Hydra LAN - User Guide

Macpower & Tytech Technology Co., Ltd.

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Firmware: v2.6.3-20080528
PCB: MP-LNU23JSL-3516-V1.0
Model: HY-LNU2SS

The diagrams and images contained in this manual may not fully represent the product that you are using and are there for illustration purposes only.

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1 Introduction

A SATA enclosure like no other, the Hydra LAN offers the latest in network attached storage technology. Workstations connected to the same network have access to the Hydra's massive 4-bay storage space. Plus, with 2 available USB host ports, any attached USB device is also accessible on the network. Used in conjunction with BitTorrent™, the Hydra LAN can be set to download media files from the Internet and save them onto its internal SATA hard drives. With powerful RAID technology, all your downloaded media and data files can be safely backed up.

Product Dimensions: 24.5cm x 17.7cm x 13.5cm
                                   9.6in x 7in x 5.3in

1.1 Package Contents
- Hydra LAN (no HDD included)
- Power Cord
- Ethernet Cable
- Utility CD
- Manual

Note: Package contents may vary, depending on vendor & version.

1.2 System Requirements
- Computer with internet browser and network access for setup
- Switch or Router with one free Ethernet port for the Hydra LAN
- Two to four 3.5" SATA-I or SATA-II Hard Drives (1.5Gb/s)
- 20GB -1TB per HDD (for RAID, identical capacities are recommended)

Supported Operating Systems:
- PC running Win2000, WinXP or Windows Vista
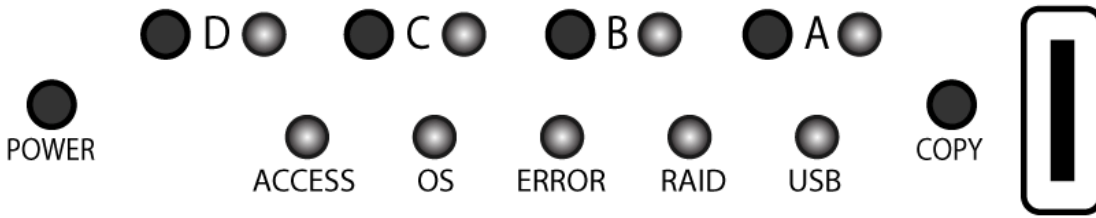- Mac running Mac OS 10.2 or later

Note: For external USB devices, we recommend using self-powered USB drives. If two bus-powered USB drives are connected at the same time, at least one of them needs to be powered by an external power supply.

1.3 Detailed View

1.3.1 Front View
LED indication and buttons as seen beneath the front panel of the Hydra LAN.

LED or Button	Status or Function
LED D, C, B, A	• OFF = Drive status normal • Blinking red = Error
Buttons D-A	• HDD eject button (press to eject drive and rebuild data (RAID 1/5 only)
POWER	• Power on/off switch (press and hold for 3 seconds to turn off)
COPY	• USB copy button (press for 4 seconds to copy files from USB drive)
ACCESS	• Blinking blue = Data access
OS	• Blinking green = System starting or shutting down • Solid green = System ready
ERROR	• Red = RAID error (one ore more drives have to be replaced)
RAID	• Solid green = Data on RAID array is accessible • Blinking green = Rebuilding RAID array
USB	• Solid yellow = Copying files from external USB drive

1.3.2 Power ON/OFF Procedure
Connect the power cord to your device and plug it into the wall socket. To turn on the power, first turn on the power switch for the power supply at the back of your device and then press the power switch on the front to start up the system. The blue backlight LED will turn on and the OS LED will blink during the start up. It will take about two minutes for the device to go online and when the OS LED is a solid green, the system is ready.

To turn off the Hydra LAN, login via browser, stop all current downloads, go to the "Turn Off Server" section in the "System" area and turn the server off or use the ON/OFF switch on the front of the device (press and hold ~3 seconds until the OS LED starts blinking). The OS LED will be blinking rapidly for about 5 seconds and then the system will shut down about 20 seconds later. If the device is not in use for a longer period of time, we recommend turning off the power supply with the ON/OFF switch at the back of the device and removing the power cord from the wall socket.

Note: If you prefer the system to start up again by itself after a power outage, set the A/M switch at the back of the device to A.

1.3.3 Rear View

1. Smart fan
2. Security lock slot
3. Gigabit Ethernet port
4. Reset button

5. A/M switch
6. USB port (upstream)
7. Power receptacle (100-240V)
8. Power supply on/off switch
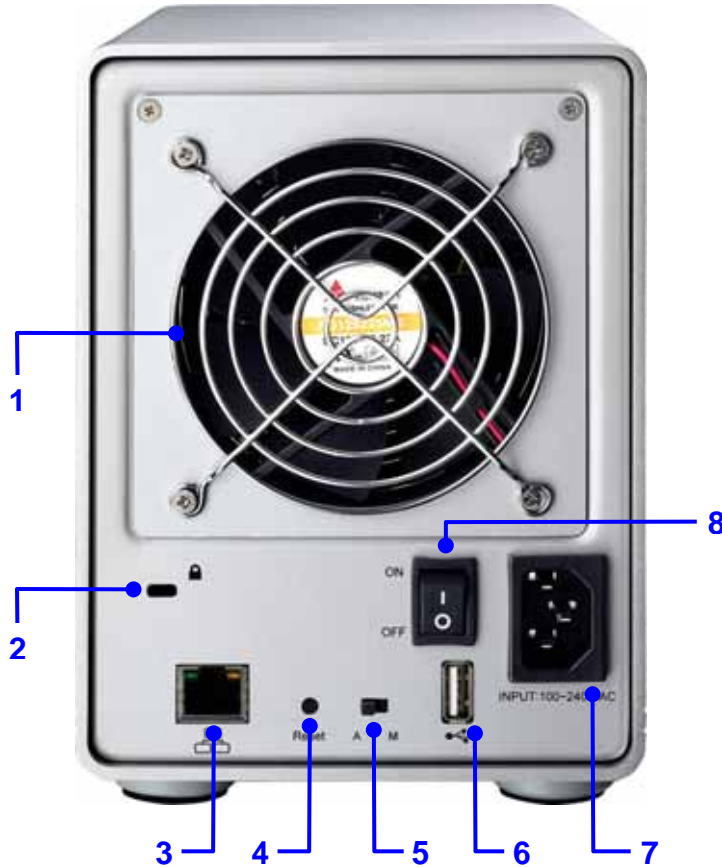
Smart Fan

The smart fan automatically regulates the fan speed according to the internal temperature. It will start using low speed from 0-49 degrees, increase the speed every 5 degrees until 64 degrees and use full speed above 65 degrees Celsius.

Ethernet Port LED

The green LED on the left indicates the link connection and the LED on the right the speed.

Speed	green	yellow	green	yellow
	10Mbps	1000Mbps	100Mbps	

Reset Button

Press this button for a software reset or when the Hydra LAN is powered up and ready, press and hold this button for 5 seconds and then release it to reset all the settings back to factory default. All user accounts and groups will be erased!

A/M Switch

A = System automatically starts again after a power outage.
M = System stays off and power has to be turned on manually after a power outage.

1.4 Quick Installation Guide

Following is a quick installation guide to get you up and running. For further details on each of the settings, please refer to chapter 2 and subsequent chapters.

1. Install at least two hard drives.

2. Connect the Ethernet cable from your network router or switch to the Hydra LAN.

3. When everything is connected, turn the Hydra LAN on and give it about two minutes to start up.

4. Access the web configuration interface via your web browser. See "How to login" in chapter 2.

5. Go to the "RAID Setting" section in the maintenance menu and create your preferred RAID array.

6. Once the RAID array has been built and the drives formatted, go to the "Basic" menu and follow the quick setup wizard. This will help you to set up the IP configuration, add the first user and prepare file sharing.

7. You are now ready to start sharing and downloading files.

Note: Set the speed for your network card to AUTO and not full or half speed.

Note: Without installing and formatting the hard drives first, none of the other functions of the Hydra LAN can be used.

1.5 About Data Backup

To protect your files and help prevent the loss of your data, we strongly recommend that you keep two copies of your data, one copy on your Hydra and a second copy either on your internal drive or another storage media such as a CD, DVD, Tape or an additional external drive.

Any loss or corruption of data while using the Hydra is the sole responsibility of the user, and under no circumstances will the manufacturer be held liable for compensation or the recovery of this data.

2 System Setup

2.1 HDD Installation
Your unit may come with pre-installed hard drives. Before opening such an enclosure, read the warranty and any other notes from your vendor carefully, as this could void your warranty.

1. Unlock the switch at the bottom of the case and push the inner chassis from the back until the front panel is out of the housing.
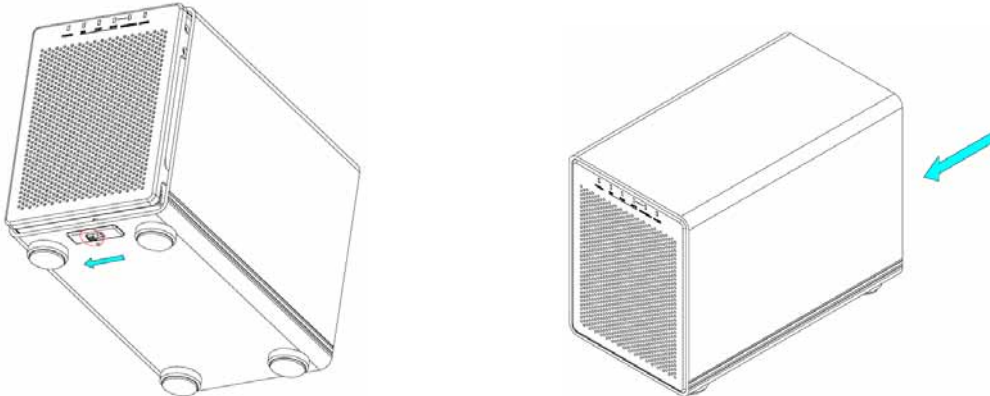
2. Pull the front panel out and then lift it up to remove it.
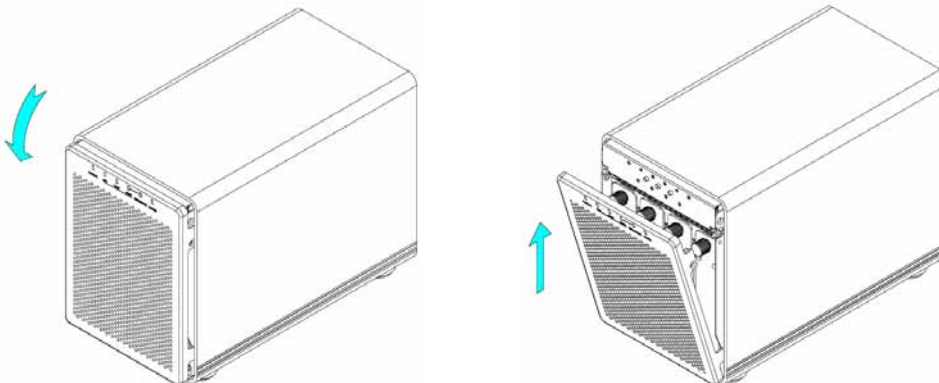
3. Turn the screws on the HDD rack counter-clockwise to loosen it and then pull out the cassettes for the hard drives.
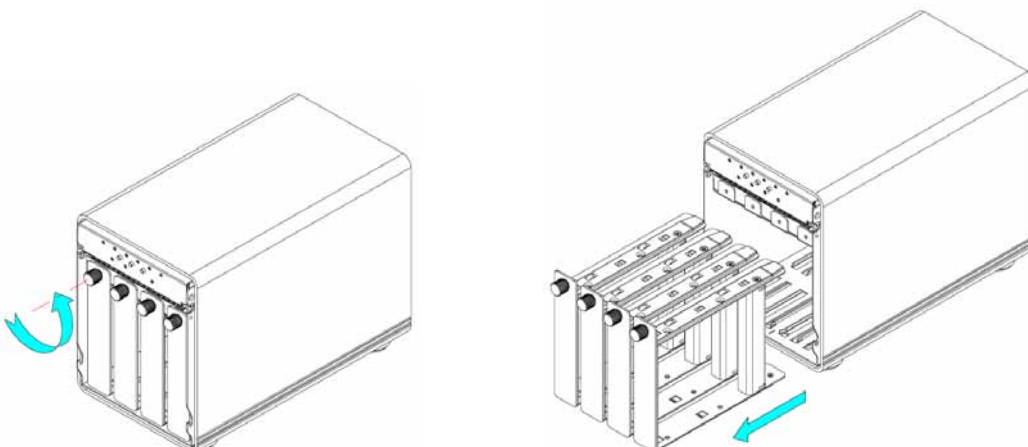
4. Remove the screws that are holding the plastic bracket in place.
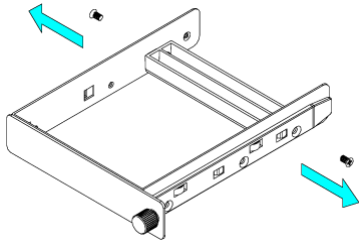
5. Install the hard drive as illustrated below with the SATA connector facing away from the front.
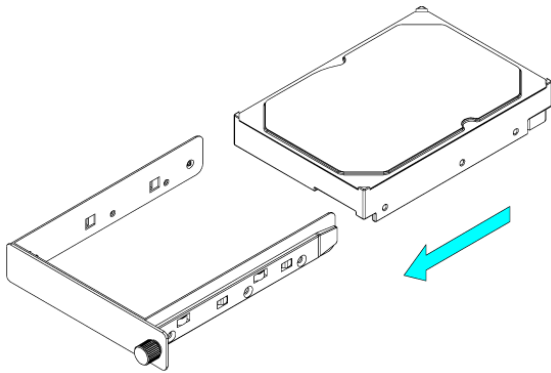
6. Mount the drive with the six screws from the side.
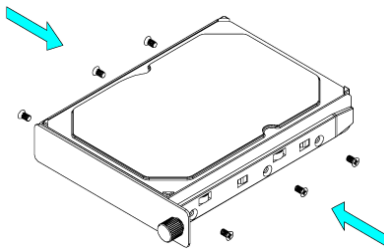
7. Repeat the previous 3 steps for each hard drive cassette you are planning to install.

8. Slide the hard drive cassettes back into the HDD rack and fasten the screws by turning them clockwise.
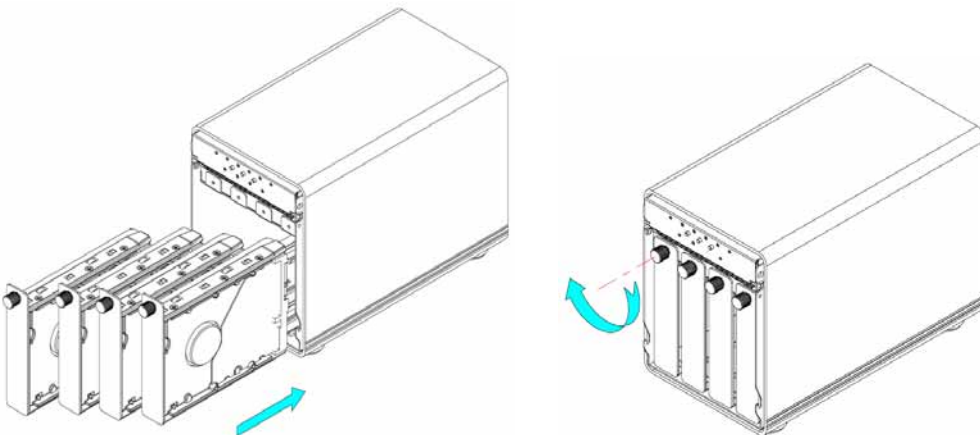
9. Align the bottom of the front panel with the notch in the chassis and then push it lightly into place.
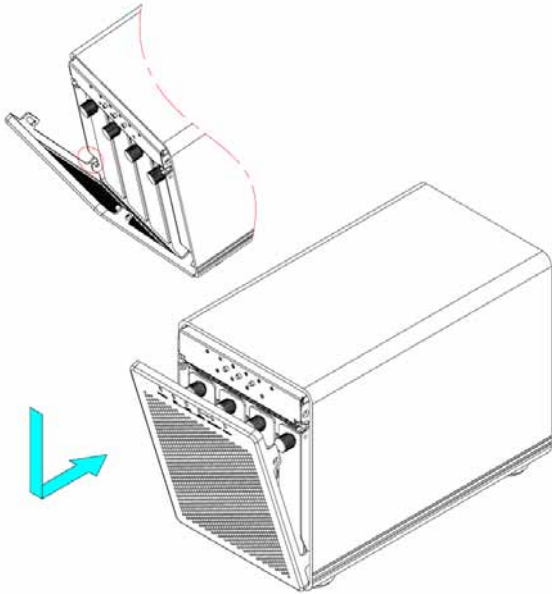
10.   Unlock the switch at the bottom of the case and then push the inner chassis back into the housing.
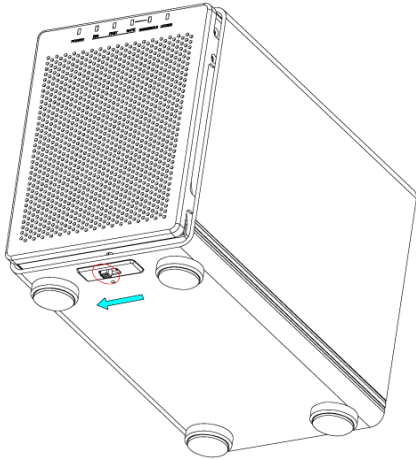
Be careful not to damage any of the components, and do not force the drives into place. If they don't slide in properly, make sure the drives have been installed in the correct position and that there is nothing out of place.

