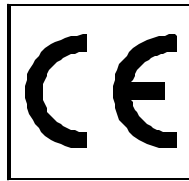


XX123-00-01

AURC-NIU NETWORK INTERFACE UNIT FOR AURORACORD DIGITAL RECORDER



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Installation & Operation Manual





Dear Valued Customer:

Thank you for selecting Vicon systems and products for your video needs.

Since Vicon's beginning in 1967, our only business has been the design, engineering, and production of the highest quality video systems and equipment for use in a wide variety of security, safety, control, surveillance, and communication applications.

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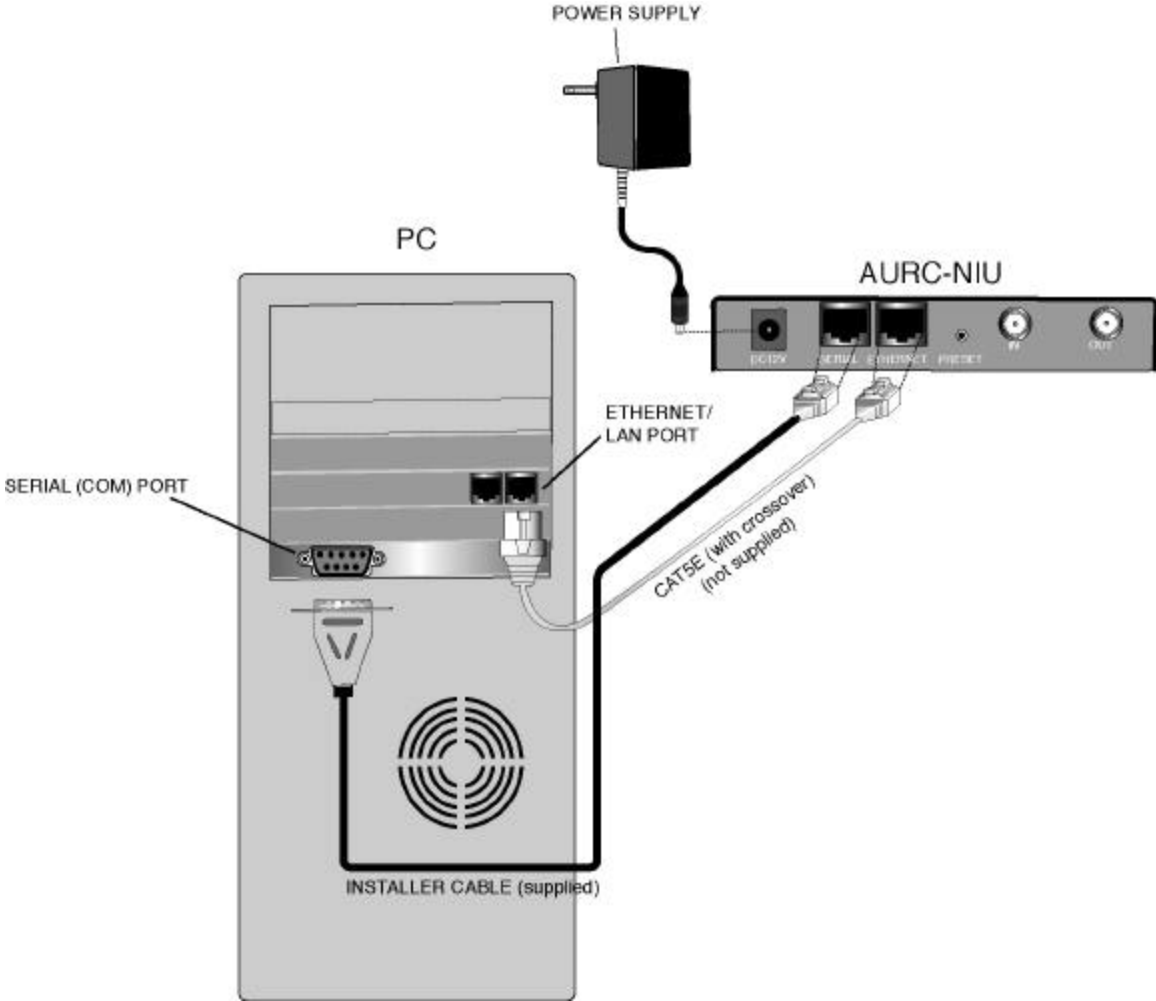
If you are not satisfied with a Vicon product or service, I would like to know. Your complete satisfaction is the mission of every Vicon employee.

