Service Manual

Supports the PaxScan 2530W or 4336Wv4 panel

Non-integrated with x-ray generator

721-802-G1, Rev. M

Notices

The NEXT EQUINE DR® digital x-ray imaging system is a high resolution digital imaging system intended to replace conventional film techniques, or existing digital systems, in multipurpose or dedicated applications.

Reasonable precautions have been taken in the preparation of this book, but Sound™ assumes no responsibility for errors or omissions or for damage resulting from the use of the information contained herein. For improvement of product performance, supplementation, or follow-up of information, the contents of this manual are subject to change without notice.

Standards and compliance

CE for Low Voltage Directive 2006/95/EC, EMC Directive 2004/108/EC
ETL approved
CAN/CSA-C22.2 No. 60601-1
IEC 60601-1, 60601-1-2, 62304, 62366
AAMI ES60601-1

It is the responsibility of the system integrator to ensure detectors are CE marked for use in the European Union.

This product conforms to the necessary IEC standards for patient safety & isolation as-shipped from the factory. The end user and/or the installer is responsible to insure that when connected, as a system with other devices, this product meets all the rules of IEC 60601-1 Clause 16.

Statement of Intended Use

The NEXT EQUINE DR® digital x-ray imaging system is a high resolution digital imaging system intended to replace conventional film techniques, or existing digital systems, in multipurpose or dedicated applications specified below. The digital x-ray imaging system enables an operator to acquire, display, process, export images to portable media and send images over a network for long-term storage. Image processing algorithms enable the operator to bring out diagnostic details difficult to see using conventional imaging techniques. Images can be stored locally for temporary storage. The product has the ability to interface with a variety of flat panel image receptors. The major system components include an image receptor, computer, monitor and imaging software.

The digital x-ray imaging system is intended for use by a veterinary technologist or other trained person under the supervision of a veterinarian. The target population will be equine, canine, feline, (small) mammal, primate, avian, and reptile undergoing medical diagnostic imaging for reasons that were judged to be medically necessary by a competent veterinary practitioner.

Warning: Do not modify this equipment without authorization by Sound Technologies, Inc.

Warning: Ne pas modifier cet équipement sans l'autorisation de Sound Technologies, Inc.

Operating principle

The essential performance of the NEXT EQUINE DR® system is to synchronize the image acquisition of the digital receptor with the X-ray beam of the host X-ray system to capture, display and archive quality images of the intended anatomy, with reasonable patient exposure to X-rays.

The NEXT EQUINE DR® digital imaging system uses a solid-state X-ray detector to capture digital images of anatomy penetrated by an incident X-ray beam. A host X-ray system generates the X-ray beam, which passes through a patient and strikes the detector of NEXT EQUINE DR®. The detector converts the X-ray energy to digital image data that is then passed to the NEXT EQUINE DR® computer. The computer processes the image data, displays the image to the user, and provides temporary storage for image data and associated patient information, which can be imported from a worklist or entered manually. When the user has finished applying processing, annotation, and measurement features of NEXT EQUINE DR® software, the images can be archived or printed to appropriate DICOM-compliant devices.

Intended User Profile

The digital x-ray system is intended for use in general radiographic examinations and applications (excluding fluoroscopy) by a veterinary technologist or other trained person under the supervision of a veterinarian.

There are no user-serviceable parts inside the digital x-ray system or subsystem components. Refer all repair needs to a service organization that has been trained and authorized by Sound Technologies, Inc.

Intended Patient Population

The target population is equine, canine, feline, (small) mammal, primate, avian, and reptile undergoing medical diagnostic imaging for reasons that were judged to be medically necessary by a competent veterinary practitioner. The x-ray system is intended for veterinary applications only and is not for use on humans.

Intended Anatomy

The x-ray system may be used to image any part or area of the target population's anatomy that can be imaged with x-ray radiation, with or without a contrast agent.

Maintenance and cleaning

See Chapter 6. *Maintenance and cleaning* on page v, for information about maintaining and cleaning the system components.

Trademarks

About This Document

This Manual together with Sound Technologies, Inc. training gives service technicians the step-by-step instructions that they need to acquire, review, and store images with the x-ray system.

Caution: Please read and follow the safety and equipment handling practices in this manual.

Caution: S'il vous plaît lire et suivre les pratiques de sécurité et de manutention de l'équipement dans ce manuel.

Related and Supplemental Information

The following documents are part of the product library or provide supplemental information on this product.

Table 1: Related and supplemental information

Title	Description	Part number
NEXT EQUINE DR® User Manual	This manual together with Sound Technologies, Inc. training gives radiologic technologists the step-by-step instructions that they need to acquire, review, and store images with the x-ray system.	721-801-G1
NEXT EQUINE DR® Service Manual	This manual, combined with manufacturer-provided training classes, supplies the information that a service technician requires to set up, configure, calibrate, and diagnose a Sound Technologies, Inc. x-ray system.	721-802-G2
NEXT EQUINE DR® online help	See the online help for videos and text that describes the most common tasks in the user interface. The help is context sensitive and can be launched from the x-ray system software user interface by clicking the question mark icon (?) in the main tool bar of the screen that you want to see help for.	Not applicable. The online help is installed with the product.

Revision History

The following table shows when this document has been revised and a description of the major updates for each revision.

Table 2: Document revisions

Revision letter	Issue date	ECO number	Changes made
A	2015-05-07	1064503	Initial release.
B	2015-05-20	1066041	The following information was added: • Hard drive back up and restoration processes. • Autocrop preview • Auto Update • Upgrade procedures
C	2015-08-04	1066947	Updated branding and trademarks.
D	2015-02-05	ECO-00008 (ETQ), 1068804 (SAP)	Updated to reflect changes to configuration screens: Basic Options, Intermediate Options. Updated to reflect changes to Acquisition Profile settings. Added information about configuring email servers. Updated to reflect changes to DICOM Worklist server screen and General DICOM settings screen. Added sections for using the System Configuration tool. Updated to reflect additional backup files created during backup process.
E	2016-02-23	EC0-00012 (EtQ), 1068944 (SAP)	Revised Configuring Advanced Options to include option to Show Accession Number.
F	2016-05-26	1070025, ECO-00029 (EtQ)	Updated logos, trademarks, and technical support contact information.

Revision letter	Issue date	ECO number	Changes made
G	2016-12-16	SAP: 1071837. EtQ: ECO-00049	Updated to reflect changes in software versions 3.5 and 3.6. Revisions include: addition of technical specifications, installation, and connection information for the PaxScan 4336Wv4 panel, and new carrying case options. Also includes revisions to the following topics: Configuring Basic Options, Configuring Intermediate Options, Configuring Advanced Options, Configuring Panels; Performing Gain Calibration; Diagnosing WiFi Connection Issues. Updated most screen shots.
H	2017-06-02	SAP: 1073461; EtQ: 00119	Updated software version to 3.7. Updated PaxScan branding to Varex. Added 3-bay battery charger. Added information about how the Study Description field is populated when importing a patient from a worklist.
J	2017-12-15	ECO-00167	Updated software version to 3.8. Updated Configuration Options screens (basic and intermediate) to show physician tag and measurement options, respectively.
K	2019-04-19	ECO-00202	Added information about DT340T tablet, wireless keybaord and mouse. Removed obsolete XPS PC and carrying case information. Updated connection diagrams for new tablet. Updated Updated for IEC testing. Added EIRP values for mobile tablet. Updated DICOM worklist configuration section to include option to enable support for Idexx MWL server. Updated DICOM general configuration section to include setting for the number of results returned from a worklist query.

Revision letter	Issue date	ECO number	Changes made
L	2021-03-22	EC-0001756	New features added in the v3.9 release (rev I) for Management Mode: Set tuning parameters before aquiring images, Region and Anatomy are now translated, Zoom Magnification overlay tag added, batch adjust image tuning options, date range options have been added to Autodelete configuration, System Configuration Tool includes breeds in the selected import and export functions, functionality of the Bluetooth Reject button is now configurable, "Owner Name" has been added to the overlay tag Responsible Person for clarification, default breed can be specified for each species, ability to add additional breeds, global setting to change default window/level values for images received from Musica, image tuning workbench is hidden from Tech users, option to set overlays to off when opening a study, default vet and tech can be specified in list for DICOM tags, the manual technique entry is configurable, Reject Reason entry is configurable, ability to associate the reject reason with the rejected image, Coonhound has been added to breeds list, Tech field name can be customized, Accession number is available in the Overlay Editor, System Configuration Tool now has the ability to recover from SQL database errors, documentation for the System Configuration Tool has been added to the Service Manual.

Information symbols

Informational symbols are used in the Sound Technologies, Inc. imaging system documentation and on some labeling.

Table 3: Informative markings: Documents and equipment

Symbol	Title/Meaning	Standard/Reference
	Notice. An important aspect of Sound Technologies, Inc. imaging system operation is presented.	N/A. Used in operator and service manuals to note important information
	Caution. On product, indicates need to consult instructions for use for important cautionary information.	ISO 15223-1:2012/5.4.4
	Warning. General warning.	IEC 60601-1:2012/Table D.2 No. 2
	Read accompanying documents or instructions for use.	IEC 60601-1:2005/Table D.2, No. 10
	The date of manufacture is adjacent to this symbol.	ISO 15223-1:2012/5.1.3
	The manufacturer’s serial number is displayed with this symbol.	ISO 15223-1:2012/5.1.7
	The procedure requires making X-ray exposures and producing radiation. Follow safety precautions when operating the X-ray system.	Warning: IEC 60601-1:2012/Table D.2 No. 2; Ionizing Radiation: IEC TR 60878, No. ISO 361; ISO 7010-W003
	Earthing terminal Grounding terminal	IEC 60417-5019; IEC 60601-1/7219
	Warning. Warning, electricity	IEC-60601-1:2012, Table D-2, No. 3; IEC 60601-1/7.2.14, 7.3.2

Symbol	Title/Meaning	Standard/Reference
	Dangerous voltage. Indicates hazard from dangerous voltages.	IEC 60417-5036
	Non-ionizing electromagnetic radiation. Indicates elevated or potentially hazardous levels on non-ionizing electromagnetic radiation.	IEC 60417-5140
	The manufacturer’s catalog number (model number) is displayed with this symbol.	ISO 15223-1:2012/5.1.6
	The name and address of the manufacturer is displayed with this symbol. The date of manufacture may also be included with this information.	ISO 15223-1:2012/5.1.1
	Authorized representative in the European Community	ISO 15223-1:2012/5.1.2

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Chapter

1

System Overview

Contents

This chapter provides a high-level overview of the x-ray system to orient you to the more detailed tasks involved in installing, configuring, maintaining, and troubleshooting the system. More detailed tasks and information is provided later in the manual.

Hardware Part Numbers

The NEXT EQUINE DR® system includes the following hardware components.

Table 4: Supported hardware

Hardware components	Details	Part number
Sound DT340T Tablet PC	Base DT340T tablet PC	099-690
Sound DT340T Tablet PC (configured)	Configured tablet PC	736-751-G2
Accessories	Sound Accessory Kit included with the DT340T tablet: • NEXT EQUINE DR® Recovery Media • Sound Windows 10 Enterprise 2016 LTSB COA • Sound Foldable Bluetooth Keyboard • Sound Microsoft Bluetooth Mouse	099-677
PaxScan 2530W CsI x-ray panel detector	The panel (109250) comes with the following hardware: • battery (81701) • battery charger (82351) • wall mounting hardware for the battery (77683) • mains 110V, hospital grade power cord for the charger (11616)	109250
PaxScan 4336Wv4 CsI x-ray panel detector	The panel comes with two batteries	91-427
Varex single-bay or three-bay battery charger		
System backup thumb drive.	The USB thumb drive contains PC-bootable Ghost backup files (736-723-G1)	736-704-G1 (XPS-18 PC); 099-682 (Sound™ Tablet PC)

Hardware components	Details	Part number
NetGear WNA1000M G54-N150 WiFi USB Micro Adapter		20-248
Sound SMART DR Recovery Media Kit	Recovery media (thumb drive) and case	70-836
Sound NEXT DR Accessory Kit	Included Bluetooth keyboard, and mouse, Windows 10 Enterprise, Sound SMART DR Recovery Media Kit	099-677

Table 5: NEXT EQUINE DR Storage Options

Item	Details	Part Number
Bag	Protective bag for storage of PaxScan 4336Wv4 panel. Accommodates panel and two batteries.	70-801
Neoprene panel cover	Accommodates PaxScan 4336Wv4 panel	70-804
Panel detector tunnel	Accommodates PaxScan 4336Wv4. With podoblock	70-556

DT340T Tablet

The DT340T tablet provides a rugged platform for the NEXT EQUINE DR® software.

The tablet PC contains the following components:

- Intel® 8th Generation Core™ i5-8250U quad-core 1.6 GHz processor
- 1TB solid state drive (SSD)
- 8GB RAM
- Built-in Wi-Fi (Intel AC-8265) and Bluetooth
- 1920 x 1080 pixels, 1000 nits high-brightness capacitive touch display
- 2 60W battery packs

Figure 1: DT340T tablet

DT340T Tablet technical specifications

Table 6: DT340T technical specifications

Parameter	Descirption
CPU	Intel® 8th Generation Core™ i5-8250U quad-core 1.6 GHz processor
RAM	8GB
Storage	1TB solid state drive (SSD)
Display	14” LED-backlight, high-brightness (1,000 nits) screen with capacitive multi-touch, outdoor viewable
Display resolution	1920 x 1080 pixels

Parameter	Descirption
WLAN	Wi-Fi 802.11ac, 2.4GHz/ 5GHz dual band
Bluetooth	Bluetooth 4.0 LE
Ports	HDMI (1), USB 3.0 (1), USB 2.0 (2), RJ-45 for Ethernet
AC/DC adapter	Input: 100-240VAC Output: 19VDC, 6.31A
Battery packs	2, 60W
Enclosure	ABS + PC plastics and magnesium-aluminum allow
Dimensions (H x W x D)	9.6in x 13.8in x 1.16 in (244mm x 244mm x 29.5mm)
Weight	6.38lbs/ 2.9kg
Vibration and Shock Resistance	MIL-STD-810G
EMI and EMC Tolerance	MIL-STD-461F
Water and Dust Resistance	IP65
Regulatory	FCC Class B, CE, RoHS compliant
Temperature	Operating: -20°C to 60°C (-4°F to 140°F)[1] Storage: -55°C to 70°C (-67°F to 158°
Humidity	0% – 90% non-condensing

[1] For best performance and safety, recommended usage temperature is -10°C to 45°C (14°F to 113°F).

DT340T Tablet controls and connectors

DT340T controls, indicators, and connectors

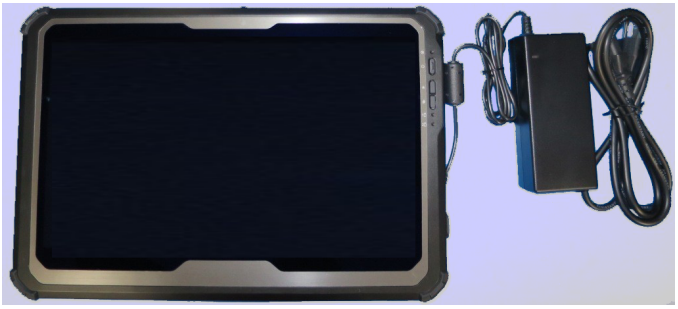
Figure 2: DT340T controls, indicators, and connectors

Table 7: DT340T controls, indicators, and connectors

Item	Description
1	Ethernet port (RJ-45)
2	USB 3.0 port
3	HDMI output
4	Audio jack
5	Power LED Blue: battery is 25-100% charged Blinking blue: battery is charging Orange: battery is 11-25% charged Blinking orange: battery is below 10% charged
6	Power button. Press to power the tablet on or off.
7	Programmable buttons
8	USB 3.0 ports
9	DC input. Connect to AC-DC power adaptor to charge or power the tablet. Use only the adaptor shipped with the tablet.

