

HTP-T2M10Z

2.0 Megapixel IP Camera



User Manual ver.1.0



Safety Precaution

**We appreciate your purchasing HTP-T2M10Z.
Before installing the product, please read the following with care.**

- ◇ Make sure to turn off the power before installing HTP-T2M10Z.
- ◇ Do not install under the direct sunlight or in dusty areas.
- ◇ Make sure to use the product within the temperature and humidity specified in the specification.
- ◇ Do not operate the product in presence of vibrations or strong magnetic fields.
- ◇ Do not put electrically conducting materials in the ventilation hole.
- ◇ Do not open the top cover of the product. It may cause a failure or electric shock on the components.
- ◇ To prevent from overheating, make sure to keep the distance at least 10cm from the ventilation hole.
- ◇ Make sure proper voltage (220V/100V) before connecting the power.



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1. About This Manual

This User Manual provides information on operating and managing the premium network camera, HTP-T2M10Z. The Manual includes instructions of installation, operation and configuration of HTP-T2M10Z as well as how to make troubleshooting.

2. Features

HTP-T2M10Z is a 2.0 Megapixel network-based camera with remote live monitoring, audio monitoring and control via an IP network such as LAN, ADSL/VDSL, and Wireless LAN.

□ Video

- Highly efficient compression algorithm, H.264 & MJPEG support
- 18 kinds of compression and resolutions: CIF (352x240) - Full HD (1920x1080)
- Wide range of transmission rates: 32kbps ~ 8Mbps
- Various transmission modes: CBR, VBR
- Motion detection

□ Audio

- Multi-transmission mode: Simplex (HTP-T2M10Z → Client PC or Decoder, Client PC or Decoder → HTP-T2M10Z), Full Duplex

□ Network

- Fixed IP & Dynamic IP (DHCP) support
- 1:1, 1:N support
- Multicasting
- Automatic transmit rate control according to network conditions

□ Serial Data

- RS-485 support
- Data pass-through mode : Serial data communication between HTP-T2M10Z and Decoder

□ Sensor and Alarm

- Support direct connections of external sensor and alarm devices
- Event Alarm

□ User Interface

- Diagnose and upgrade through dedicated program called True Manager
- System configuration using Internet Explorer

□ High Reliability

- Reliable embedded system
- System recovery by dual watch-dog functions

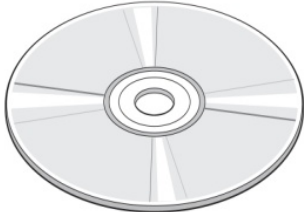
3. Product and Accessories



HTP-T2M10Z



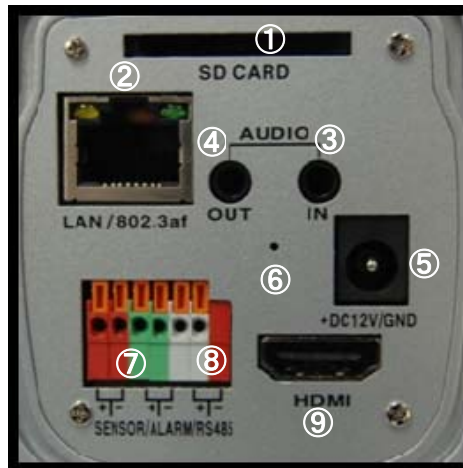
Quick Manual



SW and User Manual CD

4. Part Names and Functions

□ Rear View



Connector	Function
1. Ethernet/802.3af	Ethernet port/802.3af LED : Booting and system check
2. RESET Button	Initialization of network setting
3. AUDIO IN	Audio input
4. AUDIO OUT	Audio output
5. POWER IN	DC 12V
6. SENSOR/ALARM	Sensor input/ Alarm output
7. RS-485	RS-485 port
8. HDMI OUT	HDMI
9. SD CARD	SD memory card slot

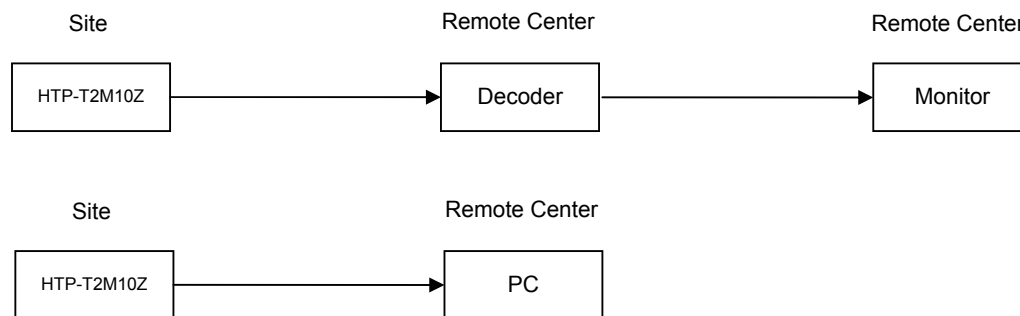
5. System Connections

HTP-T2M10Z IP Cameras can be connected in either 1 to 1 connection where one HTP-T2M10Z is connected one PC client or a decoder system or 1 to many connections where one HTP-T2M10Z can be connected several PCs and decoder systems.

□ Topology

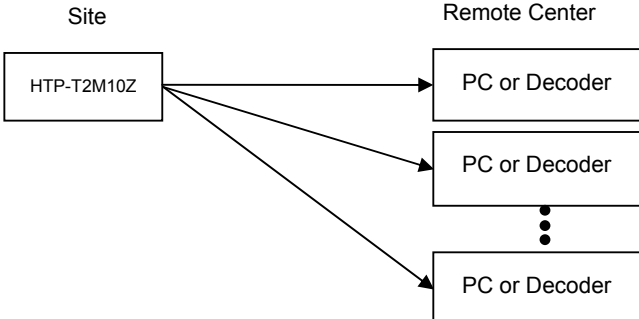
Generally, HTP-T2M10Z and PC or a decoder is connected in 1-to-1 mode or 1-to many configuration.

● 1:1 Connection .



One HTP-T2M10Z is installed at a site where video images are transmitted. A PC or a decoder is installed at a central location to receive and view the video images on an analog monitor. Audio and serial data are transferred in either direction.

- **1:N Connection .**

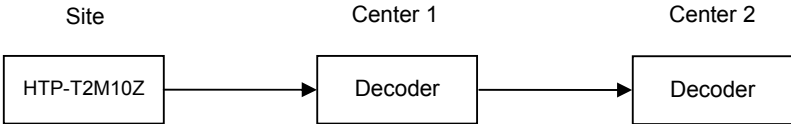


In this configuration, a site can be monitored from many remote central locations. Although up to 64 PCs or decoders can be connected to on HTP-T2M10Z, in the real network environment, network bandwidth can limit the maximum connections. Functionally, the central monitoring system (CMS) software provided can replace the decoder

□ Multicast Mode

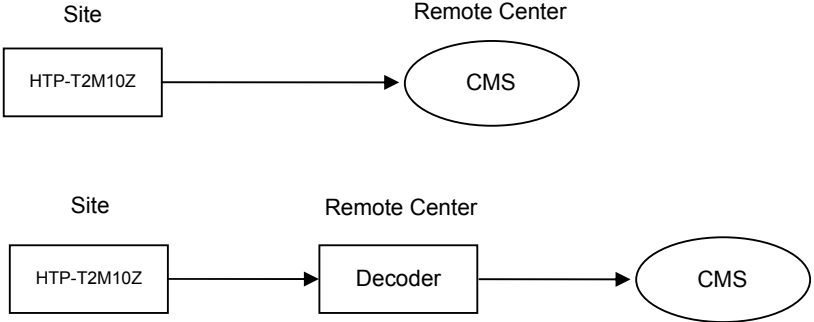
If the network supports multicasting, a large number of decoders can be used to receive video effectively from a HTP-T2M10Z using a single streaming of video and audio.

