



Apple® IIgs

# NetWorker2 Manual



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**Dedicated to the memories of Joe Kohn 1947-2010  
and Ryan Suenega 1967-2011**

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### **Credits**

My thanks go to Andrew Roughan for his forbearance as I tried to  
make various obscure Marinetti calls work for me.



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## Preface



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# Welcome to NetWorker2

## Welcome

The Internet is a much misunderstood system. It was originally conceived as a way to seamlessly connect different terminals running on different operating systems, and so was designed to be failsafe and as foolproof as possible to program and use. Underneath the surface, the Internet is in the main controlled by simple text commands, which are normally invisible to the user.

## An Internet exploration tool

### *Why a new Internet tool?*

It was at KFest '96 when I first realised that underneath all the bells and whistles of your friendly web browser, email, or file transfer program, the Internet actually operated by means of an interchange of commands in plain English text. Your local computer sends out the text commands, and receives corresponding text responses from the target host. This simple concept opened up a whole new set of possibilities for my programming skills, and for instance, enabled me to use the existing Spectrum scripting language to build the many now historic applications that could be plugged in as scripts to Spectrum itself.

The first of these script sets was Spectrum Internet Suite (SIS), for which Geoff Weiss wrote the scripts, and I wrote the HTML display engine. I think it was the first more or less WYSIWYG web browser to be produced for the IIgs. The first version of SAFE was also built as a Spectrum script set, along with its companions SAM and COG. Both SAFE and SAM have since grown up into stand-alone applications.

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The original NetWorker application was written as a tool to let you explore the Internet manually, letting you send text commands, and see what was being returned. As such, it only had a narrow audience, so I have decided to bring it up to date as NetWorker2, and in addition to the original split window Explorer function, add Ping, Lookup, TraceRoute, Whois and Port Scan functions.

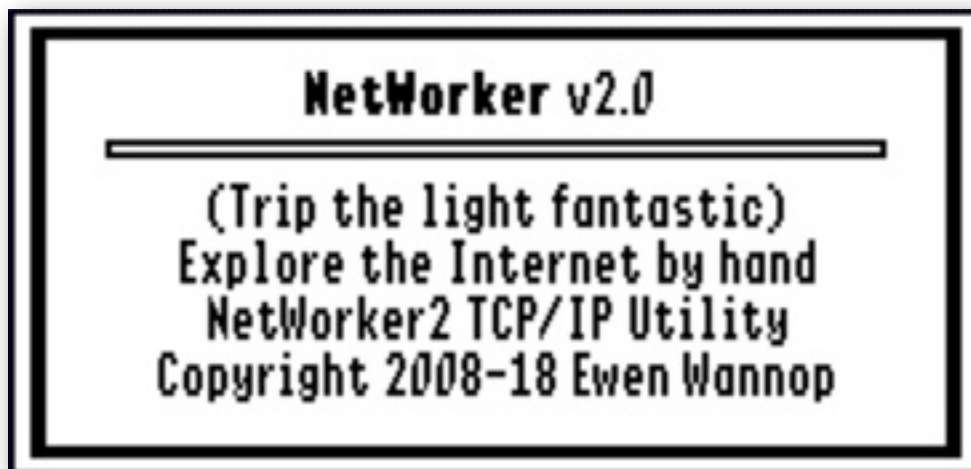
To avoid confusion with the original application, NetWorker has now been renamed as the more comprehensive NetWorker2.

You may be a developer who wants to try out internet commands before you start writing an application, you may just be curious as to how the internet works, or you may want to lookup information using the other functions. Whatever your interests, I am sure at some point you will find NetWorker2 a useful tool.

Check out some of my other contributions to the IIGs family on my web site:

<http://speccie.uk>

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# Setup



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## NetWorker2 - Internet Explorer

### Requirements

You will need either a real IIgs, the emulator Sweet16 (3.0 or later), or an emulator that supports Marinetti 3.0. You must be running System 6.0.1 or 6.0.4, and have Marinetti 3.0 or later installed. Marinetti must be configured for your internet interface, which would typically be either a dialup connection, or an Ethernet connection, such as connecting to your LAN through an Uthernet or Uthernet2 card.

NetWorker2 also requires Hierarchic and the Undo Manager, v1.0.2 or later to be installed. Copies of both are supplied within the archive folder.

To obtain NetWorker2, and the UNDO Manager, or if necessary an Uthernet or Sweet16 Link Layer, as well as any of my other software:

<http://speccie.uk>

To obtain the latest version of the Marinetti TCP/IP stack:

<http://www.apple2.org/marinetti/>

To find out about, and order an Uthernet card:

<http://www.a2retrosystems.com/>

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## Installation

This is simplicity itself.

1. From the NetWorker2 Archive folder, copy NetWorker2, and the NetW.Logs and NetW.Data folders to a working folder of your choice.

Optionally you can just run NetWorker2 directly from the original Archive folder. You can delete the Undo.Manager folder and the Changes text file if you wish.

2. If you do not already have Hierarchic, or the Undo Manager v1.0.2 installed, copy Hierarchic to the CDevs folder, and Tool132 from the Undo.Manager folder to the Tools folder in your System folder, and reboot.

If you do not already have !Help! installed on your Higs, copy the Help NDA, and the entire Help.Files folder, from the Help folder in the Archive, to the Desk.Accs folder in the System folder.

If you already have !Help! installed, then just copy the NetWorker2 folder from the Help.Files folder in the Archive, to the Help.Files folder in the Desk.Accs folder.

**Note:** These files may be updated with each release of NetWorker2.

## Legal

NetWorker2 is Freeware, and may be distributed freely, provided the archive stays intact, no alterations are made to it, and full attribution is always made to the author Ewen Wannop. NetWorker2 may not be sold in any form, but may be included in other distributed archives, provided you first seek my permission.