Sincerely,

Kenneth M. Darby
President

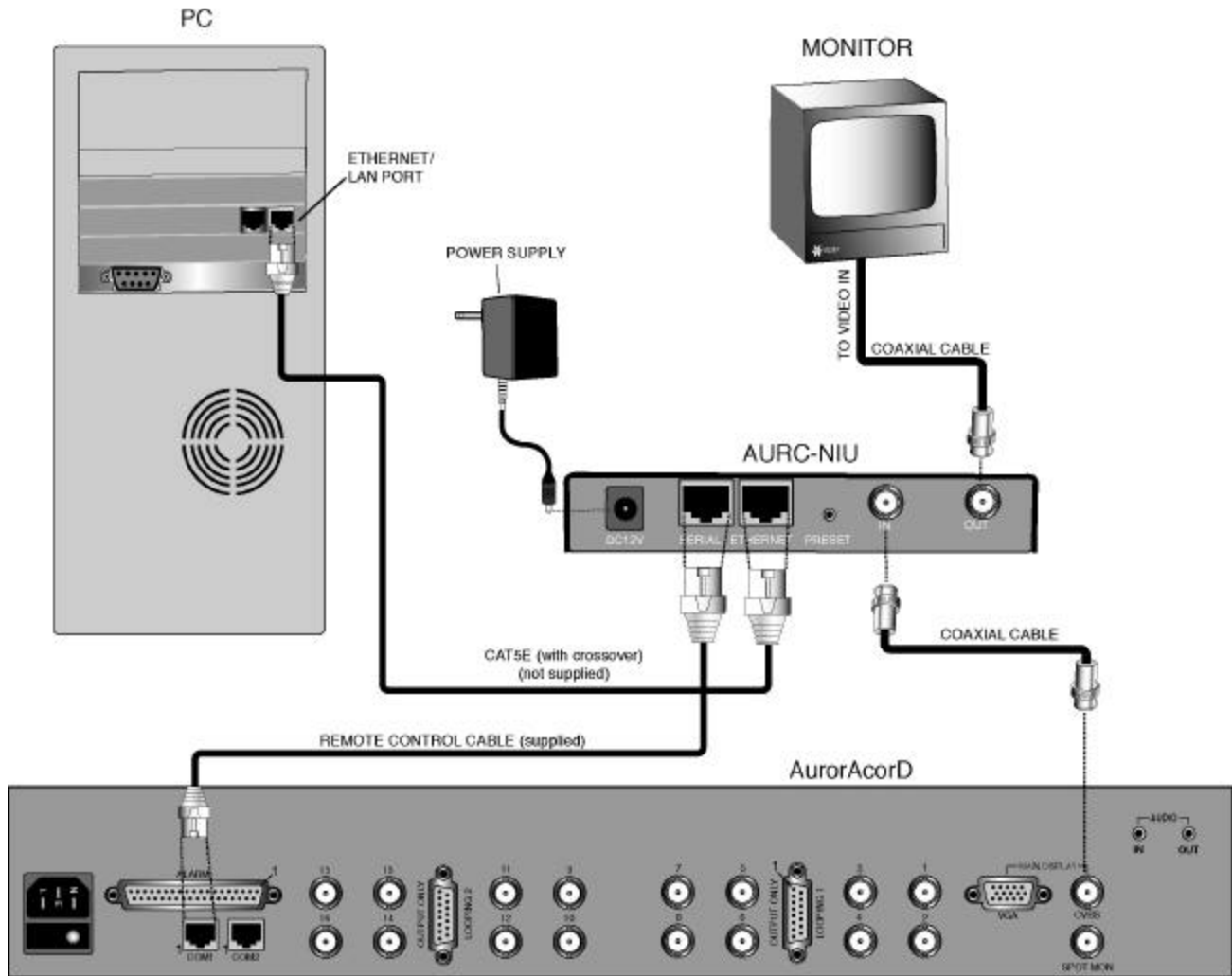
Quick Installation

Connections to Install the IPInstaller

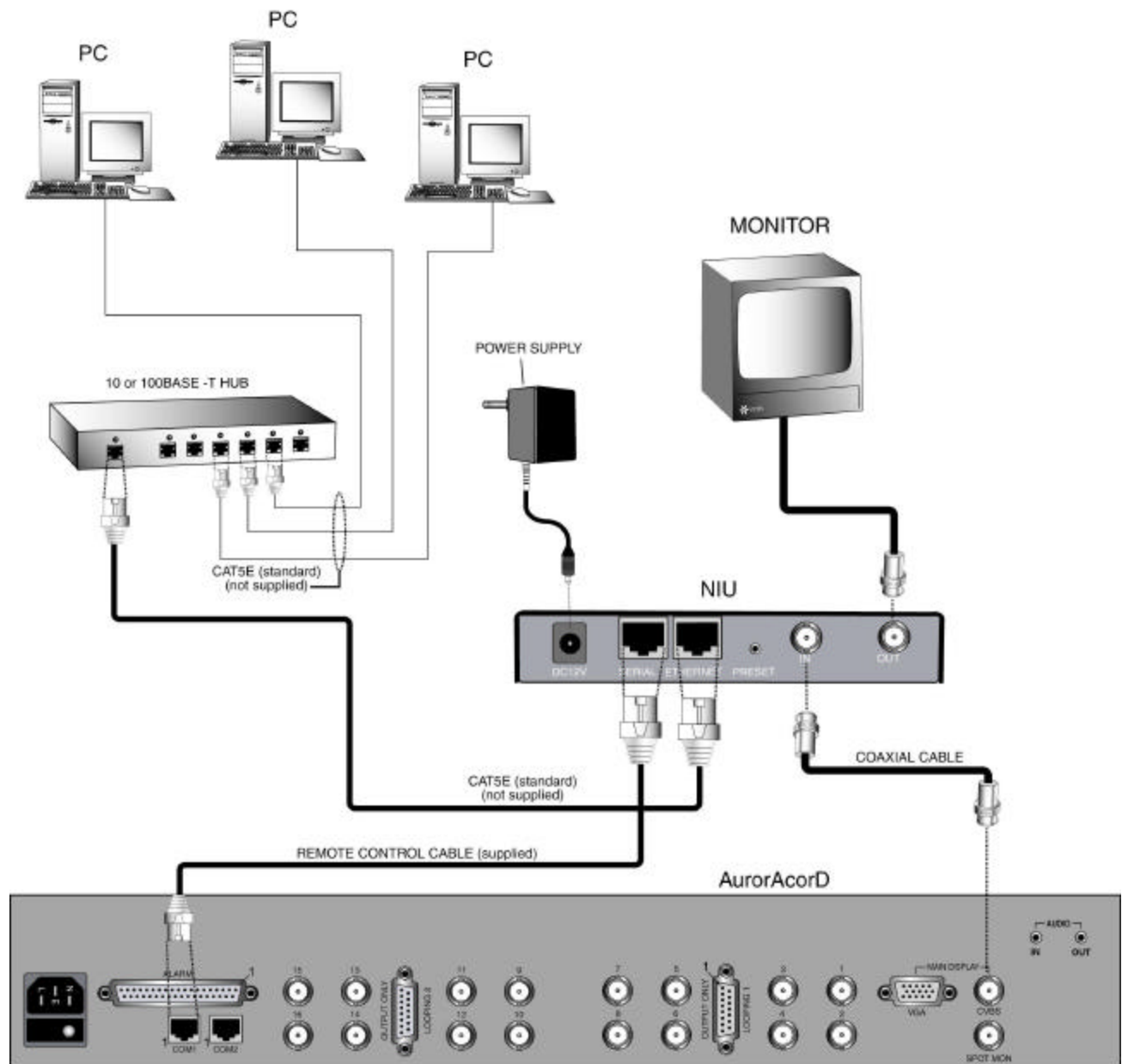


Connections for Operation

Standalone



Network



Introduction

The information in this instruction manual covers the installation, programming, operation and maintenance of the Vicon AURC-NIU Network Interface for the AurorAcorD Digital Recorder. This unit should be installed by a qualified technician using approved materials in accordance with national, state and local codes. Read these instructions through completely before attempting installation.

The AURC-NIU is a network interface that allows the AurorAcorD Digital Recorder to be operated from a PC, using a GUI, over a LAN/WAN (Internet). The AURC-NIU can be accessed by a workstation using Dial Up, DSL, Cable Modem, ISDN or T1 connections. The Network Interface is normally connected locally to the AurorAcorD it is controlling via the supplied Remote Control Cable. The Interface is also normally connected remotely to the PC, or PCs, which will be controlling it via a standard or crossover type Cat5e cable (not supplied). This results in two basic types of setups, Standalone and Network. The Standalone version is when the Interface is simply controlled by a single computer via a crossover type Cat5e cable. The Network version is the installation of the Interface to a LAN or WAN through a network hub or switch. All networked PCs will be able to control the Interfaces. On a WAN, over the Internet or in any situation where a router is used, the specific IP address installed into the Interface must be static type followed with an appropriate Gateway address for communication to take place. Any dynamic IP address installed into the Interface will not provide access over a WAN. In any case, the specific video of any particular AurorAcorD will be displayed on the PC that is controlling it.

