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2023 REC02U PRODUCTION LINE INSTALLER'S GUIDE

This manual has the necessary instructions.

Headers in RED are possible customization items. There are screenshots of settings that may need to be addressed, such as setting what channels to record.

Verity has preset every option on all
REC02U units prior to shipping.

Password: Disabled   **ACC Delay:** 60 mins.
* Format: NTSC   ***Language:** English
* Record all cameras when ACC is ON (Powered)

A new Class 10 128 GB SD card has been formatted and installed.
Note: Once the DVR is activated, it will start recording;
always check your surroundings

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Table of Contents | Bold titles for installation

Tech Support: 575-807-6004, 7 am to 5 pm EST

After Hours: 574-596-2151

(This cell number is also the mobile number for submitting photos.)

Sales and Billing 574-807-6005

Bill Verity's email: billv@veritysafe.com

The Service Ticket form is on our homepage - www.verityrvs.com
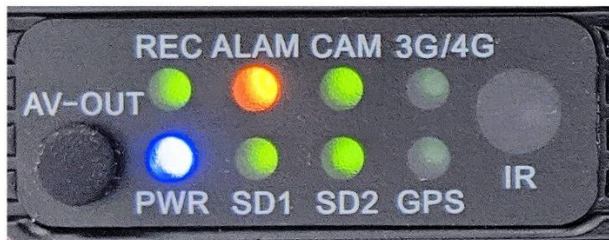
Video Recording Sign

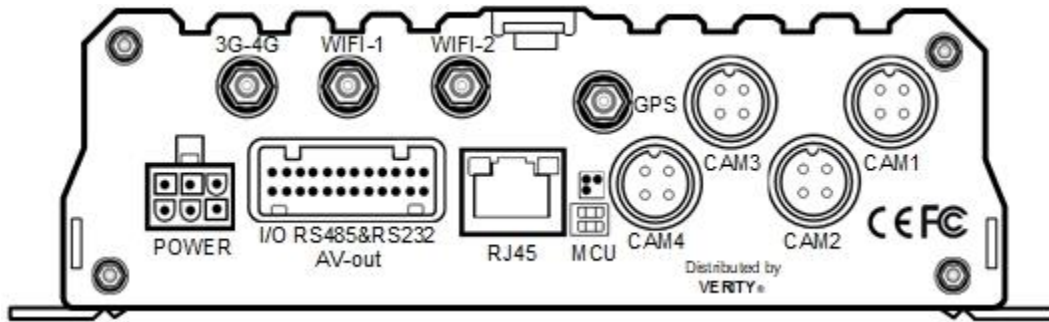Because of the legality of the recording, we are providing the sign below in each DVR. Each state has different laws. Some states have different laws county by county. One vinyl adhesive sign is included with each DVR

Verity is providing two remotes in the ERPP Kit. To prevent production delays if one is damaged during installation.

ALL information, manuals, line drawings, and cheat sheets are available on our website.

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SYSTEM OVERVIEW

SIM A slot does not apply to the REC02U

Metal Connector Tamper-resistant Cover

Rear security cover helps prevent tampering or damage to the cable connection on the back of the REC02U.

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DVR	REMOTE
CABLE CONNECTION COVER	FRONT AV CABLE
AV OUT / SENSORS	POWER CABLES
KEYS & ACCESSORIES	MANUAL

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2023 REC02U OEM INSTALL GUIDE

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Remote Overview

POWER

LOGIN

NUMBER KEYS

ENTER

DIRECTION

RETURN

CANCEL DELETE

INFO

PLAYBACK

4-IMAGE FORMAT

PAUSE STEP

FRAME

PTZ

SHORT CUT TEST

VERITY
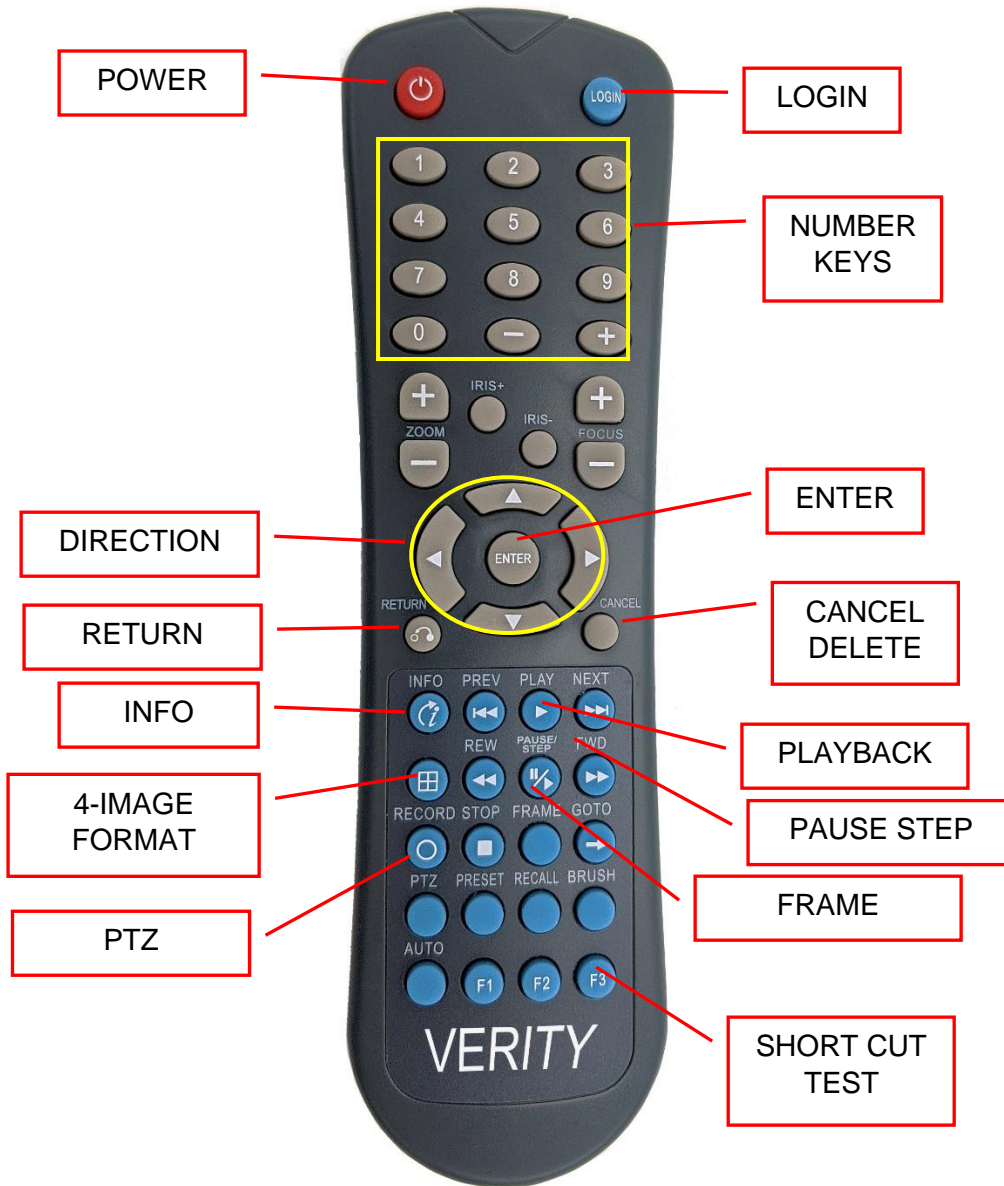
LOGIN: When the recorder is set with a password, press the Login key to input your password.

