

User Manual

AGCO Dakota Micro® AHD 9" Quad DVR Monitor



DM Part Number(s)	Description(s)
AG-H9QD	This AGCO Dakota Micro® kit includes one (1) AHD 9" quad DVR monitor and accessories.

Always read the manual prior to operating this equipment. Also, please follow all safety signs and precautions.

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Included Components

Description	Picture
AGCO Dakota Micro® AHD 9" Quad DVR Monitor	
Dakota Micro® AHD 9" Quad DVR Monitor Wire Harness PN: DM-HMWH	
Dakota Micro® AHD 9" Quad DVR Monitor Remote PN: DM-H9QDRMT	
Dakota Micro® 9" Monitor Sun Shade PN: DM-9Shade	
Dakota Micro® 9" Monitor U-bracket and Hardware PN: DMAC-9M-Bracket	
Dakota Micro® 2.1 Barrel Male to Auxiliary Power PN: DM-12V	
Dakota Micro® 2.1 Barrel Male Hardwired Power PN: DM-HDWRE	

Optional Components

Description	Picture
Dakota Micro® 2.1 Barrel Male to Electrical Outlet Power PN: DM-PA3	

Standard Features

Monitor

- Features the latest in Analog HD technology
- View 1,2,3, or 4 cameras at the same time
- Multiple camera layouts
- LED backlit
- Compatible with NTSC or PAL cameras, simultaneously
- Compatible with AHD or CVBS cameras, simultaneously
- Advanced LCD technology allows you to clearly see your image from any angle
- Mirror the view of any of your cameras for use as a backup camera
- 16:9 aspect ratio
- 4 Camera Inputs
- Event triggers for each camera allow for triggered events to bring your camera to full view (I.E. putting the vehicle in reverse)
- Color, brightness, contrast, and volume controls that allow comprehension for use in different environments.
- ACC wire allows for the monitor to power on/off with ignition

Monitor Installation & Mounting

Mounting Precautions

Remove your monitor carefully from packaging and inspect all mounting hardware. Mounting location is the most important part of the monitor installation as it ensures you the maximum visual benefit from your Dakota Micro system. With that said, when installing your monitor, ensure to follow these three (3) precautions:

1. The monitor is out of direct sunlight. This will prolong the life of the unit as well as ensure optimum visibility.
2. The monitor does not obstruct view.
3. The monitor does not interfere with the normal operation of equipment.

Warning: Dakota Micro, Inc. is not responsible for any damages caused to your monitor or yourself due to the improper installation or use of a suction cup monitor mount, whether it be product sold by DM or product purchased from another source.

Universal Bracket Mounting

1. Hold monitor U-bracket in place on monitor.
2. Attach bracket with included wing bolts.

Finalizing Universal Bracket Installation

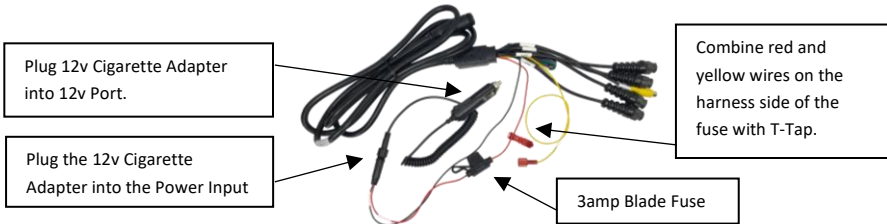
1. With the mount and monitor attached, find, and mark the desired position for the monitor.
2. Remove the monitor from the mount.
3. Attach the monitor to the mount and tighten the wing bolts. (**DISCLAIMER:** Use **ONLY** the bolts included in kit, bolts any longer will damage your monitor)

Power

Note that both the power (red) and ACC (yellow) wires need to be powered for the monitor display to turn on. Depending on your needs, there are a few different ways to power your monitor and/or recordings.

Cigarette Adapter- No recording when Power Off

Note: This scenario does not allow the monitor to record once power is shut off or removed.



