

# UD1A-16: 16 Ch + 2 Bonus IP Ch (Up to 18 Cameras Total) HD-TVI Recorder



Records up to 1080p	1 Bonus IP Channel	UTC Up The Cable Control	1-Channel VCA	uPnP Router Setup	Front Panel Controls	2-Way Audio
Audio Input	Audio Output	Substream	Intelligent Ports	Smart Search	Bandwidth Optimization	Real-Time 720p
HDMI 1080p Main Monitor	VGA Main Monitor	Dual Stream Record	Remote Backup	Remote Preview	H.264	Digital Zoom
Watermarking	Privacy Mask	Arming Schedule	NAS   SAN	Free DDNS	FREE CMS	Free MAC Client
Free App iOS & Android	Rack Mountable					

## Features

- Intelligent Video Inputs: connect HD-TVI 1080p/720p, 720p HD-AHD or 960H/SD analog to ANY input at any time
  - Reuse existing analog cameras or choose any mix of HD/SD on new systems
  - Upgrade any analog camera to megapixel at any time
  - Superlative HD resolution of 1080p Full HD or 720p HD for amazing image quality
  - Field select HD-TVI 1080p or 720p, 30/25 Hz or 60/50 Hz
- Operation over 'almost any' wire
  - More than 1000 feet on standard RG59 coax
  - More than 1500 feet on RG6
  - More than 500 feet on UTP (one pair from a Cat5e cable, using optional balun)
- Display Live/Record 2.1 Megapixel 1920x1080 (1080p), 1 Megapixel 1280x960 (720p), 960x480 (WD1/960H), 704x480 (SD)
  - 1080p recording at up to 12FPS per camera
  - Real time recording on any/all channels at 720p, WD1 or SD resolution
  - Playback any/all cameras at up to record rate
  - Independent configuration for each channel: resolution main/sub-stream, FPS, bit rate, image quality, etc.
- Up-the-cable control [UTC] to access compatible camera OSD menus from the DVR PTZ controls (local or remotely)
- Triple Technology Recording: Connect additional Ultra-IP Plug-and-Play cameras (16+2) up to 1080p resolution without sacrificing BNC inputs
- H.264 Compression for efficient HDD utilization
  - One internal hard drive for up to 8 Tb of internal storage
  - Up to 8 network disks (8 NAS disks, or 7 NAS disks +1 IP SAN disk)
  - Simultaneous high bandwidth recording plus sub-stream recording for reduced bandwidth remote live viewing
  - Watermarking for validation of recorded video
  - Record scheduling per-camera, with HDD quotas, holidays, parameter change on alarm/event
- Pentaplex Operation (Simultaneous live, recording, playback, archiving and remote viewing)
- Easy router setup for remote access: uPnP/NAT automatically sets up port forwarding (router must support/allow uPnP)
- HDMI & VGA Main monitor outputs for up to 1080p HD display detail
- User friendly GUI with graphical icons, visual indicators and multiple language support
- Quickly locate and review event video
  - Search by date/time, or preview images by pointing along a color coded timeline of record type
  - Tag video of interest for easy retrieval or export
  - Play based on results of extensive event/alarm log search
  - Use "Smart Search" to define an area of interest; the DVR quickly reviews recorded video to list instances of motion in that area for review by the operator
  - Use Video Content Analysis event detection on one BNC channel
    - Line crossing (with direction) up to four lines
    - Area intrusion (with loitering time) up to four areas
    - Rapid fast forward can scan quickly between VCA events, yet plays events at normal speed
- Digital Zoom with Virtual PTZ in Live & Playback
- Privacy masking (4 zones) to block observation of specific areas within the field of view
- Audio Input and Output for recording and/or two way audio
- Ethernet interface for remote network viewing and control, and to connect an IP camera
- Multiple Control Inputs: local mouse/hand held IR remote controller (mouse included); web browser and CMS controls
- On-screen PTZ control via mouse or IR remote
- USB 2.0 ports on front and rear panels for video archive and mouse usage
- Free DDNS Service – static IP address is not required for reliable remote access
- IE, Firefox and Safari browser Web clients
- Free Multi-Site Windows and MAC CMS can display up to 64 live/16 playback views
- Remote configuration support from built-in web interface and/or free CMS program
- Free iOS and Android apps:
  - Scroll though 16 display live views
  - Playback specific cameras by date/time plus easy slider control
  - Audio monitoring support
  - PTZ control
  - HD tablet App Available
- Rack mountable with optional brackets