## Contact

For any communication relating to SAFE2, for bug reports, or for technical support, please contact:

[spectrumdaddy@speccie.uk](mailto:spectrumdaddy@speccie.uk)

For my Home Pages, Spectrum updates, Spectrum itself, and all my other software:

<http://speccie.uk/>

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## What does NetWorker2 do?

NetWorker2 consists of six functions, Ping, Lookup, Traceroute, Whois, Port Scan, and Explorer.

**Ping** checks how long it takes for a packet of data to get to a target host, and an acknowledgement is returned. This is a measure of how fast or slow a particular connection may be, and when multiple servers are available, is useful for diagnosing which server is fastest.

**Lookup** returns the named URL for a dotted server address, or the dotted address for a named URL. Normally this is done internally as a DNS lookup in an application whenever it asks for a destination address.

**Traceroute** steps through all the many nodes your packets will take to get to the host server. At each step, a response time is given, and the name of the node is displayed.

**Whois** looks up a URL and returns registry information for that address. As not all domain names may be linked to a particular registrar, there is a choice of six different registrars to choose from.

**Port Scan** checks which ports are open on the target server. This gives an indication of how secure that server may be.

**Explorer** is the function that was the core of the original Networker. You will see two windows when you select this function. You can open a connection to a host in either window, and you will see in that window what you send, and what you receive displayed as a scrolling text display. The bottom window can also open active as well as passive ports, so if you plan to explore an FTP server, you can use the bottom window as the data port, while the top window would be your command port.

To make it easier to issue repetitive commands, you can build text command files that will display as an hierarchic command menu. Examples are supplied that talk you through opening an FTP link to the asimov.com site, a web link to [www.apple.com](http://www.apple.com), and a connection to the GigaNews Usenet server. Other internet services, such as POP3 and SMTP, can also be accessed with the appropriate commands. Refer to the pages below, and the associated RFCs for more details on how to do that.





# Menus



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## The Menus

### Apple Menu

*About NetWorker2*

### File Menu

*Net Info*

*Functions* ▶

*Ping*

*Lookup*

*Traceroute*

*Whois*

*Port Scan*

*Explorer*

*Connect TCP/IP*

*Disconnect TCP/IP*

*Save Text As*

*Save Selection As*

*Quit*

### Edit Menu

*Undo*

*Redo*

*Cut*

*Copy*

*Paste*

*Clear*

*Select All*

*Clear Top*

*Clear Bottom*

*Clear Text*

*Set Preferences*

*Edit Command Files*

### View Logs Menu

*View Top Log*

*View Bottom Log*

*View Log*

### Net Commands

*Menu One* ▶

*Menu Two* ▶

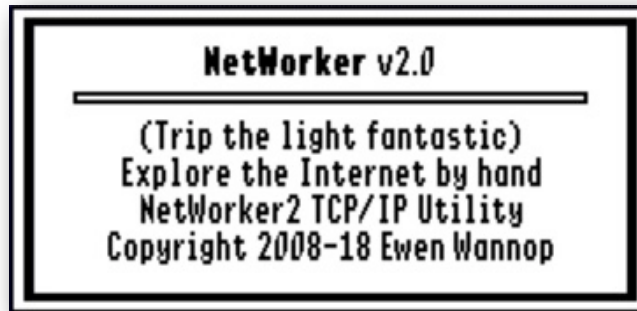
*Menu Three* ▶

*Menu Four* ▶

---

## Apple Menu

### About NetWorker2



Opens a small window showing the NetWorker2 Version number.  
Click anywhere on the window to close it.

## File Menu

### Net Info



Displays a window that shows the local IP Address, the last Host IP address and Ports accessed, and the primary and auxiliary DNS addresses with their descriptive domain names.

---

## Functions ►

There are six functions available from the **Functions** sub-menu. These are the core functions of NetWorker2: **Ping**, **Lookup**, **Traceroute**, **Whois**, **Port Scan**, and **Explorer**. Please refer to the relevant sections below for more details on how these functions work, and what they do.

### **Connect TCP/IP & Disconnect TCP/IP**

The state of these two menu items will depend on whether Marinetti is currently connected or not.

If you have a permanent connection to a LAN, or the Internet, then you will probably have already configured the Link Layer in Marinetti to connect at boot. If however you are using a dialup connection using the PPP or SLIP Link Layers, then you may have told Marinetti to only connect on demand.

At any time, you can toggle your TCP/IP connection with these two menu items. If you are currently connected to a host, you will be asked to confirm that you wish to disconnect from the host before TCP/IP can be disconnected.

As NetWorker2 will automatically connect TCP/IP when needed, and as additionally you can tell NetWorker2 in its preferences dialog to always disconnect TCP/IP when you close a host connection, you may not ever need to use these two menu items.

### **Save Text As**

If there is text in any of the active TextEdit windows, this will let you save the entire text from the window to a file of your choice.

### **Save Selection As**

If there is selected text in any of the active TextEdit windows, this will let you save the selected text from the window to a file of your choice.

**Note:** A Teach file preserves the coloured highlighting of any commands you have sent using the Explorer function

**Note:** The optional log file saves text in a different format, with markers to show what has happened. It saves all sessions as a sequential file.

---

## **Quit**

When you are finished exploring the Internet, this will close all open connections, optionally disconnect TCP/IP, quit NetWorker2, and return to the Finder.

## **Edit Menu**

### **Undo, Redo, Cut, Copy, Paste, Clear & Select All**

These seven commands are active in the LineEdit controls that are used for setting up URLs etc. in the various Functions and dialogs, and also in the “Edit Net Commands” editor window. They use the Undo Manager to handle the Undo and Redo options.

### **Clear Top**

Clears the text from the Top window of the Explorer function. It is immediate, and you will not be asked to confirm this operation.

### **Clear Bottom**

Clears the text from the Bottom window of the Explorer function. It is immediate, and you will not be asked to confirm this operation.