Item	Description
10	Smart Card Reader (not used)

Figure 3: DT340T Tablet and AC-DC adaptor



Connect the AC-DC adaptor to the tablet (at the DC input) and to a wall outlet to power tablet or charge the tablet's batteries.

Figure 4: Battery latch locations on DT340T tablet

To remove the battery, push the switch on the latch to unlock it. Then, slide the latch to remove the battery.

Wireless keyboard and mouse

A foldable Bluetooth keyboard and mouse are supplied as part of the Sound accessory kit.

About the Bluetooth keyboard and mouse

Figure 5: Bluetooth keyboard and mouse

Table 8: Bluetooth keyboard specifications

Parameter	Description
Dimensions	158mm x 101mm x 13mm (folded) 320.06mm x 101.99mm x 5.8mm (unfolded)
Weight	176g
Battery	Rechargeable lithium ion battery
Battery life	40 hours of uninterrupted work (continuous typing) 30 days in standby mode
Connections	Micro USB charging cable (included) Bluetooth 3.0 (backward, forward compatible) Operating distance: 10 m (32 ft)
Indicators	Power LED (green) Pairing LED (blue) Low battery LED (red)

PaxScan 2530W X-ray Panel Technical Specifications

The NEXT EQUINE DR®x-ray system can include the 2530W x-ray panel.

The x-ray panel comes with the following components:

- battery
- battery charger
- wall mounting hardware for the battery
- mains 110V, hospital grade power cord for the charger
- removable handle for hand-held applications

The PaxScan 2530W is a light weight, wireless flat panel detector designed for digital radiographic x-ray systems. The 2530W is small, rugged, and easy to use in hand-held and mobile applications. The 2530W supports a number of connection methods, simplifying the integration challenge of going wireless. It can connect to a PaxScan I/O Box, a commercial access point or directly to a tablet or PC, and can work with RAD acquisition or autotrigger.

Figure 6: PaxScan 2530W technical specifications

Technical Specifications

Receptor Type
Amorphous Silicon with Charge Well Pixel™ Technology

Conversion Screen ..... Direct Deposit CsI, DRZ +

Pixel Area
Total ..... 24.9 (v) x 30.2 (h) cm (9.8 x 11.9 inch)
Active (DRZ+) ..... 24.6 (v) x 30.0 (h) cm (9.7 x 11.8 inch)
Active (CsI) ..... 24.4 (v) x 29.7 (h) cm (9.6 x 11.7 inch

Pixel Matrix Total ..... 1,792 (v) x 2,176 (h)
Active (DRZ+) ..... 1,772 (v) x 2,156 (h)
Active (CsI) ..... 1,752 (v) x 2,136 (h)

Pixel Pitch ..... 139 µm

Limiting Resolution ..... 3.6 lp/mm

Image Quality	GADOX (typical)	DD/CSI (typical)
DQE @ 0 lp/mm	33%	70%
DQE @ 1 lp/mm	24%	50%
DQE @ 2 lp/mm	15%	32%
DQE @ 3 lp/mm	7%	17%
DQE @ Nyquist	4%	10%
MTF @ 1 lp/mm	53%	57%
MTF @ 2 lp/mm	20%	27%
MTF @ 3 lp/mm	9%	13%
MTF @ Nyquist	5%	10%
Sensitivity	0.412 LSB/nGy	0.660 LSB/nGy
Pixel Noise (1000ms)	7 LSB	7 LSB
Memory Effect	0.005 (@ 60sec)	0.005 (@ 60sec)

Main Functionalities		
Cycle Time	<7 sec	<7 sec
@ 550ms X-ray Window		
X-ray window	250-2200 ms	250-2200 ms

Dose Range	DRZ+	CsI
Saturation Dose	130 µGy	74 µGy
Maximim Linear Dose	90 µGy	46 µGy
NED (max.)	0.5 µGy	0.25 µGy

Energy Range Standard ..... 40 - 150 kVp

Fill Factor 64%

Scan Method ..... Progressive

Data Output ..... Gigabit Ethernet

A/D Conversion 16-bits

Exposure Control ..... Inputs: ..... Prepare, Expose-Request
Outputs: ..... Expose-OK

Wireless Signal ..... >80% or no image acquire

Software

The software release includes ViVA™, a basic application for image acquisition and viewing on an end-user workstation or laptop running Microsoft® Windows™. The developer's software package includes a "Virtual Command Processor" software interface that performs detector calibration, detector set-up, image acquisition, and image corrections. ViVA™ includes file type translators for .viv, .raw, .jpg, and .bmp file formats. Windows® 7 (64 bit) compatible.

Environmental

Shock ..... High-shock tolerance

Water Resistant ..... IPX-1 (horizontal, face up)

Temperature Range - Operating (at back cover) .. 10°C to 35°C (max.)
(Ambient) - Storage ..... -20°C to +70°C

Humidity - Operating (non-condensing) ..... 10 to 90%
Storage (non-condensing) ..... 10 to 90%

Atmospheric Pressure - Operating ..... 70 kPa to 106 kPa
Storage..... 70 kPa to 106 kPa

Regulatory

U.S. ..... UL 60601-1
Canada ..... CSA 22.2 No. 601.1-M90
Electromagnetic Capability ..... IEC 60601-1-2

Mechanical

Weight (includes battery)..... 4.6 lbs. (2.1 kg)

Housing Material ..... Magnesium

Sensor Protection Material ..... Carbon fiber plate

Power

Power Dissipation ..... 4.7 watts (idle)
16.0 watts (acquisition)

Recommended Wireless Access Point

Paxscan I/O Box or 802.11n, 3x3 MIMO, Dual Band (not included)

Computer Requirements

RAM ..... 2.00 GB

CPU ..... Pentium dual core running @ 2.0 GHz or equivalent

Battery

Lithium polymer smart battery prevents over charging

Charge Capability ..... 800 continuous images over 4 hrs

Expected Life ..... 500 images cycles of charge/discharge

Battery Charge ..... 10 hours in standby mode

Weight (approximately) ..... 0.66 lbs (.3 kg)

Figure 7: PaxScan 2530W physical dimensions

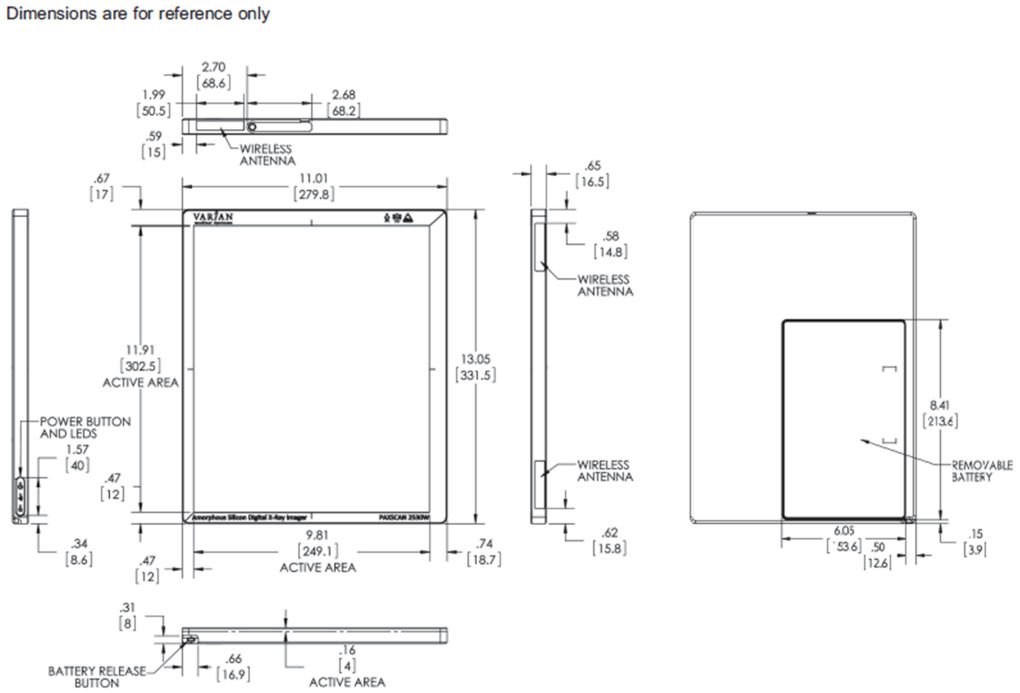
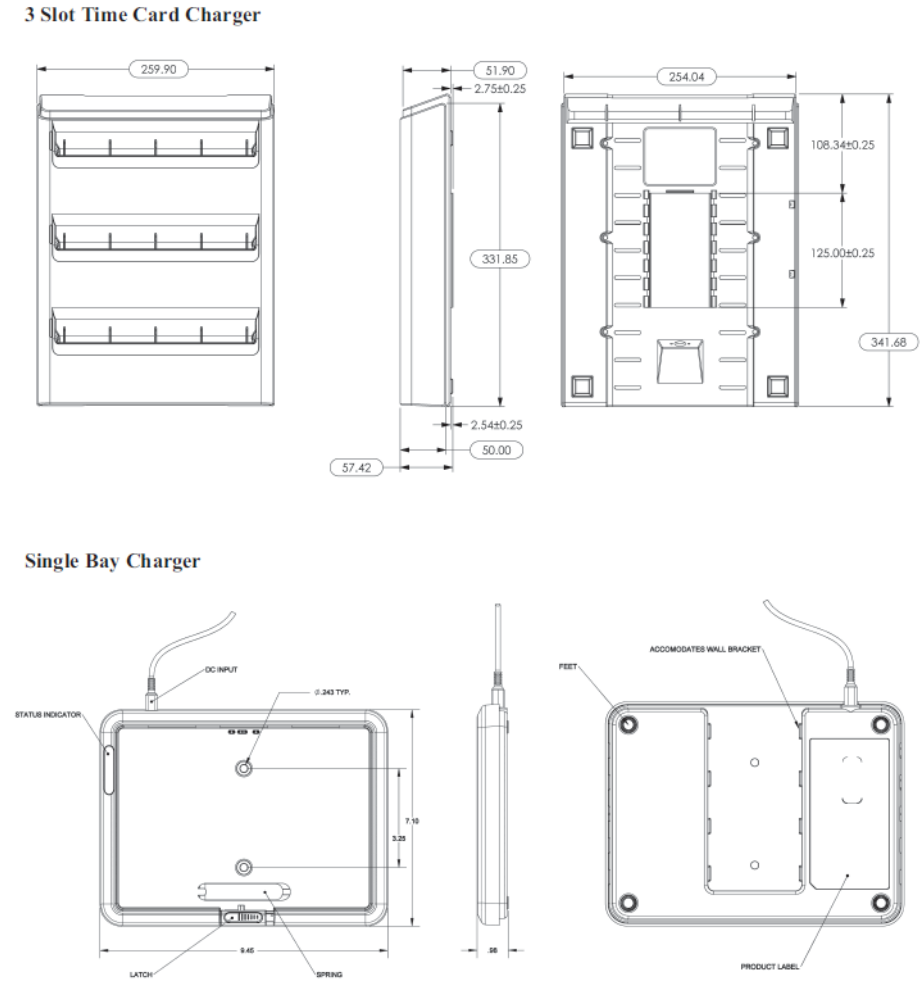


Figure 8: PaxScan 2530W battery charger dimensions



PaxScan 4336Wv4 detector specifications

Review the specifications for the detector before installing, configuring, or using the detector.

Figure 9: PaxScan 4336Wv4

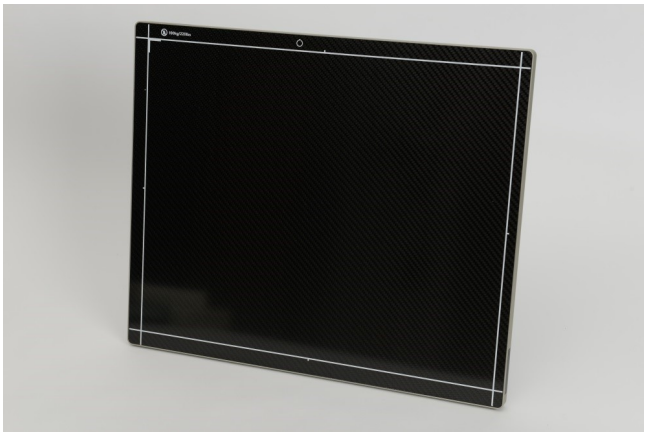


Table 9: Specifications of the PaxScan 4336Wv4 X-ray detector

Characteristics	Specifications
Receptor type	Amorphous silicon with TFT PIN diode technology
Technology (panel converter)	CsI, DRZ+
Detector size	46 x 38 x 1.5 cm (18 x 15 x .6 in)
Detector weight (with battery)	DRZ+: 3.6 kg 7.9 lbs ± 0.25 kg, 0.55 lbs. CsI: 3.8 kg (8.4 lbs.) ± 0.25 kg (0.55 lbs)
Housing material	Aluminum/Magnesium
Sensor protection material	Carbon fiber plate
Weight limit	Uniform load across carbon surface: 150 kg (330 lbs.) Concentrated 40 mm (1.6 in) diameter load at center of imager: 100 kg (220 lbs.)
Active area (h x v)	DRZ+: 42.4 x 34.1 cm (16.7 x 13.4 in) () CsI: 42.4 x 33.9 cm (16.6 x 13.3 in) ()
Pixel matrix (active)	DRZ+ 2456 (h) x 3052 (v) pixels CsI: 2436 (h) x 3032 (v) pixels
Pixel pitch	139 µm
Limiting resolution	3.6 lp/mm
Cycle time @ 550 ms	7 sec (MSR2, RCT)

Characteristics	Specifications
X-ray window	350 – 3500 ms
Dose range — Maximum linear dose	DRZ+: 100 µGy CsI: 69 µGy
Dose range— NED	DRZ+: 0.65 µGy () CsI: 0.4 µGy
Fill factor	60%
Scan method	Progressive
Data output	Wireless
A/D conversion	16 bits
Exposure control	Inputs: Prepare, Expose-Request Outputs: Expose-OK
Minimum signal strength required	->80 dBm (or no image acquired)
Wireless	802.11 a/b/g/n/ac 2 x 2 MIMO Wireless modes: STA or AP

Table 10: PaxScan 4336Wv4 power specifications

Characteristics	Specifications
Power, energy rating	Standard, 40 – 150kVp
Power consumption	Idle: 3.3 Watts Acquisition: 7.8 Watts Image Transfer: 10.2 Watts

Table 11: PaxScan 4336Wv4 power specifications

Characteristics	Specifications
Battery charge capability	1000 images over 6 hrs
Battery life (expected)	300 cycles of charge/discharge
Battery weight	0.66 lbs; 0.3 kg

Table 12: RF Power Output (PS4336Wv4, 802.11a mode)

Operating Ch.	e.i.r.p. Limit (dBm)	Ch0 (dBm)	Ch1 (dBm)	Max Power (dBm)	e.i.r.p. Power (dBm)	Margin (dBm)
802.11a mode for module						
5180.00	22.48	16.96	15.78	17.06	19.96	2.52
5200.00	22.48	16.27	15.64	17.06	19.27	3.21
5240.00	22.48	17.06	15.48	17.06	20.06	2.42
802.11a mode for module inside receptor						
5180.00	22.48	16.07	15.78	16.07	19.07	3.41
5200.00	22.48	16.27	15.64	16.27	19.27	3.21
5240.00	22.48	16.20	15.48	16.20	19.20	3.28

Conditions:

- Antenna type: Patch
- Max. Direction Gain: +3 dBi (5.2 GHz)
- Beam Forming Gain: +6 dBi (5.2 GHz)
- Signal state: Modulated at 100%
- Ambient temperature: 24 degrees C
- Relative humidity: 39%

Notes:

1. Highest output power observed at 802.11a mode, 6.0 Mbps, 1 data stream.
2. The measured emission bandwidth for 802.11a is 17.71 MHz. The calculated output power limit is 22.48 dBm.
3. The power levels at Ch0 were adjusted to SAR valuation when module installed inside the PS4336Wv4.

