Thank you for purchasing our product.
Please read this user's manual before using the product.
Change without notice

4/8/16 CH Analogue HD-TVI DVR Quick Guide

Type A: 1 SATA (TVD-04 / TVD-08 / TVD-16)

Type B: 2 SATA (TVD-16-1U)

C E FC

CAUTION

- **Please read this user manual carefully to ensure that you can use the device correctly and safely**

- **We do not warrant all the content is correct. The contents of this manual are subject to change without notice**

- **This device should be operated only from the type of power source indicated on the marking label. The voltage of the power must be verified before using. If not in use for a long time, pull out the plug from the socket**

- **Do not install this device near any heat sources such as radiators, heat registers, stoves or other device that produce heat**

- **Do not install this device near water. Clean only with a dry cloth**

- **Do not block any ventilation openings. And ensure well ventilation around the machine**

- **Do not power off the DVR at normal recording condition! The correct operation to shut off DVR is to stop recording firstly, and then select "shut-down" button at the right of the menu bar to exit, and finally to cut off the power.**

- **This machine is indoor using equipment. Do not expose the machine in rain or moist environment. In case any solid or liquid get into the machine's case, please cut off the power supply immediately, and ask for qualified technicians to check the machine before restart**

- **Refer all servicing to qualified service personnel. No any parts repaired by yourself without technical aid or approval.**

- **This manual is suitable for 4/8/16-channel digital video recorders.**

Default User name / Password
User Name : admin
Password :　123456

Main Features

COMPRESSION FORMAT
• Standard H.264 compression with low bit rate and better image quality
LIVE SURVEILLANCE
• Supports HDMI/ VGA output
• Supports channel security by hiding live display
• Display the local record state and basic information
• Supports USB to make full control
RECORD MEDIA
• Type A support one SATA HDD / Type B support two SATA to record for a longer time without any limitation
BACKUP
• Supports USB 2.0 devices to backup
• Supports external SATA DVD writer to backup
• Supports saving recorded files with AVI standard format to a remote computer through internet
RECORD & PLAYBACK
• Record modes: Manual, Schedule, Motion detection recording
• Supports recycle after HDD full
• Resolution, frame rate and picture quality are adjustable
• 4/8/16 CH 720P / 1080P and 960H recording
• 1 audio channel available
• Three record search modes: time search, event search and image search
• 4/8/16 channels playback simultaneously
• Supports deleting and locking the recorded files one by one
• Supports remote playback in Network Client through LAN or internet
ALARM
• Supports schedule for motion detection
• Supports pre-recording and post recording
PTZ CONTROL
• Supports various PTZ protocols
• Supports 128 PTZ presets and 8 auto cruise tracks
• Supports remote PTZ control through internet
SECURITY
• Customize user right: log search, system setup, two way audio, file management, disk management, remote login, live view, manual record, playback, PTZ control and remote live view
• Supports 1 administrator and 63 users.
• Supports event log recording and checking, events unlimited
NETWORK
• Supports TCP/IP, DHCP, PPPoE, DDNS protocol
• Supports IE browser to do remote view
• Supports setup client connection amount
• Supports dual stream. Network stream is adjustable independently to fit the network bandwidth and environment.
• Supports picture snap and color adjustment in remote live
• Supports remote time and event search, and channel playback with picture snap
• Supports remote PTZ control with preset and auto cruise
• Supports remote full menu setup, changing all the DVR parameters remotely
• Supports mobile surveillance by phones with iPhone, Android
• Supports NVMS to manage multi devices on internet

1. Front / Rear Panel Instructions

1.1   Front Panel (Type A): TVD-04 / TVD-08 / TVD-16

Notice*: The pictures are only for reference; please make the object as the standard.*

Front Panel (4/8/16CH)

