User's Manual

AgCam® OR EnduraCam® 9" AHD Quad or Quad DVR Monitor Kit

Dakota Micro Part Numbers(s): AGCO
9" AHD Quad Monitor – DM-H9Q
9" AHD DVR Quad Monitor – DM-H9QD

Part Number(s):
9" AHD Quad Monitor – AG-H9Q
9" AHD DVR Quad Monitor – AG-H9QD

Table of Contents

Thank you for purchasing equipment from Dakota Micro, Inc.
Always read the manual prior to operating this equipment. Also, please follow all safety signs and precautions.
See the Dakota Micro, Inc. website for installation training videos at www.dakotamicro.com.

I. INCLUDED MONITOR KIT COMPONENTS
(PER PN: DM-H9Q/AG-H9Q, DM-H9QD/AG-H9QD)

Description	Picture
Dakota Micro, Inc. 9" AHD Quad Monitor	
Monitor Wire Harness *PN: DM-H9QMWH*	
Monitor Remote *PN: DM-H9QRMT* (styles vary by kit & battery is included)	
A/C Power Wall Plug *PN: DMAC-PA3* (styles vary by kit)	
Monitor U-bracket with 4 Wing Bolts *PN: DMAC-9M Bracket*	
Monitor Sun Shield	
12v Cigarette Lighter Power Adaptor *PN: DMAC-12v* (styles vary by kit)	

The AgCam® and EnduraCam® camera lines are a durable, reliable surveillance system with the innovative ability to be quickly moved from one application to the next.

II.   STANDARD FEATURES

- Feature the latest in Analog HD technology
- View 1, 2, 3 or 4 cameras at the same time
- LED backlit
- Compatible with NTSC or PAL cameras, not 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
- 2 Year Warranty
- 16:9 aspect ratio
- 4 Camera Inputs
- Records up to 4 cameras simultaneously or independently onto SD card for easy transfer of files
- Available in 7in or 9in size
- Event triggers for each camera allow for triggered events to bring your camera to full view (IE: putting the vehicle in reverse)
- Color, brightness, contrast and volume controls that allow compensation for use in different environments
- Remote control, sun shield, and metal U-bracket monitor stand included

III.   IMPORTANT INFORMATION REGARDING ANALOG AND AHD EQUIPMENT

- After the introduction of the complete line of AHD Monitors, Dakota Micro will no longer offer Analog monitors.
- Utilizing the DM-H9Q monitor, customer **cannot** "mix and match" analog and AHD cameras.
- All Analog Dakota Micro wireless equipment **will not** work with AHD Monitors. AHD Versions coming soon.

IV.   MONITOR INSTALLATION & MOUNTING

A. 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 AgCam® 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.

B. Universal Bracket Mounting

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

C. 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 nuts.
    *Use ONLY the nuts included in the kit, bolts longer than 10mm will damage your monitor.
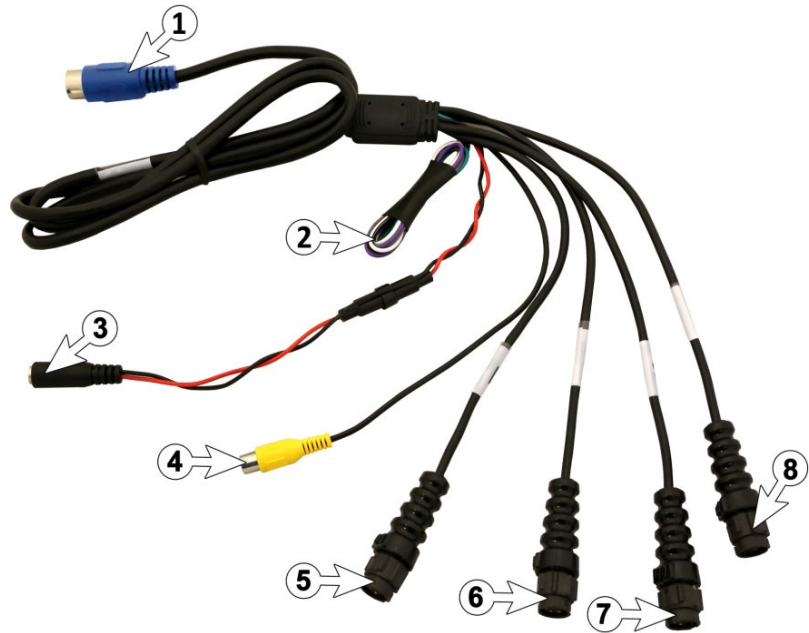
NOTE: Turn the monitor on only after it has been securely mounted, supplied with power, and the cameras are connected

