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# Horizon® XL

Multi-media Imager

EN - English

## Documentation and Notice

Codonics Products are Class I products intended for use by Healthcare Professionals.

Products packaging and labeling, including Graphic User Interface (GUI) for operation are offered in English and meet MDR, Annex I, Chapter III, 23.4, taking account the training and the knowledge of the potential user.

\*Web information, Key Specifications, Intended Use, User manual Appendix, Quick Start Guide & Setup IFU are available in simple translation Member State Languages; primary IFU are available in English.

## Overview

The Horizon XL combines diagnostic film, color paper and grayscale paper printing in a versatile medical imager. Horizon XL features exclusive 36" and 51" dry long film ideal for long bone and scoliosis studies. A total CR/DR print solution, Horizon XL will reduce your costs, save you space, and completely eliminate your wet film processing needs. High speed image processing, networking and spooling are all standard.

## Specifications

Print Technology: Dye-diffusion and direct thermal (dry, daylight safe operation)

Spatial Resolution: 320 DPI (12.6 pixels/mm)

Throughput: Up to 100 films per hour

Time To Operate: 5 minutes (ready to print from "off")

Grayscale Contrast Resolution: 12 bits (4096)

Color Resolution: 16.7 million colors

256 levels each of cyan, magenta, and yellow

Media Inputs: Three supply cassettes, 25-100 sheets each, one color ribbon

Media Outputs: Three receive trays, 50-sheet capacity each

Media Sizes: 8" x 10", 14" x 17" (blue and clear) DirectVista® Film

14" x 36", 14" x 51" (blue only) DirectVista® Film

A, A4, 14" x 17" DirectVista Grayscale Paper

A, A4 ChromaVista® Color Paper

Dmax: >3.0 with DirectVista Film

Archival: >20 years with DirectVista Film, under ANSI extended-term storage conditions

Media Supply: All media is pre-packaged and factory sealed

Interfaces: Standard: 10/100 Base-T Ethernet (RJ-45), Serial Diagnostic Port, Serial Console

Network Protocols: Standard: FTP, LPR

Optional: DICOM (up to 24 simultaneous connections), Windows network printing

Image Formats: Standard: TIFF, GIF, PCX, BMP, PGM, PNG, PPM, XWD, JPEG, SGI (RGB), Sun Raster, Targa

Optional: DICOM, PostScript™ compatibility

Image Quality: Automatic calibration using built-in densitometer

Image Control: Gamma, Contrast, Saturation, Medical Color Matching (MCM™), Polarity,

Rotation, Scaling, Antialiasing

Sheet Control: Density Adjustment (Dmax), Look-Up Tables (LUT), Image Warnings, Captions, Sheet Coverage, Border Color, Border Fill, Crop Anchor

Sheet Formatting: 1:1 - 1:81; Variable Multi-Formatting (VMF™), Fixed Multi-Formatting (FMF™)

Control Panel: Large, backlit LCD display, Status lights include Online, Alert, Fault, Active Power and Menu navigation buttons

Processor: Intel

Memory: 512MB RAM

Hard Disk: 80GB (60GB available for spooling)

Removable Disk: 100MB ZIP™ Disk for software upgrades

Smart Card: 72 KB for storing configuration data

Power: Universal Input: 100-120/230V~ 50/60 Hz, 600W printing, 150W idle

Heat Emission: Maximum 600W, 2,050 BTUs/hr. printing, 150W, 512 BTUs/hr. idle

Weight: 66 lbs. (30 kg.)

Engine Dimensions: 14.5" (37 cm) H, 20.5" (52 cm) W, 24" (61 cm) L

Environment: Operating Temperature: 15-30°C, Storage: -22.2 - 50.6°C, Operating Humidity: 10-70% R.H. (non-condensing)

Regulatory: Full medical device compliance including Class 2 FDA and Class I

MDR 2017/745/EU (CE), GMP/QSR, ISO 13485:2016/NS-EN

ISO 13485:2016, Electrical Safety IEC 60601-1 Ed. 3.1 and EMC/EMI:

FCC Class A and IEC 60601-1-2: Ed. 4 for Professional Healthcare Facilities

## Conventions Used in the User Manual


### Bulleted Lists

Bullets are used to display a list of nonprocedural items. For example:

The control panel contains:

- A display panel
- Keys
- Indicators

### Numbered Steps

The  icon indicates the beginning of a procedure. The steps in a procedure are numbered. For example:

1. Press the MENU key.

The Main Menu displays on the control panel. The selector arrow ( ► ) automatically points to the first menu option.

2. To scroll through the menu options, press the up and down keys.

The selector arrow ( ► ) moves up and down through the list. The bottom portion of the control panel display shows a message associated with the currently selected menu option.

## Control Panel Navigation

*Menu paths* are used in some procedures instead of documenting every step needed to navigate to a specific menu option. For example:

From the Main Menu, select the following options:

**Default Media**  
**Grayscale**  
**DV Film Blue**

## **Control Panel Keys**

Control panel keys are shown in small black ovals to resemble the actual keys, for example, "Press the **ENTER** key."

## **Control Panel Menu Options**

Control panel menu options are shown in bold type, for example, "Select the **Gamma** menu option."

## **Notes and Tips**

Notes contain additional information related to a topic or procedure. For example:

**NOTE: If your network is managed by a network administrator or an information technology (IT) department, it would be considered a complex network. You should have the responsible person perform any network-related administrative tasks.**

Tips provide additional insights about a topic or procedure (such as, why you may want to do something or a faster way to perform an operation). For example:

***TIP: Specifying print settings in a multi-user environment***

*If the Horizon imager is accessed by multiple users, it is typically better for individual users to enter print values through the DICOM application interface rather than change the default settings through the control panel.*

## **Cautions and Warnings**

Cautions alert you to actions or situations that could cause harm to equipment or data. For example:

**CAUTION Any changes you make to the imager default settings will also affect prints made by other users. Use caution when changing default settings.**

Warnings alert you to actions or situations that could result in personal injury. For example:

**WARNING With the imager cover open, touch only those internal components that are colored green.**

## **Text Files and Displayed Text**

Monospaced type is used for the contents of an ASCII file or machine text displayed in a terminal command window.

## **User Data**

**Bold monospaced type** is used to indicate specific characters or words that you enter at a host workstation when performing advanced imager operations. *If the type is also italicized*, it indicates variable text. For example:

1. From your workstation, open a UNIX or MS-DOS command window.
2. Enter the command **telnet *hostname*** or **telnet *IP Address*** (using either the Horizon imager hostname or IP Address).
3. At the login prompt, enter the command status.

## Important Information and Filenames

**Bold type** is used for emphasis, command names, and paths or filenames. For example:

- The Horizon imager default settings can be changed both at the control panel and using text files.
- The hostname and IP Address must be added to the ***/etc/hosts*** file.

## New Terms

*Italic type* is used when a term is introduced and defined. For example:

- The Horizon imager has a complete set of *default settings* that contain preconfigured values for every aspect of a printed sheet.

## Purpose and Scope

Refer to this user manual for procedures on how to perform the most common imager operations, including:

- Setting up the imager
- Loading media
- Sending print jobs from DICOM Print Service Classcompliant applications running on imaging devices or image viewing workstation
- Sending print jobs from workstations via PostScript
- Sending print jobs using FTP and LPR
- Changing the imager's default image and sheet settings
- Adjusting the appearance of printed images for user preference
- Performing preventive maintenance
- Performing film calibration
- Troubleshooting common problems

**NOTE:** Some features and functions described here may not apply to older versions of the software.

This User's Manual is intended to be as simple and straightforward as possible for the everyday user. If you need more detailed or more technical information on a feature or topic, or wish to perform more advanced operations, refer to the *Horizon Imager Technical Manual* (Catalog no. HORIZON MNL). The Technical Manual serves as a companion document to this manual

## Product Information

For technical assistance with the Horizon, call Codonics Technical Support at the following number:

**Phone: +1.440.243.1198**

**Toll Free: 800.444.1198 (USA only)**

Technical Support is available anytime. Technical Support is also available online via email and the Codonics web site:

Email: [support@codonics.com](mailto:support@codonics.com)  
Web Site: [www.codonics.com](http://www.codonics.com)

General product information can also be requested by sending email to:

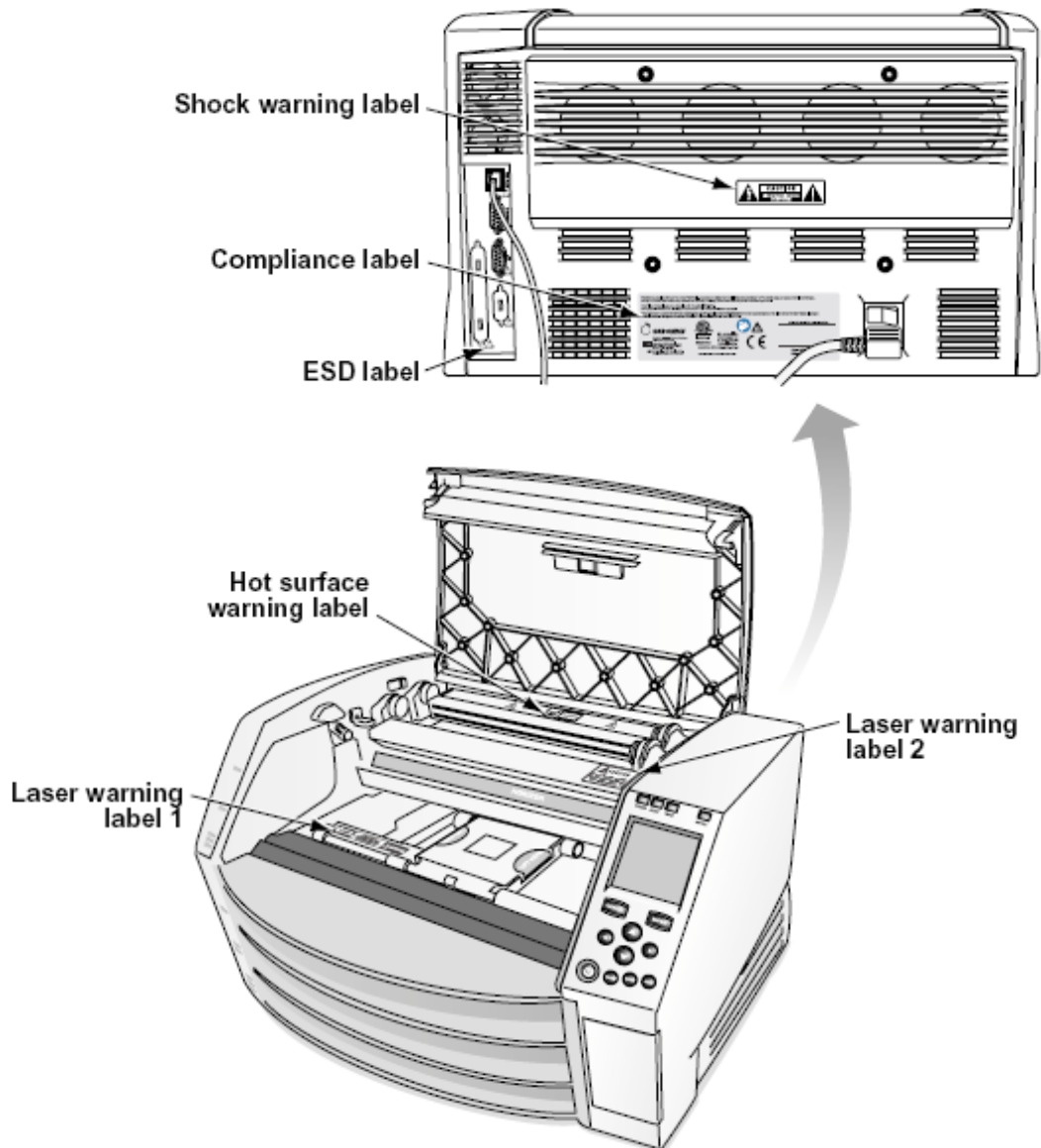
Email: [info@codonics.com](mailto:info@codonics.com)

Please include your postal mailing address and telephone number in the email message. Basic product information is returned via email unless otherwise requested.

## Warnings and Limitations of Use

### Location of Safety and Compliance Labels

The following figure shows the locations of the imager's safety and compliance labels.



### Voltage Warning

The exclamation point within an equilateral triangle and person reading a manual symbol are intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying this device.



NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL. REMOVAL OF LABELS, COVERS, OR ENCASMENT FASTENERS VOIDS THE WARRANTY.

THIS APPARATUS MUST BE ELECTRICALLY GROUNDED.

TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS IMAGER TO RAIN OR MOISTURE.

EQUIPMENT IS NOT TO BE USED AS A COMPONENT OF A LIFE SUPPORT SYSTEM. Life support devices or systems are devices or systems that support or sustain life, and whose failure to perform can be reasonably expected to result in a significant injury or death to a person. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

**WARNING** Grounding reliability can be achieved only when the Horizon is connected to a receptacle marked "Hospital Only" (that is, "Hospital Grade").