The provided GUI software allows full control of the AurorAcorD. Therefore, any function or feature performed at the front panel of the AurorAcorD can be fully replicated on the GUI front panel. In addition, any displayed digital video in any particular screen format can be recorded locally to the PC hard drive or any network drive the PC can access. From there, the video can be played back as a video segment or still image. Refer to Instruction Manual XX091 for operating instructions for the AurorAcorD recorder.

Installation

Unpacking and Inspection

All Vicon equipment is tested and inspected before leaving the factory. It is the carrier's responsibility to deliver the equipment in the same condition as it left the factory.

Inspection For Visible Damage

Immediately inspect the cartons upon delivery. Make a note of any visible damage on all copies of the carrier's freight bill.

Make sure the carrier's agent (the person making the delivery) signs the note on all copies of the bill. If the agent does not have claim forms, contact the carrier's office.

Inspection For Concealed Damage

As soon as possible after delivery, unpack the unit and inspect it for concealed damage. Do not discard the carton or packing materials. If the unit is damaged, contact the carrier immediately and request forms for filing a damage claim. Make arrangements for a representative of the carrier to inspect the damaged equipment.

If the equipment must be returned for repair, follow the Shipping Instructions at the end of this manual.

Product Overview

All connections are made on the rear panel. Refer to Figure 1 and Table 1 for connection functions. The side panel has three LED indicators. Refer to Figure 2 and Table 2 for those functions.