### **Clear Text**

Clears the text from one of the five Ping, Lookup, Traceroute, Whois, and Port Scan function windows. It is immediate, and you will not be asked to confirm this operation.

### **Set Preferences**

Sets up the various Preferences for NetWorker2. Please refer to the pages below for more details on how to use the Set Preferences options.

### **Edit Commands File**

Allows you to edit the Command Files for use with the Explorer function. Please refer to the pages below for more details on how to use these files with the Explorer function.

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## View Logs

NetWorker2 optionally keeps Log files from the data you will see in the main windows when you use one of the six functions. These files can be viewed later from the three menu options. The entries in the log file are time and date stamped, so you can easily follow the sequence of events.

If you press the “Clear Log File” button, after confirming you want to “Clear,” the text in the file will be cleared, and the View window will be closed returning you to the current Function.

### View Top Log

This displays the log file from the Top window of the Explorer function.

### View Bottom Log

This displays the log file from the Bottom window of the Explorer function.

### View Log

This displays the log file from the Ping, Lookup, Traceroute, Whois, and Port Scan windows.

## Net Commands

SAFE2 allows you to set up multiple Command files for use with the Explorer function. If these files are correctly structured, they can be displayed in the four sub menus as menu items, listing the commands that you have created.

Sample files are provided with NetWorker2. Please refer to the pages on “Net Commands” below, for further details on how to edit and use these files.

### Menu One ►

<b>Net Commands</b>	
<b>Menu One</b>	<i>FTP Command example:</i>
<b>Menu Two</b>	Open port to host
<b>Menu Three</b>	* ftp.apple.asimov.net:21
<b>Menu Four</b>	Send username and password
	* USER anonymous^MPASS anon@somewher

### Menu Two ►

### Menu Three ►

### Menu Four ►

# Preferences

## Set Preferences

**Preferences:**

Hang up on disconnect     Override default DNS Servers  
 Keep Data log files     Keep Explorer Data log files

Limit incoming data to Explorer display and log files:

Top window:     Main DNS Server:   
Bottom window:     Aux DNS Server:

Paths for Explorer Command Files:

One:      Three:    
Two:      Four:

**Hang up on Disconnect** if checked, will automatically Disconnect after each function has been completed. If you are using an “always connected” Ethernet connection, you may wish to leave this box unchecked.

**Override default DNS servers** if checked, will use the Main and Aux DNS servers set in the two LineEdit boxes instead of the DNS servers set within the TCP/IP Control Panel.

**Keep Data log files** if checked, will keep the extensive data returned from the Ping, Lookup, Traceroute, Whois, and Port Scan functions in the NetWG.Log file. This file can be viewed using the **View Log** menu command. A timed record of ports being opened, commands you send, and responses from the host will be kept.

---

**Note:** At the turn of each month, the log file file will be renamed to show the month and year it was created, and a fresh log file will be started.

**Keep Explorer Data log files** if checked, will keep the extensive data returned from the two windows of the **Explorer** function in the **NetWT.Log** and **NetWB.Log** files. These files can be viewed using the **View Top Log** and **View Bottom Log** menu commands. A timed record of ports being opened, commands you send, and responses from the host will be kept.

**Note:** At the turn of each month, the log file files will be renamed to show the date they were created, and a fresh log file will be started.

The files will be renamed as **NetWG.Log.MonYY**, **NetWT.Log.MonYY**, and **NetWB.Log.MonYY**. “Mon” represents the month and “YY” the year that the file was created.

**Limit incoming data to Explorer display and log files** The default setting is for all the data that is generated to be displayed and saved within the two **Explorer** windows and log files.

As a great deal of data may be returned from the **Explorer** function, if a value between “1” and “65535” is given in either the **Top window** or **Bottom window** **LineEdit** boxes, displayed and saved data will be limited to the sizes given in the boxes. A value of “0” will keep all data.

**Main DNS Server** If **Override default DNS servers** is checked, the **Main DNS** Server address supplied in this box will be used instead of the default **Main DNS** server supplied in the **TCPIP Control Panel**.

**Aux DNS Server** If **Override default DNS servers** is checked, the **Aux DNS Server** address supplied in this box will be used instead of the default **Aux DNS** server supplied in the **TCPIP Control Panel**.

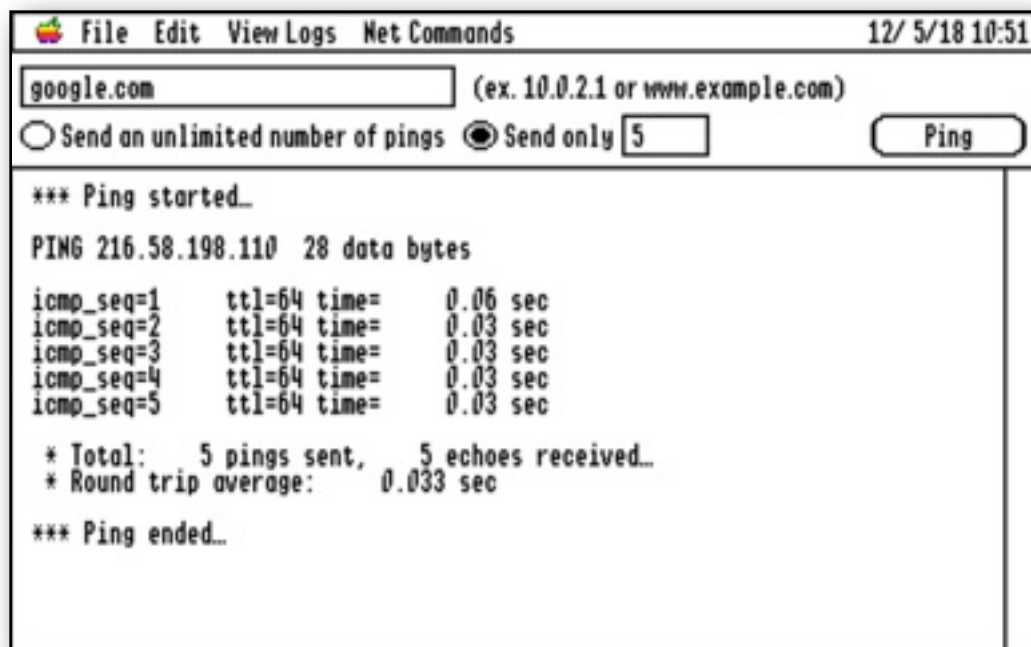
**Note:** The default addresses supplied by the **NetWorker2** application are for the public **Google DNS** servers.