**WARNING** The power cord connected to the Horizon is the main disconnect for the system.

**WARNING** To disconnect overall power to the Horizon prior to servicing it, power of the system.

**WARNING** Do not modify this equipment without authorization of the manufacturer

**WARNING** External equipment intended for connection to signal input, signal output, or other connectors, shall comply with relevant IEC standard (e.g., IEC 60950 for IT equipment and the IEC 60601 series for medical equipment). In addition, all such combinations - systems - shall comply with the IEC 60601-1 standard for Medical Electrical Equipment Systems. Equipment not complying to IEC 60601 shall be kept outside the patient environment, as defined in the standard. Any person who connects external equipment to signal input, signal output, or other connectors has formed a system and is therefore responsible for the system to comply with the requirements of IEC 60601-1-1. If in doubt, contact a qualified technician or Codonics Technical Support for approved configurations.

**WARNING** Do not touch a patient while also accessing the internal components that are under the top cover or receive trays.

#### Laser Warning

The Horizon imager uses a laser to read barcode information on the media cassettes. The laser module is a 650 – 670nm device of 1.26 mW or less. As such it has been found to comply with the 21 CFR 1040.10 and 1040.11 and IEC 60825 laser standards as a low power Class 1 device.

For safety reasons, the laser is turned on only for a short time when a cassette is inserted. Still, one should use caution and never stare at the laser beam, should avoid exposure to the laser, and should never override any of the interlocks and safety mechanisms. These measures are taken for your protection.

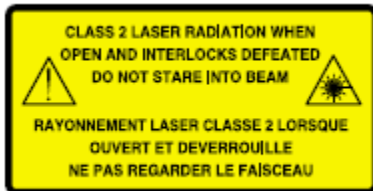
**WARNING** Use of controls or adjustments to the performance of procedures other than those specified in this manual may result in hazardous radiation exposure.



The laser apertures are marked with a single label, shown below. There are three apertures that correspond to the three cassette locations, one for each, on the same side of the Horizon imager as this label.



Safety interlocks are marked by the following label. They are located on the same side of the Horizon imager as this label.



### Temperature Warning

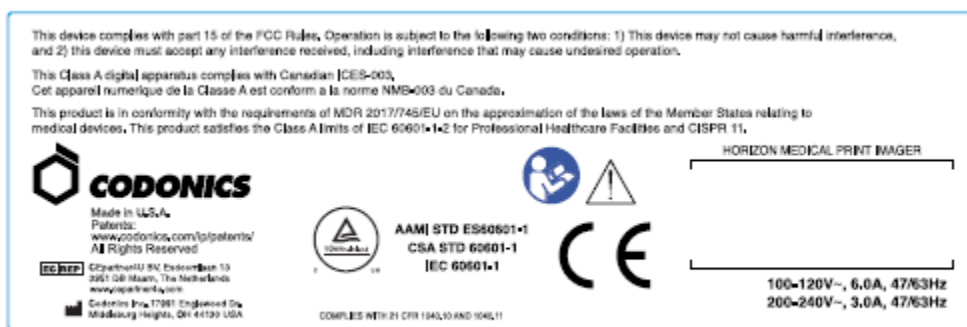
Because the Horizon imager is a thermal print device, the surface of the thermal print head heat sink gets hot. Avoid directly touching any components not colored green when accessing the interior of the imager if the imager has been printing. (During some preventative maintenance tasks, you will be touching internal components with cleaning pads or swabs.)

The temperature warning label is shown below.

### Compliance

Codonics is in compliance with various regulations.

The Compliance label, which is affixed at the back of the imager, is shown below.



### Compliance label

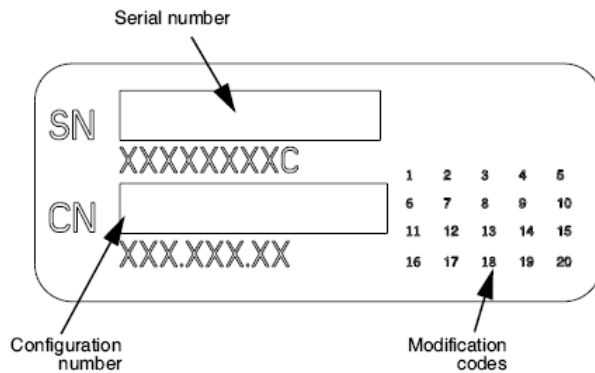
### Serial Number, Configuration, Date Code, and Modification Codes

The Serial number label is placed onto the Compliance label. It includes the following information.

The serial number (SN), which uniquely identifies the unit.

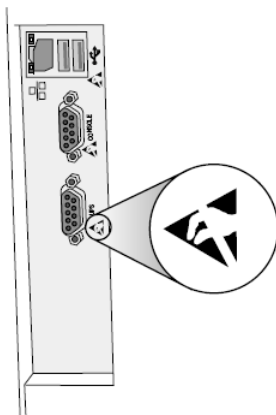
The Configuration number (CNFG), which details the build configuration.

The modification codes, which are to the right of the CNFG number and are a series of 20 numbers. When any of these numbers are blocked out, that identifies a modification that was made to the unit. The date code in YYYY-MM format below the factory date code symbol.



### ESD Caution

Connections to other pieces of equipment are made at the rear of the Horizon imager. These connectors are marked with a precautionary ESD warning symbol, as shown below. Do not touch any of the pins of these connectors. When making connections to the imager, it is best done while the imager is plugged in but not powered on. ESD may cause erratic behavior of the imager when powered on. Should this occur, power to the imager may have to be cycled. It is recommended that all staff involved in making connections to the imager be aware of these ESD precautions.



*Rear panel*

### Potential for Radio Frequency Interference on Imager Operation

Both portable and mobile RF communications equipment can affect medical electrical equipment, including the Horizon imager. Keep such RF communications equipment out of the immediate area.

### Potential for Radio and Television Interference

The Horizon imager generates and uses radio frequency energy, and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with Class B emission limits for a computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operating in a commercial environment. Operation of the equipment in a residential area is likely to cause interference, in which case the user, at his own expense, will be required to take whatever

measures may be appropriate to correct the interference. If your imager does cause interference to radio or television reception, you are encouraged to try to correct the interference by one or more of the following measures:

- Reorient the receiving antenna
- Relocate the imager with respect to the receiver

If necessary, you should consult Codonics technical support or an experienced radio/television technician for additional suggestions. You may find the following booklet prepared by the Federal Communications Commission helpful: *How to Identify and Resolve Radio-TV Interference Problems*. This booklet is available from the U.S. Government Printing Office, Washington, D.C. 20402, Stock No. 004-000-00345-4.

This product is in conformity with the requirements of EC Council directive MDR 2017/745/EU (CE) on the approximation of the laws of the Member States relating to medical devices. This product satisfies the Class A limits of IEC60601-1-2 and CISPR 11. A declaration of conformity with the requirements of the Directive has been signed by the Director of Operations. Horizon is approved for export via FDA Certificates to Foreign Government and registered as a medical device for import. A current list of countries is available on request.

#### Guidance Regarding Electromagnetic Emissions and Immunity

##### Suitable Environments:

- Horizon is intended for use in professional healthcare facility environments, including hospitals and medical clinics.
- Horizon has not been evaluated for use near HF surgical equipment. If use near HF surgical equipment is desired, the user is responsible for verifying proper operation of the Horizon. If Horizon does not perform correctly in this environment, move the Horizon farther from the source of the electromagnetic disturbance.
- Horizon has not been evaluated for use in emergency medical vehicles.

As a support device, Horizon does not provide essential performance.

**WARNING** Use of this equipment adjacent to or stacked with other equipment should be avoided because it could result in improper operation. If such use is necessary, this equipment and the other equipment should be observed to verify that they are operating normally.

**WARNING** Use of accessories, transducers and cables other than those specified or provided by the manufacturer of this equipment could result in increased electromagnetic emissions or decreased electromagnetic immunity of this equipment and result in improper operation.

**WARNING** Portable RF communications equipment (including peripherals such as antenna cables and external antennas) should be used no closer than 30 cm (12 inches) to any part of the Horizon, its cables, or accessories. Otherwise, degradation of the performance of this equipment could result.

### Electromagnetic Emissions Standards and Test Levels:

<b>Test / Standard</b>	<b>Compliance Level</b>
<b>RF Emissions</b>	Group 1, Class A
CISPR 11	
<b>RF Emissions</b>	Class A
FCC Part 15	
<b>Conducted Emissions</b>	Group 1, Class A
CISPR 11	
<b>Harmonic Distortion</b>	Class A
IEC 61000-3-2	
<b>Voltage Fluctuations and Flicker</b>	Complies
IEC 61000-3-3	

### Electromagnetic Immunity Standards and Test Levels:

<b>Test / Standard</b>	<b>Compliance Level</b>
<b>Electrostatic Discharge</b>	±8kV contact
IEC 61000-4-2	±2kV, ±4kV, ±8kV, ±15kV air

## Electromagnetic Immunity Standards and Test Levels: (Continued)

Test / Standard	Compliance Level
<b>Radiated RF Immunity</b>	3 V/m
IEC 61000-4-3	80 MHz - 2.7 GHz 80 % AM at 1 kHz
<b>Proximity fields from RF wireless equipment</b>	Complies
IEC 61000-4-3	
<b>Electrical Fast Transient / Burst</b>	AC Port: $\pm 2$ kV, 100 kHz repetition frequency
IEC 61000-4-4	SIP/SOP Ports: $\pm 1$ kV, 100 kHz repetition frequency
<b>Surge</b>	Line-to-Line: $\pm 0.5$ kV, $\pm 1.0$ kV
IEC 61000-4-5	Line-to-Ground: $\pm 0.5$ kV, $\pm 1.0$ kV, $\pm 2.0$ kV
<b>Conducted Immunity</b>	AC Port and SIP/SOPs:
IEC 61000-4-6	3V, 0.15 MHz - 80 MHz 6V, in ISM bands between 0.15 MHz and 80 MHz 80 % AM at 1 kHz
<b>Magnetic Field Immunity</b>	30 A/m, 50 Hz or 60 Hz
IEC 61000-4-8	
<b>Voltage Dips</b>	0% $U_T$ , 0.5 cycle at 0°, 45°, 90°, 135°, 180°, 225°, 270° and 315°
IEC 61000-4-11	0% $U_T$ , 1 cycle AND 70% $U_T$ , 25/30 cycles, Single phase: at 0°
<b>Voltage Interruptions</b>	0% $U_T$ , 250/300 cycle
IEC 61000-4-11	

### Safety Precautions

- Never connect this imager to any outlet or power supply that has a voltage or frequency different than that specified on the rear of the imager.
- When servicing the imager, always power it off using the (power) key at the control panel, then turn the rocker switch in the back to the 0 (off) position, then unplug the imager.

- Damage to the power cord may cause fire or shock hazard. When unplugging the power cord, hold it by the plug only and remove the plug carefully.
- If the power cord needs to be replaced, replace it only with another Codonics power cord manufactured specifically for your imager's power configuration.
- If the imager is smoking or making unusual sounds, power off and unplug the imager immediately.
- Do not insert foreign objects of any kind into the imager; doing so can constitute a safety hazard and cause extensive damage.
- Do not place any liquid containers on the imager. If, for some reason, liquid seeps into the imager, power off the imager and unplug the power cord from the source outlet. If used without corrective measures, the imager may be damaged.
- Do not use the imager near flammable gases.
- With the imager top cover open or the receive trays removed, touch only those internal components that are colored green (shown in the following figure). Remove rings, ties, jewelry, and other items, and tie back hair, so that they do not fall into or get caught in the imager.



***Internal Components That Are Colored Green (called out in the illustration) Are Safe to Touch***

#### Location Precautions

- The imager's operating ambient temperature range is 15–30°C (59–86°F), with a relative humidity of 10%–80%.
- If the imager is moved quickly from an extremely cold place to a warmer one, condensation is likely to form. Do not use the imager if condensation has formed. Wait until the condensation has evaporated. You can speed up the evaporation time by moving the imager to a dryer location.
- Ventilation slots and holes are provided on the sides and rear of the imager. Place the imager on a hard level surface and locate it at least 10 cm (4 in.) from walls to ensure proper ventilation

**CAUTION** Adequate ventilation is required for proper operation of the imager

**CAUTION** When positioning the Horizon Imager, ensure there is adequate space to access the rear power switch.

- Do not place imager in a high humidity or high dust area. Airborne dirt particles can cause image quality problems. Avoid placing the imager in areas where ventilation ducts, open doors, or frequent passers-by might expose the imager and media to high levels of debris.
- Do not locate the imager in hot-springs areas where hydrogen sulfide and acidic ions are likely to be generated.
- Do not locate the imager where there are oily fumes and vapors.
- Do not locate the imager in direct sunlight.
- Do not locate imager near sources of high RF energy.
- Do not locate the imager where it might be subject to jarring or vibrations, such as a table or desk in a hightraffic area. Jarring and vibrations can affect the print quality of images.
- Horizon satisfies the electrical safety limits of IEC60601-1 and CISPR 11 and is suitable for patient care area location. Check with local ordinances and installation guidelines to confirm approved location requirements.

