TR-2516

Architectural and Engineering Specifications

Version 1.1

(Nov. 11, 2023)

**PART 2 - PRODCUTS**

**Division 28 – Electric Safety and Security**

**Section 28.23.19 – Video Surveillance – Digital Video Recorder and Analog Recording Devices**

**Section 28.23.12 - Video Surveillance – System Infrastructure**

## Manufacturer

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## General

### Product Description

TR-2516 TVR (HD-TVI DVR) is a HD over Coaxial Recording System designed and manufactured by IDIS. TVR utilizes existing coaxial cable to leverage analog infrastructure for seamless upgrade to 1080P surveillance solution. The TVR is a hybrid system which supports 1080P and backward compatible with multi standard analog camera. The TVR is 16 Channel unit and it supports up to 480ips (images per second) Full HD recording with H.264/H.265 compression and Intelligent Codec. The TVR supports up to 5MP recording resolution and UHD Display with HDM output.

The TVR is equipped with 16 Channel BNC ports, 2 internal HDD ports. The TVR is an integrated security system, capable of time division multiplexing and real time recording of multiple cameras and storing their digitized and compressed images on embedded hard disk drives for fast search and retrieval either locally at the unit, or from a remote workstation using a Graphical User Interface (GUI). The TVR is fully compatible with IDIS products across different platforms such as DirectIP solution and Video Management System.

### General Specification

1. The TVR shall be a Linux embedded unit with 16 Channel BNC (Multi-standard Analog) video recording capability.
2. The TVR shall be equipped with 1 network port, 16 BNC ports.
3. The TVR shall have 2 internal SATA ports.
4. The TVR shall have 1 HDMI output and 1 VGA output.
5. The TVR shall have 4 alarm inputs, 1 alarm relay output.
6. The TVR shall have 4 RCA audio inputs, 1 RCA audio output and 1 HDMI audio output.
7. The TVR shall have 2 USB 2.0 ports.
8. The TVR shall have 1 RS-232, 1 RS-485 terminal block.
9. The TVR shall have 1 internal buzzer.
10. The TVR shall support up to live 480ips (Image per Second).
11. The TVR shall support simultaneous live view, record, play back, data transmission in real time.
12. The TVR shall support recording frame rate : 240ips@1080P, 160ips@3MP, 240ips@4MHALF, 112ips@4MP, 160ips@5MHALF, 112ips@5MP
13. The TVR shall support H.264/H.265 compression codec and Intelligent Codec.
14. The TVR shall provide Graphical User Interface (GUI) with multi lingual support.
15. The TVR shall support 2X – 7X digital zoom in live view mode & playback mode.
16. The TVR shall provide time lapse, event, time lapse + event, pre/post-event, panic recording schedule.
17. The TVR shall adjust Multi Standard Analog camera’s configuration.
18. The TVR shall support alarm, audio, motion, video loss, text-in, system event triggering, fan error, record failure, storage related alerts and alarm in error.
19. The TVR shall support Email (attach clip (cbf, mp4, jpeg)), Callback to Remote S/W, Push notification (IDIS Mobile).
20. The TVR shall provide Time-lapse, Event log, Text-in search options.
21. The TVR shall support 16 channels 1080P synchronous playback.
22. The TVR shall be equipped with Chained-FingerprintTM, SSL, Password encryption options.
23. The TVR shall support FEN service (A name resolution service equivalent to DDNS).
24. The TVR shall be compatible with IDIS Center, IDIS Solution Suite, IDIS Mobile and Web Client.
25. The TVR shall be compatible with network accessory: Network Keyboard, Network Switch, etc.
26. The TVR shall be controlled by Mouse, IR Remote Control, Front Button and Network Remote Keyboard.

## Technical Specification

### Video Specification

1. Analog Video Inputs: up to 16 Multi Standard Analog cameras
   1. Built-in 16 channels BNC Switch
2. Supported Camera type: 5MP, 4MP, 3MP, 1080P, 720P, CVBS(NTSC/PAL)
3. Video Outputs: 1 HDMI, 1 VGA
4. Display Resolution:
   1. HDMI : 3840 x 2160, 1920 x 1080, 1280 x 1024
   2. VGA : 1920 x 1080, 1280 x 1024
5. Maximum Live Display Speed: Up to 480ips
6. Live Digital Zoom: x2 ~ x7
7. PTZ Control and Setup
   1. The TVR shall allow control of PTZ cameras to authorized users and be used to maneuver a PTZ camera using Built-in GUI PTZ control; Pan, Tilt and Zoom, Focus Near / Far, Set / Move to Preset, Advanced PTZ capabilities. When PTZ capable camera is connected, this function shall be enabled automatically.
   2. Network Keyboard shall be supported with USB mouse.
8. Image Authentication: Chained Finger Print
9. Additional Information
   1. The TVR shall support the following features: Sequence Monitoring, Screen Freeze, Covert cameras, Privacy Masking, and Color Control (Brightness, Contrast, Saturation, Hue).