## Ordering Information

UD1A-16/2T: 16 Ch, 2 TB	UD1A-16/12T: 16 Ch, 12 TB
UD1A-16/4T: 16 Ch, 4 TB	UD1A-16/16T: 16 Ch, 16 TB
UD1A-16/6T: 16 Ch, 6 TB	
UD1A-16/8T: 16 Ch, 8 TB	

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<b>Intelligent Video Inputs</b>	
Analog HD/SD Inputs	16
HD Video Resolutions	HD-TVI 720p30(25), 720p60(50), 1080p30(25), HD-AHD 720p30(25), 720p60(50)
Analog CVBS Video Input	Up to 960x480, 720x480(NTSC); 960x576, 720x576(PAL)
Adaptive Ports	Input Format Auto Detection, HD/SD can be mixed in any combination, at any time
Interface	BNC Connector; 1V p-p, 75Ω
Privacy masking	4 areas programmable in OSD menu
Additional Ultra-IP Plug-and-Play Channels (up to 2Mpixel)	2
Total Cameras Supported	18
<b>Video Output</b>	
Main HDMI & VGA	Full HD 1920x1080/60Hz; SXGA: 1280x1024/60Hz; 720P: 1280x720/60Hz; XGA: 1024x768/60Hz, Up to 4K output
CVBS Analog BNC	NTSC 704x480 / PAL 704x576; 1V p-p, 75Ω
Display Modes	1, 2x2, 1+5, 1+7, 3x3, 4x4 split; User Defined Sequence / Alarm Pop-up
<b>Recording</b>	
Video Compression	Dual Stream: H.264 for Main Stream and Sub-stream (H.264+ option for Ultra Cameras with H.264+ option)
Video Bitrate	32Kb/s~6Mb/s each channel
Encoding	Main Stream: 1080p (virtual real time to 12FPS max per camera); 720p; WD1; 4CIF; VGA; CIF Sub Stream: WD1, 4CIF (virtual real time); CIF; QVGA; QCIF
Frame Rate	Main Stream: 1/16 fps ~ Real time frame rate (real time at 720p and lower resolutions)
Sub Stream: 1/16 fps ~ Real time frame rate	Sub Stream: 1/16 fps ~ Real time frame rate
Quality	6 levels: Lowest/Lower/Low/Medium/Higher/Highest
Mode	Continuous; Motion; Alarm; Motion or alarm, Motion + Alarm; None
Motion Detection & VCA	Configurable per camera for area(s), sensitivity and arming schedule programmable by day of week and hour of day (one channel VCA)
Schedule Period	Per day in 1 hour blocks; or 8 time periods per day, each with different record mode; plus holidays
Pre- and Post- Event Recording	Pre-record 0~30 seconds; post record 5s~10 minutes
<b>Playback</b>	
Synchronous Playback	8 channels
Playback Resolution	3 Megapixel, 1080p, 720p, WD1, 4CIF, VGA, CIF, QVGA, QCIF
Search Type	Time/Date; Event (Alarm, Motion, VCA); Manual Tags; Smart Search for motion events from recorded video
Capacity	Up to record rate
Playback Controls	Play; Pause; Forward/Reverse; speed control for single~1.8~Vmax (25x); Slide bar with overview of record type and snapshot display from slider position, VCA based accelerated playback between normal play of VCA events
Digital Zoom During Playback	Supported on Local Displays and CMS + Web
<b>Event &amp; Alarm</b>	
Event Source	MD (Motion Detection), Video Loss, Video Tampering/Exceptions, Video Content Analysis: Line Crossing with Direction (4 lines); Area Intrusion (4 areas) for one BNC channel.
Event Action Schedule	Per day in 1 hour blocks; or 8 time periods per day, each with different record mode; plus holidays
Event Action	Buzzer, E-mail, Alarm Full Screen Pop-up, Notify CMS Client
MD Area	User selectable grid pattern 22x15 areas with adjustable per camera sensitivity
<b>System Alarm</b>	
Alarm Source	HDD Error, HDD Full, LAN Fail/Address Conflict, Illegal log-in, Video Signal Exception/, Record/Capture exception
Alarm Action	Buzzer, E-mail, Notify CMS Client (network permitting), Full Screen Monitoring
<b>Audio</b>	
Two-way audio	Audio input pass through to remote web or CMS client; remote audio from web or CMS client pass through to audio output
Input / Output	1ch Input / 1ch Output; RCA, 2V p-p, 1KΩ
Compression	Up to 64Kbps, G.711u