A basic knowledge of Windows platform and networking is required to install and operate the unit.

Table 1
Rear Panel Connectors

Connector Name	Function
DC12V	Power in jack; supplies the power to unit
SERIAL	RJ45; connects PC to interface for IP installation and also connects interface to AurorAcorD for operation
ETHERNET	RJ45 (10Base-T/100Base-T) network connector; used for Wide Area Network (WAN) or Local Area Network (LAN)
PRESET	Recessed button; used to restore the factory default settings
IN	BNC connector; receives analog video input
OUT	BNC connector; transmits analog video output



Figure 1
Rear Panel

Table 2
Side Panel Indicators

Name	Function	Indication
Ethernet Network LED	Green network status light; indicates network activity	Blinking light indicates data transfer; no light when no data is transferring
Ethernet Link LED	Yellow link status light; indicates network connection	Solid light indicates physical connection to Ethernet input on NIU; blinks when first connected
Power LED	Red light; indicates power connection	Solid light when power is on; no light when power is off

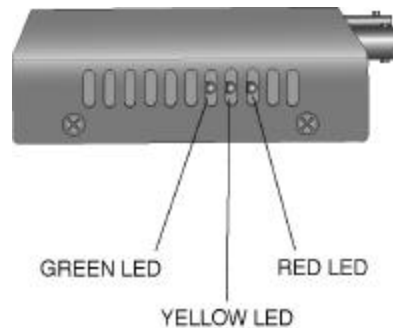


Figure 2
Side Panel Indicators

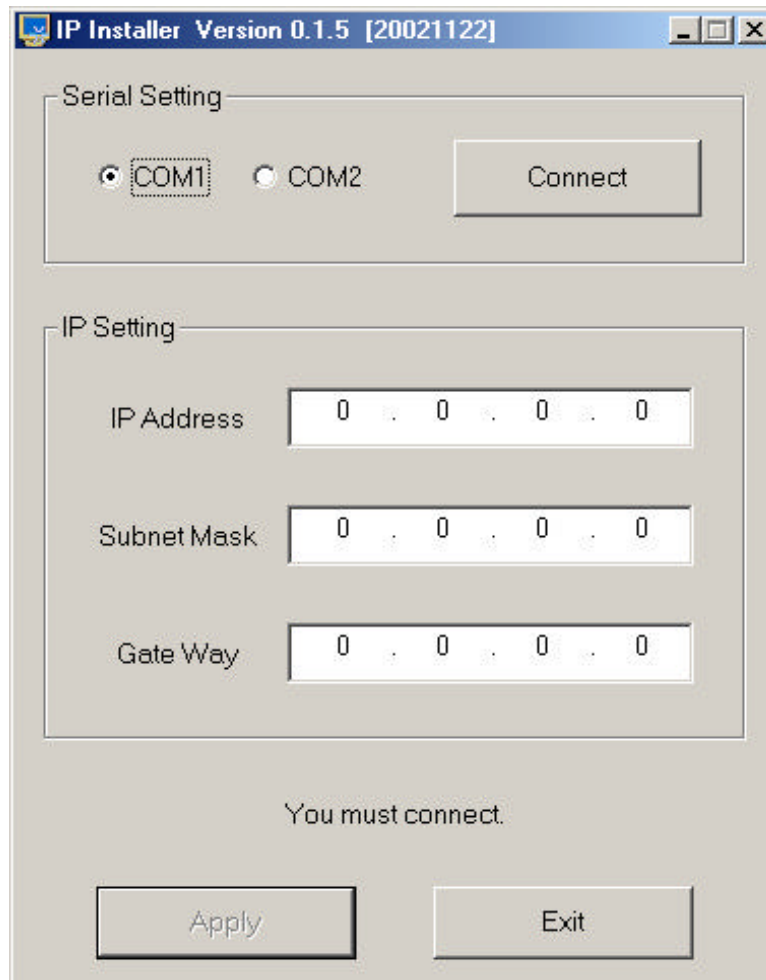
Installing the IPInstaller

Before the AURC-NIU is connected to the AurorAcorD, the IP address of the AURC-NIU must be set up.

1. Connect the supplied 12 VDC power cord to the AURC-NIU and to an appropriate power supply.
2. Use the supplied Installer Cable (part number 1298-5243-01) to connect the PC serial (COM) port (DB9) to the AURC-NIU SERIAL port connector.
3. Connect any crossover type Cat5e LAN cable to the Ethernet connector on the AURC-NIU and to the Ethernet (RJ45) connector on the PC.
4. From the Control Panel Network icon of the PC, get the IP address of the computer. Make a record of this address.
5. Copy or drag and drop (depending on your operating system) the IPInstaller.exe icon from the CD (supplied) and place it on your desktop.
6. Double-click on IPInstaller.exe, as shown below.