Table 13: RF Power Output (PS4336Wv4. 802.11n mode)

Operating Ch	e.i.r.p. Limit (dBm)	Ch0 (dBm)	Ch1 (dBm)	Max Power (dBm)	e.i.r.p. Power (dBm)	Margin (dBm)
802.11n mode for module						
5180.00	22.69	16.93	15.81	16.93	19.93	2.76
5200.00	22.69	17.40	15.55	17.40	20.40	2.29
5240.00	22.69	17.51	15.97	17.51	20.51	2.18
802.11n mode for module inside receptor						
5180.00	22.69	16.18	15.81	16.18	19.18	3.51
5200.00	22.69	16.32	15.55	16.32	19.32	3.37

Operating Ch	e.i.r.p. Limit (dBm)	Ch0 (dBm)	Ch1 (dBm)	Max Power (dBm)	e.i.r.p. Power (dBm)	Margin (dBm)
5240.00	22.69	16.28	15.97	16.28	19.28	3.41

Conditions:

- Antenna type: Patch
- Max. Direction Gain: +3 dBi (5.2 GHz)
- Beam Forming Gain: +6 dBi (5.2 GHz)
- Signal state: Modulated at 100%
- Ambient temperature: 24 degrees C
- Relative humidity: 39%

Notes:

1. Highest output power observed at HT20 MCSO, 1 data stream.
2. The measured emission bandwidth for 802.11n HT20 MCSO is 18.59 MHz. The calculated output power limit is 22.69 dBm.
3. The power levels at Ch0 were adjusted to SAR valuation when module installed inside the PS4336Wv4.

Table 14: RF Power Output (PS4336Wv4, 802.11n 2x2 mode)

Operating Ch	e.i.r.p. Limit (dBm)	Ch0 (dBm)	Ch1 (dBm)	Max Power (dBm)	e.i.r.p. Power (dBm)	Margin (dBm)
5180.00	22.53	11.33	10.31	13.86	19.86	2.67
5200.00	22.53	11.58	10.63	14.14	20.14	2.39
5240.00	22.53	11.68	10.75	14.23	20.23	2.30

Conditions:

- Antenna type: Patch
- Max. Direction Gain: +3 dBi (5.2 GHz)
- Beam Forming Gain: +6 dBi (5.2 GHz)
- Signal state: Modulated at 100%
- Ambient temperature: 24 degrees C
- Relative humidity: 39%

Notes:

1. Highest output power observed at HT20 MCSO, 2 data streams.
2. The measured emission bandwidth for 802.11n HT20 MCSO is 17.91 MHz. The calculated output power limit is 22.53 dBm.
3. Beam forming antenna gain is less than 6dBi; therefore no adjustment to power limit.

Table 15: RF Power Output (PS4336Wv4, 802.11ac mode)

Operating Ch	e.i.r.p. Limit (dBm)	Ch0 (dBm)	Ch1 (dBm)	Max Power (dBm)	e.i.r.p. Power (dBm)	Margin (dBm)
802.11ac mode for module						
5180.00	22.74	17.19	16.09	17.19	20.19	2.55
5200.00	22.74	17.81	15.73	17.81	20.81	1.93
5240.00	22.74	17.19	16.43	17.19	20.19	2.55
802.11ac mode for module inside receptor						
5180.00	22.74	16.21	16.09	16.21	19.21	3.53
5200.00	22.74	16.42	15.73	16.42	19.42	3.32
5240.00	22.74	16.18	16.43	16.43	19.43	3.31

Conditions:

- Antenna type: Patch
- Max. Direction Gain: +3 dBi (5.2 GHz)
- Beam Forming Gain: +6 dBi (5.2 GHz)
- Signal state: Modulated at 100%
- Ambient temperature: 24 degrees C
- Relative humidity: 39%

Notes:

1. Highest output power observed at VHT20 Nss2 MCSO, 1 data stream.
2. The measured emission bandwidth for 802.11ac VHT20 Nss2 MCSO, is 17.92 MHz. The calculated output power limit is 22.53 dBm.
3. The power levels at Ch0 were adjusted to SAR valuation when module installed inside the PS4336Wv4.

Table 16: RF Power Output (PS4336Wv4, 802.11ac 2x2 mode)

Operating Ch	e.i.r.p. Limit (dBm)	Ch0 (dBm)	Ch1 (dBm)	Max Power (dBm)	e.i.r.p. Power (dBm)	Margin (dBm)
5180.00	22.53	11.87	10.47	14.24	20.24	2.29
5200.00	22.53	12.07	10.50	14.37	20.37	2.16
5240.00	22.53	11.74	11.38	14.57	20.57	1.96

Conditions:

- Antenna type: Patch
- Max. Direction Gain: +3 dBi (5.2 GHz)
- Beam Forming Gain: +6 dBi (5.2 GHz)

- Signal state: Modulated at 100%
- Ambient temperature: 24 degrees C
- Relative humidity: 39%

Notes:

1. Highest output power observed at VHT20 Nss2 MCSO, 2 data streams.
2. The measured emission bandwidth for 802.11ac VHT20 Nss2 MCSO, is 17.92 MHz. The calculated output power limit is 22.53 dBm.
3. Beam forming antenna gain is less than 6dBi; therefore no adjustment to power limit.

Regulatory compliances

The following regulatory compliances also apply:

- US: UL 60601-1
- Canada: CSA 22.2 No. 601.1-M90
- Electromagnetic Capability: IEC60601-1.2

PaxScan 4336Wv4 Battery Chargers

PaxScan offers single-bay and three-bay battery chargers for its PS 4336Wv4 detectors.

Figure 10: PS 4336Wv4 single-bay battery charger

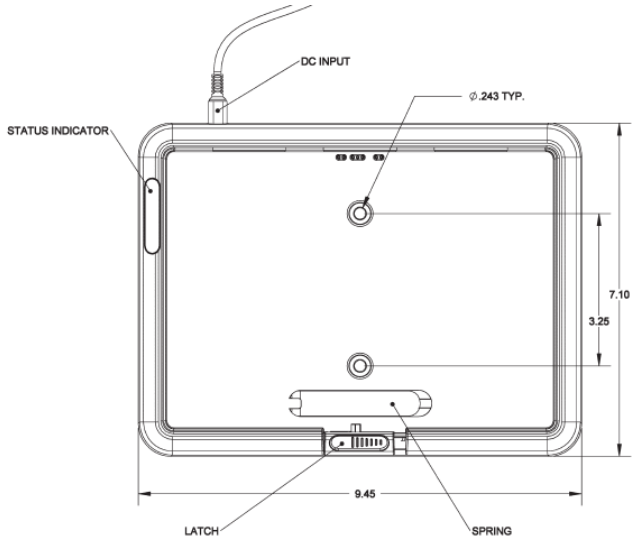
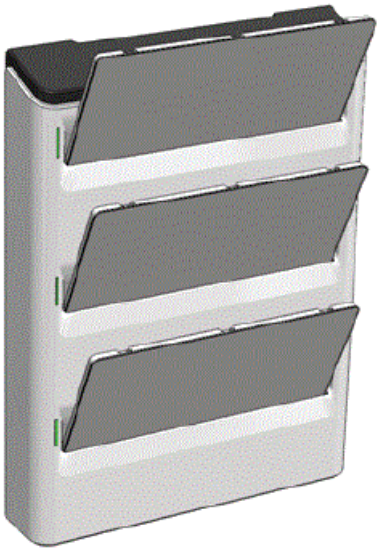


Figure 11: PS 4336Wv4 three-bay battery charger



System Backup Thumb Drive

The system backup thumb drive is used to create a ghost backup of the system after it has been configured with the site's settings. It can then be used to restore a system to the desired settings when necessary.

Figure 12: Backup thumb drive - Dell XPS-18 PC

Figure 13: Recovery media - Sound™ tablet PC

The thumb drive or recovery media contains bootable Ghost backup files.

NetGear WNA1000M G54-N150 WiFi USB micro adapter

The NetGear WNA1000M G54-N150 WiFi USB Micro Adapter is used to provide a second WiFi connection point for times when the PC needs to communicate with DICOM and the x-ray panel at the same time.

Software

The following software is supported for use with this x-ray system.

- Windows 8.1 PRO, Windows 10 Enterprise IoT
- PaxScan Virtual CP L08 1.1 R1
- PaxScan M01 R1.4
- Musica2 v1.12.10.1
- Sound SMART DR™ 3.9

System storage accessories

In addition to the system storage case and the attache, you may choose to include one or more of the accessories described in this section to store NEXT EQUINE DR® system components.

The **NEXT 1417 bag** , shown in the following figure, accommodates:

- PaxScan 4336Wv4 panel (1, panel storage area)

- Two batteries for the panel (2, two front pockets)

Figure 14: The NEXT 1417 bag, front view, showing panel (1) and battery (2) storage areas

Figure 15: The NEXT 1417 bag, panel storage area

Neoprene Panel Cover

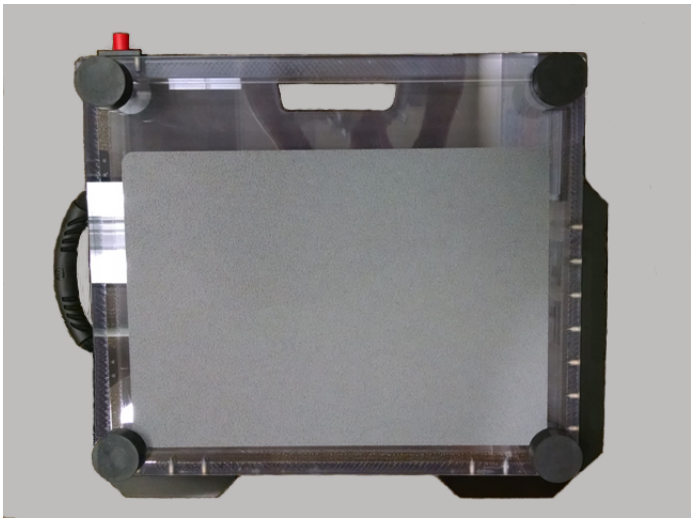
The neoprene panel cover protects the panel detector.

Figure 16: Neoprene Panel Cover

Detector Tunnel Podoblock

The Detector Tunnel Podoblock for the PaxScan 4336Wv4 offers another storage option.

Figure 17: Detector Tunnel Podoblock for the PaxScan 4336Wv4



Connection diagram with PaxScan 2530W

The following diagram shows the connections between the main components of the x-ray system.

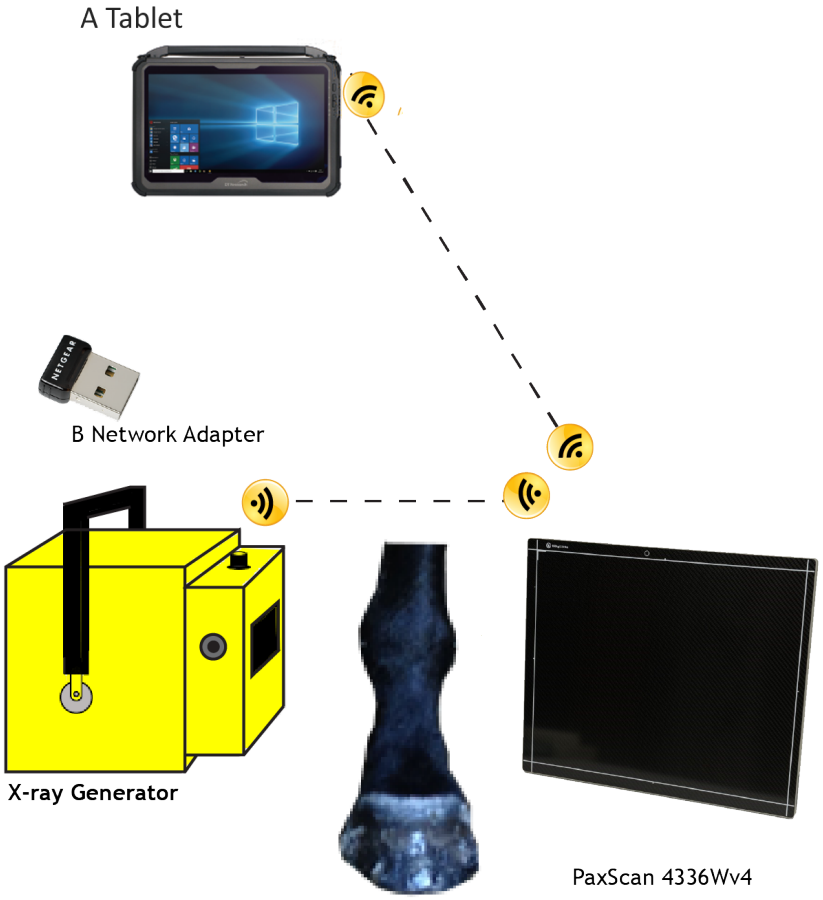
Figure 18: Connection diagram: PaxScan 2530W panel

A. USB Ports (2)
B. NetGear WNA1000M G54-N150 WiFi USB Micro Adapter. This adapter is needed only when communication between the PACS and panel is needed at the same time.

Connection diagram with PaxScan 4336Wv4

The following diagram shows the connections between the main components of the x-ray system.

Figure 19: Connection diagram, PaxScan 4336Wv4



A. USB Ports (2)
B. NetGear WNA1000M G54-N150 WiFi USB Micro Adapter. This adapter is needed only when communication between the PACS and panel is needed at the same time.

Chapter

2

Safety, Warranty, and Licensing Information

Contents

Your NEXT EQUINE DR® x-ray system uses the Sound SMART DR™ software. All information and instructions contained in this document are intended to promote safe and effective installation, service and maintenance of the x-ray system. Observe all warnings provided in documentation and labeling, and follow all instructions precisely to avoid potential injury to users, patients, or other personnel, malfunction of the equipment, or damage to the x-ray system components.

All components of the x-ray system are designed and suitable for use in close proximity to patients. The system and associated components are commonly placed and in use within 6 feet (1.8m) of the patient.

Do not connect any other equipment or parts to the x-ray system without the express authorization of the manufacturer.

Caution: Federal law restricts this device to sale by or on the order of a licensed veterinarian.

Caution: La loi fédérale restreint vente de cet appareil par ou sur l'ordre d'un vétérinaire agréé.

Pre-installation Site Survey

Ensure that this survey is completed and submitted before the day of installation.