Note: When less than 4 hard drives are used, they can be installed in any particular order.

2.1.1   Adding more hard drives
It is not possible to add more hard drives once the RAID array has been created, unless the RAID system is removed and re-built again, loosing all data in the process.

1. Backup all data stored on the Hydra LAN to your computer or another storage drive.
2. Login via web browser, go to the "RAID Setting" section and press the button "Remove raid system" to remove the RAID array.
3. Install the additional drive(s).
4. In the "RAID Setting" section, create a new RAID array and format the drives.
5. Move the data from your computer or another storage drive back to the Hydra LAN.

Note: When removing the RAID system, all data will be lost!

2.1.2   Replacing a faulty hard drive
When using RAID1 or RAID5, a faulty hard drive can easily be replaced and the data restored automatically. This can be done using the web browser or with the hardware buttons (A, B, C, D).

When using RAID 0 or JBOD, the RAID system has to be removed, the new HDD installed and then the RAID system has to be rebuilt, so all data will be lost!

1. When one of the drives in a RAID 1 or RAID 5 system is defective, the ERROR LED will light up red.
2. Remove the front panel and check which of the drives has to be replaced. The corresponding LED from A-D will blink red to indicate the defective drive. In the "RAID Setting" section of the web interface, the faulty hard drive will be marked by an exclamation mark.
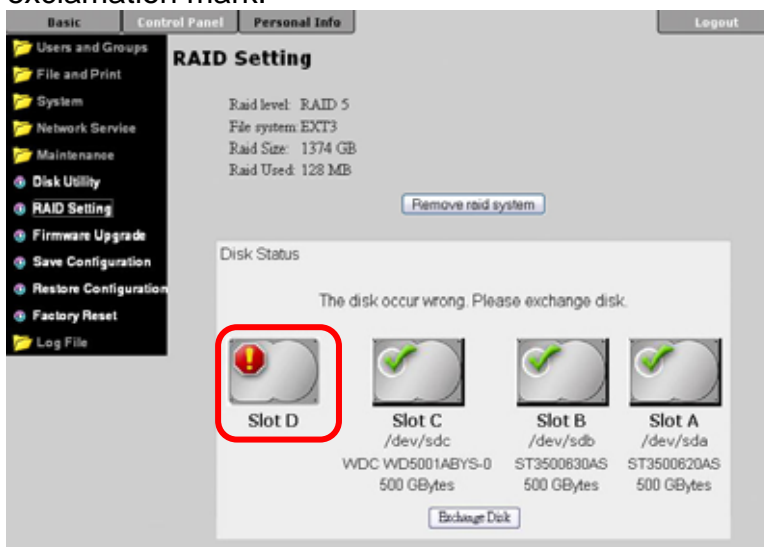
Note: Never turn off the power, remove or add a hard drive during the rebuild process!

3. Eject the faulty drive, either by pressing the corresponding button (A, B, C, D) or by pressing the "Exchange Disk" button using the web interface.
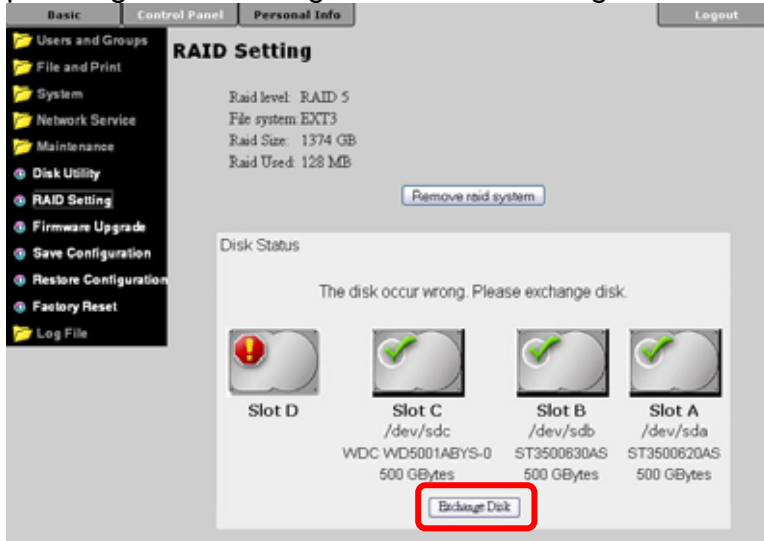
4. Remove the defective hard drive and install the new one.

5. Wait for about 10 seconds until the new hard drive is spinning and ready.

6. Press the corresponding button (A, B, C, D) for the new drive to start rebuilding the RAID system or if you prefer using the web interface, press the "Scan new disk" button followed by the "Add disk" button.
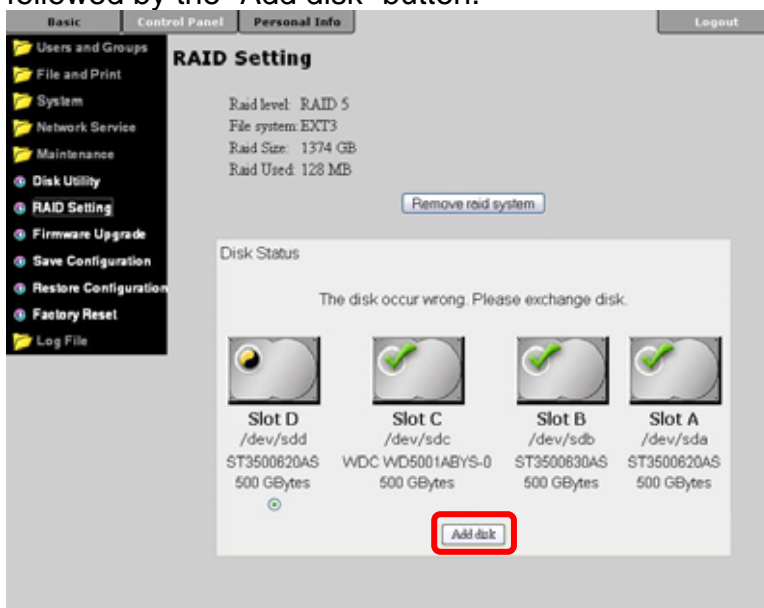
7. During the Rebuild process, the RAID and ACCESS LED will be blinking. Once it is done, both ERROR and the corresponding HDD LED will turn off.

8. Depending on the HDD capacity, the rebuild process will take several hours. During this time, the data can still be accessed but the performance will be slower than usual. The computer can be shut down and the Hydra LAN will rebuild the data automatically.

2.2 How to login

To configure your Hydra LAN, you will need to use the web browser, enter the IP address and then use the web configuration for further setup. To find out the IP address of your device once it is connected to the network, there are several different ways as described on the following pages.

2.2.1 Login on a PC

Use the NetTool utility included on the CD. This will list the device automatically and allow you to access the web configuration interface with a simple click of your mouse. You may also use the same utility at a later point to map the network drive after you setup your shares.

1. Turn on your Hydra LAN and make sure it is connected to the same network as your computer.

2. Start the NetTool utility by double clicking on the EXE file and then press the "Setup" button.

3. Your Hydra LAN will automatically show up in the device list, but if not, make sure the NetTool has access to the network and search again. You might have to configure your firewall or even temporarily turn it off.

4. Select your device and click on OK to start the setup wizard.
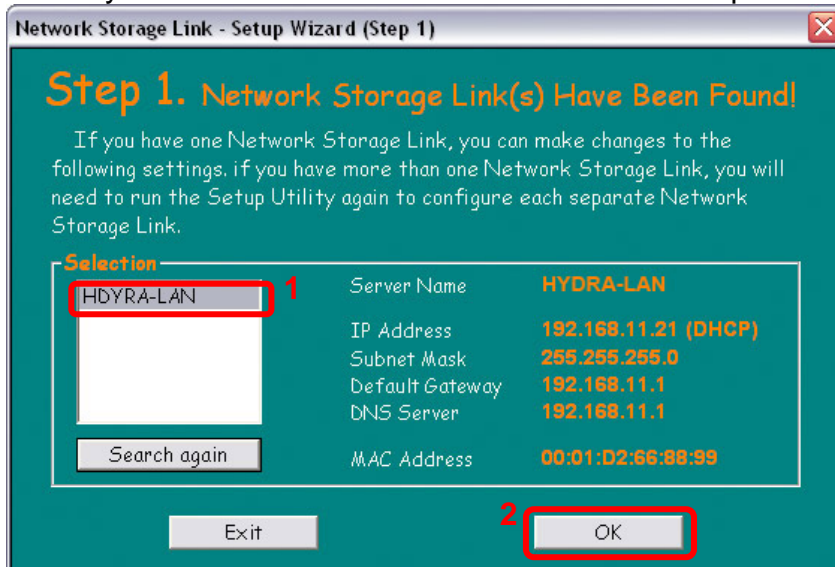
5. Before you can access the settings, you will have to enter the admin password. The default login is admin/admin, so enter admin for the password and press OK to login.

6. In step 2, you can define the device name for your network drive and set up the IP configuration. We recommend using "Automatically obtain an IP address (DHCP)". When set, press "Next" to continue.

```
Network Storage Link - Setup Wizard (Step 2)               [X]

Step 2. IP Settings
                                                    1
   Server Name    hydra-lan

   ○ Set IP configuration manually      2  ⊙ Automatically obtain an
                                               IP address (DHCP)
   IP Address    192 . 168 . 11 . 21
                                            An IP address must be
   Subnet Mask   255 . 255 . 255 . 0       specified in order to access
                                            the Network Storage Link
   Gateway       192 . 168 . 11 . 1        from the network.

   DNS Server    192 . 168 . 11 . 1
                                          3
        Back                                    Next
```

7. In step 3, you can set up the date and time. Select your time zone from the drop down menu, set the date, the time and then press "Next" to continue.

```
Network Storage Link - Setup Wizard (Step 3)               [X]

Step 3. Date and Time
                    1
   Time Zone   (GMT+09:00) Osaka, Sapporo, Tokyo          ▼

                    2
   Date        5/17/2007  ▼

                    3
   Time        5: 11:35 PM  ▲▼

                                          4
        Back                                    Next
```
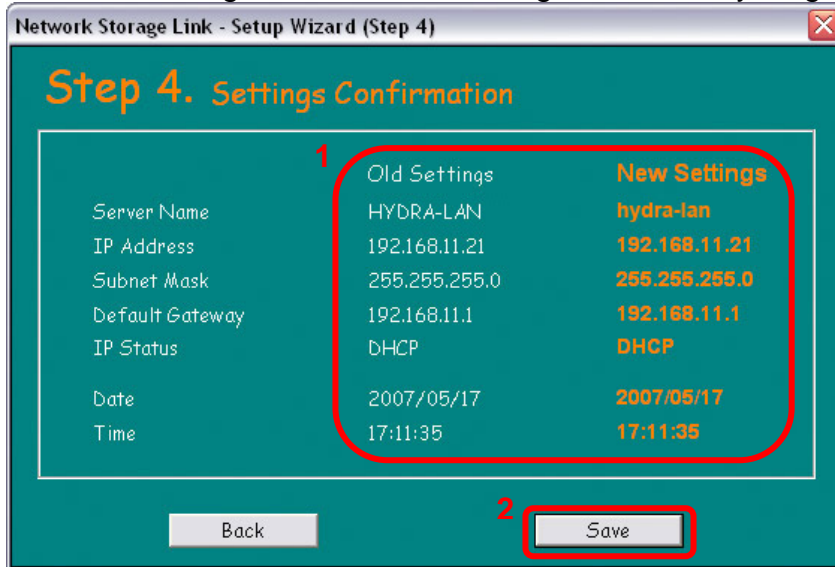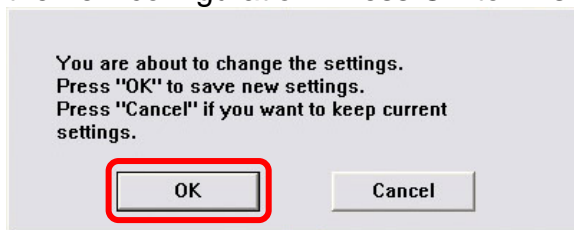
8. In step 4, you can compare your new settings with the previous configuration. If you find a mistake, go back to make changes but if everything is OK, press "Save".

9. The setup wizard will remind you that the previous settings will now be updated with the new configuration. Press OK to finish the setup wizard.

Note: Alternatively, you could also write down the IP address in the first step of the setup wizard, input that number into the URL field of our web browser and then access the web configuration interface of your Hydra LAN.

2.2.2 Device Name & Web Browser
Use the device name, which by default is "hydra-lan", enter that into the URL field of our web browser and then access the web configuration interface of your Hydra LAN.

Note: This only works for Windows but not for a Mac!

2.2.3 Peer to Peer

If you connect the Hydra LAN directly to your computer (PC or Mac) via Ethernet cable, you can access it using its default IP 192.168.1.1. Open the web browser and enter 192.168.1.1 to access the web configuration interface.

Note: This only works when the Bonjour service is disabled!

2.2.4 Login on a Mac

When the Bonjour service is disabled, the only way to access the login page is by using its IP address. First, you will have to find out the IP address of your Hydra LAN and then use the web browser to access the web configuration interface.

1. Turn on your Hydra LAN and make sure it is connected to the same network as your computer.

2. Start the Terminal utility, which is usually located in your Applications folder under Utilities.
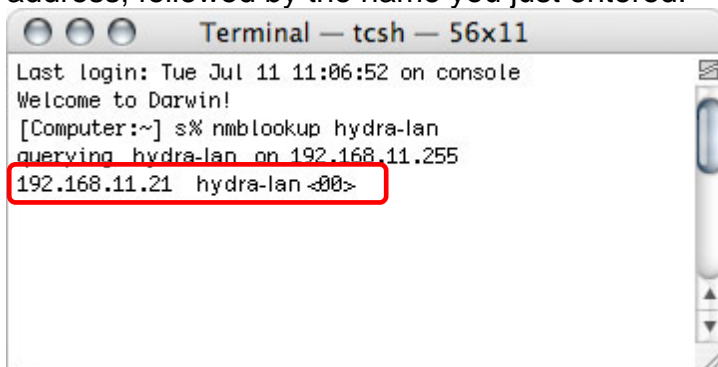

Terminal

3. Type "nmblookup hydra-lan". This is the default name of your Hydra LAN, so if that has previously been changed and you don't know the correct name, reset the device first.

   The command looks like this:
   nmblookup hydra-lan

4. After entering the previous command and hitting the Enter key, it should return an IP address, followed by the name you just entered.
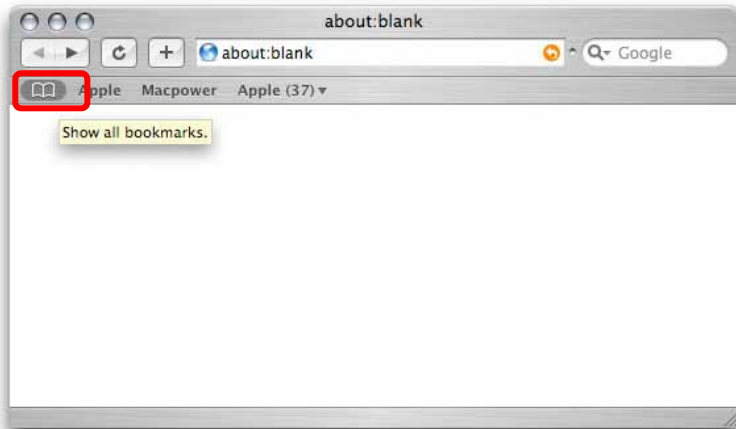

5. Open your web browser and enter the IP address from the previous step to access the web configuration interface.

6. The default username and password is admin.

Note: When the Bonjour service is disabled, you could also use the "Peer to Peer" method to login and set up your network drive.

2.2.5 Bonjour

When the Bonjour service on the Hydra LAN is enabled, all you need to do is access the Bonjour tab in your bookmarks folder and select the Hydra LAN.

