utility files.



- The Projector Server Player utility is now installed. Click the **Finish** button.



Before You Start

Please make sure the network setting on your computer is properly configured for your local area network.

You can setup wireless LAN connection to the Projector Server the same way as to join to a regular wireless Access Point. This usually includes:

1. Setting the Network Name (ESSID) of your wireless network card to that of the Projector Server,
2. Change WEP setting and encryption keys to be the same as the Projector Server.
3. Renew the IP address of the computer.

Please check the manual of your wireless network card for detail.

Starting the Player

Double click on the program icon of the "Projector Server Player" on your desktop.



The player utility will start searching for the Projector Server on your local area network.



Selecting a Projector Server

After the search, the List panel of Player utility will appear.






1. In the List Panel, click on the drop down button at the right side of the entry box. A list of all the Projector Servers found will appear.
 2. Please highlight one of the available Projector Server to select the Projector Server to use;
 3. You can also enter the IP address of the Projector Server directly in the entry box .
 4. Click the Next button to enter the Player Panel.
- z **Search Again** - Click this button to refresh the list of available Projector Server on your local area network.

Player Panel

Most of the Projector Server Player Utility functions are on this panel. The hostname box shows which Projector Server to use.



- z **Play** - Click on this button to show your computer desktop through the Projector Server. The Projector Server only allows one active connection at the same time. If someone else is using the Projector Server from a remote display, clicking the **Play** button will not connect to the Projector Server. A warning message will pop up instead.
- z **Stop** - Click on this button to end your session and make the Projector Server available to others.
- z **Register** - This button will register your computer into the Projector Server. The computer's name will be added into the remote display host list of the Projector Server.
- z **Upload** - This button will pop up a dialog box. Please enter a Power Point file you want to present with the Slide Viewer in the Projector Server. The Player will convert the file into JPEG images and upload to the Projector Server.
- z **Advanced** - Click on **Advanced** will turn on the Advanced Panel.
- z **List** - Click on **List** will go back to the List panel. You can select another Projector Server from the list.
- z  - Click this **Help** button to show the on-line help in your web browser.
- z  - Click this **Minimize** button to hide the Player Panel.
- z  - Click this **Exit** button to end the Player Utility.

Advanced Player Panel

Click on the **Advanced** button will bring on the Advanced Panel with buttons for more advanced functions.