#### Cleaning Precautions

- Many plastic components are used in the imager's construction. Coat flecking and deformation is likely to occur if the imager is wiped with chemical dusters, benzene, thinners, insecticides, or other solvents. Rubber and PVC materials left in contact with the imager for extended times will cause damage. Never use petroleumbased solutions or abrasive cleaners.
- To clean the imager cover, first power off the imager using the (power) key at the control panel, then turn the rocker switch in the back to the 0 (off) position, then unplug the imager. Clean the cover with a soft cloth slightly moistened with a mild soap and water solution. Allow the cover to completely dry before operating the imager again.

#### Media

For **ChromaVista**<sup>®</sup> color prints, the consumed ribbon contains facsimiles of any patient images printed to **ChromaVista** color sheets. Therefore, you must properly dispose of or destroy consumed ribbon to ensure the confidentiality of patient images.

The optical density of reflective and transmissive prints have a nominal range of: Dmin = 0.10 OD (reflective), 0.11 OD (transmissive) to Dmax = 2.10 OD (reflective), 3.1 OD (transmissive). Actual optical densities may vary based on media variations and on the instrument being used to measure density. For example, **DirectVista**<sup>®</sup> Clear film may have a lower Dmin and Dmax than **DirectVista** Blue film.

- The Horizon imager includes a built-in densitometer. The built-in densitometer is designed to produce consistent prints by compensating for variation from one film cassette to another and one imager to another. For applications that require absolute control of the maximum density, the results should be checked against a bench-top commercial densitometer. The internal densitometer can be calibrated to a desktop unit. See the *Horizon Imager Technical Manual* for more information.
- **DirectVista** media is optimized for grayscale prints, while **ChromaVista** is optimized for color prints. If **ChromaVista** is not giving you satisfactory results with grayscale images, you may want to consider using **DirectVista** media for those applications.
- Media variations between different production lots may produce subtle differences in image quality and color. These variations most often occur in color ribbons and are characterized as a slight color hue in grayscale images.
- Codonics film media is designed to be viewed using a light box suitable for viewing medical diagnostic images.
- Codonics paper/white film media is designed to be viewed under coolwhite, fluorescent light. Spectral differences and intensity variations in the viewing light sources can change the apparent color of images printed on paper/white film.

- Printed images that are subject to prolonged exposure to sunlight, ultraviolet light, or extreme heat may degrade in image quality. (For example, printed sheets should not be stored in an automobile on a sunny day.) Precautions should be used to avoid prolonged direct exposure.

#### Codronics Paper/White Film Media

The terms “white paper” and “white film” are synonymous references and used interchangeably in this manual.

#### File Transfer via FTP and LPR

- Different users who share a user name when transferring files to the imager may cause unpredictable and erroneous printed output. The imager associates information with the user name. Each user should have a unique user name when connecting to the imager via FTP and LPR.

#### Color Management

- Image settings—including gamma, contrast, Dmax, saturation, and MCM™ (Medical Color Matching™)—are intended to compensate for differences that may occur between image acquisition and image printing. These filters allow you to accurately render the final printed image. You should use care when applying these filters to avoid over compensation.
- The Default User Settings set at the control panel will potentially affect prints made by all users. Use caution when changing the default settings.

#### Image Scaling

- Scaling an image will filter the original image data and add or remove information, which may affect the accuracy of the final printed image. The amount of information added or removed will also vary with the magnitude of the scale factor applied. This can also affect the accuracy of the final printed image. You should be aware of the properties and limitations of each scaling algorithm and select the appropriate algorithm for the task.

#### Hardware Variations

- Components used in the imager may vary, causing differences in image quality. The thermal process of producing a print utilizes many components that are calibrated to provide consistency between imagers. There are subtle differences between imagers that can cause print variations. These differences usually apply to thermal print head calibration. Other factors such as age, usage, heat, mechanical wear, and shipping can affect image color and quality.
- The type of media used to install software updates and to backup imager configuration settings depends on hardware variations. If the imager has a built-in Zip drive, installations and backups are performed using 100-MB Zip disks. If the imager does not have a built-in Zip drive, USB flash drives are used with the USB ports on the rear panel. Throughout this manual, Zip disks and USB flash drives are referred to as *installation media* or *backup media*, depending on the operation being performed.

**NOTE:** If the imager has both a Zip drive and a USB port, always use the Zip disk to install software and save configuration settings.

#### Disposal Requirements

Disposal of this product and consumables shall be in accordance with all applicable laws and regulations in effect at the locality at the time of disposal.

#### European Disposal Requirements



Codonics imagers and electronic accessory devices are not to be discarded or recycled; rather they are to be returned to the manufacturer. Contact Codonics directly or by the link provided for the latest information concerning:

- Identification of the country-specific Importer/Distributor/Producer
- Product return and treatment of our electronic products

Manufacturer: Codonics Inc.

17991 Englewood Drive

Middleburg Heights, OH 44130 USA

Phone: +1.440.243.1198

Fax: +1.440.243.1334

E-mail: [WEEE@codonics.com](mailto:WEEE@codonics.com)

[www.codonics.com](http://www.codonics.com)

Codonics electronic products and accessories bearing the following symbol are subject to European Directive on Waste Electrical and Electronic Equipment (WEEE) 2002/96/EC, amended by Directive 2003/108/EC. The EN 50419 symbol indicates separate collection and return required.



*EN 50419 symbol*

#### Indications for Use

**CAUTION** Approved FDA Class 2 device - Federal law restricts this device to be sold for use by or on the order of a physician.

The intended use of the Horizon Series Imagers is high-resolution hardcopy imaging of digital image source material and through the conversion of electronic signals from a wide variety of direct/indirect medical imaging modality outputs. The hardcopy output includes, however is not limited to, digital radiography, nuclear medicine, ultrasound, CT, MRI, CR, and Radiation Therapy planning. Images are suitable for medical image diagnosis use and referral. The system is intended for use by medical radiologists, imaging modality specialists, and communications to referring physicians.

The Horizon Series Imagers are dry, thermal, grayscale (G, GS,GSs,GS-Rad, G1, and G2 models) and grayscale/color (Ci, Ci-s, CiRAD, and SF models) direct thermal printer/imagers.

The Horizon XL is a special model adding 14 x 36in. and 14 x 51in. true size "long" media that permits digital direct orthopedic application hardcopy, including diagnosis and analysis of scoliosis, weight bearing spine/hip/knee, and long bone/hip prosthetic and orthopedic appliances work-up and surgical planning. Horizon XL is applicable to true-size hardcopy of whole body CT, MRI, and Angiographic and Venous flow imaging procedures.

Horizon Imagers are 510(k) cleared to market as FDA Class 2 devices, Regulation number 892.2040, Classification Product Code LMC: Horizon Series Medical Multimedia Dry Imagers K021054 and Horizon XL Medical Long Film Imager Hardcopy Multimedia K060440.

**CAUTION** Approved FDA Class 2 device - Federal law restricts this device to be sold for use by or on the order of a physician.

**CAUTION** Make sure that the table can support the weight of the imager [approximately 66.7 kg (147 lbs) with receive trays and three full supply cassettes installed].

**WARNING** The imager is heavy. To avoid injury, use two people to unpack and position the imager.

**CAUTION** Do not scratch or nick the sheet metal. Scratches and nicks in the basement will damage the printed side of ChromaVista sheets.

**CAUTION** Make sure that the imager is powered off before connecting the Ethernet cable. For information about powering the imager on and off, refer to "Powering the Imager On and Off".

**CAUTION** Do not touch any of the connector pins.

**CAUTION** If the thermal print head is not parked, power on the imager, then repeat steps 2 and 3 to properly power off the imager so that it does park.

**CAUTION** Push the ribbon carriage down slowly. Forcing it down too quickly may damage the carriage.

**CAUTION** If the imager is powered off using the POWER key, unprinted queued jobs are saved and will finish printing once the imager is powered on again (you can purge all jobs). However, if the imager is powered off using the rocker switch in the back or power is interrupted (for example, an unexpected power failure), queued jobs may be lost.

**WARNING** When servicing the imager, always power it off using the POWER key, turn the rocker switch in the back to the 0 (off) position, then unplug the imager.

**CAUTION** Use only Codonics media. Do not use plain paper, office transparencies, or other unapproved media as damage, improper operation, or malfunction may result. For information about the approved Codonics media types and sizes, and how to order cassettes, refer to "Ordering Media".

**CAUTION** Do not refill a cassette. Do not tamper with or remove the barcode label. The cassette's barcode information is essential for ensuring diagnostic image quality. Compromising the cassette in any way jeopardizes the quality and reliability of the imager.

**CAUTION** Do not remove or insert a cassette while a sheet is being printed, or you could affect the image quality of the printed sheet or cause a jam. Always pause the imager first.

**CAUTION** Do not remove the printed cassette cover; it protects the media from dust and other contaminants. Always hold and store the cassette with the open side up to prevent the sheets from falling out.

**WARNING** With the imager cover open, touch only those internal components that are colored green. Remove rings, ties, jewelry, and other items, and tie back hair, so that they do not fall into or get caught in the imager.

**CAUTION** Used ribbon retains the negative of the color images that were printed using that ribbon. If you are required to ensure patient confidentiality and privacy, the ribbon should be destroyed.

**CAUTION** Use caution when changing the imager default settings. Changes could affect prints made by other users.

**CAUTION** Changing the default settings will affect prints made by other users. Use caution when changing default settings. Typically, it is better to specify sheet and image parameter settings from the DICOM application or a PostScript printer's settings, or use a Job Settings file that contains the values you need. For information about Job Settings files, refer to the *Horizon Imager Technical Manual*.

**CAUTION** If the imager's settings were changed from the factory defaults prior to being shipped (for example, to accommodate a special OEM configuration), resetting to the factory defaults will not restore the "as shipped" settings. Instead, they will be reset to the standard factory default values.

**CAUTION** Resetting to the factory defaults will affect prints made by other users. Use caution when changing default settings. Typically, it is better to specify sheet and image parameter settings from the

DICOM application or a PostScript printer's settings, or use a Job Settings file that contains the values you need. For information about Job Settings files, refer to the *Horizon Imager Technical Manual*.

**CAUTION** Changing the imager's Default Media and Default User Settings could affect subsequent prints made by other users. Use caution when changing default settings.

**CAUTION** Changing the imager's Default Media and Default User Settings could affect subsequent prints made by other users. Use caution when changing default settings.

**WARNING** With the imager cover open, touch only those internal components that are colored green. Remove rings, ties, jewelry, and other items, and tie back hair, so that they do not fall into or get caught in the imager.

**WARNING** The thermal print head may be hot.

**WARNING** When cleaning the print head, avoid the extreme ends of the print head, which are sharp.

**CAUTION** Use only the print head cleaning wipe when cleaning the thermal print head. Also, do not touch the glass surface of the thermal print head with your fingers; it could damage the print head. To avoid touching the glass surface, you may want to wear gloves when cleaning the thermal print head.

**CAUTION** The thermal print head must be completely dry before attempting to use the imager.

Allowing the thermal print head to heat up again while still wet will damage the thermal print head.

**WARNING** With the imager cover open, touch only those internal components that are colored green. Remove rings, ties, jewelry, and other items, and tie back hair, so that they do not fall into or get caught in the imager.

**CAUTION** Use only the platen roller cleaning wipe when cleaning the platen. The platen roller could be damaged if you use the print head cleaning wipe.

**WARNING** With the receive trays removed, touch only those internal components that are colored green. Remove rings, ties, jewelry, and other items, and tie back hair, so that they do not fall into or get caught in the imager.

**CAUTION** Use only the platen roller cleaning wipe when cleaning the pick tires. The tires could be damaged if you use the print head cleaning wipe.

**CAUTION** Do not touch the pick tires (which may be white or green); body oils from your fingers are hard to remove and could eventually damage the tires.

**WARNING** With the receive trays removed, touch only those internal components that are colored green. Remove rings, ties, jewelry, and other items, and tie back hair, so that they do not fall into or get caught in the imager.

**CAUTION** Use only cleaning swabs from a Barcode Reader Cleaning Kit.

**CAUTION** Do not scratch or nick the sheet metal. Scratches and nicks in the basement will damage the printed side of ChromaVista sheets.

**CAUTION** Federal law restricts this device to be sold for use by or on the order of a physician.

**WARNING** With the top cover open, touch only those internal components that are colored green. Remove rings, ties, jewelry, and other items, and tie back hair, so that they do not fall into or get caught in the imager.

**CAUTION** Do not touch the pick tires (which may be white or green); body oils from your fingers are hard to remove and could eventually damage the tires.

**CAUTION** To avoid damaging internal components, use care when removing a sheet from the media path in the upper part of the imager.

**CAUTION** Never put a sheet back in the cassette. Dust or oil from your finger will affect the image quality.

**WARNING** With the top cover open, touch only those internal components that are colored green. Remove rings, ties, jewelry, and other items, and tie back hair, so that they do not fall into or get caught in the imager.