V. INSTALLATION

A. **Monitor Wire Harness Details**
1. Input to Monitor
2. AV1-4 Event Trigger Wires
3. Power Input
4. RCA-Video Output
5. AV1 – Audio/Video Input
6. AV2 – Audio/Video Input
7. AV3 – Audio/Video Input
8. AV4 – Video Input

VI. POWER

A. **Supplying Power with 12v Power Adaptor**
1. Attach the power input connector (3 above) to your included 12v cigarette lighter power adaptor.
2. Plug cigarette lighter adaptor into 12v power source.

B. **Hardwire Power Adaptor**
1. If you would like to hardwire your power supply, please contact your local AgCam® dealer for available hardwire power adaptors (PN: *DMAC-HARDWIRE*).
2. Dakota Micro hardwire power adaptors have a maximum circuit capability of 5 amp.

C. **Fuses**
1. There is a small in-line blade fuse located on the red and black power wire (3 above). When replacing this fuse, use a MAX 2amp glass fuse.
2. There is a small glass fuse located on the inside tip of the 12v portion of the power adaptor (PN: DMAC-12v). When replacing this fuse, use a MAX 2amp glass fuse.

VII. EVENT TRIGGER WIRE OPERATIONS

A. **Event Trigger Wire Color Guide**
1. Camera 1 – Green
2. Camera 2 – Purple
3. Camera 3 – Gray
4. Camera 4 – White

B. **Event Trigger Wires Explained**

Event trigger wires can be attached to any 12v positive event. This will cause the monitor to change to that camera, regardless of the state of the monitor (i.e. ON/OFF or channel selection). The most recent event will be the primary display. So, if two (2) video channels (AV1 & AV2) are attached to an event output, the event that happens last will change the monitor to its respective camera view.

The wires can be attached to any positive output 10.5v to 16.9v switch or supply to cause the monitor to automatically switch the unit to its respective channel camera. ***Example:*** If you were to attach the AV1 wire to a positive output from an unloading auger on a combine, the monitor would switch from channel 2, 3, or 4 to channel 1 when the auger is extended. The event circuit should be neutral in its normal state and change to HIGH (+12v) when the event is active.

VIII.   MONITOR & REMOTE OPERATION

B.   Monitor Operations

1	Headphone Jack	Output for audio (disabled)
2	Full Screen	Will show cameras 1/2/3/4 each time pressed.
3	Duplex Screen	Will show cameras 1/2 and cameras 3/4 each time pressed.
4	Quad Screen	First press will display all four (4) cameras connected. Second press initiates auto. rotation between Quad screen/cam 1/cam 2/cam 3/cam 4. Duration each camera remains on screen is able to be changed in AUDIO menu (Auto Sequence Time).
5	- Key	To decrease parameter/Up/Down
6	+ Key	To increase parameter/Up/Down
7	MENU	Enables / Disables Menu
8	AV Key	Will show cameras 1/2/3/4 each time pressed/ In MENU acts as ENTER key & Down arrow
9	POWER	Turns monitor ON/OFF.
Port 10 and 11 is located on the back side of the monitor		
10	Battery	Saves settings for DVR function
11	SD Card **(DVR Models ONLY)**	Required for onboard recording **(DVR Models ONLY)**

C. Remote Operations
DVR Remote

(power)	POWER ON (few seconds delay)/OFF	(power)	POWER ON (few seconds delay)/OFF
V1/V2 DPF	**Switches between video channels**	V1/V2 DPF	**Switches between video channels**
USB/SD	**N/A**	USB/SD	**N/A**
▲	**Navigation Arrows**	▲	**Navigation Arrows**
▼	**Navigation Arrows**	▼	**Navigation Arrows**
◄	**Navigation Arrows**	◄	**Navigation Arrows**
►	**Navigation Arrows**	►	**Navigation Arrows**
►►	**N/A**	►►	**N/A**
◄◄	**N/A**	◄◄	**N/A**
►►|	**Next File/Skip**	►►|	**Next File/Skip**