> **KEY POINT: Because of security reasons, the DVR does not provide recovery and reset features. Always keep a copy of your password written down.**

INFO: Check DVR information
Quad 4 Image Format: Number keys 1, 2, 3, 4 on the monitoring interface, are used to switch between quad view and single view; press the Quad View key to display 4 screens. You can press number 1/2/3/4 to display channel 1, channel 2, channel 3, and channel 4, respectively.

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RETURN: Return to the previous menu, and finally exit from the setup menu to the monitoring interface.

PAUSE/STEP: Used to pause playing or play images at a single step. Press the key again to recover normal play speed.

FRAME: Press this key to play a video at a frame rate.

PLAY: Press this key to start playing (search the video file to be played and select, then press the key to play it.)

FWD Forward key in four categories: 2X,4X,8X,16X

REW Rewind key in four categories: 2X,4X,8X,16X

NEXT: Page down or roll to the next file

PREV: Page up or previous file

Important: Make sure the remote is facing the front of the DVR during remote operations.

ADD02CP is an optional item

For applications where an IR extender is needed, our IR extender will allow you to place the DVR hidden behind a wall and use our ADD02CP. This IR/LED panel has a 16 foot extended cable. This panel provides feedback on the operation of the DVR. Never miss another recording due to issues that may occur over the years.

PWR: Power-on light.

REC: Record light recording.

HDD: For hard drive units: flashes when recording

ALM: Indicates an "Alarm" event

V-LOSS: Video loss light: flashes when video loss.

ERR Error light

IR: IR receiver

2.2"

1.3"

PWR REC HDD

ALM V-LOSS ERR IR

VERITY LED PANEL

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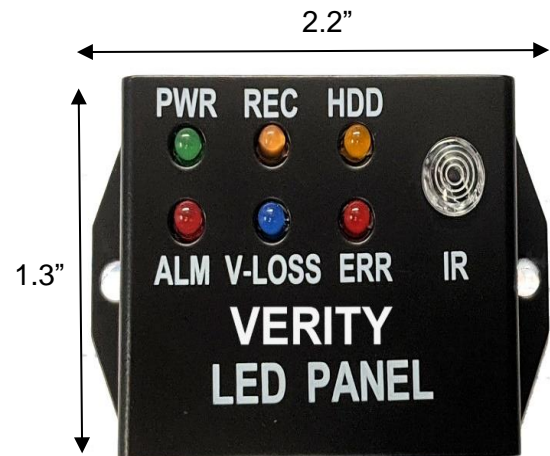
Installation

DVR Unit

Dimensions
170 x 142 x 50mm
Including security cover 170 x187 x 50mm

Power Cable

GND	Ground	DC IN+	Power Wire	ACC	Ignition Hot

GND | Ground wire needs to go to a chassis ground post or proper grounding location suggested by the truck OEM.
DC IN+ | 12v. Power Wire. This wire needs to be connected to constant power. The DVR can be set to run past the ignition being turned off. (See Operation Manual to find direction on how to set this option.)
ACC wire is ignition hot wire. This allows for continued recording after the truck has been turned off.

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Placement

The remote is an IR remote, and the DVR needs to be in line sight of the DVR.

If you install the DVR behind a wall or in a cabinet, the IR remote will not work.

For these applications, our IR extender will allow you to place the DVR hidden behind a wall and use our ADD02CP.   This IR/LED panel has a 16 foot extended cable. This panel provides feedback on the operation of the DVR. Never miss another recording due to issues that may occur over the years.

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OPTIONAL: ADD02CP

If our LED Control Panel & IR Extender is added, there is a connector on the trigger wires.

Once the ADD02P has been installed, program the DVR to accept it.

Click on
PERIPHERALS

Click on
RS485

PWR: Power light indicates when MDVR has power.
REC: Recording light indicates recording is functional.
HDD: Hard Disk Light indicates Hard Disk is functional (This does not apply to DVRs that use SD cards.)