Sound Technologies, Inc. requires that dealers of our products assess the facilities into which the x-ray system will be installed. We give them a short form, the Pre-installation Site Survey, to complete. They submit the Survey to Sound Technologies, Inc., and it helps us to send the correct equipment. This survey is helpful to the installer of the system, too. Therefore, if you do not have the completed version of the Pre-installation Site Survey, check with the administrator of the organization that purchased the x-ray system. If necessary, contact *technical support* to see if a copy was submitted or if you have any questions or problems.

If you require a blank copy of the Pre-installation Site Survey, it is available, with password protection, on the Sound Technologies, Inc. website. Select the Pre-installation Site Survey that matches NEXT EQUINE DR®.)

Service Technician Training

All service technicians conducting installation, service, and maintenance of the x-ray system must be properly trained and certified through a Sound Technologies, Inc.-authorized program.

Failure to meet these obligations may result in charges for phone support and voiding of warranties. Service technicians may be required to substantiate their training at time of call or warranty base request.

Electromagnetic compatibility

The system complies with EN 60601-1-2 fourth edition (2014) Section 5. Prevent the potential risk of electromagnetic interference between this equipment and other devices.

The system is intended for use in the electromagnetic environment in which radiated disturbances are controlled. The customer or user of the system can help to prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment and the system as recommended below, according to the maximum output power of the communications equipment.

The system has been tested for electromagnetic compatibility (EMC) compliance, but interference can still occur in an electromagnetically noisy environment. Maintain a suitable distance between electrical devices to prevent cross-interference. The PC cabinet should be placed as far as possible from any device that generates large amounts of electromagnetic disturbance.

Caution: Medical electrical equipment requires special precautions to maintain electromagnetic compatibility. The system must be installed and put into service according to the EMC information provided in this document. Portable and mobile RF communications equipment can affect medical electrical equipment.

Caution: Les appareils électromédicaux requièrent des précautions particulières pour maintenir la compatibilité électromagnétique. Le système doit être installé et mis en service conformément aux informations EMC fournies dans ce document. Les équipements de communication RF portables et mobiles peuvent affecter les équipements électromédicaux.

Caution: Failure to avoid RF interference while operating NEXT EQUINE DR® may cause failure of the digital imaging system to capture or store images.

Caution: Défaut d'éviter les interférences RF lors de l'utilisation NEXT EQUINE DR® peut provoquer une défaillance du système d'imagerie numérique pour capturer ou stocker des images.

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: L'utilisation d'accessoires, de transducteurs et de câbles autres que ceux spécifiés ou fournis par le fabricant de cet équipement pourrait entraîner une augmentation des émissions électromagnétiques ou une diminution de l'immunité électromagnétique de cet équipement et entraîner une mauvaise opération.

Emissions, immunity, and separation distances

The tables in this topic provide guidance for emissions, immunity, and separation distances. Follow these guidelines when installing and maintaining the X-ray system.

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 NEXT EQUINE DR® system, including cables specified by the manufacturer.

Les équipements portatifs de communications RF (y compris les périphériques tels que les câbles d'antenne et les antennes externes) ne doivent pas être utilisés à plus de 30 cm (12 pouces) de n'importe quelle partie du prochain système NEXT EQUINE DR®, y compris les câbles spécifiés par le fabricant

Use the following guidance tables for emissions and separation distances:

Table 17: Emissions — NEXT EQUINE DR® equipment and systems

Emissions test	Compliance	Electromagnetic environment guidance
RF emissions CISPR 11	Group 1	NEXT EQUINE DR® uses RF energy only for its internal function; therefore, its RF emissions are very low and unlikely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class A or B	Class A
Harmonics IEC 61000-3-2	Class A, B, C, D or NA	Class A
Flicker IEC 61000-3-3	Complies or NA	Complies
		NEXT EQUINE DR® is suitable for use in all establishments other than domestic and those directly connected to public low-voltage power supply network that supplies buildings used for domestic purposes.

Table 18: Electromagnetic Immunity — All equipment and systems not life-supporting

Immunity test	EN/IEC 60601 test level	Compliance level	Electromagnetic environment — guidance
ESD EN/IEC 61000-4-2	±8 kV contact ±15 kV air	±8 kV contact ±15 kV air	Floors should be wood, concrete, or ceramic tile. If floors are synthetic, relative humidity should be at least 30%.
EFT EN/IEC 61000-4-4	±2 kV mains ±1 kV I/Os	±2 kV mains ±1 kV I/Os	Mains power quality should be that of a typical

Immunity test	EN/IEC 60601 test level	Compliance level	Electromagnetic environment — guidance
			commercial or hospital environment
Surge EN/IEC 61000-4-5	±1 kV differential ±2 kV common	±1 kV differential ±2 kV common	Mains power quality should be that of a typical commercial or hospital environment
Voltage dips/ dropout EN/IEC 61000-4-11	>100% drop for 0.5 cycle At 0°, 45°, 90°, 135°, 180°, 225°, 270°, 315°: 100% dip for 1 cycles 30% dip for 25/30 cycles >100% dip for 5 s	>100% drop for 0.5 cycle At 0°, 45°, 90°, 135°, 180°, 225°, 270°, 315°: 100% dip for 1 cycles 30% dip for 25/30 cycles >100% dip for 5 s	Mains power quality should be that of a typical commercial or hospital environment If the user of the system requires continued operation during power mains interruptions, it is recommended that the system be powered from an uninterruptible power supply or battery.
Power frequency 50/60 Hz magnetic field EN/IEC 61000-4-8	30 A/m	30 A/m	Power frequency magnetic fields should be that of a typical commercial or hospital environment.

Table 19: Immunity — All equipment and systems not life-supporting

Emissions test	EN/IEC 60601 test level	Compliance level	Electromagnetic environment — guidance
Conducted RF EN/IEC 61000-4-6	3 Vrms 150 kHz – 80 MHz	(V1)=3Vrms	D=(3.5/V1)(√P)
Radiated RF EN/IEC 61000-4-3	3 V/m 80 MHz – 2.5 GHz	(E1)=3V/m	D=(3.5/E1)(√P) 80 to 800 MHz

Emissions test	EN/IEC 60601 test level	Compliance level	Electromagnetic environment — guidance
			D=(7/E1)(√P) 800 MHz to 2.5 GHz Where P = max power in watts and D = recommended separation distance in meters. Field strengths from fixed transmitters, as determined by an electromagnetic site survey, should be less than the compliance levels (V1 and E1). Interference may occur in the vicinity of equipment containing a transmitter.

Note: Portable and mobile communications equipment should be separated from the system by no less than the distances calculated or listed in *Table 19: Immunity — All equipment and systems not life-supporting* on page 31.

Table 20: Separation — Equipment not life-supporting

Max output power (watts)	Separation (m) at specified frequencies:		
	Separation (m) 150 kHz to 80 MHz D=(3.5/V1)(√P)	Separation (m) 80 to 800 MHz D=(3.5/E1)(√P)	Separation (m) 800 MHz to 2.5.0 GHz D=(7/E1)(√P)
0.01	0.11667	0.11667	0.23333
0.1	0.36894	0.36894	0.73785
1.	1.1667	1.1667	2.3333
10.	3.6894	3.6894	7.3785
100.	11.667	11.667	23.3333

Effective Isotropic Radiated Power for mobile tablet - 2.4G WIFI

These Effective Isotropic Radiated Power (EIRP) values apply to the mobile tablet. EIRP is the maximum radiated power of the transmitter and its antenna.

Table 21: EIRP (802.11b) - Transmitter

Temp. (°C)	Power Supplied (VDC)	Frequency (MHz)	RF Output Power EIRP (dBm)		Limit
-20	11.4		ANT1	ANT2	20
		2412	12.33	12.36	
		2442	12.60	12.78	
		2472	13.20	13.22	
25	11.4	2412	12.21	12.26	
		2442	12.49	12.42	
		2472	12.68	13.03	
45	11.4	2412	12.32	12.38	
		2442	12.59	12.58	
		2472	12.68	13.05	

Table 22: EIRP (802.11g) - Transmitter

Temp. (°C)	Power Supplied (VDC)	Frequency (MHz)	RF Output Power EIRP (dBm)		Limit
-20	11.4		ANT1	ANT2	20
		2412	12.34	12.28	
		2442	12.53	12.69	
		2472	13.00	12.82	
25	11.4	2412	12.25	12.37	
		2442	12.56	12.78	
		2472	12.76	12.60	
45	11.4	2412	12.24	12.23	
		2442	12.73	12.75	
		2472	12.70	12.82	

Table 23: EIRP (802.11n[20MHz]) - Transmitter

Temp. (°C)	Power Supplied (VDC)	Frequency (MHz)	RF Output Power EIRP (dBm)			Limit
-20	11.4		ANT1	ANT2	ANT1+ANT2	20
		2412	12.38	12.34	15.37	
		2442	12.59	12.70	15.66	
		2472	12.65	13.04	15.86	
25	11.4	2412	12.30	12.30	15.31	
		2442	12.62	12.56	15.60	
		2472	12.94	13.19	16.08	
45	11.4	2412	12.31	12.27	15.30	
		2442	12.74	12.54	15.65	
		2472	12.82	12.81	15.83	

Table 24: EIRP (802.11n[40MHz]) - Transmitter

Temp. (°C)	Power Supplied (VDC)	Frequency (MHz)	RF Output Power EIRP (dBm)			Limit
-20	11.4		ANT1	ANT2	ANT1+ANT2	20
		2422	11.21	11.31	14.27	
		2442	11.52	11.46	14.50	
		2462	12.03	11.73	14.89	
25	11.4	2422	11.28	11.34	14.32	
		2442	11.52	11.52	14.53	
		2462	12.00	11.78	14.90	
45	11.4	2422	11.34	11.44	14.40	
		2442	11.60	11.59	14.61	
		2462	12.08	11.74	14.92	

Effective Isotropic Radiated Power for mobile tablet - 5.2G WIFI

These Effective Isotropic Radiated Power (EIRP) values apply to the mobile tablet. EIRP is the maximum radiated power of the transmitter and its antenna.

RF Output Power, 5180MHz 802.11a, 5.2G WIFI

Table 25: RF Output Power, 5180MHz 802.11a

Temperature (°C)	Voltage (Vdc)	RF Output Power EIRP (dBm)		Limit (dBm)
		ANT1	ANT2	23
-20	10.3	12.38	12.32	
	11.4	12.77	12.53	
	12.5	12.92	12.85	
25	10.3	12.27	12.32	
	11.4	12.55	12.47	
	12.5	12.95	13.08	
45	10.3	12.36	12.33	
	11.4	12.52	12.51	
	12.5	13.10	13.15	

Table 26: RF Output Power, 5180MHz 802.11n (20MHz)

Temperature (°C)	Voltage (Vdc)	RF Output Power EIRP (dBm)			Limit (dBm)
		ANT1	ANT2	ANT1+ANT2	23
-20	10.3	11.39	11.39	14.40	
	11.4	11.59	11.54	14.58	
	12.5	12.20	11.83	15.03	
25	10.3	11.41	11.30	14.37	
	11.4	11.65	11.54	14.61	
	12.5	12.18	11.81	15.01	
45	10.3	11.39	11.35	14.38	
	11.4	11.51	11.55	14.54	

Temperature (°C)	Voltage (Vdc)	RF Output Power EIRP (dBm)			Limit (dBm)
	12.5	12.18	11.91	15.06	

Table 27: RF Output Power, 5190MHz 802.11n (40MHz)

Temperature (°C)	Voltage (Vdc)	RF Output Power EIRP (dBm)			Limit (dBm)
		ANT1	ANT2	ANT1+ANT2	23
-20	10.3	10.26	10.25	13.27	
	11.4	10.70	10.64	13.68	
	12.5	11.13	10.85	14.00	
25	10.3	10.21	10.28	13.26	
	11.4	10.68	10.66	13.68	
	12.5	11.03	10.86	13.96	
45	10.3	10.17	10.25	13.22	
	11.4	10.64	10.62	13.64	
	12.5	11.17	10.80	14.00	

Table 28: RF Output Power, 5210MHz 802.11ac (80MHz)

Temperature (°C)	Voltage (Vdc)	RF Output Power EIRP (dBm)			Limit (dBm)
		ANT1	ANT2	ANT1+ANT2	23
-20	10.3	9.25	9.31	12.29	
	11.4	9.76	9.73	12.76	
	12.5	10.02	10.13	13.09	
25	10.3	9.33	9.33	12.34	
	11.4	9.83	9.79	12.82	
	12.5	9.99	10.09	13.05	
45	10.3	9.24	9.37	12.32	
	11.4	9.80	9.78	12.80	
	12.5	10.05	10.14	13.11	

Effective Isotropic Radiated Power for mobile tablet - 5.8G WIFI

These Effective Isotropic Radiated Power (EIRP) values apply to the mobile tablet. EIRP is the maximum radiated power of the transmitter and its antenna.

Table 29: EIRP (802.11a) - Transmitter

Temp. (°C)	Power Supplied (VDC)	Test Result (EIRP, dBm)						Limit
		Channel 149		Channel 157		Channel 165		
		ANT1	ANT2	ANT1	ANT2	ANT1	ANT2	
-20	10.3	10.21	10.31	10.23	10.27	10.22	10.28	14
	11.4	10.51	10.72	10.70	10.61	10.74	10.73	
	12.5	11.01	11.00	10.98	10.71	10.86	10.86	
25	10.3	10.25	10.31	10.34	10.23	10.22	10.21	
	11.4	10.54	10.75	10.60	10.73	10.49	10.68	
	12.5	10.81	11.19	10.97	10.67	10.64	10.88	
45	10.3	10.4	10.26	10.38	10.30	10.28	10.21	
	11.4	10.53	10.55	10.40	10.72	10.73	10.55	
	12.5	11.13	10.62	10.70	10.78	10.67	10.73	

Table 30: EIRP (802.11n20) - Transmitter

Temp. (°C)	Power Supplied (VDC)	Test Result (EIRP, dBm)									Limit
		Channel 149			Channel 157			Channel 165			
		ANT1	ANT2	ANT1+ANT2	ANT1	ANT2	ANT1+ANT2	ANT1	ANT2	ANT1+ANT2	
-20	10.3	9.28	9.37	12.34	9.23	9.28	12.27	9.36	9.30	12.34	14
	11.4	9.62	9.72	12.68	9.71	9.69	12.71	9.46	9.71	12.60	
	12.5	9.75	9.83	12.80	9.75	10.14	12.96	9.76	9.96	12.87	
25	10.3	9.21	9.36	12.30	9.24	9.29	12.28	9.42	9.36	12.40	
	11.4	9.54	9.71	12.64	9.67	9.72	2.71	9.48	9.77	12.64	
	12.5	9.73	9.77	12.76	9.67	10.19	12.95	9.74	9.96	12.86	
45	10.3	9.19	9.46	12.34	9.23	9.35	12.30	9.40	9.39	12.41	

Temp. (°C)	Power Supplied (VDC)	Test Result (EIRP, dBm)									Limit
	11.4	9.56	9.80	12.69	9.79	9.73	12.77	9.49	9.62	12.57	
	12.5	9.85	9.85	12.86	9.65	10.07	12.88	9.78	10.00	12.90	

Table 31: EIRP (802.11n40) - Transmitter

Temp. (°C)	Power Supplied (VDC)	Test Result (EIRP, dBm)						Limit
		Channel 151			Channel 159			
		ANT1	ANT2	ANT1+ANT2	ANT1	ANT2	ANT1+ANT2	
-20	10.3	8.36	8.39	11.39	8.28	8.22	11.26	14
	11.4	8.59	8.77	11.69	8.57	8.46	11.53	
	12.5	8.62	8.89	11.77	8.93	9.11	12.03	
25	10.3	8.45	8.35	11.41	8.30	8.30	11.31	
	11.4	8.68	8.77	11.74	8.66	8.44	11.56	
	12.5	8.55	8.84	11.71	8.97	9.04	12.02	
45	10.3	8.39	8.44	11.43	8.37	8.13	11.26	
	11.4	8.55	8.71	11.64	8.53	8.44	11.50	
	12.5	8.69	8.88	11.80	8.94	9.04	12.00	

Table 32: EIRP (802.11ac80) - Transmitter

Temp. (°C)	Power Supplied (VDC)	Test Result (EIRP, dBm)			Limit
		Channel 155			
		ANT1	ANT2	ANT1+ANT2	
-20	10.3	7.35	7.27	10.32	14
	11.4	7.79	7.76	10.79	
	12.5	7.78	8.18	10.99	
25	10.3	7.34	7.23	10.30	
	11.4	7.77	7.69	10.74	
	12.5	7.77	8.27	11.04	
45	10.3	7.30	7.28	10.30	
	11.4	7.81	7.79	10.81	

Temp. (°C)	Power Supplied (VDC)	Test Result (EIRP, dBm)			Limit
	12.5	7.76	8.28	11.04	

Equipment Classification

The x-ray system has the following equipment classification.

