

Marshall Electronics

VS Manager



Software Manual

Copyright © February 2012, Marshall Electronics, Inc.
All Rights Reserved. This document may not be copied.

Trademarks

Other trademarks used in this document are registered trademarks or manufacturer or vendor trademarks associated with the products.

Disclaimer

Product options and specifications can be changed without notice. The information in this manual is furnished for informational use only and should not be construed as a commitment by Marshall Electronics, Inc. Marshall Electronics, Inc. assumes no responsibility or liability for any errors or inaccuracies that may appear in this publication.

TABLE OF CONTENTS

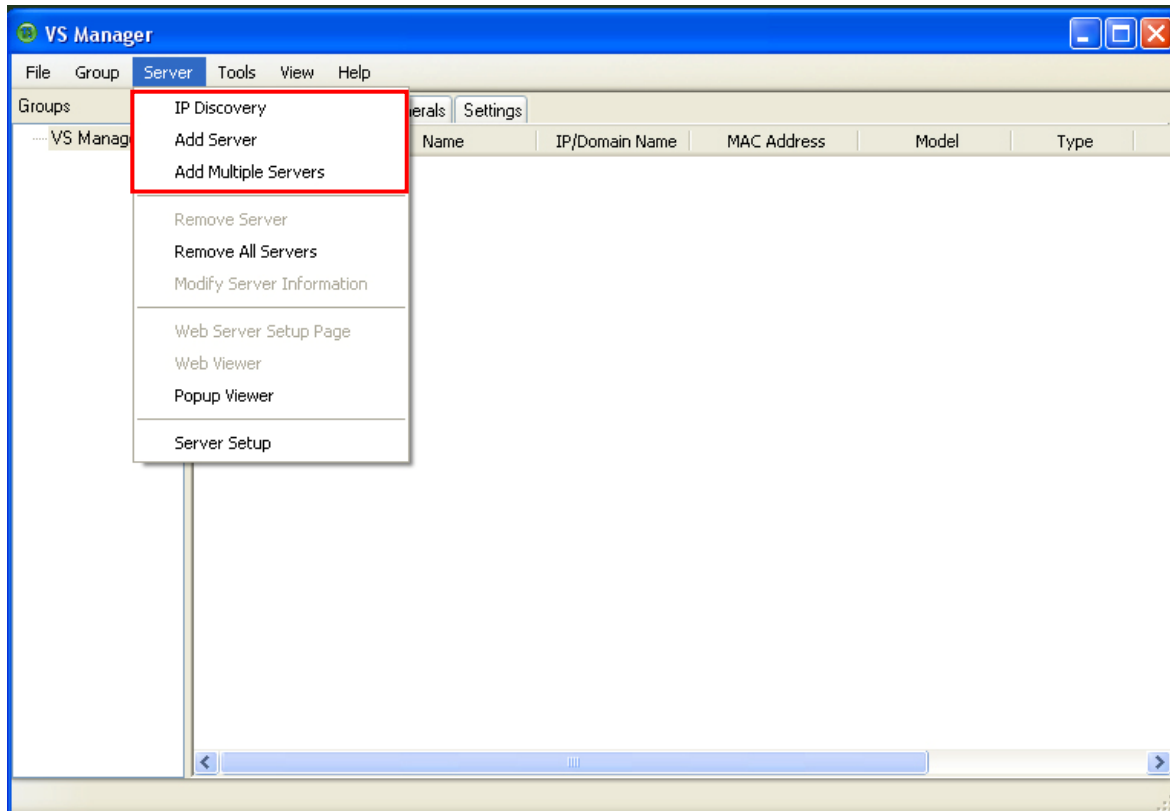
1 – VS Manager.....	4
2 – Server Registration and Removal.....	5
3 – Remote Web Server Connection, Setup, and Monitoring.....	9
4 – Server Connection Management.....	13
5 – Server Status Monitoring.....	14
6 – Network and System Diagnostics.....	16
7 – Firmware Upgrade.....	20
8 – Other Functions.....	21

1- VS Manager

VS Manager is a program used for basic configuration, diagnostics and firmware upgrades of video servers or IP cameras. **VS Manager** provides the following features:

- Finding Servers on the LAN and assigning IP Addresses.
- Monitoring Server Status: Encoding/Decoding, Serial, Sensor, etc.
- Diagnostic Function: PING, Network Bandwidth Measurement, Video/Audio Output, Port Check, Serial Port Check.
- Firmware Upgrade.

2- Server Registration and Removal



1) Server Registration

In order to manage servers using **VS Manager**, the first step is to register the server. The following steps describe the two ways of registering a server:

● Add Server

- ① Select **Add Server** on **Server** menu.
- ② Enter information for connecting to the server on the **Add Server** window.
If the server is registered on the DDNS server, the domain name can be used instead of IP address. If the IP address is forgotten, the IP address of the server can be found with the IP Discovery function. (Please refer to IP Discovery section).
- ③ Press **Add** button.

Server Name	Main Gate
Address	192.168.10.133
Port	2222
HTTP Port	80
ID	admin
Password	••••

Buttons: Add, Cancel

2- Server Registration and Removal

Name	IP address	Base Port	HTTP Port	ID	PW
<input type="checkbox"/> sop-100	192.168.10.100	2222	80	admin	1234
<input type="checkbox"/> sop-101	192.168.10.101	2222	80	admin	1234
<input type="checkbox"/> sop-102	192.168.10.102	2222	80	admin	1234
<input type="checkbox"/> sop-192.168.10....	192.168.10.100	2222	80	admin	1234
<input type="checkbox"/> sop-192.168.10....	192.168.10.101	2222	80	admin	1234
<input type="checkbox"/> sop-192.168.10....	192.168.10.102	2222	80	admin	1234