7. The following screen displays.



- a. Serial Setting: Select the appropriate COM port.
- b. Connect: When the Connect button is clicked, connectivity is initiated. When connection is established, the Apply button becomes available and IP Address fields are accessible.
- c. IP Setting: Assign and enter a unique IP Address with appropriate Subnet Mask and Gateway numbers. For a Standalone installation, a valid IP address is 10.0.0.(1-254). The first NIU can have address 10.0.0.1, the second 10.0.0.2, and so on up to 254. The Subnet Mask is the same as those of your PC. When installing the AURC-NIU on a corporate network, ask your network administrator for a unique IP address. (Note: For operation over a WAN/Internet or any application through a router, a valid static IP address must be used in conjunction with a valid Gateway address. The unit will not recognize dynamic (DHCP) IP addresses assigned by a router or server.)
- d. Apply: After successfully setting up the IP Setting, click Apply. This installs the previously entered IP Setting to the connected AURC-NIU.
- e. IP Install: If IPInstaller.exe was successfully completed, the following message is displayed

IP installation is completed
You must restart the server (Note: the server is the AURC-NIU)

- f. Program Status: Depending on the progress on the installation, various messages may appear:
You must connect – click Connect button
Ready to apply – click Apply button
Writing network setting – sending address information to unit
IP installation is completed. You must restart the server – power off and power on the unit
Waiting for server response – communication not established; restart procedure from step 6.

After the IP address is installed, click OK and reset the unit by disconnecting and reconnecting the power cord to the AURC-NIU.

Running the Ping Function

To confirm that the IP address is communicating, perform a Ping function. Equipment connections remain as above.

1. Find the Command Prompt (MS-DOS Prompt). This brings up a command line.
2. Type in “ping” after C:\WINDOW>, leave a space, and then type in the IP address, putting periods between the numbers (i.e., C:\WINDOWS>ping 10.0.0.25).
3. If the IP address is communicating, a “Reply from...” message appears, confirming the connection. See screen below. Note that after first initializing the IP address for the AURC-NIU, it may indicate that there is “No Reply from...”, however later into the test it will echo back “Reply from...” This is a normal response.

```
C:\> Command Prompt
Microsoft Windows [Version 5.00.2195]
(C) Copyright 1985-2000 Microsoft Corp.

C:\> ping 10.0.0.1

Pinging 10.0.0.1 with 32 bytes of data:

Reply from 10.0.0.1: bytes=32 time<10ms TTL=255
Reply from 10.0.0.1: bytes=32 time<10ms TTL=255
Reply from 10.0.0.1: bytes=32 time<10ms TTL=255
Reply from 10.0.0.1: bytes=32 time<10ms TTL=255

Ping statistics for 10.0.0.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>
```

When an invalid address is used a “Request timed out” message appears. See screen below.

```
C:\> Command Prompt
Microsoft Windows [Version 5.00.2195]
(C) Copyright 1985-2000 Microsoft Corp.

C:\> ping 10.0.0.200

Pinging 10.0.0.200 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 10.0.0.200:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>
```

Connections

After the IP installation is successfully completed, unplug the power cord to power off the unit. Disconnect the Installer Cable. Refer to Connection for Operation diagrams in Quick Installation section.

1. Connect the supplied 12 VDC power cord to the AURC-NIU.
2. Connect a coaxial cable from the Video IN BNC connector on the AURC-NIU to the CVBS video output BNC connector on the AurorAcorD.
3. Connect a coaxial cable from the Video OUT BNC connector on the AURC-NIU to the Video IN connector on any CCTV monitor.
4. Connect the supplied Remote Control Cable (part number 1298-5244-01) to the SERIAL port of the AURC-NIU and one of the AurorAcorD COM ports.

Note: Refer to the AurorAcorD manual (XX091) for settings for the COM port for serial (RS-232) configuration. To communicate with a receiver for PTZ control, use COM 2; for communication with a host PC, use COM 1.

5. If the NIU is to stay connected to one PC (standalone), leave the Ethernet connection as is; if it is going to be connected to a network switch or HUB, disconnect the Ethernet connection to the PC and connect a standard (non-crossover) Cat5e cable from the Ethernet port on the AURC-NIU to the Ethernet port on the HUB/switch.

Operation

Operating the AurorAcorD Digital Recorder is done through the customized interface, AURC-NIU GUI, shown below. Refer to the AurorAcorD instruction manual, XX091, for basic operating instructions using the front panel keyboard.

Double click the Vicon DVR software from the CD (supplied) and it will self-install onto the PC. Double click the Vicon DVR icon on your desktop to launch the GUI. See below.



The following screen will display. (Note: The PC monitor settings must be 1024 x 768 pixels (minimum) and color setting equivalent to 32 bit for screen image to display correctly.) After the GUI is installed onto the PC, restart the computer.

Network Considerations

The AurorAcorD Digital Recorder can be used on a 10 or 100 Mbps network. As users are added to the network, additional bandwidth is used, until eventually the total bandwidth limit is achieved. When the bandwidth limit is exceeded, the video frame rate will decrease. To optimize overall system performance, use smaller Image Sizes and reduce the quality level to Low.



