



CR67 User Manual

Network Video Recorder

Version 1.1

CR67 User Guide

©2010-2021, IONODES INC
All Rights reserved.

No part of this documentation may be reproduced or transmitted in any form or by any means, electronic, photographic, or mechanical, except as expressed in the Software License Agreement. IONODES shall not be liable for technical or editorial errors or omissions contained herein. The information in this document is subject to change without notice.

The information in this publication is provided “as is” without warranty of any kind. The entire risk arising out of the use of this information remains with the recipient. In no event shall IONODES be liable for any direct, consequential, incidental, special, punitive, or other damages whatsoever (including without limitation, damages for loss of business profits, business interruption or loss of business information), even if IONODES has been advised of the possibility of such damages and whether in an action or contract or tort, including negligence.

This software and documentation are copyrighted. All other rights, including ownership of the software, are reserved to IONODES Inc. Windows is a registered trademark of Microsoft Corporation. All other brand and product names are trademarks or registered trademarks of the respective owners.

The following words and symbols mark special messages throughout this guide:

Warning: Text set off in this manner indicates that failure to follow directions could result in damage to persons or equipment.

Note: Text set off in this manner indicates special instructions which should be paid attention to.

Contents

- 1 Important Safety Instructions 5
- 2 Cleaning Instructions 6
- 3 Handling Notes..... 6
- 4 Moisture and Condensation Notes..... 6
- 5 Product Description 7
- 6 CR67 Series Appliance Features..... 8
 - 6.1 What is in the Box..... 8
 - 6.2 Front and rear panel controls and LEDs 9
 - 6.2.1 Status LED behaviour 11
 - 6.3 Identifying your model and serial number 12
 - 6.3.1 Appliance Model Number 12
 - 6.3.2 Appliance Serial Number 12
- 7 Getting Started 13
 - 7.1 Specifications 13
 - 7.2 Hardware Installation 13
 - 7.3 Keyboard & Mouse Setup 13
 - 7.4 Monitor Setup 14
 - 7.5 Network Setup 15
 - 7.5.1 Network Connections..... 15
 - 7.6 External Storage..... 16
- 8 Software Environment..... 17
 - 8.1 Anti-Virus Software 17
 - 8.2 Software Updates 18
 - 8.3 Remote Access 18
- 9 Basic Operating Instructions 19
 - 9.1 Powering on the appliance 19
 - 9.2 Powering off the appliance 20
 - 9.3 Initial Configuration Steps..... 21
 - 9.3.1 Securing access to your appliance 21
- 10 System Image Recovery 22
- 11 Troubleshooting 24

11.1	The device does not seem to start	24
11.2	Nothing is displayed on the HDMI / DVI-D / D-Sub video output	24
11.3	Cannot discover the CR67 via IonConfigTool (ICT) or communicate with it via the network	24
12	Getting Help	25
	Annex – Statement Limited Warranty	26

1 Important Safety Instructions

WARNING: Read and save these instructions! Follow all warnings and instructions specified within this document and/or on the equipment.

CAUTION: There is no ON/OFF SWITCH for the power supply. Please make sure to set the dip switch at the back of the power supply to the correct input voltage (115V or 230V) before connecting the power cable to the electric outlet. When powering off the unit, please make sure to properly shutdown the device's operating system prior to removing the power cable.

This CR67 equipment is designed to be installed in a desktop configuration, within indoor conditions only. It should be installed by qualified personnel only (person having the appropriate technical training and experience necessary for product installation).

When installing the equipment, please make sure that cables are installed so that accidents cannot occur. Cables connected to the equipment must not be subject to any mechanical strain.

To reduce the risk of fire, electric shock and/or injury, observe the following:

- Do not position the equipment as such that persons could walk on the connected cables.
- Do not spill any type of liquid substance on or near the equipment.
- Do not touch the equipment and its connected cables during an electrical storm; there may be a risk of electric shock.
- Do not attempt to connect this equipment to electrical outlets controlled by switches or automatic timers.
- The equipment should be situated away from heat sources such as radiators, heat registers, stoves, or other products that generate heat.
- Do not place a heavy object on or step on the product. The object may fall, causing serious personal injury and serious damage to the product.

2 Cleaning Instructions

To clean the surface of the equipment, carry out the following instructions:

1. Shut down your equipment and unplug the power adapter.
2. Gently wipe the surface with a damp, soft, lint-free cloth.
3. Avoid getting moisture in any openings.

Note: Do not use abrasives, water, thinners, solvents, aerosol cleaners (spray polish), or any aromatic solvents, etc. that may enter through holes in the equipment and cause damage.