Label Name	Function
REC / FOCUS	Manual record / focus adjustment(PTZ)
PLAY / IRIS	Enter Playback/ iris adjustment (PTZ)
REW / SPEED	Fast rewind on playback mode /speed adjustment (PTZ)
FF / P.T.Z.	Fast forward on playback mode /enter PTZ mode
MENU / +	Enter menu page / increase value
BACKUP / -	Enter backup page / decrease value
STOP / ESC	Stop playback on playback mode / Exit menu or jump back to previous page
Split / Direction Key	Switch split / Move selected item
Enter	Validate action
USB	Connect USB thumb drive or mouse
IR receiver	Remote receiver

Front Panel (Type B): TVD-16-1U

16CH
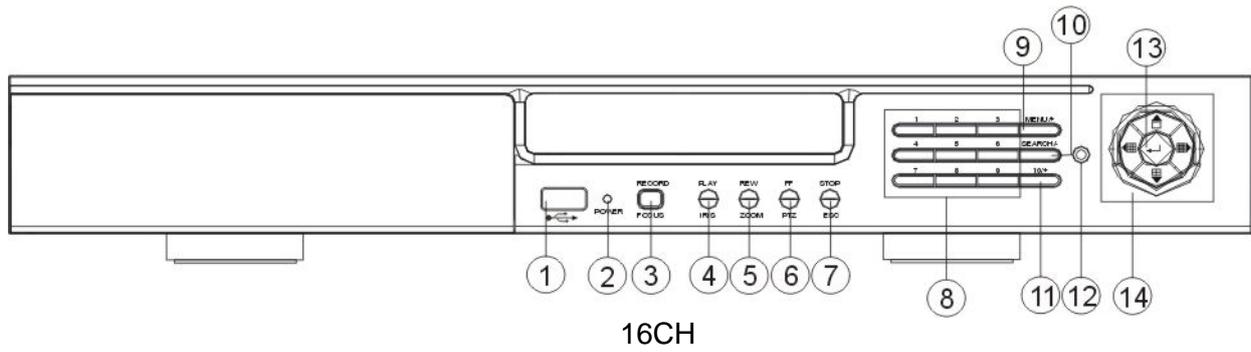
No	Label Name	Function
1	USB	Connect USB thumb drive or mouse
2	POWER	Power indicator
3	REC / FOCUS	Manual record / FOCUS adjustment(PTZ)
4	PLAY / IRIS	Enter Playback/ IRIS adjustment (PTZ)
5	REW / ZOOM	REW on playback mode / ZOOM adjustment (PTZ)
6	FF / P.T.Z.	FF on playback mode /Enter PTZ mode
7	STOP / ESC	STOP playback on playback mode / Exit MENU or jump back to previous page
8	Digital	Enter digital or select channel
9	MENU / +	Enter MENU page / increase value
10	SEARCH / -	Enter SEARCH page / decrease value
11	10+	To enter digital over 10 / Continuously press twice to have 10
12	IR receiver	Remote receiver
13	Enter	Enter
14	Split / Direction Key	Switch split / Move selected item

1.2 Rear Panel Instructions

Type A: TVD-04 / TVD-08 / TVD-16
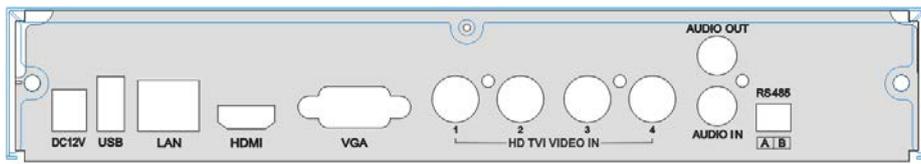
Rear Panel for 4 CH
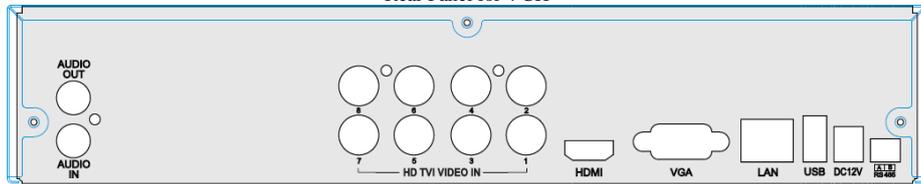
Rear Panel for 8 CH
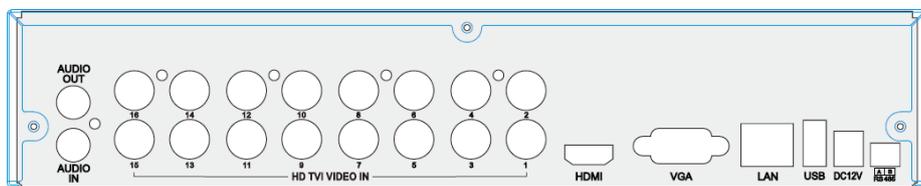
Rear Panel for 16 CH