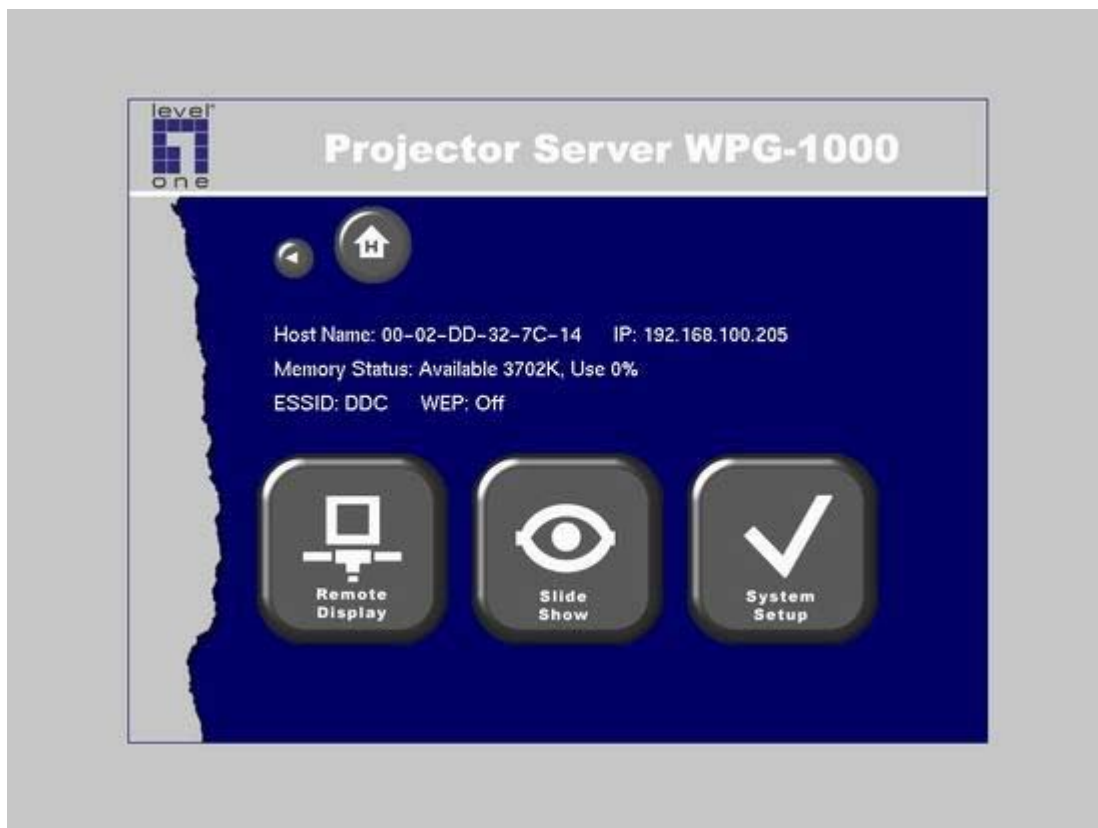


- z **Hide** - Turn off the Advanced Panel.
- z **Speed** - Select **High** will have faster screen update with lower quality (less color); select **Low** will have slower update but higher screen quality.
- z **Manager** - This button will bring up the system administration page in a web browser.
- z **List** - This button will return to the List panel for you to select another Projector Server.

Using the Projector Server On-screen Menu

The Main Menu

After power-up, the Projector Server will display the main menu of the build-in on-screen menus on the projected screen.



- z **System info** - These lines show the name of this machine, the IP address, the wireless settings and the available memory storage for the slide images.
- z **Remote Display** - enter the Remote Display menu
- z **Slide Show** - enter the Slide Show menu
- z **System Setup** - enter the System Setup menu

There is several common control buttons on each on-screen menu.

- z **Home Button** - The **Home** button will bring back the main menu page



- z **Back Button** - The **Back** button will return to previous menu page



- z **Command Buttons** - Each menu page may contain several command buttons. Click on these buttons will start certain action.

Before you make a selection in the List box, some command buttons may be disabled (in light gray color as shown on the left).



- z **Check Box** - Click on this type of buttons will turn on the setting, click again will turn it off.



The Remote Display Menu

This menu allows you to select a computer in the **Waiting List** box, and display its desktop screen at the Projector Server. You can switch back and forth between different computers with this menu.



Waiting List Box - The Waiting List box shows the computers, which have

- a. registered to this Projector Server, or
 - b. played to this Projector Server with the Player Utility.
- z **Play** - This button will connect to the selected remote computer and show its desktop. The result is like using the Player on the remote computer to show its desktop to the Projector Server.

After click **Play**, a password box may appear.



Please enter the Player password for this computer. The Projector Server will keep the password for two hours (default value, you can change it with the Administration utility). Next time when you switch to this computer, the Projector Server will use the stored password and will not show the password box again.

- z **Add** - Add a new computer into the Waiting List box. The Add screen will appear.



The history box shows all the computers that have connected to the Projector Server in the past (up to 300 history records). You can select a computer from the box and add it to the waiting list.

Note: Some history records might become out of date, if their network settings have been changed. In this case, please use the Player Utility on the computer to connect, or use the Advanced Search.

- z **Delete** - Delete the selected computer from the Waiting List.
- z **Delete All** - Delete all computers in the Waiting List.
- z **Advanced Search** - Add a new computer to the Waiting List by entering its IP address.