3 Handling Notes

When shipping the product, the original shipping carton and packing materials should be used. For maximum protection, repack the unit as it was originally packed at our factory.

Do not use volatile liquids, such as insect spray, near the unit. Do not leave rubber or plastic products in contact with the product for long periods of time. They will leave marks on the surface finish.

4 Moisture and Condensation Notes

Moisture condensation will damage the product. Read the following notes carefully.

Moisture condensation occurs during the following cases:

- Transferring the product directly from a cold place to a warm place.
- Using the product in a room where you just turned on the heater, or a place where the cold wind from an air conditioning unit directly hits the unit.
- In the summer, when moving the product to a hot and humid place after leaving an air-conditioned space.
- Using the product in a humid environment.

Note: Do not use the product when moisture or condensation may occur. If the product is used in such an environment, it may damage discs and internal parts.

5 Product Description

The CR67 series of compact IP video appliances deliver enterprise-class video recording and management solutions to small, medium, and large single or multi-site surveillance deployments. These appliances provide an embedded, high-performance networked video platform capable of recording multiple cameras with high sustained data throughputs to meet a multitude of requirements. The CR67 series appliances can host enterprise class video management (VMS) software solutions commonly used in the market. With a pre-loaded operating system and your VMS of choice for on premise video recording, together with innovative cloud-based features, IONODES takes the hassle away from complex set-up and configuration of an IP video management environment. Validating, certifying and embedding all OS and software components into a simple and easy to use platform means you spend less time configuring your system, and more time operating it to secure your environment. The cloud features allow you to gain important benefits such as simple and secure remote live video access to your cameras and off-site archiving of event-based video clips to secured cloud storage.

Combining the CR67 series appliances with your IP cameras and IP video encoders of choice provides a cost-effective means to convert legacy analog video systems to IP, and build new, state of the art, IP video surveillance deployments. The CR67 series supports all IP cameras and IP video encoders supported by all major VMS solutions.

The CR67 Series appliances and VMS software combine to provide innovative configuration options and tools that significantly decrease the deployment time and the effort needed to deploy your security solution. Simply connect a USB keyboard, mouse, and monitor to the appliance and you are ready to add your IP cameras and encoders to your video system. Alternatively, remote configuration is also possible via network web access or VMS client application(s).

To support a wide range of deployment scenarios, while ensuring reliability and high availability, the CR67 Series appliances use industrial grade components and high-performance storage drives designed for 24/7 video recording.

6 CR67 Series Appliance Features

This chapter introduces you to the basic features of your CR67 Series appliance. Read this chapter to learn:

- About unpacking your appliance
- How to identify the features of your appliance
- How to locate your appliance's model and serial number
- What accessories are available for your appliance

6.1 What is in the Box

Note: Verify that the shipping box contains the following parts and ensure no damage was sustained during shipment. If there is anything missing or damaged, please contact your sales representative.

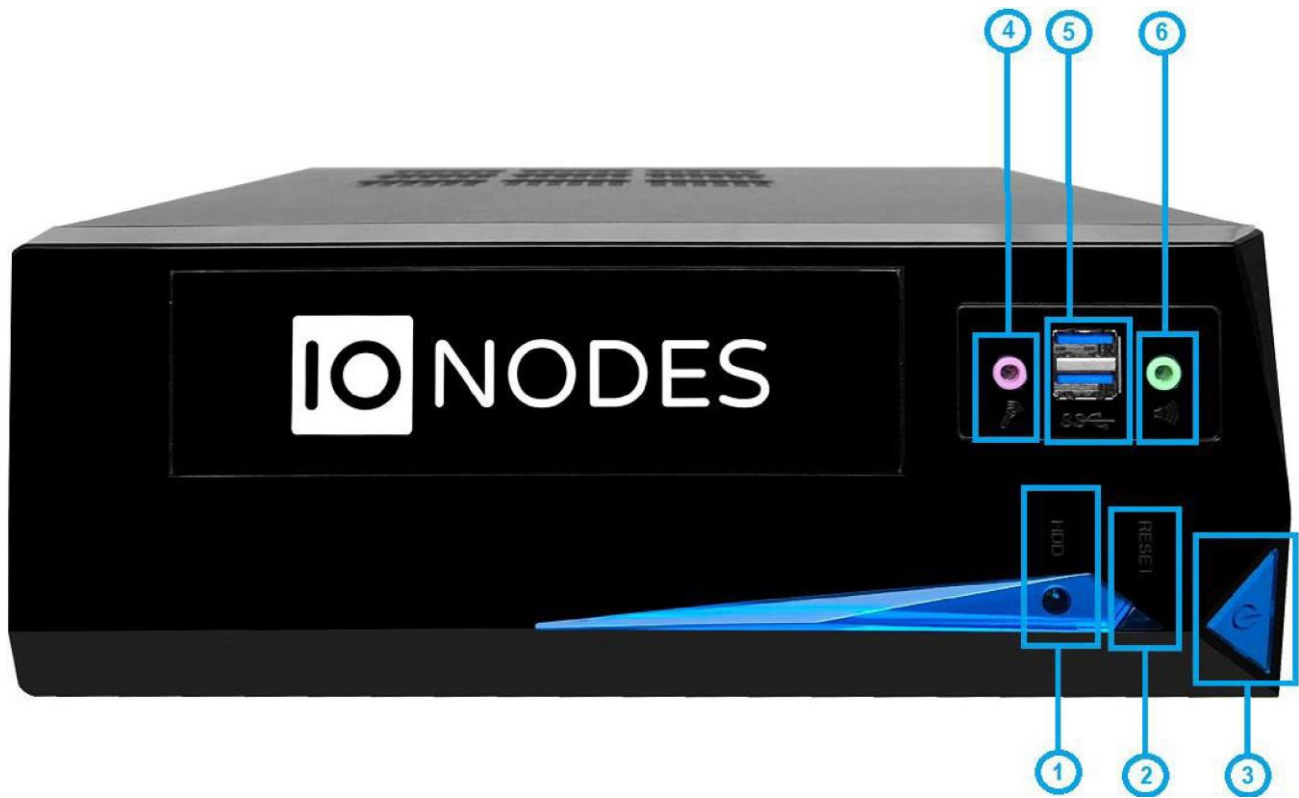
Your appliance should be packed with the following:

1. 1 x CR67 Series appliance
2. 1 x USB Utility Key
3. 1 x Quick Setup Guide

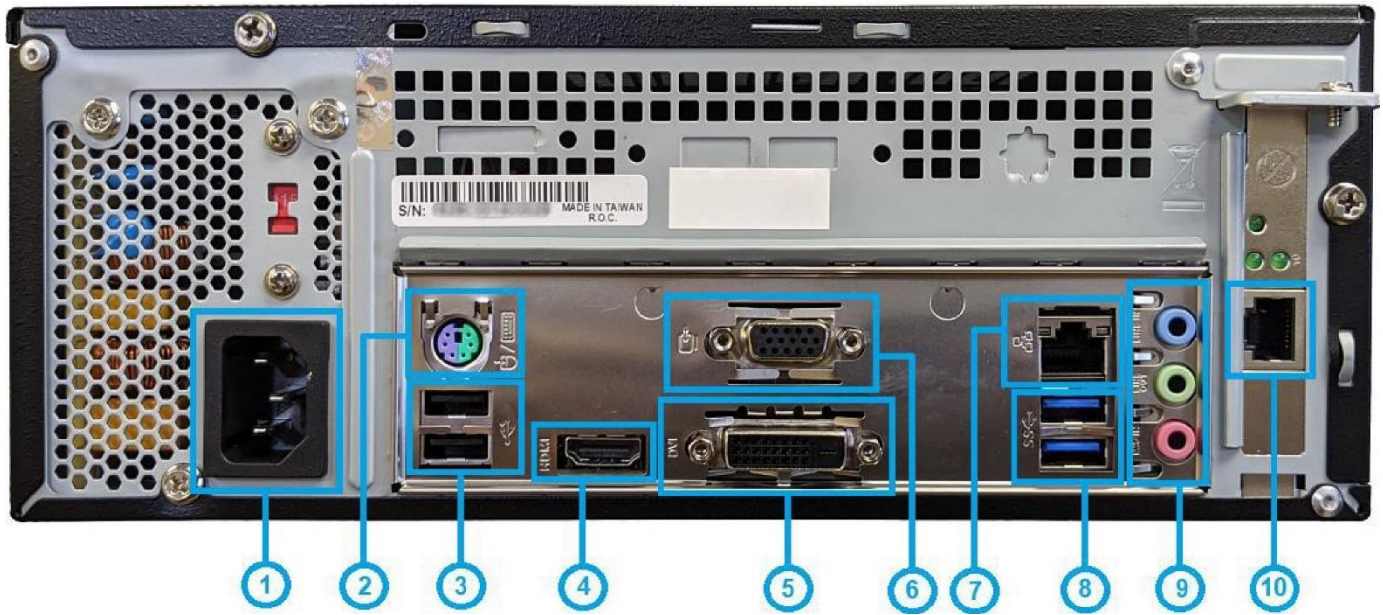
Below are additional items which are not included, but may be required:

