VN-DECODER-2V8 Decoder for the Virtual Matrix System

Vicon Industries Inc.
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Vicon Industries Inc. does not warrant that the functions contained in this equipment will meet your requirements or that the operation will be entirely error free or perform precisely as described in the documentation. This system has not been designed to be used in life-critical situations and must not be used for this purpose.

www.vicon-security.com
**Important Safeguards – Indoor Use**

**GRAPHIC SYMBOL EXPLANATION**
The lightning bolt symbol alerts the user to the presence of dangerous voltage that may present the risk of electric shock.

The exclamation point symbol alerts the user to the presence of important operating and maintenance instructions.

**WARNING**
To reduce a risk of fire or electric shock, do not expose this product to rain or moisture.

1. **Read Instructions** - Read all safety and operating instructions before the product is operated.
2. **Retain Instructions** - Retain all safety and operating instructions for future reference.
3. **Heed Warnings** - Pay attention to all product warnings.
4. **Follow Instructions** - Follow all operating instructions.
5. **Installation and Wiring** - The equipment shall be installed and wired in accordance with the National Electrical Code, ANSI/NFPA 70.
6. **Cleaning** - (Do not use caustic, abrasive or aerosol cleaners)
   a) For units that CAN BE DISCONNECTED from the power source, use a damp cloth for cleaning.
   b) For units that CANNOT BE DISCONNECTED from the power source, use a damp cloth for cleaning and do not allow moisture or liquids to enter vents.
7. **Attachments** - Use only UL Listed Vicon recommended attachments to prevent unit damage and personal injury.
8. **Water and Moisture** - Use only products designed for outdoor environments where they will be exposed to water or moisture.
9. **Accessories** - Do not place the unit on an unstable surface to avoid falling. Use only UL Listed Vicon recommended mounting accessories.
10. **Ventilation** - Do not block ventilating slots and openings as they ensure reliable operation. Do not place the unit near a heat source or into an enclosure unless recommended by Vicon.
11. **Grounding** - Only products equipped with a 3-prong grounded plug should be inserted into a grounded power outlet. Contact an electrician to replace an obsolete outlet. Do not force a plug into a non-grounded outlet.
12. **Power Cord Protection** - Power supply cords should not be routed in trafficked areas or in tight spaces where they will be pinched or used to bear weight. Allow some slack in the cord where it enters the unit.
13. **Lightning** - Disconnect the product from its power source and cable system when possible to prevent damage due to lightning and power-line surges.
14. **Power Lines** - Do not locate outside cables over power or utility lines where they can fall and make direct contact. Contact with power lines can be fatal.
15. **Overloading** - Do not overload wall outlets and extension cords to prevent risk of fire and electric shock.
16. **Object and Liquid Entry** - Never probe through, or spill liquid into, enclosure openings to prevent risk of fire or electric shock.
17. **Servicing** - Refer all servicing to qualified service personnel.
18. **Damage Requiring Service** - Obtain service when:
   a) The power-supply cord or plug is damaged.
   b) Objects have fallen or liquid has been spilled into the product.
   c) The product is not designed for outdoor use and has been exposed to water or moisture.
   d) The product does not operate per the operating instructions. Perform Vicon recommended adjustments, modifications and troubleshooting only to avoid unit damage and personal injury.
   e) The product has been dropped.
   f) The product shows a significant change in performance.
19. **Replacement Parts** - Use only Vicon specified replacement parts or an approved equivalent to prevent unit damage and injury.
20. **Safety Check** - Request safety checks to be performed following repair or maintenance to verify proper operation.
21. **ESD Precaution** - Take all normal electrostatic discharge precautions to avoid component damage during installation and operation.
22. **For 230 VAC Devices Only** - When the disconnect device is not incorporated in the equipment or when the plug on the power supply is intended to serve as the disconnect device, follow the guidelines below:
   a) For permanently connected 230 VAC units, a readily accessible disconnect device must be incorporated into the site wiring.
   b) For 230 VAC units with a plug, the outlet must be installed near the unit and be easily accessible.
23. **For Devices Requiring a Separate Power Supply** - All devices requiring a separate power supply shall be powered by a UL Listed, Class 2 Power Supply.
24. **Lithium Batteries Only:**

**WARNING**
Fire and burn hazard. Do not recharge, disassemble, heat above 212°F or incinerate. Keep battery out of reach of children and in original package until ready to use. Dispose of used batteries promptly.