□ Relay



Video and audio can be retransmitted from a center to another center. The arrangement is useful when the network bandwidth to the site is limited while there are more than one center want to monitor the site.

□ CMS (Central Monitoring System)



CMS is a Window-based remote monitoring program in order to monitor or control video, audio, and events in real time from several IP cameras or video servers. Please refer to the CMS User Manual for more in detail.

1. Connecting Network (LAN)

- Connect the power adaptor to HTP-T2M10Z
- Connect network cable to Ethernet port
- To display video through HDMI or Composite port, after connecting each port to a monitor, set **preview** option “ON” on the web-viewer page.

2. Connecting Audio

Audio is full-duplex. It is possible to set the mode as Tx-only, Rx-only or Tx-Rx.

- Connect audio input and output ports to audio devices accordingly.
- The Audio signal required is line level, so audio equipment with an amp, mixer or other amplifier should be used.

3. Connecting Serial Ports

RS-485 of HTP-T2M10Z can be connected to external equipment such as PT receiver etc. PC client can send PT commands to the external equipment via the serial port.

When a decoder system instead of PC client is connected to HTP-T2M10Z, the serial port and that of the decoder system works in pass-through mode. That is, data from at one port is delivered to the other port, vice versa

4. Connecting Sensor and Alarm

Connect sensor and alarm devices to corresponding terminals accordingly.

5. Connecting Power

After confirming the power source, connect power adaptor and connect the 12VDC connector to the system.



6. Check if it Works

Once the power is supplied to the camera, it will start booting. The system will boot up to an operating mode after approximately 40-60 seconds. The green LED on the Ethernet port will flash indicating the system is ready.

Software provided on the disc called True Manager allows you to check the IP address and other network details of the camera. Please refer to the True Manager manual for instructions on how to find the IP address of the camera and if required changing it.



1. Remote Video Monitoring

There are two ways to monitor video when the decoder site and HTP-T2M10Z are connected. In order for a proper operation, an IP address must be set accordingly. Please refer to **True Manager in Chapter 3** or **Remote Setting in Chapter 4** for further details.

Default ID : admin	Default Password : 1234
---------------------------	--------------------------------

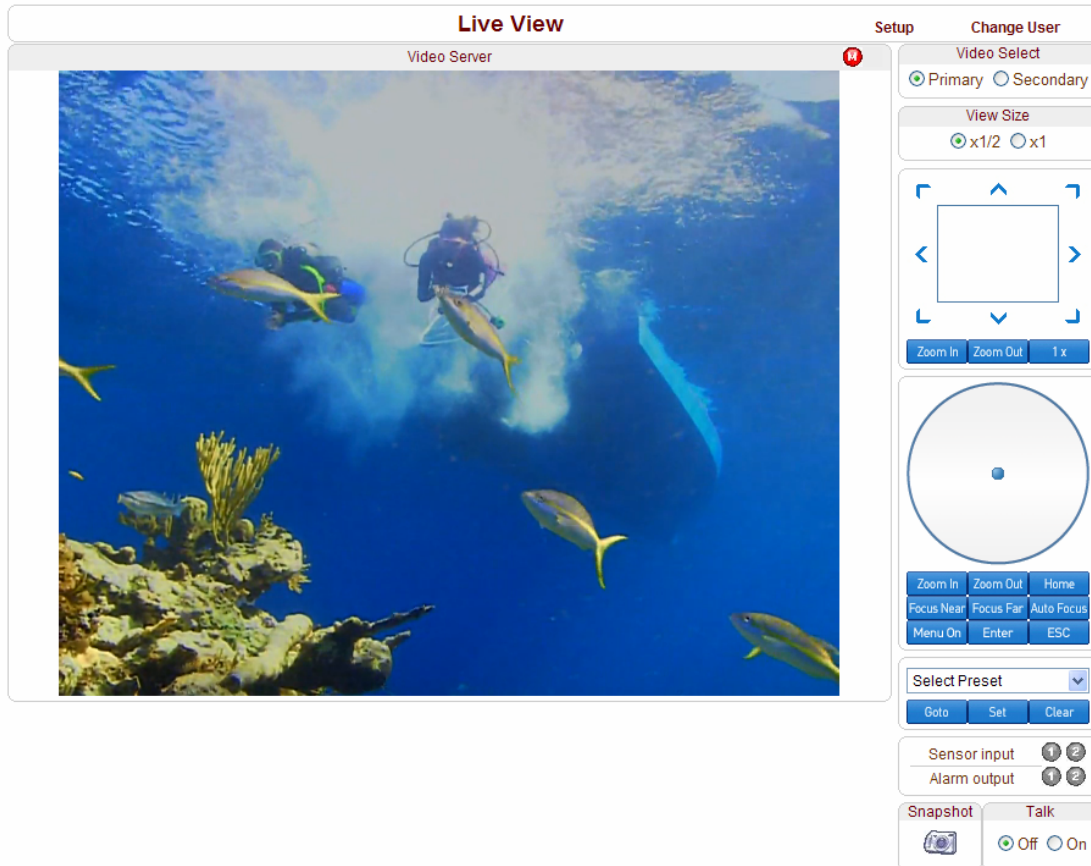
Video Monitoring with Decoder System

Once HTP-T2M10Z's IP address is set in the remote IP address section of the decoder, the decoder system will connect to HTP-T2M10Z and start receiving the video images. Normally, a monitor connected to the decoder will display video images.

Video Monitoring using Internet Explorer

Open Internet Explorer and enter HTP-T2M10Z's IP address. The system will ask for confirmation to install Active-X control. Once authorized, the Internet Explorer will start to display video images from HTP-T2M10Z as shown below.

Default IP Address : http://192.168.10.100



- **Video Selection**

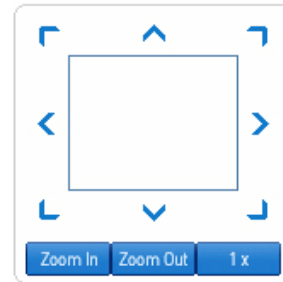
HTP-T2M10Z is capable of dual streaming. Video Selection allows you to choose Primary Video image or Secondary Video image. Video Image is displayed according to the resolution set on video configuration. When dual streaming is not activated, and secondary mode is selected, video cannot be displayed

- **Screen Size**

Screen size is initially adjusted according to the compression resolution. If you click x1/2 icon, the whole screen size will be reduced in half.

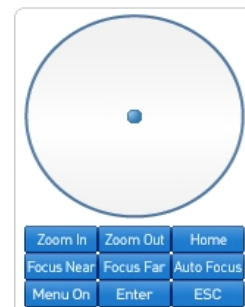
- **Digital Zoom**

You can control the view using **Zoom In** and **Zoom out**. The more the camera zooms in, the smaller the square of control panel is. Position of the image can be changed by moving position of the square. Max x5 Digital Zoom is available. If you press **x1**, the screen will return to the normal size.