1. USB mouse & keyboard
2. Computer monitor
3. Internet access and/or a network switch
4. Power bar with surge protection
5. Region specific power supply cord (can be ordered from IONODES or sourced externally)

6.2 Front and rear panel controls and LEDs



1	HDD Activity LED
2	Reset button
3	Power button
4	Microphone jack
5	2 x USB 3.0
6	Headphone jack



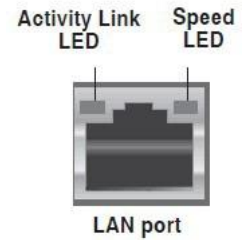
1	Power Supply Jack
2	PS/2 combo port (mouse/keyboard)
3	2 x USB 2.0 ports
4	HDMI display output
5	DVI display output
6	VGA display output
7	Gigabit Ethernet (Port 1)
8	2 x USB 3.0 Ports
9	Audio In/ Out
10	Gigabit Ethernet (Port 2)

6.2.1 Status LED behaviour

- RJ45 Network Jacks LEDs
 - LINK/ACT (on the left side of the port)
 - On (Orange): linked
 - Blinking (Orange): data activity
 - Blinking then steady (Orange): ready to wake up from power-saving mode
 - Off: no link
 - SPEED (on the right side of the port)
 - On (Green): 1000 Mbps connection
 - On (Orange): 100 Mbps connection
 - Off: 10 Mbps connection

- Power LED
 - On (Blue): system is powered on
 - Off: system is powered off

- HDD Activity LED
 - On/Blinking (Yellow): HDD is being accessed for read/write operations
 - Off: HDD is not being accessed



6.3 Identifying your model and serial number

6.3.1 Appliance Model Number

The label on the bottom of your appliance case contains information that identifies your exact appliance model number. A similar label is also located on the product box.

IONODES technical support staff may need this information if you call for assistance.

6.3.2 Appliance Serial Number

You can locate the appliance's serial number:

- Printed on a white label located on the bottom of your appliance case.
- Printed on the packing slip that came with your appliance.

Note: A Microsoft Windows Certificate of Authenticity label is located on the inside of the chassis

7 Getting Started

7.1 Specifications

Physical	
Form factor	Compact desktop chassis
Cabinet Color	Black
Dimensions (W x D x H)	355mm (14.00 in) x 268mm (10.60 in) x 103mm (4.10 in)
Weight	3.3 kg (7.2 lbs)
Electrical	
Power supply	AC Input 115/230V, Max. Output 300W
Performance	
CPU PassMark score	15951
Boot time	30 sec. (from power on to Windows login screen)
Environment	
Operating Temperature	32°F ~ 104°F (0°C to 40°C); indoor use only

7.2 Hardware Installation

The CR67 Series appliance can be placed directly on a desktop / shelf. It is recommended to have a clean level surface and to ensure adequate clearance for cooling.

Note: The appliance benefits from ambient air circulation. Do not obstruct ambient air circulation to avoid overheating the unit and reducing its performance and functional lifespan.

7.3 Keyboard & Mouse Setup

It is recommended that a USB keyboard & mouse be attached to the appliance in order to facilitate local setup and configuration, as well as for running locally different applications, like for instance the VMS client applications for video footage review. Plug the keyboard & mouse to the USB ports located on the back panel of the appliance.

Note: The first time the system is started with your USB keyboard and mouse, please allow some time for the operating system to detect them before they are ready for use.

7.4 Monitor Setup

Your CR67 Series appliance comes with a multitude of monitor display configuration options. The appliance itself provides three display output ports: 1x HDMI, 1x DVI-D, 1x D-Sub. You may use any output in single output mode, or you may use up to 2 displays simultaneously in multi-display mode.

The maximum resolutions & frame rates for each output can be found below:

- HDMI 1.4b max. 4096 x 2160 @ 24Hz / 2560 x 1600 @ 60Hz
- DVI-D max. 1920 x 1200 @ 60Hz
- D-Sub max. 1920 x 1200 @ 60Hz

In multi display mode, your system will use one display as primary display, which will be active on BIOS and Windows login screens. As soon as the user logs into Windows, the secondary monitor will become active as well. The order and position of the displays is configurable using the operating system's display configuration menu.