Risk of explosion if battery is replaced by incorrect type. Dispose of used batteries according to the instructions.
25. For Rack-Mounted Units Only – The following precautions apply to all rack-mounted units.

a) Elevated Operating Ambient - If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (Tma) specified by the manufacturer.

b) Reduced Air Flow - Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.

c) Mechanical Loading - Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.

d) Circuit Overloading - Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

e) Reliable Earthing - Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g. use of power strips).
This manual provides a quick overview for the configuration and operation of the VN-DECODER-2V8 Decoder for use with the Virtual Matrix Display Controller.

The VN-DECODER-2V8 is a key part of the ViconNet® Virtual Matrix Display Controller (VMDC) system. Used in conjunction with the VMDC, network data is received and converted from a digital IP source to an analog output for display on any monitor with a DVI or HDMI input (a DVI to VGA adapter can be used if VGA connection is required). This enables distribution directly to a monitor and offers an alternative display method to the PC-based client.

Full functionality of ViconNet is provided regardless of what type of monitor is used. The VN-DECODER-2V8 also supports monitor wall designs that are typical of large-scale video surveillance installations, such as casinos, correctional facilities, airports and hospitals.
System Architecture

- All RC-controlled devices use 10Gbps ports.
- Web/edge devices connect to a 10G/1000Mbps switch and over a 10Gbps link to the main switch.
- Network is built in a star topology.
Connecting the VN-DECODER-2V8

The VN-DECODER-2V8 is meant to work with a Virtual Matrix Display Controller (VMDC) to decode digital video for display on monitors.

Rear Panel Connections

Refer to the figure below for a description of the rear panel connections.

Note

Ports may vary subject to variations in hardware, but will be similar in function.

- Power Receptacle: Used to connect the provided power cable to a power source.
- USB 3.0 Ports (2): Used to connect to USB devices such as a mouse, keyboard, printer, flash drive, etc. (supports USB 3.0 specification).
- DVI (1): Connect to a monitor with a DVI connector; adapter provided for VGA connection.
- eSATA/HDMI Combo Port (1): Used to connect to an external SATA device; connect to a monitor with an HDMI connector.
- Network Port: A standard RJ-45 connector used to connect to a LAN/WAN. Vicon recommends using a 1 GB link at all times.
- USB Ports (2): Used to connect to USB devices such as a mouse, keyboard, printer, flash drive, etc.
- Speaker (Line Out), Mic In Jacks: Used to connect audio devices and microphones.
Mounting

The VN-DECODER-2V8 can be desk-top/wall or VESA mounted.

**Desktop**

The VN-DECODER-2V8 can rest on a clean and dry flat service; additionally, it can be secured to the surface through the screw slots in the flange. The desk or table must provide a surface of suitable strength to support the weight of the VN-DECODER-2V8. In addition, there must be enough area left around the unit to provide suitable airflow for cooling.

**Warning**

Failure to leave space for cooling may result in malfunctioning and possible failure of the VN-DECODER-2V8.

**VESA**

Four standoff (4) screws are provided to specifically mount the VN-DECODER-2V8 to a VESA bracket. Follow the instructions for the bracket.

**VN-DECODER-2 Connections**

After the VN-DECODER-2V8 is permanently mounted, the connections are made. Refer to Rear Panel diagram and System diagram as needed.

**Important Notes**

- The connection of external hardware may require simple hand tools.
- Do not apply power or plug-in the VN-DECODER-2V8 to any outlet until instructed to do so. Disable the AC power to prevent installer injury and damage to the unit.
- Before beginning the hardware installation, ensure that the following environmental conditions have been met:
  - The surface on which the VN-DECODER-2V8 hardware is to be placed must be level.
  - The room or area designated for the VN-DECODER-2V8 hardware installation must be well ventilated.

Make the following connections to the VN-DECODER-2V8:

**Note**

A mouse and keyboard are required for setup only.
• Position the monitor(s) in a permanent fixed location. Connect the monitor to the appropriate connector, DVI or HDMI (a DVI-VGA adapter can be used if required).

Note
There is a ferrite supplied in the accessory kit. To comply with FCC and CE, this ferrite must be installed onto the VN-DECODER-2V8 side of the HDMI cable.

• Insert one side of a standard LAN cable to the network port’s RJ-45 connector. Insert the other RJ-45 connector into the LAN side of the network.

• Insert the connector of the provided power supply into the VN-DECODER-2V8’s power receptacle. Do not connect the remaining end to a power receptacle until instructed.

• Connect the monitor(s) to the power source and switch on.