The Slide Viewer Menu

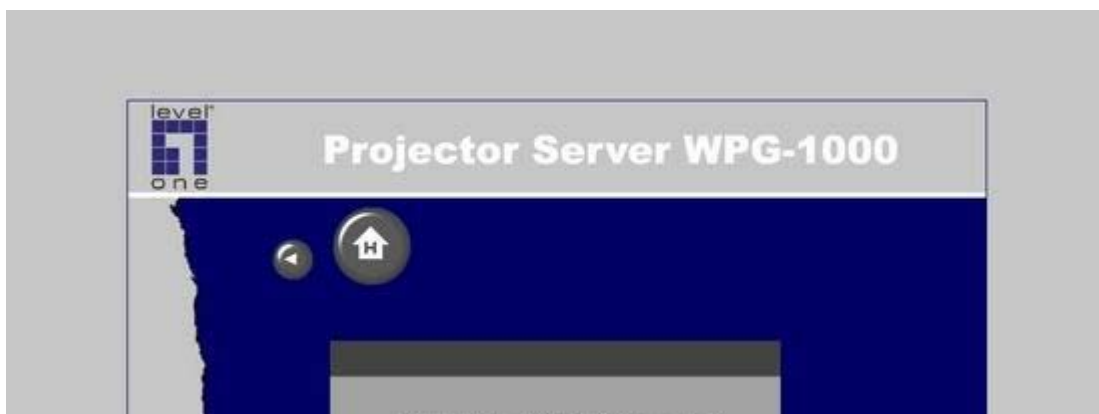
The Slide Viewer menu has a column of buttons, a folder panel and a thumbnail preview panel. If you upload a presentation to the Projector Server, it will create a folder in the folder panel, and put the presentation in this folder. The folder will get the name of the computer you are using.

Select a presentation. In the folder panel, click open a computer to open the folder and click on the presentation.

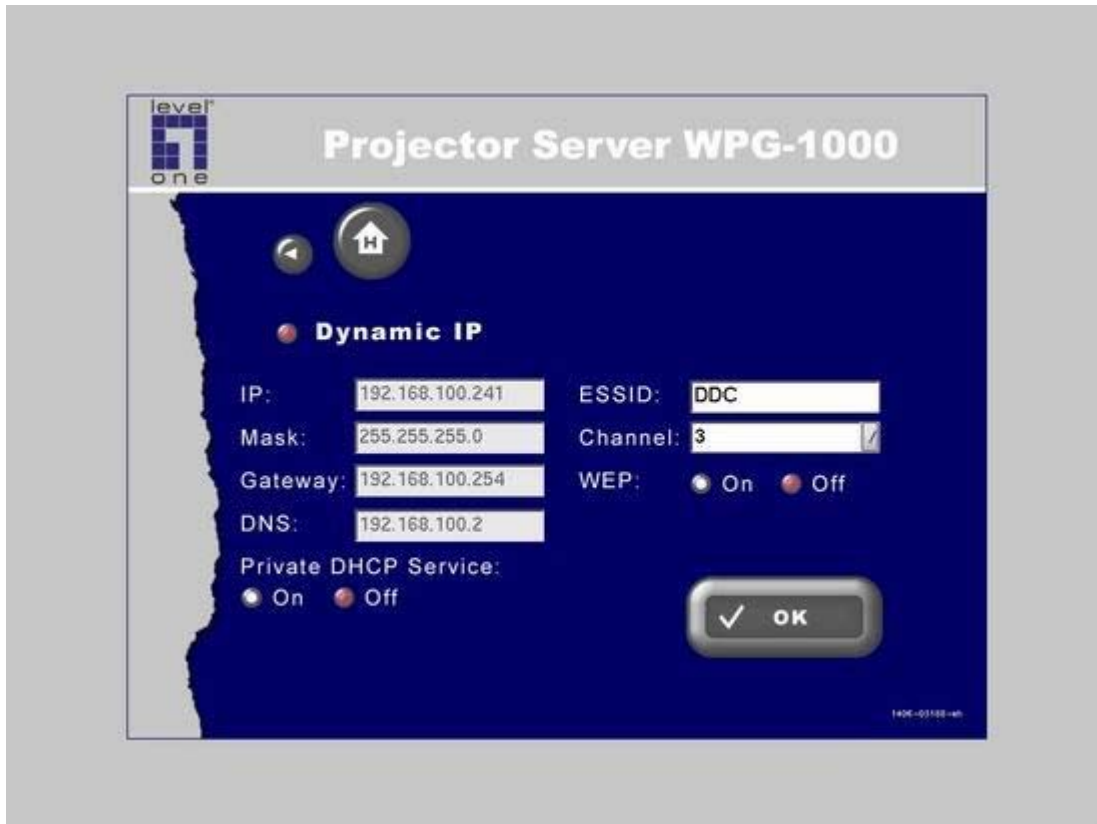
After you select a presentation,

- z **Play** - click **Play** to display the image slides in the selected presentation.
- z **Auto-play** - Check this button to automatic advance to next image after the selected interval time.
- z **Interval time** - Select how many seconds before advanced to next image.
- z **Shuffle** - Check this to shuffle the sequence of next image to show.
- z **Repeat** - Check this to make the slide show loop continuously.
- z **Delete** - Delete the selected presentation or computer. A message box will ask you to confirm the delete. If you delete a computer, all presentations in this folder will also be deleted.