1. Turn on your Hydra LAN and make sure it is connected to the same network as your computer

2. Start your web browser (Safari). If not already displayed, click on the bookmarks icon to show all bookmarks.

3. Select Bonjour and browse for the Hydra LAN. Click on it to open the login page.
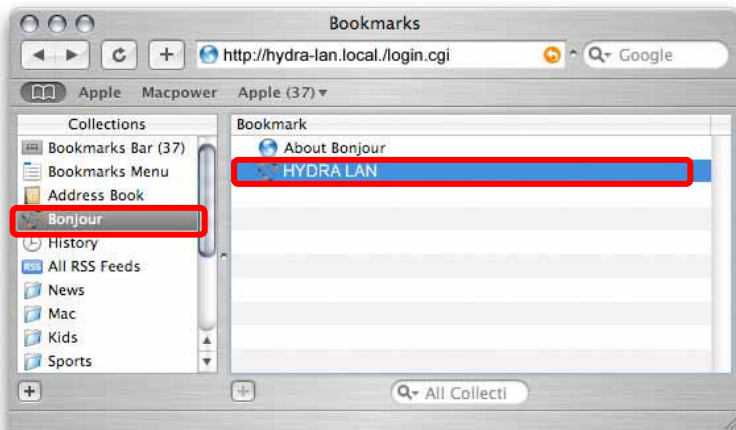
4. The default login for the Hydra LAN is admin for both username and password.
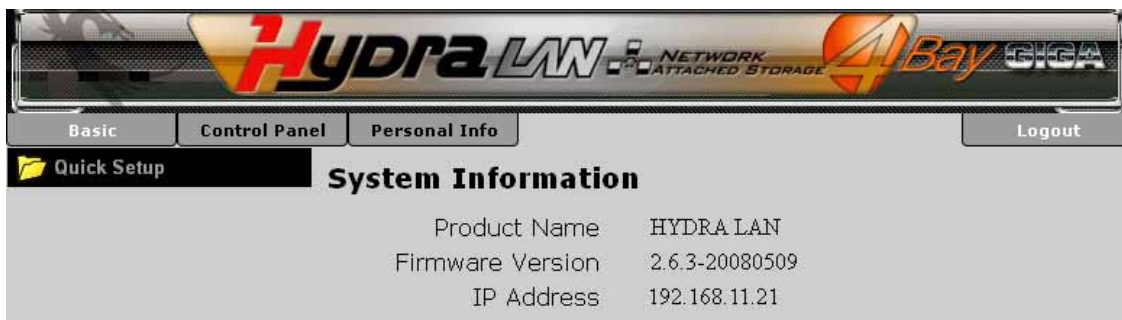
3 Web Configuration

Open your web browser, enter the IP address of your Hydra LAN and login. The default login is as follows:

> Username: **admin**
> Password: **admin**

For more information about the initial setup and finding your IP address, refer to chapter 2.

Basic
The settings in this menu are aimed at the user who wants to quickly set up the LAN disk and share files on the local network. Only the most basic functions and settings are available but it is ideal for someone first using this device. For a more advanced set up, see Control Panel.

Control Panel
This menu includes all the settings and information the Hydra LAN offers. Sorted into individual categories, the administrator can access the system information and modify any of the settings.

Personal Info
This menu is for the system administrator account. It includes the option to set the password, the account details and some other options related to the web interface.

Logout
This can be used to logout once all the settings have been configured.

Note: Without installing and formatting the hard drives first, none of the other functions of the Hydra LAN can be used.

3.1 Quick Setup

The settings in this menu are aimed at the user who wants to quickly set up the LAN disk and share files on the local network. Only the most basic functions and settings are available but it is ideal for someone first using this device. For a more advanced set up, see Control Panel.

3.1.1 Wizard

The setup wizard can be used to configure all the basic LAN settings for your Hydra LAN.

For PC users, if you have followed the setup wizard in chapter 2, there is no need to go through this again, unless you want to change some of the settings or have not yet completed the setup.

For Mac users, follow the setup wizard from step 1 to 6 to quickly prepare your Hydra LAN for file sharing.
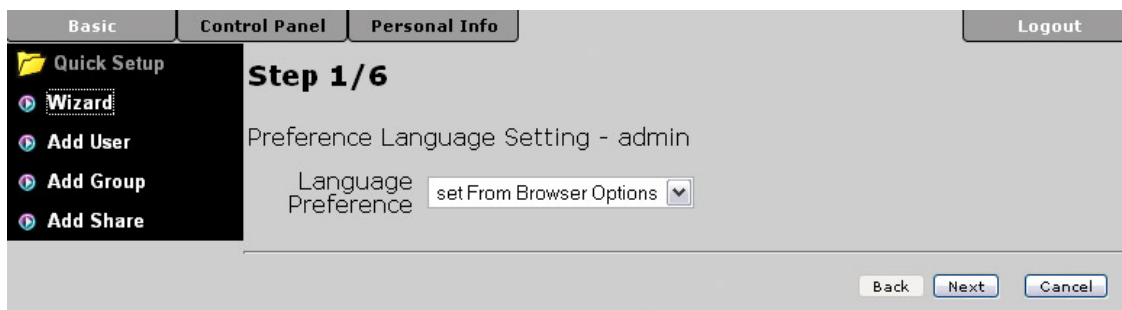
- **Step 1:** Select your preferred language for the web interface from the drop down list.
- **Step 2:** Set a new password for the web configuration interface. Not required but strongly recommended.
- **Step 3:** If you prefer a different hostname for your Hydra LAN, you can change the name here, otherwise simply use the default name.
- **Step 4:** We recommend setting both IP Address and DNS Server to obtain the IP automatically but if required, you can set it manually. If you need assistance to fill out these fields, please contact your network administrator for help.
- **Step 5:** Set the date and time manually or select your time zone from the drop down list and use a NTP server to synchronise the time via the internet.
- **Step 6:** Compare the new settings with the previous configuration and if OK, complete the setup wizard to save the new settings.

Note: For a more detailed explanation for each of the settings, refer to the "System" category.

3.1.2 Add User
Use this setup wizard to quickly add and configure a new user account.

- **Step 1:** Enter the user name and password for the new account. At the same time, you can also create a private folder for that user and set the quota limit.

- **Step 2:** If there are other users already set up, they can be added to the user account management.

- **Step 3:** In the last step you can configure the permissions to the shared folder and add or remove other users.
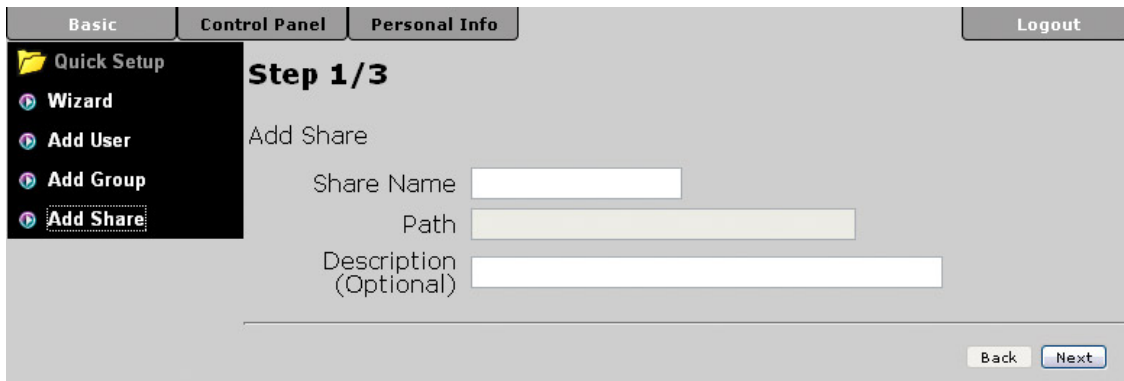
3.1.3 Add Group
Use this setup wizard to quickly add a new group.

- **Step 1:** Enter the group name.

- **Step 2:** Configure which members will be included in this group by adding and removing the members from the list.

- **Step 3:** Configure the share permissions by adding (read only or writable) and removing the shares from the list.

3.1.4 Add Share

Use this setup wizard to quickly add a new share.

- **Step 1:** Enter the share name and an optional description for the share.

- **Step 2:** Configure the Windows/FTP access permissions by adding (read only or writable) and removing the members or group from the list.

- **Step 3:** Configure the NFS access permissions by adding unique IP addresses or a subnet.

Note: For a more detailed explanation for each of the settings, refer to the "Users and Group Management" or "File and Print" menu.

3.2 Users and Groups

In this menu, the administrator can manage the users and groups for the Hydra LAN. Start by adding your users first, then create the groups and assign the members to their groups.

Note: If there are no hard drives installed or the drives are not yet formatted, this menu is not available.

3.2.1   User Management

In this section you can see all existing users for the Hydra LAN and manage them by adding or removing them from the list.

- **Existing Users:** Lists the current users of the Hydra LAN.

- **Adding Users:** To add a new user, clear the form by pressing the "Clear Form" button, then fill out a user name and password. The description is optional but will help you to manage multiple users, so we recommend filling out a short description. If required, you can create a private folder for that user and set a limit for the capacity. Once done, press the "Save" button to create the new user. If you would like to add this user to an existing group, select the user from the existing users list and press the "Groups" button for further settings.

- **Modifying Users:** Select the user from the existing users list and modify the settings. Once done, press the "Save" button to apply the new settings.

- **Removing Users:** To remove a user, select it from the existing users list and then press the "Delete User" button.

3.2.2   Group Management

In this section you can see all existing groups for the Hydra LAN and manage them by adding or removing them from the list. Groups are not required to grant access to the Hydra LAN but will help the admin to manage multiple users and easily share a folder among a group of people.

- **Existing Groups:** Lists the current groups of the Hydra LAN.

- **Adding Groups:** To add a new group, clear the form by pressing the "Clear Form" button, then enter a new group name. Once done, press the "Save" button to create the new group. If you would like to add some members to this group, select the group from the existing groups list and press the "Members" button for further settings.

- **Modifying Groups:** Select the group from the existing groups list and modify the members by pressing the "Members" button for further settings. Once done, press the "Save" button to apply the new settings.

- **Removing Groups:** To remove a group, select it from the existing groups list and then press the "Delete Group" button.

3.3 File and Print

In this menu, you can configure all the settings related to the FTP, NFS and printer server. Use this to manage how your files and folders are shared.

3.3.1 File Server

In this section you can modify the server settings and also enable or disable a service.

- **Character set:** By default, this is set to Traditional Chinese (CP950). If your file names include characters from another language, change the encoding here and select your language from the drop down list (e.g. English CP437).

- **Windows Setting:** In this section, you can change the workgroup that the Hydra LAN belongs to and modify its description. The IP for the WINS Server (Windows Internet Name Server) can be left blank unless this is required for your network.

- **FTP Server:** This service can be enabled or disabled. When enabled, the default FTP port number will be set to 21 but you can change that if required.

- **NFS Server:** This service can either be enabled or disabled depending on your requirements.

- **Guest Access:** To enable guest access (guest-share), enable it and if required, set a limit for the disk space. For security reasons, the guest access can also be disabled.

Note: After changing any of the settings, press the "Save" button to apply the new configuration and save its settings.

3.3.2 Share Management
In this section you can manage the shares and access rights.

- **Existing Shares:** Lists the current shares on the Hydra LAN.

- **Adding Shares:** To add a new share, clear the form by pressing the "Clear Form" button, then enter a new share name. Once done, press the "Save" button to create the new group.
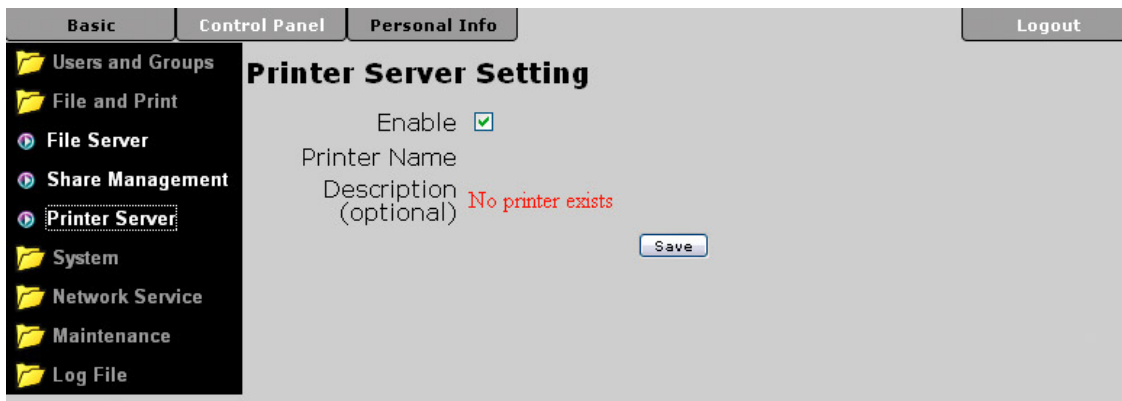
  Select the new group from the existing shares list, then depending on how you share the files, click on "Windows, FTP Access" or "NFS Access" and add the users or groups that will have access to this share. You can allow access for all users or define each user and group separately. The names with an @ for the first letter are groups.

- **Modifying Shares:** Select the share from the existing shares list and modify the access rights by pressing the "Windows, FTP Access" or "NFS Access" button for further settings. Once done, press the "Save" button to apply the new settings.

- **Removing Shares:** To remove a share, select it from the existing shares list and then press the "Delete Share" button.

Note: For security reasons, the "grant access to all" option should be disabled, unless you want to allow all users access to that folder.

3.3.3 Printer Server
In this section you can enable or disable the printer server and check the details of the connected USB printer.

| Basic | Control Panel | Personal Info | | Logout |

Printer Server Setting

Enable ☑
Printer Name
Description
(optional)   No printer exists

Save

- Users and Groups
- File and Print
- File Server
- Share Management
- Printer Server
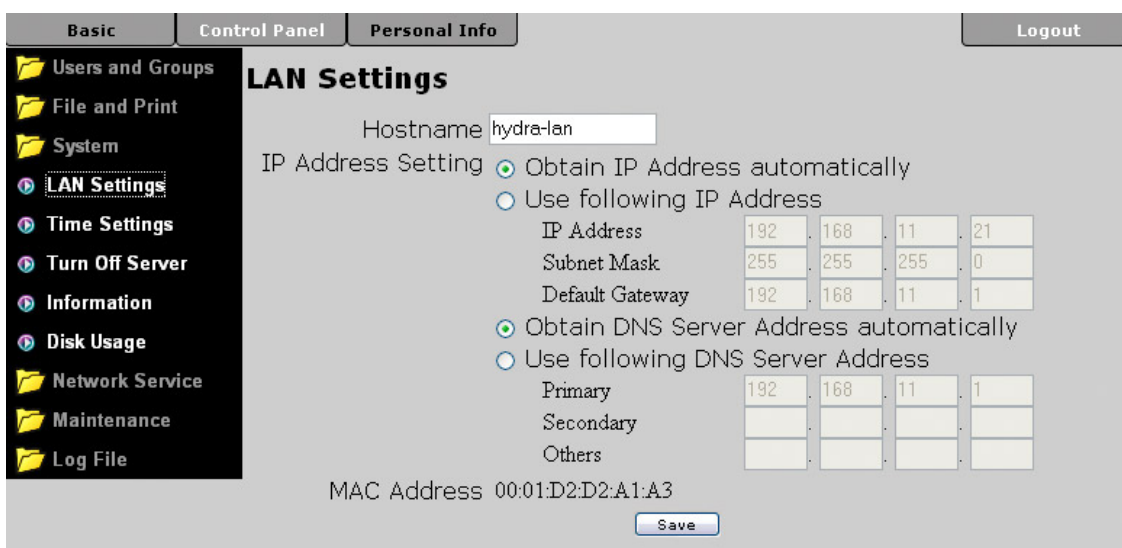- System
- Network Service
- Maintenance
- Log File

3.4 System
In this menu you can configure the basic network settings for the Hydra LAN and find some details related to the firmware and disk usage.

3.4.1 LAN Settings
In this section you can define the hostname for your Hydra LAN and set up the IP configuration. We recommend using the "Obtain IP/DNS address automatically". When selecting a hostname, make sure to use a unique name and not one that has already been used on the local network.

If required, you can also set the individual IP addresses yourself. If you need assistance in manually filling out these fields, please contact your network administrator for help.

| Basic | Control Panel | Personal Info | | Logout |

LAN Settings

- Users and Groups
- File and Print
- System
- LAN Settings
- Time Settings
- Turn Off Server
- Information
- Disk Usage
- Network Service
- Maintenance
- Log File

Hostname hydra-lan
IP Address Setting ⊙ Obtain IP Address automatically
                    ○ Use following IP Address
  IP Address   192 . 168 . 11 . 21
  Subnet Mask   255 . 255 . 255 . 0
  Default Gateway 192 . 168 . 11 . 1
                    ⊙ Obtain DNS Server Address automatically
                    ○ Use following DNS Server Address
  Primary   192 . 168 . 11 . 1
  Secondary   . . .
  Others   . . .
MAC Address 00:01:D2:D2:A1:A3

Save

Note: After changing any of the settings, press the "Save" button to apply the new configuration and save its settings.

3.4.2 Time Settings
In this section, you can set the date and time manually or select your time zone from the drop down list and use a NTP server to synchronise the time via the internet

When set manually, press the "Save" button to apply the new time and save the settings or when synchronised via the internet, select the NTP server and press the "Update Time" button.

Note: To use the NTP function, you need to enter a valid NTP server or select one from the drop down list. If the default address at time.windows.com does not work, find a new one and then try again or turn off the NTP server and set the time manually.

3.4.3 Turn Off Server
In this section, you can restart the server or turn off the Hydra LAN via the web browser. Make sure that nobody is accessing the device when you restart or turn it off.

Press the "Restart" button to restart the server. The system will restart and automatically prompt you for the login when it's ready. Press the "Turn Off" button to shut down the system. The browser will prompt you to close the window after about 90 seconds (Internet Explorer only, for other browser close it manually).

3.4.4 Information
In this section, you can find the product name, the current firmware and the current IP address.

Basic	Control Panel	Personal Info	Logout
Users and Groups			

System Information

Product Name	HYDRA LAN
Firmware Version	2.6.3-20080509
IP Address	192.168.11.21

File and Print
System
LAN Settings
Time Settings
Turn Off Server
Information
Disk Usage
Network Service
Maintenance
Log File

3.4.5 Disk Usage
In this section, you can find a summary of the hard disk status and disk usage. Press the "Refresh" button to update the information.

Basic	Control Panel	Personal Info	Logout

Disk Usage

Last Checked: 5/28/2008 08:17:14

Please select statistics information: Summary

Disk Name	Capacity	Used	Free	Disk Usage (%)
/dev/md	304892MB	270MB	304622MB	0%

Refresh

Users and Groups
File and Print
System
LAN Settings
Time Settings
Turn Off Server
Information
Disk Usage
Network Service
Maintenance
Log File

3.5 Network Service

In this menu, you can enable or disable the network services like the DHCP server, Bonjour and the BitTorrent™ download service.