1. Connect the power (red) and ACC (yellow) wires together with the provided T-tap. To protect the circuit, combine before the fuse.
2. Plug the 12v Cigarette Adapter into the Power Input.
3. Power the 12v Cigarette Adapter by plugging in to any 12v accessory or port.

Cigarette Adapter- Recording when Ignition Off

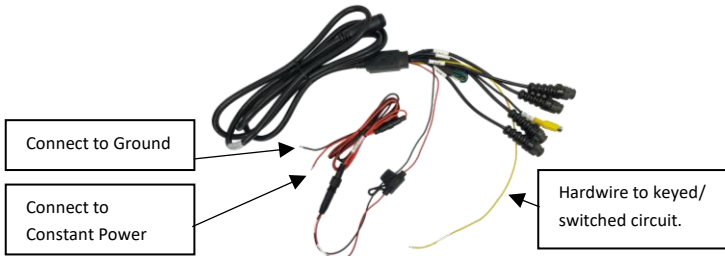
Note: This scenario allows the monitor to record even when the ignition is off. You must have a 12v Cigarette Adapter plugged into a port with constant power for this to work.



1. Hardwire the ACC (yellow) wire to the vehicle's keyed/ switched wire or fuse.
2. Plug the 12v Cigarette Adapter into the Power Input.
3. Power the 12v Cigarette Adapter by plugging in to any 12v accessory or port with constant power. Note: If not plugged in to a port with constant power, the recording feature will not work if the vehicle ignition is turned off.

Hardwire Adapter- Constant Power

Note: This scenario allows the monitor to record even when the ignition is off. This installation is best used when you need constant power when a vehicle is off, but do not have a 12v cigarette adapter port available to use. Hardware is included.

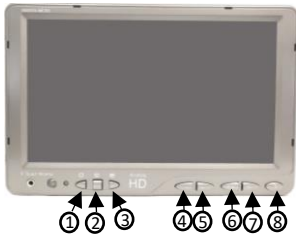


1. Hardwire the ACC (yellow) wire to the vehicle's keyed/ switched wire or fuse.
2. Hook the power (red) to a constant power circuit.
3. Hook the ground (black) to a proper ground.

Warning: Dakota Micro, Inc. is not responsible for any damage caused to your monitor, or yourself, due to the improper installation, whether it be product sold by DM or product purchased from another source. We recommend contacting a vehicle specialist before completing work yourself.

Monitor & Remote Operations

Monitor Operations



1		Single camera image- one (1) camera image at a time
2		Split Screen- two (2) camera images at a time
3		Quad Screen- four (4) camera images at a time
4	- Key	To Decrease parameter
5	+ Key	To Increase parameter
6	MENU	Allows users to access the menu. Once in the menu, toggles through menu options
7	AV	Each button press switches between AV1, AV2, AV3, & AV4. Also, selects menu options within sub menus.
8	Power	Powers Monitor ON and OFF (2 Second delay)
9	Battery	Saves setting for DVR function
10	SD Card	Required for onboard recording

Remote Operations

	POWER ON (give it a few seconds)/OFF
	Switches between video channels
	N/A
	Rewind
	Navigation Arrow
	Fast Forward
	Navigation Arrow
	Enter Button in Menu
	Navigation Arrow
	Previous File/ Skip
	Navigation Arrow
	Next File/ Skip
	Back Button in Menu
	Play/ Pause
	N/A
	N/A
	Activates Menu
	N/A