- **Add Multiple Servers**

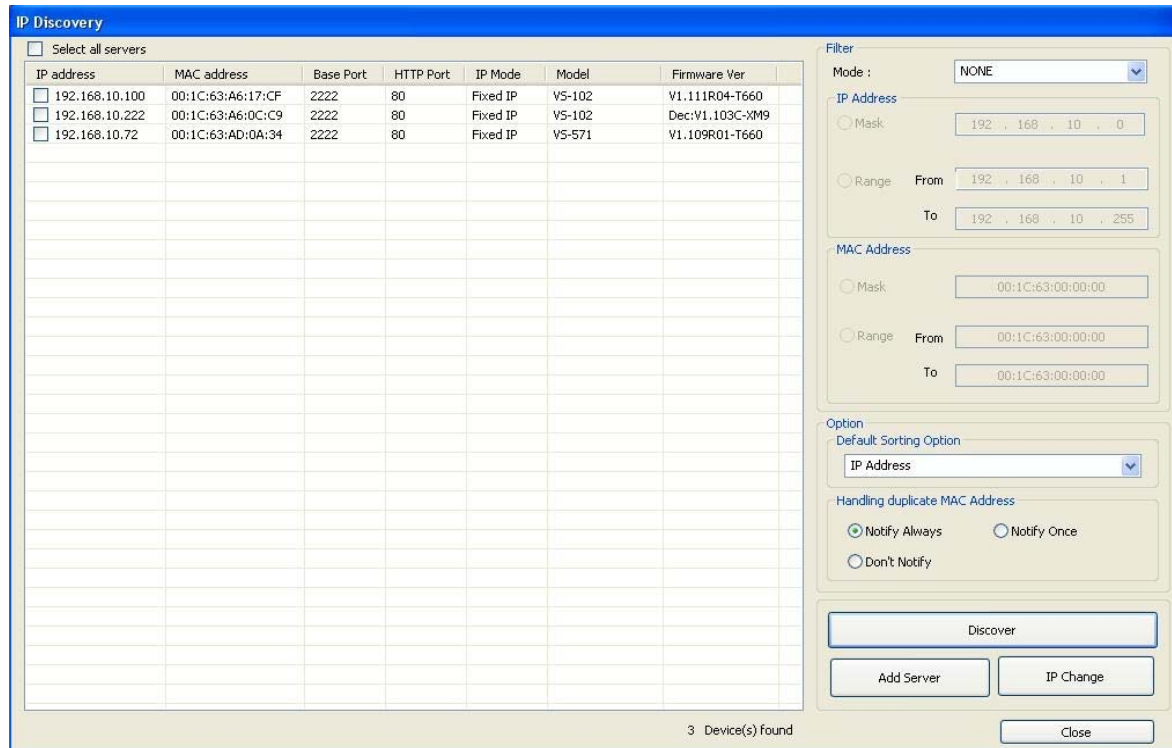
This menu is used when a specific IP range is registered and IP discovery is not discovered.

- ① Select **Add Multiple Servers** on **Server** menu.
- ② **Set Up IP Range:** Click one of 4 check boxes; the 3 remaining check boxes will be disabled. The IP Address Range selected in “From and To” need to be registered.
- ③ **Server Port and Authentication:** Enter information needed to connect to the servers. The same values are adjusted for all registered servers.
- ④ **Name:** They are named by 1 prefix and 2 numbers in chronological order.
- ⑤ Click **Generate** and the server information in the registered range will be listed.
- ⑥ Select from the list by checking the box of the selected sever or click **Select All Servers** on the top of the “Add Server” menu.
- ⑦ **Group:** Select the group on the list or enter a new group name.
- ⑧ Click **Add** button.

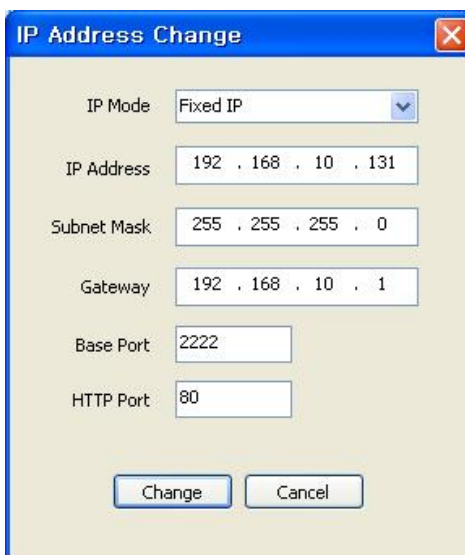
2-Server Registration and Removal

- **IP Discovery**

Using the **IP Discovery** function, all servers on the same LAN where the PC executing VS Manager is located can be found. Furthermore, it is possible to change IP address of a server easily. **IP Discovery** dialog is invoked by pressing the **IP Discovery** button in the Server menu and it will show all servers on that LAN.



If you press the **Add Server** button after selecting a server, the information for the server is automatically entered on the **Add Server** dialog. By pressing the **IP Change** button after selecting a server, a pop up window will appear where the IP address of the server can be changed.



It is possible to change an IP address with a different subnet IP address.

2- Server Registration and Removal

2) Removal of a Server

A server can be removed by the following steps:

- **Remove Server**

- ① Select the server to be removed on the **Servers** tab; Selected server is highlighted in blue.

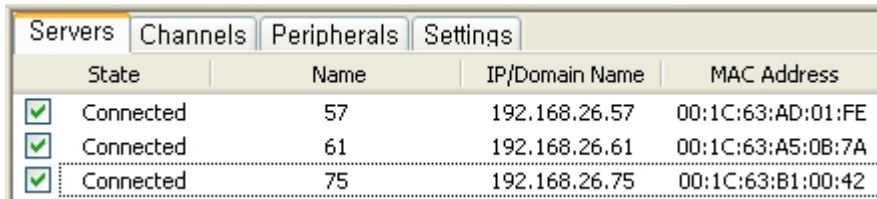


	State	Name	IP/Domain Name	MAC Address
<input checked="" type="checkbox"/>	Connected	57	192.168.26.57	00:1C:63:AD:01:FE
<input checked="" type="checkbox"/>	Connected	61	192.168.26.61	00:1C:63:A5:0B:7A
<input checked="" type="checkbox"/>	Connected	75	192.168.26.75	00:1C:63:B1:00:42

- ② Select **Remove Server** on **Server** menu.