To ensure that the VN-DECODER-2V8 is protected during a power failure and that no important data is lost, it must be connected to an uninterruptible power source (UPS) before use.

• Connect the VN-DECODER-2V8’s power supply to the UPS power receptacle.

• Connect the UPS power cord to the wall outlet.

• Power on the UPS and ensure that it is working properly.

• Power on the VN-DECODER-2V8.
Configuring the VN-DECODER-2V8

After all connections are made, the VN-DECODER-2V8 can be configured; the unit is factory set as a decoder. Upon power up, the following screen displays.

Connecting the VN-DECODER-2V8 to the Controlling VMDC

Before the VN-DECODER-2V8 can be used with the VMDC system, you must set the IP address of the unit from Windows® network settings.

Next, you must login to the VMDC software on the unit to connect to the Nucleus.

Click the red ❌ in top right corner of the screen. The following popup screen displays.

Select Load Virtual Matrix Control.
Login

The Login screen displays as below.

Enter a User Name and Password. The default login is User Name “admin” and no Password. Click Login.

Note

Monitor icons will not show on initial setup.
Configuration

After Login, the Virtual Matrix main screen displays.

Click the **Setup Site Selection** list displays.

Click the **Setup** button at the top of the screen. The **Setup Site Selection** list displays.

Select your unit from the list and click **Select**; the **Settings** screen displays.
Select the button to connect the VN-DECODER-2V8 to the Nucleus of the system.
From the Network Settings screen, enter the IP of the Nucleus of the system and click OK; the application will restart.

Once the Nucleus is defined, any VMDC connected to it will now be connected to the VN-DECODER-2V8 and the decoder can now be controlled remotely by a VMDC on the network.

**Note**

You can disconnect the mouse and keyboard after setup is complete.
Shipping Instructions
Use the following procedure when returning a unit to the factory:

1. Call or write Vicon for a Return Authorization (R.A.) at one of the locations listed below. Record the name of the Vicon employee who issued the R.A.

   Vicon Industries Inc.
   135 Fell Court
   Hauppauge, NY 11788
   Phone: 631-952-2288; Toll-Free: 1-800-645-9116; Fax: 631-951-2288

   For service or returns from countries in Europe, contact:

   Vicon Industries (U.K.) Ltd
   Brunel Way
   Fareham, PO15 5TX
   United Kingdom
   Phone: +44 (0)1489/566300; Fax: +44 (0)1489/566322

2. Attach a sheet of paper to the unit with the following information:
   a. Name and address of the company returning the unit
   b. Name of the Vicon employee who issued the R.A.
   c. R. A. number
   d. Brief description of the installation
   e. Complete description of the problem and circumstances under which it occurs
   f. Unit’s original date of purchase, if still under warranty

3. Pack the unit carefully. Use the original shipping carton or its equivalent for maximum protection.

4. Mark the R.A. number on the outside of the carton on the shipping label.
Vicon Standard Equipment Warranty

Vicon Industries Inc. (the “Company”) warrants your equipment to be free from defects in material and workmanship under Normal Use from the date of original retail purchase for a period of three years, with the following exceptions:

1. All IQEYE Cameras: Two years if purchased before 1/1/2011.
2. Alliance-mini (IQD3xx), Alliance-mx (IQMxxx) and 3 Series (IQ03xx): Five years if purchased between 1/2/2011 – 12/31/2014.
4. Uninterruptible Power Supplies: Two years from date of original retail purchase.
5. VDR-700 Recorder Series: One year from date of original retail purchase.
6. V5616MUX: One year from date of original retail purchase.
7. Arecont Cameras: One year from date of original retail purchase.
8. FMC series fiber-optic media converters and associated accessories: Lifetime warranty.
9. For PTZ cameras, “Normal Use” excludes prolonged use of lens and pan-and-tilt motors, gear heads, and gears due to continuous use of “autopan” or “tour” modes of operation. Such continuous operation is outside the scope of this warranty.
10. Any product sold as “special” or not listed in Vicon’s commercial price list: One year from date of original retail purchase.

NOTE:

- If the product is to be used outdoors or in dusty, humid, or other hostile environments, it must be suitably protected.
- Camera products must be protected, whether in use or not, from exposure to direct sunlight or halogen light as the light may damage the camera image sensor. This applies to both indoor and outdoor use of the cameras.
- For camera products supplied without a lens, extreme care should be used when mounting a lens on these products. Damage to the product due to incorrectly mounted lenses will invalidate this limited hardware warranty.
- Failure to comply with any of the aforementioned requirements will invalidate this Limited Hardware Warranty.