- **PTZ Control Panel (Optical Zoom)**

PTZ Control Panel is used for controlling external PTZ devices when the external PTZ devices are connected through serial port. Since x10 optical zoom lens is built in HTP-T2M10Z, it is possible to make zooming control by **Zoom in/out** buttons of PTZ control Panel



- **Focus Near, Focus Far, Auto Focus**

Adjust the focus

- **Sensor Input**

HTP-T2M10Z supports one sensor input. Status of the sensor is displayed in real time. When the sensor on HTP-T2M10Z is working, the light turns red.

- **Alarm Output**

HTP-T2M10Z supports one Alarm output. A number icon indicates status of the alarm device. To operate the alarm device, press the number icon.

- **Screen Capture**

Capture pictures and store them as BMP or JPEG files.

- **Audio Transfer**

Transfer audio from a PC that displays video image currently to HTP-T2M10Z.



2. Initialization of IP Address

If a system IP address is lost, the system can be reset to the system default IP address using the reset button in the back side of the system.

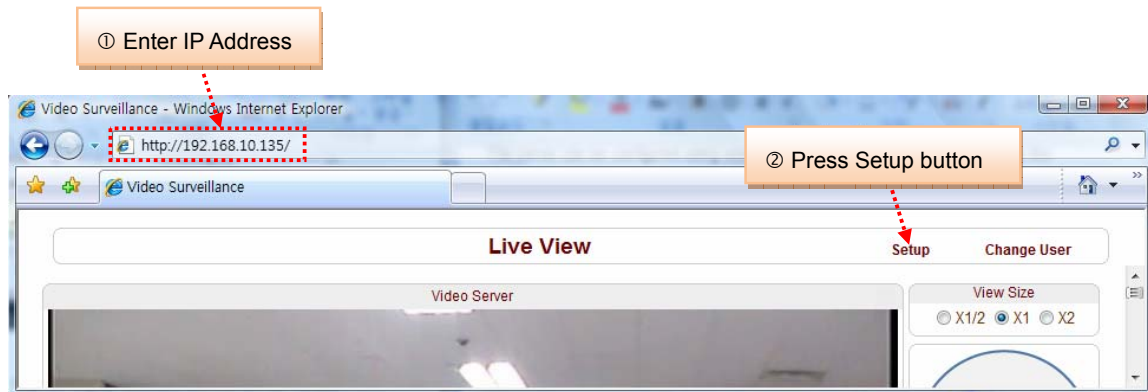
- ① While system is in operation, press the reset button for more than 5 seconds.
- ② The system will reboot automatically
- ③ Once the system reboots, IP address will be set to the system default as below.

• IP mode	Fixed IP	• IP address	192.168.10.100
• Subnet mask	255.255.255.0	• Gateway	192.168.10.1
• Base port	2222	• HTTP port	80

Using web browser

Remote setting is available by using web browser. Enter IP address of HTP-T2M10Z and then a live view screen appears as below. Press **Setup** button located in the upper right area of the monitoring screen to go to the server setup.

For Remote Setting, user should be authorized higher than manager level.



The configurations are grouped into 9 categories: **System, Video, Audio, Network, Serial, Event, Preset, User and Camera**. Any configuration changes are not applied until **Apply** button is pressed. Leaving the page without pressing **Apply** button, any changes in the page will be discarded.

1. System Configuration

Setup [Live View](#) [Change User](#)

[System](#) [Video](#) [Audio](#) [Network](#) [Serial](#) [Event](#) [Preset](#) [User](#) [Camera](#)

System

General

System ID

Language ▼

Firmware

Version Enc: V1.102B-017

Board ID

Time

Start Time

Current Time

Time Zone ▼

Automatically synchronize with NTP server

NTP Server Name

Reboot

Factory Reset

□ **General**

● **System ID**

Set the System ID. The set System ID is displayed with video image on Web browser. The System ID is also transferred to remote software, such as CMS, and displayed on it.

● **Language**

Select the language to be used for web-based configuration

□ **Firmware**

● **Firmware version**

Current firmware version

● **Board ID**

Network board ID of HTP-T2M10Z recognized by system

□ **Time**

● **Start Time**

Latest system boot date and time

● **Current Time**

Current date & time: Enter a new date and time and press **Set Current Time** button to update date & time

● **Time Zone**

Select time zone of where the system is installed. Depending on the time zone, Daylight Saving Time will work automatically

According to the selected time zone (not set time at your computer), current time will be displayed on remote software and recording files.

A **time zone** is a region of the earth that has uniform standard time, usually referred to as the **local time**. By convention, time zones compute their local time as an offset from UTC (Coordinated Universal Time). In casual use, GMT (Greenwich Mean Time) can be considered equivalent to UTC. Local time is UTC plus the current time zone offset for the considered location

- **Automatically synchronize with NTP server**

Synchronize system time with an NTP server using NTP (network time protocol). Name of the NTP server should be registered on NTP server Name.

The **Network Time Protocol (NTP)** is a protocol for synchronizing the clocks of computer systems over packet-switched, variable-latency data networks. It is designed particularly to resist the effects of variable latency by using a jitter buffer.

- Reboot**

- **Reboot Server**

Pressing **Reboot Server** button will cause the system to reboot. Do not press the Reboot button unless the server needs a reboot.

- Factory Reset**

- **Factory Reset**

Current IP Address of HTP-T2M10Z is changed to default IP Address, 192.168.10.100. System log and user registrations are also cleared. The other setting value will be remained.

2. Video Configuration

Setup [Live View](#) [Change User](#)

[System](#) **Video** [Audio](#) [Network](#) [Serial](#) [Event](#) [Preset](#) [User](#) [Camera](#)

Video [Apply](#)

Encode

Enable Preview Off On

Resolution Scaling

Framerate

Preference

Quality

Bitrate kbps (32 ~ 8000)

I-Frame Interval

Dual Encode

Use Dual Encode Off On

Dual Encode Algorithm H.264 MJPEG

Preference

Resolution

Framerate


Quality

Bitrate kbps (32 ~ 1024)

I-Frame Interval

Motion Detection

Use Motion Detection Off On



Edit Enable Disable

Mode Set Erase [Apply Edited Area](#)

Sensitivity(0 for most sensitive)

Information Display

SystemID Off On

Time Off On

Position Bottom Top

BurnIn OSD

SystemID Off On

Time Off On

Position Bottom Top

Font Size Small (8x8) Middle (16x16) Large (32x32)

□ **Encode**

● **Enable Preview**

Turn on to transmit the video direct HD monitor and select the one of Oupput formats in the end of the Video setting section

● **Resolution**

Select video compression resolution. Compression resolutions are different depending on input formats. **Scaling** option is used when compression resolution is different from input compression. Without **Scaling** option, input video image will be cut according to compression resolution. On the other hand, if **Scaling** is selected, input video size will be adjusted to compression resolution.

720x480
720x240
352x480
352x240
720x576
720x288
352x576
352x288
640x480
800x600
1024x768
1280x960
1280x1024
1440x900
1600x900
1680x1050
1280x720
1920x1080

● **Frame rate**

Determine the maximum number of frames of video images to compress per one second. The frame rate of actually transmitted video can be affected by the network bandwidth limitation

● **Preference**

Preference in video compression and transmission: With 'Bit rate' selected, the video compression will be effected by the 'Bit rate' value entered. With 'Quality' selected, the video compression will be effected by the quality of image selected. Therefore, 'Bit rate' and 'Quality' corresponds to CBR (Constant Bit rate) and VBR (Variable Bit rate) respectively

● **Quality**

VBR (Variable Bit Rate) adjusts the bit rate according to the image complexity, using up bandwidth for increased activity in the image and less for lower activity in the monitored area

- **Bit rate**

CBR (Constant Bit Rate) allows you to set a fixed target bit rate that consumes a predictable amount of bandwidth. As the bit rate would usually need to be increased for increased image activity, but in this case it is constrained, the frame rate and image quality are affected negatively

- **I-Frame Interval**

Possible values between 0 and 255. There will be no I-frames if 0 is selected.

