

**HTP-T13MG28D**

**H.264 IP DOME CAMERA**



**User Manual** Ver. 1.0

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# Safety Precaution

We appreciate your purchasing HTP-T13MG28D.  
Before installing the product, please read the following with care.

- ◇ Make sure to turn off the power before installing HTP-T13MG28D.
- ◇ Do not install under the direct sunlight or in dusty areas.
- ◇ Make sure you use the product within the temperature and humidity specified in the specification.
- ◇ Do not operate the product in the places with vibration or strong magnetic fields.
- ◇ Do not put electrically conductive materials into the product unless specified in the manual.
- ◇ Do not open the top cover of the product. It can cause an static shock and damage the components.
- ◇ In order to prevent overheating, make sure there is at least 10 cm of space between the wall and the product.
- ◇ After checking rated voltage, please connect the power.

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# 1. Introduction

## 1. About User Manual

The User Manual is provided to advise how to use this premium network camera, HTP-T13MG28D. This manual includes how to trouble shoot in case of problems as well as installation, operation and setting up the HTP-T13MG28D.

## 2. Features

HTP-T13MG28D is a 1.3 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:  
352x240 ~ 1280 x 960
- Wide range of transmission rates: 32kbps ~ 8Mbps
- Various transmission modes: CBR, VBR
- Motion detection

### ■ Audio

- Multi-transmission mode: Simplex (HTP-T13MG28D → Client PC or Decoder, Client PC or Decoder → HTP-T13MG28D), 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 communications between HTP-T13MG28D and Decoder

### ■ Sensor & 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

- Embedded system
- System recovery by dual Watch-dog functions

## 3. Product and Accessories

HTP-T13MG28D System



User Manual

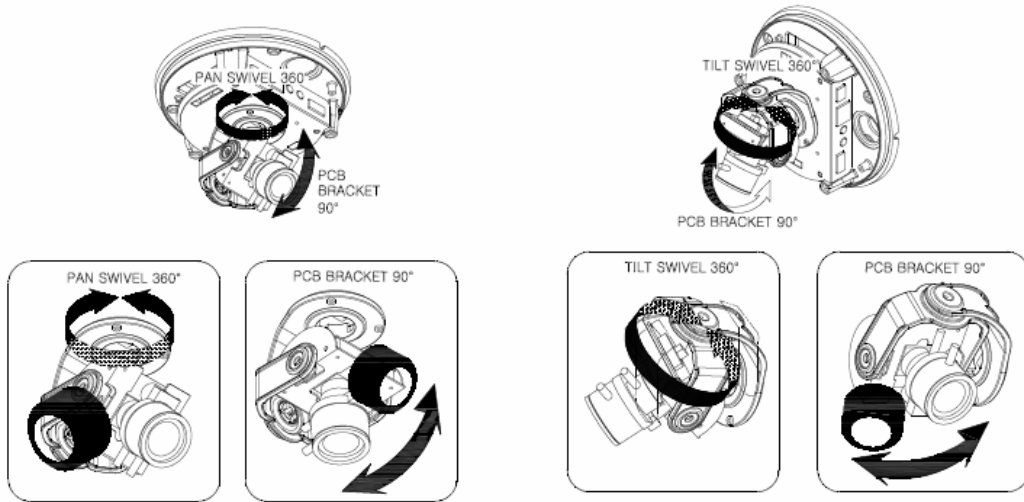


S/W CD



<Picture 1> Package

### 4. Rotation Functions



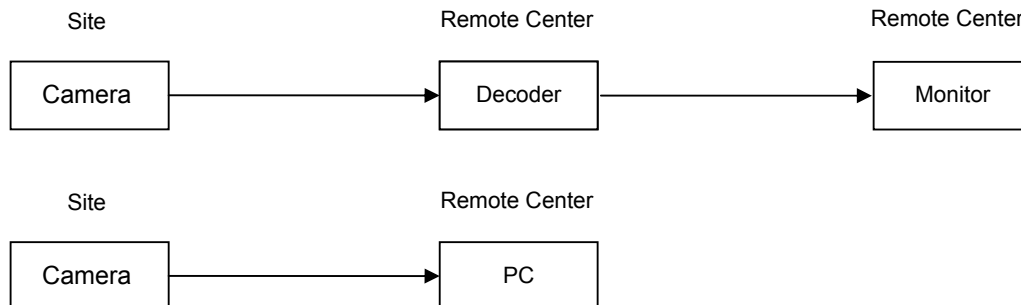
### 5. System Connections

HTP-T13MG28D IP Cameras can be connected in either 1 to 1 connection where one HTP-T13MG28D is connected one PC client or a decoder system or 1 to many connections where one HTP-T13MG28D can be connected several PCs and decoder systems.