**CAUTION** Be careful not to scratch the polished sheet metal or damage the sensor near the upper guide notch.

**CAUTION** Make sure you do not overrotate the media guide, as shown below.

**CAUTION** Federal law restricts this device to be sold for use by or on the order of a physician.

**CAUTION** Use care when running the Purge Print Jobs function. This function will purge other users' print jobs as well as yours.

**CAUTION** All files uploaded using anonymous FTP are readable by other FTP users. DO NOT upload sensitive or classified information.

# Horizon® XL

Multi-media Immaginatour

MT - Malti

## Dokumentazzjoni u Avviż

Codonics Prodotti huma Klassi Jien prodotti maħsuba għal użu minn Kura tas-saħħa Professjonisti. Prodotti ippakkjar u tikkettar, inkluż Grafika Utent Interface (GUI) għal operazzjoni huma offered fi Ingliz u tiltaqa MDR, Anness Jien, Kapitolu III, 23.4, tieħu kont il taħriġ u il għarfien ta ' il potenzjali utent.

\* Web informazzjoni, Ewlenin Speċifikazzjonijiet, Maħsub Uża, Utent manwali Appendiċi, Malajr Ibda Gwida & Setup IFU huma disponibbli fi sempliċi traduzzjoni Membru Stat Lingwi; primarja IFU huma disponibbli fi Ingliz.

## Ħarsa ġenerali

Il Horizon XL tgħaqqad dijanjostiku film, kulur karta u skala tal-griz karta stampar fi a versatili mediku immaginatour. Horizon XL karatteristiċi esklussiva 36 " u 51 " niexef twil film ideali għal twil għadam u skoljozi studji. A totali CR / DR jistampa soluzzjoni, Horizon XL se naqqas tiegħek spejjeż, ħlief int spazju, u kompletament telimina tiegħek imxarrab film ipproċessar bżonnijiet. Għoli velocità immagni ipproċessar, netwerking u spooling huma kollha standard.

## Speċifikazzjonijiet

Stampa Teknoloġija: Diffużjoni taż-żebgħa u dirett termali (niexef, dawl tax-xemx bla periklu operazzjoni)

Ġeografika Riżoluzzjoni: 320 DPI (12.6 pixels / mm)

Fluss: Fuq għal 100 films kull siegħa

Ħin Lil Ħaddem: 5 minuti (lest għal jistampa minn "Mitfi")

Skala tal-griz Kuntrast Riżoluzzjoni: 12 bits (4096)

Kulur Riżoluzzjoni: 16.7 miljun kuluri

256 livelli kull wieħed ta ' ċjan, maġenta, u isfar

Midja Inputs: Tlieta provvista kassetts, 25-100 folji kull wieħed, waħda kulur zigarella

Midja Outputs: Tlieta jircievu trejs, 50 folja kapaċità kull wieħed

Midja Daqsijiet: 8 " x 10 ", 14 " x 17 " (blu u ċar) DirectVista® Film

14 " x 36 ", 14 " x 51 " (blu biss) DirectVista® Film

A, A4, 14 " x 17 " DirectVista Skala tal-griz Karta

A, A4 ChromaVista® Kulur Karta

Dmax: > 3.0 ma ' DirectVista Film

Arkivju: > 20 snin ma ' DirectVista Film, taħt ANSI fit-tul hażna kondizzjonijiet

Midja Provvista: Kollha midja huwa ippakkjat minn qabel u fabbrica issigillat

Interfaces: Standard: 10/100 Bazi-T Ethernet (RJ-45), Serjali Dijanjostiku Port, Serjali Console

Network Protokoll: Standard: FTP, LPR

Mhux obligatorju: DICOM (up għal 24 simultanju konnessjonijiet), Windows network stampar

Immagni Formati: Standard: TIFF, GIF, PCX, BMP, PGM, PNG, PPM, XWD, JPEG, SGI (RGB), xemx Raster, Targa

Mhux obligatorju: DICOM, PostScript™ kompatibilità

Immagni Kwalità: Awtomatiku kalibrazzjoni bl-użu inkorporat densitometru

Immaġni Kontroll: Gamma, Kuntrast, Saturazzjoni, Mediku Kulur Tqabbil (MCM™), Polarità, Rotazzjoni, Skalar, Antialiasing  
Folja Kontroll: Densità Aġġustament (Dmax), Hares il-fuq Tabelli (LUT), Immaġni Twissijiet, Captions, Folja Kopertura, Fruntiera Kulur, Fruntiera Imla, Hsad Ankra  
Folja Ifformattjar: 1: 1 - 1:81; Varjabbli Multi-Ifformattjar (VMF™), Iffissat Multi-Ifformattjar (FMF™)  
Kontroll Panel: Kbir, imdawwal LCD wiri, Status dwal jinkludu Online, Twissija, Tort, Attiv Qawwa u Menu navigazzjoni buttuni  
Proċessur: Intel  
Memorja: 512MB ram  
lebes Diska: 80GB (60GB disponibbli għal spooling)  
Li tista 'titneħħa Diska: 100MB ZIP™ Diska għal softwer promozzjonijiet  
Intelligenti Karta: 72 KB għal hażna konfigurazzjoni dejta  
Qawwa: Universali Input: 100-120 / 230V ~ 50/60 Hz, 600W stampar, 150W wieqaf  
Saħħan Emissjoni: Massimu 600W, 2,050 BTUs / siegħa. stampar, 150W, 512 BTUs / siegħa. wieqaf  
Piż: 66 lbs. (30 kg.)  
Magna Dimenzjonijiet: 14.5 " (37 cm) H, 20.5 " (52 cm) W, 24 " (61 cm) L  
Ambjent: Joperaw Temperatura: 15-30°C, Hażna: -22.2 - 50.6°C, Joperaw Umdità: 10-70% R.H. (mingħajr kondensazzjoni)  
Regolatorju: Shiħ mediku apparat konformità inkluż Klassi 2 FDA u Klassi Jien MDR 2017/745 / UE (CE), GMP / QSR, ISO 13485: 2016 / NS-EN  
ISO 13485: 2016, Elettriku Sigurtà IEC 60601-1 Ed. 3.1 u EMC / EMI:  
FCC Klassi A u IEC 60601-1-2: Ed. 4 għal Professionali Kura tas-saħħa Facilitajiet

## Konvenzjonijiet Użat fi il Utent Manwal


### Bulleated Listi

Balal huma użat għal wiri a lista ta ' mhux proċedurali oġġetti. Għal eżempju:

Il kontroll panel fih:

- A wiri panel
- Ċwieviet
- Indikaturi

### Numerat Passi

Il  ikona tindika il bidu ta ' a proċedura. Il passi fi a proċedura huma innumerati. Għal eżempju:

1. Aghfas il MENU çavetta.

Il Principali Menu wirjiet fuq il kontroll panel. Il selettur vleggħa (▶) awtomatikament punti għal il l-ewwel menu għażla.

2. Lil scroll permezz il menu għażliet, aghfas il sa u isfel çwieviet.

Il selettur vleggħa (▶) jiççaqlaq sa u isfel permezz il lista. Il qiegħ porzjon ta ' il kontroll panel wiri turi a messaggħ assoċjat ma ' il bħalissa magħżula menu għażla.

## Kontroll Panel Navigazzjoni

*Menu mogħdijiet* huma użat fi xi wħud proċeduri minflok ta ' dokumentazzjoni kull pass meħtieġa għal tinnaviga għal a speċifiku menu għażla. Għal eżempju:

Minn il Principali Menu, agħzel il wara għażliet:

**Nuqqas Midja**  
**Skala tal-griz**  
**DV Film Blu**

## **Kontroll Panel Ċwieviet**

Kontroll panel ċwieviet huma murija fi zġħir iswed ovali għal jixbhu il attwali ċwieviet, għal eżempju, "Aghfas il **DHUL** ċavetta. "

## **Kontroll Panel Menu Għażliet**

Kontroll panel menu għażliet huma murija fi grassa tip, għal eżempju, "Aghzel il **Gamma** menu għażla. "

## **Noti u Hġiel**

Noti fihom addizzjonali informazzjoni relatati għal a sugġett jew proċedura. Għal eżempju:

**NOTA:** Jekk tiegħek netwerk huwa ġestiti minn a netwerk amministratur jew an informazzjoni teknoloġija (IT) dipartiment, dan kieku tkun meqjus a kumpless netwerk. Int għandu jkollhom il responsabbli persuna iwettaq kwalunkwe relatati man-netwerk amministrattiv kompiti.

Hġiel jipprovdu addizzjonali għarfien madwar a sugġett jew proċedura (bħal kif, għaliex int jista ' trid għal agħmel xi ħaġa jew a aktar malajr mod għal iwettaq an operazzjoni). Għal eżempju:

***TIP:** Speċifikazzjoni jistampa settings fi a multi-utent ambjent*

*Jekk il Horizon immaginatur huwa aċċessata minn multipli utenti, dan huwa tipikament aħjar għal individwali utenti għal daħħal jistampa valuri permezz il DICOM applikazzjoni interface anzi minn bidla il default settings permezz il kontroll panel.*

## **Prekawzjonijiet u Twissijiet**

Prekawzjonijiet twissija int għal azzjonijiet jew sitwazzjonijiet dak setgħet kawza ħsara għal tagħmir jew dejta. Għal eżempju:

**ATTENZIONE** Kwalunkwe bidliet int jagħmlu għal il immaginatur default settings se also jaffettwaw stampi magħmula minn oħra utenti. Uża kawtela meta jinbidlu default settings.

Twissijiet twissija int għal azzjonijiet jew sitwazzjonijiet dak setgħet riżultat fi personali korriment. Għal eżempju:

**TWISSIJA** Ma ' il immaginatur għata miftuħ, tmiss biss dawk intern komponenti dak huma ikkullurit aħdar.

## **Test Fajls u Murija Test**

Monospazjat tip huwa użat għal il kontenut ta ' an ASCII fajl jew magna test murija fi a terminali kmand tieqa.

## **Utent Dejta**

**Bold monospazjat tip** huwa użat għal indika specifiku karattri jew kliem dak int daħħal fi a ospitanti stazzjon tax-xogħol meta jwettaq avvanzat immaginatur operazzjonijiet. *Jekk il tip huwa ukoll korsiv*, dan tindika varjabbli test. Għal eżempju:

1.Minn tiegħek stazzjon tax-xogħol, miftuħa a UNIX jew MS-DOS kmand tieqa.

2.Daħħal il kmand **telnet *hostname*** jew **telnet *IP Indirizz*** (bl-użu jew il Horizon immaginatur *hostname* jew *IP Indirizz*).

3.Fuq il Idhol fil-pront, daħħal il kmand status.

## Importanti Informazzjoni u Ismijiet tal-fajls

**Bold tip** huwa użat għal enfasi, kmand ismijiet, u mogħdijiet jew ismijiet tal-fajls. Għal eżempju:

- Il Horizon immaginatur default settings jista ' tkun mibdula it-tnejn fi il kontroll panel u bl-użu test fajls.
- Il hostname u IP Indirizz għandu tkun miżjud għal il **/etc/ hosts** fajl.

## Ġdid Termini

*Korsiv tip* huwa użat meta a terminu huwa introdotti u definiti. Għal eżempju:

- Il Horizon immaginatur għandu a komplet sett ta ' *default settings* dak fihom ikkonfigurati minn qabel valuri għal kull aspekt ta ' a stampati folja.

## Għan u Ambitu

Irreferi għal dan utent manwali għal proceduri fuq kif għal iwettaq il l-aktar komuni immaginatur operazzjonijiet, inklużi:

- Twaqqif sa il immaginatur
- Tagħbija midja
- Mittenti jistampa impjegji minn DICOM Stampa Servizz Klassikonformi applikazzjonijiet giri fuq immagini apparat jew immagini wiri stazzjon tax-xogħol
- Mittenti jistampa impjegji minn stazzjonijiet tax-xogħol permezz PostScript
- Mittenti jistampa impjegji bl-użu FTP u LPR
- Jinbidlu il tal-imager default immagini u folja settings
- Aġġustament il dehra ta ' stampati immagini għal utent preferenza
- Jwettaq preventiv manutenzjoni
- Jwettaq film kalibrizzjoni
- Issolvi l-problemi komuni problemi

**NOTA:** Xi wħud karatteristiċi u funzjonijiet deskritti hawn jista ' mhux japplikaw għal anzjani verżjonijiet ta ' il softwer.