**Paths for Explorer Command files** To give you greatest flexibility in using the **Explorer** function, you can keep multiple **Command** files that build the hierarchic **Command** menus. Any four files may be in use at the same time. Enter the full path in the four boxes, or Set a file using the standard file dialog.

# Functions

## Using NetWorker2

### Ping



The screenshot shows the NetWorker2 Ping utility window. The title bar includes 'File Edit View Logs Net Commands' and the date/time '12/ 5/18 10:51'. The main window has a text input field containing 'google.com' and a subtext '(ex. 10.0.2.1 or www.example.com)'. Below the input field are two radio buttons: 'Send an unlimited number of pings' (unselected) and 'Send only 5' (selected). A 'Ping' button is located to the right. The main display area shows the following output:

```
*** Ping started...
PING 216.58.198.110 28 data bytes

icmp_seq=1    ttl=64 time=    0.06 sec
icmp_seq=2    ttl=64 time=    0.03 sec
icmp_seq=3    ttl=64 time=    0.03 sec
icmp_seq=4    ttl=64 time=    0.03 sec
icmp_seq=5    ttl=64 time=    0.03 sec

* Total:    5 pings sent,    5 echoes received..
* Round trip average:    0.033 sec

*** Ping ended...
```

Ping sends a Ping command to Port 7 on a target server. If the server responds, then the time that was taken for the response to get to the server and return will be displayed. By sending a multiple number of Pings, you can see how stable the connection to a target host server is. A maximum of 9999 Pings can be sent.

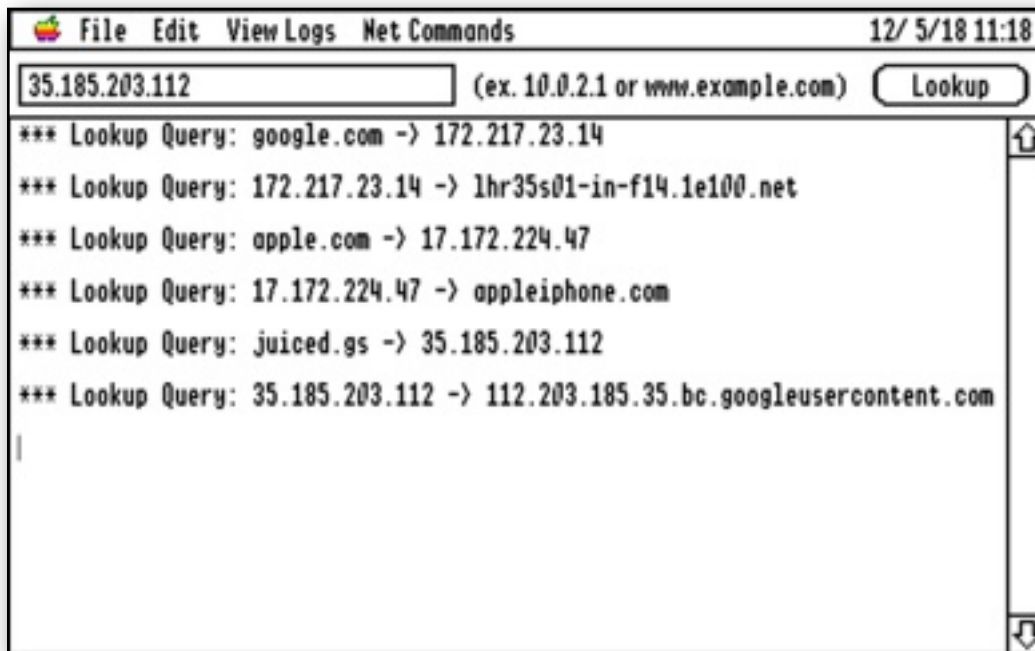
**Note:** Not all hosts may respond to the Ping command. If you get no response after a few seconds, click the Stop button to cancel the request.

**Note:** The IIS internal clock has an accuracy of 1/60th of a second, so displayed response times will not be as accurate as if the same command was used with a modern computer.



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# Lookup



**Lookup** uses the assigned DNS servers to either return the dotted IP Address for a named server, or the the server's domain name from the dotted IP Address. This is the same function that an application will use when making a connection to a target server.

**Note:** As many dotted IP Addresses may point to the same domain server, a “reverse” lookup with a dotted IP Address that was returned from an initial domain “lookup”, may not always return the same “domain” address.

The example above, shows forward and reverse lookups for google.com, apple.com, and juiced.gs. You will see that the domain name on the reverse “lookup” is not always the same as may have originally been given for a domain name “lookup”.

---

# Traceroute



```
File Edit View Logs Net Commands 12/ 5/18 10:51
google.com (ex. 10.0.2.1 or www.example.com) Traceroute

*** Traceroute started...
* Traceroute to 216.58.198.110
1 (192.168.0.1) router.asus.com 0.05 sec
2 (62.3.80.17) losubs.subs.bng1.th-lon.zen.net.uk 0.05 sec
3 (62.3.80.38) ael-177.cr2.th-lon.zen.net.uk 0.03 sec
4 (72.14.223.28) ns1.google.com 0.06 sec
5 (108.170.246.161) ns1.google.com 0.03 sec
6 (64.233.175.153) ns1.google.com 0.05 sec
7 (216.58.198.110) lhr25s07-in-f14.1e100.net 0.05 sec

*** Traceroute ended...
```

**Traceroute** shows you the path that your data is taking to get to a host server. Although you may make a direct connection to a server, your data will “hop” its way across several nodes on the Internet to get to its destination.