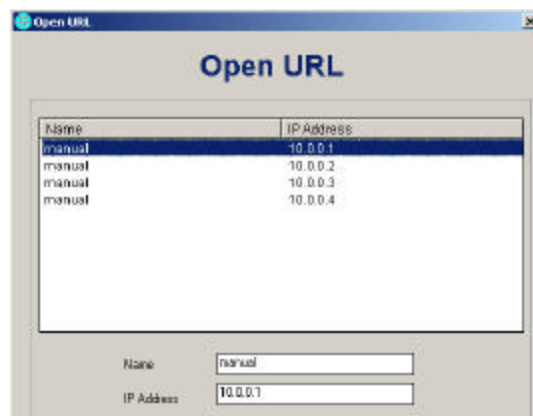
The buttons on the bottom of the screen mimic the front panel of the AurorAcorD.

When using the GUI for first time use, click on Site List on the right side of the GUI panel. Enter the AURC-NIU IP address and give it a name. Click connect. The Login screen will display, as shown below. From the drop down list, select admin; the default password is “vicon”. Click OK.

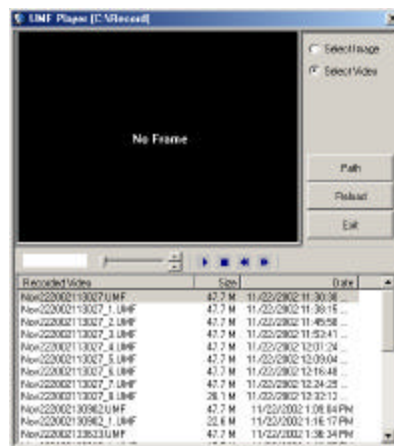


The GUI buttons have the following functions:

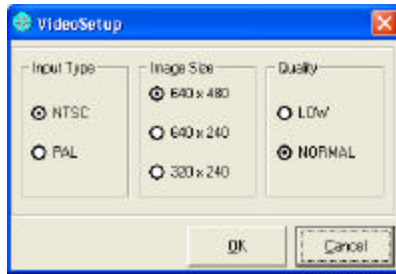
- a. Full Image/Small Image: Click these buttons to change the size of the video image displayed. When set at 1024, the Full Image is 6.75 in. width and 4.75 in. in length and the Small Image is 3.75 in. width and 2.75 in. in length.
- b. Site List: Displays a list of AURC-NIU IP addresses.



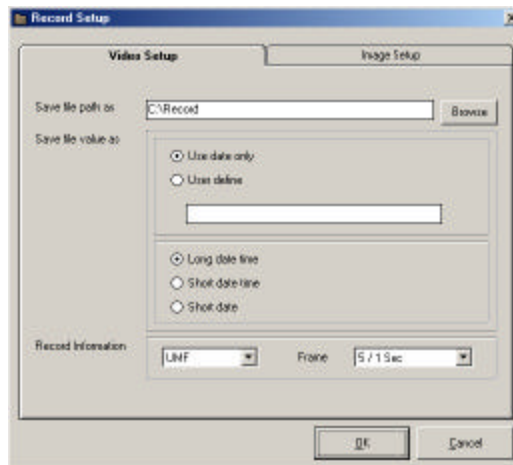
- c. Play Back: A video or still image can be selected for play back. A list of recorded events is displayed by date and time. Select an event. When viewing an image, the “snapshot” will appear. When video is selected, press the play button (▶). The pointer arrow indicates the relative position of the video, and it can be manually moved. The maximum size of a recorded event is 47.7 M, which is about 7 minutes of video. If recording goes beyond that size, a second file is automatically created with the same name plus an underscore and numeral (1, 2, etc.). Pressing Reload updates the current directory; pressing Path selects a directory.



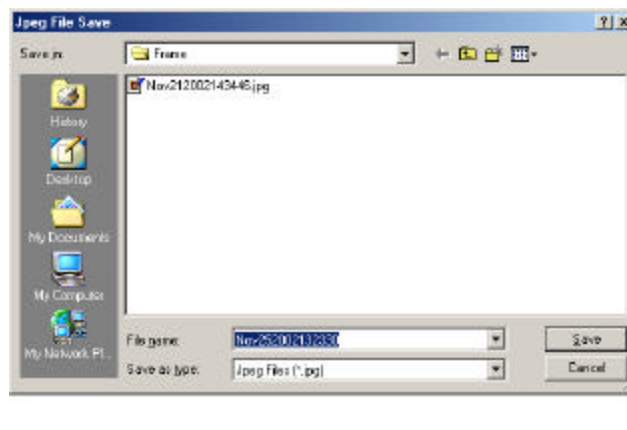
- d. Video Setup: Select the Input Type, Image Size and Quality. (Note that the larger image size and the higher quality result in a decrease in storage capacity.)