The System Configuration Menu



You need to enter the administrator password (default is "654321") to enter the system configuration menu. You can alter this password with the administration utility.



- z **Dynamic IP** - Click the **Dynamic IP** check button to disable or enable automatic network address setting. You should have a DHCP service on your local area network for the dynamic IP to work.

For fixed IP network setting, check off the Dynamic IP first, then enter the parameter in the entry boxes. Click OK after done.

- ζ **IP** - The IP Address for the Projector Server.
- ζ **Mask** - The Subnet Mask for the Projector Server.
- ζ **Gateway** - The IP Address of the gateway for your LAN.
- ζ **DNS** - The IP Address of the Domain Name Server for your LAN.

Following settings will change the basic **wireless network configuration**.
(for the wireless model only)

- z **ESSID** - The ESSID(Network Name) is for other wireless device to identify and join the Projector Server. You should set a unique name for each Projector Server. Please use a different name and channel from any nearby Access Point to prevent interference.
- z **Channel** - Select the appropriate channel from the drop down list.

- z **WEP** - To use WEP(Wired Equivalent Privacy), select **On**. To disable WEP encryption, select **Off**. To change the WEP encryption keys, please use the Administration utility.
- z **Private DHCP Service** - If the Projector Server is standalone (not connected to a wired local area network), or if there is no dynamic network address service available on the local area network, check the on button will turn on a private dynamic network address service. Note: to avoid conflict with another dynamic network address service, if the Projector Server detects a dynamic network address service on your network, it will not start the private DHCP service.

Uploading & Viewing Slides

The "Upload" function will convert your PowerPoint file into JPEG images and upload them into a folder stored in the Projector Server. You can show these images with the build-in viewer and make your presentation without connecting to a computer. You need the IR remote controller or a USB keyboard connected to the Projector Server for this function.

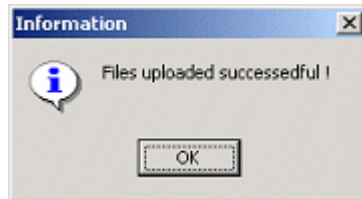
1. On your computer, start the Projector Server Player and select the Projector Server you are going to use.



2. Click on the **Upload** button. Following the dialog boxes from the utility to select the file you want to upload.



3. It will take a while for the converting process to finish and a file upload progress box will show up.
4. Wait for the upload to finish and click **OK**. Your presentation is now stored in the Projector Server.



5. On the Projector Server's on-screen menu, select the Slide Show menu.
6. Select the folder with the name of your computer, and press **Play** to display your presentation slides.
7. Use the **Forward/Backward** on the remote controller or **PgUp/PgDn** on the keyboard to move to next/previous slide.



Uploading Customized Boot Up Splash Screen

If you want to change the boot up splash screen, please make your own design in a one-slide powerpoint file named "_startup.ppt". Upload this "_startup.ppt"

file with the same procedure described above in the section " Uploading & Viewing Slides". The system will recognize it and replace the boot up splash automatically.

Registering to the Projector Server

To initiate a connection from the Projector Server to a computer, you need to register the computer to the Projector Server first. After registration, the name of this computer will show up in the list of computers in the Remote Display menu of the Projector Server.

1. On your computer, start the Projector Server Player and select the Projector Server you are going to register.



2. Click on the **Register** button will register your computer into the Projector Server.
3. If the registration succeeds, a message box will pop-up, click **OK** to continue.



4. After registration, the computer's name will be added into the **Waiting List** box of the Projector Server.

Using the Administration Utility

The Projector Server Administration Utility allows you to configure the settings for the Projector Server. You need a Personal Computer with a web browser connected to the Projector Server through the local area network.