Date of retail purchase is the date original end-user takes possession of the equipment, or, at the sole discretion of the Company, the date the equipment first becomes operational by the original end-user.

The sole remedy under this Warranty is that defective equipment be repaired or (at the Company’s option) replaced, at Company repair centers, provided the equipment has been authorized for return by the Company, and the return shipment is prepaid in accordance with policy. Repaired or replacement hardware will be warranted for the remainder of the original Warranty Period or ninety (90) days, whichever is longer. When a product or part is exchanged the replacement hardware becomes the property of the original purchaser and all hardware or part thereof that is replaced shall become the property of Vicon.

The warranty does not apply (a) to faulty and improper installation, maintenance, service, repair and/or alteration in any way that is not contemplated in the documentation for the product or carried out with Vicon consent in writing, operation adjustments covered in the operating manual for the product or normal maintenance, (b) to cosmetic damages, (c) if the product is modified or tampered with, (d) if the product is damaged by acts of God, misuse, abuse, negligence, accident, normal wear and tear and deterioration, improper environmental conditions (including, but not limited to, electrical surges, water damage, chemical exposure, an/or heat/cold exposure) or lack of responsible care. (e) if the product has had the model or serial number altered, defaced or removed, (f) to consumables (such as storage media or batteries) (g) to products that have been purchased “as is” and Vicon the seller or the liquidator expressly disclaim their warranty obligation pertaining to the product, (h) to any non-Vicon hardware product or any software (irrespective of packaged or sold with Vicon hardware product) and Vicon products purchased from an unauthorized distributor/reseller, (i) to damage that occurs in shipment or (j) to damages by any other causes not related to defective design, workmanship and/or materials.

The warranty for the products shall run from Vicon to End User customers only (including product purchased through authorized partners and resellers). Vicon is not obligated under any circumstances to honor warranties on product(s) purchases from internet auction sites including eBay, uBid or from any other unauthorized resellers. Except as explicitly provided herein, Vicon disclaims all other warranties, including the implied warranties of fitness for a particular purpose and merchantability.

Software supplied either separately or in hardware is furnished on an “As Is” basis. Vicon does not warrant that such software shall be error (bug) free. Software support via telephone, if provided at no cost, may be discontinued at any time without notice at Vicon’s sole discretion. Vicon reserves the right to make changes to its software in any of its products at any time and without notice.
The Warranty and remedies provided above are exclusive and in lieu of all other express or implied warranties including, but not limited to, the implied warranties of merchantability or fitness for a particular purpose. Certain jurisdictions do not allow the exclusion of implied warranties. If laws under such jurisdictions apply, then all express and implied warranties are limited to the warranty period identified above. Unless provided herein, any statements or representations made by any other person or firm are void. Except as provided in this written warranty and to the extent permitted by law, neither Vicon nor any affiliated shall be liable for any loss, (including loss of data and information), inconvenience, or damage, including, but not limited to, direct, special, incidental or consequential damages, resulting from the use or inability to use the Vicon product, whether resulting from breach of warranty or any other legal theory. Notwithstanding the foregoing, Vicon total liability for all claims under this warranty shall not exceed the price paid for the product. These limitations on potential liabilities have been an essential condition in setting the product.

No one is authorized to assume any liability on behalf of the Company, or impose any obligations on it in connection with the sale of any Goods, other than that which is specified above. In no event will the Company be liable for indirect, special, incidental, consequential, or other damages, whether arising from interrupted equipment operation, loss of data, replacement of equipment or software, costs or repairs undertaken by the Purchaser, or other causes.

This warranty applies to all sales made by the Company or its dealers and shall be governed by the laws of New York State without regard to its conflict of laws principles. This Warranty shall be enforceable against the Company only in the courts located in the State of New York.

The form of this Warranty is effective February 1, 2015.

THE TERMS OF THIS WARRANTY APPLY ONLY TO SALES MADE WHILE THIS WARRANTY IS IN EFFECT. THIS WARRANTY SHALL BE OF NO EFFECT IF AT THE TIME OF SALE A DIFFERENT WARRANTY IS POSTED ON THE COMPANY’S WEBSITE, WWW.VICON-SECURITY.COM. IN THAT EVENT, THE TERMS OF THE POSTED WARRANTY SHALL APPLY EXCLUSIVELY.

Vicon Part Number: 8006-9010-03-11  Rev 0215
Vicon Industries Inc.

For office locations, visit the website:

www.vicon-security.com