- **Dual Encode**

- **Use Dual Encode**

The Selection between H.264 and MJPEG is supported. Secondary Video can be used on **Live View** window.

- **Dual Compression Algorithm**

Select Secondary Video compression between H.264 and MJPEG. Maximum resolution is 720 x 480. There are 8steps for adjusting. If MJPEG is selected, only Quality mode is supported

- **Motion Detection**

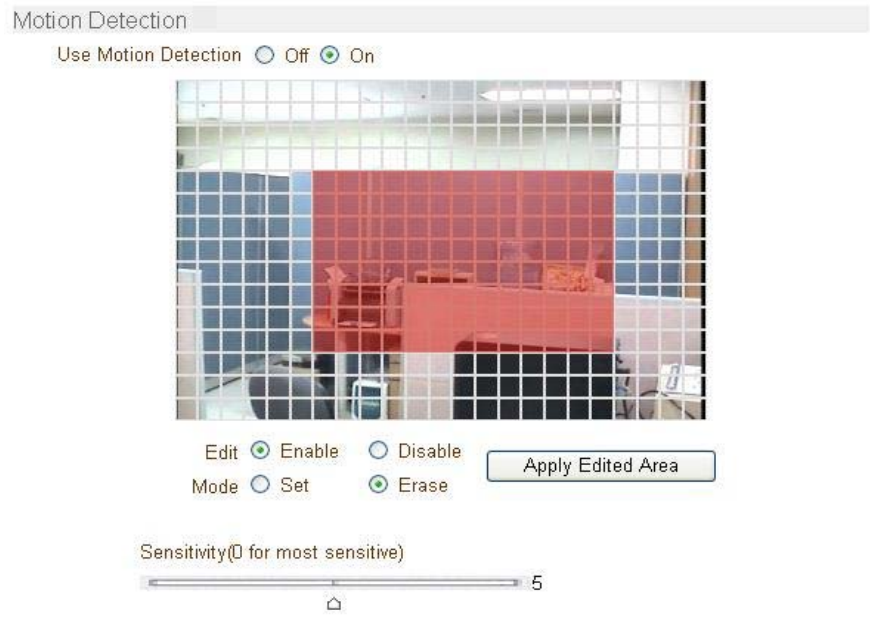
- **Use Motion Detection**

Select Motion Detection function

- **Motion Detection Area Editing**

Configure regions for motion detection. Regions of arbitrary shape can be configured by the following steps.

- ① Enable **Edit** item.
- ② Select editing Mode. **Set** is for including cells to motion detection region and **Erase** is for excluding.
- ③ Select cells using the right button of the mouse. Multiple cells can be selected conveniently by press and dragging.
- ④ Press **Apply Edited Area** to save the editing



- **Sensitivity**

Condition to trigger an event of motion detection. The value determines the sensitivity of the motion detection within a block: the smaller, the more sensitive.

It is selectable from 0 to 10.

- **Information Display**

System ID and/or server time can be display over the video window in Internet Explorer. Each item can be turn on or off separately, and position also can be configure. This information is displayed **after the video is decompressed**

- **Burn-in OSD**

Insert system ID and date/time in **the compressed video**. System ID and time respectively can be turned on or off in the video. And position and Font size can be selectable.

(Since time information is inserted when video is compressed, the change of the time can be considered as motion. Therefore, even though there is no motion, motion detection can be activated. In order to prevent it, exclude the area of displayed time by **Motion detection area editing**.)

3. Audio Configuration

□ Mode

- Select audio operation mode

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

□ Input Gain

- Set audio input gain

4. Network Configuration

Setup
Live View
Change User

System
Video
Audio
Network
Serial
Event
Preset
User
Camera

Network

Apply

Local

IP Mode Fixed IP

Local IP 192.168.10.102

Local Gateway 192.168.10.1

Local Subnet 255.255.255.0

DNS

Obtain DNS server address automatically
 Use the following DNS server addresses

Primary DNS Server 0.0.0.0

Secondary DNS Server 0.0.0.0

Port

Base Port 2222

HTTP Port 80

RTSP Port 554

RTSP Authentication

RTSP Authentication Off On

SNMP

SNMP Listen port 161

SNMP Trap Destination IP 0.0.0.0

SNMP Trap Destination Port 162

Multicast

Multicast IP 224.10.0.0

DDNS

DDNS Server None TrueDNS DynDNS
 Check IP Disable

ID

Password

Domain Name

Address Information

Current IP 192.168.10.102

Current Domain Not RegisteredB

MAC Address 00:1C:63:A5:01:4F

Connecting 1 :: 192.168. 10. 55 - (0,0)

□ **Local**

● **IP mode**

Two IP modes are supported. Depending on the selected mode, further configuration items come as follows

IP Mode	Selection	Description
Fixed IP	Local IP	Fixed IP address
	Local Gateway	Gateway IP address
	Local Subnet	Subnet mask
DHCP	N/A	

□ Please ask an IP address information from ISP provider or network manager.

□ **DNS**

● **DNS**

Set DNS server IP address

The **Domain Name System (DNS)** is a hierarchical naming system for computers, services, or any resource connected to the Internet or a private network. It associates various information with domain names assigned to each of the participants. Most importantly, it translates domain names meaningful to humans into the numerical (binary) identifiers associated with networking equipment for the purpose of locating and addressing these devices worldwide. An often used analogy to explain the Domain Name System is that it serves as the "phone book" for the Internet by translating human-friendly computer hostnames into IP addresses. For example, *www.example.com* translates to *208.77.188.166*

□ **Port**

● **Base Port**

Network base port is use for communication between systems. In order for the servers and remote systems to be connected together, the port number must be identically set.

● **HTTP Port**

HTTP port use for web-based connection

- **RTSP Port**

RTSP port used for RTSP-based connection

- **RTSP Authentication**

- If RTSP Authentication is set to on the Network page, user should enter correct User ID and Password when any RTSP client is connected.

- **SNMP**

Setup for using SNMP (Simple Network Management Protocol)

- **SNMP Listen Port:** The port is for connecting external devices when system operates as a SNMP client. SNMP is not used by setting 0 value.
- **SNMP Trap Destination IP:** Set the SNMP Trap Destination IP.
- **SNMP Trap Destination Port:** Set the SNMP Trap Destination Port. SNMP is not used by setting 0 value.

Simple Network Management Protocol (SNMP) is used in network management systems to monitor network-attached devices for conditions that warrant administrative attention. It consists of a set of standards for network management, including an application layer protocol, a database schema, and a set of data objects

- **Multicast**

- **Multicast IP**

The multicast IP address selection range is between 224.0.1.0 and 238.255.255.255. The selection can be used only when media protocol is set to Multicast. The multicast address must be the same for the system to be connected using multicast protocol.

- **DDNS**

Select the DDNS (Dynamic DNS) server to use. One of the two servers can be selected.

- **True DNS:** TrueDNS service is used in this mode. Systems can be registered on the website for TrueDNS service: <http://ns1.truecam.net>. System will get a domain name of xxx.truecam.net style. Please, refer to user guide document for True DNS service.
- **DynDNS:** DynDNS service is used in this mode. Refer www.dyndns.org for details. ID, Password and Domain name are needed when DynDNS is set.