ALM: Alarm Light indicates the following alarms: IO Linkage Alarm, Speed Alarm, G-sensor Alarm, Temperature Alarm, and HDD Error Alarm.
V-LOSS: Video lost light.
ERP: Error light indicates functioning errors.
IR: Sensor for the MDVR Remote Control.
To access, use the following:
The Baud rate needs to point to "Panel"

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VIDEO | TIGGERS

Video | Audio Out

Camera Trigger Wires

Option Trigger Wires
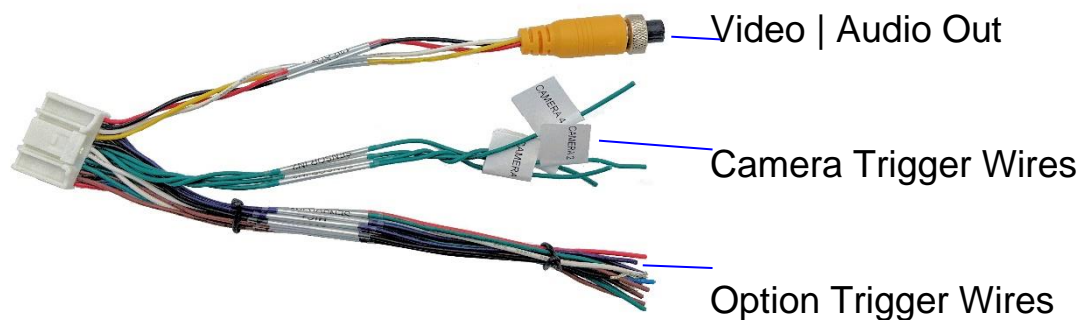
Camera trigger:
Needed triggers are tagged

Option Trigger Wires:
These will be tagged to match added options.

Front Video | Audio Out

Do you need to change from an RCA connect to 4-pin or BNC? Call us, we have your required adaptors.

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Connecting Harnesses
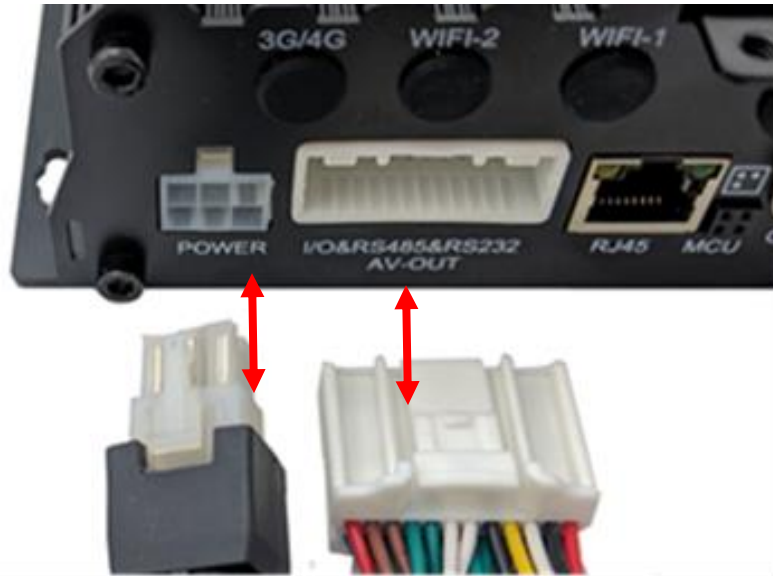
Connecting Cameras

Connect camera to the corresponding camera IN.

Metal Connector Tamper-resistant Cover

Security cover helps prevent tampering or damage to the cable connection on the back of the MDVR

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REC03 DVR with GPS

The installation of the REC03 has one added step. The GPS Antenna needs to be installed.

REC03 + GPS

Antenna Location

The location of the antenna is Key to successful operations.

Although many say the "magnetic style" GPS antennas, which are the industry standard, are waterproof, they are not truly waterproof in many ways. Most are only IP65 rated.

We do include the magnetic style GPS antenna as standard with our systems. Most often the antenna can simply be mounted on the truck's dashboard, near the base of the windshield. This location allows the antenna to have clear and unobstructed access to the sky. Most windshield glass should not significantly hinder reception from GPS satellites.

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Acceptable GPS Signal

Placing the antenna in a corner distorts the signal.

Place the antenna where it can have an unobstructed view - preferably on an open flat surface.

When the angle of the windshield prevents an upward or outward path to the satellite in the sky, the antenna will not work. Some bullet-proof/protective glass may also impede signals. The antenna must have an unobstructed view to the satellite.

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USER LOGIN (password)
IMPORTANT: DO NOT SET THE PASSWORD
FOR THE END-USER
Because of security reasons, there is no password reset.

Click the login button on the remote; the login interface will appear. Please input your User Name, Password, and the menu will show up.

The default UserName is **admin**, with a default password of **888888**.

SECURITY SETUP

Enable – disable password

\# 1 turns password on/off
\# 2 ADD a user
\# 3 MODIFY a user
\# 4 DELETE a user
\# 5 SAVE Setting

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M-STREAM (Sets which channels record)
IMPORTANT PART OF
FINAL OEM SETTINGS

To access, use the following:
Use ADMIN   The password: 888888

Click on
RECORDING

Click on
M-STREAM

This screen provides the ability to configure the recording for each of the MDVR's video channels and provides the optimum balance of Video Type, Frames per Second (FPS), Resolution, and Quality.
This section will ensure the maximum file storage is achieved.
The higher the FPS setting and resolution, the more storage will be required for the file.