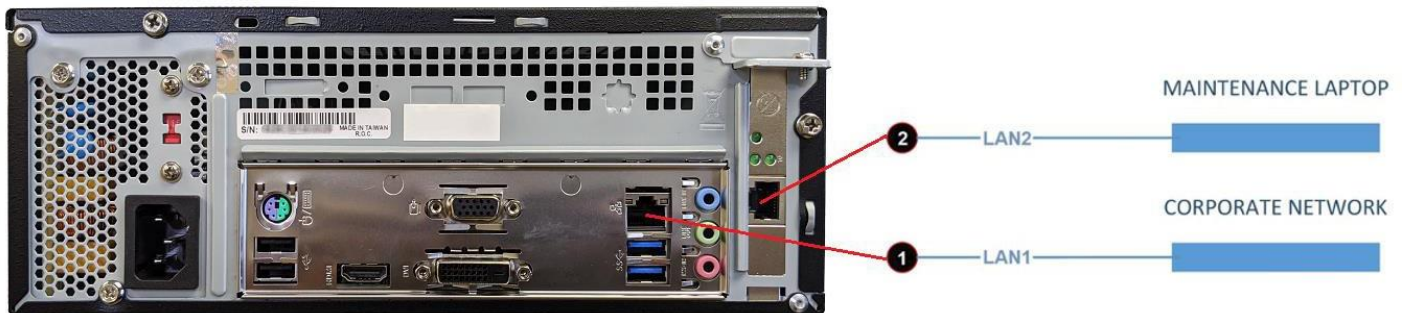
Note: A multi-display mode with all 3 displays is not supported.

7.5 Network Setup

The CR67 Series appliance features two Gigabit Ethernet network ports located on the backside of the chassis.

7.5.1 Network Connections

In typical deployments, your installation may require network connections to a corporate network and / or maintenance laptop.



- Connect the LAN network ports 1 and / or 2 of the appliance to any corporate network, maintenance laptop or any other external network.

Note: You may run software clients on the corporate network to view live or recorded video content, however, note that this will generate streaming on the corporate network; this may be undesirable.

7.6 External Storage

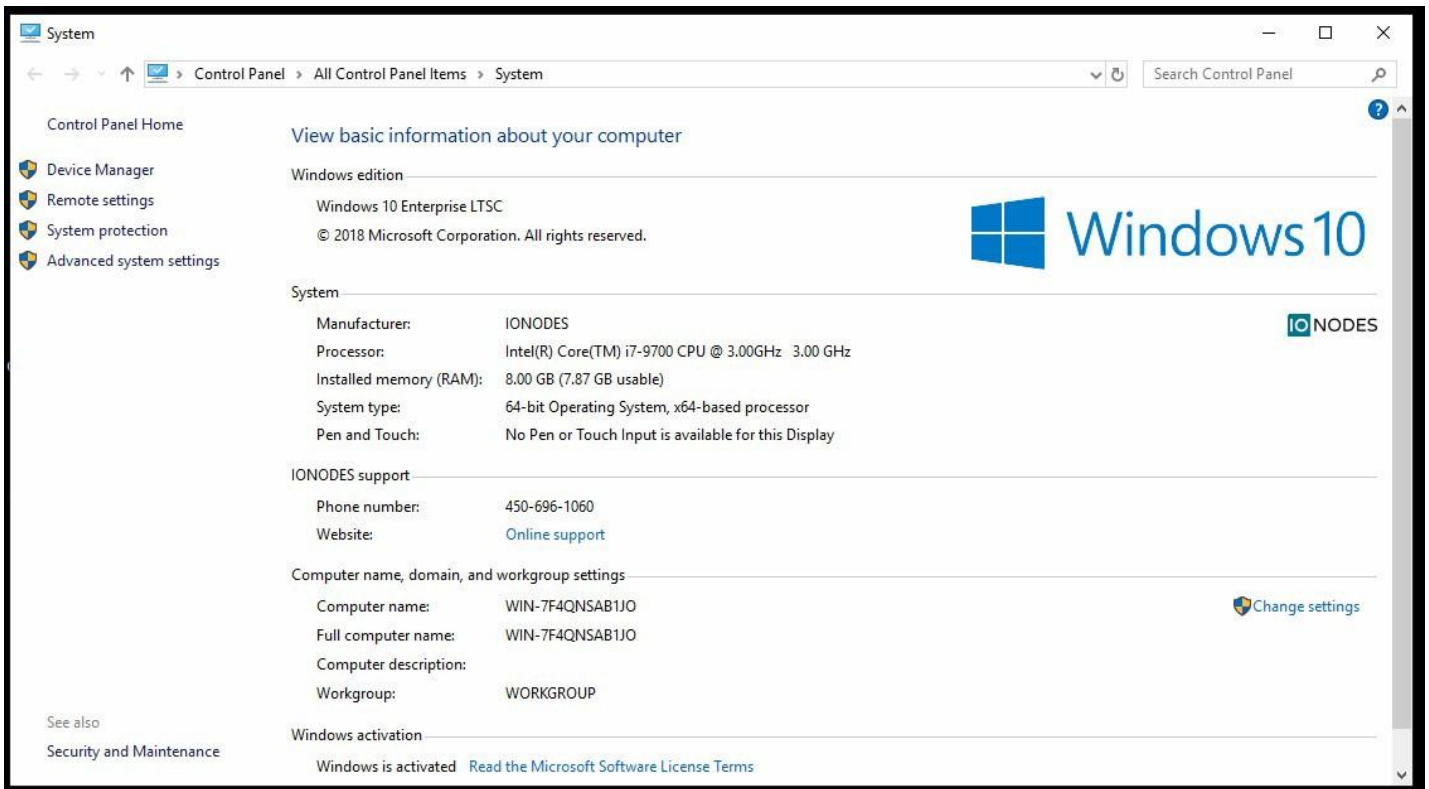
The CR67 Series appliance is equipped with 4x USB 3.0 and 2x USB 2.0 ports, as well as two Gigabit Ethernet ports, which may be used for connecting external storage. Using external storage is useful if the internal storage is not sufficient to meet your target video retention times.