Standard Remote

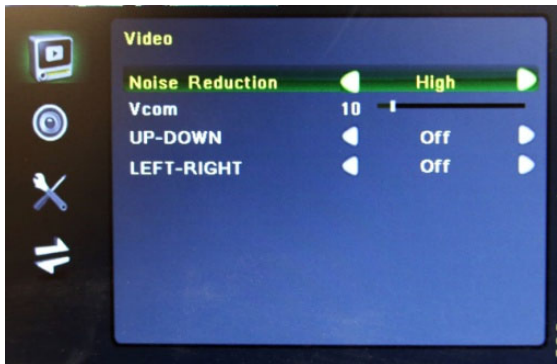|	
(power)	POWER ON (give it a few seconds) / OFF
MODE	Switches between video channels
MENU	Displays Menu
◄	Navigation Arrows
►	Navigation Arrows
▼	Navigation Arrows
▲	Navigation Arrows
CH1	Brings Channel 1/Camera 1 Full screen
CH2	Brings Channel 2/Camera 2 Full screen
CH3	Brings Channel 3/Camera 3 Full screen
CH4	Brings Channel 4/Camera 4 Full screen

IX. MENU SETTINGS

A. Monitor Menu Settings

1. Press the MENU key on the face of monitor or remote.
2. Use the AV key on the monitor (up and down arrows on remote) to select an item under each section. Selected menu items turn green.
3. Use – or + on the monitor (left and right arrows on remote) to change the value of the highlighted item.
4. To exit: Press the MENU button monitor (left or right arrow on remote) multiple times until the menu goes away. Allow monitor to time out (approximately 10 seconds).

VIDEO
BRIGHTNESS: Adjusts the brightness of the image
CONTRAST: Adjusts the contrast of the image
COLOR: Adjusts the color of the image
SHARPNESS: Adjusts the sharpness of the image
ADVANCED CONTROL: Accesses additional display controls

VIDEO (ADVANCED CONTROL)
NOISE REDUCTION: When utilizing microphone, allows for noise reduction settings
Vcom: Intense brightness setting, not useful in this setting
UP-DOWN: Flips image displayed UP/DOWN
LEFT-RIGHT: *Flips image displayed LEFT/RIGHT (Mirrored)
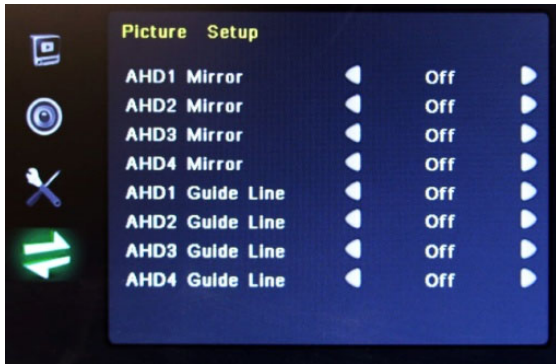
Individual cameras can be mirrored in Picture setup

AUDIO
SOUND MODE: Choices of Music, Speech, Voice & Standard
BASS: Adjusts Bass levels
TREBLE: Adjusts Treble levels
AUTO SEQUENCE TIME: Allows for the adjustment of time spent on each auto rotated camera when in quad mode
AHD1 PRIORITY: Prioritizes Camera 1 during event triggering (if OFF, all cameras will be displayed)
AUTO DIM: Turns Auto Dimming Function ON/OFF