- **Remove All Servers**

- ① Check All Servers to be removed in the checkboxes.
- ② OR Select **Remove All Servers** on **Server** menu.

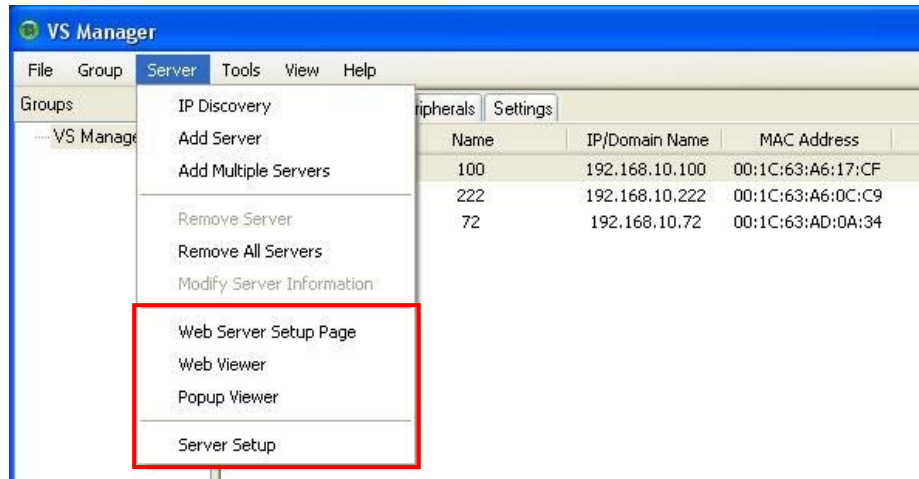


	State	Name	IP/Domain Name	MAC Address
<input checked="" type="checkbox"/>	Connected	57	192.168.26.57	00:1C:63:AD:01:FE
<input checked="" type="checkbox"/>	Connected	61	192.168.26.61	00:1C:63:A5:0B:7A
<input checked="" type="checkbox"/>	Connected	75	192.168.26.75	00:1C:63:B1:00:42

3) Modify Server Information

Information for a server can be modified by selecting **Modify Server Information** on the **Server** menu.

3-Remote Web Server Connection, Setup and Monitoring



Options for Web-Based Setup, Video Viewing and Popup Viewing can be selected on the Server menu.

1) Web Server Setup Page

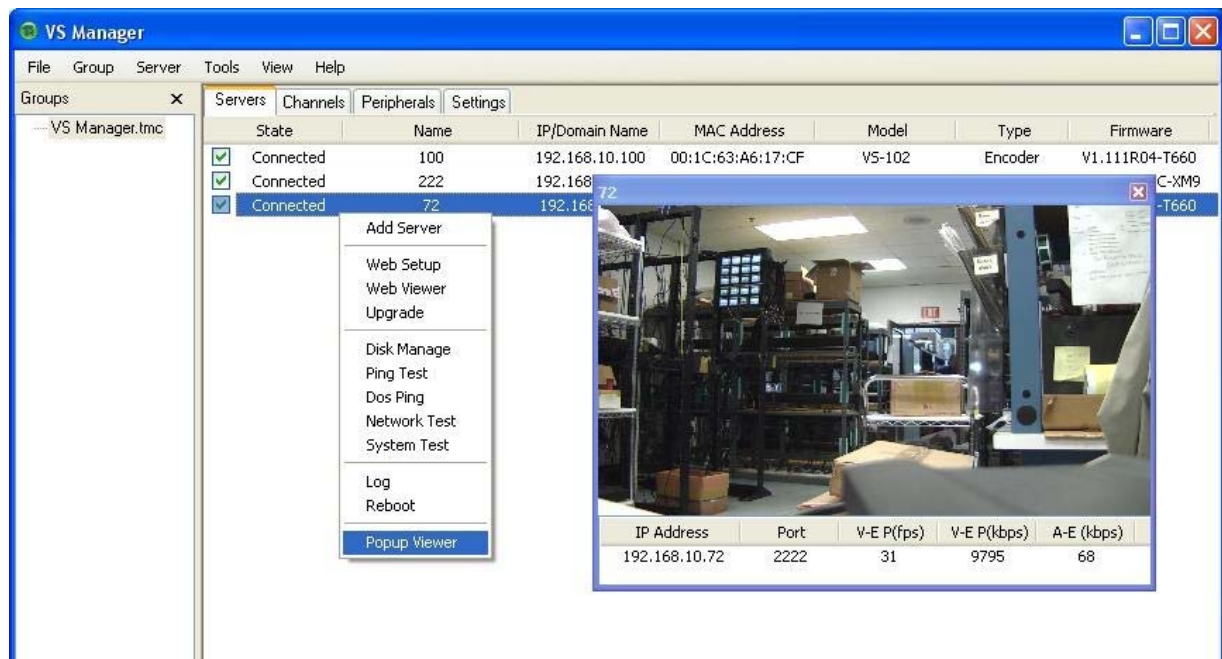
Internet Explorer is used for remote setup when the **Server Setup** on **Server** menu is selected.

2) Web Viewer

Internet Explorer displays the video from the server when **Web Viewer** is selected on the menu.

3) Popup Viewer

The popup viewer of the selected server is displayed when **Popup Viewer** is selected on the menu (Right Click to open Menu).