Channel: Choose specific or all video channels to modify settings
Enable: ON: Enable selected video channel recording
         OFF: Disable selected video channel recording
RES: D1, HD1, CIF, **960H (960H needs to be selected)**

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FPS: (1 to 30) Select the Frames Per Second to be recorded. The higher the number, the closer to real-time fluidity (30 FPS for NTSC and 25 FPS for PAL settings) action will be recorded. The default is 25 FPS.

PIC QUALITY: (1 to 8) Enter the record resolution setting desired with 1 being the highest quality. A higher-quality setting will require more file storage space yet supplies a more detailed video.

AUDIO: Select from two options:

ON: Enable audio recording (If selected, camera needs to have a microphone.)

OFF: Disable audio recording.

DATE & TIME (Optional OEM Setting)

Click on **BASIC**
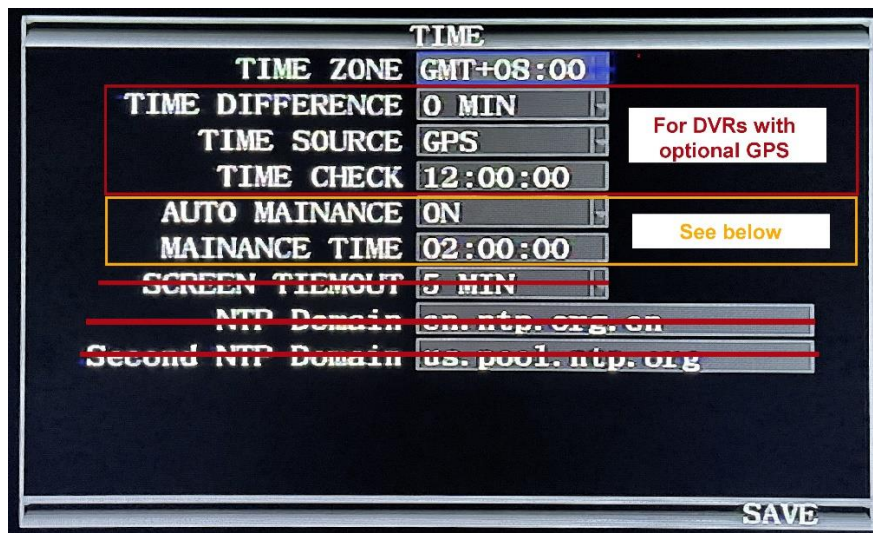

Click on **TIME**

DATE TIME: THIS IS IMPORTANT for timestamping when recording. This is also necessary to allow for file searching by date and time.

Date Format: Selectable

DST: Use to set the parameters for Daylight Saving Time option.

    The selected date and time will appear to the right of the section.

Time Format: 24 hr clock/military time or 12 hr. am/pm

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Time Zone: enter the desired GMT zone for your location
Time Source: if the unit has GPS tracking, the GPS will set the time.
Time Check: option for full option MDVR model
Auto Maintenance: leave set as default "on"

It is advised to enable the auto-maintenance feature when the device is operating for a prolonged time, allowing the device to automatically restart within the set maintenance time. **NOTE: The DVR will reboot during this time. It will stop recording during the quick reboot.**

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VEHICLE SETTING

To access, use the following:

Click on
BASIC

Click on
VEHICLE

Enter information related to the driver and company.
The DEVICE NUMBER is the only field required to have data entered.
SERIAL NUMBER: Predetermined, no input needed
BRANCH NAME: Company name (up to 20 characters)
OFFICER NAME: Driver name or ID (Up to 20 characters)
SIM NUMBER: Phone number for a MDVR contained SIM Card if installed

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INSTALL 256 GB SD CARDS

Install SD Card 1: label side facing **up**

Install SD Card 2: Label side facing **down**
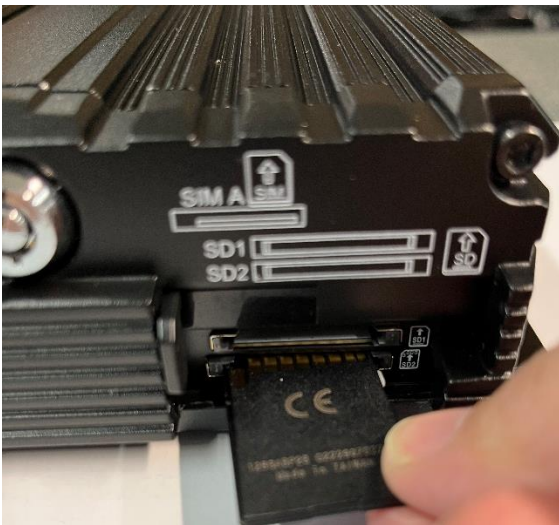
FORMAT SD CARD
SD card must be formatted while in the DVR

To access, use the following:

Click on TOOLS

Click on FORMAT

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FORMAT allows for formatting of the SD card(s). NOTE: SD cards need to be formatted <u>while in the</u> <u>DVR</u> to work properly.
This screen also supplies information about space available and space used.