The dotted IP Address, and the domain name of the server for each node is displayed, along with the response time to get to and from that node.

Along with **Ping**, **Traceroute** is a useful diagnostic to help you decide which server is the fastest for you to use when you have the choice of multiple servers.

**Note:** The Hgs internal clock has an accuracy of 1/60th of a second, so displayed response times will not be as accurate as if the same command was used with a modern computer.

**Note:** Due to how TCP/IP interfaces with a computer's network when NetWorker2 is running within an emulator, both the **Ping** and **Traceroute** functions may not actually work correctly with an emulated Hgs such as Sweet16, as the computer tends to change the packets on the way through. For both these functions, you will be asked if you wish to Continue to see if it will work, or to Cancel. If however you select “Don't Ask”, it will Continue, and you will not be asked the question again.

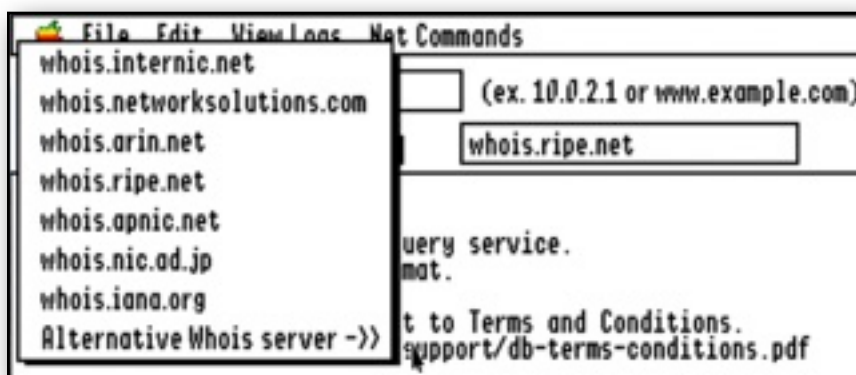
---

# Whois



Whois looks up a Whois domain registry entry for a supplied IP address or domain name, and returns the information for that name. As a domain name might be registered in any one of a number Whois registries, a popup menu lets you choose between seven of the main Whois registries.

Alternatively, you can enter a different Whois domain registry in the LineEdit box to the right of the popup menu, and select "Alternative Whois server" from the popup menu, to use that one instead of one of the popup menu choices:

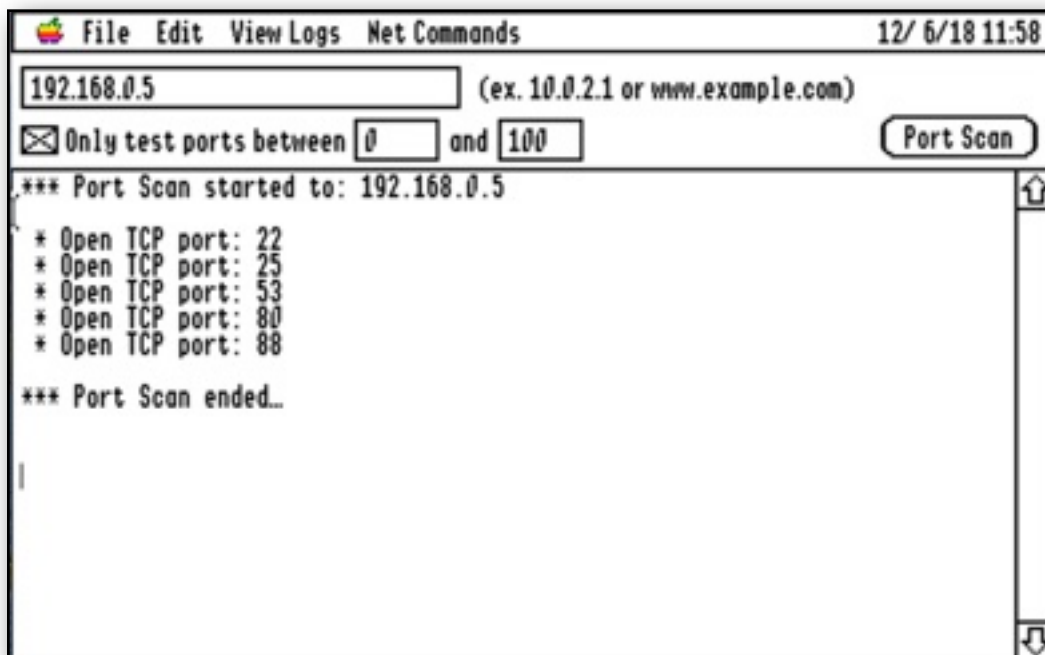


You can find lists of further Whois registries here:

<https://www.icann.org/resources/pages/listing-2012-02-25-en>

[https://www.nirsoft.net/whois\\_servers\\_list.html](https://www.nirsoft.net/whois_servers_list.html)