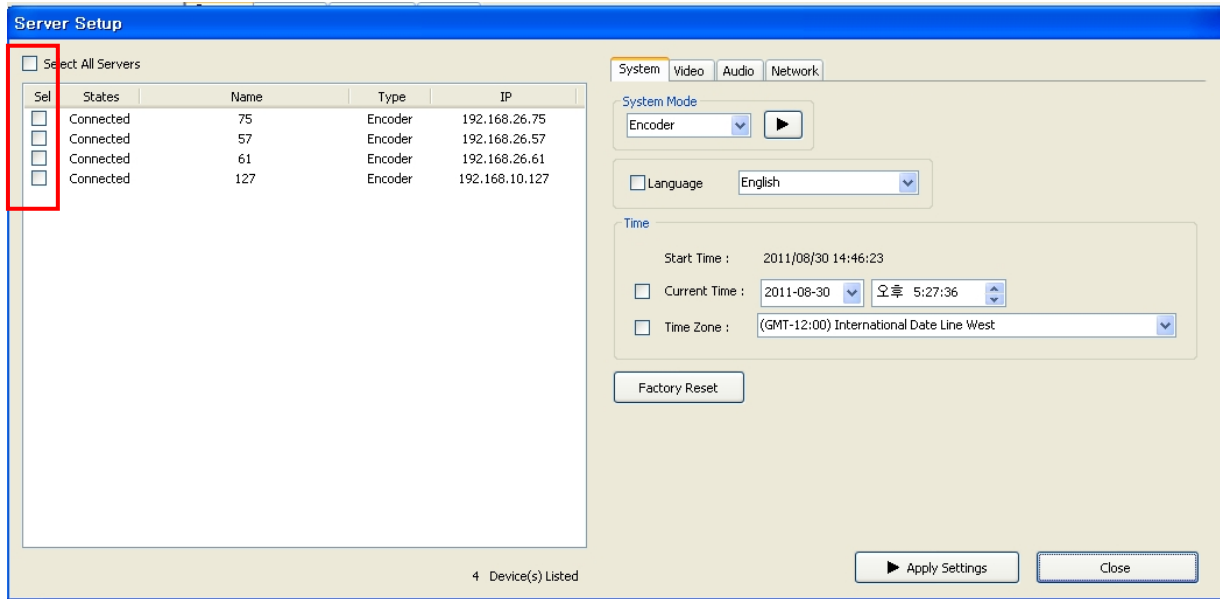


3-Remote Web Server Connection, Setup and Monitoring

4) Server Setup


Server can easily be setup remotely on VS Manager. System, Video, Audio and Network can be configured here.

- ① Select **Server Setup** on **Server menu**.
- ② Check the selections that need to be configured.



● System

- System Mode

Select the server system settings when finished, click the  **Apply Settings** button.

- Language

Select the language to be used for the web-based configuration.

- Time

① Start Time

This is the camera's most recent boot up date and time.

② Current Time

Enter the current date & time and press the **Set Current Time** button to update.

③ Time Zone

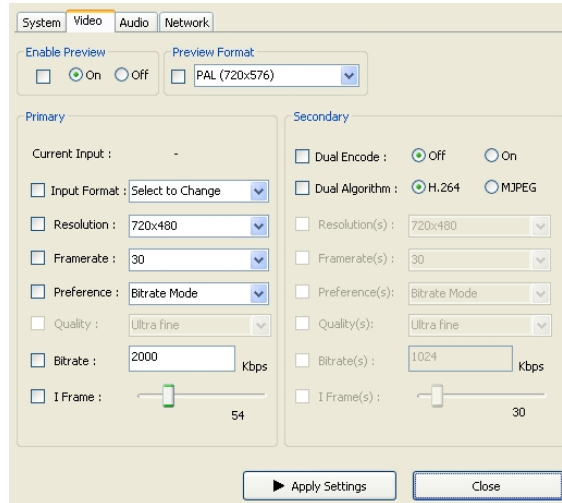
Select the time zone where the camera is installed. Depending on the time zone, Daylight Saving Time should update automatically.

- Factory Reset

All user accounts, logs, and settings are cleared.

3-Remote Web Server Connection, Setup and Monitoring

● Video



- Enable Preview

- ① Select **ON** to display video that is connected to the Composite or HD-SDI Video Port.
- ② Select the **Output Format** accordingly on the Video menu.
Note: When **Enable Preview is ON**, dual streaming is not available. When the video is transmitted directly to the monitor through the BNC cable, the video does not travel through the network. Therefore, there is less delay and no effect from the network limitation.

- Primary

① Input Format

Choose Video Type to be used for Composite NTSC or Composite.

② Resolution

Select Video Encoding Resolution.

③ Framerate

Determine the Maximum Number of Frames per Second for the Video Stream. 1, 2, 3, 4, 5, 6, 8, 10, 15, 20, 25, 30 and 60 frame rate can be selected. The actual frame rate of video can be less than the maximum frame rate set due to the network bandwidth limitation.

④ Preference

Select Encoding Mode to control the Video Quality or Bitrate Mode.

⑤ Quality

Select Video Quality; 7 levels of quality are available.

⑥ Bitrate

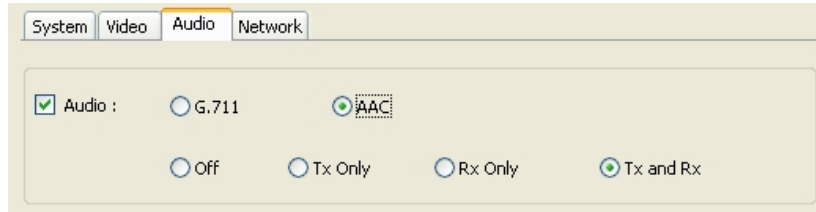
Determine Bitrate Value between 32 ~ 10240kbps.

⑦ I-Frame Interval

Determine I-Frame Interval between 0 and 255; No I-Frames will be available if "0" is selected.