- Protection against electric shock - class I
- Degree of protection against electric shock - type B
- Degree of protection against ingress of water - Ordinary
- Mode of operation - Continuous

Inspecting Components

Ensure that the system components are received in good condition.

About this task

The x-ray system is shipped in several boxes. The x-ray system is composed of sensitive electronic devices; keep the boxes upright at all times and follow the caution stickers regarding proper handling.

Procedure:

To inspect system components, complete the following steps:

Procedure

1. Upon receipt of your shipment from Sound Technologies, Inc., inspect the packaging.

   A packing list is attached to the outside of one of the boxes. Check this packing list when you first receive the shipment or if the items have been removed from the pallet when they are delivered to the x-ray room. If you need another copy of the packing list or if any of the packaging is damaged, call technical support. See *Technical Support* for contact information.

   Note: Sound Technologies, Inc. ships the components selected by the customer. For example, if multiple receptors are discussed in this manual, a customer may have chosen only one of them for their site.

2. Open each box and check the components for damage.

   Don't discard any packaging, and leave all electronic components in their original antistatic bags and foam cushioning until they are ready to be installed.

   Do not proceed if any components or cables are missing or damaged. If anything in the x-ray system appears to be damaged, contact *Technical Support* immediately.

3. Check cable connectors for bent or damaged pins.

4. Allow equipment to acclimatize appropriately.

   Flat panel detectors are sensitive and often require special handling including extensive acclimatization times. Review the information about the detector in the pertinent chapter of this manual and the documentation that accompanies the detector.

What to do next

After installation, take extra precautions to verify the normal operation of the configuration used at the site.

Mechanical Safety

Use only cabling and mounting hardware included with the x-ray system. Do not install x-ray system components with hardware, such as extensions, shelves, or brackets, obtained from retail or other third-party sources.

Where the display monitor is to be mounted to a mobile surface or structure, such as a wheeled cart, wall-mounted armature, or overhead support, use only the mounting brackets provided or specifically approved by the manufacturer.

Verify that all signal and power cabling is appropriately secured. Provide sufficient strain relief to avoid damage due to unnecessary stress or movement of cabling. Ensure that securing mechanisms and structures are of sufficient strength to support the weight of cabling.

Cables must be routed such that they do not present trip or fall hazards to personnel or patients walking near the equipment. Do not route cabling across the floor in traffic areas such as hallways or doors.

Where wheeled devices are used, ensure that cabling on or near the floor is properly secured out of the path of wheels and is protected from crush damage where appropriate.

Ensure that all mounting and fastening hardware is tightened properly, and that all securing mechanisms on connectors and covers are properly latched.

Inspect all cabling, mounting, and securing mechanisms during each Preventive Maintenance (PM) cycle to ensure that electrical connections and other hardware do not become loose over time.

Some components of the x-ray system are of significant size and weight. Observe appropriate lifting and handling techniques when moving heavy equipment or components. Obtain assistance when necessary to avoid injury to persons or damage to equipment.

Electrical Safety

Electrical power sufficient to cause injury or death is present inside many of the x-ray system components whenever they are connected to AC power. Take appropriate safety precautions, use safety disconnects (such as fuses or breakers) wherever possible, and disconnect AC supply cables from components prior to removing covers for maintenance or service.

Caution: Internal power supplies contain capacitors that may remain charged for a period of time after the power source is removed. Before performing work inside any of the enclosures of x-ray system components, wait at least 60 seconds after removing the AC supply cable for complete discharge.

Alimentations internes contiennent des condensateurs qui peuvent rester chargés pour une période de temps après que la source d'alimentation est débranché. Avant d'effectuer tout travail à l'intérieur des enceintes de composants du système x -ray, attendez au moins 60 secondes après avoir retiré le câble d'alimentation CA pour une décharge complète.

Components inside enclosures of the x-ray system are sensitive to electrostatic discharge (ESD). Personnel servicing components of the x-ray system must take appropriate ESD prevention measures to minimize the risk of damage to system hardware.

Do not block or restrict airflow into or out of the computer or the enclosure around the detector, if applicable. Adequate air cooling is required to prevent overheating the components inside these enclosures.

Apply measures to prevent liquids, particularly toxic or hazardous fluids, from coming into contact with the x-ray system components and equipment. When cleaning the x-ray system equipment, do not spray or pour fluid directly onto equipment surfaces. Use a soft cloth, dampened lightly with a cleaning solution, and gently wipe system components.

When electrical components must be replaced, use only components that are appropriately rated for the application. Replace fuses, switches, or connectors only with components of the same type and rating as the original equipment.

To avoid electric shock, the x-ray system must be powered from an AC supply circuit that includes an adequate earth ground. Connect the x-ray system components only to receptacles labeled or marked as medical grade.

Warning: The x-ray system and its components are designed to be connected to a properly grounded AC supply sufficient to support system operation. Using power strips or other multiple-socket outlets that are not specifically approved for use with the x-ray system may compromise safety grounding or present other power-related safety hazards. When a power strip must be used to provide power to any component of the x-ray system, refer to the IEC60601-1 standard for guidance in selecting a power strip of appropriate type and rating.

Le système à rayons X et de ses composants sont conçus pour être relié à une alimentation CA mise à terre suffisante pour soutenir le fonctionnement du système. En utilisant des bandes de puissance ou d'autres points de vente multi-socket qui ne sont pas spécifiquement approuvés pour une utilisation avec le système x -ray peut compromettre la terre de sécurité ou présentent d'autres risques de sécurité liés à l'alimentation. Quand une bande de puissance doit être utilisé pour fournir de l'énergie à tout composant du système x-ray, reportez-vous à la norme CEI 60601-1 pour les guider dans la sélection d'une bande de puissance de type et le calibre approprié.

All components of the x-ray system must be powered off before connecting any cables.

All electrical and grounding connections to the x-ray system must be inspected during each preventive maintenance (PM) cycle. Replace or repair faulty connections prior to returning the system to service. Failure to adequately ensure safety grounding may result in injury to users or patients, or fire or other damage to equipment.

Software Safety and Use

Do not install any software that is not explicitly approved by Sound Technologies, Inc.. Unauthorized software may disrupt the processes or resources required by the x-ray system software and result in abnormal system operation.

Do not add or remove any component of the host operating system unless specifically directed to do so by Sound Technologies, Inc.. Note that Windows Updates have been known to change behaviors of the operating system and should be installed or removed only at the explicit direction of Sound Technologies, Inc..

Perform system calibration using only the processes prescribed in this manual. Any other calibration method may result in abnormal system operation or poor image quality.

After the system is operational, only properly trained and authorized personnel can access patient records on the system.

Information about operating the x-ray system is located in the *User Manual*. In addition, Sound Technologies, Inc. provides training for operators and service technicians to help them properly operate the system and obtain acceptable image quality.

Operator Safety

Only authorized and trained personnel may access patient records stored on the x-ray system or use the x-ray system for clinical imaging of patients. Proper operation and care are critical to maintaining system performance and optimal image quality. On-site training is available and may be scheduled by contacting Sound Technologies, Inc..

The x-ray system must not be powered up or used in the presence of a flammable or explosive atmosphere, including certain gases used for anesthesia. Electric motors and other electrical equipment within or related to the x-ray system can ignite flammable or explosive gases or vapors, resulting in injury, death, or damage. Consult the site documentation or personnel to determine the presence of and hazards posed by gases in the vicinity of the x-ray system. Observe all cautions and warnings in this manual and in the User Manual. Failure to abide by the instructions and precautions provided in this manual may result in unnecessary risk to patients, users, or equipment.

The x-ray system must be installed and operated such that no direct patient contact with any part of the system is possible.

Do not attempt to perform service or troubleshooting on the x-ray system in the presence of patients or unauthorized personnel. Do not remove protective covers or otherwise disable safety devices while in the presence of patients.

The x-ray system is designed for use in conjunction with equipment that generates ionizing x-ray radiation. Observe appropriate precautions and wear protective equipment when the x-ray equipment is in use.

Do not bypass or otherwise disable safety mechanisms provided by the x-ray generator. Take all available and appropriate measures to pent unnecessary or unintentional radiation exposure.

Observe all cautions and warnings in this manual and in the *User Manual*. Failure to abide by the instructions and precautions provided in this manual may result in unnecessary risk to patients, users, or equipment.

Service Safety

Only trained personnel are authorized to service or maintain the x-ray system and related equipment. Failure to obtain training prior to servicing the x-ray system may result in support charges, voiding of product warranty, abnormal system behavior, or any of a number of potential risks to the safety of patients, users, or service engineers. Contact the manufacturer to arrange for appropriate training prior to servicing or maintaining the x-ray system.

The x-ray system must not be powered up or used in the presence of a flammable or explosive atmosphere, including certain gases used for anesthesia. Electric motors and other electrical equipment within or related to the x-ray system can ignite flammable or explosive gases or vapors, resulting in injury, death, or damage. Consult site documentation or personnel to determine the presence of and hazards posed by gases in the vicinity of the x-ray system.

Do not attempt to perform service or troubleshooting on the x-ray system in the presence of patients or unauthorized personnel. Do not remove protective covers or otherwise disable safety devices while in the presence of patients.

The x-ray system is designed for use in conjunction with equipment that generates ionizing x-ray radiation. Observe appropriate precautions and wear protective equipment when the x-ray equipment is in use.

Do not bypass or otherwise disable safety mechanisms provided by the x-ray generator. Take all available and appropriate measures to pent unnecessary or unintentional radiation exposure.

Some components of the x-ray system are of significant size and weight. Observe appropriate lifting and handling techniques when moving heavy equipment or components. Obtain assistance when necessary to avoid injury to persons or damage to equipment.

Some components of the x-ray system may have sharp edges by design, or may develop sharp edges due to impact or other improper handling. Use caution and wear appropriate protective equipment when handling any component of the system.

Take appropriate measures to pent the spilling of liquids or bodily fluids on or into the components of the x-ray system.

Observe all cautions and warnings in this manual. Failure to abide by the instructions and precautions provided may result in unnecessary risk to patients, users, or equipment.

Environmental Safety

All components of the x-ray system must be stored, transported, installed, and operated in accordance with the environmental conditions provided in this manual.

The x-ray system is designed for use in conjunction with equipment that generates x-ray radiation. Observe appropriate precautions and wear protective equipment when the x-ray equipment is in use.

Take appropriate measures to pent the spilling of liquids or bodily fluids on or into the components of the x-ray system.

Do not block or restrict the airflow into or out of the computer, the detector control unit (CP2), or the enclosure around the detector, if applicable. Adequate air cooling is required to pent overheating of the components inside these enclosures.

The x-ray system must not be powered up or used in the presence of a flammable or explosive atmosphere, including certain gases used for anesthesia. Electric motors and other electrical equipment within or related to the x-ray system can ignite flammable or explosive gases or vapors, resulting in injury, death, or damage. Consult the site documentation or personnel to determine the presence of and hazards posed by gases in the vicinity of the x-ray system. Observe all cautions and warnings in this manual and in the User Manual. Failure to abide by the instructions and precautions provided in this manual may result in unnecessary risk to patients, users, or equipment.

Transport, store, and operate the electronic components of the x-ray system within recommended parameters.

Table 33: Environmental parameters for transportation storage, and operation of computer and peripherals

Action	Temperature	Humidity	Air pressure
Transportation and storage	-4 – 131ºF (-20 – 55ºC)	10 – 95% noncondensing	700 hPa – 1060 hPa (10 – 5 lb/in2, 0.7 – 1.0 atm)
Operation	50 – 90ºF (10 – 32Cº)	30 – 75% non-condensing	700 hPa – 1060 hPa (10 – 15 lb/in2, 0.7 - 1.0 atm)

At the end of service life of any component of the x-ray system, dispose of the component safely and in accordance with local regulations for the disposal of electronic components.

Licensing

This application is a collection of several special functions. In the unlikely event that the license for one of the functions is unavailable, the software alerts you. The alert asks if you want to enter a license key, ignore the matter for this instance, or ignore always.

We recommend that you notify a supervisor who has the authority to contact Sound Technologies, Inc. so that the pertinent licenses can be secured to provide you with the full functionality of the product.

Warranty

Any of the following actions voids the manufacturer's warranty:

- Modification, abuse, misuse, or operation of NEXT EQUINE DR®'s equipment at ambient temperatures below 50ºF or above 90ºF (10ºC, 32Cº) or at other abnormal conditions. Ambient operating temperature for the isolation transformer, if used, is 32–113ºF (0–45ºC). Consult later chapters in this manual or other manufacturers' documents for operating conditions of imaging devices.
- Use of any software other than that supplied or approved by seller
- Use of supplied software and hardware outside seller's or FDA, CSA, and VDE guidelines or applicable standards
- Misuse, negligence, or accident or unauthorized repair or alteration of the product
- Use for purposes for which the product was not designed.

Warning: Make no attempt to connect any other equipment or parts to the NEXT EQUINE DR® system without authorization by the seller.

Faire aucune tentative pour connecter d'autres équipements ou de pièces de NEXT EQUINE DR® système sans autorisation par le vendeur.

Safety

Apply the directions in this chapter precisely to avoid damage to the x-ray system or its components, yourself, or others; loss of data; or corruption of files. Sound Technologies, Inc. assumes no liability for failure to comply.

Caution: Federal law restricts this device to sale by or on the order of a licensed veterinarian.

La loi fédérale restreint vente de cet appareil par ou sur l'ordre d'un vétérinaire agréé.

Warning: Connect only items that have been specified as part of the x-ray system or that have been specified as being compatible with the imaging system.

Connectez uniquement les éléments qui ont été spécifiés dans le cadre du système Sound Technologies, Inc. ou qui ont été compatibles avec le système d'imagerie.

All parts of the x-ray system are suitable for use within patient environment. However, in a typical clinical installation, the host PC and the primary monitor of the system are installed outside the patient exam room, which can be more than 6 ft (2 m) away from the patient. The other parts of the system are sometimes placed within 6 ft (2 m) of the patient.

Warning: Make no attempt to connect any other equipment or parts to the x-ray system without authorization by the seller.

Faire aucune tentative pour raccorder tout autre appareil ou des parties du système Sound Technologies, Inc. sans autorisation par le vendeur.