Dynamic DNS is a method, protocol, or network service that provides the capability for a networked device, such as a router or computer system using the Internet Protocol Suite, to notify a domain name server to change, in real time (ad-hoc) the active DNS configuration of its configured hostnames, addresses or other information stored in DNS.

- ✓ **Check IP Disable:** If “Check IP Disable” is selected, IP Server will skip to check its own IP. In Fixed IP mode, the set IP will be registered on DDNS server. In DHCP mode, the Allotted IP will be registered on DDNS server.

□ Address Info

Followed network information is displayed (Read only)

- **IP Address:** The server own IP address. This information is useful when the server's IP mode is set to DHCP.
- **Domain Name:** In case the server is registered at DDNS server, the registered domain name is displayed.
- **MAC Address:** Display the MAC address of the server. In case the server is registered at DDNS server, the MAC address is used in DDNS registration.
- **Connecting:** Client IP Addresses that are currently connected to system are listed. (1) Indicates Primary streaming and (0) indicates secondary streaming.

5. Serial Port Configuration

Setup [Live View](#) [Change User](#)

[System](#) [Video](#) [Audio](#) [Network](#) **Serial** [Event](#) [Preset](#) [User](#) [Camera](#)

Serial Apply

COM2 (RS-485 Port)

Protocol:

Bitrate:

Data Bit:

Parity:

Stop Bit:

PTZ

PTZ Type:

PTZ ID:

PTZ Port:

Direct Keyboard Control: Off On

Sensor Type

Sensor 1: Off N/O N/C

Sensor Schedule

Select: Sensor Off Sensor On

Sensor 1

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
SUN	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
MON	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
TUE	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
WED	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
THU	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
FRI	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
SAT	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

□ Serial Port Configuration

- There is one serial port, RS-485 in HTP-T2M10Z.

The serial ports can be configured as follows.

Each of the serial ports configurations must be same as the connecting device.

Mode	Selection
Bitrate	2400, 4800, 9600, 19200, 38400, 57600, 115200 bps
Data Bits	5, 6, 7, 8 bits
Parity	NONE, EVEN, ODD bit
Stop Bit	1, 2 bit

□ PTZ

- **PTZ Type:** Select the type of PTZ camera or receiver.
- **PTZ ID:** Since it is possible to control multiple PTZ cameras or receivers over single control line, each camera or receiver will be assigned with unique ID. Enter PTZ ID of a camera or receiver for control. The ID value range can be between 0 and 255.
- **PTZ Port:** Select the serial port used for PTZ camera control.
- **Direct Keyboard Control:** Keyboard controller can be connected to HTP-T2M10Z directly to control zoom and focus

□ Sensor Type

There is one sensor input port on HTP-T2M10Z. The sensor port can be configured to the following.

Function	Operation
OFF	Not used
NO (Normally Open)	The port is normally open and activated when closed.
NC (Normally Closed)	The port is normally closed and activated when opened.

The function of the sensor port is set based on the type of the sensor connected.

□ Sensor Schedule

If you select sensor on, Each sensor port can be enabled or disabled by day(of a week) and hour units. Sensor is disabled during the grey-colored duration.



6. Event Configuration

Setup
Live View
Change User

System
Video
Audio
Network
Serial
Event
Preset
User
Camera

Event

Apply

Local

Sensor Alarm E-mail FTP No Preset ▼

On Video Loss Alarm E-mail FTP No Preset ▼

On Motion Alarm E-mail FTP No Preset ▼

Remote

Sensor1 Alarm E-mail FTP No Preset ▼

Sensor2 Alarm E-mail FTP No Preset ▼

Sensor3 Alarm E-mail FTP No Preset ▼

Sensor4 Alarm E-mail FTP No Preset ▼

On Disconnect

On Disconnect Alarm E-mail FTP No Preset ▼

Duration

Alarm synchronous ▼

E-mail Notification

Server Address

Port

Sender Address

Authentication on SMTP server Off On

ID

Password

Destination Address

Video Clip Attaching Off Primary Video Secondary Video (H.264 only) JPEG Capture

E-mail Test

Before testing e-mail, please apply your configuration first.

FTP Upload

Server Address

Port

ID

Password

Upload Video Primary Video Secondary Video (H.264 only) JPEG Capture

Continuous Upload Off On

Upload Duration sec (Max 300)

Upload Interval sec (Max 3600)

Event Record

Pre-event Time None ▼

Post-event Time None ▼

The HTP-T2M10Z has one sensor port and one alarm port.

When a decoder system instead of a PC client is connected to a HTP-T2M10Z, one system becomes a Local system and the other a Remote system (Generally a system which is being used by the user is called as Local system). Then, actions for events can be configured for events from the remote system as well as for local system. For example, it is possible to turn on an alarm device in local (center) decoder system when a sensor device in remote (site) IP camera is triggered. **Local** section configures the actions for events from local (self) system, and configuration activates local devices and **Remote** sections configure the actions for events from remote (peer) system.

The following table lists the possible actions for events.

Action	Description
Sensor In	One sensor in port
Alarm out	Triggers alarm (relay) port.
E-mail	Sends E-mail to the specified address. AVI file can be attached
FTP	Upload AVI file to a specified FTP server

□ Local & Remote Event Configuration

- **Sensor1 / Sensor2/ Sensor3 / Sensor4.**

Configure the actions when the sensor is activated. Multiple actions can be set for a single event.

- **On Video Loss**

Configure the actions when video input signal is lost. Multiple actions can be set for a single event.

- **On Motion**

Configure the actions when motion is detected. Multiple actions can be set for a single event.

- **On Disconnect**

Configure the actions when the link (connection) with peer system is disconnected. Multiple actions can be set for a single event.

❑ **Alarm and Beep activation duration**

- Set the duration of alarm or beep activation in case of an event. If it is set to continuous, it will be in active state until an operator reset it manually.

❑ **E-mail Notification**

Specify the information to send event information, when E-mail is selected as an event action.

- **Server Address:** Enter an address of mail(SMTP) server
- **Port:** Specify a port for SMTP operation (**Port 25 is the default port in SMTP operation.** If a different port is configured in the SMTP server, this port needs to be changed accordingly).
- **Sender Address:** Enter an account registered in the SMTP server.
- **ID & password:** When the server requires authentication, ID and Password of an E-mail account need to be entered.
- **Destination address:** Enter Destination address. More than one address can be entered by delimiting comma (,) or semi-colon (;). Destination address can take up to 63 characters.
- **Video Clip Attaching:** Video clip stored at the moment of event can be attached as an AVI or JPEG file format. In case of using dual Encoding, Primary video or Secondary video (H.264 only) can be selected.

❑ **FTP Upload**

Specify the information to upload event information, when FTP is selected as an event action

- **Server Address:** Enter an address of an FTP server to receive video files
- **Port:** Specify a port for FTP operation (**Port 21 is the default port in FTP operation.** If a different port is configured in the FTP server, this port needs to be changed accordingly.).
- **ID & password:** Enter ID and Password for accessing the FTP server.
- **Upload video:** Primary video and Secondary video (H.264 only), JPEG can be selected as an upload method.
- **Continuous upload:** Continuous upload “on” allows video image to be transmitted regularly, regardless of occurrence of events.
- **Upload duration:** Specify recording duration of a video clip to be transmitted.
- **Upload interval:** Specify transmission interval.

Recording duration is not included in transmission interval. For example, if Upload interval is 60seconds and Upload duration is 20seconds, a Video clip for 20seconds is transmitted every 80seconds.