Starting the Utility

You can start the administration utility by click the Manager button in the Projector Server Player utility on your computer.

The Administration Utility will start in your web browser. Enter the administrator password (default is "654321") and click on the **Login** button to login.



The Administration Utility has several tabs that allow you to configure different settings. (The **Wireless LAN** and **Encryption** tabs only available on the wireless model)

The System Tab



- z **Hostname** - The name to identify this Projector Server. You should set a unique name for each Projector Server.
- z **Preserved Time of Uploaded Files** - Enter the number of days to preserve uploaded presentations.
- z **Preserved Time of Remote Connection** - Enter the number of hours for the valid duration of the password for each remote connection.

The Administration Tab



level
one

Projector Server WPG-1000

System Administration Wireless LAN Encryption Logout

Administration On this page you can configure the password settings.

New Password: (Enter New Password)

Confirm: (Re-enter To Confirm)

Apply

- z **New Password** - Set new password to access this Projector Server. The default password is **654321**. Please use all numeric password if you also want to use the remote controller to enter the password from the on-screen menu.
- z **Apply** - After you have entered the new password, click this button to enable the change.

The Wireless LAN Tab



level
one

Projector Server WPG-1000

System Administration Wireless LAN Encryption Logout

Wireless LAN On this page you can configure the wireless LAN settings.

Channel:

- z **Channel** - Select the wireless channel to use from the list.
- z **Network Name(ESSID)** - The Network Name is for other wireless devices to identify and join the Projector Server. IF there are multiple wireless Projector Server nearby, you should set a unique name for each Projector Server. Please use a different name and channel from any nearby Access Point to prevent interference.

The Encryption Tab

The Encryption tab allows you to set or change the encryption keys for the WEP. If you turn on the WEP of the Projector Server, all other wireless devices want to connect to it should also use WEP and with the same encryption keys.

Projector Server WPG-1000

System Administration Wireless LAN **Encryption** Logout

Encryption

On this page you can configure the WLAN encryption settings. Your encryption settings must match those of your network, or your computer will be unable to communicate.

Encryption: Disabled

WEP Key Entry:

Key 1: 1234567890

Key 2: 1234567890

Key 3: 1234567890

Key 4: 1234567890

Default Tx Key: 1

Apply

- z **Encryption (Disable/64Bits/128Bits)** - Select **Disable** for no WEP encryption. Select **64** or **128 Bits** to enable WEP encryption. Some wireless device may not support 128 Bits encryption.
- z **WEP Key Entry** - Manually enter a set of four keys. If you are using 64 Bits encryption, then each key must consist of exactly 10 hexadecimal characters in length. If you are using 128 Bits encryption, then each key must consist of exactly 26 hexadecimal characters in length.
- z **Default Tx Key** - Sets which key to use when sending data. Make sure the receiver is using the same key.

The Logout Tab

After finishing the configuration, click on the logout tab will end the Administration Utility and close the web browser.



Troubleshooting

Common Problems and Solutions

1. Some personal firewall software installed on the personal computer may block the connection of the Player Utility. Please stop the personal firewall when using the Player Utility, or configure the personal firewall to allow connections on port 4000, 4001 and 5900.
2. If your wireless LAN utility on your computer can connect to the Projector Server, but the Player utility can't. Please check if the WEP setting and the WEP keys on your computer are the same as the Projector Server.

Frequently Ask Questions

Q. Can I connect the Projector Server to a computer not in my office through the Internet?

Although Projector Server uses standard Internet protocols, most company's will have a firewall to restrict the traffic.

Q. Can I play a game or video on my computer and display it through the Projector Server?

No. Projector Server is designed for business graphics and applications.

Glossary

10BaseT - An Ethernet standard that uses twisted wire pairs.

100BaseTX - IEEE physical layer specification for 100 Mbps over two pairs of Category

5 UTP or STP wire.

Browser - A browser is an application program that provides a way to look at and interact with all the information on the World Wide Web or PC.

Category 5 - ANSI/EIA (American National Standards Institute/Electronic Industries Association) Standard 568 is one of several standards that specify "categories" (the singular is commonly referred to as "CAT") of twisted pair cabling systems (wires, junctions, and connectors) in terms of the data rates that they can sustain.