Name	Descriptions
DC12V	DC12V Power Input.
USB	To connect external USB devices like USB mouse or USB storage device.
LAN	Network Port.
HDMI	HDMI Port. Connect to high-definition display device.
VGA	VGA Port. Connect to monitor.
HD TVI VIDEO IN	4/8/16 CH HD TVI Video Inputs.
AUDIO OUT	Audio output, connect to the sound box.
AUDIO IN	1 CH Audio Input.
RS485	Connect to keyboard or speed dome; A is TX +; B is TX-.

Type B: TVD-16-1U
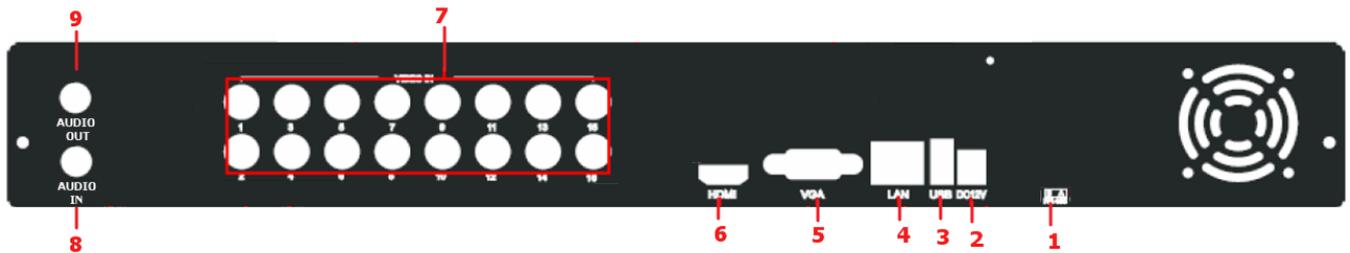
Rear Panel for 16-ch

Item	Label name	Function
1	RS485	Connect to speed dome or keyboard
2	POWER INPUT	DC12V
3	USB	To connect external USB devices like USB flash, USB HDD for backup or update firmware; or connect to USB mouse
4	LAN	Network port
5	VGA	VGA output, connect to monitor
6	HDMI	Connect to high-definition display device
7	VIDEO IN	TVI Video input channels from 1-16
8	AUDIO OUT	Audio output, connect to the sound box
9	AUDIO IN	1 CH Audio input

1.3 Remote Controller (Optional)

It uses two AAA size batteries.

- Open the battery cover of the Remote Controller.
- Place batteries. Please take care of the polarity (+ and -).
- Replace the battery cover.
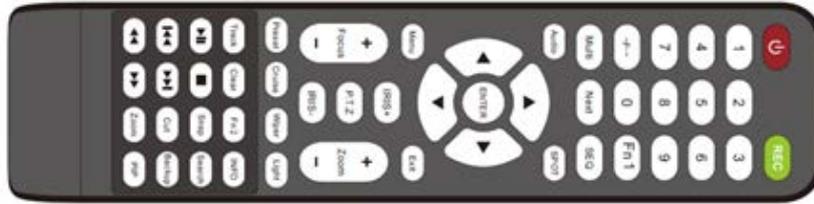
Remote Controller