❑ **Event Record**

Specify duration of recording video generated by events to send through E-mail or upload through FTP..

- **Pre-event Time:** Specify the duration of recording before an event happens.
- **Post-event Time:** Specify the duration after the event is cleared.
- Max duration is 30 seconds

7.Preset Configuration

The screenshot shows the 'Setup' interface for PTZ Preset Configuration. At the top, there are tabs for 'System', 'Video', 'Audio', 'Network', 'Serial', 'Event', 'Preset', 'User', and 'Camera'. The 'Preset' tab is selected. Below the tabs, there is a 'Preset' section with a table of 15 preset slots. The first three slots are labeled 'Preset 1', 'Preset 2', and 'Preset 3'. A red arrow points to the fourth slot, with a callout box labeled '② Enter Name'. Below the table is a 'Save List' button, with a callout box labeled '④ Save'. To the right of the table is a live video feed showing a crowd of people. Below the video feed is a PTZ control panel with a red dashed box around the directional buttons. A callout box labeled '① Move PTZ Camera to normal view' points to this panel. Below the control panel are 'Set' and 'Go to' buttons. A callout box labeled '③ Press Set Button' points to the 'Set' button.

This function is only available when a PTZ receiver is used with HTP-T2M10Z

Configure up to 15 preset positions. Preset function is not available on some PTZ receivers. Make sure to check if a PTZ receiver supports preset

❑ Preset Configuration

- Set the PTZ Presets by following the next steps

- ① Move cameras to desired view using PTZ control buttons.
- ② Enter Preset name.
- ③ Press **Set** button.
- ④ Once all the presets are set, press **Save List** button.

- **Move to Preset Position**

Select a preset from the Preset and press **Go To** button, then, the camera will move to the selected preset position.

8. User Configuration

The screenshot shows the 'Setup' interface with the 'User' tab selected. The 'User List' table contains one user: 'admin' with 'Admin' privilege level. Below the table are buttons for 'Add', 'Delete', 'Modify Password', and 'Modify Privilege'. The 'Login Policy' section has 'Skip Login' set to 'Disable' and 'Privilege Level After Login Skipped' set to 'Admin'.

□ User List

- User can be registered and privilege level of a user can be specified. User configuration is allowed only to admin user. Max 16 users can be registered and each user can have one of four privileges.

Privilege	Allowed Operations	Remarks
Admin	All operations	User id = admin
Manager	All operations except for user configuration	
User	Live viewing and PTZ control	
Guest	Live viewing only	

- **Add User**

Page for adding a user comes on pressing Add button

Setup		Live View	Change User
System	Video	Audio	Network
Serial	Event	Preset	User
Camera			
Add User			
ID			
Password			
Privilege Level	Manager	▼	
Add		Cancel	

User ID and password need to be entered and privilege level need to be selected.

User ID and password consist of alphanumeric string of max 15 characters.

- **Delete User**

A user is deleted by pressing Delete button.

- **Change Password**

Pressing **Modify Password** button after selecting a user shows a page for changing password.

System	Video	Audio	Network	Serial	Event	Preset	User
Modify Password							
ID	admin						
Current Password							
New Password							
Confirm Password							
Modify				Cancel			

In case changing admin password, old password is checked.

- **Modify Privilege Level**

Pressing **Modify Privilege** button after selecting a user shows a page for changing the privilege. It is not allowed to change the privilege level of admin user.

ID	user
Privilege Level	User

Modify Cancel

- **Login Policy**

- **Skip Login** provides for convenient access to the server when authentication is not required. When Skip Login is set to **Enable**, login step is skipped. The privilege level after login in this way is determined by the setting of **Privilege Level After Login Skipped**.

9.Camera Configuration

Setup Live View Change User

System Video Audio Network Serial Event Preset User **Camera**

Camera Apply

Motion Image Stabilizer
Motion Image Stabilizer On Off

BLC (Back Light Compensation)
BLC (Back Light Compensation) On Off

Flip
Vertical Flip Off On
Horizontal Flip Off On

Exposure
Flickerless (Flicker reduction) On Off
Metering Centerweighted Spot Evaluative
Mode
Aperture
Shutter Speed
Brightness

Focus
Focus Range Full Normal
Zoom Tracking On Off

White Balance Index
White Balance Index

Image Quality
Sharpness
DNR (Dynamic Noise Reduction)
Chroma CR
Chroma CB
Hue CR
Hue CB

❑ **Motion Image Stabilize**

- Real-time correction of blurs in capturing motion images is possible with this function.

Function	Operation
On	Motion image stabilizer active while in this setup
Off	Motion image stabilizer inactive while in this setup

❑ **BLC (Back Light Compensation)**

- When images taken under backlight are played on monitor, background is bright (saturated by white), subject is dark. The function is to prevent the subject from being unidentifiable

❑ **Flip**

- Captured image is flipped vertically/horizontally.

❑ **Exposure**

- **Flickerless (Flicker reduction)**

Reduce the influences from flickers of fluorescent lights with 50/60Hz.

Function	Operation
On	Automatically detects power frequency of fluorescent lights and reduces influences from flickers.
Off	Does not perform flicker reduction.

- **Metering**

The metering methods to decide the amount of exposure.

Mode	Action
Center weighted	Average metering on whole frame of images with weight at image center.
Spot	Metering on a narrow region of the center of captured images (approx. 1.6% of whole frame).
Evaluative	Metering on the whole frame of captured images in a well balanced way.

- **Mode**

AE Modes described here are to control three elements (aperture, shutter speed, ISO speed) that decide

exposure. The following setups are available.

Mode	Action
Auto	Camera automatically decides the three elements in line with the program diagram.
Aperture priority	Users set the aperture at first and then camera adjusts shutter speed and ISO speed.
Shutter priority	Users set the shutter speed at first and then camera adjusts aperture and ISO speed.
Manual	Users set aperture and shutter speed at will.

- **Brightness**

Compensate exposure with EV unit can be set maximum range of $\pm 2EV$ with $1/3EV$ step

□ **Focus**

- **Focus Range**

Range specifies the range of searching the optimal focus position. The following setup is available.

Mode	Action
Full	Range between 1cm (wide end) and infinity
Normal	At wide end : Range between 20cm and infinity At tele end : Range between 100cm and infinity
Macro	Range between 1cm (wide end) and 1m

- **Zoom Tracking**

When Zoom Tracking is on, focus is adjusted automatically in Zoom-In or Zoom-out. When Zoom tracking is off, focus is not adjusted in Zoom-in, Zoom-out.

❑ **White Balance Index**

- Performs white balance control that fit to the light sources.

Mode	Action
Auto	Suitable to wide range of light sources
Indoor	Incandescent indoor
Outdoor	Outdoor under the sunlight on sunny days
Manual	Specify x and y on xy chromaticity diagram.

❑ **Image Quality**

- **Sharpness:** Sharpness can set be High, Middle, Low for image sharpness.
- **DNR (Dynamic Noise Reduction):** DNR can be set High, Middle, Low, Off
- **Chroma:** red tone (CR) and blue tone (CB) is set independently. It is available for High, Middle or Low.
- **Hue:** it is available for red tone (CR) and blue tone (CB). Hue is available to be adjusted from -2 to +2 by 5 steps

1. True Manager Software

True Manager is a program used for basic configuration, diagnostics and F/W upgrade of video server or IP camera. **True Manager** provides the following features.