### Audio Specifications

1. Audio Input: (line level)
   1. TVR: 4 RCA
2. Audio Output
   1. TVR: 1 RCA + 1 HDMI
   2. Audio signal can be transferred to the audio output devices such as a speaker via RCA or HDMI port.
3. Audio Codec Format: G.726
4. Audio Data Size: 64 Kbps (per channel)
5. Two-way (Bidirectional) Audio: Yes

### Recording Specifications

1. Recording Frame Rate
   1. 240ips@1080P, 160ips@3MP, 240ips@4MHALF, 112ips@4MP, 112ips@5MP, 160ips@5MHALF,
2. Recording Resolution: Up to 5MP (Camera specific)
3. Recording Resolution: 2560x1920, 1280x1920, 2560x1440, 1280x1440, 1920x1536, 1920x1080, 1280x720, 960x576, 960x480, 720x576, 720x480, 960x288, 960x240, 640x360, 720x288, 720x240, 480x288, 480x240, 360x288, 360x240
4. Video Compression Codec: H.265, H.264, Intelligent Codec
5. Recording Schedule
   1. The TVR shall allow camera-by-camera configuration of the following recording modes:
      1. Time Lapse Recording (Continuous), Event-Based Recording, Time Lapse with Event-based Recording, Panic Recording, Pre / Post Event Recording
   2. The TVR shall allow the user to create and edit video recording schedules for each connected camera
      1. Basic Schedule
      2. Advanced Schedule which includes different profiles and dwell timer per each occurred event
   3. The TVR shall include the ability for Pre-Event recording, which records video for a specified time before an event or alarm has occurred.

### Playback Specifications

1. Performance
   1. The TVR shall support 16 channels 1080P synchronous playback.
2. Display Format
   1. The TVR shall offer multi-screen playback (single-screen, quad), series display (displaying images from one camera image by image), and full-screen display.
3. Search Mode: Time-lapse, Event log, Motion, Text-in.
   1. The TVR shall provide various search filters for fast retrieval; Calendar Search, Go To Search, Record table search, Search by Event, Motion, Text-in, Bookmark Search.
4. Playback Digital Zoom: x2 ~ x7

### Storage Specifications

1. HDD: Internal SATA x2 (Up to 6TB capacity for each disk)
2. Total Capacity: 12TB = 6TB x 2
3. Data Export
   1. Device: USB Storage Device (USB HDD, USB Memory)
   2. Data Export with Audio: Supported
   3. Multichannel Data Export: Supported

### Network Specifications

1. Network Connection: Fast Ethernet(Client) x 1 port
   1. Network connection is used for connecting the remote client software in LAN or WAN environment
2. Remote Data Export: IDIS Player, AVI, JPG, BMP
   1. The still or moving images can be captured using remote client software as a JPG, AVI, BMP or EXE file format.(dynamic remote application)
   2. File Printer Interface: PDF file printer
3. Remote Client Viewer application: IDIS Center, IDIS Solution Suite, IDIS Mobile, IDIS Web
   1. IDIS Center: Windows and Mac OS (Note: IDIS Center for Mac OS is limited in functionality)
      1. IDIS Center (for Windows only) supports simultaneous firmware upgrade on multiple TVRs
   2. IDIS Solution Suite: Windows OS
   3. IDIS Mobile: iOS, Android
   4. IDIS Web works with TVR’s embedded web server using a Web Browser with ActiveX plug-in.
4. Maximum Client Connections
   1. Remote connection : Admin: 2 / Watch: 10 / Search: 2

### Alarm and Event Specifications

1. Alarm Input / Output (terminal block)
   1. 4In / 1 Relay Out
   2. Alarm Input Type: 4 TTL, NC/NO programmable, 3.0V(NC) or 0.3V(NO) threshold, 5V DC
   3. Alarm Output Type: 1 relay output, 2A@125V AC, 1A@30V DC
2. Internal Buzzer: Yes (78dB at 10cm)
3. Trigger Events: Alarm in, Motion detection, Video loss, Text-in
   1. The TVR shall support alarm sensor trigger in and relay out functions in such event of motion detection and video loss detection.
   2. Maximum Channels of Text Input: 16
4. Event Notification: Email (attach clip cbf, mp4), Callback to Remote S/W, Push notification (IDIS Mobile), NetFS(FTP).

### External Interface Specifications

1. Serial Interface: RS232, RS485 (Terminal Block)
2. User Control Interface: Mouse, IR Remote Control, Front Buttons, Network Remote Keyboard
3. USB Interface: USB 2.0 x 2

## Mechanical Specifications

1. Operating System: Embedded Linux
2. Unit Dimensions (W x H x D): 340mm x 46.5mm x 315.5mm (13.4" x 1.8 x 12.4")
3. Unit Weight: 3.1 kg (with 2 x 4TB HDD)

## Environmental Specifications

1. Working Temperature: 0°C to 40°C (32℉ ~ 104℉)
2. Operating Humidity: 0% ~ 90%

## Electrical Specifications

1. Power Input: Input : 100-240V AC, 50/60Hz, 1.5A, Output : 12V DC, 5A
2. Power Consumption: 12V=, 1.72A, 20.64W
3. Regulatory Approvals:
   1. Electrical: FCC, CE, KC

# Version History

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| --- | --- | --- | --- |
| **Version** | **Writer** | **Revision Date** | **Remarks** |
| 1.1 | TS Team | Nov. 22, 2023 | Spec Update |
| 1.0 | TS Team | Jul. 03, 2023 | Initial release |