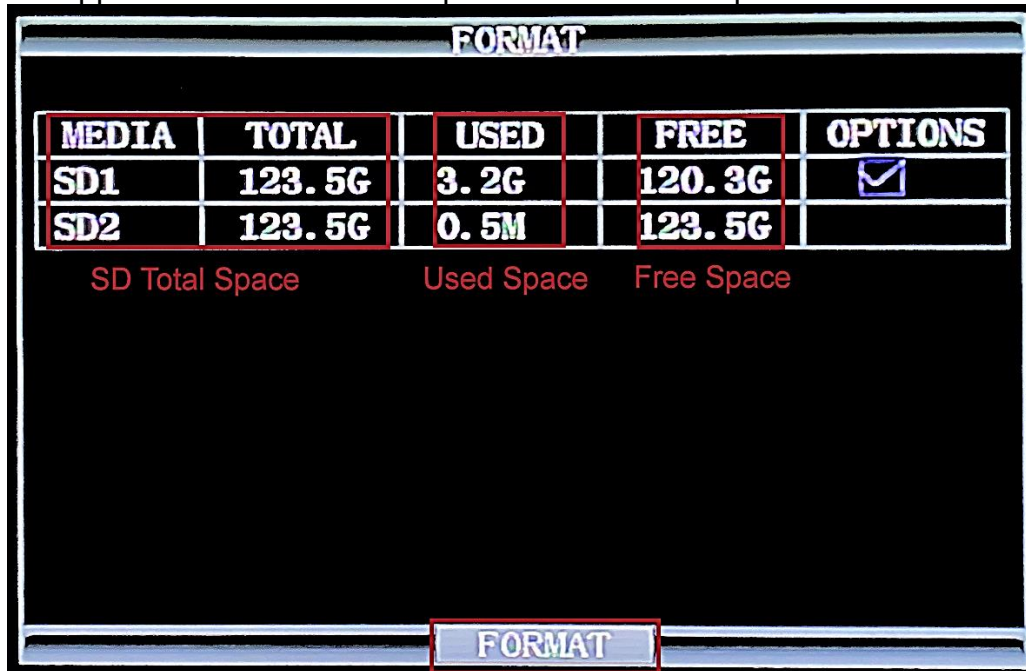Select the SD Card then choose FORMAT
IMPORTANT NOTE: when formatting the SD card, the data on the SD Card will be erased.
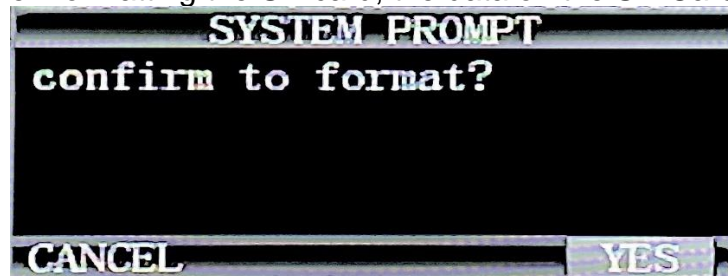
SD status is preselected to show on the screen. (See settings to change)

| Unformatted | Recording |
| Standby | No Space |

After formatting is done and the system reboots, the red CH1 on camera 1 screen will turn to red (as below) indicateing the recording is active for that channel. The same is true for the other channels (CH2, CH3, CH4)

If the channel icon is not in a red box "CH1", the channel is not recording.

Not recording	Recording
CH1	CH1

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ADD/MODIFY USER End-user

To access, use the following.

Click on
BASIC

BASIC

Click on
USER

USER

There are two levels of users:
System user: Grants unlimited access and change privileges, including creating User Accounts, Passwords, and Restricted Access Rights
General user: Provides Password, Limited Rights
Password: 6 digits (numbers only)
 *Confirm the new settings are correct and save the file.

After a User Account is entered and saved, it will be necessary to login again using the new Password.
Because of security reasons, there is
NO RECOVERY MODE.
WRITE THE NEW PASSWORD DOWN!

Note: On the opening screen, you need to select the user first if you wish to modify or delete that user.

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DELETE USER End-user

To access, use the following.

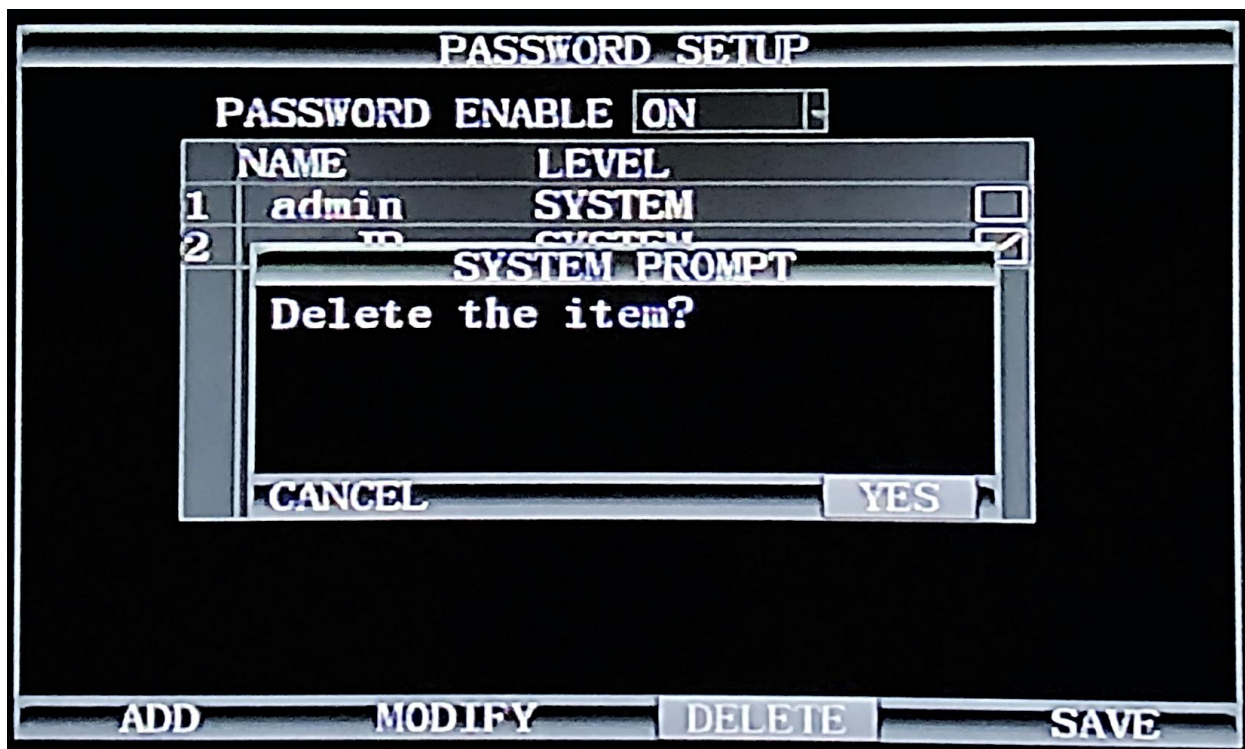Click on
BASIC

Click on
USER

NOTE: Once USER is deleted, it cannot be undeleted.