3.5.1 DHCP Server

In this section, you can enable and set up the DHCP server. In general, there is most likely already a DHCP server running on your local network, so this DHCP server should be disabled but if required, enable it and configure the addresses.

Once you have set everything up, press the "Save" button to save the settings and start the DHCP server.

3.5.2 Bonjour

In this section, you can enable or disable the Bonjour service. For Mac users, turn it on to offer easy access to the login page via the Safari web browser. In addition to that, you can also enable the iTunes service, so that music files can be accessed directly from iTunes.

When the iTunes option is enabled, you can store your MP3 music files in the "/public/music" folder and play them directly from iTunes. The Hydra LAN will automatically appear in iTunes under shared devices.

3.5.3 BTorrent

In this section, you can manage your torrents and add new downloads to the queue. Before you add the first job, set a limit for the download and upload speed according to your network's available bandwidth. After changing the settings, press the Save button to apply the new configuration.

To start downloading files, you will have to download a torrent file from the internet first and then upload it to the Hydra LAN. Once the torrent file has been added, you can start downloading. The downloaded files will be stored in your "/public/btdownload" folder.

The BitTorrent™ client on the Hydra LAN can download 5 files at a time with a maximum of 40 files in the queue. Remember to start the download again if the Hydra LAN has been turned off or rebooted before the file has been downloaded completely.

For more details, see BTorrent under Additional Features in chapter 5.

Note: If there are no hard drives installed or the drives are not yet formatted, this menu is not available.

Note: The BitTorrent™ client on the Hydra LAN is using the TCP protocol and the ports 6881-6889. Make sure those ports are not blocked by your router or its firewall and if necessary, set up port forwarding, so that the traffic for those ports is forwarded to your Hydra LAN.

3.6 Maintenance
In this menu, you can format the hard drives, setup the RAID array, upgrade the firmware and manage the configuration settings.

3.6.1 Disk Utility
This utility can be used to format the external USB hard drives, see information related to the disks and set a spin down time.
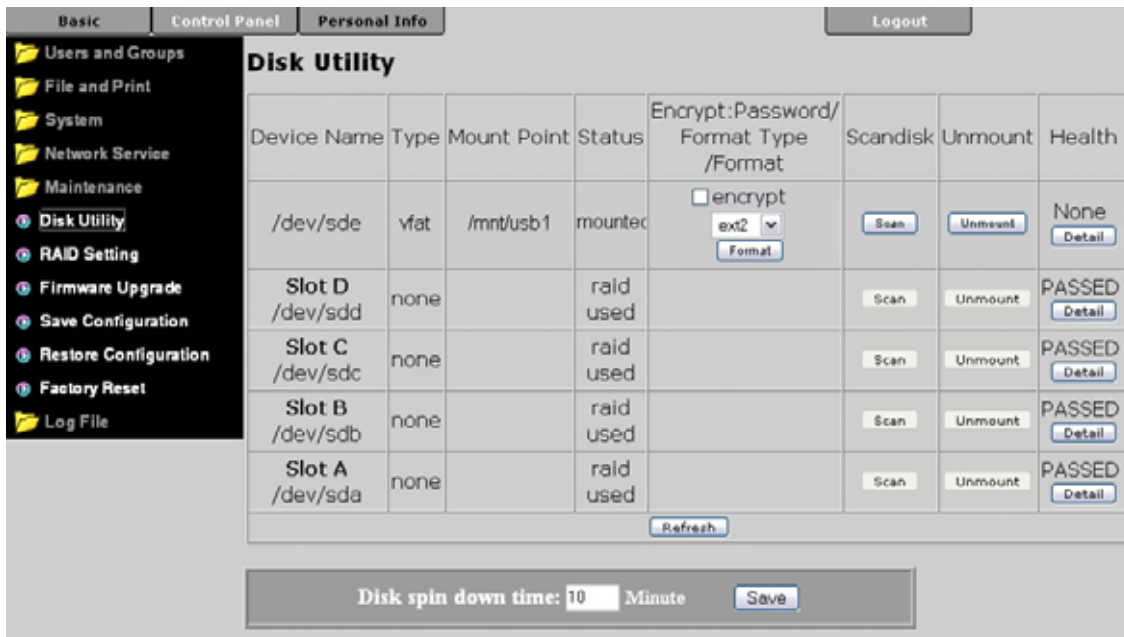

- **Encryption:** The Hydra LAN supports 128bit loop-AES encryption for the EXT2 file system. When enabled, the drive has to be formatted again and you will be prompted for a password (has to be exactly 20 characters).

- **File System:** For external USB drives, there is a choice between EXT2, EXT3 and FAT32. For drives installed in the Hydra LAN only EXT2 and EXT3 are available but they need to be formatted using the "RAID Setting" menu, not the disk utility.

- **Scandisk:** Press the "Scan" button to check the disk integrity of external USB drives. If possible, any errors found will automatically be fixed. This will take a while to finish depending on the capacity of the drive, and also the disk can not be used in that time.

- **Unmount:** This function is only available for external USB drives that are attached to the Hydra LAN. Press the Unmount button to eject the USB drive before you disconnect it. After using the USB copy function, the drive will automatically be ejected.

- **Detail:** Press the "Detail" button to see further disk information. If the HDD supports S.M.A.R.T., it will also report the disk's health status.

- **HDD Power Management:** To save power and reduce heat, you can let the hard disk spin down if not used for a certain amount of time. Enter a time in minutes and press the "Save" button to apply the new setting.

Note: The "disk spin down" function might not work properly for some WD hard drives due to lack of the E3h command.

3.6.2 RAID Setting

In this section you can manage the RAID array and set up your drives. The Hydra LAN supports JBOD, RAID 0, RAID 1 and RAID 5. Except for JBOD, hard drives of identical capacities are recommended.
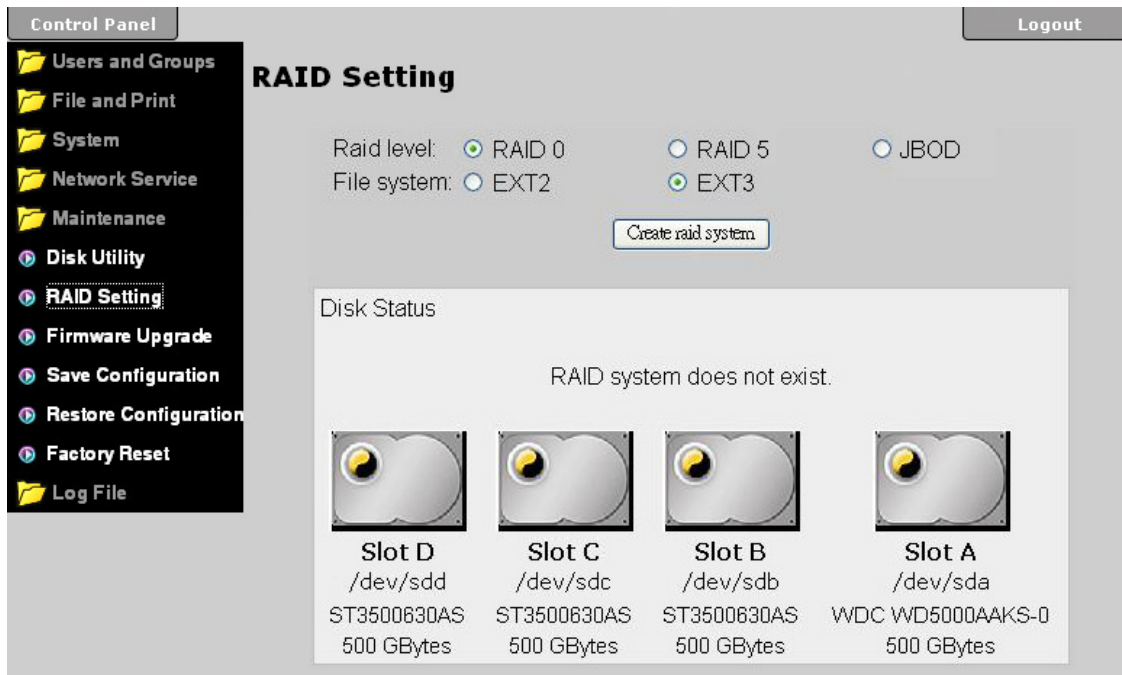

- **RAID 0:** Striping is used where speed is the primary objective but this system is not redundant. The fragments are written to their respective disks simultaneously on the same sector. RAID 0 does not implement error checking so any error is unrecoverable. More disks in the array means higher bandwidth, but greater risk of data loss.since data is written without any form of parity data-checking.

- **RAID 1:** This mode is available when only 2 drives are installed. A RAID 1 array creates an exact copy (or mirror) of a set of data on the second drive. This is useful when reliability and backup are more important than storage space. The available capacity to the user will only be as large as a single drive but when one of the hard drives fails, it can be replaced and the data rebuilt.

- **RAID 5:** This mode is available when 3 or 4 drives are installed. Distributed parity requires all drives but one to be present to operate. Drive failure requires replacement, but the array is not destroyed by a single drive failure. The array will have data loss in the event of a second drive failure and is vulnerable until the data that was on the failed drive is rebuilt onto a replacement drive. Use this when reliability is most important.

- **JBOD:** Spanning is used to combine two or more hard drives of different capacities and create one large volume. JBOD does not provide data redundancy.

Note: Creating the RAID system will take a while, depending on the drive capacity. Do not turn off the power or interrupt the system in any other way during this process! We recommend using the EXT2 file system for optimum performance and functionality.

Note: Changing the RAID setup will require you to re-format the drives. Make sure you backup all data before doing so!

3.6.3 Firmware Upgrade

In this section you can check the current firmware version and upgrade if a new one is available. Download the latest firmware and store in on your computer, then browse for the *.gz file, select it and start the upgrade. The upgrade process takes about 10-20 minutes.
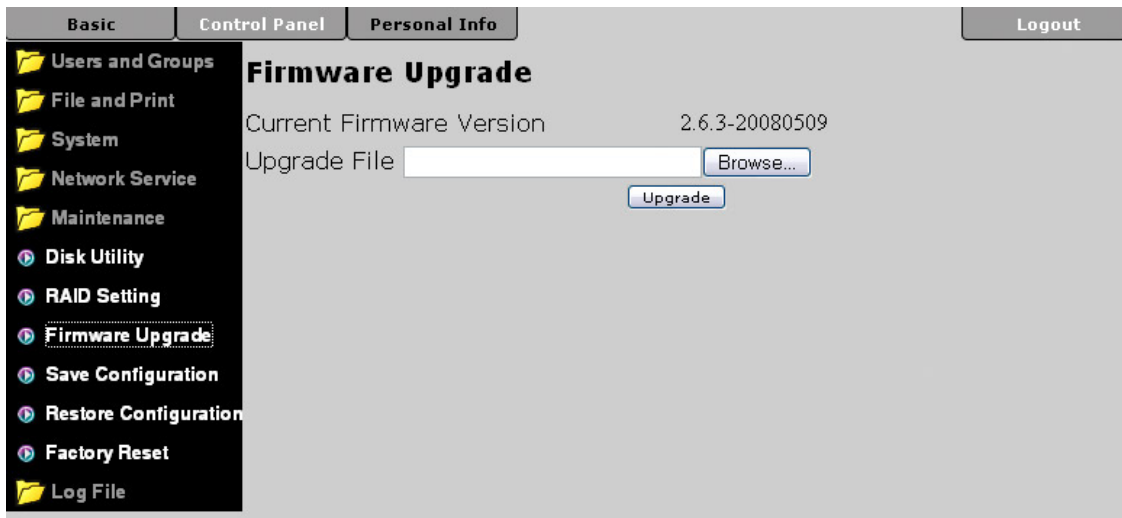

Note: Never turn off your unit during the firmware upgrade procedure or this may damage your device! If for any reasons (e.g. power supply failure during firmware update) the procedure fails, you may not be able to operate your device any more.

Note: After the firmware upgrade, we strongly recommend resetting the device to factory default and set up the users, groups and settings again from scratch for a clean start.

3.6.4 Save Configuration

For backup and before every firmware upgrade, you can use this function to save your current configuration. Press the "Save" button and save the config.tar file on your computer.
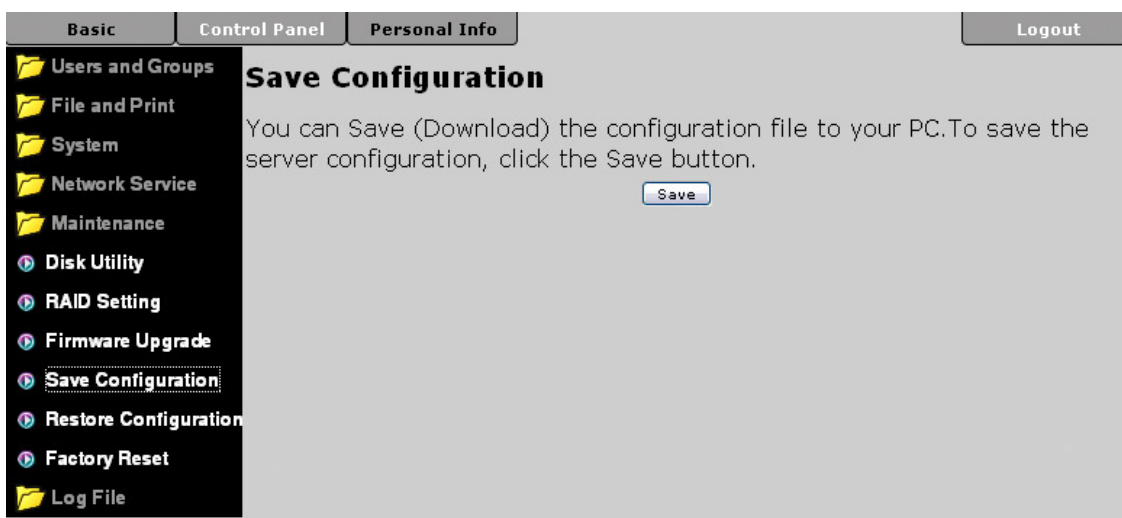
3.6.5 Restore Configuration

To quickly restore previous settings or set up multiple units, you can save the configuration and then use this function to upload a previous backup. Browse for the config.tar file on your computer and press the "Restore" button to restore the previous settings.
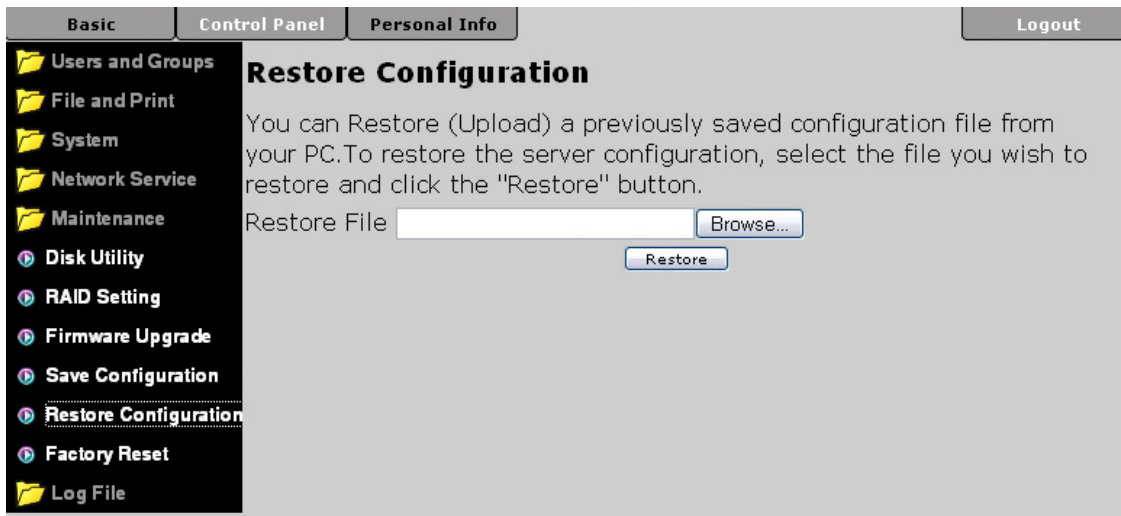
3.6.6 Factory Reset

Pressing the "Factory Reset" button will restore all settings to their default configuration. Before pressing this button, we recommend saving your current configuration in case you want to restore it again later.
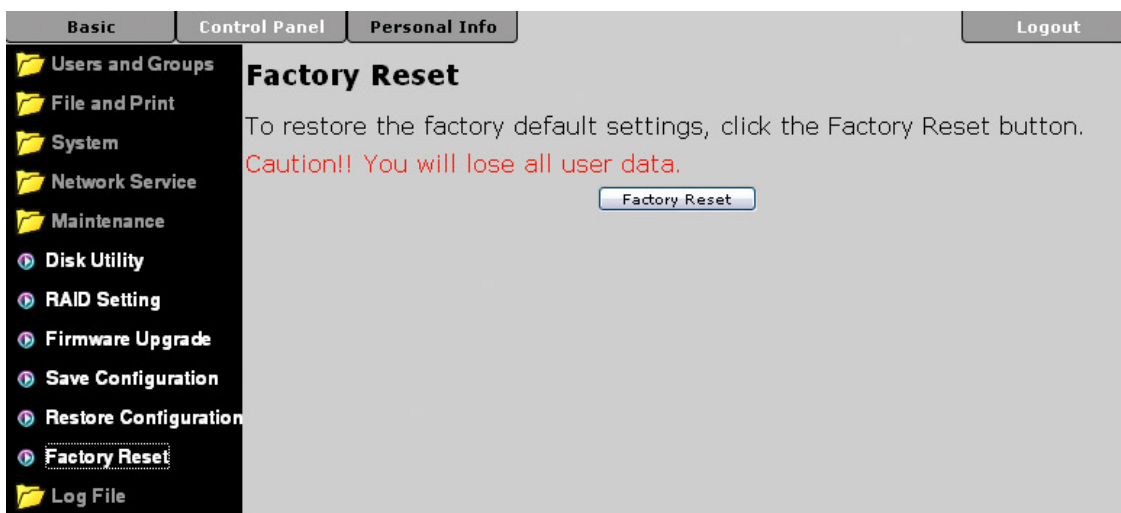
Note: When the "Factory Reset" button is pressed, all users, groups and other configurations will be lost! The files inside the shared folders will not be erased but only the administrator will have access to them via SMB, unless the same share name is set up again and access is granted for new users.

