XDR-1280/D

12 CH Hybrid HD Mobile DVR

(4) 1080P IPC + (8) Analog 1080P/720P AHD, D1

User Guide

This manual covers the setup, connection and features of the XDR. For management software, refer to Ventra software manual

THIS MANUAL CONTAINS UPDATED FEATURES AND SPECIFICATION. PLEASE REFER TO UPDATE NOTICE

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Please read and follow all instructions and features before use. Save for future reference.

Specification, models and features are subject to change without prior notice
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Manual Ver 08 18

Table of Content

Table of Content

Technical Specification

Function Overview		Preview, Recording, Playback, Route History
System	OS	Linux 3.0.8
	Control Mode	Remote Controller, USB Corded Mouse, EX4-PGM
Cameras	IPC + AHD	12 Cameras max - Up to (8) AHD / Analog + (4) IP (requires PON switch)
Video	Input	12 channels (8) 1080P AHD, 720P AHD, D1 Resolution (4) 1080P IPC, 720P IPC
	Output	2 channels
	Video System	NTSC/PAL optional (1Vpp 75 Ohm)
Audio	Input	12 channels (Camera if applicable)
	Output	2 channels
Display	Display Split	1, 4, 9
	OSD	GPS information, alarm, temperature, date/time, device information
	Operation Interface	Semi-transparent GUI
Recording	Video/Audio Compression	H.264 / ADPCM
	Image Resolution	**NTSC**: 8 x 1080P @ 10 FPS (AHD) + 4 x 1080P @ 30 FPS (IPC) or 8 x 720P @ 30 FPS (AHD) + 4 x 1080P @ 30 FPS (IPC) or 8 x D1 @ 30 FPS (AHD) + 4 x 1080P at 30 FPS (IPC)
	Image Quality	1 ~ 8 levels adjustable (1 is the best)
	Recording Mode	Manual/ Schedule/ Alarm (sensor trigger, speed, acceleration, video loss, temperature)
	Pre Recording / Post-recording	Pre-Recording 0 – 60 Minutes / Post-Recording 0 - 30 Minutes
	Mirror Recording	Support
Playback & Backup	Playback Channel	1 channel by local playback
	Search Mode	Date/time, channel, file type
	GPS	GPS route history, speed detection and time sync
Storage	HDD (SATA / SSD)	Max: 1TB 2.5" SATA 5400RPM HDD / 1TB SSD
Interface	USB	USB 2.0 × 2 (Front / Rear)
	SD	SD × 1 (For Back up Purpose) - 32GB ~ 128GB Minimum Class 10 SDHC
	Sensor	8 inputs, 2 outputs RS232 x 2, RS485 x 2
	Ethernet	RJ45 x 1 (10/100M)
Remote Viewing	Router	Support external cellular, WiFi router (monthly fee and cellular data fee)
Power	Input	DC8-36V
	Output	5V @ 500mA, 12V @ 500mA
	Power Consumption	Max Power Consumption: 69.6W Standby Power Consumption: ~ 0W Impulse current: input 13.5V@1.3A Working current: input 13.5V@1.2A, 27V@0.5A
Environment	Operating Temperature	14 F ~ 158 F (-10 C ~ 70 C)
	Operating Relative Humidity	8% - 90% (Non Condense)
Dimension	L x W x H	11.61" x 8.74" x 3.50" (295mm x 222 mm x 89mm)

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XDR-1280/D Camera Frames Per Second (FPS) Chart

Camera Resolution	Channels	FPS
AHD-720	8	30
IPC-1080P	4	30
AHD-1080P	8	10
IPC-1080P	4	30
AHD-1080P	4	10
IPC-1080P	8	20
AHD-1080P	2	30
IP1080P	8	20
AHD-720P	4	30
IPC-1080P	8	20

Video Stream Rate and Storage Based On Video Quality Level (1 – 8)

			1	2	3	4	5	6	7	8
CIF	352 x 240	Stream (kB/s)	1024	768	640	512	440	350	312	280
		MB / Hour / CH	450	338	281	225	193	154	137	123
D1 / VGA	704 X 480	Stream (kB/s)	2048	1536	1280	1024	900	800	720	640
		MB / Hour / CH	900	675	563	450	396	352	316	281
720P	1280 x 720	Stream (kB/s)	6144	4800	4128	3456	2784	2112	1440	768
		MB / Hour / CH	2700	2109	1814	1519	1223	928	633	338
1080P	1920 x 1080	Stream (kB/s)	8192	6390	5505	4068	3712	2816	1919	1024
		MB / Hour / CH	3600	2808	2419	1788	1631	1238	843	450

⚠ WARNING

Failure to follow these safety warnings could potentially result in an accident, collision resulting in serious injury or death

- **Install the device in a manner that does not obstruct the driver's view of the front or sides of the vehicle, or interfere with the safety of operating the vehicle.**
- **Do not operate, adjust or view this recorder while driving or when vehicle is in motion**
- **Do not place the device unsecurly on the dashboard, or place the device in front of or above an airbag**
- **Please comply with all driving and traffic regulations**
- **To reduce the risk of fire or electric shock, do not expose the DVR to water, liquid, rain or moisture**
- **Disconnect the power from the XDR if equipment or wire is exposed to liquid**
- **Disconnect and replace the cable if wire is stripped or damaged**
- **When exposed to direct sunlight for a period of time, the equipment may become hot. Please exercise caution when touching the equipment**
- **Do not disassemble or alter the equipment, cable or accessories as this may lead to equipment error and failure, thus voiding all warranty**
- **In the event of an impact or accident, please check to ensure the equipment is properly secured. Inspect the mounting bracket and screws for any signs of damage**
- **Disconnect and replace the cable if wire is stripped or damaged**
- **When using the power connection cable, ensure all connections are secured**
- **Metallic coating on front window of vehicle may cause interference in GPS signal**
- **Use only recommended Micro SD card specifications as it may affect data storage. SDXC Min Class 10 and Up**
- **When Power is connected, do not remove the micro SD card as it may cause memory card failure**
- **Do not modify the name of file folders in the SD card as it will cause directory and recording issues**

Windshield Mounted Device Legal Notice

Please check and comply with ALL local, state and federal laws and or regulations regarding windshield mounted devices. Some state laws prohibit drivers from using suction mounts on their windshield when operating motor vehicles. Other state laws allow the suction mount to be mounted to be located only in specific locations on the windshield. Numerous states have enacted restrictions against placing objects on the windshield in locations that may obstruct the driver's vision.

IT IS THE USER'S RESPONSBILITY TO MOUNT VENTRA EQUIPMENT IN COMPLIANCE WITH ALL PPLICABLE LAWS AND ORDINCANCE

Audio and Video Recording Legal Notice

Certain local, state and federal laws may prohibit recording of audio and or video in vehicles or public area, or without knowledge and or consent, please check and comply with ALL local, state and federal laws and regulations.

Certain local, state and federal laws may require signage or display that indicate recording of audio and or video in vehicles or public area. Please check and comply with ALL local, state and federal laws and regulations

IT IS THE USER'S RESPONSBILITY TO USE VENTRA EQUIPMENT IN COMPLIANCE WITH ALL PPLICABLE LAWS AND ORDINCANCE

Use of this product other than its intended purpose is strictly prohibited.

Ventra Technologies Inc. does not assume any responsibility for any fines, violation, penalties or damages that may be incurred as a result of the use of the product

Ventra Technologies Inc. is not responsible for any direct, indirect, incidental or consequential damages, arising out of use, misuse or inability to use of our products.

IMPORTANT HDD and SD Card Requirement and Compatibility

- To avoid damage and or data loss, power off the XDR **BEFORE** inserting or removing the HDD or SD card
- Turning the power off or removing a HDD or memory card during operation such as formatting, deleting, recording and playback may cause system error and or data loss.
- Only New HDD and SD card should be used and are highly recommended to ensure reliability and data integrity
- When unspecified storage are used, XDR may not record data properly and recordings may be lost or damaged
- Ventra is not responsible for any damage , data loss, or system error resulting from HDD or SD card error and or damage, computer issues or virus
- **XDR utilizes a propriety file format for security , each HDD / SD card MUST be formatted IN the XDR prior to use**

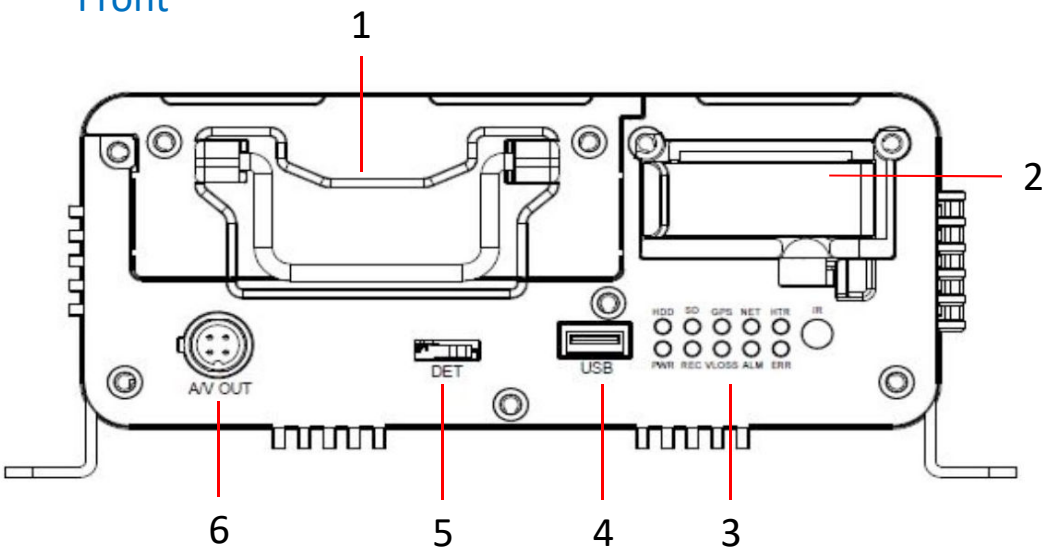
It is extremely important to use HDD and SD cards that are suitable for rugged environments, constant data writing, continuous operation and models that are designed specifically for DVR.