<b>Network</b>	
Interface	10/100 Base-T Ethernet RJ-45
Addressing	Static IP, DHCP, xDSL support
NTP/DST	Supported; choice of time zone, NTP server, DST start/end/offset
Protocols Supported	TCP/IP, PPPoE, DHCP, DNS, DDNS, NTP, SMTP, SNMP, NFS, iSCSI, UPnP™, HTTPS, Plug-and-Play (for connected IP Cameras), Utility Device Discovery
NAT	uPnP router NAT/port mapping forwards ports automatically (*Router must support/permit uPnP function)
Users	Up to 128 simultaneous connected users
DDNS	Simple DDNS free service tracks WAN IP address and HTTP port
<b>Security</b>	
User IDs	"Admin", plus multiple configurable login IDs
User Levels	All rights for "admin"; Per camera per user rights assignment for Operator and User Levels
User Privilege Control	Local and remote access to Live views, audio, recording, playback, menus, PTZ, alarms, copy, logs, upgrade, reboot and camera views
<b>Storage &amp; Clip Copy</b>	
HDD Storage	2 SATA HDD up to 8Tb
NAS/SAN	up to 8 network disks (8 NAS disks, or 7 NAS disks +1 IP SAN disk)
Copy Type	Multi-Channel or Single Channel File
Copy Device	USB 2.0 Drive (2 ports)
S.M.A.R.T.	Temperature, duration, error rates, bad sector detection, and more
<b>Serial &amp; I/O</b>	
USB 2.0 Ports	One front, one rear for mouse and data I/O
RS-485	One; selectable speed and bit pattern; multiple protocols (Pelco P, Pelco D, others)
Keyboard	Input for external control keyboard
Up the Cable Control	Multiple protocols, can be sent out of any BNC port to compatible cameras
<b>User Controls</b>	
Local Controls	Front Panel function and navigation buttons; IR Remote; Mouse
<b>Software</b>	
Web Viewer	Live view, playback and configuration via IE, Firefox, Safari (with free plug-in/extension installed)
User Rights Control	Per user-per camera for multiple functions
Mobile Viewer	iOS and Android supported; live 16 camera views; 4 camera playback; snapshots from live or play; copy clips/record to smartphone; audio support; PTZ control. HD version of app, optimized for tablets
CMS	Free PC and MAC Clients support multiple device viewing, playback (with digital zoom) and configuration; user rights per camera; E-map support; live view up to 64 cameras in 4:3 and 48 cameras in 16:9; up to 16 cameras in playback
Event Logging	Multiple types; alarm, exception, operation, information; dozens of sub-types within each major type
Firmware Upgrade	From USB or remotely
Backup/Restore Configuration	From USB or remotely
<b>General</b>	
Dimension (W x H x D)	15" x 11.4" x 1.9"   380 x 290 x 48 mm
Chassis Type	19" Rack-Mountable 1U Chassis (Using optional brackets)
Weight without HDDs	4.4 lb. / 2Kg
Operating Temp	14°F~131°F (-10°C~55°C)
Operating Humidity	10% ~ 90%
Voltage	12VDC from included power supply, 4 pin DIN; power supply input voltage 100~220 VAC 50~60Hz
Power	Up to 30W
Certifications	FCC, CE, RoHS