Environmental safety

All components of the x-ray system must be stored, transported, installed, and operated in accordance with the environmental conditions provided in this manual.

- At the end of its useful life, this equipment and its accessories must be disposed of safely and in accordance with government regulations.
- Be aware that disposed electronics release materials such as lead, mercury, or cadmium into the soil, ground water, and atmosphere, thus having a negative impact on the environment.
- Follow procedures with regard to electromagnetic compatibility.

General safety

Transport, store, and operate the electronic components of the x-ray system within recommended parameters.

Table 34: Environmental parameters for transportation, storage, and operation of computer and peripherals

Action	Temperature	Humidity	Air pressure
Transportation and storage	-4 – 131ºF (-20 – 55ºC)	10 – 95% noncondensing	700 hPa – 1060 hPa (10 – 5 lb/in2, 0.7 – 1.0 atm)
Operation	50 – 90ºF (10 – 32Cº)	30 – 75% noncondensing	700 hPa – 1060 hPa (10 – 15 lb/in2, 0.7 - 1.0 atm)

Chapter

3

Installing the NEXT EQUINE DR® X-ray System

Contents

This chapter provides the information that you need to install the NEXT EQUINE DR® x-ray system.

Tools Needed for Installation

The following basic tools are needed for installing the x-ray system:

Digital volt-ohm meter (20,000 Ω/V)	Basic hand tools including screwdrivers
Dosimeter	ESD wrist strap. Must be able to read uR per exposure.
X-ray phantoms	Calibration filter supplied with panel or with the x-ray system.

Charging the System Components

System components that use batteries are usually shipped with a minimal charge for equipment and personnel safety reasons. Charge these components before system use.

Procedure

1. Connect the AC-DC adaptor to the DC input on the tablet and to the power source. You can operate the tablet while it charges. See *DT340T controls, indicators, and connectors* on page 6 for more information.
2. Charge the panel battery.
    - See *Charging the PaxScan 2530W panel battery* on page 48.
    - See *Charging PaxScan 4336Wv4 detector batteries* on page 48.

Charging the PaxScan 2530W panel battery

Procedure

1. Place the battery charger on a flat surface or mount it using the mounting hardware that accompanies it. Ensure that it is near a power source.
2. Remove the battery from the panel, and place it in the battery charger. See the topic, *Removing the Battery for the Panel* on page 54, for instructions.
3. Connect the charger's power cable to the charger, and plug the charger into the power source.

Charging PaxScan 4336Wv4 detector batteries

The PaxScan 4336Wv4 flat panel detector is powered up when you insert a charged battery into the battery compartment. Batteries are shipped in the locked mode. You must charge them fully before use.

Prerequisites

Review *PaxScan 4336Wv4 Battery Chargers* on page 19.

Note: The use of accessories, batteries, battery chargers, or cables other than those specified in this manual, with the exception of those sold or provided by the manufacturer as replacement parts for internal components, may result in increased emissions, decreased immunity, or abnormal system operation. Use only the equipment and accessories provided or specifically approved by the manufacturer.

About this task

Use the battery charger to charge the detector's lithium-ion battery. The charger comes with a power supply, which you connect to an AC power source. The charger accepts an input of 19V DC (2.1A max.) The charger produces an output of 16.8 V DC (1.4A max., +/- 1% and 10 Hz).

Warning: Do not remove the battery charger cover. The battery charger contains no user-serviceable parts.

Warning: Ne retirez pas le couvercle du chargeur de batterie. Le chargeur de batterie ne contient aucune pièce réparable par l'utilisateur.

Warning: Do not use battery charger in an operating room or other oxygen rich environment. Do not use in conjunction with flammable agents. Do not use in an environment with condensing moisture.

Warning: Ne pas utiliser le chargeur de batterie dans une salle d'opération ou un autre environnement riche en oxygène. Ne pas utiliser en conjonction avec des agents inflammables. Ne pas utiliser dans un environnement à condensation d'humidité.

Caution: Do not use blowing liquid or immersion on the receptor, battery, battery compartment, or battery charger. Do not sterilize.

Caution: Ne pas utiliser de liquide de soufflage ou d'immersion sur le récepteur, la batterie, le compartiment des piles ou le chargeur de batterie. Ne pas stériliser.

Caution: Do not attempt to insert objects other than the battery into the charger bay.

Caution: N'essayez pas d'insérer des objets autres que la batterie dans la baie du chargeur.

Caution: Use the battery charger only with the supplied power supply and power cord.

Caution: N'utilisez le chargeur de batterie qu'avec l'alimentation et le cordon d'alimentation fournis.

Caution: Use only batteries in the battery charger and receptor. The systems are not designed to work with other battery types or designs.

Caution: N'utilisez que des piles dans le chargeur et le récepteur de la batterie. Les systèmes ne sont pas conçus pour fonctionner avec d'autres types ou conceptions de batterie.

Caution: Do not use batteries that display fault during the charging process. Contact technical support with the status indicator information.

Caution: N'utilisez pas de piles qui affichent des défauts pendant le processus de charge. Contactez le support technique avec les informations d'indicateur d'État.

Procedure

1. Connect the battery charger to its power source.
2. Insert the battery into the charging slot.

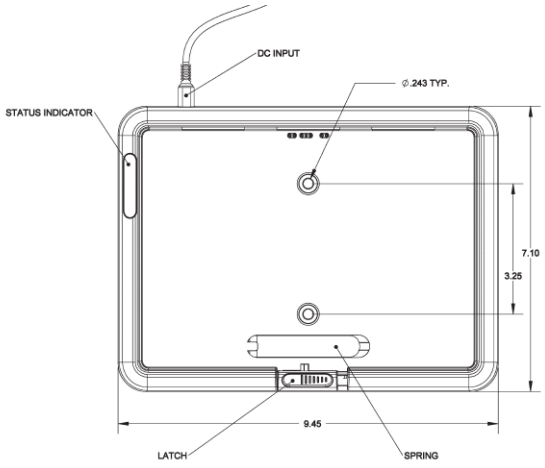
   The battery is keyed to the charger for easy installation.
3. Monitor the charger's status indicator during the charging process.

   When all four green LEDs are on continuously and the red LED is off, the battery is fully charged.

   The charging process requires 2.5 to 3.5 hours.

Charge the battery (single bay charger)

Follow this procedure to charge the Varex batteries with a Varex single-bay charger.



Procedure

1. Insert the battery into the battery compartment of the charger. The battery compartment is mechanically keyed for easy installation.

2. Monitor the LED status indicators to track the charging process. The battery is fully charged when all four green LEDs are continuously illuminated and the red LED is off. The battery retains its full charge whether you remove it or leave it in the charger. Charging usually requires between 2.5 and 3.5 hours.

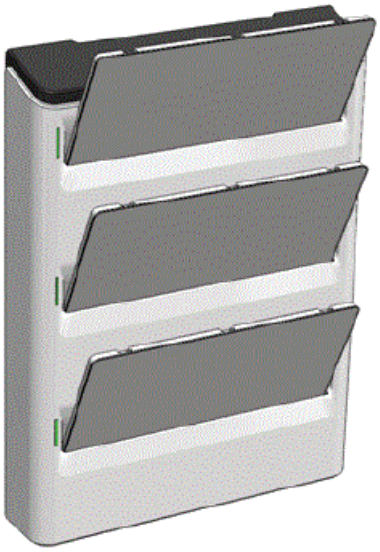
3. When lit, the red LED indicates a fault in the charging process. Do not use the battery if the red LED displays during the charging process. The figure below provides information about the status indicators. Contact technical support for help with status indicators.

Description	Green LEDs	Red LED	Example
Battery Charging Normally – up to 25%	1 – On – Blinking 2 – Off 3 – Off 4 – Off	Off	
Battery Charging Normally – 26% to 50%	1 – On – Continuously 2 – On – Blinking 3 – Off 4 – Off	Off	
Battery Charging Normally – 51% to 75%	1 – On – Continuously 2 – On – Continuously 3 – On – Blinking 4 – Off	Off	
Battery Charging Normally – 76% to 99%	1 – On – Continuously 2 – On – Continuously 3 – On – Continuously 4 – On – Blinking	Off	
Battery Charging Normally – Fully Charged	1 – On – Continuously 2 – On – Continuously 3 – On – Continuously 4 – On – Continuously	Off	
Fault – No Charge Current accepted or Battery Voltage too high	1 – On – Blinking 2 – Off 3 – Off 4 – Off	On	
Fault – Battery Over-discharged cannot wakeup in less than 210 seconds	1 – On – Blinking 2 – On – Blinking 3 – Off 4 – Off	On	
Fault – Battery exceeds allowable charge time	1 – On – Blinking 2 – On – Blinking 3 – On – Blinking 4 – Off	On	
Fault – Battery ID does not match V4336W or non-recoverable over-discharged battery	1 – On – Blinking 2 – On – Blinking 3 – On – Blinking 4 – On – Blinking	On	
Fault – Battery Temperature either too high or too low	1 – Off 2 – Off 3 – Off 4 – Off	On	
Fault – SMBus between the charger and battery is not operating properly	1 – On – Blinking 2 – Off 3 – On – Blinking 4 – Off	On	
Fault – Battery Permanent Fault	1 – Off 2 – On – Blinking 3 – Off 4 – On – Blinking	On	

Do not use the battery if a fault indication displays.

Charge the battery (3-bay charger)

Follow this procedure to charge the Varex batteries with a Varex 3-bay charger.



Procedure

1. Hold the battery on the opposite the contacts, with the contacts facing the charger.
2. Gently slide the battery into the battery compartment of the charger. When inserted correctly, the light next to the slot displays the charge status of the battery: orange indicates charging, green indicates charge complete, and red indicates a charging fault.

   Do not use the battery if a fault indication displays.

Installing the PaxScan 2530W Panel

The PaxScan 2530W panel is a lightweight, wireless, and portable x-ray panel.

Procedure

1. Remove the panel from the carrying case. See the topic, *Removing the Panel from the Carrying Case*, for instructions.
2. Optional: Remove the battery charger from the carrying case. See the topic, *Optional. Removing the panel battery charger from the carrying case*, for instructions.
3. Optional: Remove the battery for the panel. See the topic, *Removing the Battery for the Panel* on page 54, for instructions.
4. Optional: Re-install the battery into the panel. See the topic, *Installing the Battery for the Panel* on page 55, for instructions.

Removing the Battery for the Panel

When the battery for the PaxScan 2530W panel needs to be recharged or replaced, you must remove it from the panel.

About this task

Procedure:

To remove the battery from the PaxScan 2530W panel, complete the following steps:

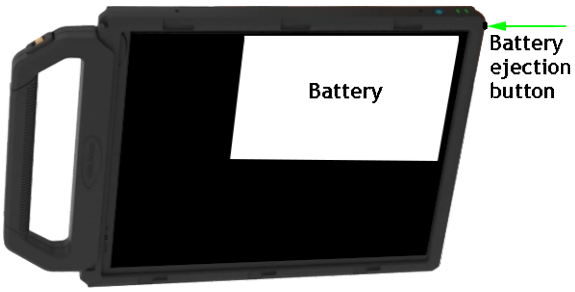
Procedure

1. Turn the detector over, so the bottom is facing up.

Figure 20: PaxScan 2530W battery

2. The battery ejection button is located on the corner of the panel closest to the battery. Press the button to eject the battery.

Figure 21: PaxScan 2530W battery ejection button



3. Lift the battery out of the panel.

Installing the Battery for the Panel

The PaxScan 2530W panel is battery powered, and has space in the panel and PC carrying case for a spare battery.

About this task

The battery can be charged when inserted into the battery changer, both in the panel and PC carrying case or outside of the carrying case. A fully charged battery provides enough power for the panel to stay powered on and asleep (no acquisitions) for 10 hours or more.

Note: Do not install a battery shipped with the PaxScan 4336Wv4 panel in the PaxScan 2530W panel.

Procedure:

To install the battery for the PaxScan 2530W panel:

Procedure

1. Turn the x-ray panel over, so the battery compartment is facing up.
2. If there is a battery in the compartment already, remove it.
   See *Removing the Battery for the Panel* on page 54.
3. Insert the battery into the battery compartment, making sure to align the contacts on the battery with the contacts in the battery compartment.

Installing the PaxScan 4336Wv4 Panel

The PaxScan 4336Wv4 flat panel detector is a wireless detector with a wireless access point to facilitate communication between the detector subsystem and the imaging subsystem.

Procedure

1. If needed, charge a panel battery. See *Charging PaxScan 4336Wv4 detector batteries* on page 48.

2. Remove the existing battery, if it requires charging. See *Removing PaxScan 4336Wv4 batteries* on page 56.
3. Insert a charged battery into the panel's battery compartment. See *Installing PaxScan 4336Wv4 batteries* on page 57.

Removing PaxScan 4336Wv4 batteries

About this task

The PaxScan 4336Wv4 wireless detector is powered up when you insert a charged battery into the battery compartment. Batteries are shipped in the locked mode. You must charge them fully before use.

Note: The use of accessories, batteries, battery chargers, or cables other than those specified in this manual, with the exception of those sold or provided by the manufacturer as replacement parts for internal components, may result in increased emissions, decreased immunity, or abnormal system operation. Use only the equipment and accessories provided or specifically approved by the manufacturer.

Caution: Handle the detector with care. Dropping the detector or batteries may damage them. When changing batteries, place the detector on a sturdy, flat surface to prevent the detector and battery from falling to the floor. Install the batteries following the instructions provided below.

Caution: Manipulez le détecteur avec précaution. La chute du détecteur ou des piles peut les endommager. Lorsque vous changez de pile, placez le détecteur sur une surface plane et solide pour éviter que le détecteur et la batterie ne tombent au sol. Installez les piles en suivant les instructions fournies ci-dessous.

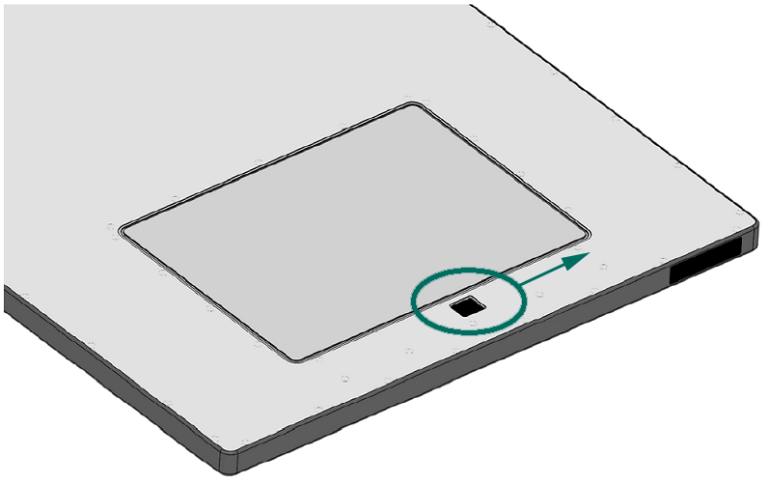
Detector batteries must be removed for recharging.

Procedure

1. Place the detector on a sturdy, flat surface.

2. Slide the battery latch to the side, which lifts out one side of the battery.

Figure 22: Battery latch on 4336Wv4 panel detector



3. Lift out and remove the battery.

Installing PaxScan 4336Wv4 batteries

The PaxScan 4336Wv4 detector battery must be charged upon receipt of the detector and installed before the detector can be connected to and configured on the system.