Dan Tal-Utent Manwal huwa maħsuba għal tkun kif sempliċi u sempliċi kif possibbli għal il kuljum utent. Jekk int bżonn aktar dettaljat jew aktar tekniku informazzjoni fuq a karatteristika jew sugġett, jew xewqa għal iwettaq aktar avvanzat operazzjonijiet, irreferi għal il *Horizon Immaginatur Tekniku Manwal* (Nru tal-Katalogu.HORIZONMNL). Il Tekniku Manwal iservi kif a fbieb dokument għal dan manwali

## Prodott Informazzjoni

Għal tekniku għajnuna ma ' il Horizon, sejha Codonics Tekniku Appoġġ fi il wara numru:

**Telefon:+1.440.243.1198**



**Pedaġġ Hielsa: 800.444.1198 (L-ISTATI UNITI biss)**

Tekniku Appoġġ huwa disponibbli għaċ. Tekniku Appoġġ huwa ukoll disponibbli online permezz email u il Codonics web sit:

**Email: [support@codonics.com](mailto:support@codonics.com)**

**Web Sit: [www.codonics.com](http://www.codonics.com)**

Ġenerali prodott informazzjoni jista ' ukoll tkun mitluba minn tibgħat email lil:

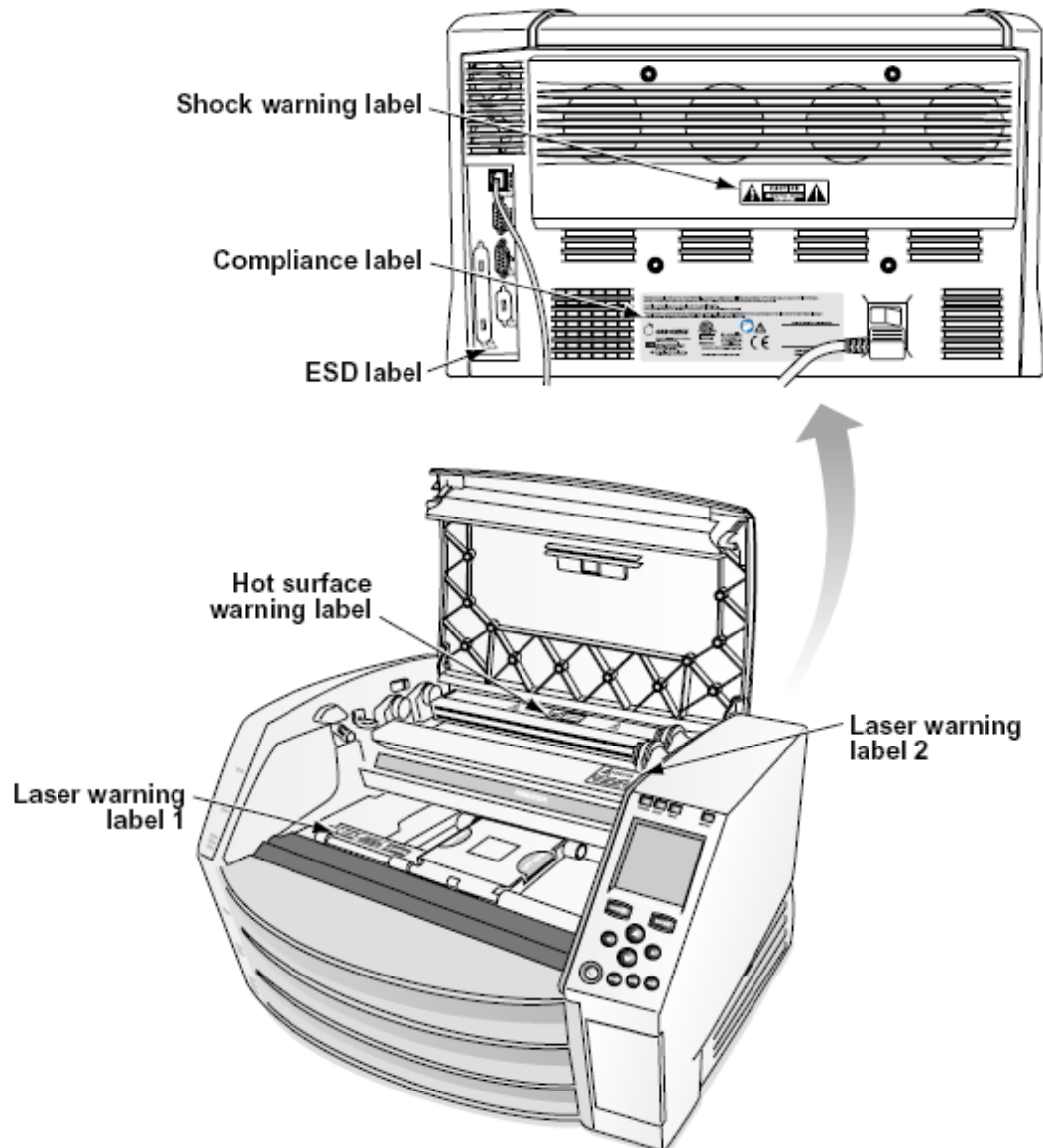
**Email: [info@codonics.com](mailto:info@codonics.com)**

Jekk jogħġbok jinkludu tiegħek postali posta indirizz u telefon numru fi il email messagg. Bażiku prodott informazzjoni huwa lura permezz email sakemm inkella mitluba.

## Twissijiet u Limitazzjonijiet ta ' Uża

Post ta ' Sigurtà u Konformità Tikketti

Il wara figura turi il postijiet ta ' il tal-imager sigurtà u konformità tikketti.



## vultaġġ Twissija

Il exclamation punt ġewwa an ekwilaterali trijanglu u persuna qari a manwali simbolu huma maħsuba għal twissija il utent għal il preżenza ta ' importanti joperaw u manutenzjoni (manutenzjoni) istruzzjonijiet fi il letteratura akkumpanjament dan apparat.



LE SERVIZZABBLI MINN UŻU PARTIJET ĠEWWA. REFERENZA SERVIZZ LE KWALIFIKAT SERVIZZ PERSONAL. TNEHHIJA OF TIKKETTI, KOPERTURI, JEW KAXXA Qafliet VOIDS IL GARANZIJA.

DAN APPARAT GĦANDU BE ELETTRIKAMENT MALTA.

LE PREVENI NAR JEW XOKK PERIKLU, DO MHUX JESONU DAN IMMAĠINATUR LE XITA JEW UMDITÀ.

TAGĦMIR MA JINTUŻAX BĦALA KOMPONENT TA 'SISTEMA TA' SOSTENN TAL-ĦAJJA. Apparat jew sistemi ta 'appoġġ għall-ħajja huma apparat jew sistemi li jsostnu jew isostnu l-ħajja, u li n-nuqqas tagħhom li jwettaq jista' jkun raġonevolment mistenni li jirriżulta f'korrimment sinifikanti jew mewt lill persuna. Komponent kritiku huwa kwalunkwe komponent ta 'apparat jew sistema ta' sostenn tal-ħajja li n-nuqqas li twettaq jista' jkun raġonevolment mistenni li jikkawża l-falliment tal-apparat jew tas-sistema ta' appoġġ tal-ħajja, jew li jaffettwa s-sikurezza jew l-effettività tagħha.

**TWISSIJA** L-ert affidabilità jista' tkun miżsuba biss meta il Horizon huwa konnessi għal a reċipjent immarkat "Sptar Biss " (dak huwa, "Sptar Grad ").

**TWISSIJA** Il qawwa korda konnessi għal il Horizon huwa il principali skonnettja għal il sistema.

**TWISSIJA** Lil skonnettja ġenerali qawwa għal il Horizon qabel għal manutenzjoni dan, qawwa ta ' il sistema.

**TWISSIJA** Aġġmel mhux immodifika dan equipment mingħajr awtorizzazzjoni ta ' il manifattur

**TWISSIJA** Estern tagħmir maħsuba għal konnessjoni għal sinjal input, sinjal output, jew oħra konnetturi, għandu jikkonformaw ma ' relevanti IEC standard (eż., IEC 60950 għal IT tagħmir u il IEC 60601 serje għal mediku tagħmir). Fi Barra minn hekk, kollha tali kombinazzjonijiet - sistemi - għandhom jikkonformaw mal-istandard IEC 60601-1 għal Sistemi ta 'Tagħmir Mediku Elettriku. Tagħmir li ma jikkonformax mal-IEC 60601 għandu jinżamm barra mill-ambjent tal-pazjent, kif definit fl-istandard. Kull persuna li tqabba tagħmir estern ma 'input tas-sinjal, output tas-sinjal, jew konnetturi oħra ffurmat sistema u għalhekk hija responsabbli biex is-sistema tikkonforma mar-rekwiziti tal-IEC 60601-1-1. Jekk għandek xi dubju, ikkuntattja tekniku kwalifikat jew Codonics Tekniku Appoġġ għal approvat konfigurazzjonijiet.

**TWISSIJA** Aġġmel mhux tmiss a pazjent waqt ukoll aċċess il intern komponenti dak huma taħt il quċċata għata jew jirċievu trejs.

## Laser Twissija

Il Horizon immaginatur uzi a laser għal aqra barcode informazzjoni fuq il midja kassetts. Il laser modulu huwa a 650 - 670nm apparat ta ' 1.26mW jew anqas. Kif tali dan għandu kien misjuba għal jikkonformaw ma ' il 21 CFR 1040.10 u 1040.11 u IEC 60825 laser standards kif a baxx qawwa Klassi 1 apparat.

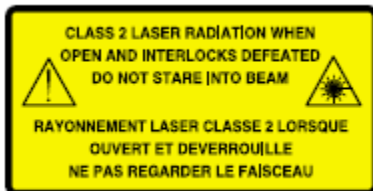
Għal sigurtà raġunijiet, il laser huwa daru fuq biss għal a qasir hin meta a cassette huwa mdaħħal. Għadu, waħda għandu użu kawtela u qatt hares fi il laser beam, għandu evita espożizzjoni għal il laser, u għandu qatt override kwalunkwe ta ' il interlocks u sigurtà mekkanizmi. Dawn mizuri huma mehuda għal tiegħek protezzjoni.

**TWISSIJA** Uża ta ' kontrolli jew aġġustamenti għal il prestazzjoni ta ' proceduri oħra minn dawk speċifikat fi dan manwali jista ' rizzultat fi perikoluż radjazzjoni espożizzjoni.

Il laser aperturi huma immarkat ma ' a waħdieni tikketta, murija hawn taht. Hemm huma tlieta aperturi dak jikkorrispondu għal il tlieta cassette postijiet, waħda għal kull wiehed, fuq il l-istess ġenb ta ' il Horizon immaginatur kif dan tikketta.



Sigurtà interlocks huma immarkat minn il wara tikketta. Huma huma jinsabu fuq il l-istess ġenb ta ' il Horizon immaginatur kif dan tikketta.



### Temperatura Twissija

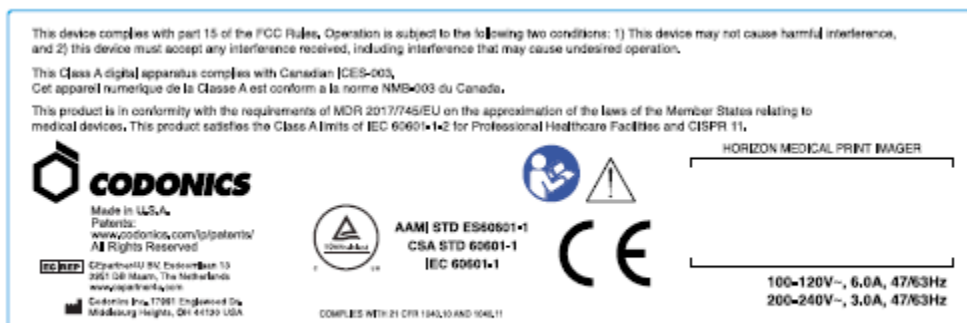
Minħabba il Horizon imager huwa apparat tal-istampar termali, il-wiċċ tas-sink tas-šhana tar-ras tal-istampar termali jishon. Evita li tmiss direttament kwalunkwe komponent li mhux ikkulurit aħdar meta taċċessa l-intern tal-imager jekk l-imager kien qed jistampa. (Matul xi hidmiet ta 'manutenzjoni preventiva, tkun qed tmiss komponenti interni bi pads tat-tindif jew tampuni.)

Il temperatura twissija tikketta huwa murija hawn taht.

### Konformità

Codonics huwa fi konformità ma ' varji regolamenti.

Il Konformità tikketta, liema huwa imwaħħal fi il lura ta ' il immagni, huwa murija hawn taht.



**Compliance label**

## Serjali Numru, Konfigurazzjoni, Data Kodiċi, u Modifika Kodiċijiet

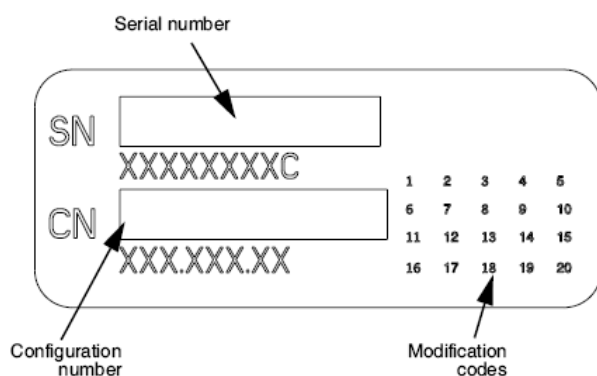
Il Serjali numru tikketta huwa mqiegħda fuq il Konformità tikketta. Huwa tinkludi il wara informazzjoni.