Select the user first, then choose DELETE.

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RECORD BASIC SETUP End-user

To access, use the following:

Click on
RECORD

RECORD

Click on
RECORDING

RECORDING

RECORDING SETUP

RECORD MODE	AUTO
OUTPUT VOLUME	04
PACKET TIME	45 MIN
REC/ACC OFF	NONE
OVERWRITE	ON
ALM FILE LOCK	1 DAY
ENCRYPT VID	OFF
UPLOAD	UPLOAD+REC
ADAS Rec Num.	2
DSM Rec Num.	2
BSD Rec Num.	2

NEXT   SAVE

Pocket Time: Playback file sizes. Select from 5, 15, 30, 45, 60-minute files.
The factory default is 45 mins.
Overwrite: allows the MDVR to continue recording over the oldest file.
ALM FILE LOCK does not apply
REC/ACC OFF: Allows selection of the camera view(s) which WILL NOT be recorded when the vehicle is in the **ACC mode**
NONE: Every camera view will be recorded per preset parameters. *Factory preset is recommended*
ALL: Every camera's view *will not be recorded*
CH: Choose a single specific camera view to not be recorded

RECORDING SETUP

PRE-RECORD	10 Sec	(0-20s)
POST-RECORD	025 Sec	(15-300s)
ALARM DURATION	075 Sec	(5-255s)
IPC AMOUNT	0	
4G upolad	ON	
File System	standard	
Text Size	Normal	

SAVE
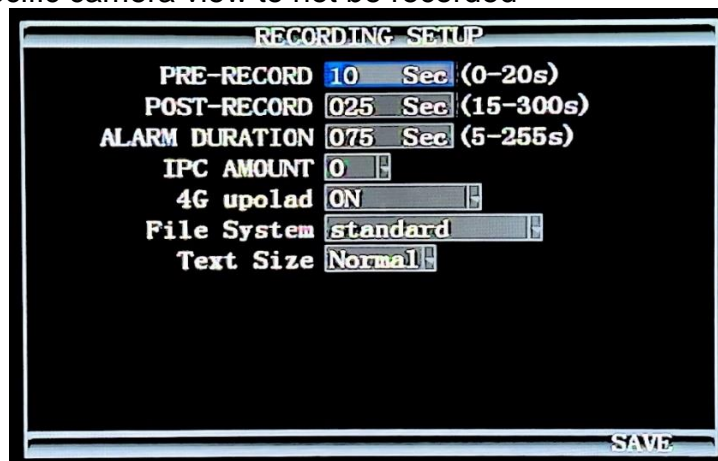
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RECORDING SCHEDULE End-user

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To access, use the following:

Click on
RECORD

RECORD

Click on
SCHEDULE

SCHEDULE

The default setting is to record whenever the MDVR is powered. The first option allows for setting the same period of time for all seven days of the week. The following enables setting a period of time for each day.

RECORDING SCHEDULE		
PERIOD 1		
	START	END
EVERY DAY	00:00:00	00:00:00
MONDAY	00:00:00	00:00:00
TUESDAY	00:00:00	00:00:00
WEDNESDAY	00:00:00	00:00:00
THURSDAY	00:00:00	00:00:00
FRIDAY	00:00:00	00:00:00
SATURDAY	00:00:00	00:00:00
SUNDAY	00:00:00	00:00:00

Everyday:
Scheduals
entire week

Mon-Fri: Allows
for daily
scheduling

SAVE

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DISPLAY SETUP End-user

To access, use the following:

Click on BASIC

Click on DISPLAY

Select what information is desired to display on the screen. Some features like GPS will not display properly unless the DVR has the GPS option.