- **SD CARD:** 32GB to 128GB Minimum Class U1 and up - 20MB Writing Speed or faster (*SanDisk Extreme and Transcend Ultimate SD card*)
- **HDD SATA or SSD** : 500 GB - 1 TB Max Storage 2.5”

Due to rugged environment of mobile recording in vehicles, Ventra does not warrant the HDD, video recordings or data integrity. Warranty of HDD are provided by the respective manufacturer

System Layout

Front



1	**HDD Slot**	2.5mm HDD Removable cradle slot
2	**SD Card Slot**	SD Card Slot
3	**HDD**	Hard Drive access indicator
	SD	SD card access indicator
	GPS	GPS status indicator
	NET	Network connection indicator
	HTR	Internal Heater Indicator (if applicable)
	PWR	Power indicator
	REC	Recording status indicator
	VLOSS	Camera video loss indicator
	ALM	Alarm / Event indicator
	Err	Storage Error indicator
	IR	IR receiver
4	**USB**	USB Interface
5	**DVR Cover Sensor**	DVR cover detection / Auto shutdown when cover is opened
6	**AV Out**	Video out connection

1. **Removable Hard Drive Cradle** – HDD provides the main storage for recorded data. Supports up to 2TB HDD. (Never remove or insert HDD while XDR is on)

2. **Mirror SD Card Slot** – SD card provides mirror recording of events (Never remove or insert HDD while XDR is on)

3. **Status LED** – Provides visual system operation status

4. **USB Port** - For USB flash drive to conveniently download recordings/ data without removing SD card or Hard Drive. Upload firmware or configuration settings. May also be used for USB mouse connection to access system settings

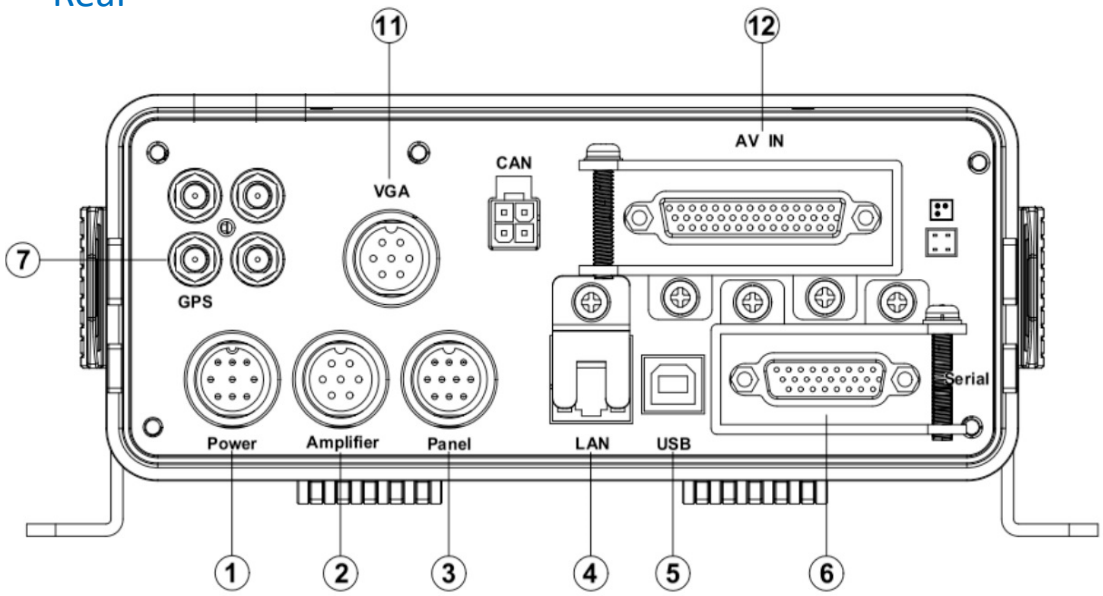
5. **XDR Cover Detection** – Cover must be completely closed and latched for XDR to power on

6. **AV OUT** – Provides connection to external monitor

Labeling may differ due to product update

System Layout

Rear

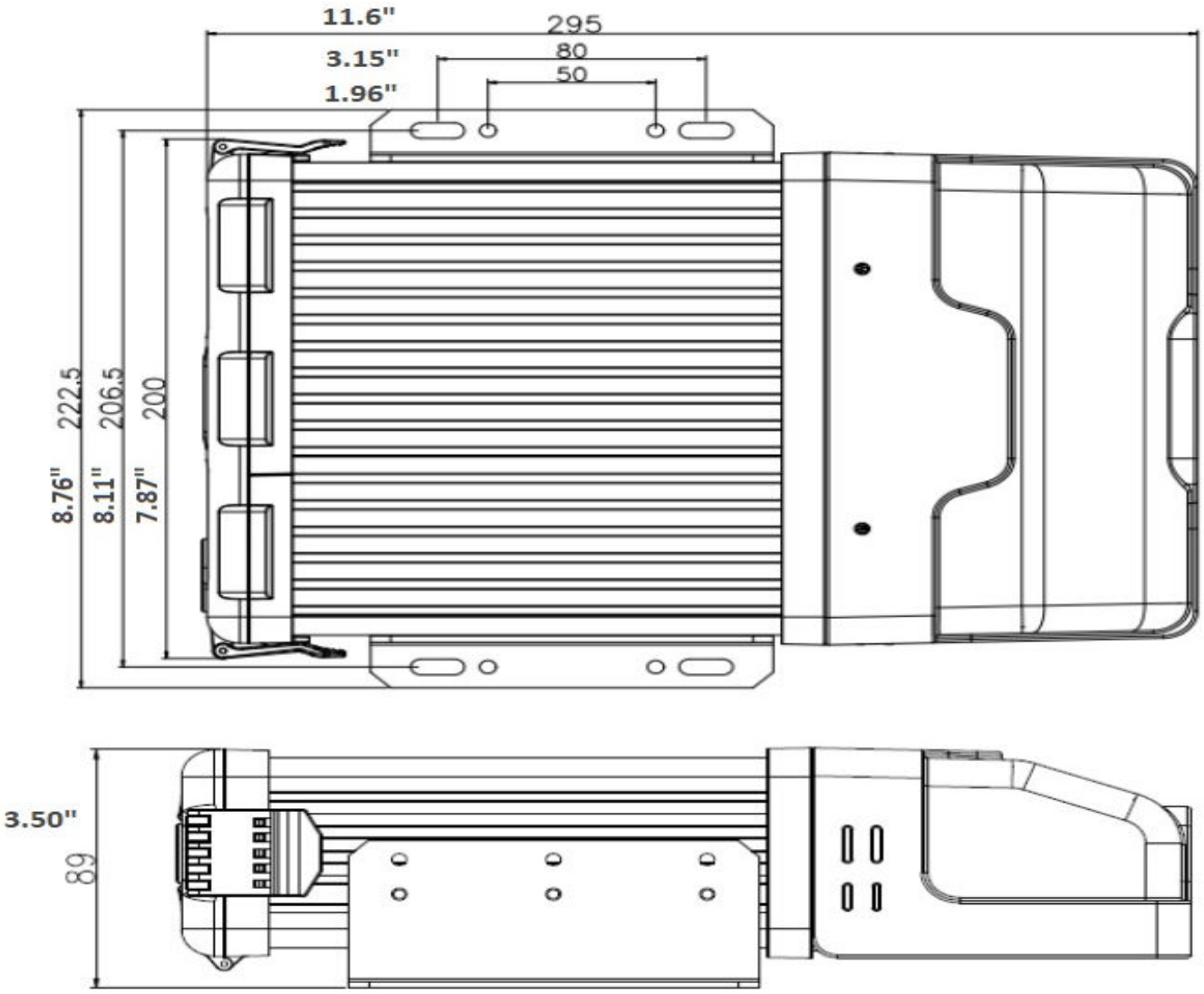


1. **Power Connection** – Main power connection to vehicle fuse or XDR-PON network switch. 9 – 36V DC
2. **Amplifier** – Connection to external microphone and accessories (in development)
3. **Panel** – Connection to EX4-PGM touchscreen tablet
4. **LAN Port** - Connection for external WiFi or Cellular router, as well as XDR-PON EX5-HD series IP camera switch
5. **USB Port** - Connection for external USB devices
6. **Serial** – Provides connection to EX12-ALC input / output trigger cable and serial cable
7. **GPS** – GPS antenna connection
11. **VGA** - Connection for VGA output cable
12. **AV IN** - EX12-CAM8 8 AHD camera input connection + 1 video out cable connection

1	**Power**	Power cable connection 9 – 36V DC
2	**Amplifier**	Amplifier connection
3	**Panel**	EX4-PGM connection
4	**LAN**	Ethernet RJ45 network connection
5	**USB**	USB connection
6	**Serial**	EX12-ALC Input / Output Alarm and Serial cable connection harness
7	**GPS**	GPS Antenna connection
11	**VGA**	EX12-VGA Video out connection
12	**AV IN**	EX12-CAM8 8 AHD camera input connection / 1 Video out connection cable harness

Labeling may differ due to product update

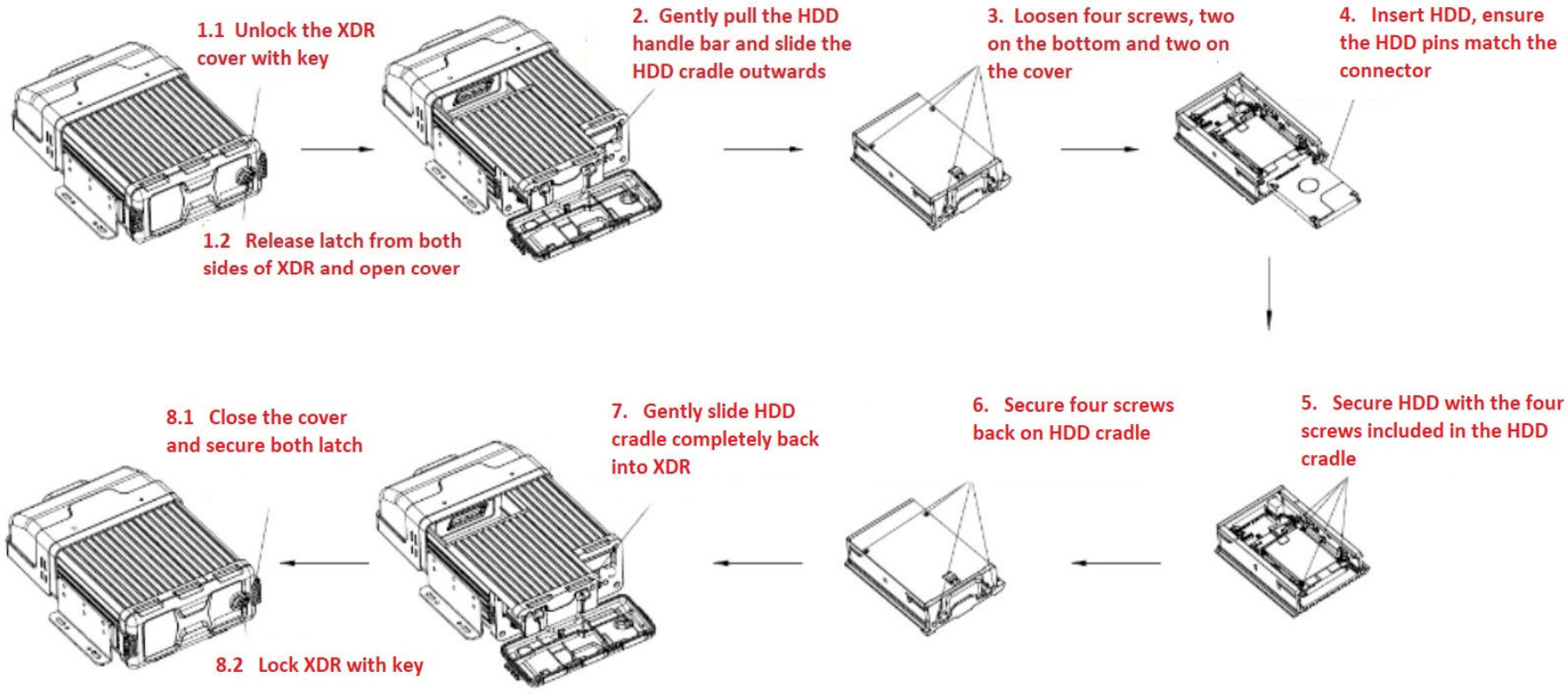
System Dimension



Hard Drive Installation

Note: Hard drive already pre-installed in each XDR

Hard Drive Installation For XDR-1280



System Components

Included:

XDR-1280D MDVR

1TB SSD HDD

(1) EX4-XC1D 720P AHD Camera

GPS Passive Receiver

EX12-CAM8 Camera input cable

EX12-MPIG Male DIN to BNC Video Cable

Remote Controller

Power Cable

Software / Manual

Optional:

EX5-HD3IP1080

EX5-HD2 720P HD Camera w/ IR + Audio

EX4-XC2 Analog D1 Outdoor Camera

EX4-XC4 Left/Right Side Outdoor D1 Analog Camera

EX4-PGM Tablet for Programming / Back Up Monitor

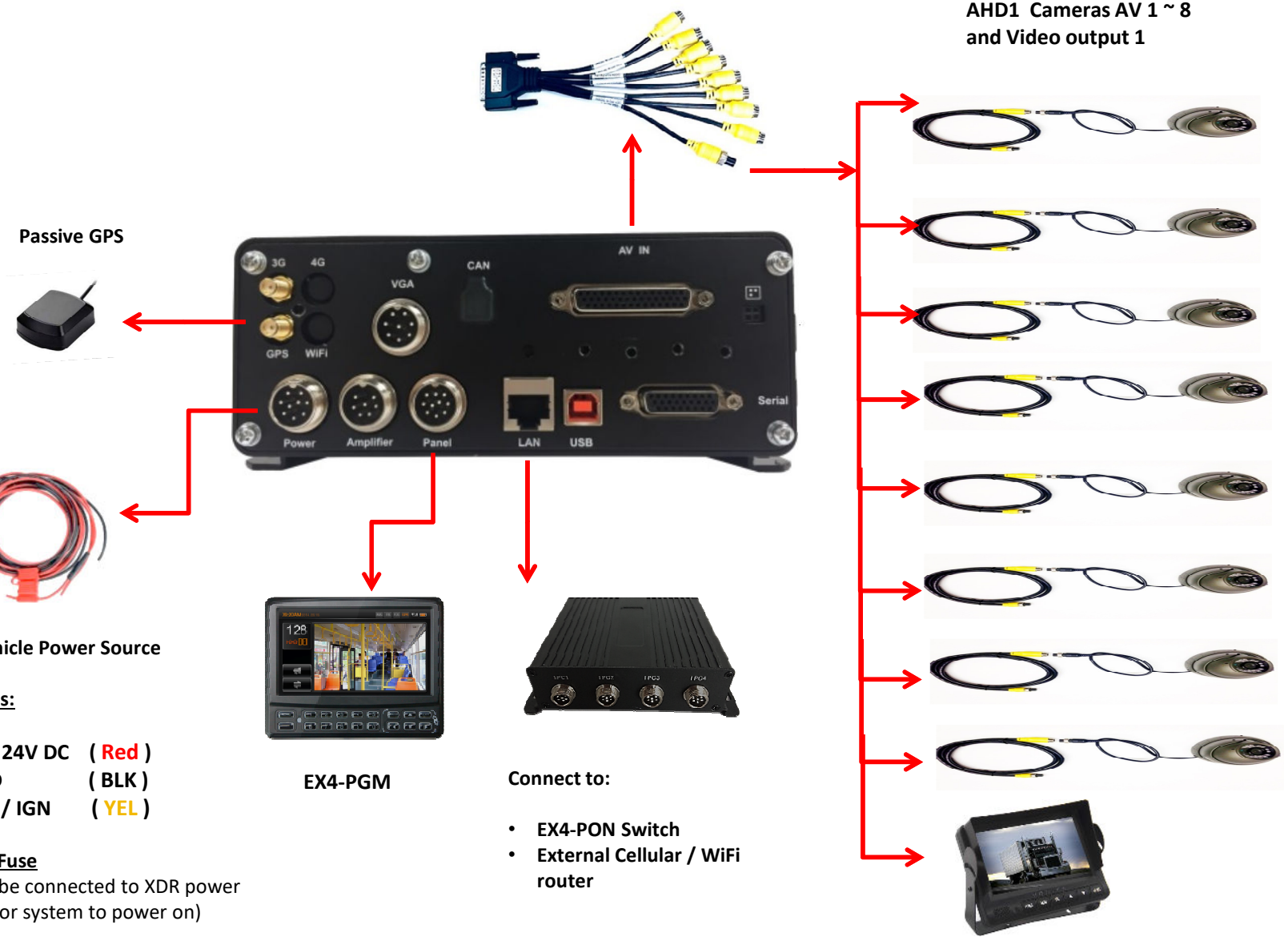
XDR-PON 4 Port Switch required for EX5-HD series cameras

EX5-CBLxx HD Camera Patch Cable 15ft, 30ft and 50ft

EX4-CBLxx 4 pin DIN Camera Patch Cable 15ft – 60ft

EX12-ALC Input / Output Alarm Cable

XDR System Layout Diagram



To Vehicle Power Source

3 Wires:

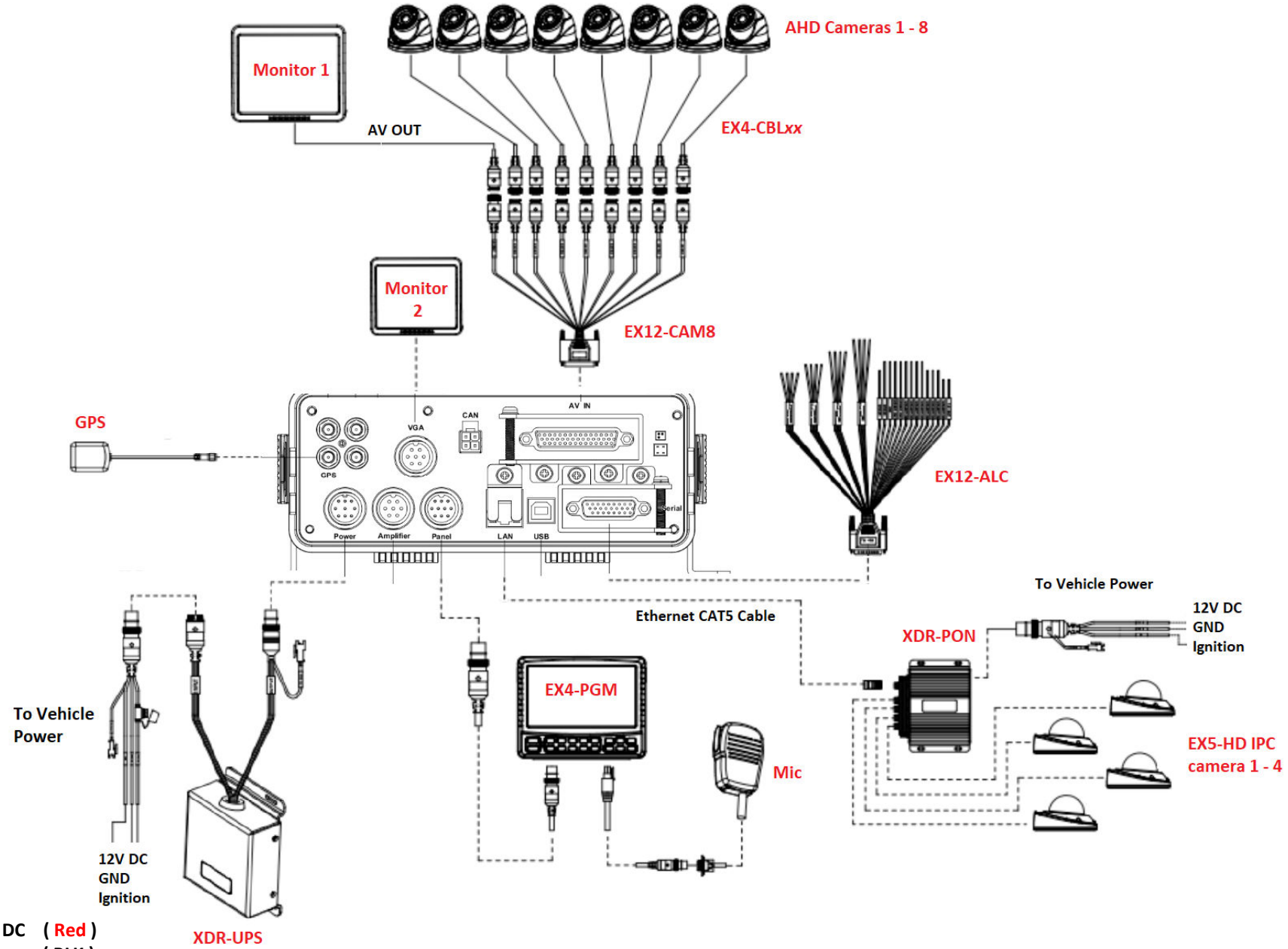
- **12 / 24V DC (Red)**
- **GND (BLK)**
- **ACC / IGN (YEL)**

Inline Fuse
(Must be connected to XDR power cable for system to power on)

12V = Blue Fuse

24V = Red Fuse

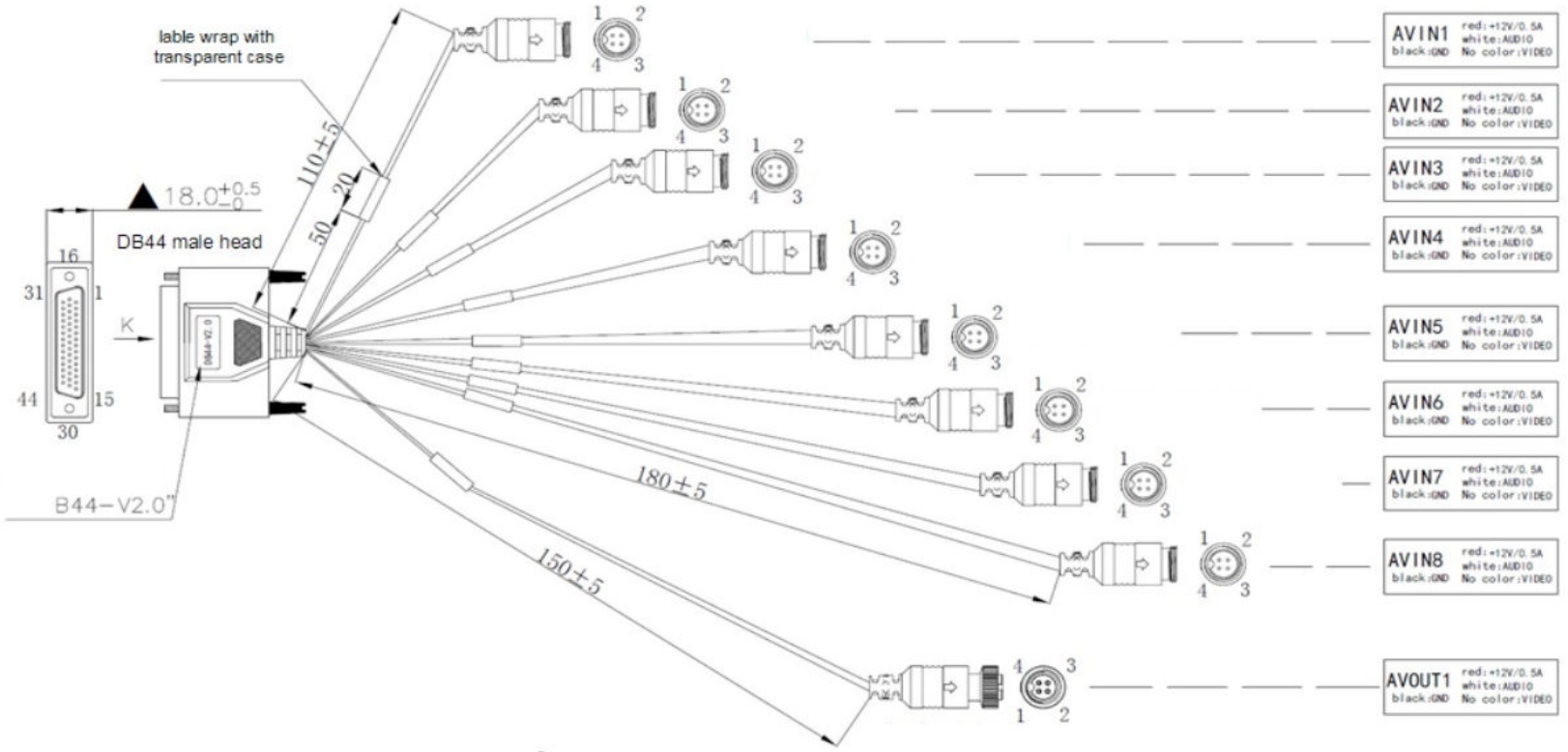
XDR System Layout Diagram



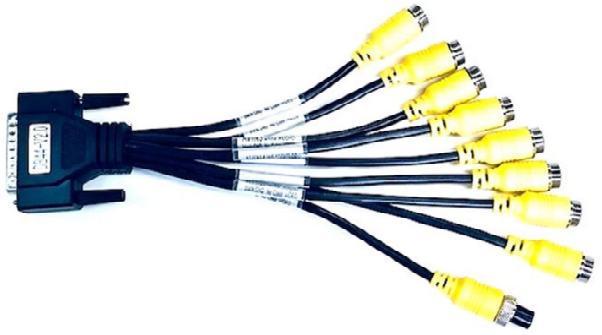
3 Wires:

- 12 / 24V DC (Red)
- GND (BLK)
- ACC / IGN (YEL)

EX12-CAM8 AHD / D1 Camera Input and Video Out Cable



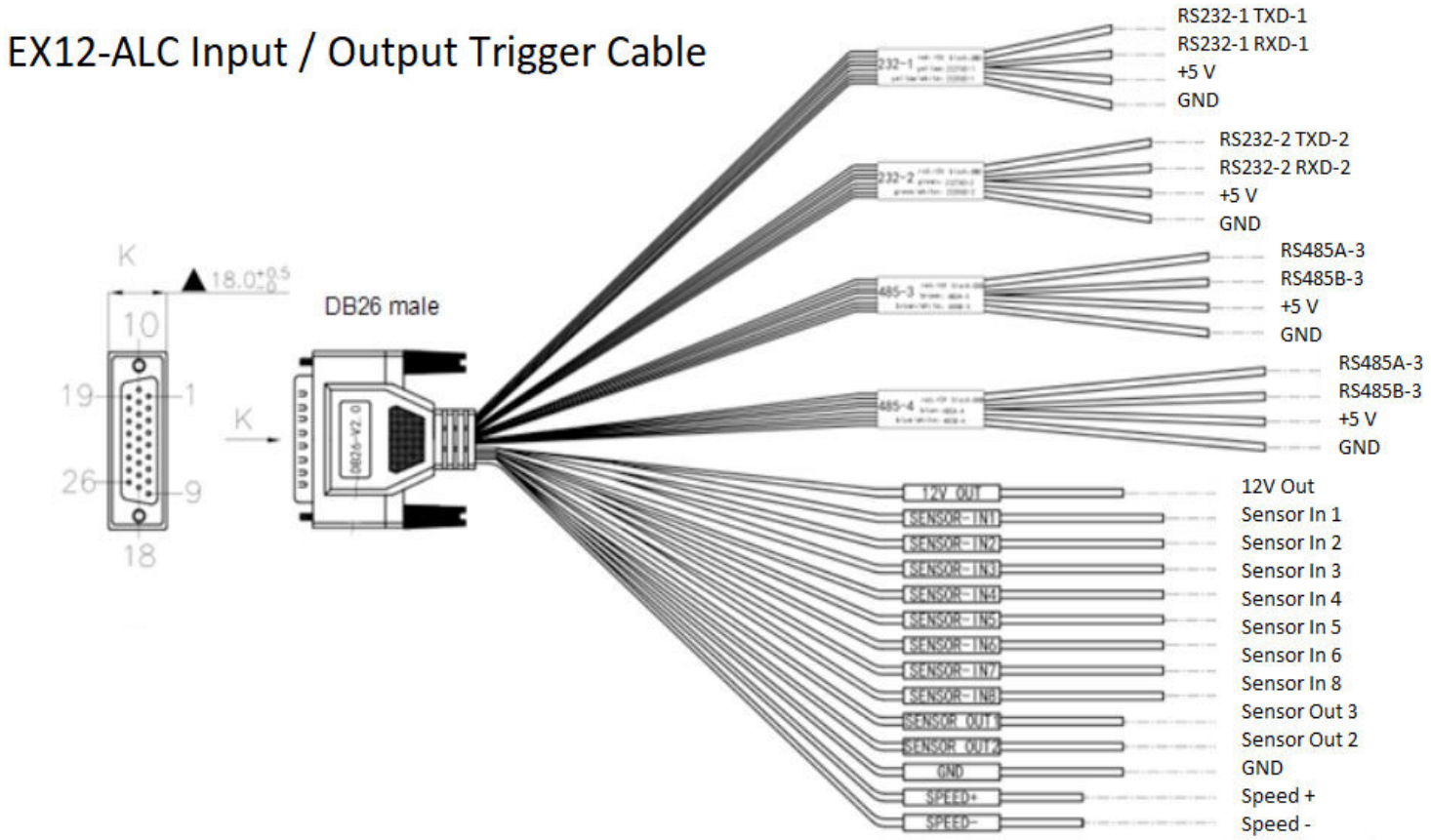
This cable provides connection for (8) AHD cameras and (1) video output to monitor



- Up to 8 AHD cameras **(AV IN 1 – AV IN 8)**
- 1080P AHD, 720P HD, D1 Resolution
- 4 pin DIN connection
- 1 DIN female video out connection **(AV OUT 1)**

  (Must connect to EX12-MPIG to convert to BNC connection)

EX12-ALC Input / Output Trigger Cable Guide



Trigger Cable Can Be connected for a wide array of applications

- Door Open / Close Contact
- Light Trigger
- Siren Trigger
- Reverse Gear Signal
- PTO Trigger
- Lift Arm / Gate
- PTZ controller

For Sensor In:

High Voltage: 5~12V
Low Voltage : 0~3V

For Sensor Out:

Triggered Voltage: 12V
Default Voltage: 0V

Powering the XDR (12V / 24VDC)

1. Insert the appropriate fuse blade into the Red power cable
   Blue Fuse = 12V **Brown** Fuse = 24V

2. Connect the 3 power wires to the vehicle's fuse
   - **Red** = 12VDC Power
   - **Yellow** = Ignition / Accessory
   - **Black** = Ground

3. Connect the power cable to the Power connection on the XDR

XDR Cover / Latch MUST BE CLOSED in order for the XDR to Power ON!

Fig. 1 Pic of Power Cable

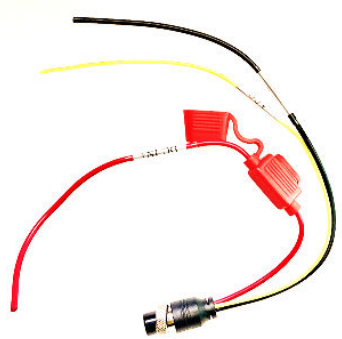


Fig. 2 Fuse Blade

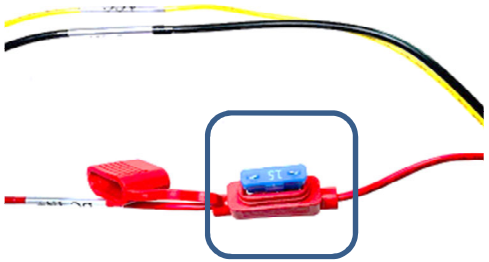


Fig. 3 XDR Power connection

CAUTION

- Installation by a Professional technician is highly recommended
- Exercise caution when connecting the power to prevent shock. Do not use sharp object to force cable
- Ensure connection to the proper fuse to avoid damage or interference with vehicle operation
- Refer to vehicle owners manual for fuse guideline

Connect Ventra EX4-XC series 1080P, 720P **AHD** and D1 resolution camera (4 PIN DIN)

EX12-CAM8

Figure 1

Figure 2

EX4-CBL

Figure 3

(EX4-XC1D, EX4-XC2, EX4-XC2D, EX4-XC4) with 4 PIN DIN

- Connect the EX12-CAM8 cable to the AV IN connector at the rear of the XDR shown in *Figure 1*

- Each EX4-XC4 series camera that connects to the XDR requires an EX4-CBLxx cable to XDR *(Figure 2 EX4-CBLxx xx denotes length)*

- XDR transmits Audio / Video & Power through the 4 PIN DIN cable *(Figure 3)*

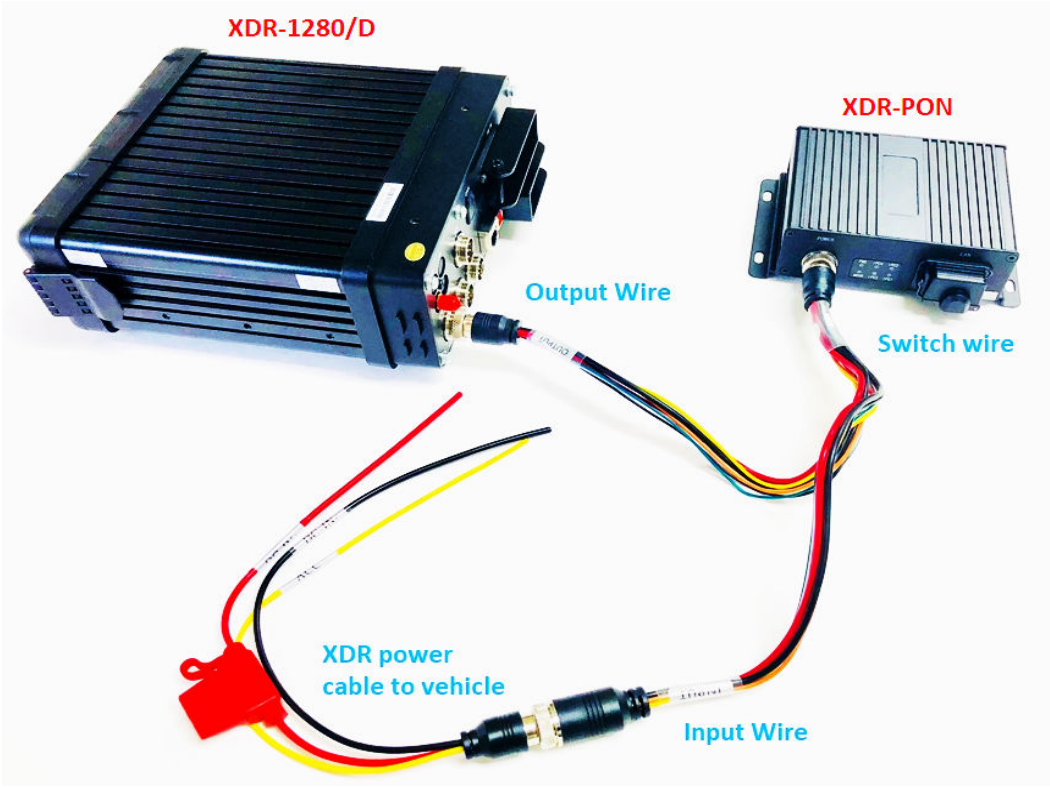
- *EX4-CBL available in 15, 33 and 60ft*