#### ■ Topology

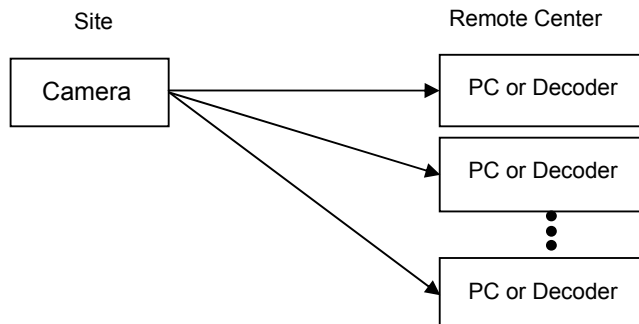
Generally HTP-T13MG28D and a PC or a decoder are connected in a 1 to 1 mode or a 1 to many configuration.

#### ◆ 1:1 connection



One HTP-T13MG28D 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**



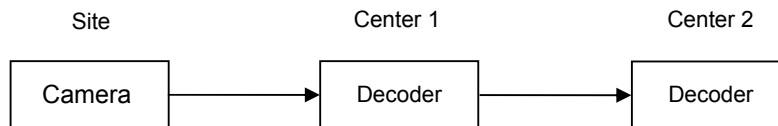
In this configuration, a site can be monitored from many remote central locations. Although up to 64 PCs or decoders can be connected to an HTP-T13MG28D, in the real network environment, network bandwidth can limit the maximum connections.

Functionally, the central monitoring system (CMS) software provided can replace the decoder.

◆ **Multicast**

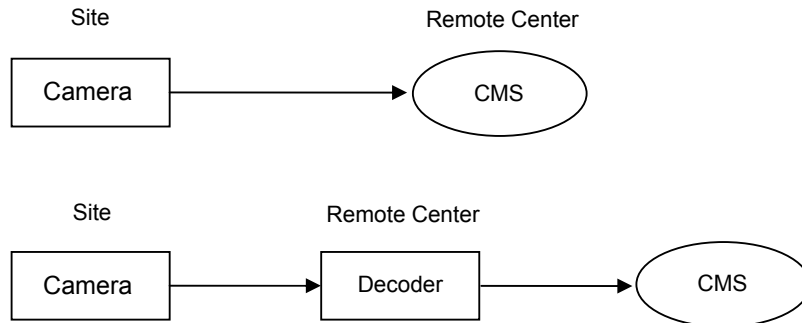
If the network supports multicasting, a large number of decoders can be used to receive video effectively from an HTP-T13MG28D using a single streaming of video and audio.

◆ **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 that wants 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.

## 2. Installation

### 1. Connecting Network (LAN)

- Connect the power adaptor to HTP-T13MG28D
- Connect network cable to Ethernet port.

### 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-T13MG28D 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-T13MG28D, 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 & Alarm

Connect sensor and alarm devices to corresponding terminals accordingly

## **5. Connecting Power**

After confirming the power source, connect power adaptor and then 12V DC connector to the system.

## **6. Checking Operating**

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.

# 3. System Operation

## 1. Remote Video Monitoring

There are two ways to monitor video when the decoder site and HTP-T13MG28D are connected.

IP address should be correct, please refer to **True Manager Manual** and **Remote Setting in Chapter 5** for further details.