Button	Function
⏻ Power Button	Switch off—to stop DVR. Use it before turning off the power
Record Button	To record manually
-/-- /0-9 Digital Button	Input number or choose camera
Fn1 Button	Unavailable temporarily
Multi Button	To choose multi screen display mode
Next Button	To switch the live image
SEQ	To enter into auto dwell mode
Audio	To enable audio output in live mode
Switch	To switch the output between BNC and VGA
Direction button	To move cursor in setup or pan/title PTZ
Enter Button	To confirm the choice or setup
Menu Button	To enter into menu
Exit Button	To exit the current interface
Focus/IRIS/Zoom/PTZ	To control PTZ camera. Move camera/zoom/IRIS/Focus
Preset Button	To enter into preset setting in PTZ mode
Cruise Button	To enter into cruise setting in PTZ mode
Track Button	To enter into track setting in PTZ mode
Wiper Button	To enable wiper function in PTZ mode
Light Button	To enable light function in PTZ mode
Clear Button	To return to the previous interface
Fn2 Button	Unavailable temporarily
Info Button	Get information about DVR like firmware version, HDD information
▲▼▼▼▼■	To control playback. Play/Pause/Stop/Previous Section/Next Section/Rewind/Fast Forward
Snap Button	To take snapshots manually
Search Button	To enter into search mode
Cut Button	To set the start/end time for backup in playback mode
Backup Button	To enter into backup mode
Zoom Button	To zoom in the images
PIP Button	To enter into picture in picture setting mode

1.4 Mouse Control

◆Connection: Please connect the USB mouse to USB port on the front or back panel.
◆Mouse functions：
1）Under LIVE mode：

On every channel，you could double click the left button to switch FULL SCREEN and double click again to switch back to original split mode.
On every channel，you could single click right button to popup MENU page.

2）Under MENU page：

Single click left button on any functional icon could enter the function page and Single click right button to exit function page or jump back to previous page.

If you want to key in letter or digit, please move mouse to textbox then single click left button on textbox. The virtual keyboard will pop up as following,

3）Under Backup mode：
Single click left button to select item, single click right button to jump back to previous page.
4）Under PTZ mode：
Single click left button to operate PTZ function, single click right button to jump back to previous page.

2. Startup and Shutdown

Startup

Step1: Connect with the source power.
Step2: The device will boot and the power LED would turn blue.
Step3 A WIZARD window will be pop-up

Shutdown

You can shut down the device by using IR remote controller and mouse.

By IR remote controller:

Step1: Press Power button, the shutdown window will appear, click OK, the unit will shut down after a while.
Step2: Disconnect the power

By mouse:

Step1: Right click on the mouse, then select "Main Menu" the shutdown window will appear at the last
Step2: Click OK. Then the unit will power off after a while.
Step3: Disconnect the power

3. Wizard setup

After the device starts, a setup wizard pops up. You can set up time，network and disk management.

Click device name box to popup a keyboard as follow:

It supports digits, alphabets and symbols as inputs. Click Shift button to input Capital letters and symbols; click Shift button again to return.
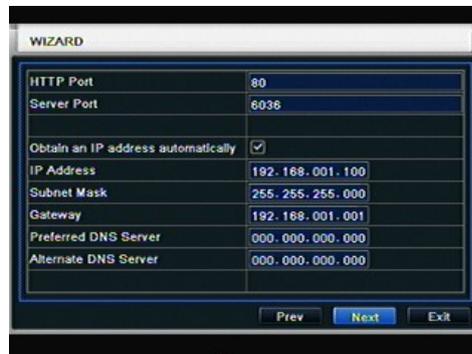
The default HTTP port is 80. The default server port is 6036. You can check "Obtain an IP address automatically" to acquire network information or input IP address, subnet mask, gateway, preferred/alternate DNS server manually. This function is used to monitor DVR through internet
Click Next button. This will take you to the HDD management window.