To completely erase the files inside the shares, use the "Share Management" menu to remove the shares before resetting or use the administrator account after the reset, login via SMB and delete the files.

3.6.7 Log File

This menu includes all the log files of your Hydra LAN. You can find logs for the SAMBA, FTP and DHCP server as well as system and administration logs.
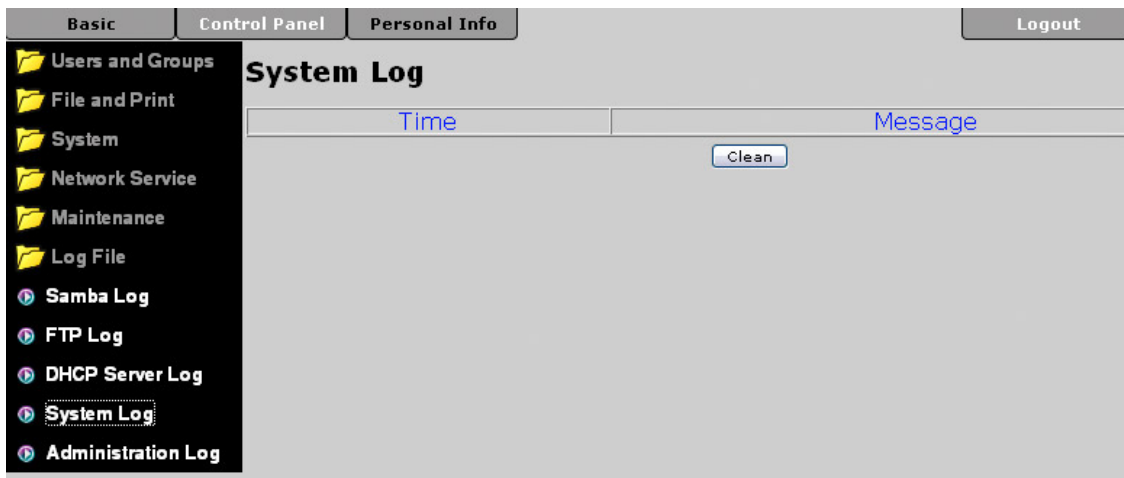
Note: To delete the old log files, press the "Clean" button beneath the log.

3.6.8 Account Information

In this menu, you can change your admin password and the menu language for the configuration interface. There is also an overview of disk usage and share list available.
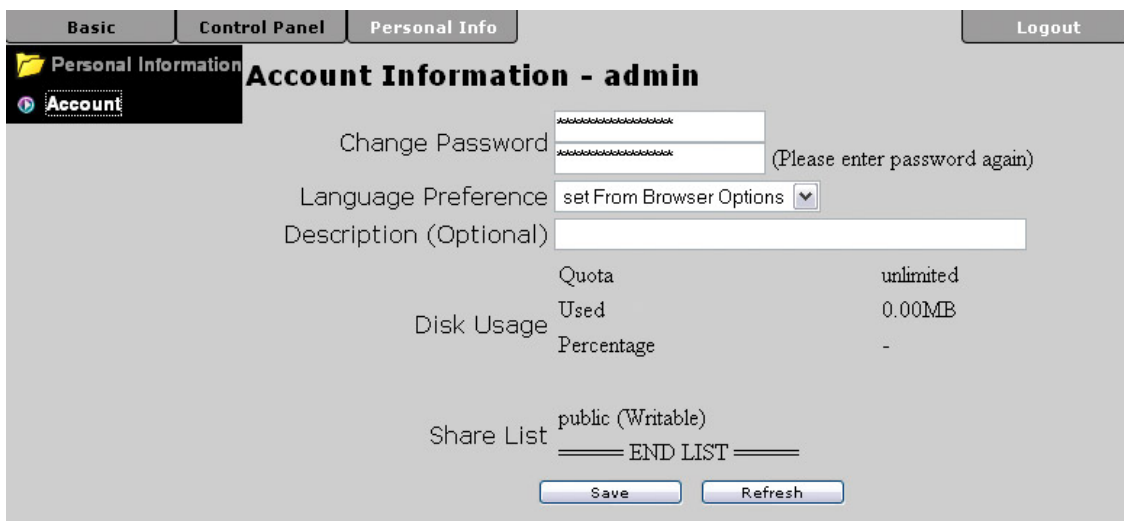
4 Network Storage

To access the data on the Hydra LAN via the network connection, you may use either FTP or SMB. Before you can access the shared folders, you will have to set up your users, groups and shares. See chapter 3 for more details about user, group and share management.

4.1 File Access on a PC

4.1.1 FTP

Use Windows Explorer and type "ftp://" followed by the IP address of your Hydra LAN. Add the user name and password in front of the IP address with an @ sign in between.

As an example, your URL might look something like this:
ftp://demo:demo@192.168.11.26
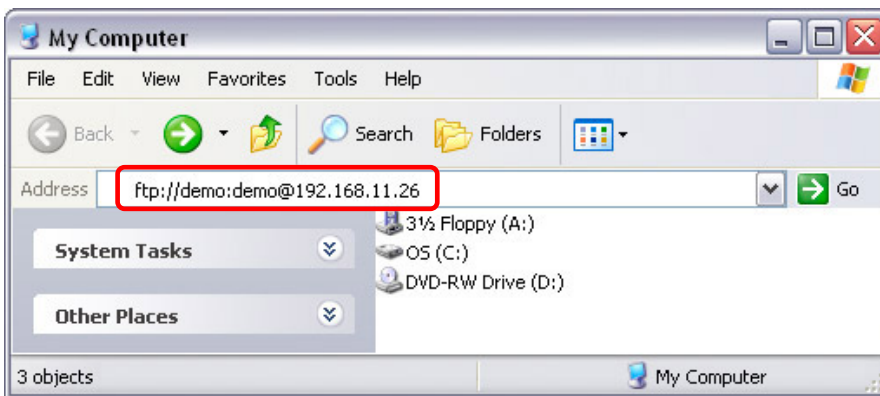
After login, you can access the available folders and transfer your files. Remember that files can not be opened directly via FTP, you will always have to transfer them to your computer first.
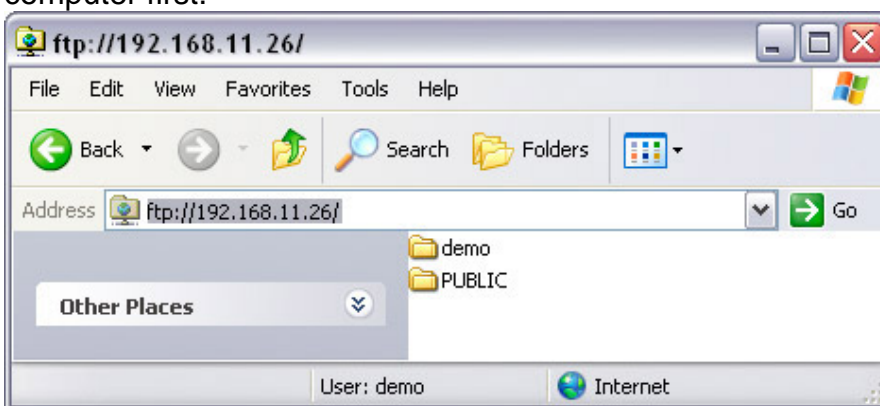
Note: For FTP transfers, we recommend installing and using a dedicated FTP application, which can either be a free utility or professional shareware program.

4.1.2 Windows Explorer

Use Windows Explorer and type "\\" followed by the IP address of your Hydra LAN. It will list all available folders and shares on your Hydra LAN, which you can then access directly.

You can copy files to the network drive as if it were a folder on your local drive. Depending on the bandwidth, you can also directly play and open the files, although we recommend transferring the data to your local drive first.
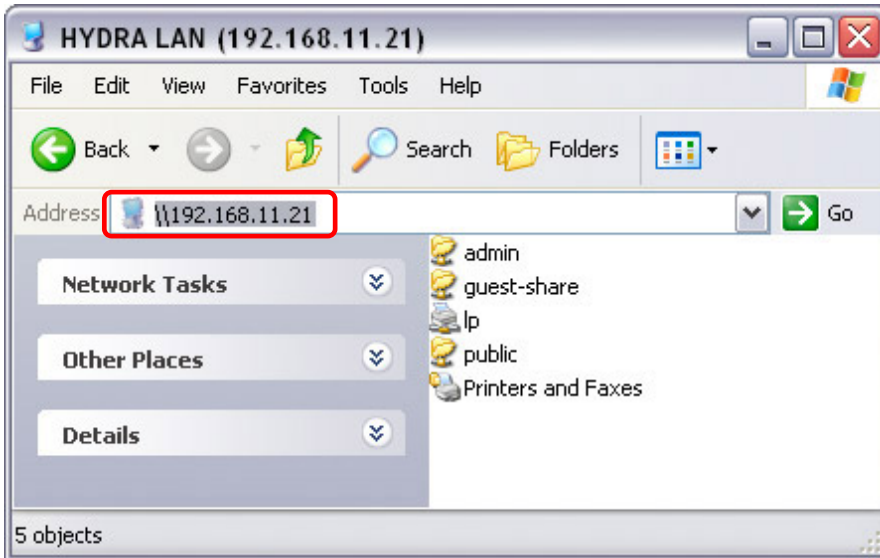

4.1.3 Mapping a Network Drive

Mapping the network drive will allow you to create a permanent link that is easier to access even after restarting the computer and it can also be used to store files from within other applications.

1. Double click on My Computer, go to the Tools menu and select "Map Network Drive…".
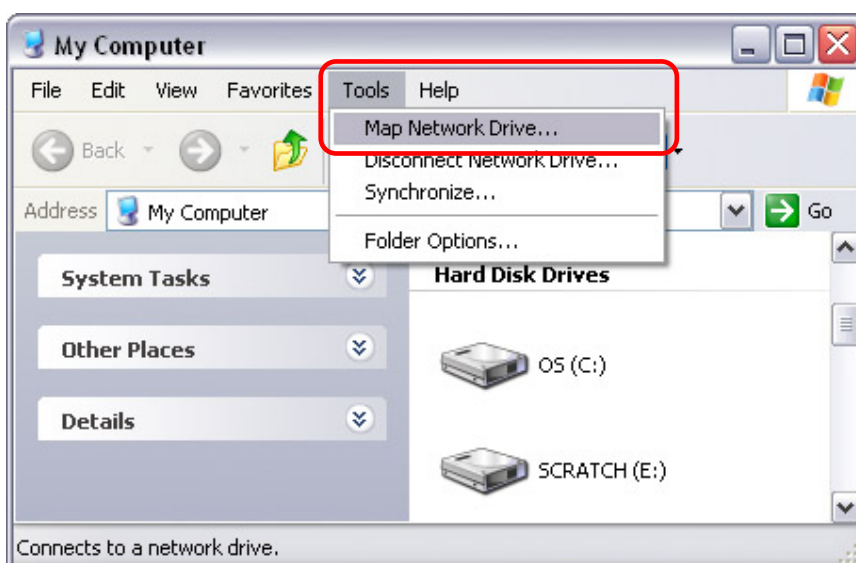
2. Follow the setup wizard and fill in the path to your Hydra LAN. When entering the IP address, also add the folder (e.g. "\\192.168.11.21\public"). Alternatively, you can also browse for the shares by clicking on the Browse button and locating the folder that way.
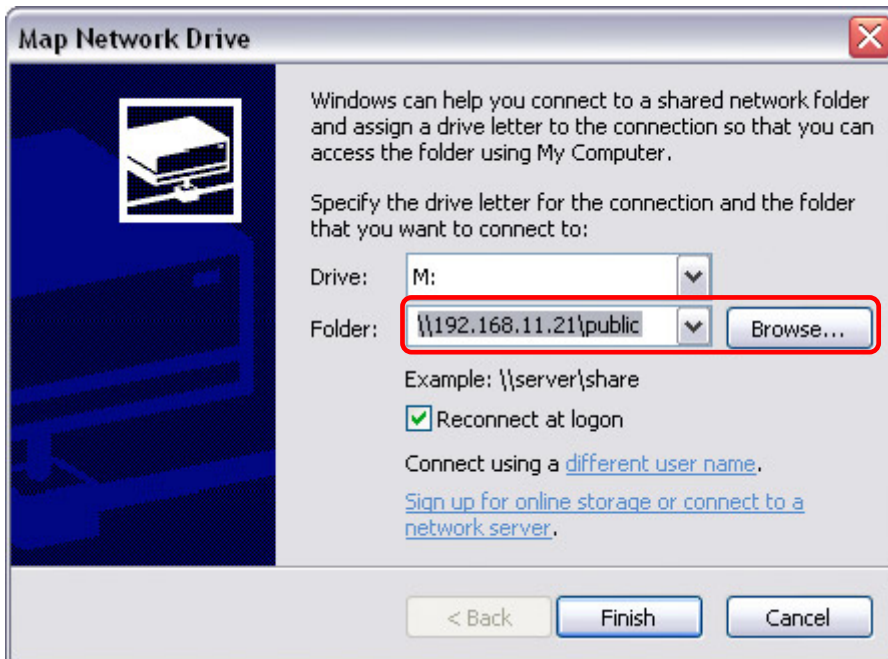
3. Once the drive has been mapped, you are able to find and access it under My Computer. This link will still be there even after rebooting your Operating System if you have selected the option "Reconnect at logon".
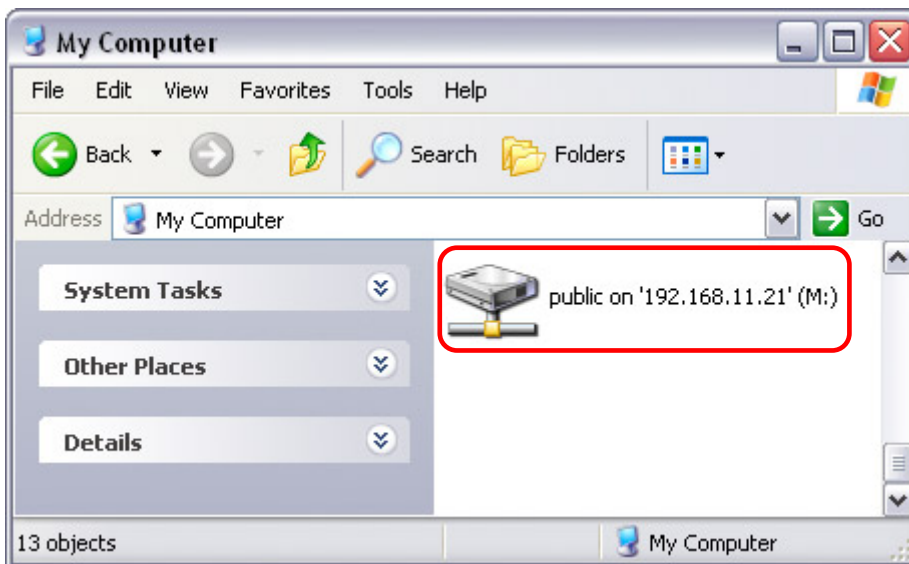
Note: For quick and temporary access, you can also simply go to My Network Places, view the workgroup computers and select your Hydra LAN.

4.1.4 Disconnecting a Network Drive

When you don't need a mapped network drive any more, we recommend disconnecting it. It is also necessary to disconnect a temporary network drive when you try to login with a new password but have not restarted the computer in between.

1. Double click on My Computer, go to the Tools menu and select "Disconnect Network Drive…".

2. Select any temporary or mapped network drives that you would like to remove and then click OK.
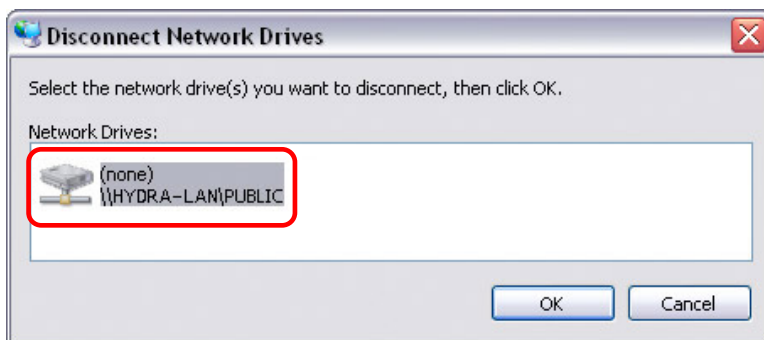
Note: If you experience problems with the network access, disconnect all network drives on the Hydra LAN, reboot your computer and then try again.