Speed need GPS
Temperature: Optional
Vehicle-num: displays the vehicle number

DISPLAY SETUP

VIDEO OUTPUT TYPE NTSC
PREVIEW ON
PREVIEW CH CHAN1

OUTPUT MUST BE NTSC
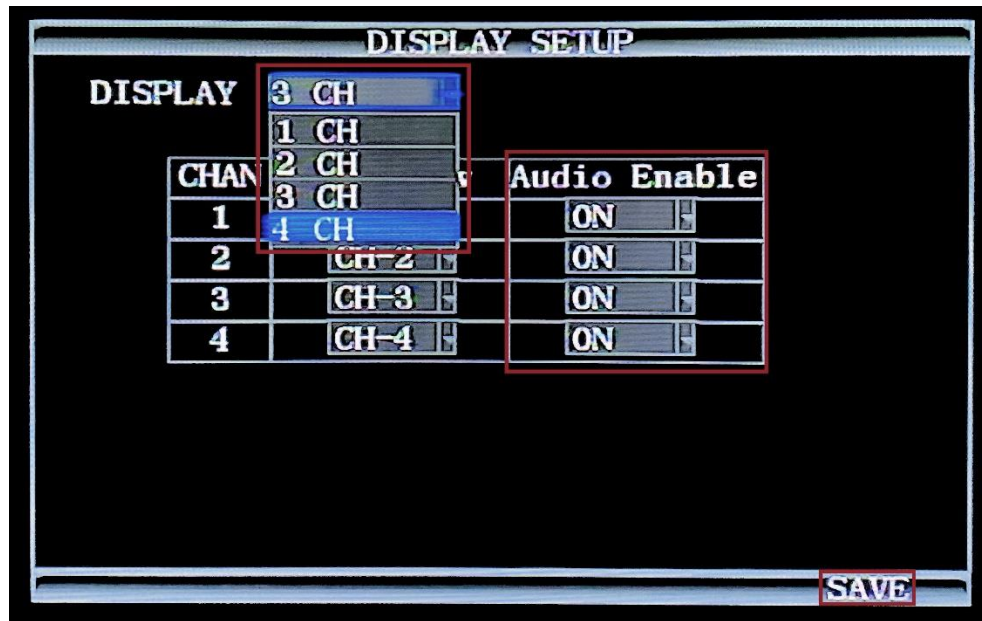
NEXT   SAVE

DISPLAY SETUP

DATE AND TIME ON
SPEED OFF   **Requires Optional**
TEMP OFF   **GPS Function**
VEHCILE-NUM OFF
I/O STATUS OFF
GPS COORD OFF
HDD STATUS ON

NEXT   SAVE

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DISPLAY: Choose how many channels will show on screen. Enable/Disable Audio by drop-down list ON/OFF

NOTE: VIDEO LOSS will display when no camera is connected or the video signal is lost from the camera. A damaged cable can cause video loss from a camera.
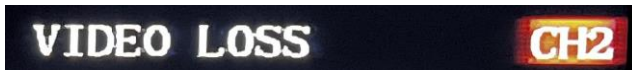
The screen will display as follows:

1 Screen

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2 Screen

3 Screen

4 Screen

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FLIP MIRROR IMAGING

To access, use the following:
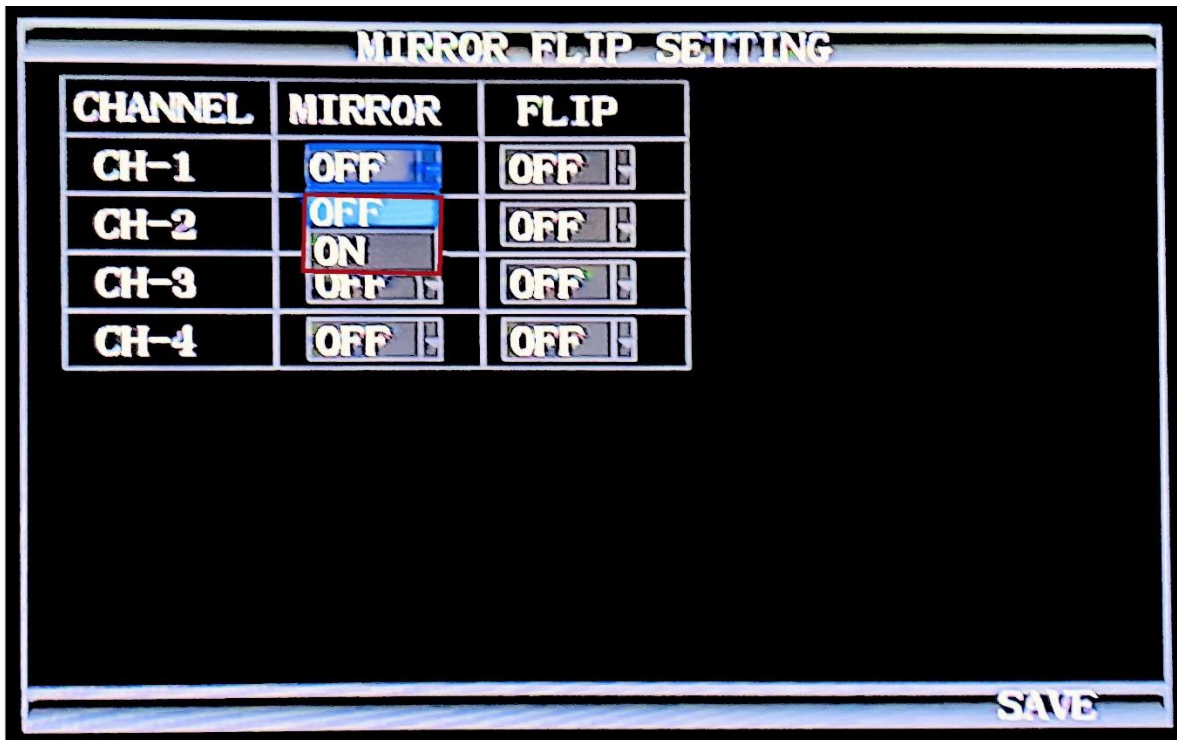
Click on BASIC

Click on FLIP

Select the desired image orientation by turning on and off the MIRROR and FLIP setting.

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SETTING THE TIME-OFF SETTING. Adjust for turn signals.

Note: the MDVRs call camera triggers, sensors. When using a turn signal wire as the trigger for the side cameras, a power-off time delay needs to be added. This will keep the image on when the turn signal flash powers off. A 3-second power-off will keep the side cameras on all the time.

To access, use the following:

Click on BASIC

Click on Sensors

Sensor / Camera Designation
DVR inputs:
CAM 1: rear camera
CAM 2: driver side
CAM 3: passenger side   **CAHNGE TO IO 2 and SAVE**

The sensor set is changing sensor/camera 2 Carera trigger functions.