Record stream
    Please setup rate, resolution, quality, encode and max bit stream

When you use the TVI Series DVR, as DVR received the signal from camera, DVR will **automatically do the video resolution depending on camera type discrimination**.

Note: if the rate value set is over high the maximum resources of the device, the value will be adjusted automatically.

Definitions and descriptions of Record stream:

Parameter	Meaning			
	Model	4CH	8CH	16CH
Rate	960H	1-30（NTSC）/1-25(PAL)		
	720P			
	IP 720P			
	1080P	1-15（NTSC）/1-12(PAL)		
	IP 1080P	1-30(NTSC)/1-25(PAL)	1-15（NTSC）/1-12(PAL)	
Resolution	This series supports 960H,720P, 1080P.			
Quality	The higher the value is, the clearer the recorded image is. Six options: lowest, lower, low, medium, higher and highest.			
Encode	VBR and CBR.			
Max bit stream	You shall adjust it subject to the actual network condition. 1536, 1792, 2048, 4096, 5120, 6144, 7168, 8192, 9216, 10240, 12288 kbps			

4. Wizard for HDD setup
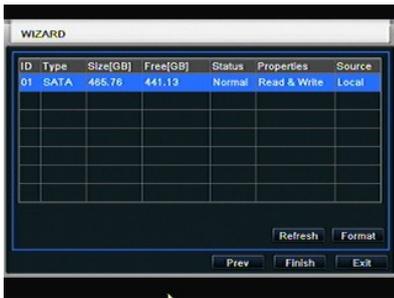
You can check your HDD information through this tab. If your HDD was recently installed, select the HDD from the list to format it.

Click on Exit to leave the wizard

5. Login

You can login or log off the DVR system. Once logged off you cannot do any other operation except changing the multi-screen display.
After you exit the wizard setup, you can login to the DVR.

Login

Notice: **The default user name and password is "admin" and 123456"**

APPENDIX_A Compatible Devices

1. Compatible USB drive after test.

Brand	Capacity
A-DATA	512MB, 1G, 2GB
Transcend	4GB
Kingston	2GB
Toshiba	2GB
SanDisk	4GB

2. Compatible external USB CD/DVD writers after test

Brand	Model
LG	GH24NS90

3. Compatible HDD

Brand	Model number	Capacity
Western Digital	1600AAJS FW:00L7A0	160GB
	2500AVVS FW:73M8B0	250GB
	3200AVVS	320GB
	5000AVJS FW:63YJA0	500GB
	5000AVVS FW:63M8B0	500GB
	5000AAKS FW:00V1A0	500GB
	5000BUDT (2.5") FW:63G8FY0	500GB
	5000AUDX FW:63WNHY0	500GB
	10EURS FW:630AB1	1TB
	10EVDS FW:63U8B0	1TB
	WD10PURX FW:64D85Y0	1TB
	15EARS FW:00Z5B1	1.5TB
	15EURS FW:63S48Y0	1.5TB
	20EVDS FW:63T3B0	2TB
	20EARS FW:00S8B1	2TB
	2001FASS FW:00U0B0	2TB
	WD20PURX FW:64P6ZY0	2TB
	WD30PURX FW:64P6ZY0	3TB
	WD40PURX FW:64GVNY0	4TB
	WD40EURX FW:64WRWY0	4TB
HITACHI	HDS721616PLA380	160GB
	HCT721025SLA380	500GB
	HCP725050GLA380	500GB
	HDP725050GLA360	1TB
SEAGATE	ST500DM002 (SATA3) FW:KC44	500GB
	ST3100528AS FW:CC38	1TB
	ST31000524AS (SATA3)FW:JC4B	1TB
	ST2000DL003 (SATA3) FW:CC32, CC3C	2TB
TOSHIBA	HCS5C1050DLE630 FW:620DT01ABA050V	500GB
	DT01ABA100	1TB
	DT01ACA100	1TB

APPENDIX_B   Calculate Recording Capacity

User can calculate the required size of hard disk according to the total recording duration and DVR recording settings. The DVR uses fixed video bit rate. The below are the details at different settings for CBR.