Monitor Wire Harness Details

Harness Components

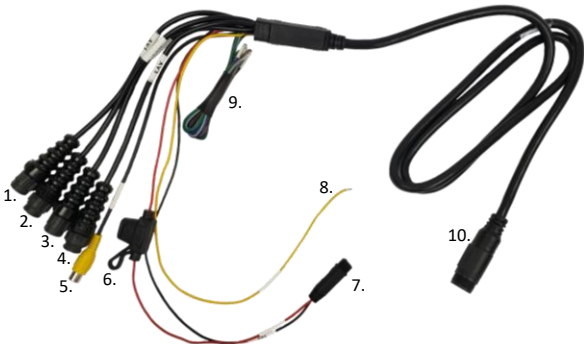
1. AV1-Audio/Video Input
2. AV2-Video Input
3. AV3-Video Input
4. AV4- Video Input
5. RCA- Video Output
6. Fuse
7. Power Input
8. ACC Power
9. AV1-4 Event Trigger Wires 1.
10. Input to Monitor

Event Trigger Wire Color Guide

1. Camera 1- Gray
2. Camera 2- Green
3. Camera 3- Blue
4. Camera 4- Brown




Event Trigger Wires Explained

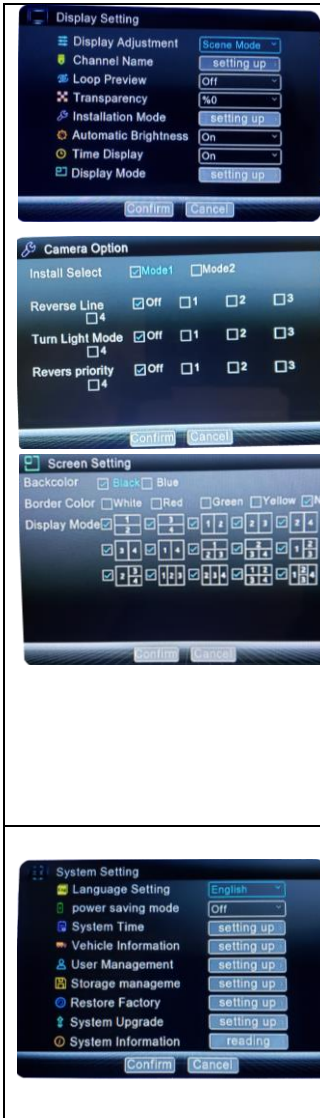
Event trigger wires can be attached to any 12v or 24v positive output event switch or supply. The event circuit should be neutral in its normal state and change to HIGH (12v or 24v) when the event is active. This will cause the monitor to automatically switch to that camera, regardless of the state of the monitor (i.e. ON/OFF or different channel selection). Up to 3 cameras can be triggered on and simultaneously displayed at the same time. For example, if you have trigger wires 2 and 4 hooked up to a positive event, a split screen of cameras 2 and 4 will be displayed. You can also set a camera to be a priority so when it is triggered it will override any other image to full screen. See Menu Setting for more details.



Menu Settings

1. Press the MENU button on the face of the monitor or remote.
2. Use the AV button on the monitor (up and down arrows on remote) to select an item under each section. Selected menu items turn blue.
3. Use MENU key on face of monitor to select menu items (MENU button acts as an ENTER button)
4. AV button moves your cursor down the list of menu items
5. MENU button brings up drop down of sub-menu options
6. AV button allows for selection of sub-menu items
7. To exit: Press AV Button to move cursor to bottom of menu screen. Use + to select Cancel. Press MENU to select CANCEL option.