# Port Scan

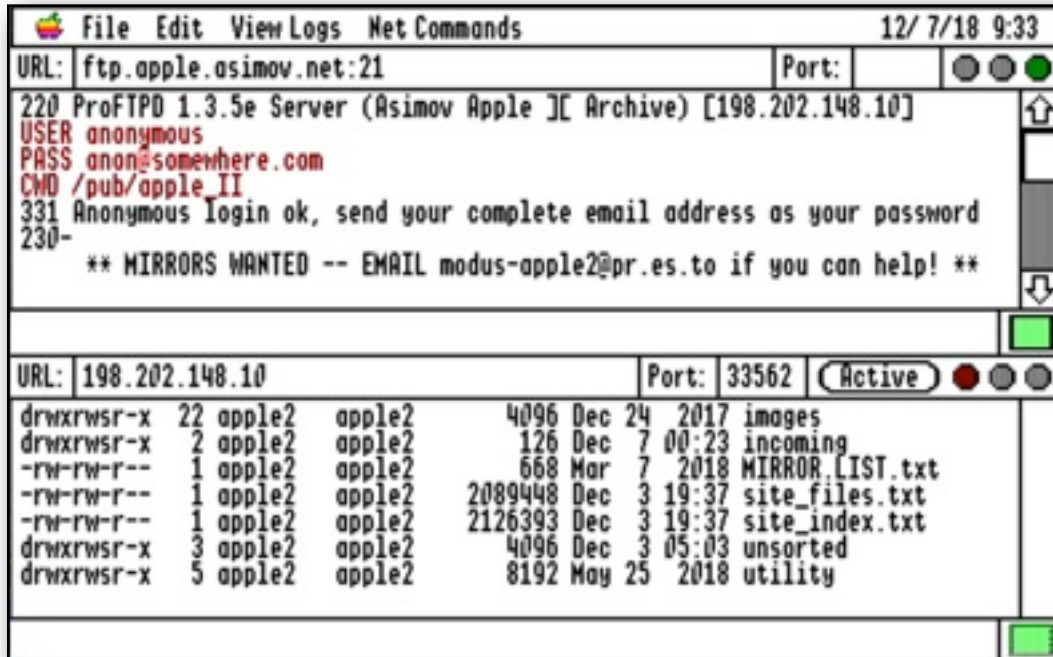


Port Scan scans for open ports on a target server. This is most useful for checking computers on your own LAN (Local Area Network), to see which ports are open, and so which might be vulnerable to attack.

If you do not define the range of ports to scan, all 65534 possible ports will be scanned. This may take a very long time indeed, so press the Stop button if you have checked enough ports.

**Note:** If checking ports on an external server, be aware that if you make too many port scans, it may result in the server thinking they are under a DOS (Denial Of Service) attack. As a result, they may shut you out, or blacklist you.

# Explorer



Explorer is the Internet exploring function, that was the substance of the original NetWorker application released back in 2008. The structure of the original application has not been altered in the Explorer function, other than to increase the command file menu items to four, and to support the Undo Manager.

## How to Use Explorer

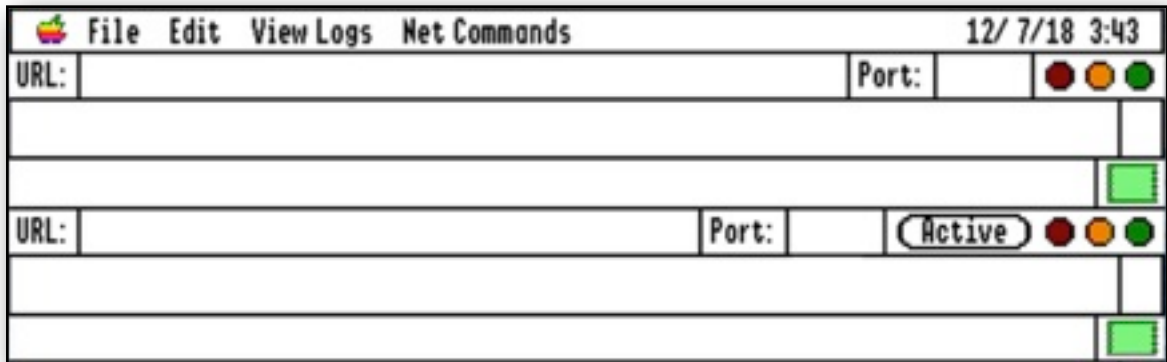
Explorer lets you open a port to a host to which you can send text commands. This is very similar to a Telnet session. The Internet actually is controlled by text commands, to which a host may return either a numbered and informative response, or data that may have been requested. Sometimes the data will be sent back through the same port that the command was initiated from, and sometimes, as in the case of an FTP session, through a second port that is opened as needed.

To initiate a connection, you must first open a port to the target host in the URL LineEdit. You will need to specify the URL for the host, and the port you wish to open. Once the port has been opened, you may see data being sent back immediately from the host, perhaps to welcome you, to tell you what parameters it needs, or you may see nothing, and have to initiate commands yourself to get

things going. There are no hard and fast rules, but certain types of connection do usually require the same sequence of events.

## The session windows:

Both windows have the same main elements, with the addition of an “Active” button in the bottom window. Reading from top to bottom, and left to right, we have:



The URL LineEdit entry box. Port LineEdit entry box. Active button (bottom window only). Three traffic light buttons, red, amber, and green. TextEdit display box for responses. LineEdit Command entry box. Square green “start” button.

To make a connection, type the URL in the top LineEdit entry box, and the target port in the Port LineEdit entry box. Alternatively, you can add the port number to the URL, separated by a colon like this:

```
ftp.apple.asimov.net:21
```

**Note:** If a port number has been added to the URL, NetWorker will ignore any number in the LineEdit Port entry box.

Click the green “start” button for the window to initiate a connection. If the connection is successful, the traffic lights will change from red to amber to green.

Once you are connected, you can type valid commands in the Command entry box, pressing the green “start” button to send the command. You will see your commands echoed in red in the Display box, and any responses from the host shown in black.

**Note:** If you have selected a command from the **Net Command Menu**, and it used one of the “C” control commands, the command will start automatically without the need of pressing the green “start” button.

To close a connection, click any of the traffic light buttons. The lights will change from green to red. If the host closes the connection, you will see the traffic lights automatically change to red.