4.2 File Access on a Mac

4.2.1 SMB
To mount and access the network storage, open your Finder, click on "Go" and choose "Network". Browse for your network storage and click on it to access the folder.
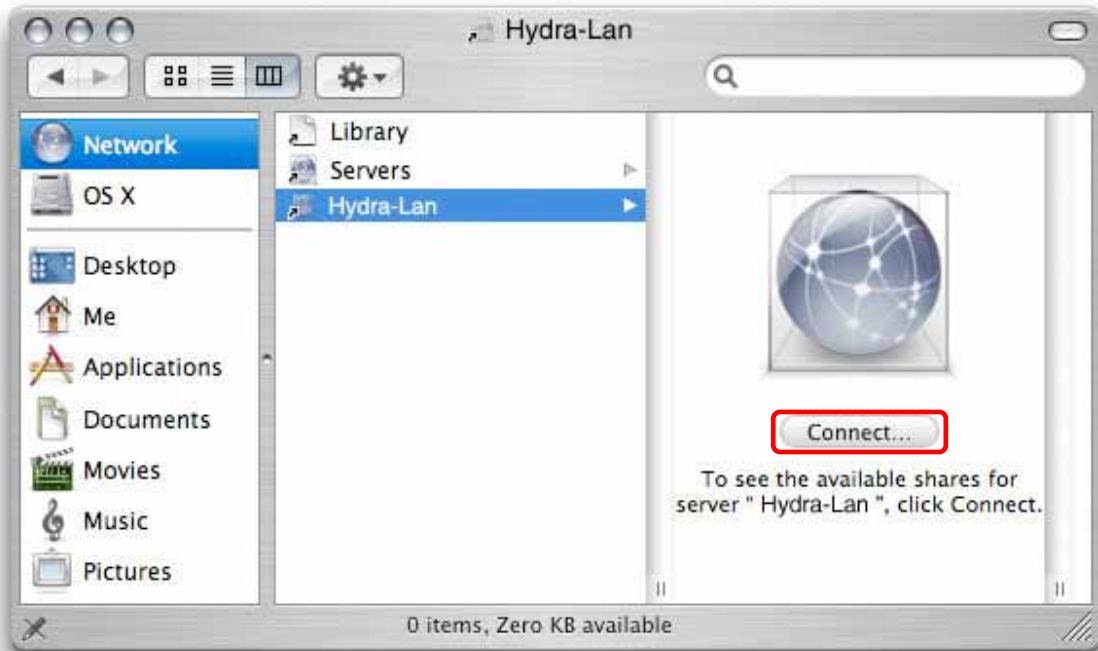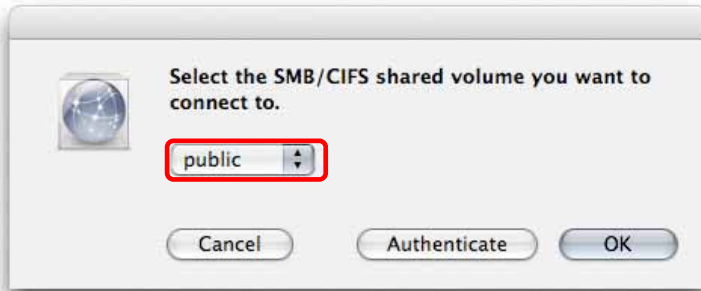
Alternatively, you can use the "Connect to Server" command.

1. Click on "Go" and choose "Connect to Server".

2. Type smb:// followed by the IP address of your Hydra LAN or click on the Browse button to locate the folder on your network. Click on the "Connect" button once the server address has been filled out.
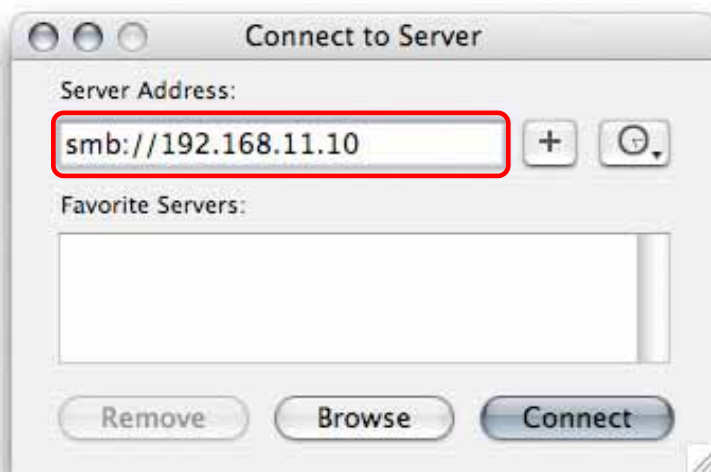
3. You will be asked to choose a folder and after entering the correct password (if a password has been set), it will then mount the folder on your desktop.


4.2.2 FTP

The FTP utility on the Mac will be able to read the data on the network drive but you can not upload new data to the drive. To do that, you will need to install a dedicated FTP application, which can either be a free utility or professional shareware program.

1. Click on "Go" and choose "Connect to Server".

2. Type ftp:// followed by the IP address of your Hydra LAN. Click on the "Connect" button once the server address has been filled out.
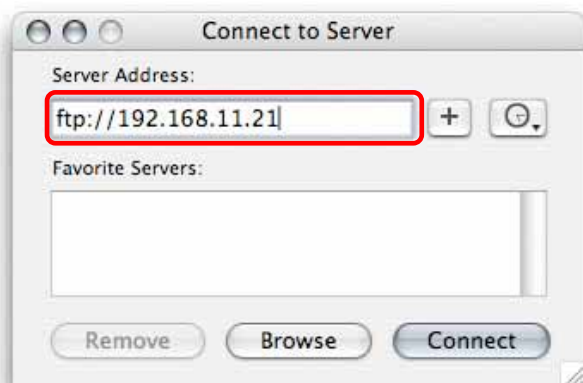
3. You will be asked to choose a folder and after entering the correct password (if a password has been set), it will then mount the folder on your desktop.
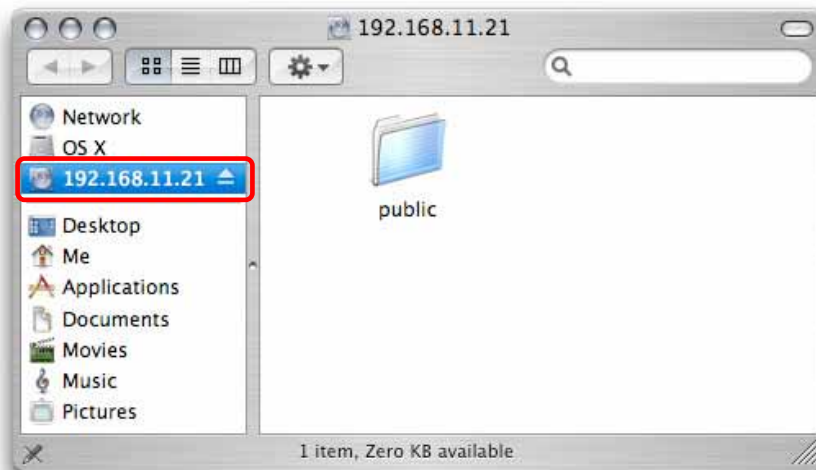
5 Additional Features

5.1 UPnP

The Hydra LAN supports UPnP v1.0. To access the device on a PC, go to My Network Places and the Hydra LAN will be listed as an UPnP device. You can select it and access the configuration page.
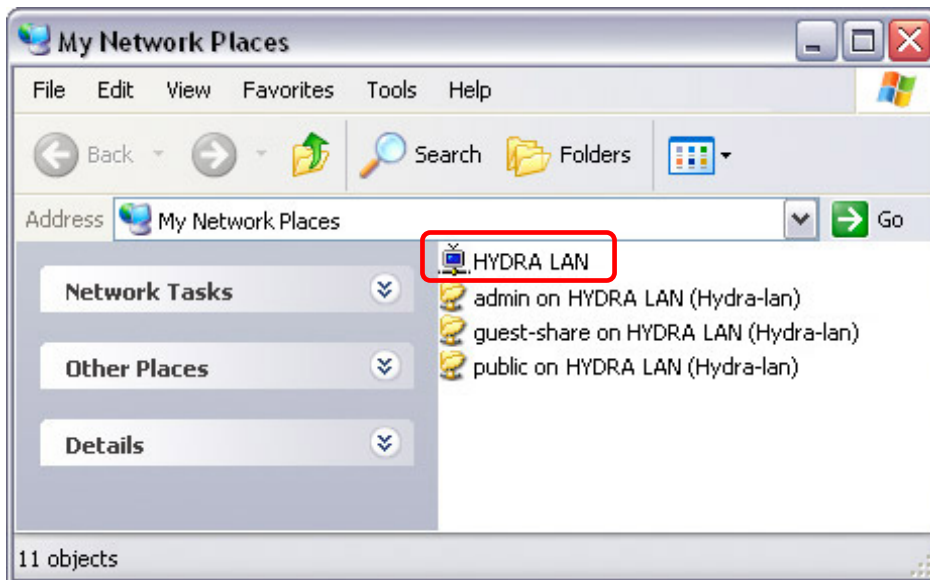
Note: There is no need to configure anything, this function is turned ON by default and other devices will be able to recognise it automatically.

5.2 Bonjour & iTunes

For easy access to the web interface on the Mac, a shortcut to the Hydra LAN will be available in the bookmarks collection under Bonjour when the service is enabled.
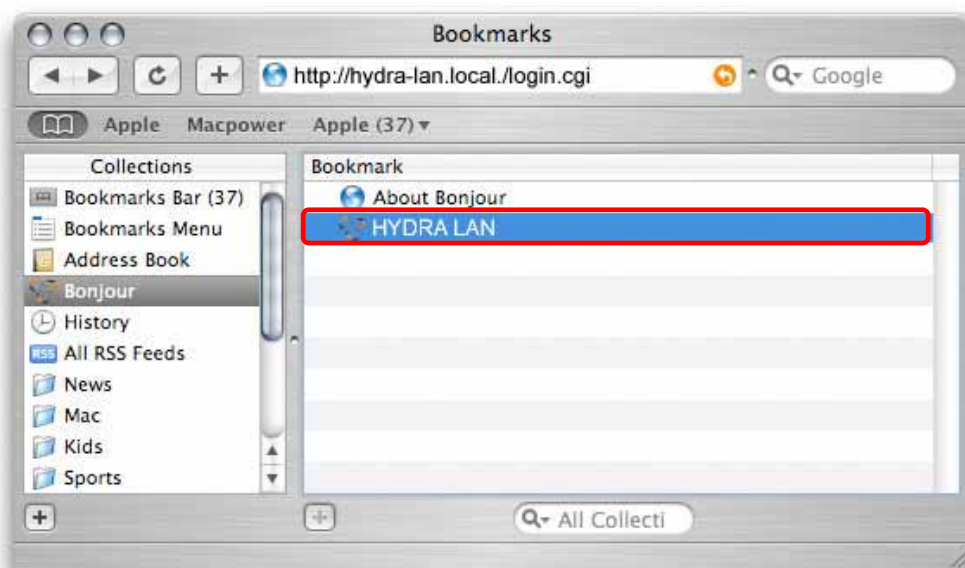
5.2.1 iTunes

When the iTunes support for Bonjour is enabled, the Hydra LAN will appear as a shared music folder in your iTunes library. Store your MP3 files in the music folder of the Hydra LAN and play them over the network.
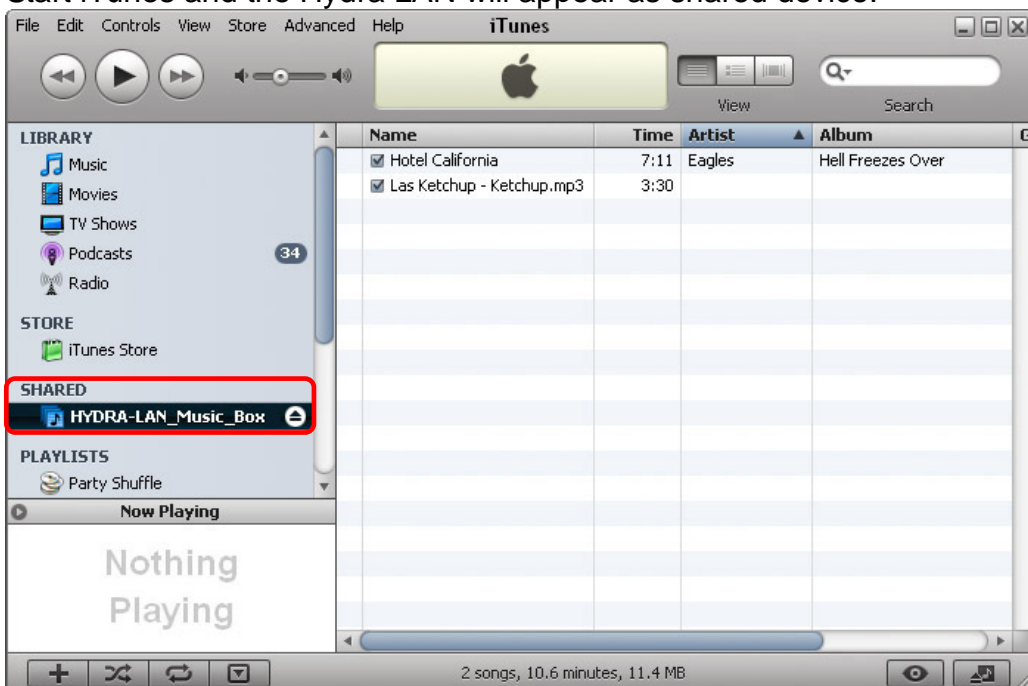
1. Make sure the support for iTunes in the Bonjour menu is enabled.

2. Store your MP3 files in the music folder of your Hydra LAN. The folder has already been created for you at "/public/music".
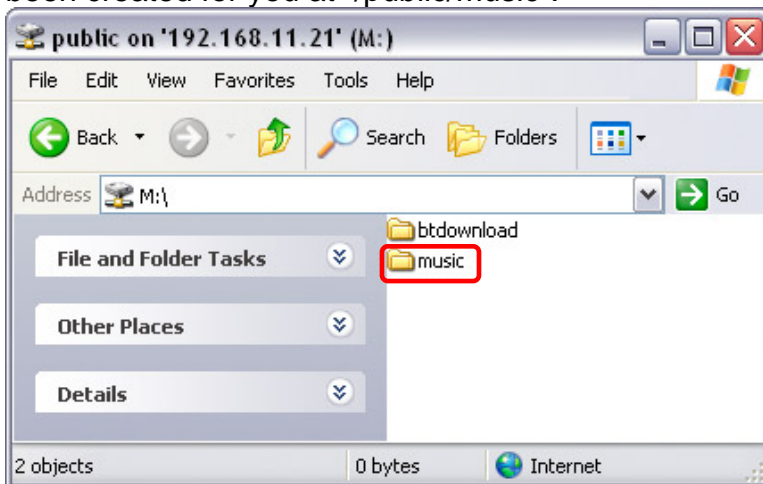
3. Start iTunes and the Hydra LAN will appear as shared device.
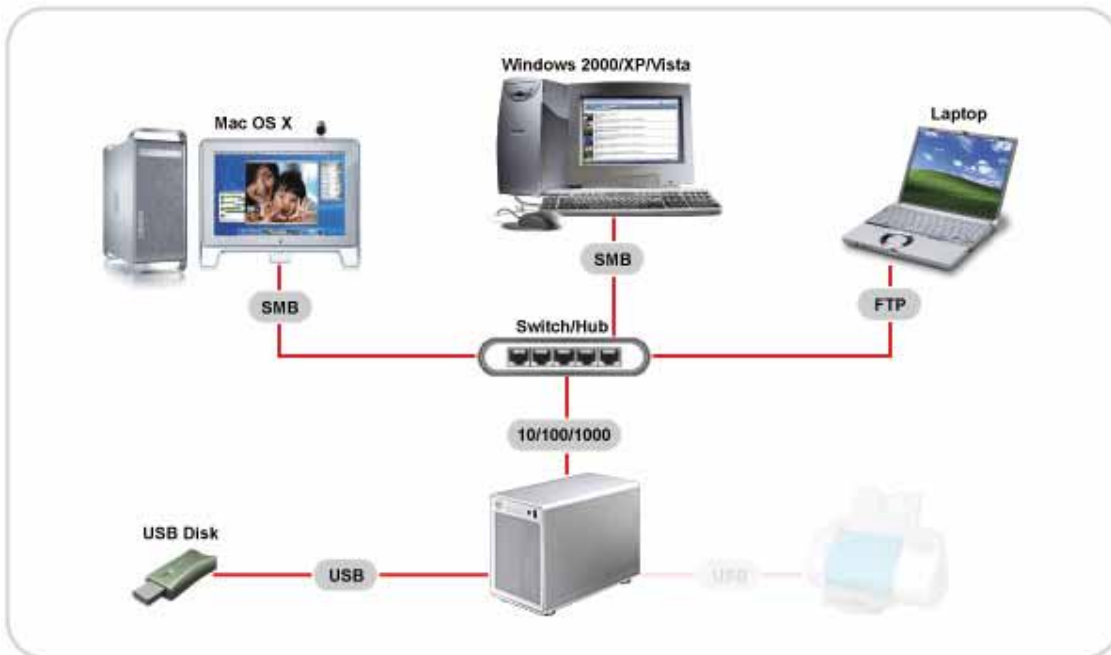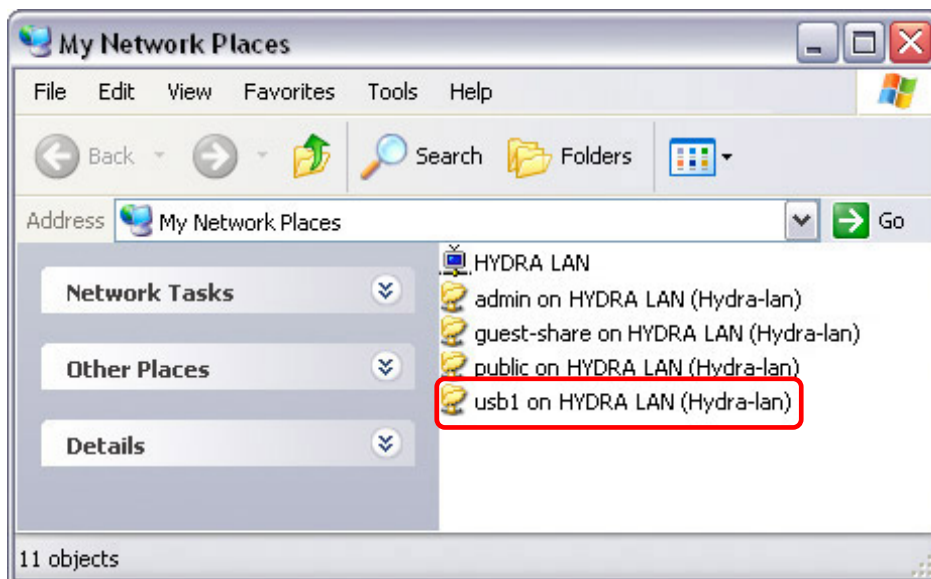
5.3 USB Drives

USB drives connected to the Hydra LAN can be shared and accessed on the network or data copied directly to the internal hard drives via USB copy function.