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LINKAGE DELAY set to **3 SEC**
ENABLE is set to **ON**
SAVE

SENSOR SETUP

SENSOR	IO 2
NAME	IO2
LINK TO	CHAN 2
LINKAGE DELAY	3 Sec — SET TO 3
ENABLE	ON — TURN ON
TRIGGER LEVEL	HIGH
TYPE	ALARM
ALARM DURATION	20s
SNAPSHOT	OFF
UPLOAD PLATFORM	ON

SUMMARY   SAVE

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G-SENSOR SET-UP

To access, use the following:

Click on
ALARMS

Click on
G-SENSOR

G-SENSOR SETUP (accelerometer) enables the REC02U to monitor the movement of the vehicle via 3 Axis (X, Y, Z). These axes can be used to trigger a response based on the trigger values set in the G Sensor Menu. Readings from the sensor may indicate hard braking, acceleration, impact, sharp turns, etc. This information helps evaluate driver and vehicle performance along with load dynamics.

The three AXIS of movement of the monitored vehicle are:
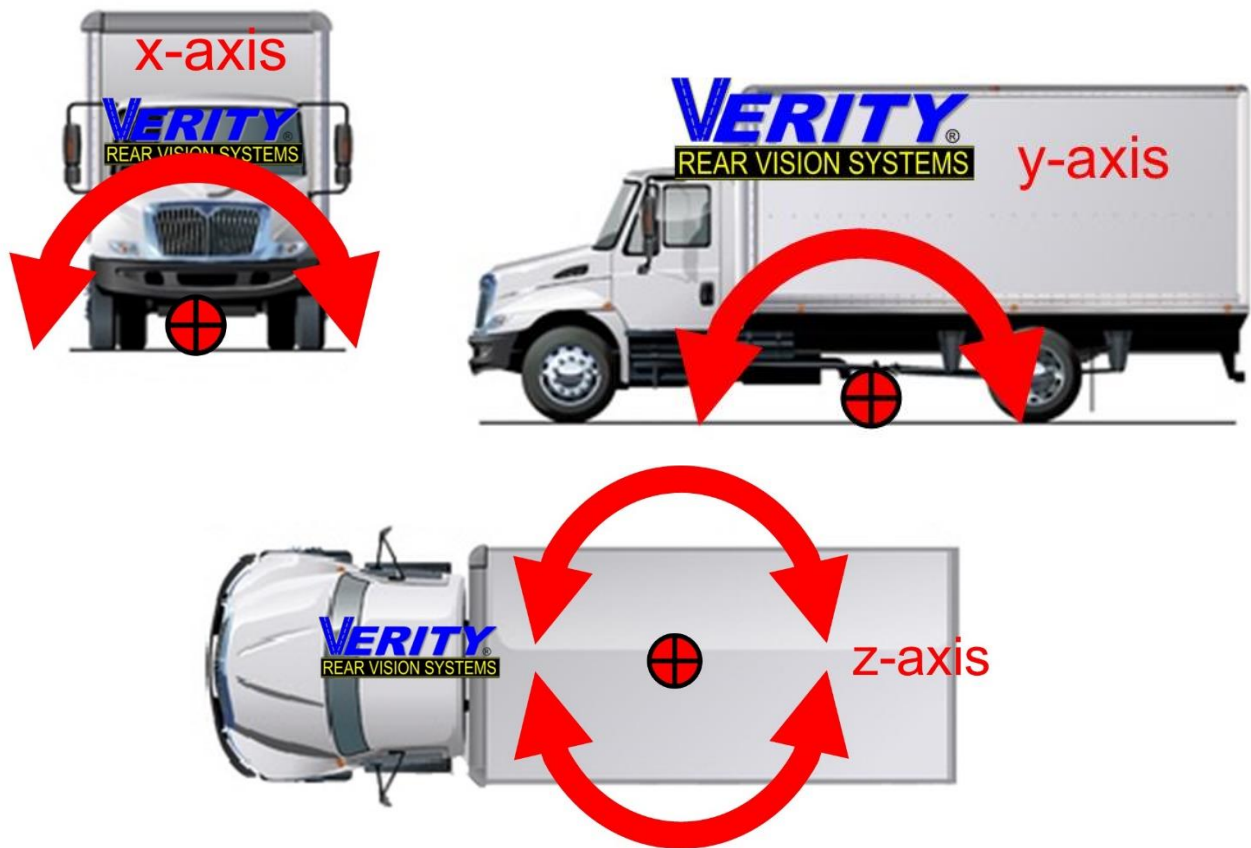X = ROLL   Possible high speed. Load causing vehicle shift
Y = PITCH   Possible Hard braking or acceleration, speed bumps, etc.
Z = YAW   Possible bad shocks, uneven road surface or unsecured load, etc.

	DATA	ENABLE	TRIGGER	TYPE
X	-0.03	OFF	02.00 G	EVENT
Y	0.03	OFF / ON	02.00 G	EVENT
Z	1.12	OFF	02.00 G	EVENT

CALIBRATE   SAVE

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DATA: displays the current G Force reading for each Axis
ENABLE: Select from two options: ON – OFF
TRIGGER (THRESHOLD) Enter the G Force setting at which to trigger a response

TYPE Select the Type of Trigger response required:

ALARM: Sends a trigger to generate an alarm that can be searched
EVENT: Sends a trigger to enter a message in the ALARM/EVENT Log

CALIBRATE Select after installing the REC02U to calibrate the G Sensor

SEARCH OPTIONS

The VIDEO SEARCH and SEARCH LOG Menu allows the search of all logged events or to search for specific events the MDVR recorded on the installed SD card.
The colored grid shown lists the days of the search month. To expedite file searches, days with recordings available have been highlighted.

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Click on
SEARCH

Click on
VIDEO

SEARCH DATE: Enter the date to be searched
START TIME: Enter the Start Time in 24-hour format for the files to be searched
END TIME: Enter the End Time in 24-hour format for the files to be searched
PATH: Choose recording from SD 1 or SD 2
TYPE: Select from system recordings or alarm recordings
CHANNEL: Search recordings from a specific channel

SEARCH LOG: search log activities. Allows viewing alarms such as G-Sensor triggered events

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