- *Maximum length / distance is 120ft by connecting (2) EX4-CBL4*

Connect XDR-PON Switch to XDR-1280

Fig. 1 XDR-PON Switch

Fig. 2 Connect Power to XDR and XDR-PON



For EX5-HD1, EX5-HD2, EX5-HD3IP1080 cameras

Requires Ventra EX5-CBLxx 6PIN DIN cable and XDR-PON 4 camera switch (*sold separately*)

- Connect the power cable included with the XDR-PON to both the XDR-1280 and the PON switch

  - **Switch wire** connects to XDR-PON
  - **Output wire** connects to XDR-1280
  - **Input wire** connects to power cable of the XDR

Connecting Ventra EX5 HD series 1080P, 720P IP camera (6 PIN DIN)

Fig. 1 XDR-PON Switch

Fig. 2 Connect Power to XDR and XDR-PON

IPC port for HD camera

For EX5-HD1, EX5-HD2, EX5-HD3IP1080 cameras

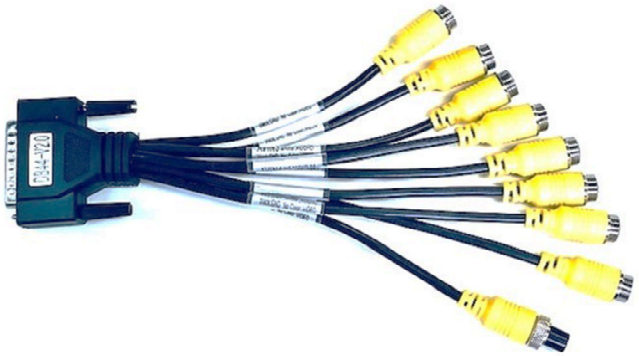
Requires Ventra EX5-CBLxx 6PIN DIN cable and XDR-PON 4 camera switch (*sold separately*)

- Connect an Ethernet CAT5 cable from the LAN port on the rear of XDR-1280 to the PON switch port labeled MDVR
- Connect EX5-CBLxx 6 PIN DIN cable to IPC port 1 – 4 (sold separately)

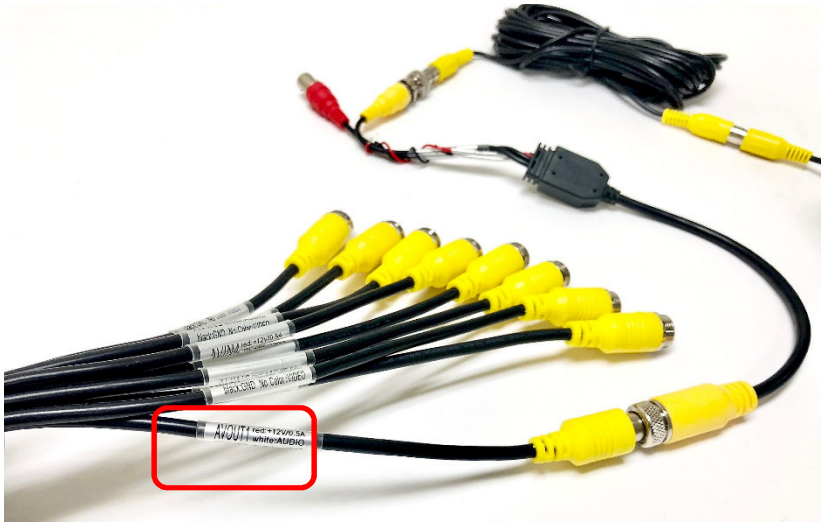
(EX5-CBLxx xx denotes length available in 15, 30 and 50ft)

XDR-1280 Video Out to LCD Screen Connection

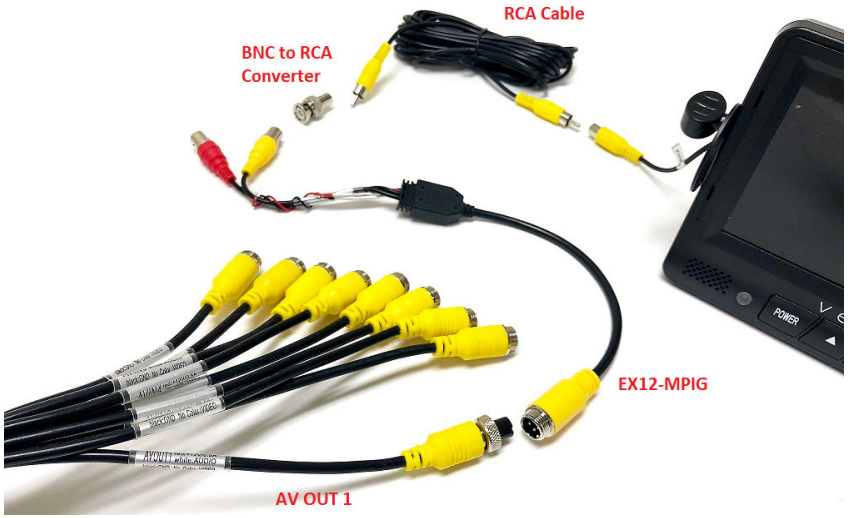
1. Connect EX12-CAM8 to XDR



2. Using **AV Out 1** port to connect to EX12-MPIG included with XDR



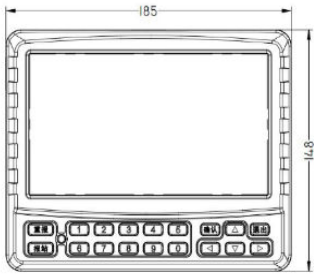
3. Use a BNC to VGA Converter to connect to the Video Cable Lead on EX12-MPIG

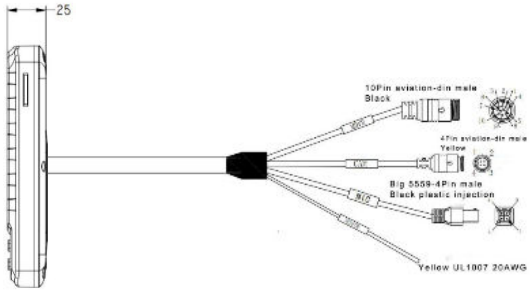


4. Connect RCA cable to EX12-MPIG

EX4-PGM (Optional)

7” Touch Screen Programming Tablet and LCD monitor





EX4-PGM

- Programming XDR system
- LCD monitor for live viewing / back up
- Touch Screen for easy access

Connect the EX4-PGM with the 5M extension cable to the “Panel” Connector on XDR

OSD Menu Layout

1.1 Formatting the HDD / SD Card

1. XDR utilizes a propriety file format for security , each storage device MUST be formatted IN the XDR prior to use.

2. MS Windows will NOT recognize the SD card when inserted and will display error message and ask to Repair or Reformat the card. **Do NOT format or Repair the card via PC.** (This is a safety feature of the system). Data can only be recognized by the Ventra XDR Software

3. Do **NOT** Insert or Remove HDD / SD card while XDR is powered ON

4. To connect to the XDR, there are 2 methods

   - Mouse to the USB port on the XDR
   - EX4-PGM programming tablet

5. To Format the card, Login to **XDR Settings** by selecting the  **> Login** > **Setup** > **Maintenance** > **Storage**

   - **Default ID:** admin
   - **Password:** admin

6. Select **Maintenance Tab** > **Storage Tab** > pick the SD Slot to format (Any previous data will be erased)

7. Top Slot = Primary, Bottom Slot = Secondary. (If using only 1 card, insert into Top Slot)

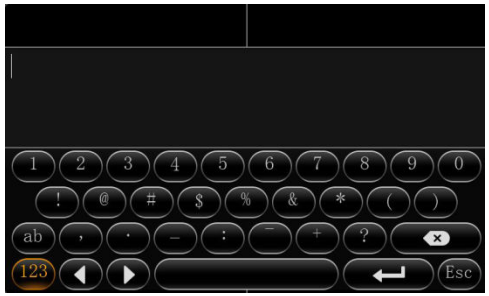
8. Each system support 1 HDD for data storage and 1 SD card up to 128GB for back up.

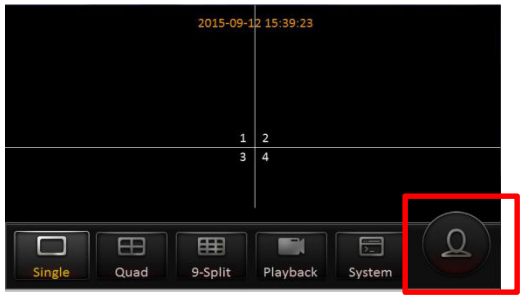
To access the OSD keyboard, click mouse in each field. Or use touch screen if utilizing EX4-PGM programmer

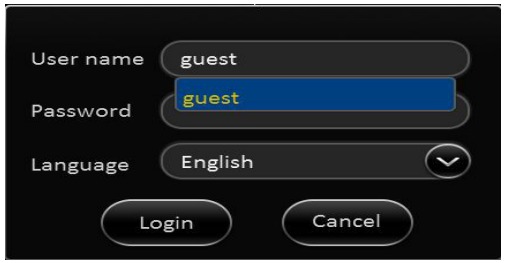
Enter = 

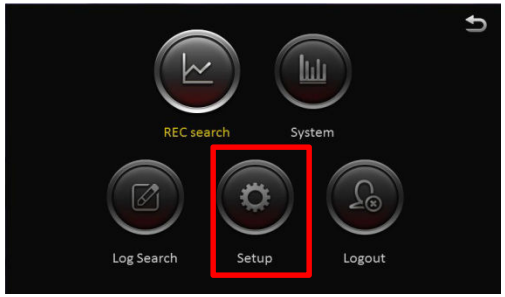
Cancel = 

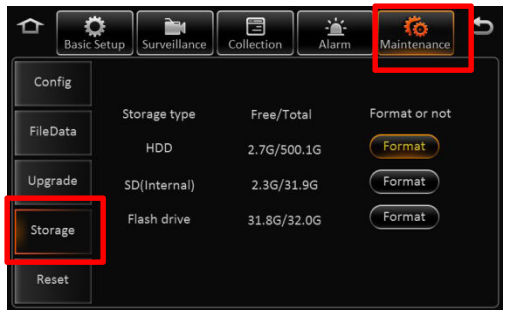
Cursor = 







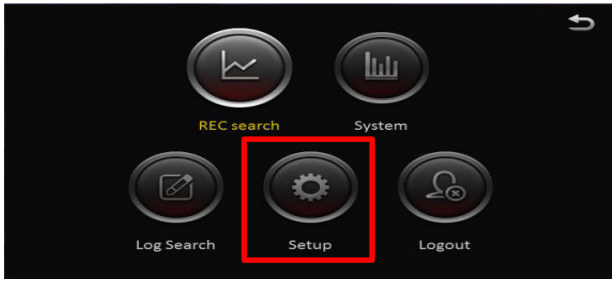




Basic Setup – Register Vehicle / Driver / Device ID

2.0 Register – Vehicle / Driver / Device Info

Reminder: Save each tab individually before proceeding to next tab



1. **Device ID:** currently not in use

2. **Vehicle Info**

   - Vehicle Number (Required for software to identify system)
   - Vehicle Plate (Optional)
   - Line Number (Optional)