Procedure

1. Insert a charged battery at a slight angle so that the side with contacts sits over the adjoining contacts in the battery compartment.

   Note: The use of accessories, batteries, battery chargers, or cables other than those specified in this manual, with the exception of those sold or provided by the manufacturer as replacement parts for internal components, may result in increased emissions, decreased immunity, or abnormal system operation. Use only the equipment and accessories provided or specifically approved by the manufacturer.

Figure 23: Insert detector battery

2. Press down on the lifted side of the battery, snapping it into place in the compartment.
   The panel automatically powers up after the battery is installed.
3. Allow up to 90 seconds for the detector to initialize and connect to the wireless network.

   Note: The PC must be powered on in order to see that the detector is connected to the network.

4. Complete one of the following actions:

   - If the computer is powered up and the NEXT EQUINE DR® application is open, restart the application.
   - If the computer is powered off, power it on, log in, and ensure the NEXT EQUINE DR® application is opened.

Connecting the Tablet (DT340T) to the Optional Peripherals, and Ethernet

The DT340T tablet comes with an accessory package that contains a foldable Bluetooth keyboard and a Bluetooth mouse. These peripherals are paired with the tablet at the factory prior to shipment.

Procedure

1. Stand the tablet on the work surface, and support the tablet by extending the integrated stand on the back of the tablet.

2. When received, the tablet may need to be charged. To charge the table, plug the tablet power supply into the tablet's charging port and then plug the other end into an outlet.

   The charging port can be found on the right-hand side of the tablet under the cover.

3. Power on the tablet.

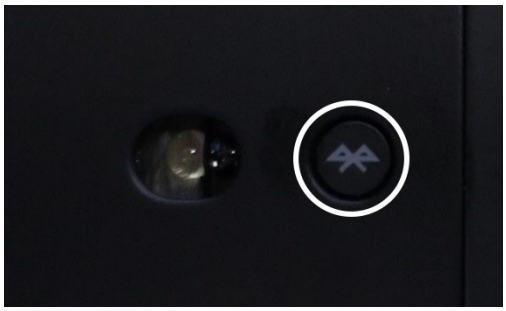
   The power button is located on the side of the tablet.

4. Unfold the Bluetooth keyboard.

   The keyboard powers on automatically and pairs with the tablet. The keyboard has an internal battery that can be charged via micro-USB.

5. On the underside of the mouse, press the Bluetooth button to turn the mouse on.

   A light on the topside of the mouse is illuminated and the mouse pairs with the tablet.



6. Connect the Ethernet cable to the Ethernet port on the tablet and the other end to the network drop for the site.

   The Ethernet port is on the left-hand edge of the tablet under the cover.

Non-integrated X-ray Generator

This x-ray system works with a non-integrated x-ray generator.

The generator connects to the system via wireless communication. The generator must be configured using the generator software on the unit itself. See the documentation that came with the x-ray generator for detailed instructions on configuration.

Use the **Management** window to configure the PREP delay interval.

Power-up the System

After you have connected all of the system components, you can power-up the system and verify the connections.

About this task

Danger: The x-ray system must not be powered up or used in the presence of a flammable or explosive atmosphere, including certain gases used for anesthesia. Electric motors and other electrical equipment within or related to the x-ray system can ignite flammable or explosive gases or vapors, resulting in injury, death, or damage. Consult the site documentation or personnel to determine the presence of and hazards posed by gases in the vicinity of the x-ray system. Observe all cautions and warnings in this manual and in the User Manual. Failure to abide by the instructions and precautions provided in this manual may result in unnecessary risk to patients, users, or equipment.

Le système à rayons X ne doit pas être mis sous tension ou utilisé en présence d'une atmosphère inflammable ou explosive, y compris certains gaz utilisés pour l'anesthésie.Les moteurs électriques et autres équipements électriques dans ou liés au système à rayons X peuvent enflammer des gaz ou des vapeurs inflammables ou explosifs, entraînant des blessures, la mort ou des dommages.Consulter la documentation du site ou le personnel pour déterminer la présence et les dangers des gaz à proximité du système à rayons X.Respectez toutes les mises en garde et les avertissements de ce manuel et du manuel de l'utilisateur.Le non-respect des instructions et des précautions fournies dans ce manuel peut entraîner des risques inutiles pour les patients, les utilisateurs ou l'équipement.

Procedure

1. Verify that the PC, panel, and x-ray generator have sufficient battery power to remain active during the configuration process. If it is possible to plug in a component to power it, then you may do so.
2. Turn on the x-ray generator.
3. Turn on the PC, keyboard (if used), and mouse (if used).

   The power button is on the upper-right edge of the casing. The PC automatically logs in to the Sound account.
4. Turn on the panel.

   The power button is on the side of the casing.

   The system is now installed and ready for configuration.

Logging In to the Sound User Account

The Sound user account for the x-ray system is pre-configured at the manufacturing site, and the credentials are provided in this manual for reference purposes. When you start or restart the PC, the system logs into the Sound account automatically.

About this task

If you need to log in to the Windows Administrator account, you must switch users after the PC logs into the Sound account. See the topic, Logging into the Windows Administrator Account, for instructions. See the topic, Logging into the Windows Administrator Account in the *Service Manual*, for instructions.

Procedure

Power-on or restart the PC.

The PC automatically logs in to the Sound account and starts the NEXT EQUINE DR® software.

Logging in to the Windows Administrator Account

The Windows Administrator account provides full access to the operating system and is useful for some service-related tasks.

Procedure

1. If the PC is not already on, power it up. and allow it to log into the Sound account and start the software.
2. Press **Ctrl+Esc** to bring up the Windows taskbar.
3. Right-click the Windows **Start** button, and select **Shut down or sign out** > **Sign out**.
4. Select the **Administrator** account from the list of accounts.
5. In the password field, enter `password`.

   The password is case-sensitive. The PC logs in as the Windows Administrator.

Logging Out of the NEXT EQUINE DR® Software

Sometimes, in order to do maintenance on the PC using the Windows operating system, it is necessary to log off of the NEXT EQUINE DR® software without shutting down the PC.

About this task

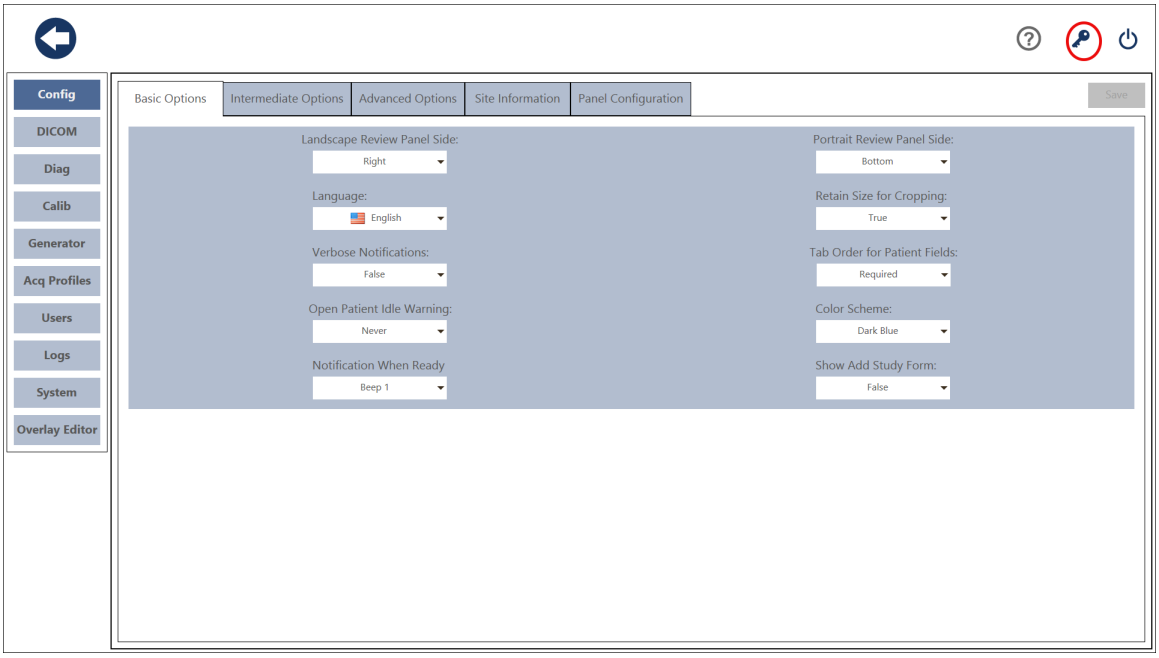
Note: If system updates are available, but have not been installed, you must complete this process twice to log off of the system.

Procedure

1. Select the **Advanced Options** tab, and select **False** in the **Log off admin on exit** drop-down list.
2. Select **Save** to save the change.

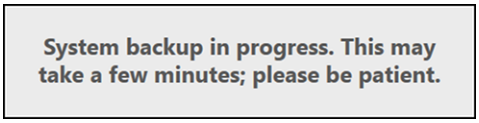
3. At the top of the **Management** screen, select the key icon.

Figure 24: Management Screen — Logging Off



4. At the prompt, select the check mark to log off the system.

The following message is displayed before the software closes to display the Windows desktop.



Shutting Down the PC

If desired, the PC can be shut down automatically on logging off of the PC.

About this task

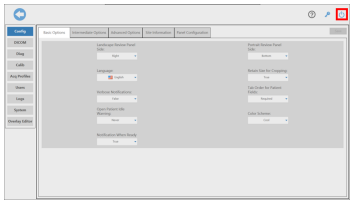
Note: If system updates are available, but have not been installed, you must complete this process twice to shut down the system.

Procedure

1. Display the **Management** screen. See the topic, *Displaying the Management screen* on page 68, for instructions.

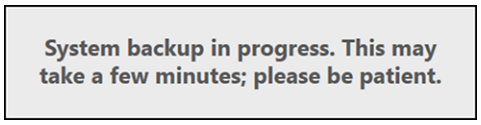
2. At the top of the **Management** screen, select the power icon.

Figure 25: Shutting Down the PC



3. At the prompt, select the check mark to shut down the system.

The following message is displayed before the software closes and the PC shuts down.



Connecting the X-ray Generator

There are no physical connections to the x-ray generator.

Procedure

Ensure that both the x-ray generator and the panel are on, and refer to the x-ray generator documentation.

Note: When you configure the x-ray generator, the exposure window must always be set to less than the panel integration window (1 second).

Installation Report Form

Important: Required. This installation report form, including acceptance testing, must be completed within 30 days of installing the system. Contact technical support for the correct mailing address for this form and any other questions you might have.

Enter NA if an item is not applicable.

Installation:	___New	___Reinstalled	___Used	Date: ___ / ___ / 20___
System serial number:				

Site information	Distributor information

Name	Name
Street	Street
City, State, Zip	City, State, Zip
Department administrator	Service engineer
Phone	Phone
Email	Email
Survey completed by (print)	
Signed	Date
Room configuration	
Bucky replacement	_____Chest stand _____Table
Positioner type	Make Model
High resolution monitor type	Make Model
Control station in:	_____Exam area _____Control area
Are all interface cables clearly labeled?	_____Yes _____No
Distance from tower PC to patient area	
Modem telephone number (if any)	

Detector setup	
Detector manufacturer and model	Wireless _____Yes _____No
Mfr and model of second panel (if any)	Wireless _____Yes _____No
X-ray generator	
Manufacturer	Model
Integrated with the x-ray system	Wireless _____Yes _____No

Chapter

4

Configuring the NEXT EQUINE DR® X-ray System

Contents

The x-ray system is configured in the **Management** screen of the software application. This chapter describes how to configure each part of the system.

Procedure

1. Open the **Management** screen. See the topic, *Displaying the Management screen* on page 68, for instructions.
2. Configure Basic Options. See the topic, *Configuring Basic Options* on page 69, for instructions.
3. Configure Intermediate Options. See the topic, *Configuring Intermediate Options* on page 73, for instructions.
4. Configure Advanced Options. See the topic, *Configuring Advanced Options* on page 77, for instructions.
5. Configure the panel. See the topic, *Configuring Panels* on page 82, for instructions.
6. Configure DICOM. See the topic, *DICOM Storage Devices* on page 97, for information.
7. Configure acquisition profiles. See the topic, *Configuring Acquisition Profiles* on page 109, for instructions.

   Note: For most sites, the default acquisition profiles are sufficient, and no configuration is required.
8. Manage users. See the topic, *Managing Users* on page 122, for instructions.
9. Configure logs. See the topic, *Log Files* on page 172, for information about log file options.
10. Customize overlays. See the topic, *Customizing Overlays* on page 133, for instructions.
11. Select system backup options. See the topic, *Backing Up NEXT EQUINE DR Data and Settings* on page 149, for instructions.

Configuring the X-ray Generator

The x-ray generator is configured at the generator console.

Procedure

Review the documentation that accompanies the x-ray generator for instructions on configuring the generator for use with the x-ray system.

Important: The x-ray generator exposure window must always be set to less than the panel integration window (1 second).

Displaying the Management screen

The x-ray system application is configured in the **Management** screen. Vet Techs and Vets have some access to the **Management** screen, but Sound users have full access.

Procedure

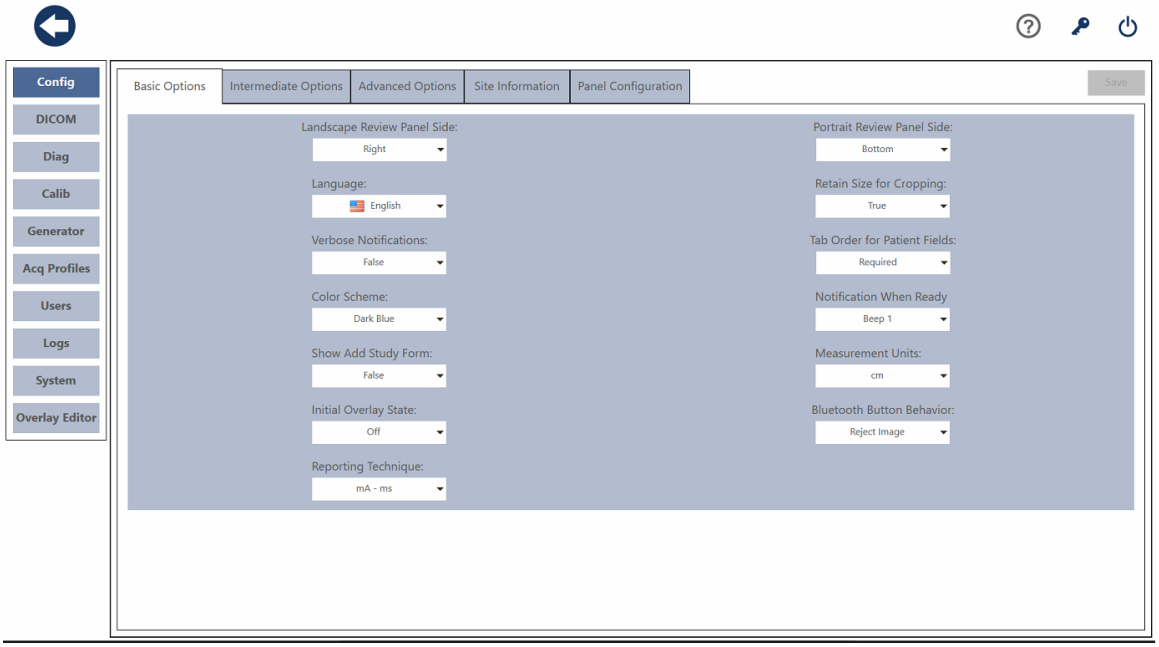
After the PC is powered up, it logs in to the Sound account and starts the software automatically. In the menu ribbon at the top of the **Clinical** screen, click the **Management** icon which is shaped like a gear: .