Il serjali numru (SN), liema unikament jidentifika il unità.

Il Konfigurazzjoni numru (CNFG), liema dettalji il tibni konfigurazzjoni.

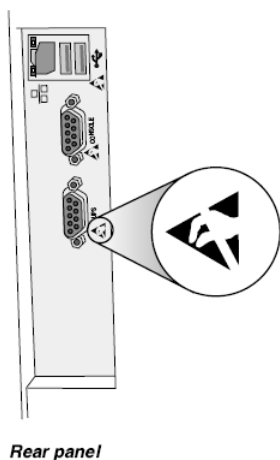
Il modifiki kodiċi, liema huma għal il dritt ta ' il CNFG numru u huma a serje ta ' 20 numri. Meta kwalunkwe ta ' dawn numri huma imblukkata barra, dak jidentifika a modifika dak kien magħmula għal il unità.

Il data kodiċi fi SSSS-XX format hawn taħt il fabrika data kodiċi simbolu.



## ESD Attenzjoni

Konnessjonijiet għal oħra bicċiet ta ' tagħmir huma magħmula fi il fuq wara ta ' il Horizon immaginatur. Dawn konnetturi huma immarkat ma ' a prekawzjonarju ESD twissija simbolu, kif murija hawn taħt. Agħmel mhux tmiss kwalunkwe ta ' il labar ta ' dawn konnetturi. Meta jagħmlu konnessjonijiet għal il immagni, dan huwa l-aħjar lest waqt il immaginatur huwa imdaħħal fi izda mhux imħaddem fuq. ESD jista ' kawża erratiku imġieba ta ' il immaginatur meta imħaddem fuq. Jekk dan iseħħ, qawwa għal il immaginatur jista ' jkollhom għal tkun ciklata. Huwa huwa irrakkomandat dak kollha persunal involut fi jagħmlu konnessjonijiet għal il immaginatur tkun konxji ta ' dawn ESD prekawzjonijiet.



Potenzjal għal Radju Frekwenza Interferenza fuq Immaginatur Operazzjoni

It-tnejn portabbli u mobbli RF komunikazzjonijiet tagħmir jista ' jaffettwaw mediku elettriku tagħmir, inkluż il Horizon immaginatur. Żomm tali RF komunikazzjonijiet tagħmir barra ta ' il immedjat zona.

#### Potenzjal għal Radju u Televizjoni Interferenza

Il Horizon immaginatur jiġġenera u uzi radju frekwenza enerġija, u jekk mhux installat u użat kif suppost, dak huwa, fi stretta konformità ma ' il manifattur istruzzjonijiet, jista ' kawża interferenza għal radju u televizjoni akkoljenza. Huwa għandu kien tip ittestjat u misjub li jikkonforma mal-limiti tal-emissjonijiet tal-Klassi B għal apparat tal-kompjuter skont l-ispeċifikazzjonijiet fis-Subparti J tal-Parti 15 tar-Regoli tal-FCC, li huma mfassla biex jipprovdu protezzjoni raġonevoli kontra tali interferenza meta joperaw f'ambjent kummerċjali. It-tħaddim tat-tagħmir f'zona residenzjali x'aktarx jikkawża interferenza, f'liema każ l-utent, bi spejjeż tiegħu, ikun meħtieġ li jieħu kwalunkwe miżura li tista ' tkun xierqa biex tikkoreġi l-interferenza. Jekk l-immaginatur tiegħek jikkawża interferenza fir-riċeviment tar-radju jew tat-televizjoni, inti m'hegġeg tipprova tikkoreġi l-interferenza b'waħda jew aktar mill-mizuri li ġejjin:

- Orjentat mill-ġdid il jircievi antenna
- Irriloka il immaginatur ma ' rispett għal il riċevitur

Jekk meħtieġ, int għandu ikkonsulta Codonics tekniku appoġġ jew an esperjenza radju / televizjoni tekniku għal addizzjonali sugġerimenti. Int jista ' sib il wara ktejjeb ippreparat minn il Federali Komunikazzjonijiet Kummissjoni utli: *Kif għal Identifika u Issolvi Radju-TV Interferenza Problemi*. Dan ktejjeb huwa disponibbli minn il U.S. Gvern Stampar Uffiċċju, Washington, D.C. 20402, Stokk Le 004-000-00345-4.

Dan prodott huwa fi konformità ma ' il rekwiziti ta ' KE Kunsill direttiva MDR 2017/745/UE (CE) fuq il approssimazzjoni ta ' il ligijiet ta ' il Membru Istituti Membri relatati għal mediku apparat. Dan prodott jissodisfa il Klassi A limiti ta ' IEC60601-1-2 u CISPR 11. A dikjarazzjoni ta ' konformità ma ' il rekwiziti ta ' il Direttiva għandu kien iffirmat minn il Direttur ta ' Operazzjonijiet. Horizon huwa approvat għal esportazzjoni permezz FDA Ċertifikati għal Barranin Gvern u irreġistrat kif a mediku apparat għal importa. A kurrenti lista ta ' pajjizi huwa disponibbli fuq talba.

#### Gwida Rigward Elettromanjetiku Emissjonijiet u Immunità

Adattat Ambjenti:

- Horizon huwa maħsuba għal użu fi professjonali kura tas-saħħa facilità ambjenti, inkluż sptarijiet u mediku kliniċi.
- Horizon għandu mhux kien evalwati għal użu qrib HF kirurgiċi tagħmir. Jekk użu qrib HF kirurgiċi tagħmir huwa mixtieq, il utent huwa responsabbli għal verifika xieraq operazzjoni ta ' il Horizon. Jekk Horizon ma mhux iwettaq sewwa fi dan ambjent, imxi il Horizon iktar 'il bogħod minn il sors ta ' il elettromanjetika disturb.
- Horizon għandu mhux kien evalwati għal użu fi emerġenza mediku vetturi.

Kif a appoġġ apparat, Horizon ma mhux jipprovdu essenzjali prestazzjoni.

**TWISSIJA** Uża ta ' dan tagħmir biswit għal jew f'munzelli ma ' oħra tagħmir għandu tkun evitat għaliex dan setgħet riżultat fi mhux xieraq operazzjoni. Jekk tali użu huwa meħtieġ, dan tagħmir u il oħra tagħmir għandu tkun osservati għal tivverifika dak huma huma joperaw normalment.

**TWISSIJA** Uża ta ' aċċessorji, transducers u kejbils oħra minn dawk speċifikat jew ipprovdut minn il manifattur ta ' dan tagħmir setgħet riżultat fi żdied elettromanjetika emissjonijiet jew naqas elettromanjetika immunità ta ' dan tagħmir u riżultat fi mhux xieraq operazzjoni.

**TWISSIJA** Portabbli RF komunikazzjonijiet tagħmir (inkluż periferali tali kif antenna kejbils u esterni antenni) għandu tkun użat le eqreb minn 30 cm (12 pulzjeri) għal kwalunkwe parti ta ' il Horizon, tagħha kejbils, jew aċċessorji. Inkella, degradazzjoni ta ' il prestazzjoni ta ' dan tagħmir setgħet riżultat.

#### **Electromagnetic Emissions Standards and Test Levels:**

<b>Test / Standard</b>	<b>Compliance Level</b>
<b>RF Emissions</b> CISPR 11	Group 1, Class A
<b>RF Emissions</b> FCC Part 15	Class A
<b>Conducted Emissions</b> CISPR 11	Group 1, Class A
<b>Harmonic Distortion</b> IEC 61000-3-2	Class A
<b>Voltage Fluctuations and Flicker</b> IEC 61000-3-3	Complies

#### **Electromagnetic Immunity Standards and Test Levels:**

<b>Test / Standard</b>	<b>Compliance Level</b>
<b>Electrostatic Discharge</b> IEC 61000-4-2	±8kV contact ±2kV, ±4kV, ±8kV, ±15kV air

## Electromagnetic Immunity Standards and Test Levels: (Continued)

Test / Standard	Compliance Level
<b>Radiated RF Immunity</b>	3 V/m
IEC 61000-4-3	80 MHz - 2.7 GHz 80 % AM at 1 kHz
<b>Proximity fields from RF wireless equipment</b>	Complies
IEC 61000-4-3	
<b>Electrical Fast Transient / Burst</b>	AC Port: $\pm 2$ kV, 100 kHz repetition frequency
IEC 61000-4-4	SIP/SOP Ports: $\pm 1$ kV, 100 kHz repetition frequency
<b>Surge</b>	Line-to-Line: $\pm 0.5$ kV, $\pm 1.0$ kV
IEC 61000-4-5	Line-to-Ground: $\pm 0.5$ kV, $\pm 1.0$ kV, $\pm 2.0$ kV
<b>Conducted Immunity</b>	AC Port and SIP/SOPs:
IEC 61000-4-6	3V, 0.15 MHz - 80 MHz 6V, in ISM bands between 0.15 MHz and 80 MHz 80 % AM at 1 kHz
<b>Magnetic Field Immunity</b>	30 A/m, 50 Hz or 60 Hz
IEC 61000-4-8	
<b>Voltage Dips</b>	0% $U_T$ , 0.5 cycle at 0°, 45°, 90°, 135°, 180°, 225°, 270° and 315°
IEC 61000-4-11	0% $U_T$ , 1 cycle AND 70% $U_T$ , 25/30 cycles, Single phase: at 0°
<b>Voltage Interruptions</b>	0% $U_T$ , 250/300 cycle
IEC 61000-4-11	

Sigurtà Prekawzjonijiet

- Qatt qabbad dan immaginatur għal kwalunkwe iżbokk jew qawwa provvista dak għandu a vultagġ jew frekwenza differenti minn dak speċifikat fuq il fuq wara ta ' il immaginatur.

- Meta manutenzjoni il immaġni, dejjem qawwa dan mitfi bl-użu il (qawwa) ċavetta fi il kontroll bord, imbagħad dawwar il rocker swiċċ fi il lura għal il 0 (mitfi) pożizzjoni, imbagħad aqla ' il immaġinatur.
- Ħsara għal il qawwa korda jista ' kawża nar jew xokk periklu. Meta qtugħ il qawwa korda, zomm dan minn il tapp biss u neħhi il tapp b'attenzjoni.
- Jekk il qawwa korda b'zonnijiet għal tkun mibdul, ibdel dan biss ma ' ieħor Codonics qawwa korda manifatturati speċifikament għal tiegħek tal-imager qawwa konfigurazzjoni.
- Jekk il immaġinatur huwa tipjip jew jagħmlu mhux tas-soltu hsejjes, qawwa mitfi u aqla ' il immaġinatur immedjatament.
- Agħmel mhux daħħal barrani oġġetti ta ' kwalunkwe tip go il immaġni; tagħmel hekk jista ' jikkostitwixxu a sigurtà periklu u kawża estensiva ħsara.
- Agħmel mhux post kwalunkwe likwidu kontenituri fuq il immaġinatur. Jekk, għal xi wħud raġuni, likwidu tnixxi go il immaġni, qawwa mitfi il immaġinatur u aqla ' il qawwa korda minn il sors iżbokk. Jekk użat mingħajr korrettiv miżuri, il immaġinatur jista ' tkun bil-ħsara.
- Agħmel mhux użu il immaġinatur qrib fjammabbli gassijiet.
- Ma ' il immaġinatur quċcata għata miftuħa jew il jircievu trejs imneħħija, tmiss biss dawk intern komponenti dak huma ikkulurit aħdar (muri fi il wara figura). Neħhi ċrieki, rabtiet, dehbijiet, u oħra oġġetti, u tie lura xagħar, hekk dak huma agħmel mhux jaqgħu go jew ġib maqbuda fi il immaġinatur.



***Intern Komponenti Dak Huma Kulur Aħdar (imsejjaħ barra fi il illustrazzjoni) Huma Sikur għal Tmiss***

**Post Prekawzjonijiet**

- Il tal-imager joperaw ambjentali temperatura firxa huwa 15–30°C (59-86°F), ma ' a qarib umdità ta ' 10% –80%.
- Jekk il immaġinatur huwa imċaqlaq malajr minn an estremament kiesaħ post għal a aktar shan waħda, kondensazzjoni huwa probabbli għal forma. Agħmel mhux użu il immaġinatur jekk kondensazzjoni għandu iffurmat. Stenna sakemm il kondensazzjoni għandu evaporat. Int jista ' velocità sa il evaporazzjoni ħin minn miexja il immaġinatur għal a nixxiefa lokazzjoni.



- Ventilazzjoni slots u toqob huma ipprovdut fuq il naħat u fuq wara ta ' il immaginatur. Pogġi il immaginatur fuq a iebes livell wiċċ u lokalizza dan fi l-inqas 10 ċm (4 pulzjeri) minn ħitan għal tiżgura xieraq ventilazzjoni

**ATTENZJONI** Adegwat ventilazzjoni huwa meħtieġ għal xieraq operazzjoni ta ' il immaginatur

**ATTENZJONI** Meta pożizzjonament il Horizon Immaġni, tiżgura hemm huwa adegwat spazju għal aċċess il fuq wara qawwa swiċċ.