5.3.1 Sharing a USB Drive

A USB drive with the file system FAT32, EXT2 or EXT3 that is connected to the Hydra LAN can be shared and accessed over the network via SMB or FTP.

Connect the USB drive to the Hydra LAN and then go to "My Network Places". The external drive will show up as "USB1" or "USB2" and you can access it to transfer files without further login. Before disconnecting it, go to the "Disk Utility" menu and press the "Unmount" button to eject the drive.


Note: To access the USB drive via FTP, leave the "md1" directory and you will find the "usb1" or "usb2" folder in the root directory (top folder).

5.3.2 USB Backup

The USB backup function can be used to quickly and conveniently copy the files from an external USB drive (FAT32 only) to the internal SATA hard drives.

1. Connect the USB drive (FAT32 only) to the front port of the Hydra LAN and wait about 10 seconds for the drive to mount.

2. Press the COPY button just beside the USB port for 4 seconds to backup your files.

3. A new folder based on date and time will be created in the "/public" directory. All files will be copied to that folder.
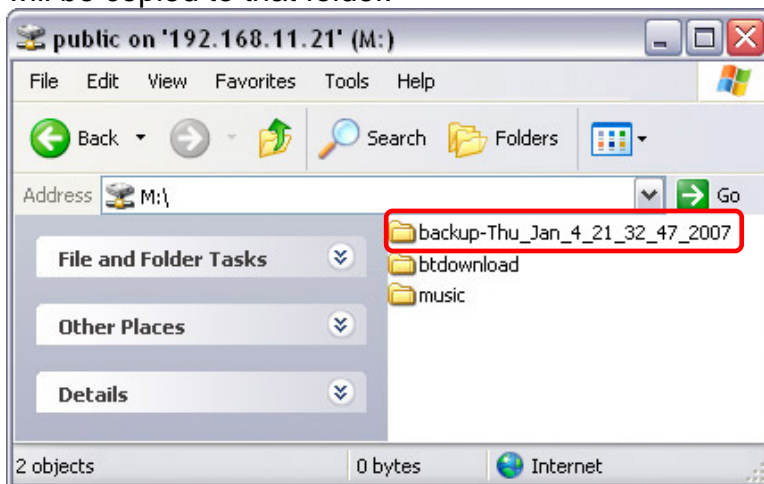

4. During the backup process, the USB LED will blink yellow. When finished, the USB LED will stop blinking and it will automatically eject the drive. At that point, you can remove the USB drive.

Note: For external USB devices, we recommend using self-powered USB drives. Only drives formatted using FAT32 are supported! If more than one USB drive is connected, only the files from the second drive will be copied.

5.4 USB Printer

The Hydra LAN is equipped with additional USB ports and a printer server. Connect your USB printer to one of the USB connectors on the Hydra LAN and enable the printer server to share the printer among other workstations on the same local network.
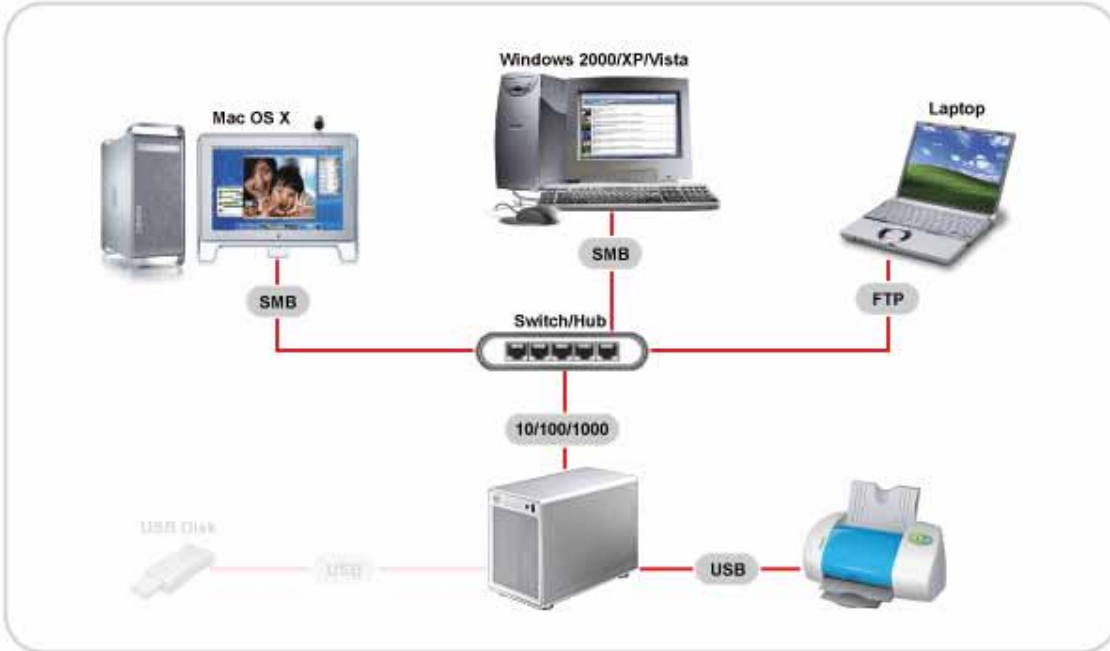
5.4.1 Installation on a PC

Printing via the shared network printer will be slower than when the printer is connected directly to the USB port on the computer. After you press the print button, please wait for the printer to receive the data.

1. Connect your USB printer to one of the USB ports on the Hydra LAN and turn both devices on.

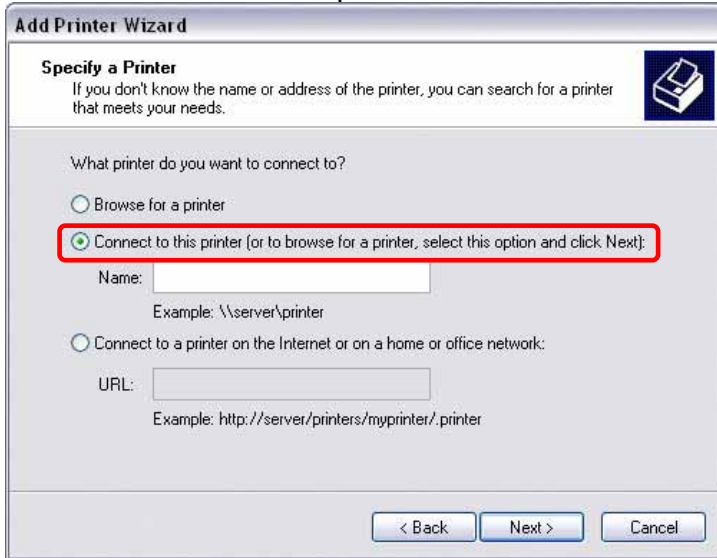2. Login to make sure the printer server is enabled and the printer is recognised.
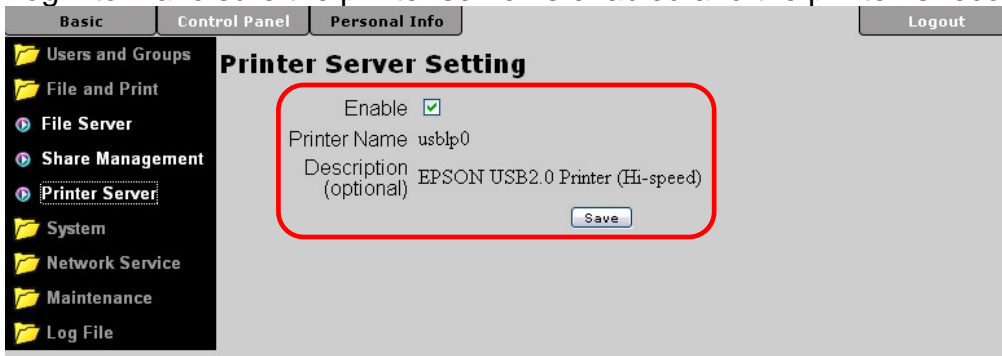
3. On your PC, go to Start and select "Printers and Faxes".

4. Go to File and select "Add Printer" to bring up the printer setup wizard.

5. Press "Next" to start the wizard, then select "A network printer…" and press "Next".

6. Select "Connect to this printer…" and click on "Next".

7. Browse for the Hydra LAN and select the lp printer, then click on "Next".

8. After clicking on "Next", a pop-up window will appear asking for a driver. Select your printer model from the list or browse for the corresponding driver on your local drive.
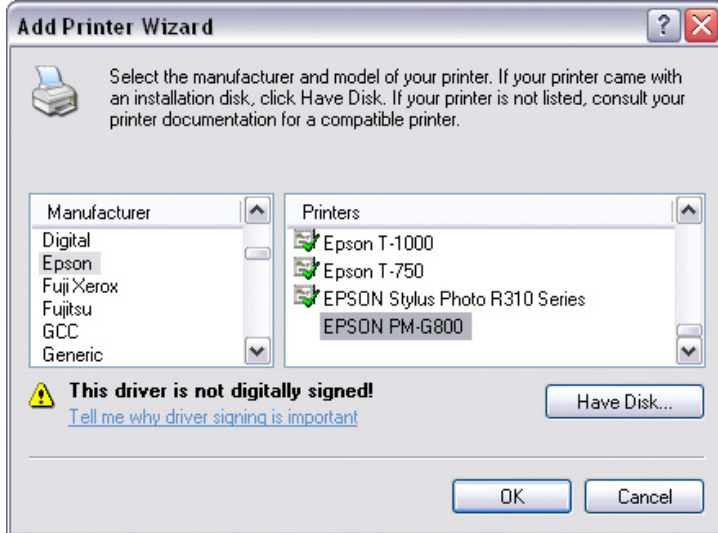

9. Finish the wizard and you are done. Your printer is now set up and you can print the first page.
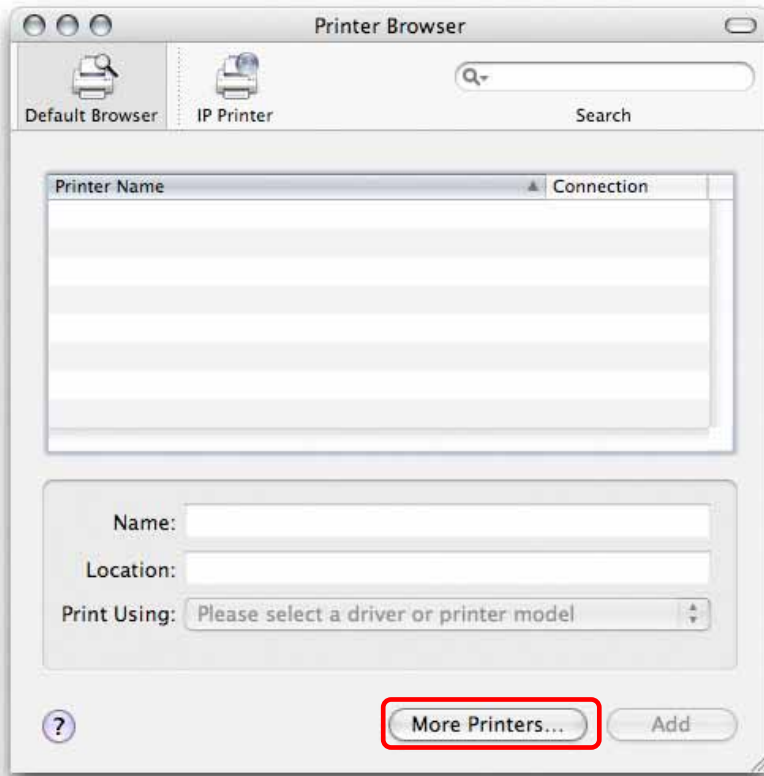
5.4.2 Installation on a Mac

Printing via the shared network printer will be slower than when the printer is connected directly to the USB port on the computer. After you press the Print button, please wait for the printer to receive the data.
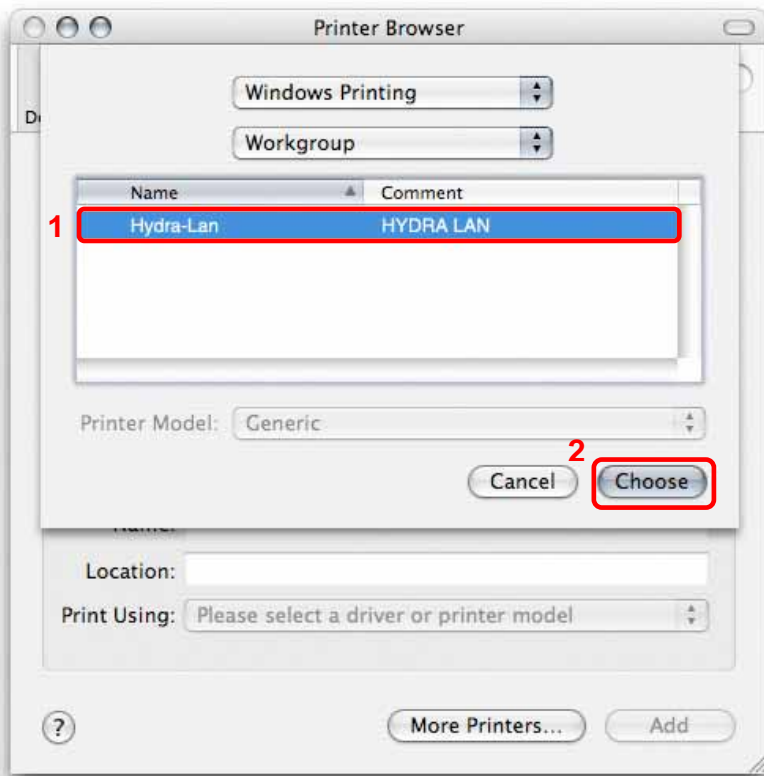
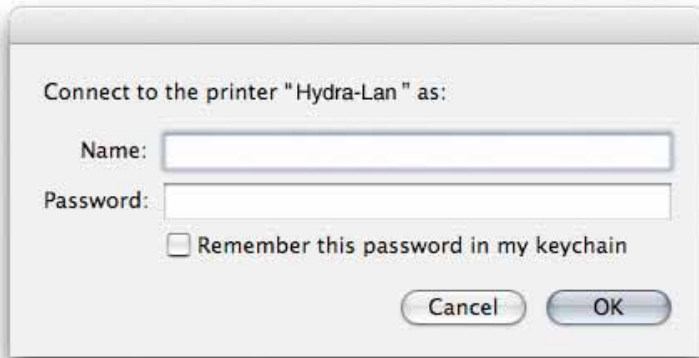1. Start the Printer Setup Utility in the Utilities folder.
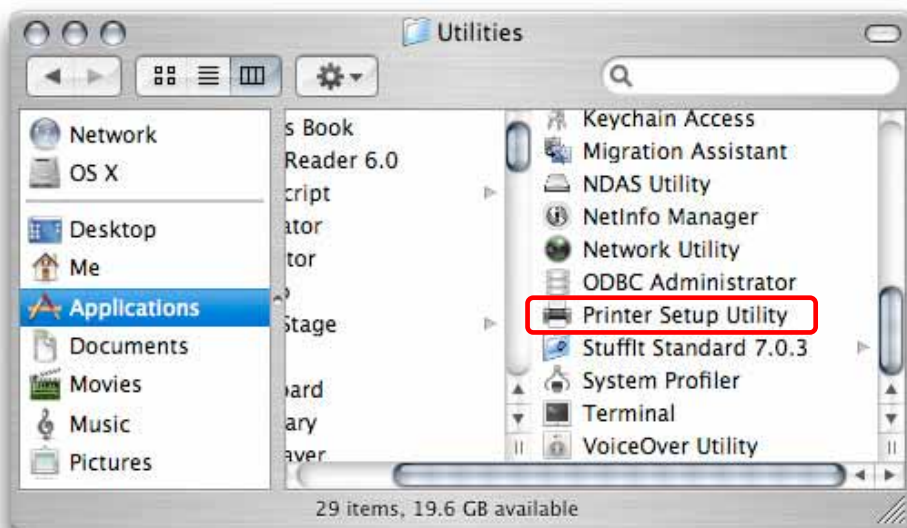
2. Select and click on "More Printers"

3. Select Windows Printing and the workgroup your computer and Hydra LAN belong to. Browse for the Hydra LAN, select it and click on "Choose".
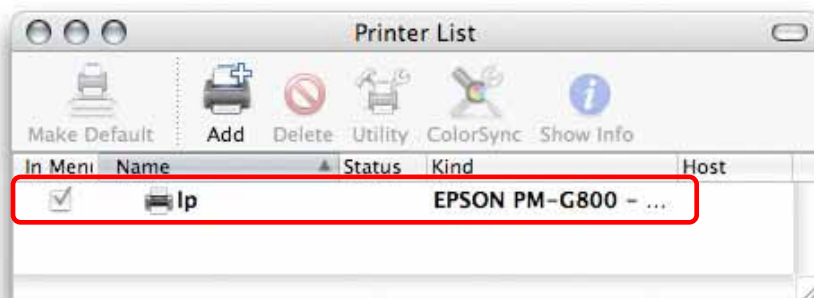
4. Enter the login and password, which will either be your admin login or the login of a user account and then click on OK.