3-Remote Web Server Connection, Setup and Monitoring

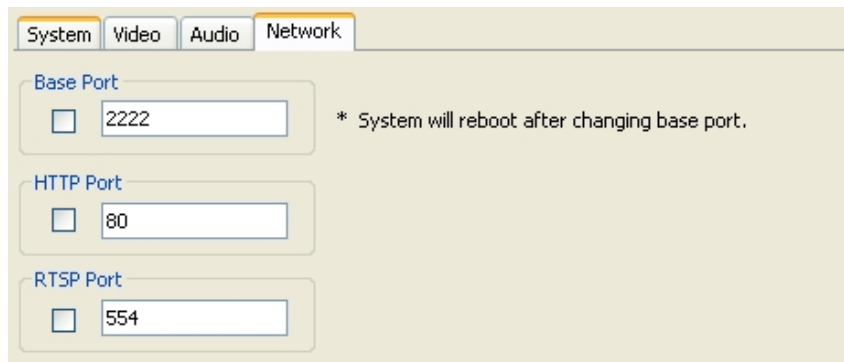
● **Audio**



- Select the **Audio Algorithm**: G.711 or AAC
When AAC is selected, only camera to client delivery is supported; web viewer can't send AAC to the camera.
- Select **Audio Operation Mode**

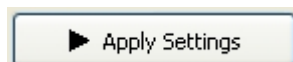
Mode	Action
Off	No Operation
Tx-Only	Transmit Only
Rx-Only	Receive Only
Tx & Rx	Transmit and Receive

● **Network**



- **Base Port (1025 ~ 65535)**
Enter the Base Port Number. Network Base Port is used for communication with remote clients. In order for the camera and remote systems (decoder or VMS, NVR software) to be connected, the port numbers must be configured identically on the camera side and client side.
- **HTTP Port (80, 1025 ~ 65535)**
Enter the HTTP Port used for Web-Based Connection.
- **RTSP Port (554, 1025 ~ 65535)**
Enter the RTSP Port used for RTSP-Based Connection. The Default RTSP Port is 554. **RTSP** (Real Time Streaming Protocol) is a standard for media streaming between server and client.

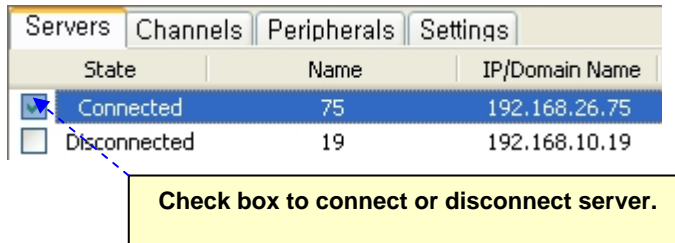
Note: After setting each session, click the **Apply Settings** button under the sessions and the settings will be applied.



4- Server Connection Management

1) Server Connection

If the “Connected” check box in the **Servers** (or **Channels/Peripheral**) tab is selected, the VS Manager tries to connect to the server. If the server is running and the network to the server is normal, it will be connected immediately and status will be changed to “**Connected**”.



If connection fails due to server or network failure, status will be displayed as “**Trying Connection**”. As soon as the server or network is recovered, connection will be restored automatically. The VS Manager periodically retries connection to servers when the check box is selected.

2) Server Disconnection

If the “Connected” check box is unchecked, the server is no longer connected and is displayed as “**Disconnected**”.

5- Server Status Monitoring

1) Servers Tab – General Information

Servers tab shows general information for a connected server: MAC address, product model, system mode (type), firmware version and startup time. This information is only displayed for connected servers.

Servers Channels Peripherals Settings								
State	Name	IP/Domain Name	MAC Address	Model	Type	Firmware	Start Up Time	
<input checked="" type="checkbox"/>	Connected	100	192.168.10.100	00:1C:63:A6:17:CF	V5-102	Encoder	V1.111R04-T660	2012/02/28 06:15:57

2) Channels Tab – Monitoring of Video/Audio Channel State

Channels tab displays the status of the server video and audio channels.

Servers Channels Peripherals Settings														
State	Server Name	Ch	Conns	Cam	Motion	Record	V-E P(kbps)	V-E P(fps)	V-E S(kbps)	V-E S(fps)	V-D (kbps)	V-D (fps)	A-E (kbps)	A-D (kbps)
<input checked="" type="checkbox"/>	Connected	75	1	1	OK		1806	30	0	0	0	0	66	0
<input checked="" type="checkbox"/>	Connected	57	1	2	OK		4230	20	0	0	0	0	147	0
<input checked="" type="checkbox"/>	Connected	61	1	1	OK	Motion	3910	33	0	0	0	0	73	0

Item	Displays
Ch	Channel no.
Conns	Number of clients connected to a server (including VS Manager)
Cam	Video loss status
Motion	Motion status
V-E(kbps)	Video encoding bitrate
V-E(fps)	Video encoding framerate
V-D(kbps)	Video decoding bitrate
V-D(fps)	Video decoding framerate
A-E(kbps)	Audio encoding bitrate
A-D(kbps)	Audio decoding bitrate

NOTE: Depending on the System Mode, items which are not relevant to the mode may be displayed as “0”. For Example: V-D(kbps) and V-D(fps) are always “0” if the System Mode is “Encoder”.

3) Peripherals Tab – Monitoring of Serial, Sensor and Relay Port

Peripherals tab displays the status of serial, sensor and relay port.

Servers Channels Peripherals Settings										
State	Server Name	COM1-TX	COM1-RX	COM2-TX	COM2-RX	Sensor1	Sensor2	Buzzer	Relay1	Relay2
<input checked="" type="checkbox"/>	Connected	75	0	0	0	0	Off	Off	Off	Off
<input checked="" type="checkbox"/>	Connected	57	0	0	0	0	Off	Off	Off	Off
<input checked="" type="checkbox"/>	Connected	61	0	0	0	0	Off	Off	Off	Off

5- Server Status Monitoring

Item	Displays
COM1-TX COM1-RX	Activity of RS-232C port - TX: server -> external equipment - RX: external equipment -> server
COM2-TX COM2-RX	Activity of RS-422/485 port - TX: server -> external equipment - RX: external equipment -> server
Sensor1 Sensor2	States of sensor ports
Buzzer	State of buzzer
Relay1 Relay2	States of relay ports

4) Settings Tab – Monitoring Server Settings

Settings tab displays the status of the server settings.