- Aghmel mhux post immaginatur fi a għoli umdità jew għoli trab zona. Fl-ajru ħmieġ particelli jista ' kawza immaġni kwalità problemi. Evita tqegħid il immaginatur fi żoni fejn ventilazzjoni katusi, miftuħa bibien, jew frekwenti passers-by jista ' tesponi il immaginatur u midja għal għoli livelli ta ' fdalijiet.
- Aghmel mhux lokalizza il immaginatur fi hot-molol żoni fejn idroġenu sulfid u acidużi joni huma probabbli għal tkun iġġenerat.
- Aghmel mhux lokalizza il immaginatur fejn hemm huma żejtnija dħaħen u fwar.
- Aghmel mhux lokalizza il immaginatur fi dirett dawl tax-xemx.
- Aghmel mhux lokalizza immaginatur qrib sorsi ta ' għoli RF enerġija.
- Aghmel mhux lokalizza il immaginatur fejn dan jista ' tkun sugġett għal jarring jew vibrazzjonijiet, tali kif a mejda jew skrivanija fi a għolitraffiku zona. Jarring u vibrazzjonijiet jista ' jaffettwaw il jistampa kwalità ta ' immaġini.
- Horizon jissodisfa il elettriku sigurtà limiti ta ' IEC60601-1 u CISPR 11 u huwa adattat għal pazjent kura zona lokazzjoni. Iċċekkja ma ' lokali ordinanzi u installazzjoni linji gwida għal ikkonferma approvat lokazzjoni rekwiziti.

#### Tindif Prekawzjonijiet

- Ħafna komponenti tal-plastik jintużaw fil-kostruzzjoni tal-immaginatur. Iċ-ċaqliq u d-deformazzjoni tal-kisja x'aktarx iseħħu jekk l-immaginatur jintmesaħ b'biċċiet tat-tfarfir kimiċi, benzin, dilwenti, insettiċidi, jew solventi oħra. Materjali tal-gomma u tal-PVC li jithallew f'kuntatt ma ' l-imager għal ħinijiet estenzi jikkawżaw ħsara. Qatt tuża petroleumibbażat soluzzjonijiet jew joborxu tindif.
- Lil nadif il immaginatur tkopri, l-ewwel qawwa mitfi il immaginatur bl-użu il (qawwa) ċavetta fi il kontroll bord, imbagħad dawwar il rocker swiċċ fi il lura għal il 0 (mitfi) pożizzjoni, imbagħad aqla ' il immaginatur. Nadif il għata ma ' a artab drapp kemmxejn niedja ma ' a ħafif sapun u ilma soluzzjoni. Ħalli il għata għal kompletament niexef qabel joperaw il immaginatur mill-ġdid.

#### Midja

Għal **ChromaVista**<sup>®</sup> kulur stampi, il ikkunsmati žigarella fih faksimili ta ' kwalunkwe pazjent immaġini stampati għal **ChromaVista** kulur folji. Għalhekk, int għandu sewwa jiddisponi ta ' jew jeqred ikkunsmati žigarella għal tiżgura il kunfidenzjalità ta ' pazjent immaġini.

Il ottiċi densità ta ' jirriflettu u trasmessiv stampi jkollhom a nominali firxa ta ' :  $D_{min} = 0.10$  OD (li jirrifletti),  $0.11$  OD (trasmessiv) għal  $D_{max} = 2.10$  OD (li jirrifletti),  $3.1$  OD (trasmessiv). Attwali ottiċi densitajiet jista ' ivarjaw ibbażat fuq midja varjazzjonijiet u fuq il strument qed użat għal miżura densità. Għal eżempju, **DirectVista**<sup>®</sup> Ċara film jista ' jkollhom a inqas  $D_{min}$  u  $D_{max}$  minn **DirectVista** Blu film.

- Il Horizon imager jinkludi densitometru inkorporat. Id-densitometru inkorporat huwa ddisinjat biex jipproduċi stampi konsistenti billi jikkumpensa għall-varjazzjoni minn cassette tal-film għal ieħor u imager għal ieħor. Għal applikazzjonijiet li jeħtieġu kontroll assolut tad-densità massima, ir-riżultati għandhom jiġu kkontrollati kontra densitometru kummerċjali fuq il-bank. Id-densitometru intern jista ' jiġi kkalibrat għal unità tad-desktop. Ara l-*Horizon Immaġinatur Tekniku Manwal* għal aktar informazzjoni.
- **DirectVista** midja huwa ottimizziati għal skala tal-griz stampi, waqt **ChromaVista** huwa ottimizziati għal kulur stampi. Jekk **ChromaVista** huwa mhux tagħti int sodisfaċenti riżultati ma ' skala tal-griz stampi, int jista ' trid għal ikkunsidra bl-użu **DirectVista** midja għal dawk applikazzjonijiet.

- Midja varjazzjonijiet bejn differenti produzzjoni lottijiet jista ' jipproduċu sottili differenzi fi immaġni kwalità u kulur. Dawn varjazzjonijiet l-aktar spiss iseħħu fi kulur zigarelli u huma ikkaratterizzati kif a żgħira kulur lewn fi skala tal-griz immaġini.
- Codonics film midja huwa ddisinjat għal tkun meqjusa bl-użu a dawl kaxxa adattat għal wiri mediku dijanjostiku immaġini.
- Codonics karta / bajda film midja huwa ddisinjat għal tkun meqjusa taħt kessaħbjad, fluworexxenti dawl. Spettrali differenzi u intensità varjazzjonijiet fi il wiri dawl sorsi jista ' bidla il apparenti kulur ta ' immaġini stampati fuq karta / bajda film.
- Stampat immaġini dak huma suġġett għal fit-tul espożizzjoni għal dawl tax-xemx, ultravjola ħafif, jew estrem saħħan jista ' jiddegradaw fi immaġni kwalità. (Għal eżempju, stampati folji għandu mhux tkun maħzuna fi an karozza fuq a xemxi jum.) Prekawzjonijiet għandu tkun użat għal evita fit-tul dirett espożizzjoni.

#### Codonics Karta / Abjad Film Midja

Il termini "Abjad karta " u "Abjad film " huma sinonimu referenzi u użat minflok xulxin fi dan manwali.

#### Fajl Trasferiment permezz FTP u LPR

- Differenti utenti min jaqsmu a utent isem meta jittrasferixxi fajls għal il immaginatur jista ' kawża imprevedibbli u żbaljat stampati produzzjoni. Il immaginatur assoċjati informazzjoni ma ' il utent isem. Kull wieħed utent għandu jkollhom a uniku utent isem meta konnessjoni għal il immaginatur permezz FTP u LPR.

#### Kulur Ġestjoni

- Immaġni settings-inkluz gamma, kuntrast, Dmax, saturazzjoni, u MCM <sup>™</sup> (Mediku Kulur Matching <sup>™</sup>) - huma maħsuba għal tikkumpensa għal differenzi dak jista ' iseħħu bejn immaġni akkwist u immaġni stampar. Dawn filtri jippermettu int għal b'mod preċiż jagħmel il finali stampati immaġni. Int għandu użu kura meta applikazzjoni dawn filtri għal evita fuq kumpens.
- Il Nuqqas Utent Settings sett fi il kontroll panel se potenzjalment jaffettwaw stampi magħmula minn kollha utenti. Uża kawtela meta jinbidlu il default settings.

#### Immaġni Skalar

- L-iskala ta 'immaġni tiffiltra d-dejta originali tal-immaġni u żżid jew tneħħi informazzjoni, li tista' taffettwa l-eżattezza tal-immaġni stampata finali. L-ammont ta 'informazzjoni miżjud jew imneħħi jvarja wkoll skond il-kobor tal-fattur ta' l-iskala applikat. Dan jista 'jaffettwa wkoll l-eżattezza tal-immaġni stampata finali. Għandek tkun konxju tal-proprjetajiet u l-limitazzjonijiet ta 'kull algoritmu ta' skalar u tagħzel l-algoritmu xieraq għall-kompitu.

#### Hardwer Varjazzjonijiet

- Komponenti użati fl-immaġni jistgħu jvarjaw, u jikkawżaw differenzi fil-kwalità tal-immaġni. Il-proċess termali tal-produzzjoni tal-istampar juża bosta komponenti li huma kkalibrati biex jipprovdu konsistenza bejn l-immaġini. Hemm differenzi sottili bejn immaġini li jistgħu jikkawżaw varjazzjonijiet fl-istampar. Dawn id-differenzi normalment japplikaw għall-kalibrazzjoni tar-ras tal-istampar termali. Fatturi oħra bħall-età, l-użu, is-sħana, l-ilbies mekkaniku, u t-tbaħħir jistgħu jaffettwaw il-kulur u l-kwalità tal-immaġni.
- Il tip ta ' midja użat għal installa softwer aġġornamenti u għal backup immaginatur konfigurazzjoni settings jiddependi fuq ħardwer varjazzjonijiet. Jekk il immaginatur għandu a inkorporat Zip issuq, installazzjonijiet u backups huma mwettqa bl-użu 100-MB Zip diski. Jekk il immaginatur ma mhux jkollhom a inkorporat Zip issuq, USB flash drives huma użat ma ' il USB portijiet fuq il fuq wara panel. Matul dan manwali, Zip diski u USB flash drives huma imsemmi għal kif *installazzjoni midja jew backup midja*, jiddependi fuq il operazzjoni qed mwettqa.

**NOTA:** Jekk il immaginatur għandu it-tnejn a Zip issuq u a USB port, dejjem użu il Zip disk għal installa softwer u hliet konfigurazzjoni settings.

#### Rimi Rekwiżiti

Rimi ta ' dan prodott u konsumabbli għandu tkun fi konformità ma ' kollha applikabbli liġijiet u regolamenti fi effett fi il lokalità fi il h'in ta ' rimi.

#### Ewropew Rimi Rekwiżiti

Codonics imagini u elettroniku aċċessorju apparat huma mhux għal tkun mormi jew riċiklat; anzi huma huma għal tkun lura għal il manifattur. Kuntatt Codonics direttament jew minn il rabta ipprovdut għal il l-aktar tard informazzjoni dwar:

- Identifikazzjoni ta ' il specifiku għall-pajjiż Importatur / Distributur / Produttur
- Prodott ritorn u trattament ta ' tagħna elettroniku prodotti

Manifattur: Kodonika Inc.  
17991 Englewood Issuq  
Middleburg Għoli, OH 44130 L-Istati Uniti  
Telefon: +1.440.243.1198  
Fax: +1.440.243.1334  
E-mail: WEEE@codonics.com  
www.codonics.com

Codonics elettroniku prodotti u aċċessorji li jkollhom il wara simbolu huma suġġett għal Ewropew Direttiva fuq Skart Elettriku u Elettronici Tagħmir (WEEE) 2002/96 / KE, emendat minn Direttiva 2003/108 / KE. Il MT 50419 simbolu tindika separat gbir u ritorn meħtieġ.



*MT 50419 simbolu*

#### Indikazzjonijiet għal Uża

**ATTENZIONI** Approvat FDA Klassi 2 apparat - Federali ligi jirrestringi dan apparat għal tkun mibjugħa għal użu minn jew fuq il ordni ta ' a tabib.

Il maħsuba użu ta ' il Horizon Serje Imagers hija imagini b'kopja iebsa b'rizoluzzjoni għolja ta 'materjal ta' sors ta 'immagħni diġitali u permezz tal-konverżjoni ta' sinjali elettronici minn varjetà wiesgħa ta 'outputs diretti / indiretti ta' modalitè ta 'immagħni medika. L-output ta 'kopja stampata jinkludi, madankollu mhuwiex limitat għal, radjografija diġitali, medicina nukleari, ultrasound, CT, MRI, CR, u ppjanar ta' Terapija bir-Radjazzjoni. L-immagħni huma adattati għall-użu u r-riferiment tad-dijanjosi tal-immagħni medika. Is-sistema hija maħsuba għall-użu minn radjologi medici, speċjalisti tal-modalitè tal-immagħni, u komunikazzjonijiet lil tobbja li jirreferu.

Il Horizon Serje Immagħni huma niexef, termali, skala tal-griz (G, GS, GSs, GS-Rad, G1, u G2 mudelli) u skala tal-griz / kulur (Ci, Ci-s, CiRAD, u SF mudelli) dirett termali printer / immagħni.

Il Horizon XL huwa a speċjali mudell żżid 14 x 36fi. u 14 x 51fi. vera daqs "Twil" midja dak permessi digitali dirett ortopediku applikazzjoni kopja stampata, inkluż dijanjosi u analiżi ta ' skoljozi, piż li jkollhom sinsla / ġenbejn / irkoppa, u twil għadam / ġenbejn prostetiku u ortopediku apparat xogħol u kirurġiċi ippjanar. Orizzont XL huwa applikabbli għal daqs veru kopja stampata ta ' shiħ ġisem CT, MRI, u Angjografiku u Venuż fluss immagiġni proċeduri.