SETTING

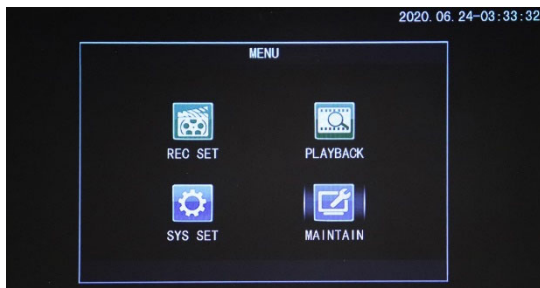|	
MENU LANGUAGE:	Adjusts menu language
AHD1 TRIGGER DELAY:	Turns ON/OFF Trigger Delay for Camera 1
AHD2 TRIGGER DELAY:	Turns ON/OFF Trigger Delay for Camera 2
AHD3 TRIGGER DELAY:	Turns ON/OFF Trigger Delay for Camera 3
AHD4 TRIGGER DELAY:	Turns ON/OFF Trigger Delay for Camera 4
BLUE:	Allows for selection of BLUE or BLACK screen when no camera present on video input
RESET DEFAULTS:	Restores all default settings

PICTURE SETUP

AHD1-4 MIRROR:	Turns ON/OFF individual camera mirror functions
AHD1-4 GUIDE LINE:	Turns ON/OFF individual camera guide line

B. DVR Menu Settings

1. Press the ENT key on the remote. Use the U/D/L/R button to Select the correct User and Enter the Password (Default: User-Admin Password-{Blank}).
2. Use U/D/L/R arrow keys on the remote to move through the icons on the screen.
3. Press the ENT key on the remote to select the option.
4. Use U/D arrows on remote to highlight an item, Press ENT, and use L/R to change the selection
5. To exit: Press the Exit button on remote until you have reached your desired menu screen, or the menu goes away.
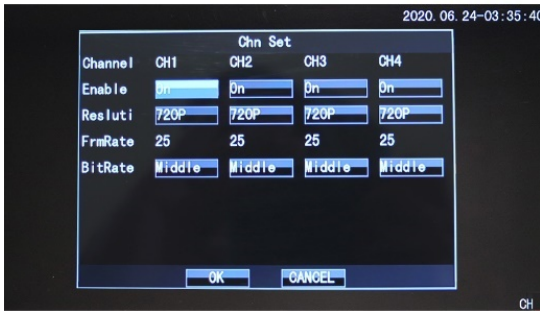

MAIN MENU

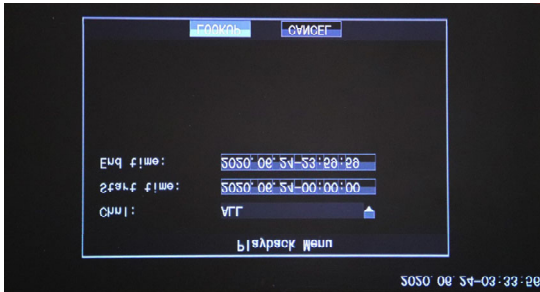|	
REC SET:	Adjusts the record settings
PLAYBACK:	Select record files to view
SYS SET:	Set DVR Preferences
MAINTAIN:	DVR System Maintenance Options

REC SET (RECORD MENU)

REC MODE:	N/A
FILESIZE:	Adjust the length of the recording in the file. (5Min, 10Min,15Min, 20Min, 30Min, 45Min)
Audio:	Record Audio On/Off (Separate audio recording device required)

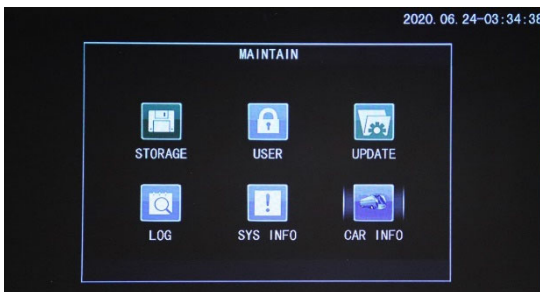|	
REC CHN CFG:	Access Record Channel Configuration Menu
Enable:	Channel Recording On/Off (Is ON by Default)
Resoluti:	Select the record resolution (D1, CIF, 720)
FrmRate:	Frame Rate (FPS) - Default
BitRate:	Adjust the rate of the recording. [How smooth the images appear (Low, Middle, High)]

PLAYBACK (Playback Menu)

Chnl:	Select playback channel to search (1, 2, 3, 4, All)
Start time:	Select start time range to search
End time:	Select end time range to search

MORE TESTING IS REQUIRED

SYS SET (Set Menu)