Any of the available Gigabit Ethernet ports may be used to connect to network storage solutions such as iSCSI storage devices. The USB 3.0 / 2.0 port may be used to connect to a USB 3.0 / 2.0 storage device.

Once discovered by the appliance, external storage can be used by your video management software as a storage device.

8 Software Environment

Your appliance is pre-configured with a Microsoft Windows 10 Enterprise LTSC x64 operating system. The plain Windows image allows you to perfectly control the installed programs and only have what is strictly necessary for your deployment.



8.1 Anti-Virus Software

Because of a high risk of system performance depreciation, we recommend that your anti-virus software is configured to exclude specific files associated to the VMS, in order to keep a secured product without affecting its performance.

Also, please make sure that you qualify the performance before deployment in the field.

8.2 Software Updates

We recommend to carefully qualify any application updates before deployment in the field.

We recommend enabling automatic updates for the Windows operating system, as our special build allows for security updates only.

Note: Automatic Windows Updates are enabled by default; this is the desired setting.

8.3 Remote Access

By default, your appliance is configured to permit remote desktop connections. This feature of the Windows operating system allows you to remotely access your appliance from any other computer on your network using your Windows account credentials.

Note: You can disable this feature via the Windows control panel. For details on how to do this, consult your IT administrator.

9 Basic Operating Instructions

9.1 Powering on the appliance

1. Turn on the monitor(s) and any external peripherals (ex. Printers, External Storage Devices, etc.) connected to the appliance.
2. Set the dip switch at the back of the power supply to the correct input voltage (115V or 230V).



Switch for selecting the input voltage of the power supply (115V or 230V)

3. Connect one end of the power cord to the appliance and the other end to the power outlet. The device will power on automatically.
4. If the power adapter was already connected from a previous session, you can power on the appliance by pressing the **Power Button** on the front of the unit.
5. The appliance will run a series of self-tests. After a few seconds, a series of messages may be displayed as the various hardware and software subsystems are activated. Under normal circumstances you should not be asked to respond to these messages. If you are asked to respond any messages, follow the instructions carefully.
6. A Windows login prompt will be displayed once the appliance has completed its boot up phase. The default login username is '**admin**' and default password is '**admin**'.

9.2 Powering off the appliance

1. You may initiate a power down of the device by one of two ways:
 - a. Press the **Power Button** on the front of the appliance.

OR

- b. Click on the **Windows START** button located on the bottom left of the screen and then click on the **SHUT DOWN** button.
2. Both methods above will cause the software to shut itself down properly.
3. The appliance may take a few minutes to complete the shut down process.

Note: Always be sure to follow the proper procedures when turning off the power to the appliance. NEVER disconnect the power to the device while it is still running or in the process of shutting down. Doing so can cause data loss, file corruption, system instability and hardware failure.