	<p>Main Menu</p> <p>Playback: Access to and control of recorded events</p> <p>Record Set: Adjusts monitor display settings</p> <p>Display: Adjusts monitor display Settings</p> <p>System: System Settings including time setup</p>
	<p>Record Query "Playback" (Memory card must be in place):</p> <p>Channel Select: Select Cameras (channels) to search</p> <p>Audio Output: Not Applicable</p> <p>Video Type: Choose type of recorded event to search</p> <p>Search Date: Search recordings by date</p> <p>Start Time: Search recordings by start time</p> <p>Stop Time: Search recordings by stop time</p> <p>Storage Device: Search SD Card (no Hard Disk available)</p> <p>Once all selections are made, select "Query." Selecting "Cancel" will exit screen and clear all selections.</p>
	<p>Record Set</p> <p>Channel Select: Select which camera (channel) is being recorded</p> <p>Flameout Delay: Sets delay for monitor to power off after the ACC wire is disconnected (or key is turned off)</p> <p>Record Time: Select amount of time to be recorded</p> <p>Record Mode: Select record mode</p> <p>Image Flip: Allows adjustment of camera images</p> <p>Anti-Collision: Not applicable</p> <p>Encode Setting: Allows adjustments to video settings for each camera (channel)</p> <p><u>Channel Select:</u> Choose which camera (channel) to adjust</p> <p><u>Resolution:</u> Set resolution for Mainstream or Sub stream</p> <p><u>Image Quality:</u> Set image quality for Mainstream or Sub stream</p> <p><u>Advanced:</u> Set frame rate, rate type, rate, and frame interval from mainstream and Sub stream</p> <p>Print Setting: Labeling recording</p> <p>Audio: Not Applicable</p>



Display Setting

Display Adjustment:

Scene Mode: Adjusts look of entire display-highlight, film, brilliance, cool, warm, custom. Adjustment of brightness, contrast, saturation, & hue of chosen scene also available

Image Adjust: Allows adjustment of individual cameras- brightness, contrast saturation, hue. You can also individually flip each camera.

Channel Name: Individually title cameras

Loop Preview: Set Auto rotation time between screen views – OFF, 3,5,8,10, or 15 seconds

Transparency: Adjust transparency of menu display in 10% increments from 0-50%

Installation Mode: Choose from more default camera view options.

Install Select: Mode 1 is regular screen view and Mode 2 flips screen upside down.

Reverse Line: Check the boxes of which cameras (or none) you'd like to view the reverse guidelines. Note, reverse lines can only be displayed in full screen one at a time.

Turn Light Mode: N/A

Reverse Priority: Select which single camera overrides any other rigger event when reversing

Automatic Brightness: Turns auto dimming function ON/ OFF

Time Display: Turns screen time ON/OFF

Display Mode: Allows adjustment of how cameras are displayed on screen as well as background & border colors

Back Color: Select Black or Blue for the background color

Border Color: Choose between White, Red, Green, Yellow, or No Border Color

Display Mode: Pick the camera display arrangement options available when toggling between layouts

System Setting

Language Setting: Select Language

Power Saving Mode: Set Power Saving Mode duration- Off, 10min, 30min, 1hr, 2hr

System Time: Time settings

Vehicle Information: Set vehicle info details

User Management: Username and passwords

Storage Management: Manage SD card storage

Restore Factory: Restore monitor to factory settings

System Upgrade: Install firmware updates (SD card would need to be supplied by manufacturer to update; updates generally not needed)

System Information: System information details

Specifications

LCD Monitor	
Screen Size	16:9 Digital Panel
Overall Size	9.25in(235mm) (L) x 6.1in(155mm) (H) x 1.44in(36.5mm) (D)
Weight	862g
Power Input	DC 12-24v
Color System	NTSC/PAL auto switch
ACC Power	Powers on the monitor with key activation
Operating Temp.	-30°F(-34°C) ~130°F(54°C)
Brightness	350cd/m ²
Resolution (HxV)	1024(H)x600(V)
Contrast	500:1
Viewing Angle	L/R: 70° Up: 50° Down: 70°
Operating Voltage	Min. 12v (Check monitor label for specific voltage range)
Lighting Source	LED Backlight
Environmental Rating	IP50
Video Output Port	1 RCA Video Out- CVBS (Analog) ONLY
Video Input Port	4 AHD video input channels
Removable DVR Memory	Over 7 hours of recording (4 individual cameras) with included 16GB SD Card