### **Active and passive ports:**

When requesting data in an FTP session, you must open a second port to receive the data. The bottom window has been designed to make this easier for you.

There are two ways to open a data port, either by requesting a URL and port number from the host by a PASV (passive) command, or by opening an active port at your end, and telling the host the URL and port number to connect to. Some firewalls may not allow active ports to be opened.

### **Opening a passive port:**

If you send the PASV command to a host, it will respond with a message such as this:

```
227 Entering Passive Mode (198,202,148,2,150,86)
```

The first four numbers within the brackets are the IP Address of the port, and the last two numbers are the port number itself. If you have issued the PASV command from the top window, simply click in the number within the brackets when it is displayed, and click in the bottom URL LineEdit box. Networker will then automatically parse the number, transfer the IP Address and Port number to the bottom window, and open the port. Typically you would then issue an FTP LIST or RETRIEve command, after which you should see the resulting data displayed in the bottom window. In most cases, you will then see the port for the bottom window close automatically once the data has been received.

### **Opening an Active port:**

To open an Active port, you must first have a port opened in the top window, and be ready to send a PORT command to the host. Click the Active button in the bottom window, and a port will be opened in listening mode, and its IP Address

and port number will be parsed and sent by means of a PORT command through the top window port. Typically you would then issue an FTP LIST command, or a command to RETRIEve a file.

Refer to the Examples section for further details.

## Examples:

Three command files have been provided to get you going, and show you how Networker is used in practise. The first example connects to an FTP server, retrieves a directory listing, and then retrieves a file. The second command file connects to a web server, and retrieves the Index page. The third connects to a Usenet server, and retrieves two group headings. You will find these three examples displayed in the Net Commands Menus.

Descriptions have been added to the menus as dimmed items. They are not displayed in the examples below.

(Commands1.txt) Command file connecting to an FTP server:

1. **{MBIV}FTP Commands:**
2. **{C\*}ftp.apple.asimov.net:21**
3. **{C\*}USER anonymous^MPASS [anon@somewhere.com](mailto:anon@somewhere.com)^MCWD /pub/  
apple\_II^M**
4. **{C\*}TYPE A^MPASV**
5. **{C\*}LIST**
6. **{C\*}TYPE I^MPASV**
7. **{C\*}RETR site\_index.txt**
8. **{C\*}QUIT^M**

Taking this example line by line:

**Line 1** - A descriptive line displayed in Bold, Italic, with a dividing line, and as a menu item only.

**Line 2** - Connect to Port 21 (FTP) of the Asimov server using the top window. This opens a command port to the FTP server. Nothing will appear on screen once the green traffic light shows you are connected, though with some servers you may get a welcome message.



**Line 3** - Logs in to the server and moves to the target folder. There are actually three commands within this command line, noted by the “^M” separators. The “^M” is translated by Networker into a line break. The first part issues the “USER” command, with “anonymous” as the name. The second part issues “PASS” with a pseudo email address as password. The third part issues “CWD” to change the working directory to “/pub/apple\_II”.

**Line 4** - To list a directory, we must first open a second port to receive the data from the listing. This command is in two parts, the first part sends “TYPE A” to tell the host to send only text data. The second part sends “PASV”, to ask for a port to be opened to send that data. The host will respond with a message saying it is entering passive mode, and gives the IP address and port number for the port it has opened. Click anywhere in the IP Address within the brackets when it is displayed, and then click in the bottom URL LineEdit box. Networker will automatically parse the IP Address, transfer the IP Address and Port number to the bottom window, and open the port. You will see the bottom traffic light go green, showing it has connected and is waiting for data.

**Line 5** - Sends the “LIST” command from the top window to request the current directory to be listed. You should see the directory listing appear in the bottom window, and the bottom traffic light turn to red as the host closes down the passive port after the data has been sent.

**Line 6** - This is another two part command, first telling the host we want binary data by sending “TYPE I”. The second part again asks for a passive port, by sending “PASV”. As before, click anywhere in the IP Address within the brackets when it is displayed, and then click in the bottom URL LineEdit box. Networker will automatically parse the number, transfer the IP Address and Port number to the bottom window, and open the port. The bottom window should again show the green traffic light.

**Line 7** - We now need to send a retrieve command, to tell the host to send the target file to the port we opened in the bottom window. This command sends the “RETR” command with the target filename. You should see the data from the file appearing in the bottom window.

**Note:** Be wary of retrieving large files, as you might overrun memory space, unless you have limited the display of incoming data to the windows and log files as described in the Set Preferences section.

**Line 8** - You can always shut down a session by clicking the traffic light buttons, but some servers, such as FTP servers, like to be closed down cleanly by a “QUIT” command. In fact clicking the traffic light buttons, will send a “QUIT” for you. You should see the traffic lights for the top window turn red when the Port is closed and you have disconnected.

**Note:** You will see commands you send to the server displayed in red on screen, with any returned data displaying in black.

## Connecting to an web server:

1. {MBIV}Web Commands :
2. {C\*}[ozkfest.net:80](http://ozkfest.net:80)
3. {C\*}GET /index.html HTTP/1.1^MUser-Agent: Mozilla/2.0 (Compatible; NetWorker2 2.0; IIgs)^MHost: ozkfest.net^MPragma: no-cache^MAccept: /\*/\*^M^M

(Commands2.txt) Taking this example line by line:

**Line 1** - A descriptive line displayed in Bold, Italic, with a dividing line, and as a menu item only.

**Line 2** - Connect to port 80 (web) of the “ozkfest.net” web server. The traffic lights will go green, but you will see nothing on screen at this point.

**Line 3** - This is a complex command line split into four parts.

The GET command in the first part, instructs the server that you wish to retrieve the pages using HTTP 1.1 protocol. In the absence of a path, which may optionally including a target filename, the host will return the “Index.html” file for the root directory.