- Finding servers on the LAN and assigning IP address
- Monitoring server status: encoding/decoding, serial, sensor etc.
- Diagnostic function: PING, network bandwidth measurement, video/audio output, port check, serial port check
- F/W upgrade

2. Sever Registration and Removal

❑ Server Registration

In order to manage servers using True manager, the first step is to register the server. The following steps describe the way to register a server.

- ① Select **Add Server** on **Server** menu.



- ② Enter information for connecting to the server at **Add Server** dialog.

 A screenshot of the "Add Server" dialog box. It contains the following fields:

- Server Name: Main Gate
- Address: 192.168.10.133
- Port: 2222
- HTTP Port: 80
- ID: admin
- Password: ****

 At the bottom, there are "Add" and "Cancel" buttons.

If the server is registered on DDNS server, domain name can be used instead of IP address. When the IP address of the server is forgotten, it is possible to find the IP address of the server with IP Discovery function. (Please refer to IP Discovery section).

③ Press **Add** button.

❑ Removal of a server

A server can be removed by the following steps.

- ① Select a server to remove on **Servers** tab. The server should be highlighted with blue color.
- ② Select **Remove Server** on **Server** menu.

State	Name	IP/Domain Name	MAC Ad
✓ Trying connection	Main gate	192.168.10.212	
✓ Trying connection	Window 2	192.168.10.218	
✗ Disconnected	Lobby	192.168.10.207	

❑ Modification of information for a server

Information on a server can be modified on the dialog invoked by selecting **Modify Server Info** on **Server** menu.

❑ IP Discovery

With IP Discovery function, all servers on the same LAN where the PC executing True 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 **IP Discovery** button on **Add Server** dialog, and it shows all IP-servers on the same LAN.

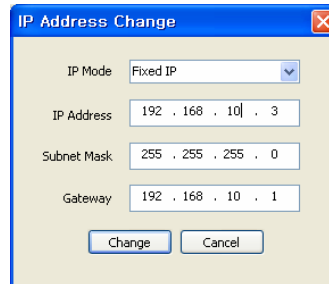
IP address	MAC address	Base Port	HTTP Port	IP Mode
192.168.10.152	00:1C:63:A3:01:29	2222	80	Fixed IP
192.168.10.3	00:1C:63:A3:00:11	2222	80	DHCP
192.168.10.162	00:1C:63:A3:00:76	2222	80	Fixed IP
192.168.10.99	00:1C:63:AA:00:10	2222	80	Fixed IP
192.168.10.96	00:1C:63:A3:00:01	2222	80	Fixed IP
192.168.10.161	00:1C:63:A3:00:37	2222	80	Fixed IP
192.168.10.77	00:1C:63:A3:01:01	2222	80	Fixed IP
192.168.10.89	00:1C:63:A3:00:04	2222	80	Fixed IP

Discover

8 Device(s) found

Select IP Change Close

If you press **Select** button after selecting a server, the information on the server is automatically entered on **Add Server** dialog. Pressing **IP Change** button after selecting a server invokes a dialog on which IP address of the server can be changed.



IP Address Change

IP Mode: Fixed IP

IP Address: 192 . 168 . 10 | . 3

Subnet Mask: 255 . 255 . 255 . 0

Gateway: 192 . 168 . 10 . 1

Change Cancel

It is possible to change IP address of a server which has IP address of different subnet.

❑ Grouping of servers

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

3. Server Connection Management

❑ Server connection

If the check box on the first column in **Servers** (or **Channels/Peripheral**) tab, True Manager tries to connect to the server. If the server is running and the network where the server is in is normal, it will be connected immediately and **State** will be changed to **Connected**.

Servers Channels Peripherals								
State	Name	IP/Domain Name	MAC Address	Model	Type	Firmware	Start Up Time	
<input checked="" type="checkbox"/>	Connected	3	192.168.10.3	00:1C:63:A3:00:11	TCS-200	Encoder	Encoder:V1.TEST	2007/08/11 15:15:53
<input type="checkbox"/>	Disconnected	Main gate	192.168.10.4					
<input checked="" type="checkbox"/>	Connected	Ware house	192.168.10.161	00:1C:63:A3:00:37	TCS-200	Encoder	Encoder:V1.101G	2007/08/08 19:57:56

Check box to connect or disconnect server

If it fails to connect to the server due to server or network failure, State displays **Trying connection**. As soon as the server or network is recovered, it will be connected automatically. That is, True Manager periodically retries connection to servers with check box checked

❑ Server disconnection

If the check box is unchecked, the connection to the server is released and **State** displays **Disconnected**.

4. Server Status Monitoring

❑ Servers tab – General information

Servers tab shows general information on a connected server: MAC address, product model, system mode(Type) F/W version and startup time. This information comes only for connected servers.

Servers Channels Peripherals								
State	Name	IP/Domain Name	MAC Address	Model	Type	Firmware	Start Up Time	
✓	Connected	3	192.168.10.3	00:1C:63:A3:00:11	TCS-200	Encoder	Encoder:V1.TEST	2007/08/11 15:15:53
✓	Connected	Main gate	192.168.10.96	00:1C:63:A3:00:01	TCS-200	Encoder	Encoder:V1.TEST	2007/08/11 09:18:55
✓	Connected	Ware house	192.168.10.161	00:1C:63:A3:00:37	TCS-200	Encoder	Encoder:V1.101G	2007/08/08 19:57:56

❑ Channels tab - Monitoring of video/audio channel state

Channels tab displays how video channel and audio channel of servers are working.

Servers Channels Peripherals											
State	Server Name	Ch	Conns	Cam	Motion	V-E (kbps)	V-E (fps)	V-D (kbps)	V-D (fps)	A-E (kbps)	A-D (kbps)
✓	Connected	3	1	2	OK	1090	33	0	0	68	76
✓	Connected	Main gate	1	2	OK	1797	30	0	0	0	0
✓	Connected	Ware house	1	1	OK	970	30	0	0	62	0

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

Depending on the system mode, items which are not relevant to the mode may display 0 always. For example, V-D(kbps) and V-D(fps) are always 0, if the system mode is Encoder.

❑ Peripherals tab – Monitoring of serial, sensor and relay port

☞ This function is not available in this product.

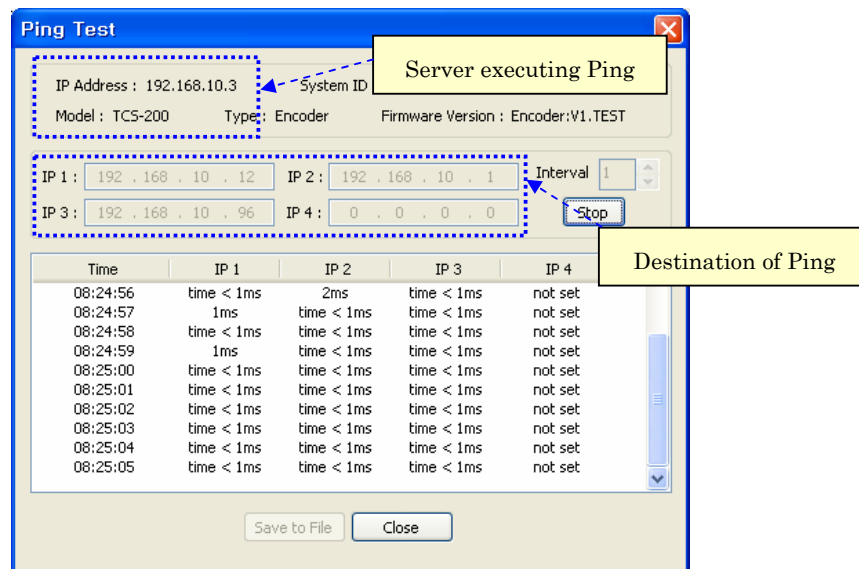
5. Network and System Diagnostics

True Manager provides various diagnostic features.