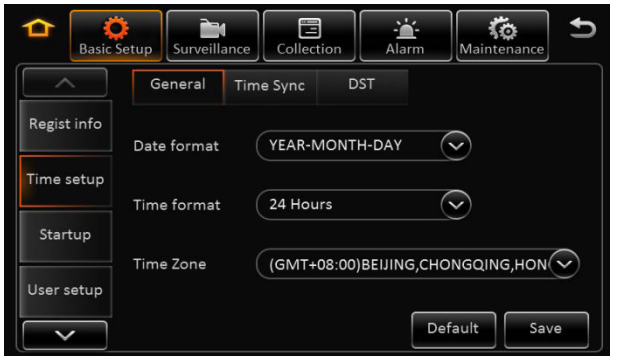
3. **Driver Info**

   - Driver Number (Optional)
   - Driver Name (Optional)

Basic Setup – Date / Time Setup

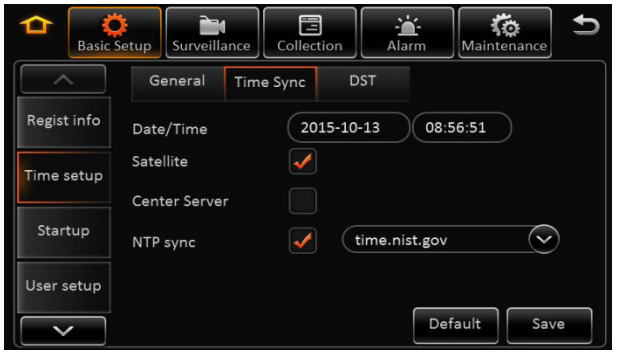
2.1 Time setup – Date / Time

Reminder: Save each tab individually before proceeding to next tab



1. Set **Date** / **Time** Format
2. Set **Time Zone**
3. **Time Sync** - set date and time
4. Enable **Satellite** time sync via external GPS receiver. Once signal is acquired, XDR will automatically sync time
5. **Center Server-** synchronize time with time server (optional)
6. **NTP Sync –** Syncs to specified time servers (Optional)

   Multiple sync methods can be selected. XDR will select the signal based on availability



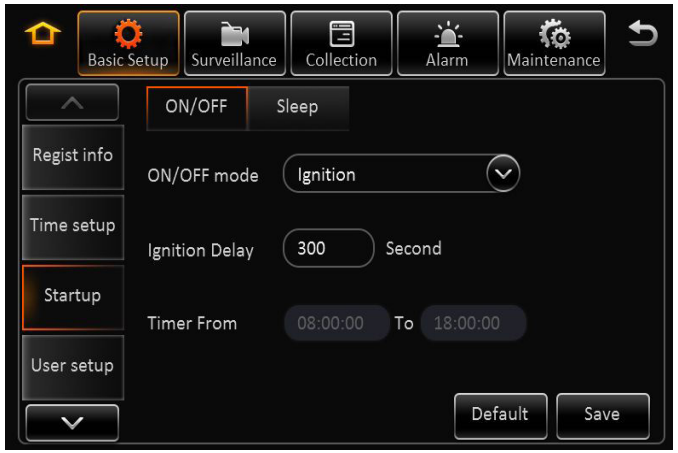
2.2 Daylight Saving Time (DST)

1. Enable / Disable DST
2. Select Hour Offset from dropdown menu
3. Select Mode from drop down menu
4. Enter date and time of effective DST

Basic Setup – System Startup

2.3 Startup – On / Off

Reminder: Save each tab individually before proceeding to next tab



1. **On / Off**: How the XDR is activated (3 Modes)
   - **Ignition**
   - **Timer**
   - **Ignition or Timer**
2. **Ignition Delay**: Time delay between vehicle ignition off to XDR powering off (0-300 seconds)
3. **Ignition**: XDR powers on as vehicle ignition is on
4. **Timer** : If Timer option is selected, the schedule for Start and End Time must be set . This schedule only applies to the XDR and does not affect or shut down the vehicle ignition
5. **Ignition or Timer**: XDR will power on from either trigger. However, both criteria have to be met in order for the XDR to power off. XDR will not shut off if the scheduled shut down time has been reached while the vehicle ignition is still on.

2.4 Startup – Low Battery

1. **Sleep**: No consumption standby
2. **Low Voltage Protect**: Enable / Disable the XDR from auto shutting off when reaching the low battery voltage threshold to prevent battery drain
3. **Battery Low Voltage**: Protects the vehicle battery by setting threshold to turn off XDR Default for 12V = 9V, 24V = 21V
4. **Voltage Startup:** When the vehicle battery is consistently greater the than set value, it will automatically boot up.
   Default for 12V = 12.5V, 24V = 24.5V
5. **Low Voltage Upload**: Enable / Disable low voltage report log

Basic Setup – User Setup

2.5 User Setup

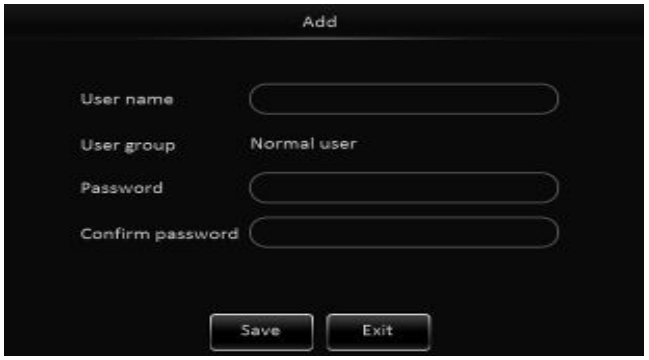
Reminder: Save each tab individually before proceeding to next tab

1. **Idle Time**: The length of time the system remains in settings mode before logging out. **Recommend (10 Minutes**)

2. **User Name**: Default are **admin** and **user**

3. **User Group**: It is categorized as **Administrator** and **Normal user**

   Admin: View videos, change settings and export logs
   User: View videos but cannot change settings or logs



Add, Delete or **Edit**

1. Only Administrators can delete or add new users (up to 2)
2. User name cannot be duplicated or empty
3. Edit / Change password

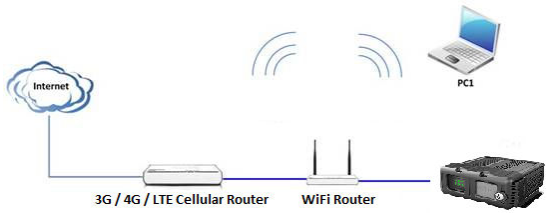
Setup - Network Setup

XDR-1280/D supports remote connectivity and viewing with the addition of the Ethernet cable and optional **XDR remote viewing monthly service** (sold separately)

This enables the XDR-1280/D to connect to an external WiFi and or Cellular Router via Ethernet connection.

Additional settings are required in the **Network Tab** within the XDR

For detailed info, refer to XDR Remote Connectivity User Guide



Surveillance – Live View

4.0 Surveillance – Live View – Preview

Reminder: Save each tab individually before proceeding to next tab

1. **Preview Audio**: Enable / Disable audio during live view of cameras
2. **Image Setup**: Adjust live view parameters - Color, Contrast, Brightness
3. **Margins**: Adjust live view screen setup
4. **Startup Screen**: Set live view display in Single, Quad or Nine CH mode
5. **Channel**: Select the channels to display on screen

   Note: 1 CH can only select 1 4CH Must Select 4

4.1 Surveillance – Live View – Auto Loop

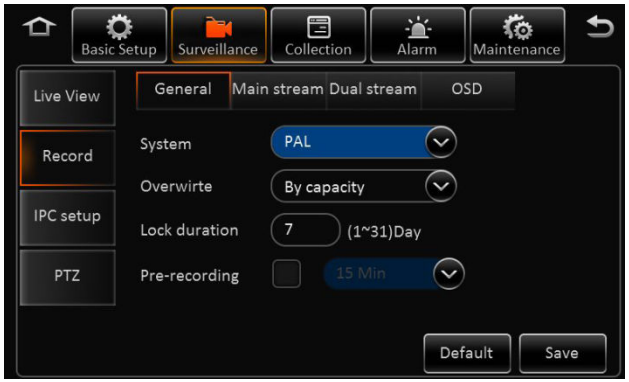
1. **A**uto loop allows different cameras to be displayed on a monitor with its unique time duration.
2. **Add, Edit Or Delete** Cameras and settings
3. **Add:** Enable **"Auto Loop"** box to access **"Add Screen"** Button, select desired camera and duration of display
4. **Delete:** Click the " X " Button of the camera to be deleted
5. **Edit**: Click the Menu button icon of the camera to edit time and settings

4.2 Surveillance – Live View – Live OSD

1. Select various information to display on monitor in live view mode. The information in this section is not recorded/watermarked.
2. **Add, Edit Or Delete** Cameras and settings

Surveillance – Record – General / Main Stream

4.3 Surveillance – Record - General



Reminder: Save each tab individually before proceeding to next tab

This section covers the general system wide setting of the XDR

1. **System –** PAL / NTSC (Default = NTSC)

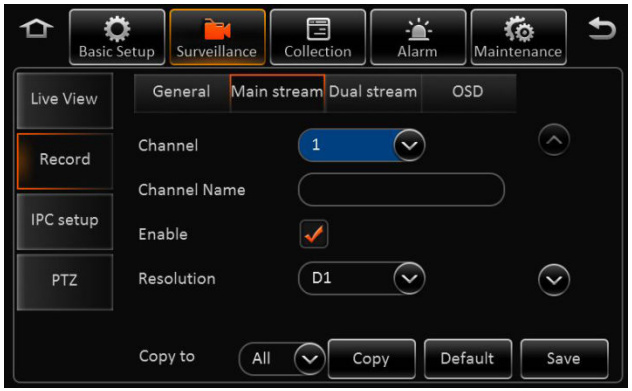
2. **Overwrite**: How the system stores new recording once the storage is full

   - **Capacity**: As SD storage is full, system will overwrite oldest data
   - **Date**: XDR will overwrite old data based on date
   - **Alarm**: XDR will overwrite old data based on alarm

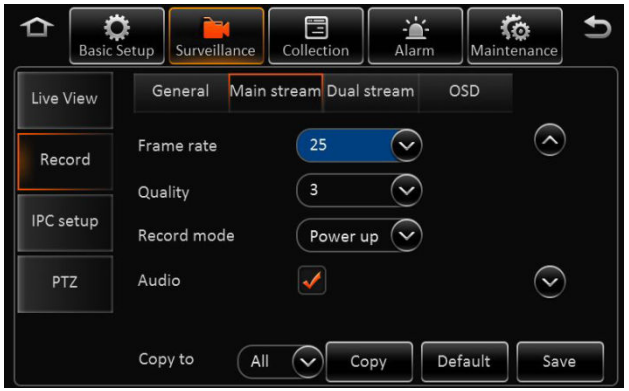
4. **Lock Duration**: Number of days to lock an alarm event file 1 – 31 days (Default 7 days)

5. **Pre-Recording**: Enable/ Disable and Length of recording before an event (Recommend 1 to 3 minutes)

4.4 Surveillance – Record – Main Stream



This section enables, disables individual cameras as well as custom parameters for each. If setting is same for all cameras, click "Copy To > All".