Warnings

1. When selecting a camera system from Dakota Micro, Inc., be sure to utilize the appropriate system for your use. AgCam®, EnduraCam® and InnoPro® cameras are designed for high impact, moisture, vibration, and a variety of other rough conditions. OverView® and RazerCam™ cameras and kit components are designed for light use, low vibration, and low moisture. OverView® and RazerCam™ equipment is not warranted when used in situations outside of the above-mentioned parameters. We always request that customers keep in mind that our less expensive OverView® and RazerCam™ product line is cheaper because it does not feature the reliability and durability of our AgCam® and EnduraCam® lines. The warranty available on these products reflects that durability.
2. To avoid electrical shock and maintain optimal functionality, do not open the enclosures. High voltage may be present and there are no user serviceable parts inside. All warranties will be void should any enclosures be tampered with in any way.
3. Do not use any harsh chemical solvents, cleaning agents or corrosive detergent to clean away dirt on the surface of the screen or lens.
4. On AgCam® and EnduraCam® products, the photo-chromic camera lenses have been made impact-resistant and have been drop-ball tested according to Sec. 3.84,21 CRF BUT ARE NOT UNBREAKABLE. Because they have been hardened chemically, they show no stress pattern. Inspect your lenses frequently. Chipped or scratched surfaces will reduce protection. Such lenses should be replaced only by the manufacturer.
5. Power to cameras is not interrupted by turning off monitor; 12v power source must be terminated when not in use to avoid battery drain. To avoid this problem be sure when hard wiring a unit, use a fused circuit.
6. Do not use your Dakota Micro, Inc. camera system for anything other than legal surveillance and observation uses. Dakota Micro, Inc. is not liable for any illegal or nefarious usage.

Product Warranty/Repair Process

1. For Technical Support call 1 701-538-4403 OR email techsupport@dakotamicro.com
2. Technician will assist in troubleshooting product malfunction.
3. If product malfunction cannot be remedied and a repair is deemed necessary, Technician will issue a case number.

IMPORTANT NOTE: *The Technician will note if the repair APPEARS to be a warranty or non-warranty issue based on customer description of the issues at hand. No final determination can be made until inspection and testing of the equipment is completed at the factory.*

4. To ensure fast and effective repairs, customer is required to send:
 - Dakota Micro, Inc. product that technician has requested/deemed necessary in the proper diagnosis and repair of malfunction. This may include some or all components of the kit.
 - Original/Copy of purchase receipt.
 - For serialized items ONLY, if a copy of the original purchase receipt cannot be provided, then Dakota Micro, Inc. will use the product manufacture date.
 - Customer information, including return address, phone number & email address.
 - Case Number provided by Dakota Micro, Inc. technical support
 - Shipping and associated costs to ship product to Dakota Micro, Inc. factory to be borne by the customer unless otherwise specified.
5. Customer should mail product to:
 Dakota Micro, Inc.
 Case # XXXX
 8659 148 ½ Ave. SE
 Cayuga, ND 58013
6. Upon receipt and evaluation of product at Dakota Micro, Inc. factory, it will be established if the repair is warranty or non-warranty. Customer will be notified of any applicable charges.
7. If the repairs are deemed non-warranty and require a service/repair fee of any kind, a credit card number will be required.
8. If customer is unable to be contacted over the course of 3 weeks regarding required non-warranty repairs, product will be held for 30 days and, if no response from customer, product will be discarded.
9. Any product returned without proper documentation may be returned at customer's expense.
10. Product returned with unconfirmed problems may be assessed an evaluation fee of up to \$60 per unit.
11. Return shipping costs will be borne by the party at fault; in other words, if Dakota Micro, Inc. determines that the defective product was covered under warranty, Dakota Micro, Inc. pays the shipping charges. If Dakota Micro, Inc. determines that it was the customers fault, the customer will pay shipping charges. If a particular circumstance cannot be determined then the cost of shipping charges will be decided on a discretionary basis depending on the situation at hand.