9.3 Initial Configuration Steps

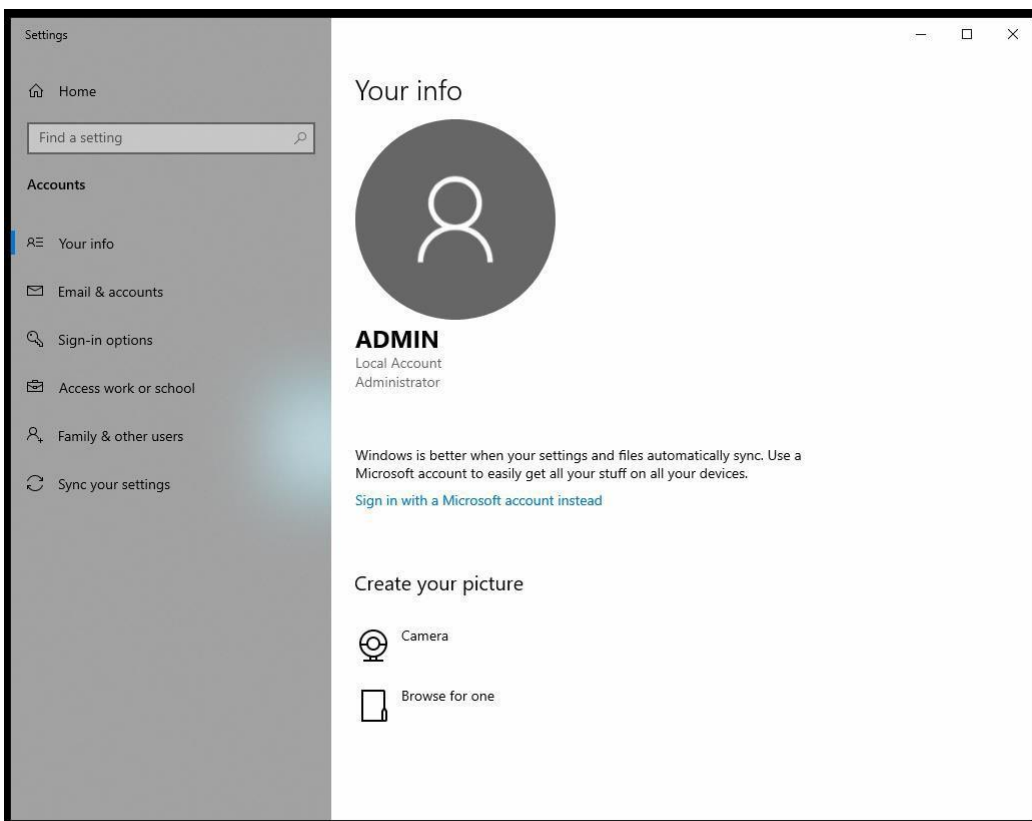
9.3.1 Securing access to your appliance

By default, the appliance is shipped with default username and passwords for access to the various administrative interfaces of the system.

We strongly recommend that you change the default administrative passwords in order to ensure that no unauthorized accesses are performed.

1. Log into the Windows operating system using the default admin username and password ('**admin**' / '**admin**').
2. Press **CTRL + ALT + DELETE** from the appliance operating system to display the Windows system menu.
3. Choose the **Change Password** menu option and follow the steps required to change the default admin password.

Another option is to open Windows Settings > Accounts.



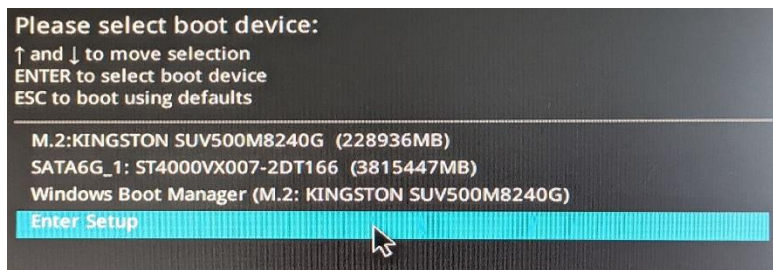
10 System Image Recovery

In the event your system has become corrupted or unusable in any way, or you simply wish to reload your system to its factory default operating system image, the appliance offers an image recovery mechanism. This mechanism will restore your unit to the original factory deployed state.

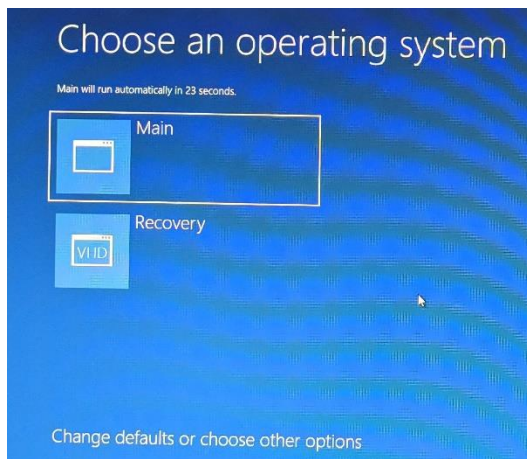
Doing so will delete all data on the boot drive of the system; any applications or data files which were not part of the original factory image will be lost. No information on the internal or external video recording hard drive(s) will be affected by the recovery of the factory image.