- Connection between two IP-servers, or between IP-server and CMS(Central Monitoring System) is established.
- Video, audio or serial data are not delivered as configured.
- Video and/or audio outputs don't come on output port.

□ Ping test

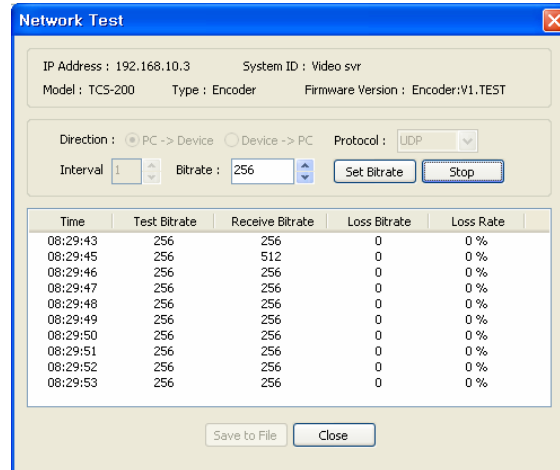
Ping Test dialog can be invoked by selecting **Ping Test** on **Tools** menu after selecting a server.



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 targets of Ping test, which makes it possible to identify the hop(segment of network) where network failure may happen. For example, local router, remote router and remote Encoder can be pinged from a Decoder simultaneously.

❑ Network test

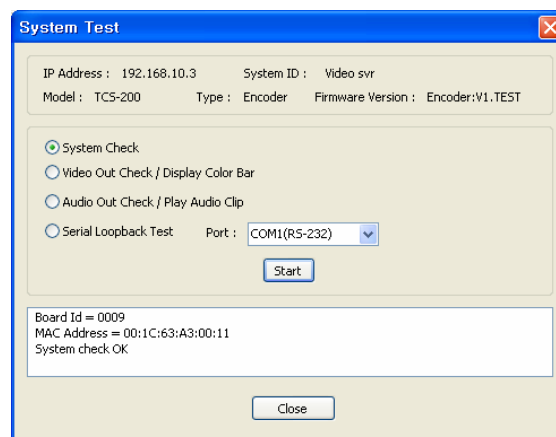
Network Test dialog is invoked by selecting **Network Test** on **Tools** menu.



Network test can be used for measuring effective bandwidth and/or packet loss rate between a server and PC running True Manager by generating test traffic of constant bitrate. This feature is useful for identifying the reason why video quality comes poorer than expected. TCP protocol can be selected for measuring effective bandwidth, while UDP protocol is appropriate for checking if the network is not reliable.

❑ System test

Selecting System Test on Tools menu invokes a dialog on which system H/W status, video/audio output function can be diagnosed.



- **System Check**

System Check tests if H/W components are fine and board ID and MAC address are displayed.

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

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

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

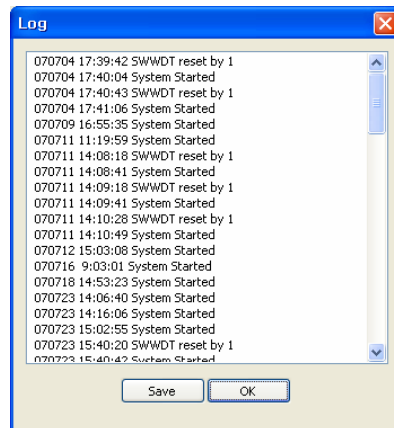
It plays audio clip and outputs to audio output port. This function is useful for checking if audio output function of a server or external audio output devices such as amplifier and speaker are normal.

- **Serial Loopback Test**

☞ This function is not available in this product

- **Viewing server's log**

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

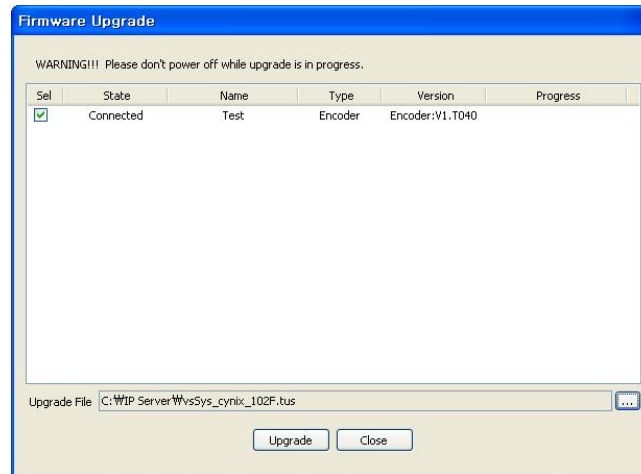


- **Remote rebooting of a server**

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

6. F/W Upgrade

When **Update** is selected on **Tools** menu, the dialog for F/W upgrade comes.



- 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**.

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

When network condition is poor, upgrade may fail. In such case, please retry above procedure after network condition is recovered.

7. Remove Configuration and Video Monitoring

IP-server provides web-based Setup and video viewing. If **Setup** on **Server** menu is selected, Internet Explorer is invoked and page for remote setup of the server is displayed. If **Viewer** is selected on the menu, Internet Explorer displays the video from the server.



Illegal Connect Error

If an unauthorized connection has been established, the system will not function properly. Maintaining the connection, error condition will be displayed for correction.

Illegal connect sing will appear in such conditions as:

- 1) When Duplex and Encoder are connected
- 2) When one Duplex connected to more than one Duplex
- 3) When a Duplex remote connect to set to ON and Other Duplex tries to establish a connection
- 4) Incompatible Media protocol between two systems
- 5) Other unauthorized connections

Even if illegal connect condition occurs, normal operation between systems with authorized connections will not be effected. The color of link LED will change to orange and it blinks and, in case of Decoder or Duplex, 'illegal connect' message will be displayed on screen

Appendix: PoE Specification

- IEEE802.3af compliant
- Output Voltage : 12.0V
- Input voltage range : 36V to 57V
- 1500V isolation (input to output)

PoE must be protected from over-voltages exceeding the 80V maximum rated surge input voltage

1. Recommended Operating Conditions

	Parameter	Min	Typ	Max	Units
1	DC Supply Voltage	36	48	57	V
2	DC Voltage Lockout	30		36	V
3	Operating Temperature	-20	25	70	Ta/°C

2. DC Electrical Characteristics

	Parameter	Min	Typ	Max	Units
1	Nominal Output Voltage	11.5	12.0	12.5	V
2	Output Current ($V_{IN} = 48V$)			1.0	A
3	Line Regulation		0.1		%
4	Load Regulation		1		%
5	Output Ripple and Noise		100		mVp-p
6	Minimum Load	100			mA
7	Short-Circuit Duration			∞	sec
8	Efficiency @ 80% Load		87		%
9	Isolation Voltage (I/O)			1500	V _{dc}
10	Temperature Coefficient		0.02		%

Note 1: Typical figures are at 25°C with a nominal 48V supply and are for design aid only. Not Guaranteed

2: The output ripple and noise can be reduced with an external filter, see application note.

3: Continuous short circuit duration is applicable at 25°C ambient temperature in free air. At higher temperatures or with restricted airflow (e.g. in a sealed enclosure) the duration will need to be limited to avoid overheating.