Default ID : admin Password : 1234

### ■ Video Monitoring via Decoder System

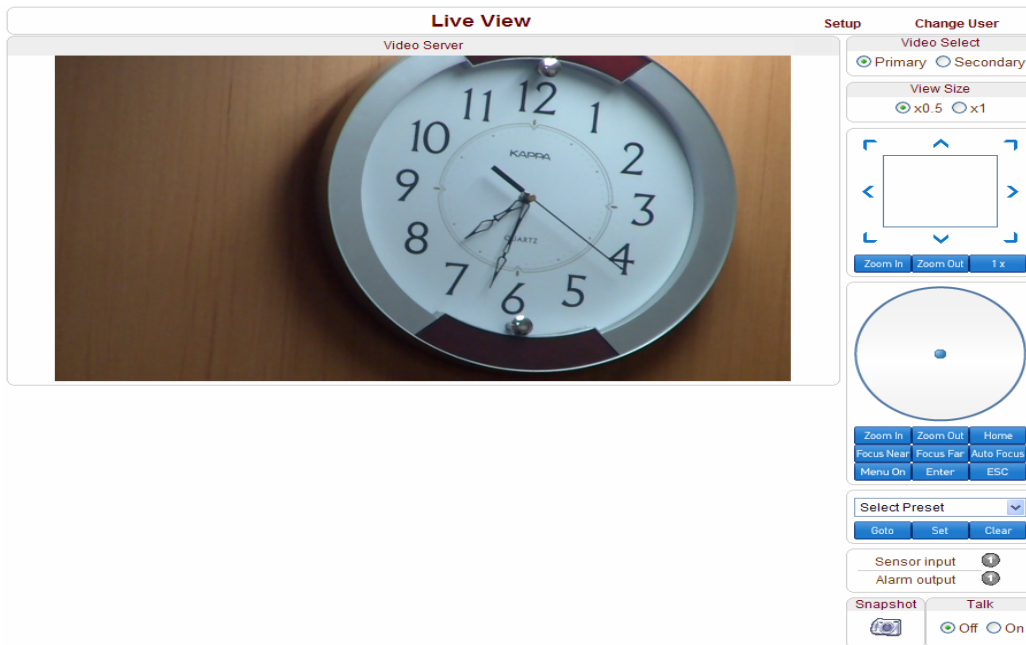
Once the HTP-T13MG28D's IP address is set in the remote IP address section of the decoder, the decoder system will connect to the HTP-T13MG28D and start receiving the video images.

Normally, a monitor connected to the decoder will display video images.

### ■ Video Monitoring by Internet Explorer

If HTP-T13MG28D's IP address is entered in to Internet Explorer, the system will ask for confirmation to install Active-X control. Once authorized, Internet Explorer will start to display video images from the encoder as shown below.

http://192.168.10.100



### ■ Video Selection

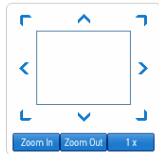
If Primary is selected, Max. 1920 x 1080 via H.264 compression algorithm video can be displayed. And once activated Dual Video compression and Secondary may be selected, Max. D1 resolution via H.264 or MJPEG compression algorithm video can be displayed in this case.

### ■ Screen Size:

Adjustable Screen Size

### ■ Digital Zoom:

Max 5x Digital Zoom is available.



### ■ Focus Near, Focus Far, Auto Focus

Adjust the focus

### ■ Sensor Input

When the sensor on the HTP-T13MG28D is connected and working, the light turns red.

### ■ Alarm Output

Alarm Output button can trigger an event directly from the Live View page.

### ■ Snapshot

Snapshot button saves a snapshot of the video image currently on display. Captured picture can be stored as BMP or a JPEG file.

### ■ Talk

Transfer audio to audio device connected HTP-T13MG28D.

### 2. Initialization of IP Address

If HTP-T13MG28D's IP address is lost, the HTP-T13MG28D can be reset. Press a reset button on the back of the HTP-T13MG28D, this will reset the camera to factory defaults as follows:

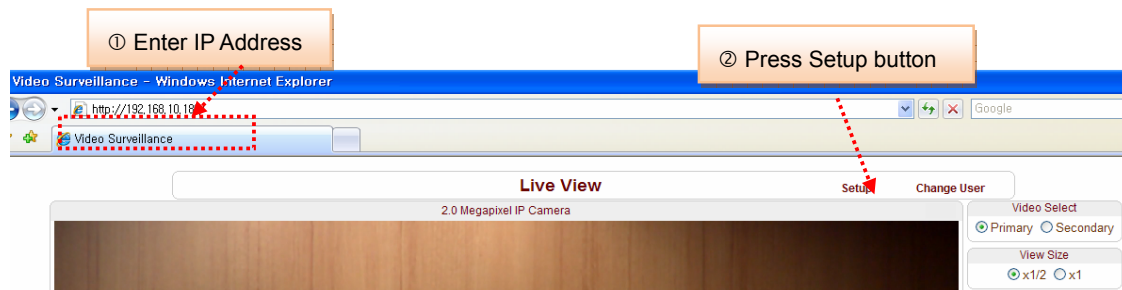
- ① While the system is in operation, press the reset button for more than 5 seconds.
- ② The system will reboot automatically
- ③ Once the system has been rebooted, IP address will be set to the following.
  - IP mode: Fixed IP
  - IP address: 192.168.10.100
  - Subnet mask: 255.255.255.0
  - Gateway : 192.168.10.1
  - Base port : 2222
  - Http port : 80