1. **Channel:** Select the camera from Channel 1 - 12

2. **Channel Name:** Assign name to each channel - optional (rear, side door, interior…etc)

3. **Enable:** Enable or Disable each camera in the system. If camera is NOT enabled, it will NOT record in the system

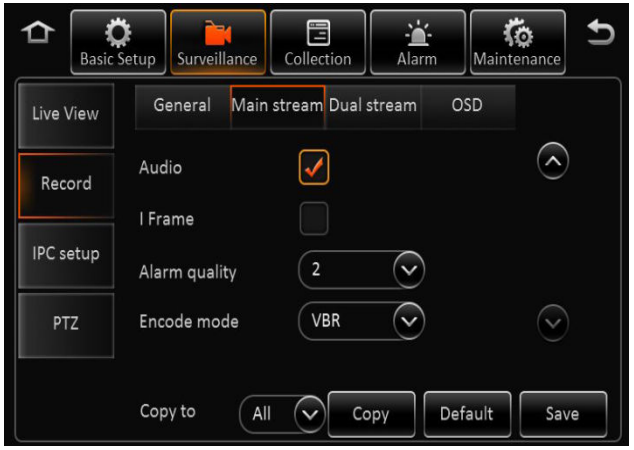
4. **Resolution**: Select resolution for camera

   Analog HD (AHD) Camera = CH 1 ~ 8 = 1080P AHD, 720P AHD, D1

   IPC HD Camera = CH 9 – 12 = 1080P HD, 720P HD Resolution

5. **Frame Rate:** Select frame rate of individual camera (1 – 30FPS) Default 25
   Higher the frame rate, bigger the file storage size

4.4 Surveillance – Record – Main Stream (Continued)



Reminder: Save each tab individually before proceeding to next tab

5. **Quality:** Video quality in relation to Bit Stream (1 – 8, 1 = Best) Default = 3

6. **Record Mode:** Select how the camera is activated

   - **Ignition** / Power: When vehicle ignition is on
   - **Event**: Only when an event occurs
   - **Time**: Active between a set schedule

7. **Audio:** Enable / Disable audio recording if camera supports audio

8. **Alarm Quality:** XDR supports separate video recording quality in terms of bit stream between Normal and Alarm.

   Default Video quality is 3 and Alarm Quality is 2

   For example: Normal recording can be changed to 4 to reduce storage size and Alarm Quality at 2 so when an event occurs, video quality is enhanced.

9. **Encode Mode:** VBR / CBR Default = VBR

   VBR = Variable Bit Rate
   Variable bit rate automatically adjusts recording bit stream based on environment

   CBR = Constant Bit Rate (Occupies more storage)
   Constant bit rate maintains recording bit stream regardless of environment

Record – Dual Stream

Record - Dual Stream

Reminder: Save each tab individually before proceeding to next tab

This section covers what type of storage is used and the recording method of the 2nd SD card (If utilized). Dual Stream is also utilized for continuous recording from 1st card to the 2nd card in continuous loop format.

To enable continuous loop recording, select NONE in Record Mode

1. **Record Storage:** Internal SD / External SD Default = Internal SD

2. **Record Mode**: Mirror / Alarm Back Up / Sub Stream / None (Select None)

- **Mirror**: Mirroring identical data to be stored on both SD cards. Channel selectable

- **Alarm Backup**: Events triggered by Alarm are stored

- **Substream**: Substream is a sub recording of the Main recording that can be compressed in
video quality and resolution. Individual parameters can be set based on selected cameras

- **None**: Continuous LOOP recording when storage is full. This enables the system to continuously record, replacing the oldest files with the latest.

Record - OSD

1. Select various information to record , watermark and displayed on monitor in all video recordings.

4.7 Surveillance – IPC / HD Camera Setup

NOTE:

1. This section is solely for the configuration, enabling and setting for the EX5-HD series IP camera. Each camera has its own internal IP / MAC address within the XDR
2. Default IP address for the HD camera = **10.100.100.1**
3. Any IP cameras can start from IP address 10.100.100.**1 - 32**
4. Recommend setting the EX5-HD camera on CH 5 and CH 6 (by scrolling down the screen), as CH 1 – 4 are utilized for Analog Cameras

Setup:

1. Connect the EX5-HD series IP camera to the IPC slot on the XDR prior to setup
2. To enable EX5-HD camera, scroll down to CH 9 - 12 to **Enable the appropriate camera**
3. Click on Magnifying glass on the selected CH  for XDR to scan and auto detect IP address once camera is connected.
4. To view, change or manually enter IP address of each camera, user can also select the menu option

5. **Outside**: This setting optimizes the EX5-HD camera when installed in outdoor environment

If system does not detect IP address of EX5-HD camera when entered or having technical difficulty configuring the camera, select **Default**

The system will automatically detect an connected EX5-HD cameras. Select the box and enable the camera.

Reminder: **Click SAVE when done to store all settings**

If experiencing difficulty detecting the EX5-HD Camera, select Default

Select  and allow XDR to detect camera

4.8 Surveillance – PTZ

NOTE:

PTZ settings applicable only for PTZ enabled analog or IP cameras

Setup:

1. **Enable** / Disable PTZ function in each Channel

2. **Operate**: Serial / N9M, ONVIF.

3. **Protocol Type**: Serial Mode Supports

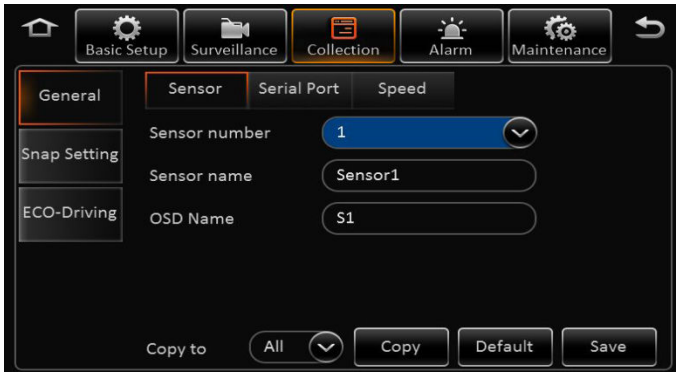
   - N9M
   - Onvif
   - Pelco D
   - Pelco-P PTZ

4. **Address**: Applies to Serial mode

5. **Test**: Test PTZ function, select Test to enable On Screen PTZ control panel

Collection of Data – General

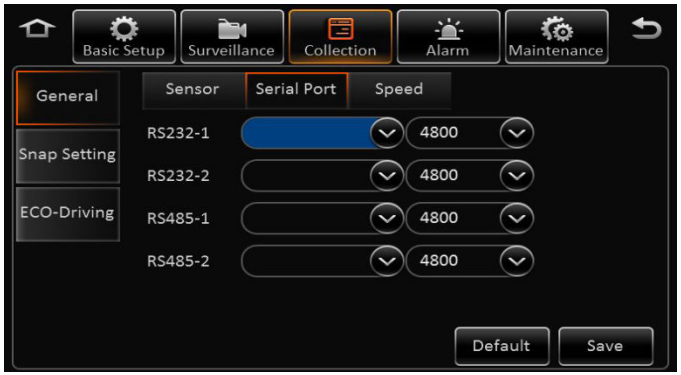
5.0 Collection – General - Sensor



Note: **Save each tab individually before proceeding to next tab**

1. **Sensor Number:** Select from drop down menu of the sensor to edit
2. **Sensor Name**: Optional – assign name to each sensor (i.e. Door, trunk, lift arm)
3. **OSD Name**: The name embedded in video and data recordings
4. **Copy**: If settings are the same, select **Copy To** individual or all sensors

5.1 Collection – General – Serial Port



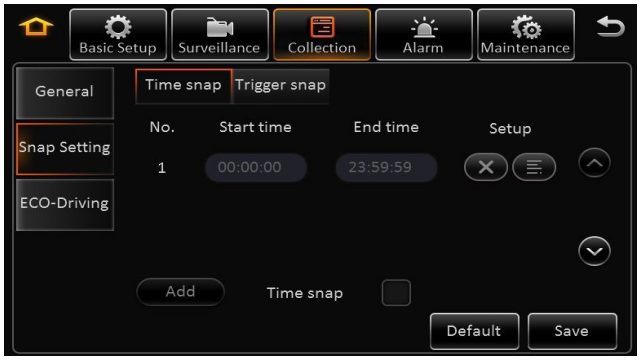
1. **RS232-1 / RS232-2 :** Applies to 3-Axis G Sensor, Expansion 485 Bus signal and GPS data
2. **RS485-1 / RS485-2** : Applies to PTZ, control panel, 485 Bus signal and GPS Data
3. **Baud Rate**: 2400 – 115,200 9 classes optional

5.2 Collection – General – Speed

1. **Unit of Measurement: KM/H or MPH**
2. **Source**: Speed determined by GPS

Collection of Data – General

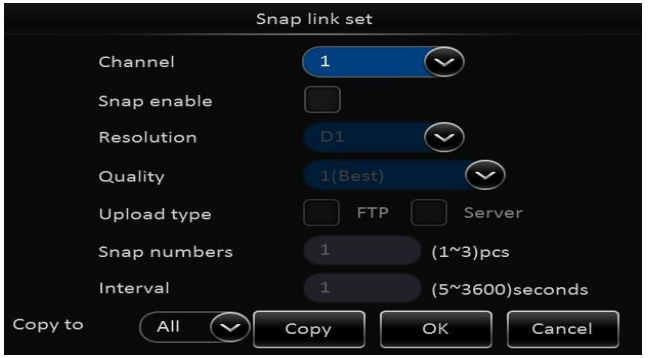
5.3 Collection – Snap Setting – Time Snap



1. **Start Time / End Time**: Set schedule of image snapshot. Check the Time Stamp Box to enable, edit and add.
2. Edit by selecting the menu icon. Delete by selecting the X icon
3. **Add**: XDR supports up to 8 different schedules for image Snapshot configuration

5.4 Collection – Snap Setting – Trigger Snap

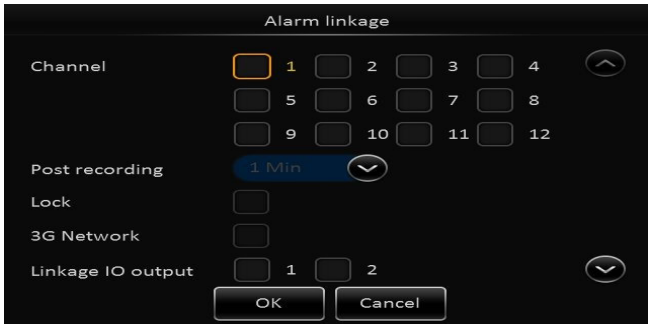
1. **Alarm Snap – Snap Link Setup:**
   - Select camera channel
   - Enable / disable image snapshot feature
   - Select resolution of image (D1, WD1, CIF)
   - Select image quality (1 -8) 1 = Best
   - Upload Type: Available only in XDR-480 and XDR580
   - Snap number of images
   - Interval (5 – 3600) seconds



Click Ok to Save, or Copy to apply same configuration to other sensors and cameras

Alarm – Base Configuration

6.0 Alarm – Base – Speed Alarm



Enable / Disable Overspeed Event trigger

Alarm Type: Important or General

Trigger: Set speed limit trigger

- Overspeed Early Warning

If max speed is set at 60 MPH, when vehicle reaches 50 MPH, system will trigger and activate an alert to optional external device (light, buzzer)

- Speed: Max vehicle speed limit

- Alarm duration (0 -255 seconds)

Alarm Linkage:

Channel: XDR supports multiple cameras to be assigned for recording when specific alarm is triggered