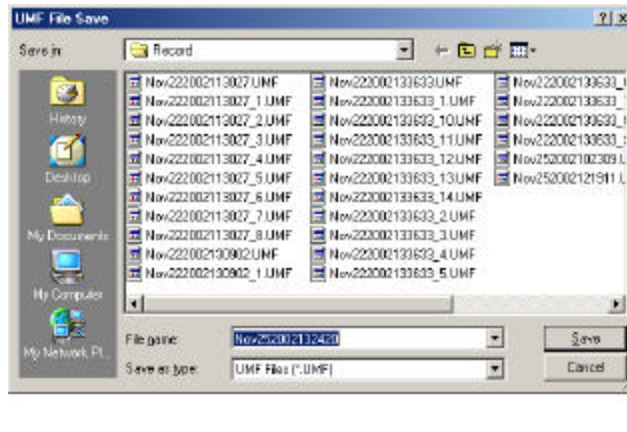
- e. Record Setup: File information for video and image setup. A “User define” selection allows the addition of text before the date. Long date time includes the full date and time. Short date time omits the year from the date; short date includes full date only. Frame choices include 5, 4, 3, 2, or 1 frame per 1 second.



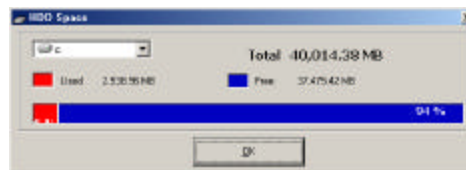
- f. Image Record: Use to take a “snapshot” of an image. Click Save to record.



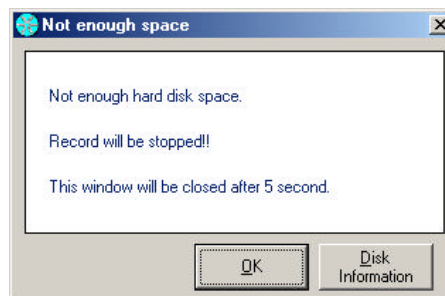
- g. Video Record: Click Save button to start recording. Click the green Recording button (Video Record becomes a Recording button when recording begins) to stop recording.



- h. Disk Space: Displays disk space left on the PC. When the PC is full, recording stops.



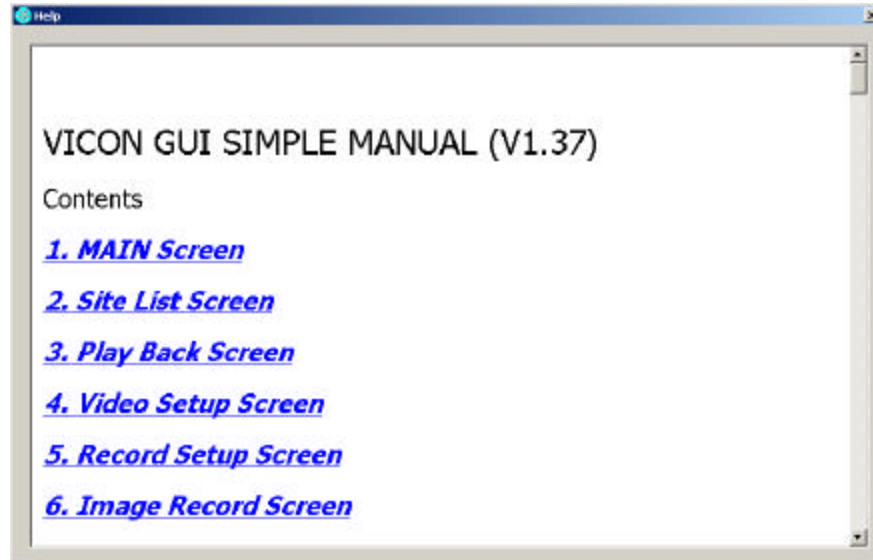
A message appears when the PC is at capacity.



- i. Account: Click the Account Management tab to add users with unique passwords; click the Change Password tab to change the current administrator password.



- j. Help: On-screen guide to GUI functions.



- k. Double Click: Simulates a simultaneous key click required for some AurorAcorD functions.

Preset Button

The PRESET button is located on the rear panel of the unit. Refer to Figure 1. The button is recessed to protect it from being accidentally pushed. The button is accessed by using a small pointed object, such as small screwdriver or the end of a paper clip. Pressing the PRESET button returns the AURC-NIU to the factory default condition.

- Resets Video Setup to NTSC, 640 x 480, normal.
- Resets IP address of the unit.
- Clears all the user accounts and passwords; user reverts to “admin” and password reverts “vicon”

After pressing the PRESET Button, power down and then power up the unit; the IP address for the AURC-NIU must be reprogrammed to match your unique IP setting.

Maintenance

The AURC-NIU requires no maintenance. Remember that recording will stop when the PC has reached full capacity of disk storage space. To prevent the possibility of not recording important data, check disk space and delete any unnecessary files. Usually it is recommended to delete oldest files first.

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.
89 Arkay Drive
Hauppauge, NY 11788
Phone: 631-952-CCTV (2288); Toll-Free: 1-800-645-9116; Fax: 631-951-CCTV (2288)

For service or returns from countries in Europe, contact:

Vicon Industries 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.