## 4. Remote Configuration

### 1. Using Remote Configuration

Remote setting is available by using web browser. Enter the IP address of HTP-T13MG28D and then 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, changes in the page will be discarded.

## 2. HTP-T13MG28D Setup

### 2.1 System

**Setup**Live View Change User

SystemVideoAudioNetworkSerialEventPresetUserCamera

### System

**General**

System ID

Language  ▼

**Firmware**

Version Enc:V1.102A-999

Board ID 66

**Time**

Start Time 2000/06/26 9:28:48

Current Time

Time Zone  ▼

Automatically synchronize with NTP server

NTP Server Name

**Reboot**

**Factory Reset**

### ■ System ID

Designate system ID. Designated ID is displayed in Web viewing.

### ■ Language

Select language accordingly.

### ■ Firmware Version

Displayed current Firmware Version

### ■ Board ID

Network board ID of HTP-T13MG28D recognized by system

### ■ 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 where the system is installed. Depending on the time zone, Daylight-saving time will be adjusted automatically.

### ■ Automatic synchronization with NTP

Synchronize system time with an NTP server using NTP (network time protocol).

Name of the NTP server should be registered on NTP server Name.

### ■ Reboot System

Pressing **Reboot Server** button will cause the system to reboot.

Do not press the Reboot button unless the server needs a reboot .

### ■ Factory Reset

Current IP Address of HTP-T13MG28D 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.

## 2.2 Video

**Setup**
Live View
Change User

---

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

### Video Apply

#### Encode

Enable Preview  Off  On

Resolution 1280x720  Scaling

Framerate 20

Preference Bitrate

Quality Economy

Bitrate 8000 kbps (32 ~ 8000)

I-Frame Interval 
150

#### Dual Encode

Use Dual Encode  Off  On

Dual Encode Algorithm  H.264  MJPEG

Preference Bitrate

Resolution 720x480

Framerate 20


Quality Ultra fine

Bitrate 1024 kbps (32 ~ 1024)

I-Frame Interval 
255

#### Motion Detection

Use Motion Detection  Off  On



Edit  Enable  Disable Apply Edited Area

Mode  Set  Erase

Sensitivity(0 for most sensitive) 
4

#### 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 to HD monitor and select the one of **Output Formats** in the end of the Video setting section.

\*Scaling: If the encoding resolution was different from the input resolution, encoding video was cropped.

In the scale mode, whole visual region of input source will be encoded even when the encoding resolution is smaller than the input video resolution. However, if the aspect ratio of the encoding resolution is different from the input resolution, distortion can be seen. Also it is possible that the quality of video will deteriorate during the process of scaling.

#### ■ Resolution

Selectable video compression resolution as below:

1280 x 960, 1280 x 720, 1024 x 768, 800 x 600, 640 x 480, 352 x 288, 352 x 576, 720 x 288, 720 x 576, 352 x 240, 352 x 480, 720x 240, 720 x 480

#### ■ Frame Rate

Select video frame rate (the maximum number of frames of video images to compress.)

The frame rate actually transmitted can be affected by the network bandwidth limitations.

#### ■ Preference

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

#### ■ Bitrate

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

Setting numbers of P frames to each I frame between 0 and 255. There will be no P-frame if 0 is set.

### – DUAL ENCODE

#### ■ Use Dual Encode

Select On to use dual encode

#### ■ Dual Encode Algorithm

H.264 and MJPEG can be selected for secondary streaming. Maximum resolution is 720 x 480 and there are 8 steps of resolution. If MJPEG is selected, Preference supports only Quality mode.

### – 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 left button of the mouse. Multiple cells can be selected conveniently by press and dragging.
- ④ Press **Apply Edited Area** button to save the editing.