You could optionally have included a folder or a full path such as this:

```
GET /afile/ or GET /afile/home/styles/itunes.css
```

The second part tells the server the name of program communicating with it. The server can use that information to tailor its responses if it wishes.

The third part sends the base URL of the target server.

The fourth and fifth parts tells the server to send the latest version of the file.

After sending this command, you should see the HTML text for the Index.html page returned and displayed in the top window.

**Note:** Web servers expect you to simply close the connection when you are done. Click the traffic lights to do this.

**Note:** You need to send a double 'return' at the end of the command line requesting the page.

### Connecting to a Usenet compatible NNTP news server:

1. {MBIV}Usenet Commands:
2. {C\*}news.giganews.com:119
3. {C\*}AUTHINFO USER loginname^MAUTHINFO PASS password^M
4. {C\*}GROUP alt.binaries.multimedia.classical.vocalmusic
5. {C\*}HEAD 1735
6. {C\*}GROUP alt.binaries.nl.motorfiets.ducati.nospam
7. {C\*}ARTICLE 1737
8. {C\*}QUIT

(Commands3.txt) Taking this example line by line:

**Line 1** - A descriptive line displayed in Bold, Italic, with a dividing line, and as a menu item only.

**Line 2** - Connect to port 119 (NNTP) of the “news.giganews.com” news server. The traffic lights will go green.

**Line 3** - Login to the news server first sending the user name, and then the password.

**Line 4** - Select the group “alt.binaries.multimedia.classical.vocalmusic” as the target.

**Line 5** - Return the header for message number 1735.

**Line 6** - Select the group “alt.binaries.nl.motorfiets.ducati.nospam”.

**Line 7** - Request article 1737 to be returned.

**Line 8** - Quit and close the connection.

To use this command file example, you may wish to change the address and port to that of your own news server in Line 2. You will also need to change “loginname” and “password” to those of your news server account.

## Edit Commands File

Selecting this menu item, allows you to open a file that will be used for one of the four Command menus, and so create or edit the commands within that file. You can optionally “Save As” the edited text to a new file name, thus allowing you to create more files as needed. If you create a new file, and wish to make it active in a “Net Commands” menu, you will have to go to the Set Preferences command and select the new file for use within the desired “Net Commands” menu.

**Note:** As saving a new file, may change the contents of one of the “Net Commands” menu files, the four menus will be redrawn to reflect any changes.

Essentially a Commands file is just a way of letting you easily enter repetitive or complex commands that you might wish to send to either of the two windows. Examples are given in the default files for accessing an FTP server, a web site, and a Usenet news server. You will have to refer to the Internet RFCs for more details on any other type of Internet service you may wish to use.

To let you control how the menus look, and how the commands operate, you may precede each entry with a control string. You may also embed a “^M” to give a carriage return break within a command string.

The control strings are constructed in this way:

```
{B} = menu displayed in Bold
{I} = menu displayed in Italic
{V} = menu displayed with a dividing line
{D} = menu dimmed and disabled
{C(character)} = displays the character to the left of the
menu description
{M} = display as menu item only, any command on the same line
is ignored
```

There are two special instances of the “C” control:

```
{C*} = send the command directly to the top window
{C+} = send the command directly to the bottom window
```

**Note:** You can use more than one of these controls within the control string.

**Note:** Refer to the example files supplied to see how these commands work in practice.

**Note:** The last line of the file must have a CR return as a line end.

## View Top Log and View Bottom Log

Opens one of the two Explorer log files. You can view the sessions that relate to that window, and select and copy text to the clipboard. No other editing is allowed. If you wish to edit the files further, use a word processor such as Teach or Hermes.

## View Log

Opens the log file for the Ping, Lookup, Traceroute, Whois, and Port Scan functions. You can view the session that relates to those functions, and select and copy text to the clipboard. No other editing is allowed. If you wish to edit the file further, use a word processor such as Teach or Hermes.

## Net Commands Menu: Menus One & Two

These menus are displayed from the contents of the four files you selected in Set Preferences. The default path for the four command files is “Commands1.txt”, “Commands2.txt”, “Commands3.txt”, and “Commands4.txt” in the “NetW.Data” folder.

With the cursor active in the required box, select an item from either of the four menus. It will either be entered into the box, or sent to the host immediately, depending on the contents of any control string in the line. See 'Edit Commands File' for more details of the possible controls:

```
{M} = ignore this menu entry  
{C*} = send the command directly to the top window  
{C+} = send the command directly to the bottom window
```

**Note:** Long commands will be truncated within the menu display, but will be correctly sent to the target window.



# Extras



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## Common Ports:

FTP = 21  
Web = 80  
Usenet (NNTP) = 119  
POP3 mail = 110  
SMTP mail = 25

## RFCs (Request For Comments)

You can get RFCs that describe how the internet works from many online sources. This is a good start:

<http://www.rfc-archive.org/>

Specific RFCs:

FTP:	RFC 959
Web HTTP:	RFC 2616
Usenet NNTP:	RFC 3977
SMTP Mail:	RFC 5321
POP3 Mail:	RFC 1939

## Help

Online Help is available if you have installed the optional !Help! desk accessory, and its Help files, to the Desk.Accs folder.

## Problems

Hopefully you will have none, but if you do, and they cannot be answered by reading these notes, please contact me on:

[spectrumdaddy@speccie.uk](mailto:spectrumdaddy@speccie.uk)

## Other information

Check for the latest version of Marinetti:

<http://www.apple2.org/marinetti/>

If you do not already know about Spectrum™, please drop by my home pages, and read more. Apart from all the other wonderful things it does, Spectrum™ offers many useful tools for processing files, such as post processing text files that you have received, that may have obstinate formatting.

Spectrum™ is now Freeware, and amongst my other applications, is now available from my web site:

<http://speccie.uk>

Someone once said to me, 'Spectrum™ does everything!'

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