Post Recording: Duration of recording to be marked as post alarm event

Lock: Lock specific alarm recording to keep for specified duration – refer to

section 4.3 General > Surveillance > Record > Lock Duration days 1 – 31 days

3G: Applicable only for the XDR-580H

Linkage Output: 1 or 2 – Enable link alarm output when alarm is triggered

Output delay Time: alarm output duration after alarm is removed 0 – 255 secs

Alarm upload: Enable to upload to platform (Only on XDR-580)

Linkage screen: Link channel to show full image when alarm is triggered

PB alarm duration: Available alarm duration after urgent alarm is removed

Alarm snap: Enable to link image snapshot

Alarm – Base Configuration

6.1 Alarm – Base – Panel Alarm

Enable / Disable Panic Alarm trigger

Alarm Type: Important or General

Trigger: Set time delay for panic alarm activation 0 -255 seconds

Alarm Linkage:

Channel: XDR supports multiple cameras to be assigned for recording when specific alarm is triggered

Post Recording: Duration of recording to be marked as post alarm event

Lock: Lock specific alarm recording to keep for specified duration – refer to

section 4.3 General > Surveillance > Record > Lock Duration days 1 – 31 days

3G: Applicable only for the XDR-580H

Linkage Output: 1 or 2 – Enable link alarm output when alarm is triggered

Output delay Time: alarm output duration after alarm is removed 0 – 255 secs

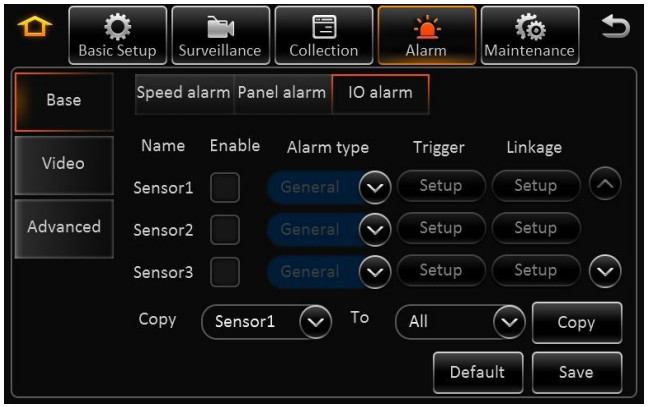
Alarm upload: Enable to upload to platform (Only on XDR-580)

Linkage screen: Link channel to show full image when alarm is triggered

PB alarm duration: Available alarm duration after urgent alarm is removed

Alarm snap: Enable to link image snapshot

6.2 Alarm – Base – I/O Alarm



Enable / Disable I/O Alarm trigger 1 - 8

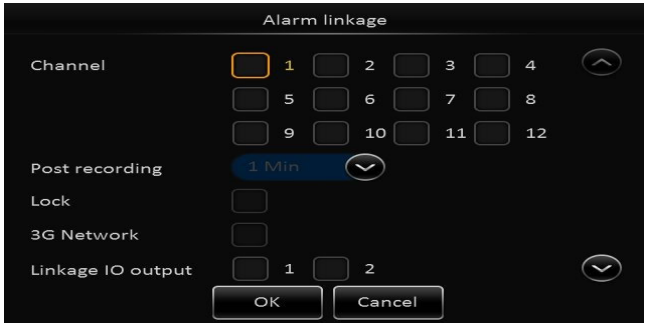
Alarm Type: Important or General

Trigger: Low or High trigger (Default is Low for alarm trigger)

For Sensor In:	**For Sensor Out:**
High Voltage: 5~12V Low Voltage : 0~2V	Triggered Voltage: 12V Default Voltage: 0V

Alarm Linkage:

Channel: XDR supports multiple cameras to be assigned for recording when specific alarm is triggered



Post Recording: Duration of recording to be marked as post alarm event

Lock: Lock specific alarm recording to keep for specified duration – refer to

section 4.3 General > Surveillance > Record > Lock Duration days 1 – 31 days

3G: Applicable only for the XDR-580H

Linkage Output: 1 or 2 – Enable link alarm output when alarm is triggered

Output delay Time: alarm output duration after alarm is removed 0 – 255 secs

Alarm upload: Enable to upload to platform (Only on XDR-580)

Linkage screen: Link channel to show full image when alarm is triggered

PB alarm duration: Available alarm duration after urgent alarm is removed

Alarm snap: Enable to link image snapshot

6.3 Alarm – Video Loss

Enable / Disable Video loss Alarm

Alarm Type: Important or General

Trigger: Channel selection

Channel: Select channels to detect video loss

Set Period / Schedule: Create schedule for video loss detection

Channel: XDR supports multiple cameras to be assigned for recording when specific alarm is triggered

Post Recording: Duration of recording to be marked as post alarm event

Lock: Lock specific alarm recording to keep for specified duration – refer to

section 4.3 General > Surveillance > Record > Lock Duration days 1 – 31 days

3G: Applicable only for the XDR-580H

Linkage Output: 1 or 2 – Enable link alarm output when alarm is triggered

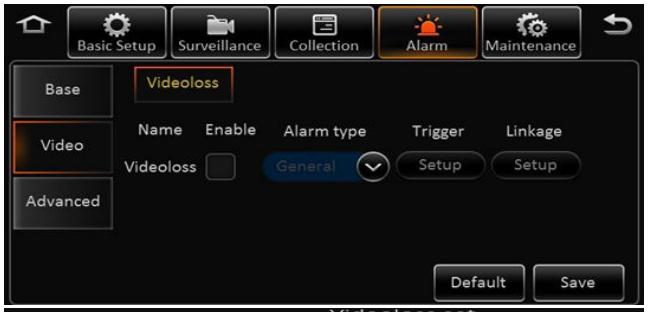
Output delay Time: alarm output duration after alarm is removed 0 – 255 secs

Alarm upload: Enable to upload to platform (Only on XDR-580)

Linkage screen: Link channel to show full image when alarm is triggered

PB alarm duration: Available alarm duration after urgent alarm is removed

Alarm snap: Enable to link image snapshot



6.4 Alarm – Advanced

G Sensor Alarm – Feature Currently Not Available

7.0 Maintenance – Configuration File Import / Export

NOTE: **If using both corded USB mouse to control and USB thumb drive for Firmware storage, a USB hub may be used to provide multiple USB port**

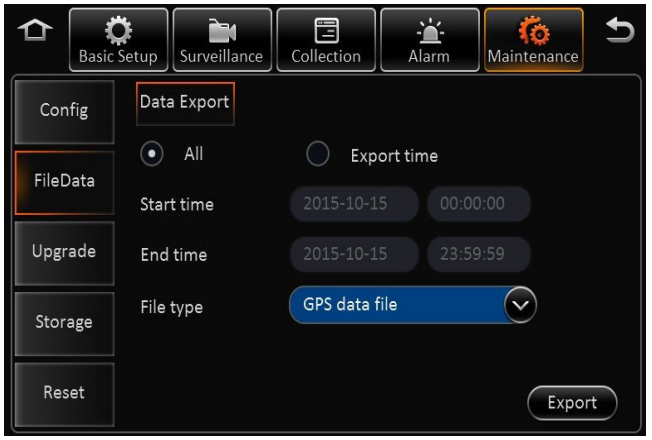
In the configuration menu, user can export and or import configuration file for system settings. This can be used for restoring a system, loading templates for setting up multiple XDR with same configuration.

- Insert USB Thumb drive to export the configuration file to the root folder, file name is ***ConfigFile***

- Insert flash drive to import configuration file into XDR. System will display notice when import successfully completed

Remark: *Config file does not import the register info and speed adaption info.*

7.1 Maintenance – File Data Export Setup



XDR supports exporting of data to USB thumb drive for specific file and time frame

Data Export File Type: GPS data file, vehicle info file, ACC info file, CAN info file, Dial info and Captured pic.

- Select All or specific time period to export

- Select start and end time

- Select file type

7.2 Maintenance – Upgrade (Firmware)

NOTE: **If using both corded USB mouse to control and USB thumb drive for Firmware storage, a USB hub may be used to provide multiple USB port**

In the Upgrade menu, user can update Firmware for XDR, EX5-HD camera (IPC) or EX4-PGM (CP4) programming tablet.

- Download and Copy firmware to a BLANK USB thumb drive
- Firmware must be saved into a folder labeled "**upgrade**" on the USB drive
- Insert USB Thumb drive to USB port and select specific Upgrade
- System will reboot and display notice when import successfully completed

For latest firmware, visit www.ventrainc.com

7.3 Maintenance – Storage Format

NOTE: Do NOT insert or remove the SD card when the system is powered on, it may cause system error and corrupt recording files

XDR uses a proprietary file format, all HDD and SD cards MUST be formatted in the XDR prior to recording.

USB thumb drive does NOT require formatting for file export/import

Storage type: Refer to HDD / SD card requirement and specification on PAGE 7

HDD (Internal) 1TB Max

SD card (Internal) - Max 128GB per slot- U1 speed minimum

USB drive for File Export, Settings Import/Export, Firmware updates

- Insert HDD and or SD card (if applicable) while system is powered off
- Select Format for storage device
- Once format is completed, capacity of each device will be displayed

- Not Found: XDR didn't detect SD card (not install or card malfunction)
- Unformatted: SD card detected, but unformatted (New HDD)

Product Warranty

Ventra Technology warrants the system against defects in material and workmanship for a period of **one (1) year** from the date of original purchase. During this period, Ventra's liability for any defective product, or any product part, shall be limited to the repair or replacement of the product, at Ventra's sole discretion.

This warranty does not apply to defects or damages resulting from mishandling, accident, abuse, negligence, lightning, water/liquid, power surges, improper interfacing, operation outside of design limits, misapplication, improper repair, or unauthorized modification.

The term "Ventra Product" is limited to the hardware components and required firmware. It DOES NOT include software applications or programs, non-Ventra products or peripherals. To the extent permitted by local law, all non-Ventra products or non-Ventra branded peripherals - such as external storage HDD and SD card are provided by the respective manufacturer's own warranties directly to you, and are not covered by this Limited Warranty.

To obtain service within the warranty period, please contact Ventra at (888) 418 3833 or tech@ventrainc.com for assistance. If product repair or replacement is necessary, a Return Merchandise Authorization (RMA) will be issued. The Customer will be solely responsible for shipping charges, insurance and proper packaging to prevent breakage in transit, whether or not the product is covered by this warranty. All shipments of repaired or replaced products by Ventra will be F.O.B. California.

VENTRA MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, AS TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF ANY PRODUCT SOLD UNDER THIS CONTRACT. UNDER NO CIRCUMSTANCES SHALL VENTRA BE LIABLE FOR ANY INDIRECT, INCIDENTAL, SPECIAL, PUNITIVE OR CONSEQUENTIAL DAMAGES INCLUDING, WITHOUT LIMITATION, INFRINGEMENT OF THIRD PARTY RIGHTS, LOST GOODWILL, LOST REVENUES OR PROFITS, WORK STOPPAGE, DATA LOSS, SYSTEM FAILURE, IMPAIRMENT OF OTHER GOODS, COSTS OF REMOVAL AND REINSTALLATION OF THE SYSTEM, LOSS OF USE, INJURY TO PERSONS OR PROPERTY ARISING OUT OR RELATED TO THE SYSTEM WHETHER BASED ON BREACH OF WARRANTY, BREACH OF CONTRACT, TORT OR OTHERWISE. IN NO EVENT SHALL VENTRA's LIABILITY EXCEED THE ACTUAL PURCHASE PRICE OF THE SYSTEM WITH RESPECT TO WHICH ANY CLAIM IS MADE.

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While every effort has been made to ensure the accuracy of the information, certain specifications are based on approximate figures

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