5. Select the lp printer from the list, browse for the corresponding printer model to install the correct printer driver and click on "Add".
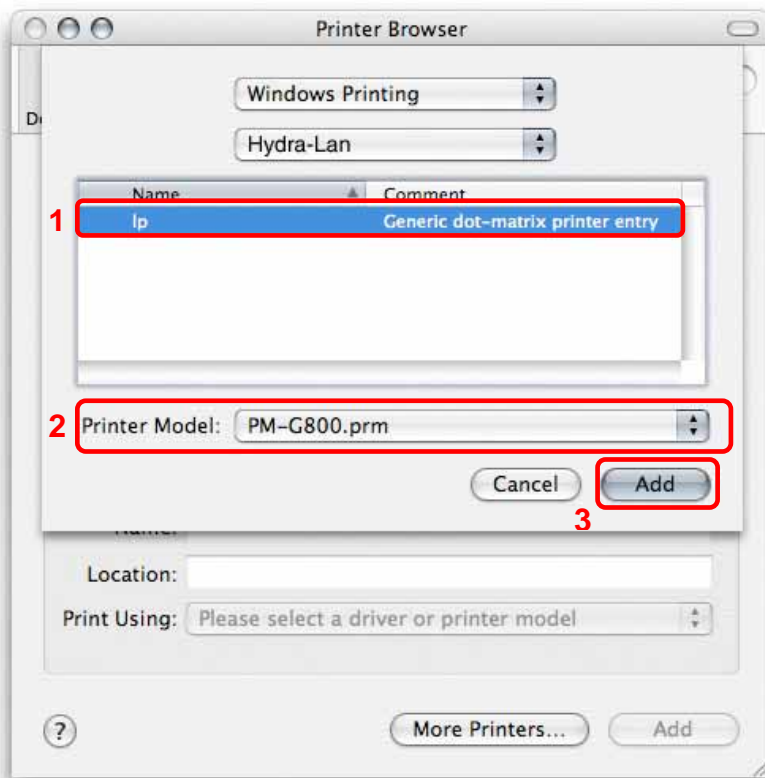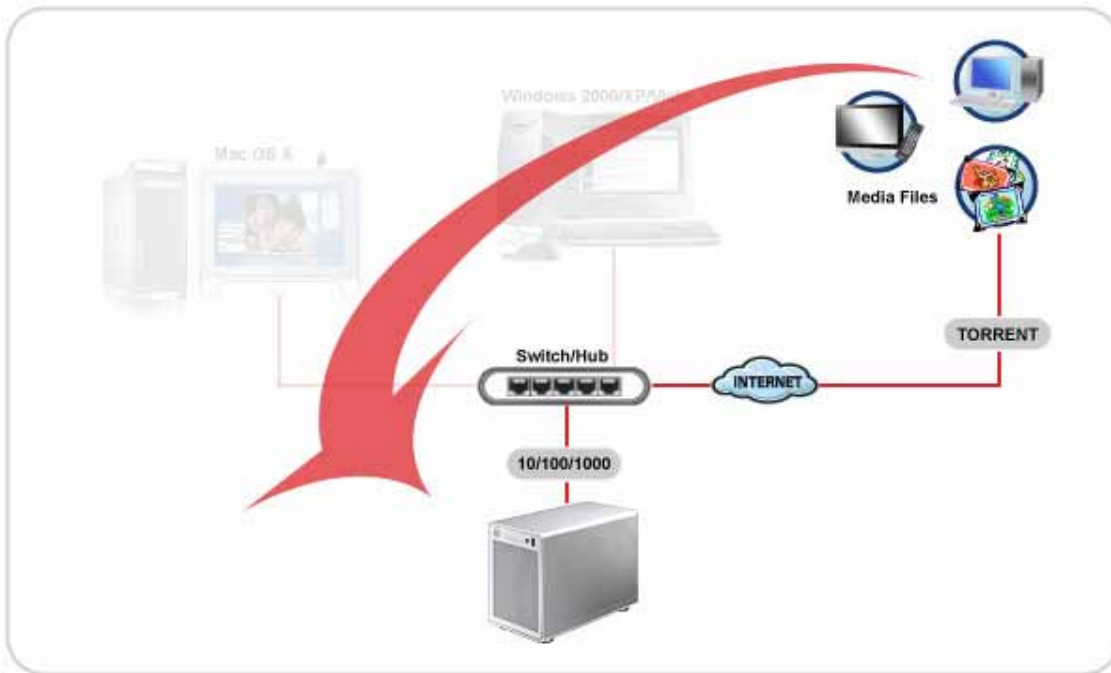

6. Done, your printer has been set up and you can now print the first page.

5.5 BTorrent

Used in conjunction with its built-in BitTorrent™ client, the Hydra LAN can be set to download media files from the Internet and have it saved directly to the internal SATA hard drives. You can then turn off your computer and go about other things.


The BitTorrent™ client on the Hydra LAN is using the TCP protocol and the ports 6881-6889. Make sure those ports are not blocked by your router or its firewall and if necessary, set up port forwarding, so that the traffic for those ports is forwarded to your Hydra LAN.

The BitTorrent™ client can download 5 files at a time with a maximum of 40 files in the queue. Before turning off the Hydra LAN, we recommend first stopping all current downloads. After the device has been rebooted or turned off, the partial downloads will have to be started again to continue the download process.

1. Browse the internet for the media files you would like to download and store the torrent files on your local drive.

2. Login using the web interface and go to "BTorrent" in the "Network Service" menu.

3. Press the "Browse" button and locate your previously downloaded torrent file. Once selected, press the "Add" button to add the file to the download queue.
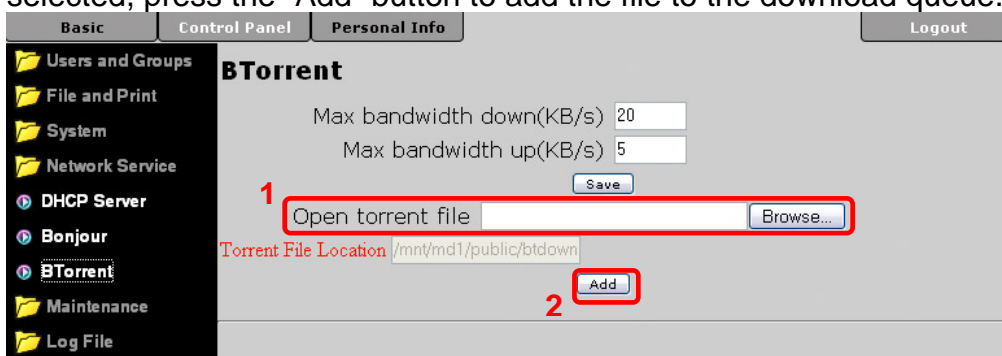
4. To start the download process, press the "Start" button.
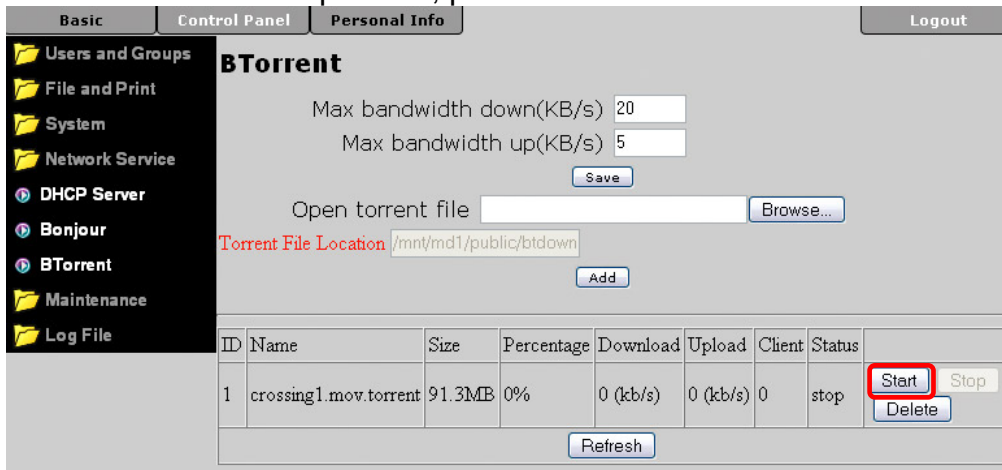
5. The file is now being downloaded and if you like, you can turn off your computer. Remember to start the download process again if the Hydra LAN has been turned off or rebooted before the file has been downloaded completely.
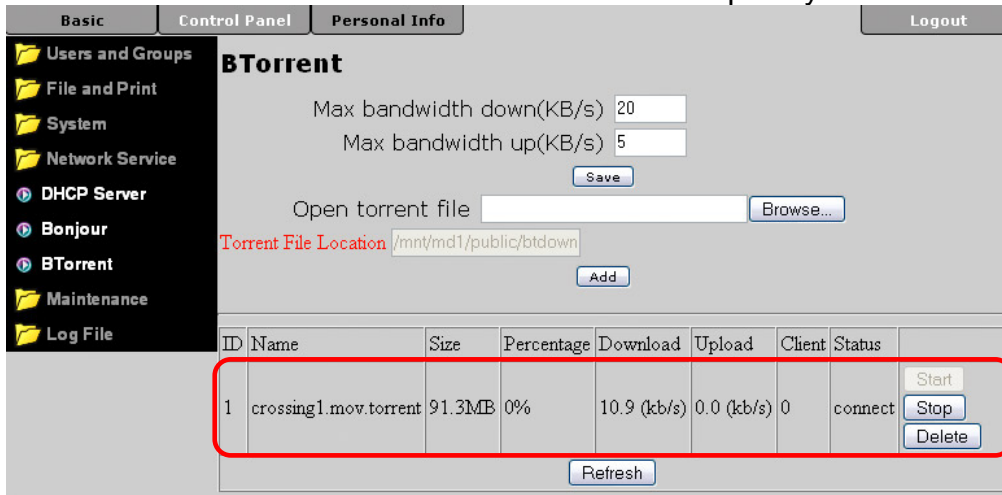
6. Once the file has been downloaded, you can delete it from the download list and access the media file on your Hydra LAN. All files will be stored in the "/public/btdownload" folder.
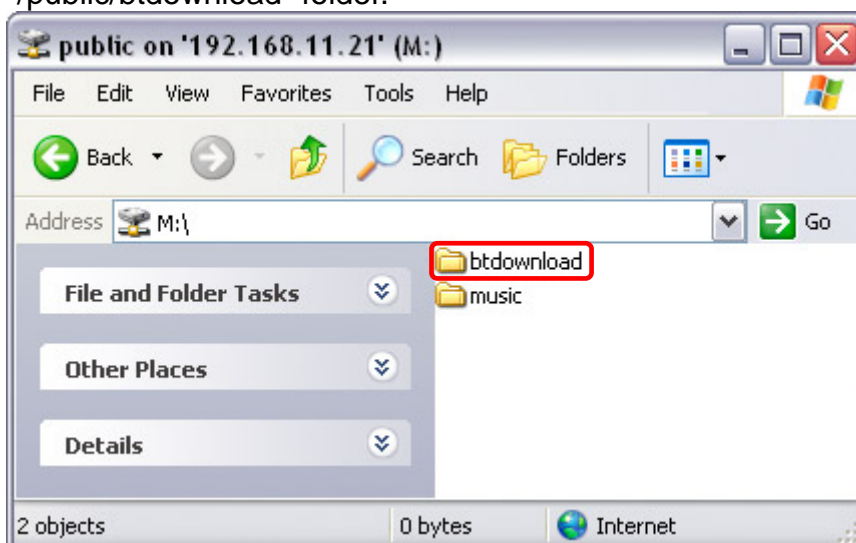
6 Appendix

6.1 Specifications

Application	• Two to four 3.5" SATA-I or SATA-II HDDs (1.5Gb/s) • 20GB -1TB per HDD • RAID (EXT2, EXT3), USB (FAT32, EXT2, EXT3) • For RAID, hard drives with identical capacities are recommended
Interfaces	• 2 USB 2.0 High Speed ports (upstream) • 1 RJ-45 Ethernet port 10/100/1000Mbps Base-TX
Supported USB devices	Mass Storage class drives (FAT32) and USB printers
UPnP	Supports UPnP v1.0
Power Supply	Internal Power Supply universal auto-switching Input: AC 100-240V

6.2 Technical Terms

Description for terms and abbreviations used in this manual.

BitTorrent™
BitTorrent is the name of a peer-to-peer (P2P) file distribution client application and also of its related file sharing protocol, both of which were created by programmer Bram Cohen. BitTorrent is designed to distribute large amounts of data widely without incurring the corresponding consumption in costly server and bandwidth resources. For more details, please refer to www.bittorrent.com.

Torrent™
A torrent can mean either a .torrent metadata file or all files described by it, depending on context. The torrent file contains metadata about all the files it makes downloadable, including their names and sizes and checksums of all pieces in the torrent. It also contains the address of a tracker that coordinates communication between the peers in the swarm.

EXT2
The ext2 or second extended file system is a file system mostly found on Linux Operating Systems.

EXT3
The ext3 or third extended file system is a journalled file system mostly found on Linux Operating Systems.

FAT32
File Allocation Table (FAT) is a file system developed by Microsoft for MS-DOS. The FAT file system is considered relatively uncomplicated, and is consequently supported by virtually all existing operating systems for personal computers.

NTFS
NTFS or New Technology File System is the standard file system of Windows NT and its descendants. NTFS has several improvements over FAT but is not compatible with other Operating Systems or most like only accessible in read only mode.

LAN
A Local Area Network (LAN) is a computer network covering a small local area, like a home, office, or small group of buildings such as a home, office, or college.

FTP
FTP or file transfer protocol is a commonly used protocol for exchanging files over any network that supports the TCP/IP protocol (such as the Internet or an intranet). There are two computers involved in an FTP transfer: a server (Hydra LAN) and a client (user's computer).

SMB
Server Message Block (SMB) is a network application-level protocol mainly applied to share files, printers, serial ports, and miscellaneous communications between nodes on a network.

6.3 FAQ
Q: Some of the functions and menus are not available!
A: Most of the functions require hard drives to be installed. Make sure you have at least two hard drives installed and that they are formatted using EXT2 or EXT3.

Q: I lost my password, what do I do?
A: Press the reset button and hold it for 5 seconds to reset the device to its default settings. The default login is admin/admin. Be aware that resetting the device will erase all user and group accounts plus the other settings.

Q: I can not access the web configuration interface, what's the correct IP?
A: See chapter 2 about how to login. If none of these instructions help, turn on your device and wait for it to boot, then press and hold the reset button for 5 seconds to reset its IP address and server name.

Q: FTP access on my Mac doesn't work properly!
A: The FTP utility on the Mac will be able to read the data on the network storage but you can not write new data to the drive. To upload files, you will need to install a dedicated FTP application.

Q: I want to restart or turn off the server but it doesn't work!
A: Make sure that there are no current file transfers in process or any other disk activities. Close any applications that might still be accessing the Hydra LAN and then try again. After pressing the power or restart button, it will take a few seconds before the device starts to shut down but the OS LED should start blinking to indicate the shut down process.

Q: What port is the BitTorrent client on the Hydra LAN using?
A: The BitTorrent client is using the TCP protocol and the ports 6881-6889.

Q: How many files can the BitTorrent client download at the same time?
A: It can download 5 files at a time with another 40 in the queue.

Q: Does the Hydra LAN support SSH or Telnet access?
A: No, the Hydra LAN does not support SSH, Telnet or TFTP access.

Q: Why does the torrent file not show up on the list after pressing the "Add" button?
A: If the new file does not show up or the page stays blank, refresh the page or click on the "BTorrent" link in the "Network Service" area to reload the page.

6.4 About this Manual

This manual was written using the Hydra LAN model HY-LNU2SS and the v2.6.3 firmware revision. Images and descriptions may therefore slightly vary between this manual and the actual product you have.