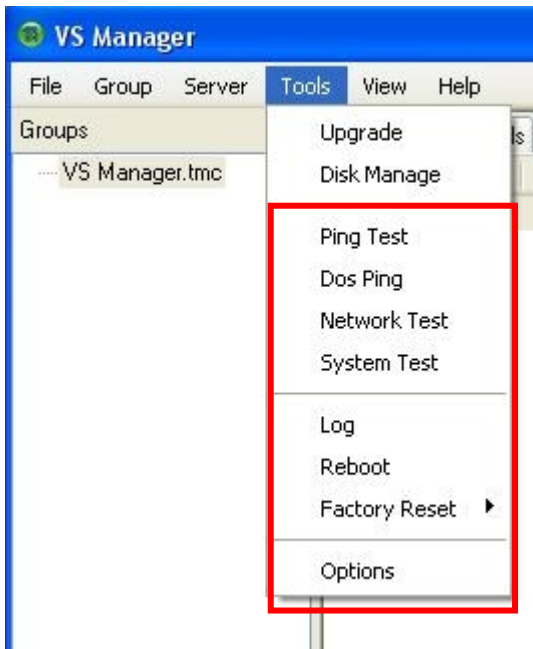
Servers Channels Peripherals Settings														
State	Name	Mode	Preview	Input Format	Resolution	Frame	Preference	Quality	Bitrate	IF-Interval	Use Dual	D-Algorithm	Resolution(s)	
<input checked="" type="checkbox"/>	Connected	75	Encoder	On	None	640x480	30	Bitrate	-	2000	30	Off	H.264	640x480
<input checked="" type="checkbox"/>	Connected	57	Encoder	Off	None	1280x960	20	Bitrate	-	4000	30	Off	MJPEG	720x480
<input checked="" type="checkbox"/>	Connected	61	Encoder	On	None	1920x1080	30	Bitrate	-	4000	30	Off	H.264	720x480

Frame(s)	Preference...	Quality(s)	Bitrate(s)	IF-Interval(s)	A-Algorithm	A-M...	A-Gain
30	Bitrate	-	1024	30	G.711	Tx & Rx	1
20	Bitrate	-	1024	30	AAC	Tx & Rx	25
30	Bitrate	-	1024	30	G.711	Tx & Rx	25

6- Network and System Diagnostics

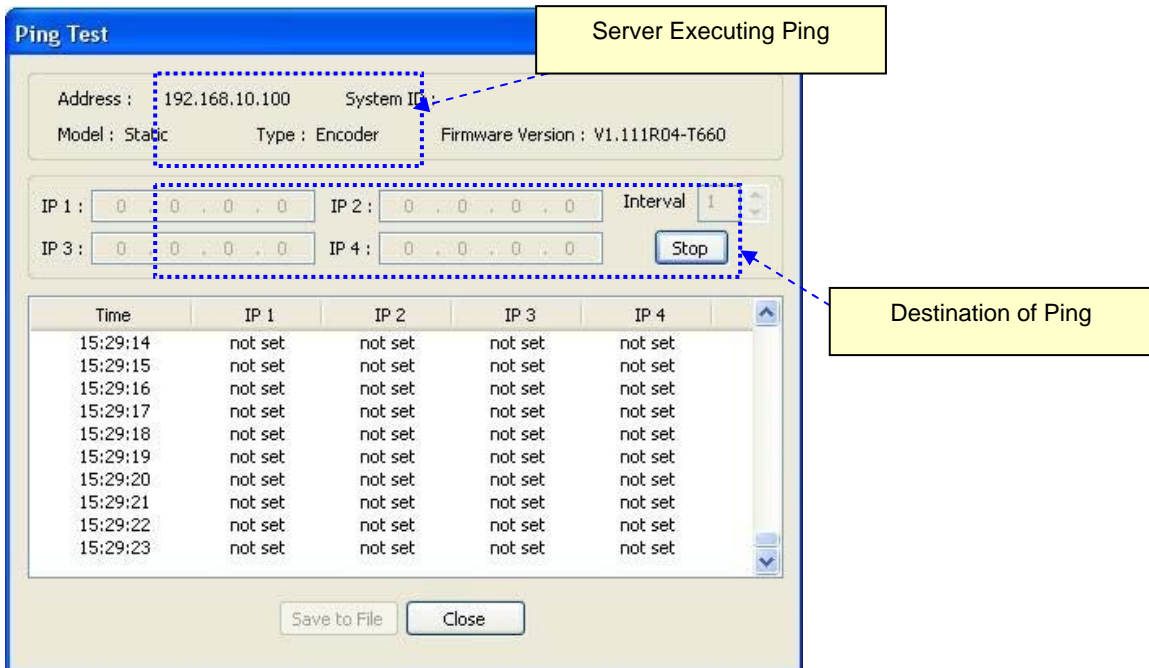
VS Manager provides various diagnostic features for troubleshooting. The following situations can occur:

- Connection between two servers or between a server and VMS (Video Management System) is not established.
- Video, audio or serial data need to be configured.
- Video and/or audio outputs are not connected to the output port.



1) Ping Test

Ping Test dialog can be created by selecting **Ping Test** on **Tools** menu after a server is selected.

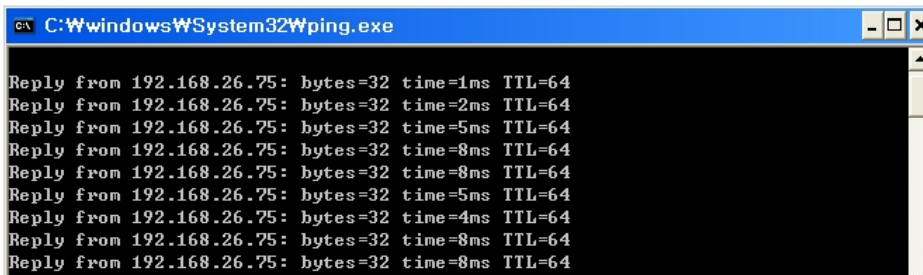


6- Network and System Diagnostics

A Ping Test is useful for checking if one or more remote systems are reachable from a server. Up to 4 systems can be registered as the Ping Test Targets which makes it possible to identify the hop (segment of network) where network failure may occur. For Example: Local Router, Remote Router and Remote Encoder can be pinged from a Decoder simultaneously.