Default Gateway - The routing device used to forward all traffic that is not addressed to a station within the local subnet.

DHCP (Dynamic Host Configuration Protocol) - A protocol that automates the process of configuring computers or network devices to obtain IP addresses and configuration parameters through the network; DHCP eliminates the need for manual configuration and manual assignment of IP addresses by network administrators.

Domain - A sub network comprised of a group of clients and servers under the control of one security database. Dividing LANs into domains improves performance and security.

Driver - A workstation or server software module that provides an interface between a network interface card and the upper-layer protocol software running in the computer; it is installed during the initial installation of a network-compatible client or server operating system.

DSSS (Direct-Sequence Spread-Spectrum) - DSSS generates a redundant bit pattern for each bit to be transmitted. This bit pattern is called a chip (or chipping code). The longer the chip, the greater the probability that the original data can be recovered. Even if one or more bits in the chip are damaged during transmission, statistical techniques embedded in the radio can recover the original data without -the need for retransmission. To an unintended receiver, DSSS appears as low power wideband noise and is rejected (ignored) by most narrowband receivers.

Ethernet - IEEE standard network protocol that specifies how data is placed on and retrieved from a common transmission medium. Has a transfer rate of 10 Mbps. Forms the underlying transport vehicle used by several upper-level protocols, including TCP/IP and XNS.

Firewall - A device situated between an organization's network and the Internet that filters network traffic to limit unwanted connections or data.

Firmware - Programming that is inserted into programmable read-only memory (programmable read-only memory), thus becoming a permanent part of a computing device.

Full Duplex - The ability of a device or line to transmit data simultaneously in both directions.

Gateway - A device that interconnects networks with different, incompatible communications protocols.

Half Duplex - Data transmission that can occur in two directions over a single line, but only one direction at a time.

IEEE - The Institute of Electrical and Electronics Engineers. The IEEE fosters the development of standards that often become national and international standards. The organization publishes a number of journals, has many local chapters, and several large societies in special areas, such as the IEEE Computer Society.

IP Address - An IP address is a 32-binary digit number that identifies each sender or receiver of information that is sent in packet across the Internet. When you request an HTML page or send e-mail, the Internet Protocol part of TCP/IP includes your IP address in the message (actually, in each of the packets if more than one is required) and sends it to the IP address that is obtained by looking up the domain name in the Uniform Resource Locator you requested or in the e-mail address you're sending a note to. At the other end, the recipient can see the IP address of the Web page requestor or the e-mail sender and can respond by sending another message using the IP address it received.

LAN - A local area network (LAN) is a group of computers and associated devices that share a common communications line and typically share the resources of a single processor or server within a small geographic area (for example, within an office building).

Mbps (MegaBits Per Second) - One million bits per second; unit of measurement for data transmission.

RJ-45 (Registered Jack-45) - A connector similar to a telephone connector that holds up to eight wires, used for connecting Ethernet devices.

Static IP Address - A permanent IP address that is assigned to a node in an IP or a TCP/IP network.

TCP/IP - Transmission Control Protocol/Internet Protocol (TCP/IP) is the basic communication language or protocol of the Internet. It can also be used as a communications protocol in a private network (either an intranet or an extranet). When you are set up with direct access to the Internet, your computer is provided with a copy of the TCP/IP program just as every other computer that you may send messages to or get information from also has a copy of TCP/IP.

URL (Uniform Resource Locator) - The address that defines the route to a file on the Web or any other Internet facility. URLs are typed into the browser to access Web pages, and URLs are embedded within the pages themselves to provide the hypertext links to other pages.

WAN - A communications network that covers a wide geographic area, such as state or country.

WEP (Wired Equivalent Privacy) – A data privacy mechanism based on a shard key encryption algorithm, as defined in the IEEE 802.11 standard.

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Adhering to the GPL requirements, the open source code and open source license for the source code are available for free download at <http://global.level1.com>.

If you would like a copy of the GPL or other open source code in this software on a physical CD medium, LevelOne (Digital Data Communications) offers to mail this CD to you upon request, for a price of US\$9.99 plus the cost of shipping.