Coaxial Cable Recommendations

⚠ Caution: Careful selection of proper cable is essential to obtain the best performance from this equipment. Vicon assumes no responsibility for poor performance when cables other than those recommended, or equivalent, are installed. In all cases, coaxial cable impedance should be 75 ohms.

Materials

Use only a pure copper center conductor. Do not use a copper-plated steel or aluminum center conductor, as they will result in poor quality video. Solid-core bare copper conductor is the best type, where flexing and bending will be minimal. If severe bending and flexing is required for installation, use a stranded center conductor. Never exceed the manufacturers minimum bend radius specification. Use cellular (foam) polyethylene dielectric except where heavy moisture exists. For moisture conditions, use solid polyethylene dielectric cable with a heavy exterior insulation. The shield must be copper braid providing 95% or better coverage.

Cable Types

The cable types listed below are the most common 75-ohm types used. They vary in size (diameter), dielectric type and net DC resistance. The larger cable results in a lower DC resistance and better video quality, with increased difficulty in handling and installation. Let the required picture quality and cable distance provide a guide in choosing the best cable type. For cables other than the approved Vicon types below, contact the manufacturers listed below. Note that "BC" refers to bare copper and "TC" refers to tinned copper.

Recommended Coaxial Cable Types

Cable Type	Belden Type No.	Alpha Type No.	West Penn Type No.	Type Center Conductor	Type Shield and % Coverage	DC Resistance ohms/1000 ft (km)
RG-11/U	8213	9847	811,4811	14 Solid BC	BC braid (95%)	2.6 (8.5)
RG-6/U	9248	9804C	806,4806	18 Solid BC	Foil + 61% TC braid (100%)	7.5 (24.6)
RG-59/U	8281*	----	815	20 Solid BC	2 TC braids (96%)	9.9 (32.5)
RG-59/U	9259	9803	816	22 Stranded BC	BC braid (95%)	15.0 (49)
RG-59/U	9659	----	----	22 Stranded BC	BC braid (95%)	15.0 (49)

*Requires special BNC-M connector due to 0.305 nominal O.D.

Belden Inc.

<http://www.belden.com/>

(800) 235-3361

Alpha Wire Company

<http://www.alphawire.com/>

(800)-52 ALPHA (522-5742)

West Penn Wire

<http://www.westpenn-cdt.com/>

(800)-245-4964

Picture Quality vs. Cable Length

Picture Quality	Maximum Cable Run** ft (m)		
	RG-59/U	RG-6/U	RG-11/U
Usable picture	1100 (350)	1500 (450)	2400 (750)
Clean picture	820 (250)	1000 (300)	1600 (500)
Best picture	400 (120)	530 (160)	820 (250)

** For longer cable runs, use a Vicon Video Amplifier to obtain a suitable picture.

Technical Information

ELECTRICAL

Power Requirement: 12 VDC \pm 10%.

Current: 0.5 A.

Power Consumption: 5 W.

Heat Equivalent: 0.3 btu/min (0.07 kg-cal/min).

Note: These figures represent the conversion of 100% of the electrical energy to heat. Actual percentage of the heat generated will be less and will vary from product to product. These figures are provided as an aid in determining the extent of cooling required for an installation.

Line Cord: 12 VDC adapter cord supplied.

**Radio Frequency
Emission Rating:** FCC Class A.

COMPUTER REQUIREMENTS

Hardware: Minimum requirements for Windows™ NT (SP6), 98 (SE), 2000, ME, XP: Pentium™ III, 800 MHz, 256 MB; Internet Explorer 5.0 minimum.

Monitor: 1024 x 768 pixels; color setting equivalent to 32 bit.

VIDEO PERFORMANCE

Image Compression: Method: JPEG compression.

Compression Level: 2.

Resolution: 640 x 480, 640 x 240, 320 x 240.

Performance: 30 frames/sec @ 320 x 240.

NETWORK INTERFACE PERFORMANCE

Network Interface:	LAN Interface: Ethernet (10/100Base-T)
Operating System:	Linux.
Hardware:	CPU: 32 bits RISC processor. Flash: 8 MB. DRAM: 32 MB.
Software Upgrade:	Flash memory allows new version software updates through TCP/IP network.
Security:	Password protection.
Simultaneous Users:	25 typical (based on average user bandwidth requirements).
Total Number of System Users:	Limitless.

CONNECTORS AND INDICATORS

Rear Panel:	Video Input: BNC, 1 channel. Video Output: BNC, 1 channel, auto-termination. Network Interface: Ethernet, RJ-45, Cat5e. Serial Port: RJ-45. Power: DC jack. Preset: recessed button.
Side Panel LEDs:	Ethernet Network Status: green. Ethernet Link Status: yellow. Power: red.

MECHANICAL

Dimensions:	Height: 1.4 in. (35 mm). Width: 5.1 in. (130 mm). Depth: 3.7 in. (95 mm).
Weight:	0.9 lb (400 g).
Finish:	Black.

ENVIRONMENTAL

Operating Temperature Range:	32 to 122° F (0 to 50° C).
Humidity:	Up to 90% relative, noncondensing.

Vicon Industries Inc.

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