2) Dos Ping

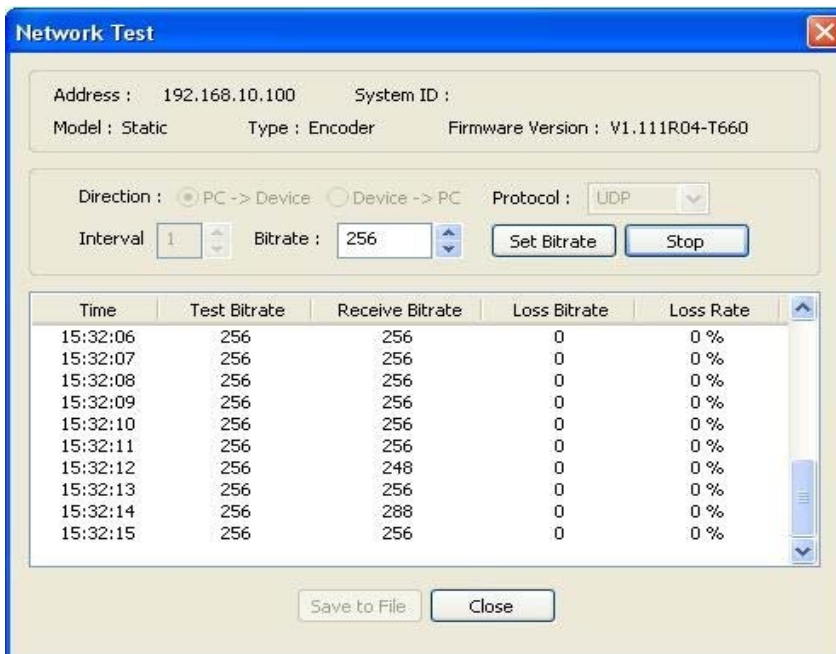
Dos Table is displayed by selecting **Ping Test** on the **Tools** menu after selecting a server. This checks the server's internet connection.



```
C:\Windows\System32\Wping.exe
Reply from 192.168.26.75: bytes=32 time=1ms TTL=64
Reply from 192.168.26.75: bytes=32 time=2ms TTL=64
Reply from 192.168.26.75: bytes=32 time=5ms TTL=64
Reply from 192.168.26.75: bytes=32 time=8ms TTL=64
Reply from 192.168.26.75: bytes=32 time=8ms TTL=64
Reply from 192.168.26.75: bytes=32 time=5ms TTL=64
Reply from 192.168.26.75: bytes=32 time=4ms TTL=64
Reply from 192.168.26.75: bytes=32 time=8ms TTL=64
Reply from 192.168.26.75: bytes=32 time=8ms TTL=64
```

3) Network Test

Network Test dialog is displayed by selecting **Network Test** on the **Tools** menu.

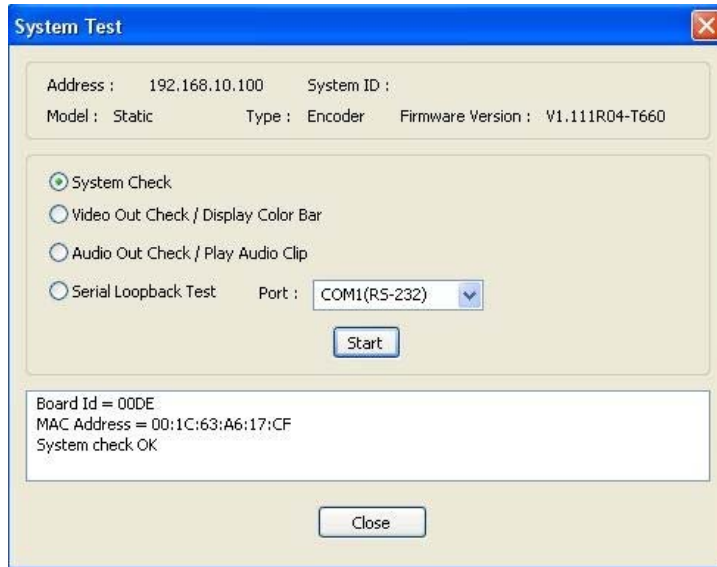


Network test can be used for measuring effective bandwidth and/or packet loss rate between a server and PC running VS Manager by generating test traffic of constant bitrate. This feature is useful for identifying the reasons why poor video quality is received. TCP protocol can be selected for measuring effective bandwidth and UDP protocol is appropriate for checking if the network is not reliable.

6- Network and System Diagnostics

4) System Test

Selecting System Test on Tools menu, a display with system hardware status, video/audio output function and serial ports can be diagnosed.



- **System Check**

Checks hardware components to see if they are normal and displays board ID and MAC address.

- **Video Out Check / Display Color Bar**

This displays a color bar on the video output port. This function works for Decoder or Duplex mode and is useful for checking if the video output port or external display device is normal.

- **Audio Out Check / Play Audio Clip**

This plays audio clip and outputs to audio output port. This function is useful for checking audio output functions of a server or external audio output devices such as an amplifier and speaker to make sure they are normal.

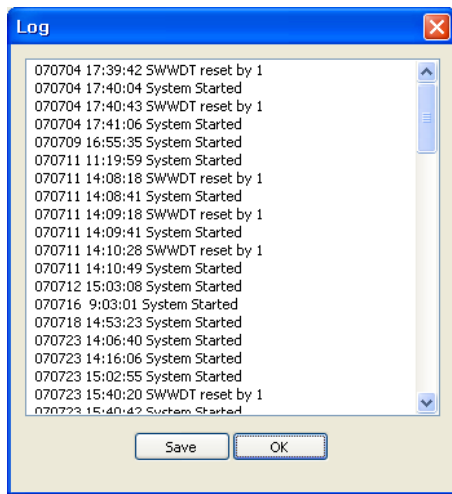
- **Serial Loopback Test**

Using this function, it is possible to check if a serial port is alive. When this function is started after forming the loopback in a serial port (i.e. connecting pin2 and 3 together in case of RS-232C port), numbers of bytes sent and received are displayed. The port is normal if number of sent bytes and number of received bytes are equal.

6- Network and System Diagnostics

5) Viewing Server Log

The log in each server can be viewed by selecting **Log** on **Tools** menu.