Consumer Limited Warranty

Subject to the disclaimer, limitations and other directions stated hereafter, Dakota Micro, Inc. warrants that the Product will be free from defects in material and workmanship for periods as stated hereafter from the date of original purchase. **THIS WARRANTY IS EXPRESSLY MADE IN LIEU OF ANY AND ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS. THE EXCLUSIVE REMEDY OF THE BUYER IS LIMITED TO REPAIR OR REPLACEMENT OF THE PRODUCT. EXCEPT AS STATED IN THIS WARRANTY, DAKOTA MICRO, INC. SHALL NOT BE LIABLE FOR ANY LOSS, INCONVENIENCE, OR DAMAGE, INCLUDING DIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, RESULTING FROM THE USE OR INABILITY TO USE THE PRODUCT, WHETHER RESULTING FROM BREACH OF WARRANTY, NEGLIGENCE, STRICT LIABILITY OF ANY OTHER LEGAL THEORY.** Any oral statements or representations made by anyone which are contrary to or at variance with the terms stated in this **LIMITED WARRANTY** are void.

Dakota Micro, Inc. will, at its option, either repair the defect or replace the defective Product or part thereof with a new or remanufactured equivalent at no charge to the purchaser for parts or labor for the period of five (5) years for AgCam® /EnduraCam® cameras; three (3) years for InnoPro® cameras; two (2) years for AgCam®/ EnduraCam® monitors, and Wireless components; Twelve (12) Months for all Overview® and RazerCam™ Cameras & Monitors, cables and all other accessories.

In addition to the five (5) years for AgCam® /EnduraCam® cameras Dakota Micro will warranty for the life of the camera against any variety of ingress within the camera housing. This includes moisture and dust particles that are found inside the camera resulting from a manufacturing defect and does not include ingress because of damage caused by no fault of Dakota Micro, Inc.

The Dakota Micro, Inc. limited warranty periods outlined above apply throughout the United States and Canada only. A one (1) year maximum limited warranty for all Products applies to all other geographic locations unless otherwise stated in writing by Dakota Micro, Inc.

This limited warranty does not apply to any issues connected with appearance that have no relation to the performance of the Product nor to any Product the exterior of which has been damaged or defaced, which has been subjected to improper voltage or other misuse, abnormal service or handling, or which has been altered or modified in design or construction.

In order to enforce the rights under this limited warranty, the purchaser should follow the process set forth in the Product Warranty/Repair Process, and provide proof of purchase to Dakota Micro, Inc.

Neither the sales personnel of Dakota Micro, Inc. nor any dealer or any other person is authorized to make any warranties other than those described herein, or to extend the duration of any warranties beyond the time periods described herein.

The warranties described herein shall be the sole and exclusive warranties and remedies provided by Dakota Micro, Inc. Correction of defects, in the manner and for the period of time described herein, shall constitute complete fulfillment of all liabilities and responsibilities of Dakota Micro, Inc. to the purchaser with respect to the Product, and shall constitute full satisfaction of all claims. In no event shall Dakota Micro, Inc. be liable or in any way responsible for any damages or defects in the Product which were caused by repairs or attempted repairs performed by anyone other than Dakota Micro, Inc.

Some states do not allow the limitation or exclusion of incidental or consequential damages, so said limitation may not apply to you.

Any action at law, suit in equity, or other judicial proceeding for the enforcement of any right provided for herein or otherwise, or with respect to any claim that a purchaser may have against Dakota Micro, Inc. shall be instituted only in the Courts of the State of North Dakota, either in the state district court located in Wahpeton, North Dakota or in Federal District Court located in Fargo, North Dakota. Without regard to conflicts of law principles, the laws of the state of North Dakota shall govern the interpretation and enforcement of the terms of this Limited Warranty and all aspects of the relationship between Dakota Micro, Inc., and the purchaser.

This warranty gives you specific legal rights and you may also have other rights, which may vary from state to state.

Disclaimer

Dakota Micro Inc. products, specifications, pricing, and programs are subject to change without prior notice. Dakota Micro Inc. reserves the right to make design changes at any time without obligation to retroactively install them on previously sold units.

Contact Us



8659 148½ Ave. SE.

Cayuga, ND 58013

www.dakotamicro.com

Management System Registered to ISO 9001