This procedure must be performed locally with a mouse, keyboard and monitor connected to the appliance being restored.

1. Reboot your CR67 series appliance
2. During the initial boot up, continuously press on the F8 key on the keyboard
3. The **Advanced Boot Options** window will appear



4. Select the **Enter Setup** option
5. The operating system will present the recovery application window



6. Click on the **Recovery** button to restore the factory image
7. Click **Yes** to confirm you want to proceed
8. The current system image will be deleted and replaced with the default factory image
9. Click **OK** to complete the recovery once the process has finished.

Once completed, the unit will reboot and once back online will be back to the factory image.

11 Troubleshooting

Please use the steps below for basic troubleshooting purposes. If the problem is more complex and cannot be resolved, please contact IONODES Support using the details in the next chapter.

11.1 The device does not seem to start

- Verify that the power supply is set to the correct input voltage based on your region
- Verify that the power cord is plugged into the back of the chassis, as well as into the electric outlet
- Verify that the power supply can provide enough power
- Verify your power cord and UPS (if applicable)

11.2 Nothing is displayed on the HDMI / DVI-D / D-Sub video output

- Make sure you connect your display device prior to powering up the device
- Make sure you are directly connected to a display device
- If none of the above resolves the issue, validate that the cable and monitor are operating correctly by using a different video source

11.3 Cannot discover the CR67 via IonConfigTool (ICT) or communicate with it via the network

- Make sure you have connected the device to your network via one of the ETH ports
- Make sure you are in the same network segment
- Make sure the Green LED on the RJ45 connector is lit. If it is not lit, verify the network connectivity with the network switch. You can try to connect the network cable to another ETH port to verify if a problem is localized to a specific ETH port. You can also try with a different network cable in order to rule out any possible issue with it.
- The device is discovered with the IonConfigTool (ICT) via the Bonjour protocol and requires multicast networking to be supported by your network and switch equipment

12 Getting Help

You can get help from the IONODES technical support team in many different ways:

- By sending an email to support@ionodes.com
- By calling our office during regular work hours at:
 - +1 (844) 696-1060
 - +1 (450) 696-1060

Our technical support team is trained to support you with installation as well as maintenance of your IONODES products.

Annex – Statement Limited Warranty

The warranties provided by IONODES Inc. (IONODES) in this Statement of Limited Warranty apply only to CR67 products purchased from an authorized IONODES Inc. (IONODES) Reseller, Integrator or Distributor and returned from European, Asian, or North American countries, and excludes all Latin American countries. The term "CR67" means a CR67 module, any module upgrade, or accessories, or any combination of them. The term "CR67" does not include any software programs, whether pre-loaded with the CR67, installed subsequently or otherwise which are covered by a separate Limited Warranty. Nothing in this Statement of Warranty affects any statutory rights of purchaser that cannot be waived or limited by contract. If you have any questions regarding this Limited Warranty, contact IONODES Inc. and its resellers. The Warranty period for the CR67 is 3 years from date of billing for the CR67 product.

The IONODES Warranty for CR67

IONODES warrants that each CR67 is free from defects in materials and workmanship and conforms to the CR67 Official Published Specifications (See <http://www.IONODES.com> for details). The warranty period for a CR67 is a specified, fixed period commencing on date of billing by IONODES for the Product. If a valid proof of billing cannot be found, the warranty may be void by IONODES Inc. or measured from the date the CR67 has shipped from an IONODES Depot center based on its serial number.

If, during the warranty period, the CR67 is not in good working order, IONODES will, at its option, repair or replace it at no additional charge, except as is set forth below.

In some cases, the replacement product may not be new and may have been previously installed. Regardless of the replacement product used, IONODES' appropriate warranty terms apply.

In case IONODES or your reseller are unable to repair an IONODES CR67, you can alternatively ask for a partial refund as far as justified by the reduced value of the unrepaired CR67 or ask for a cancellation of the respective agreement for such CR67 and get your money refunded.

Extent of Warranty

The warranty does not cover the repair or exchange of an CR67 resulting from misuse, accident, modification, unsuitable physical or operating environment, improper maintenance by the end user, or failure caused by a product for which IONODES is not responsible. The warranty is voided by removal or alteration of CR67 or parts identification labels.

THESE WARRANTIES ARE YOUR EXCLUSIVE WARRANTIES AND REPLACE ALL OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Items Not Covered by Warranty

IONODES does not warrant uninterrupted or error-free operation of a CR67. Any technical or other support provided for a CR67 under warranty, such as assistance via telephone with "how-to" questions and those regarding CR67 set-up and installation, will be provided WITHOUT WARRANTIES OF ANY KIND.