Resolution	Frame Rate Totally (FPS)	Video Quality	Bit Rate (kbps)	Used Space(MB/h)
720P	25(PAL)/ 30(NTSC)	Highest	6144	2700
		Higher	5420	2250
		Medium	4096	1800
		Low	3072	1350
		Lower	2048	900
		Lowest	1024	450

The calculation format is: **Total Recording capacity = Used space per hour (MB/h)**
(coverage rate of hard disk) × recording time (hour) × channel numbers
For instance, one customer uses NTSC cameras, set resolution to 720P, video quality to Lowest, frame rate to 30fps for enabling total 16 channels. He wants the unit to record continuously in a month.
Below is the calculation:

Total Recoding capacity =450 (mb/h) X 24(hours/day) X30(days) X16(channels)= 5184000(MB)
≈ 5184(GB)

Therefore, you need to install two 3 TB SATA HDDs for recording in one month.

APPENDIX_C SPECIFICATIONS

Type A: TVD-04 / TVD-08 / TVD-16

Model		TVD-04	TVD-08	TVD-16
Compression format		H.264 Main Profile		
Video output		VGA × 1, HDM I× 1		
Video Input		BNC × 4	BNC × 8	BNC × 16
HDMI/VGA Resolution		1080 × 1920/1280 ×1024/ 800 × 600		
Record Resolution		960H / 720P (1280 × 720) / 1080P (1920 × 1080)		
Display Frame Rate		100FPS（PAL）, 120FPS（NTSC）	200FPS（PAL）, 240FPS（NTSC）	400FPS（PAL）, 480FPS （NTSC）
Record Frame Rate	960H	100FPS（PAL）, 120FPS（NTSC）	200FPS（PAL）, 240FPS（NTSC）	400FPS（PAL）, 480FPS （NTSC）
	720P			
	IP 720P			
	1080P	50FPS（PAL）, 60FPS（NTSC）	100FPS（PAL）, 120FPS（NTSC）	200FPS（PAL）, 240FPS （NTSC）
	IP 1080P	25FPS（PAL）, 30FPS（NTSC）	50FPS（PAL）, 60FPS（NTSC）	100FPS（PAL）, 120FPS（NTSC）
Audio Input		RCA × 1		
Audio output		RCA × 1		
Record Mode		Manual / Timer / Motion detection		
Simplex/Duplex/Triplex		Pentaplex		
Network Interface		RJ45 (LAN, INTERNET)		
PTZ control		YES		
Communication interface		RS485, USB2.0 × 2 (one for backup, another for USB mouse)		
Disk info		SATA × 1		
Remote controller		YES		
Power Supply		DC12V		
Temperature		0°C-50°C		
Humidity		10%-90%		

Type B: TVD-16-1U

Model		TVD-16-1U
Compression format		H.264 Main Profile
Video output		VGA × 1, HDM I× 1
Video Input		BNC × 16
HDMI/VGA Resolution		1920 x 1080 /1280 ×1 024/ 800 × 600
Record Resolution		960H / 720P (1280 × 720) / 1080P (1920 × 1080)
Display Frame Rate		400FPS (PAL), 480FPS (NTSC)
Record Frame Rate	960H	400FPS (PAL), 480FPS (NTSC)
	720P	
	IP 720P	
	1080P	200FPS (PAL), 240FPS (NTSC)
	IP 1080P	100FPS（PAL）, 120FPS（NTSC）
Audio Input		RCA × 1
Audio output		RCA × 1
Record Mode		Manual / Timer / Motion detection
Simplex/Duplex/Triplex		Pentaplex
Network Interface		RJ45 (LAN, INTERNET)
PTZ control		YES
Communication interface		RS485, USB2.0 × 2 (one for backup, another for USB mouse)
Disk info		SATA × 2
Remote controller		YES
Power Supply		DC12V
Temperature		0°C-50°C
Humidity		10%-90%