## ■ Sensitivity

A 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 from 0 to 10.

## ■ Information Display

System ID and/or server time can be display over the video window in Web View. Each item can be turn on or off and position can be configure as well. 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.

## 2.3 Audio

## ■ 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.

## 2.4 Network

**Setup**
Live View
Change User

System
Video
Audio
Network
Serial
Event
Preset
User
Camera

### Network Apply

Local

IP Mode Fixed IP

Local IP 192.168.10.236

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 164.124.101.2

Secondary DNS Server 168.126.63.2

Port

Base Port 2222

HTTP Port 80

RTSP Port 554

RTSP Authentication

RTSP Authentication  Off  On

SNMP

SNMP Listen port 0

SNMP Trap Destination IP 255.255.255.255

SNMP Trap Destination Port 0

Multicast

Multicast IP 224.10.0.0

DDNS

DDNS Server  None  TrueDNS  DynDNS

ID  

Password  

Domain Name

Address Information

Current IP 192.168.10.236

Current Domain Not RegisteredB

MAC Address 00:1C:63:A5:00:4A

### ■ 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 IP	N/A	

☞ Please get IP address information from your ISP provider or network manager.

### ■ DNS

Set DNS server IP address.

### ■ Base Port

Network base port is used for communication between systems. In order for the HTP-T13MG28D and remote systems to be connected together, each port number must be identically set.

### ■ HTTP Port

HTTP port used for web-based connection

### ■ RTSP Port

RTSP port used for RTSP-based connection

### ■ SNMP

HTP-T13MG28D can be used as an SNMP agent. It is compatible to both SNMPv1 and SNMPv2c. Vendor specific MIBs for IP camera/server are defined. SNMP listen port can be set and disabled when it is 0. SNMP trap is also supported. Destination IP and port can be set. If one of these values is 0, SNMP trap will be disabled.

### ■ 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.

- TrueDNS : use TrueDNS service. 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. Refer to the user guide document for True DNS service.
- DynDNS : use DynDNS service. Refer [www.dyndns.org](http://www.dyndns.org) for details.

### ■ Address Information

Tree addresses are checked by 3 ways below. (Read-only).

#### **IP Address**

The servers 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 with DDNS server, the registered domain name is displayed.

#### **MAC Address**

Display the MAC address of the server. In case the server is registered with DDNS server, the MAC address is used in DDNS registration.

## 2.5 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-T13MG28D. The serial port can be configured as follows

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

The serial ports configurations must be same as connecting device.

■ PTZ

### **PTZ Type**

Select the type of PTZ receiver.

### **PTZ ID**

Since it is possible to control multiple receivers over a single control line, each receiver will be assigned with a unique ID. Enter PTZ ID of a 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-T13MG28D directly to control zoom and focus.

### ■ **Sensor Type**

There is one sensor input port on HTP-T13MG28D. The sensor port can be configured to the following.

<b>Function</b>	<b>Operation</b>
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.

## 2.6 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

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-T13MG28D has one sensor port and one alarm port. When a decoder system instead of a PC client is connected to a HTP-T13MG28D, 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

### ■ Sensor

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 activation duration

Set the duration of alarm 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 E-mail as the action of an event. The address of mail (SMTP) server

needs to be specified on **Server Address** field, and **Port** specifies the 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). When the server requires authentication, ID and password of an E-mail account needs to be entered also. Destination address needs to be entered on **Destination Address** field. More than one address can be entered by delimiting comma (,) or semi-colon (;). Destination address can take up to 63 characters. Video clip of AVI file format or JPEG file at the moment of the event can be attached by setting **Video Clip Attaching**.

### ■ FTP Upload

Specify the information for uploading a video file as the action of an event. The address of an FTP server to receive video files is specified on **Server Address** field, and **Port** specifies the port for FTP operation (Port 21 is the default port in FTP operation. If different port is configured in the FTP server, this port needs to be changed accordingly.). ID and password for accessing the FTP server also need to be specified. Video clip of AVI file format or JPEG file at the moment of the event can be attached by setting **Video Clip Attaching**.