Orizzont Immagiġni huma 510 (k) ikklierjat għal suq kif FDA Klassi 2 apparat, Regolament numru 892.2040, Klassifikazzjoni Prodott Kodici LMC: Orizzont Serje Mediku Multimidja Nixxef Immagiġni K021054 u Orizzont XL Mediku Twila Film Immagiġnatur Kopja stampata Multimidja K060440.

#### Utent Manwal Twissijiet u Prekawzjonijiet

**ATTENZJONI** Approvat FDA Klassi 2 apparat - Federali ligi jirrestringi dan apparat għal tkun mibjugħa għal użu minn jew fuq il ordni ta ' a tabib.

**ATTENZJONI** Għamla żgur dak il mejda jista ' appoġġ il piż ta ' il immagiġnatur [bejn wieħed u ieħor 66.7 kg (147lbs) ma ' jirċievu trejs u tlieta mimli provvista kassetts installat].

**TWISSIJA** Il immagiġnatur huwa tqil. Lil evita korriment, użu żewġ nies għal aqla ' u pożizzjoni il immagiġnatur.

**ATTENZJONI** Agħmel mhux grif jew laqam il folja metall. Grif u nicks fi il kantina se ħsara il stampati ġenb ta ' ChromaVista folji.

**ATTENZJONI** Għamla żgur dak il immagiġnatur huwa imħaddem mitfi qabel konnessjoni il Ethernet kejbil. Għal informazzjoni madwar tħaddim il immagiġnatur fuq u mitfi, irreferi għal "Qawwa il Immagiġnatur Fuq u Mitfi".

**ATTENZJONI** Agħmel mhux tmiss kwalunkwe ta ' il konnettur labar.

**ATTENZJONI** Jekk il termali jistampa ras huwa mhux ipparkjat, qawwa fuq il immagiġni, imbagħad irrepeti passi 2 u 3 għal sewwa qawwa mitfi il immagiġnatur hekk dak dan ma ipparkja.

**ATTENZJONI** Imbotta il zigarella ġarr isfel bil-mod. Forzar dan isfel ukoll malajr jista ' ħsara il ġarr.

**ATTENZJONI** Jekk il immagiġnatur huwa imħaddem mitfi bl-użu il QAWWA ċavetta, mhux stampat fil-kju impjegi huma salvati u se temm stampar darba il immagiġnatur huwa imħaddem fuq mill-ġdid (int jista ' tnaddaf kollha impjegi). Madankollu, jekk il immagiġnatur huwa imħaddem mitfi bl-użu il rocker swiċċ fi il lura jew qawwa huwa interrott (għal eżempju, an mhux mistenni qawwa falliment), fil-kju impjegi jista ' tkun mitlufa.

**TWISSIJA** Meta manutenzjoni il immagiġni, dejjem qawwa dan mitfi bl-użu il QAWWA ċavetta, dawwar il rocker swiċċ fi il lura għal il 0 (mitfi) pożizzjoni, imbagħad aqla ' il immagiġnatur.

**ATTENZJONI** Uża biss Codonics midja. Agħmel mhux użu sempliċi karta, ufficiċju trasparenzi, jew oħra mhux approvat midja kif ħsara, mhux xieraq operazzjoni, jew malfunzjoni jista ' riżultat. Għal informazzjoni madwar il approvat Codonics midja tipi u daqsijiet, u kif għal ordni kassetts, irreferi għal "Ordni Midja".

**ATTENZJONI** Agħmel mhux imla mill-ġdid a cassette. Agħmel mhux tbaġħbis ma ' jew neħhi il barcode tikketta. Il cassette's barcode informazzjoni huwa essenzjali għal tiżgura dijanjostiku immagiġni kwalità. Jagħmlu kompromess il cassette fi kwalunkwe mod jipperikola il kwalità u affidabilità ta ' il immagiġnatur.

**ATTENZJONI** Agħmel mhux neħhi jew daħħal a cassette waqt a folja huwa qed stampat, jew int setgħet jaffettwaw il immagiġni kwalità ta ' il stampati folja jew kawża a ġamm. Dejjem waqfa il immagiġnatur l-ewwel.

**ATTENZJONI** Agħmel mhux neħhi il stampati cassette għata; dan jipprotegi il midja minn trab u oħra kontaminanti. Dejjem zomm u maħzen il cassette ma ' il miftuħa ġenb sa għal jipprevjenu il folji minn jaqgħu barra.

**TWISSIJA** Ma ' il immaginatur għata miftuħ, tmiss biss dawk intern komponenti dak huma ikkullurit aħdar. Neħhi ċrieki, rabtiet, dehbijiet, u oħra oġġetti, u tie lura xagħar, hekk dak huma aghmel mhux jaqgħu go jew gib maqbuda fi il immaginatur.

**ATTENZJONI** Użat zigarella iżomm il negattiv ta ' il kulur immagini dak kienu stampati bl-użu dak zigarella. Jekk int huma meħtieġ għal tiżgura pazjent kunfidenzjalità u privatezza, il zigarella għandu tkun meqruda.

**ATTENZJONI** Uża kawtela meta jinbidlu il immaginatur default settings. Bidliet setgħet jaffettwaw stampi magħmula minn oħra utenti.

**ATTENZJONI** It-tibdil tas-settings default se jaffettwa stampi magħmula minn utenti oħra. Uża kawtela meta tbiddel is-settings default. Tipikament, huwa aħjar li tispesifika l-issettjar tal-parametri tal-folja u l-immagni mill-applikazzjoni DICOM jew l-issettjar tal-istampatur PostScript, jew tuża fajl tal-Impjegi tax-Xogħol li fih il-valuri li għandek bżonn. Għal informazzjoni dwar il-fajls tal-Impjegi tax-Xogħol, irreferi għall-*Horizon Immaginatur Tekniku Manwal*.

**ATTENZJONI** Jekk il tal-imager settings kienu mibdula minn il fabbrica nuqqasijiet qabel għal qed mibgħuta (għal eżempju, għal takkomoda a speċjali OEM konfigurazzjoni), issettjar mill-ġdid għal il fabbrica nuqqasijiet se mhux jirrestawraw il "Kif mibgħut " settings. Minflok, huma se tkun irrisettja għal il standard fabbrica default valuri.

**ATTENZJONI** L-issettjar mill-ġdid tad-difetti tal-fabbrika jaffettwa l-istampi magħmula minn utenti oħra. Uża kawtela meta tbiddel is-settings default. Tipikament, huwa aħjar li tispesifika l-issettjar tal-parametri tal-folja u l-immagni mill-applikazzjoni DICOM jew l-issettjar tal-istampatur PostScript, jew tuża fajl tal-Impjegi tax-Xogħol li fih il-valuri li għandek bżonn. Għal informazzjoni dwar il-fajls tal-Impjegi tax-Xogħol, irreferi għall-*Horizon Immaginatur Tekniku Manwal*.

**ATTENZJONI** Jinbidlu il tal-imager Nuqqas Midja u Nuqqas Utent Settings setgħet jaffettwaw sussegwenti stampi magħmula minn oħra utenti. Uża kawtela meta jinbidlu default settings.

**ATTENZJONI** Jinbidlu il tal-imager Nuqqas Midja u Nuqqas Utent Settings setgħet jaffettwaw sussegwenti stampi magħmula minn oħra utenti. Uża kawtela meta jinbidlu default settings.

**TWISSIJA** Ma ' il immaginatur għata miftuħ, tmiss biss dawk intern komponenti dak huma ikkullurit aħdar. Neħhi ċrieki, rabtiet, dehbijiet, u oħra oġġetti, u tie lura xagħar, hekk dak huma aghmel mhux jaqgħu go jew gib maqbuda fi il immaginatur.

**TWISSIJA** Il termali jistampa ras jista ' tkun jaħraq.

**TWISSIJA** Meta tindif il jistampa ras, evita il estrem tispicċa ta ' il jistampa ras, liema huma qawwi.

**ATTENZJONI** Uża biss it-tindif tar-ras tal-istampar imsaħ meta tnaddaf ir-ras tal-istampar termali. Ukoll, tmissx il-wiċċ tal-ħġieġ tar-ras tal-istampar termali b'subgħajk; jista ' jagħmel ħsara lir-ras tal-istampar. Biex tevita li tmiss il-wiċċ tal-ħġieġ, tista ' tkun trid tilbes ingwanti meta tnaddaf ir-ras tal-istampar termali.

**ATTENZJONI** Il termali jistampa ras għandu tkun kompletament niexef qabel attentat għal użu il immaginatur. Tippermetti il termali jistampa ras għal saħħan sa mill-ġdid waqt għadu imxarrab se ħsara il termali jistampa ras.

**TWISSIJA** Ma ' il immaginatur għata miftuħ, tmiss biss dawk intern komponenti dak huma ikkullurit aħdar. Neħhi ċrieki, rabtiet, dehbijiet, u oħra oġġetti, u tie lura xagħar, hekk dak huma aghmel mhux jaqgħu go jew gib maqbuda fi il immaginatur.

**ATTENZJONI** Uża biss il platen romblu tindif imsaħ meta tindif il platen. Il platen romblu setgħet tkun bil-ħsara jekk int użu il jistampa ras tindif imsaħ.

**TWISSIJA** Ma ' il jircievu trejs imneħħija, tmiss biss dawk intern komponenti dak huma ikkullurit aħdar. Neħhi ċrieki, rabtiet, dehbijiet, u oħra oġġetti, u tie lura xagħar, hekk dak huma aghmel mhux jaqgħu go jew gib maqbuda fi il immaginatur.

**ATTENZJONI** Uża biss il platen romblu tindif imsaħ meta tindif il pick tajers. Il tajers setgħet tkun bil-ħsara jekk int użu il jistampa ras tindif imsaħ.

**ATTENZJONI** Agħmel mhux tmiss il pick tajers (liema jista ' tkun abjad jew aħdar); gisem żjut minn tiegħek swaba huma iebes għal neħhi u setgħet eventwalment ħsara il tajers.

**TWISSIJA** Ma ' il jircievu trejs imneħhija, tmiss biss dawk intern komponenti dak huma ikkulurit aħdar. Neħhi ċrieki, rabtiet, dehbijiet, u oħra oġġetti, u tie lura xagħar, hekk dak huma agħmel mhux jaqgħu ġo jew ġib maqbuda fi il immaginatur.

**ATTENZJONI** Uża biss tindif tampuni minn a Barcode Qarrej Tindif Kit.

**ATTENZJONI** Agħmel mhux grif jew laqam il folja metall. Grif u nicks fi il kantina se ħsara il stampati ġenb ta ' ChromaVista folji.

**ATTENZJONI** Federali ligi jirrestringi dan apparat għal tkun mibjugħa għal uzu minn jew fuq il ordni ta ' a tabib.

**TWISSIJA** Ma ' il quċcata għata miftuħ, tmiss biss dawk intern komponenti dak huma ikkulurit aħdar. Neħhi ċrieki, rabtiet, dehbijiet, u oħra oġġetti, u tie lura xagħar, hekk dak huma agħmel mhux jaqgħu ġo jew ġib maqbuda fi il immaginatur.

**ATTENZJONI** Agħmel mhux tmiss il pick tajers (liema jista ' tkun abjad jew aħdar); gisem żjut minn tiegħek swaba huma iebes għal neħhi u setgħet eventwalment ħsara il tajers.

**ATTENZJONI** Lil evita jagħmlu ħsara intern komponenti, uzu kura meta tneħhija a folja minn il midja triq fi il ta 'fuq parti ta ' il immaginatur.

**ATTENZJONI** Qatt poġġi a folja lura fi il cassette. Trab jew żejt minn tiegħek subgħajk se jaffettwaw il immagni kwalità.

**TWISSIJA** Ma ' il quċcata għata miftuħ, tmiss biss dawk intern komponenti dak huma ikkulurit aħdar. Neħhi ċrieki, rabtiet, dehbijiet, u oħra oġġetti, u tie lura xagħar, hekk dak huma agħmel mhux jaqgħu ġo jew ġib maqbuda fi il immaginatur.

**ATTENZJONI** Kun attent mhux għal grif il illustrat folja metall jew ħsara il sensor qrib il ta 'fuq gwida talja.

**ATTENZJONI** Għamla żgur int agħmel mhux fuqdawwar il midja gwida, kif murija hawn taħt.

**ATTENZJONI** Federali ligi jirrestringi dan apparat għal tkun mibjugħa għal uzu minn jew fuq il ordni ta ' a tabib.

**ATTENZJONI** Uża kura meta giri il Tnaddaf Stampa Impjegi funzjoni. Dan funzjoni se tnaddaf oħra utenti jistampa impjegi kif tajjeb kif tiegħek.

**ATTENZJONI** Kollha fajls ttellgħet bl-uzu anonimu FTP huma tinqara minn oħra FTP utenti. DO MHUX ittella ' sensitiv jew klassifikati informazzjoni.