LANGUAGE:	Set the Language
Time:	Set the Time
Preview Time:	Set OSD Time On/Off
Preview Chn:	Set OSD Channel On/Off

MAINTAIN

STORAGE:	Displays SD Card info and allows you to reformat the storage device
USER:	Displays User Manager controls
UPDATE:	Displays Config Menu
LOG:	Displays LOG Menu
SYS INFO:	Displays current system firmware
CAR INFO:	Displays Car Info Settings Menu

X. SPECIFICATIONS

B. LCD Monitor	
Screen Size	16:9 digital panel
Overall Size	9.25in(L)x 6.1in(H)x1.44in(D) 235mm(L)X155mm(H)X36.5mm(D)
Weight	30.4oz (862g)
Power Input	DC 12v max
Color System	NTSC/PAL auto switch
Operating Temp.	-30°F~130°F (-34°C~+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 Backlit
Environmental Rating	IP50
Video Output Format	Full/Quad/split/ Auto Switch
Video Output Port	RCAx1 Video Out - Analog (CVBS) ONLY
Video Input Port	X4 AHD video input channels
DVR Monitor ONLY	
Removable DVR Memory	Over 7 hours of recording (4 individual cameras) with included 16GB SD Card

XI. WARNINGS

- When selecting a camera system from Dakota Micro, be sure to utilize the appropriate system for your use. AgCam and EnduraCam cameras are designed for high impact, moisture, vibration, and a variety of other rough conditions. OverView cameras and kit components are designed for light use, low vibration, and low moisture. OverView 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 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.

- 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.

- Do not use any harsh chemical solvents, cleaning agents or corrosive detergent to clean away dirt on the surface of the screen or lens.

- 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.

- 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 5-amp fused circuit.

- Do not use your Dakota Micro camera system for anything other than legal surveillance and observation uses. Dakota Micro, Inc. is not liable for any illegal or nefarious usage.

XII.   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 Repair Authorization (RA) number.

IMPORTANT NOTE:

The Technician will note on the RA form 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 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 will use the product manufacture date.
   - Customer information, including return address & phone number. If the phone number is not included, the customer will be sent a letter requesting the needed information.
   - RA Number provided by Dakota Micro Technical Support
   - Shipping and associated costs to ship product to DM factory to be borne by the customer unless otherwise specified.
5. Customer should mail product to:

   Dakota Micro, Inc.

   RA # XXXXX

   8659 148 ½ Ave. SE

   Cayuga, ND 58013
6. Upon receipt and evaluation of product at Dakota Micro Factory, it will be established if the repair is warranty or non-warranty. If requested, customer will be called and 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 requested by Order Processing after the repair is completed.
8. If customer is unable to be contacted over the course of 3 weeks regarding required non-warranty repairs, product will be returned, unrepaired, to the customer.
9. Any product returned without proper documentation may be returned at customer's expense.
10. Product returned with unconfirmed problems will be assessed a $60 evaluation fee per unit
11. Return shipping costs will be borne by the party at fault; in other words, if Dakota Micro determines that the defective product was covered under warranty, Dakota Micro pays the shipping charges. If Dakota Micro determines that it was the customers fault, the customer will pay shipping charges. If a circumstance cannot be determined than the cost of shipping charges will be decided on a discretionary basis depending on the situation at hand.

XIII. CONSUMER LIMITED WARRANTY

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 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 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 three (3) years for AgCam® /EnduraCam® and InnoPro® cameras; two (2) years for AgCam®/ EnduraCam® monitors, and Wireless components; Twelve Months (12) for all Overview Cameras & Monitors, cables and all other accessories.

The Dakota Micro 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.

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 steps set forth in the complete Dakota Micro "Warranty & Repair Policy" listed on page 11 - section XVI , and provide proof of purchase to Dakota Micro.

Neither the sales personnel of Dakota Micro 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. 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 to the purchaser with respect to the Product, and shall constitute full satisfaction of all claims. In no event shall Dakota Micro 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.

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 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 location 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 and the purchaser.

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

XIV. 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.

XV. CONTACT US

8659 148 ½ Ave. SE.
Cayuga, ND 58013
Management System Registered to ISO 9001
www.dakotamicro.com