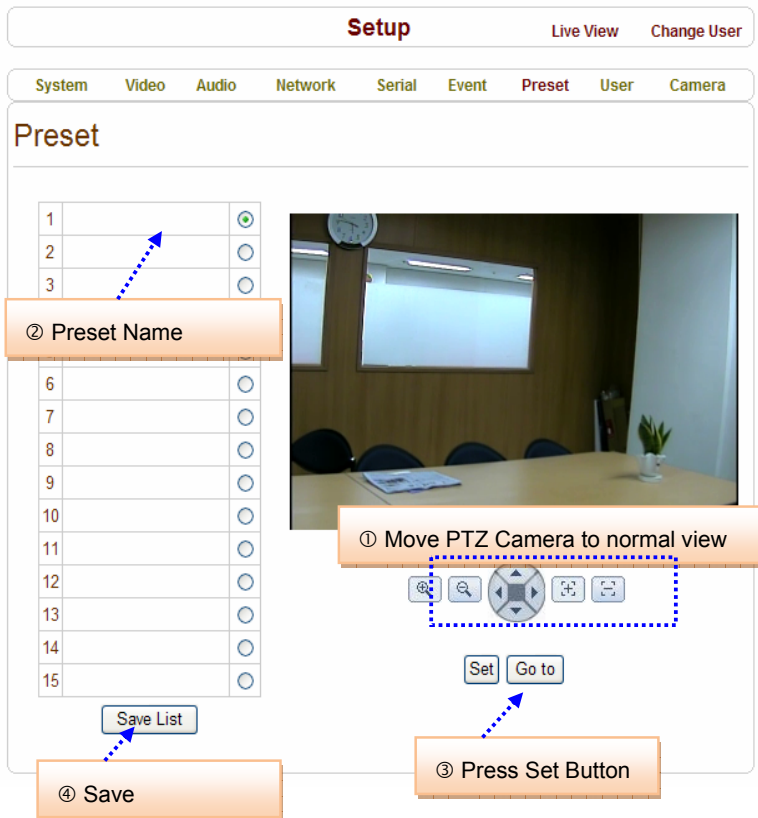
By setting **Continuous Upload** to On, it is possible to upload video clip periodically regardless of events. **Upload Duration** specifies the duration of one upload file, and **Upload Interval** specifies how often it should happen. Upload Interval doesn't include the duration. If Upload Interval is 60 and Upload Duration is 20, it uploads a file for 20 seconds duration every 80 seconds.

### ■ Event Recording

Specify how a video clip is to be generated for E-mail sending or FTP uploading.

**Pre-event Time** specifies the duration of recording before an event happens. **Post-event Time** specifies the duration after the event is cleared.

## 2.7 Preset



This function is only available when a PTZ receiver is used with HTP-T13MG28D.

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.

## 2.8 User

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.

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.

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.

The screenshot shows a web interface with a navigation menu at the top containing 'System', 'Video', 'Audio', 'Network', 'Serial', 'Event', 'Preset', and 'User'. The main content area is titled 'Modify Privilege Level'. It features a table with two rows: the first row has 'ID' and 'user', and the second row has 'Privilege Level' and a dropdown menu currently showing 'User'. Below the table are two buttons: 'Modify' and 'Cancel'.

ID	user
Privilege Level	User

Modify Cancel

### ■ Login Policy

**Skip Login** is provided 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**.

## 2.9 Camera

Setup
Live View
Change User

System
Video
Audio
Network
Serial
Event
Preset
User
Camera

### Camera Apply

#### AE Operation

Mechanical Iris Lens  Fixed Iris Lens  DC Iris Lens

Slow Shutter  Off  On

Max Slow Frame  (0~8)

Flickerless  ▼

Backlight Function  ▼

Brightness

Max AGC Gain

Digital Day&Night  Off  On

Night->Day Transition Threshold

Day->Night Transition Threshold

#### AWB Operation

AWB Mode  ▼

R Gain  (1024~16384)

B Gain  (1024~16384)

- AE Operation

■ Mechanical Iris Lens

Fixed Iris Lens or DC Iris Lens can be selectable.

■ Slow Shutter

Shutter speed can be adjusted to be slow

■ Flickerless

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

■ Backlight Function (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.

- Max AGC Gain

- Auto Gain Control can be adjusted

- Digital Day & Night

- Digital Day & Night function is supported.

- AWB Operaiton

- AWB Operation

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

## 5. 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 (VIN = 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 <sub>dc</sub>
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