6) Remote Rebooting of a Server

A server can be rebooted by selecting **Reboot** on the **Tools** menu.

7) Factory Reset

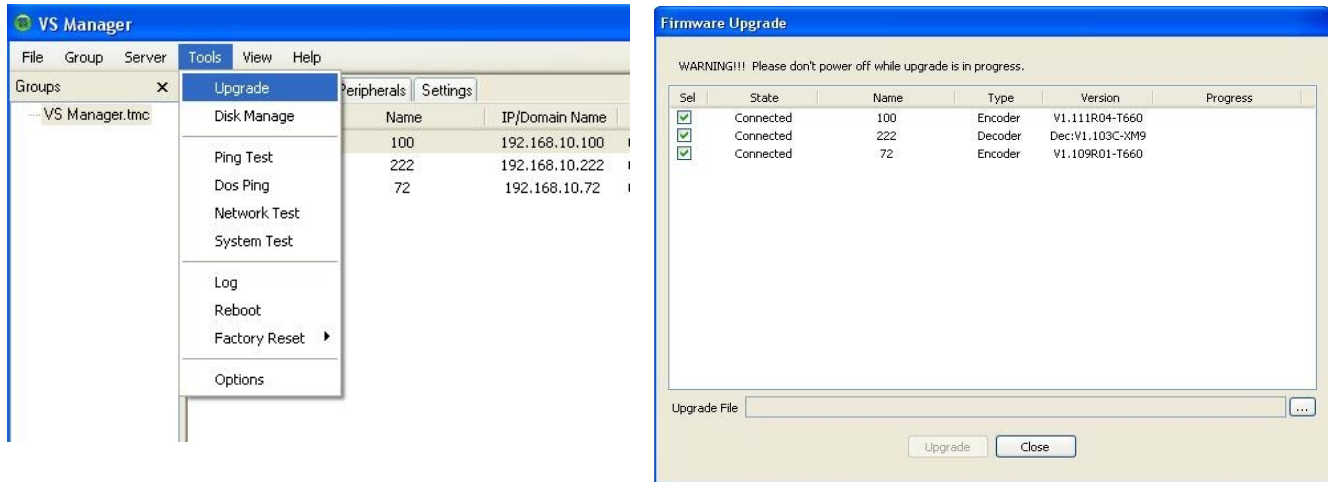
All settings including user accounts and logs are cleared when a factory reset is performed. The blue colored server is cleared if **“Reset”** is selected. If **“Reset All Servers”** is selected, all selected servers are cleared.

8) Options

Designate the OS explorer program to use for web connection. If a 64bit OS program is used, the explorer should be changed to 32bit.

7- Firmware Upgrade

When **Update** is selected on **Tools** menu, a list of firmware upgrades will appear.



- ① Select a server to upgrade (check the check box in **Sel** column).
More than one server can be upgraded simultaneously.
- ② Select an upgrade file.
- ③ Press **Upgrade** button.
- ④ Wait until **Progress** is changed to **Upgrade succeeded**. When the network condition is poor, upgrade may fail. In this is the case, retry above procedure after network condition is recovered.

Caution: Don't power-off the server while upgrade is in progress. The server may go into an irrecoverable state.

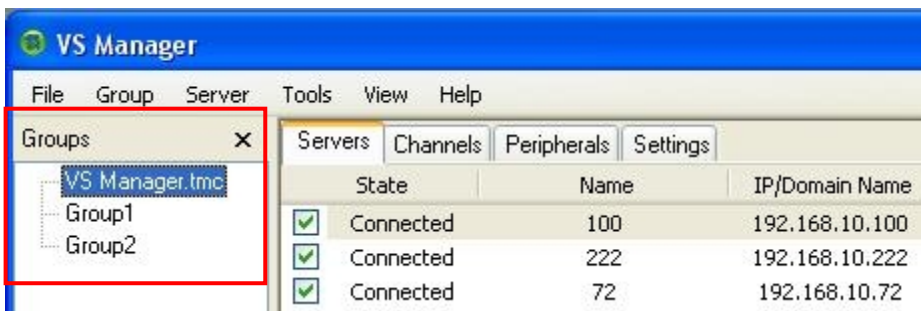
8-Other Functions

1) Grouping of Servers



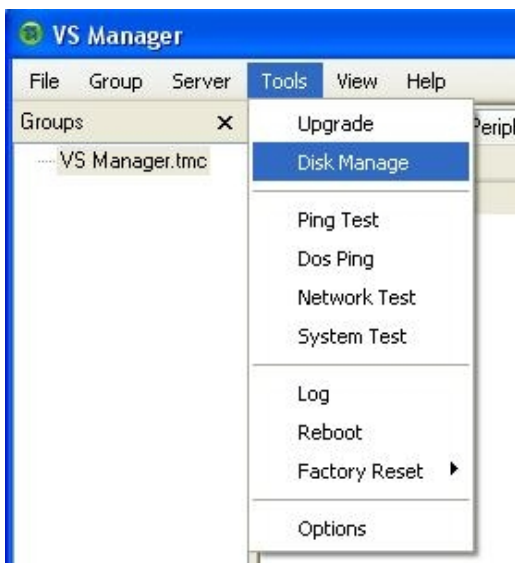
When a large number of servers are used, it is convenient to manage the servers in several groups. Using **Add Group** and **Remove Group** on the **Group** menu, server groups can be created and/or deleted. The **Modify Group** menu is used to add servers to a group or to remove servers from a group.

And each **Group** appears on the left of VS Manager page.



2) Checking Disk

Verify the status of the selected server.



8- Other Functions

3) File Setup

- **New**

New VS Manager file is created.

- **Save As**

A VS Manager file is saved and the file is displayed on the left side of the VS Manager page.

- **Open**

Open the saved files.

- **Exit**

Exit from the using VS Manager.

Page Intentionally Left Blank

Marshall Electronics, Inc.
1910 East Maple Ave. El Segundo, CA 90245
Tel: (800) 800-6608 / (310) 333-0606 • Fax (310) 333-0688
www.LCDRacks.com • sales@lcdracks.com