The following image shows where the icon is located at the top of the **Clinical** screen.

Figure 26: Location of Management icon

The Management screen opens, and you can complete your maintenance and configuration tasks. The user type that is logged into the system controls the tasks that you can perform.

Figure 27: Management screen



Configuring Basic Options

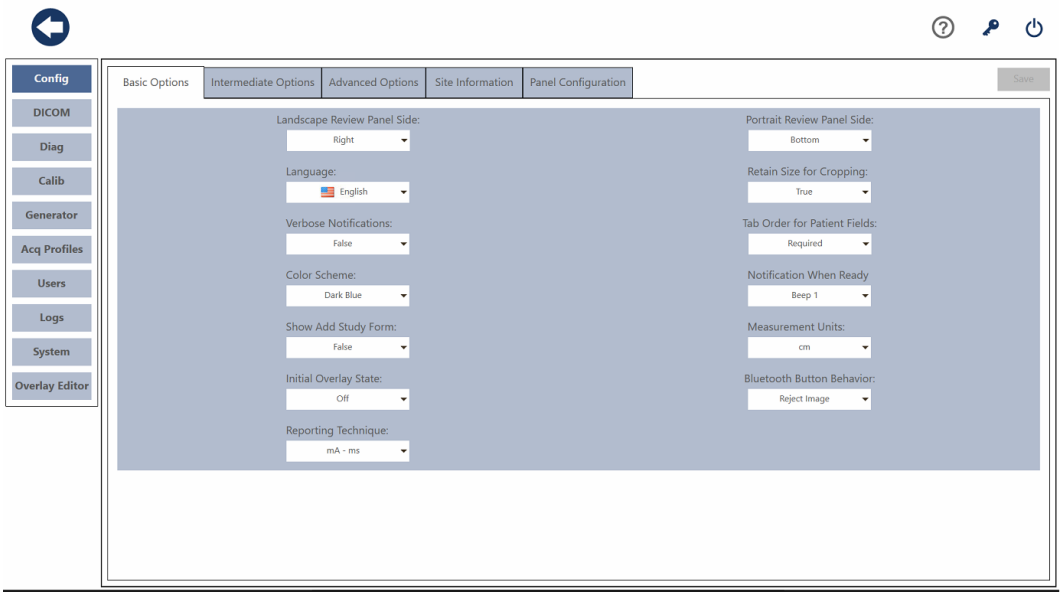
Configuring the System Options is the first step in configuring the x-ray system.

Procedure

1. Open the **Management** screen. See the topic, *Displaying the Management screen* on page 68, for instructions.
2. Configure the options as necessary for the site. See *Basic Options window* on page 70.
3. Click **Save**.

Basic Options window

Basic Configuration Options window



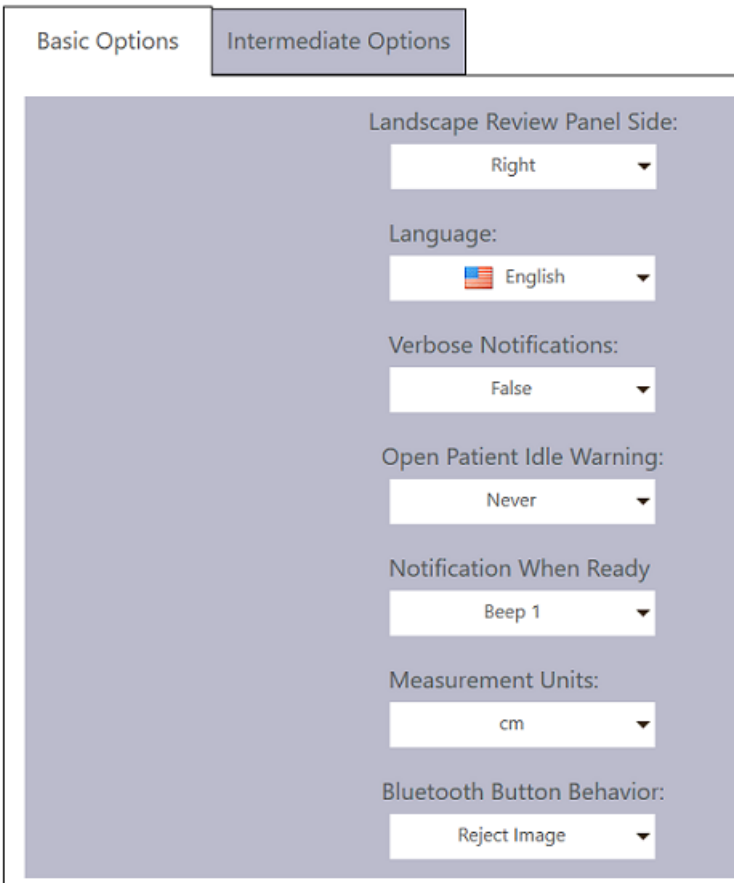


Table 35: Basic configuration options

Field	Details
Landscape Review Panel Side	Select Right or Left to determine the side of the screen that the Review panel is displayed on. Right is the default value.
Language	Select the language that the user interface will display. The default value is English. Other available languages include German, French, Italian, Portuguese, Spanish, Dutch, Chinese, and Russian.
Verbose Notifications	Select True to enable verbose system notifications. False is the default value.
Open Patient Idle Warning	When a patient has been open and idle for the selected amount of time (5, 10, or 20 minutes) a message warning the user about the battery is displayed. When this field is set to Never, no message is displayed regardless of how long a patient record is open and idle. Never is the default value.
Notification When Ready	Set this option to sound an audible tone when the panel is ready to acquire. Options are: None, Beep 1, Beep 2, Beep 3, Beep 4, and Beep 5.
Measurement Units	Set the units for measurements to millimeters (mm) or centimeters (cm).
Bluetooth Button Behavior	Options: Reject Image, Select Next Shot. Default value: Reject Image. When Reject Image is selected, the reject button behaves as it does in existing versions of the application on the acquisition screen. If Select Next Shot is selected, the button selects the next shot in the list. If the last shot is selected when the button is pressed, the first shot in the list becomes selected.

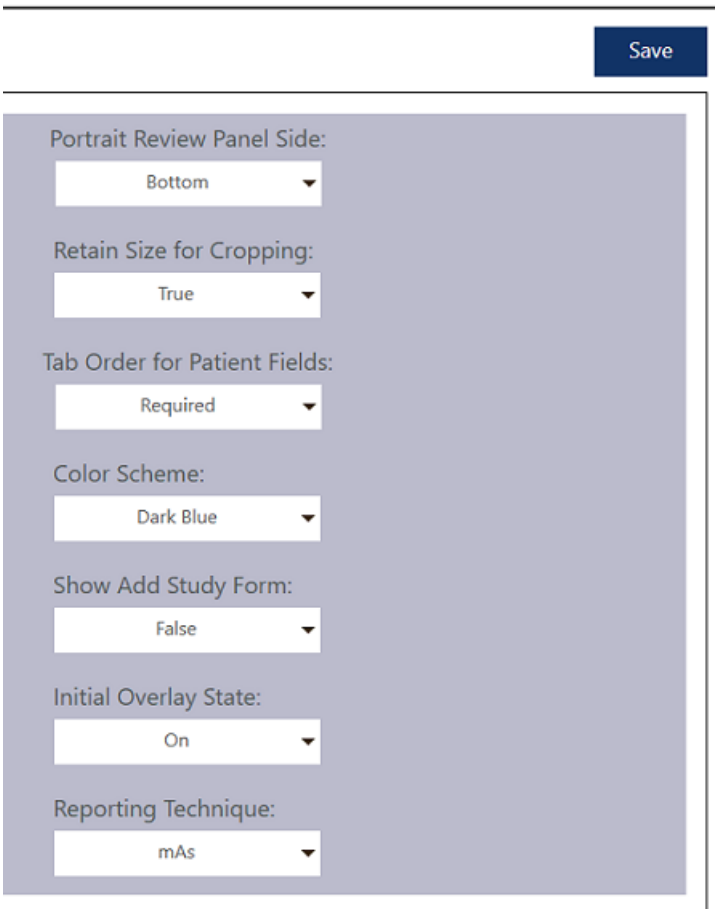


Table 36: Basic configuration options

Field	Details
Portrait Review Panel Side	Select Top or Bottom to determine which side of the monitor the Review panel is displayed on when the monitor is rotated for portrait display. Bottom is the default value.
Retain Size for Cropping	Select True to retain the display size of the anatomy in an image regardless of the ROI setting. Select False to allow the ROI setting to affect the size of the anatomy in the displayed image. True is the default value.
Tab Order for Patient Fields	When this option is set to Required, pressing the tab button will navigate through only the required fields in a screen. If it is set to All, pressing the tab button will navigate through all of the fields on a screen. Required is the default value.
Color Scheme	This option sets the color scheme for the software.
Show Add Study Form	Select True to display the Add Study form when you add a study for a patient. Select False to allow the system to skip this form and create another study containing the same settings as the previous study set for that patient.

Field	Details
Initial Overlay State	Determines whether the initial overlay state is On or Off. The On state indicates that the overlay will be displayed over images automatically in the Acqusition screen. The Off state indicates that the overlay is not displayed automatically.
Reporting Technique	This option determines whether technique is displayed as mAs or separated as mA and ms.

Configuring Intermediate Options

As part of the system configuration, you can configure intermediate options.

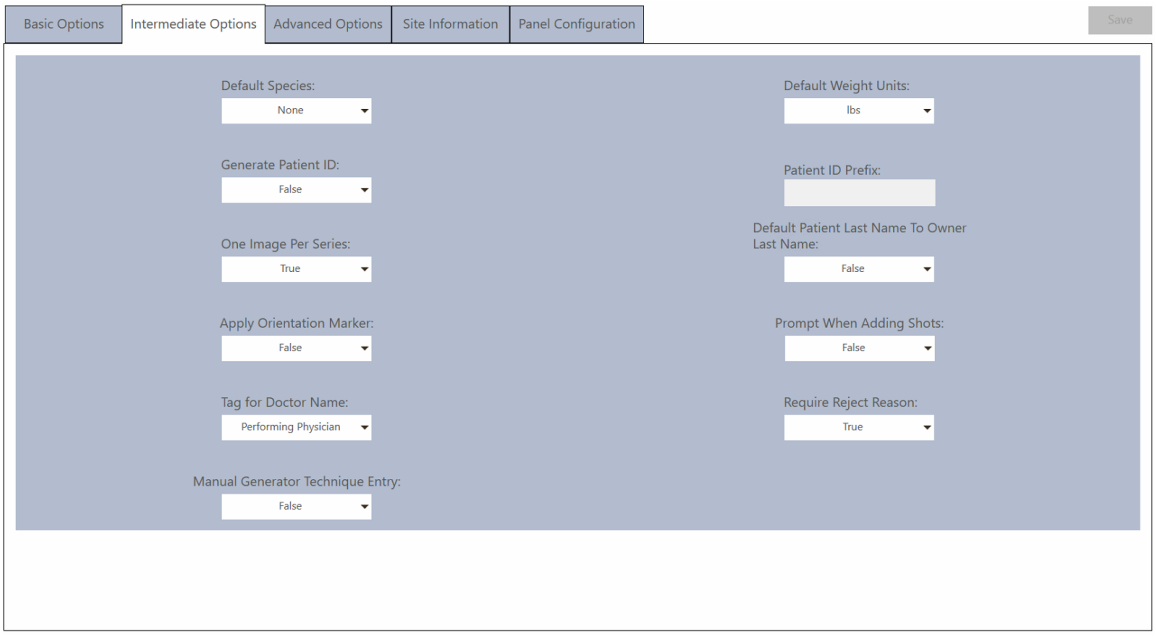
Procedure

1. Open the **Management** screen. *Displaying the Management screen* on page 68.
   The **Config** screen displays.
2. Select **Intermediate Options**. See *Intermediate Options window*.
3. Configure the options as desired, and click **Save**.

Intermediate Configuration Parameters

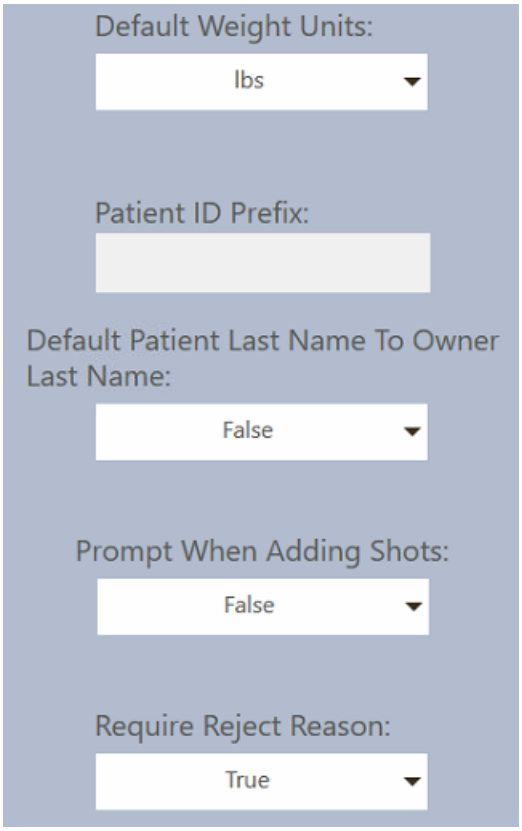
This section describes the parameters on the Intermediate Configuration screen.

Figure 28: Intermediate Options screen



Field	Details
Default Species	Select the default species for imaging. None is the default value.
Generate Patient ID	Selecting True in this field causes patient IDs to be automatically generated. The default value is False.
One Image Per Series	When this option is set to True, the system assigns each image a new series ID at acquisition.
Apply Orientation Marker	Set this value to True to automatically place an orientation marker in the upper left corner of the image. This marker indicates the orientation of the panel in the image. An "F" indicates that the number of flips applied is even. A "B" indicates that the number of flips applied is odd. The default value is False.
Tag for Doctor Name	Set the value for the Doctor Name tag to Performing Physician or Referring Physician.

Field	Details
Manual Generator Technique Entry	A value of False means technicians will not be required to manually enter generator techniques after each acquisition. A value of True means that technicians are required to enter generator techniques manually.



Field	Details
Default Weight Units	Select the default unit for patient weights. The options are pounds (lbs) and kilograms (kg). Pounds are the default value.
Patient ID Prefix	When Generate Patient ID is set to True, you can specify an alpha-numeric patient ID prefix of up to 10 characters in this field.
Default Patient Last Name to Owner Last Name	Set this option to True to populate the Patient Last Name field with the value in the Owner Last Name field. If the Patient Last Name field contains a value, the system leaves this value in place. Set this option to False to leave the Patient Last Name field empty if the Owner Last Name field contains no value.

Field	Details
Prompt When Adding Shots	Set this value to True to present a warning to users who enter the shotlist screen of a study that already contains images. This message warns the user that images added to the study at this time will reflect the original study date. From here, users can continue the operation or cancel and return to the previous screen. Options: True or False. Default: False.
Require Reject Reason	Set this value to True to require technicians to enter a reason for rejecting an image. Set this value to False to allow technicians to reject an image without entering a reason.

Configuring Advanced Options

As part of the system configuration, you can configure advanced options such as the COM port and I/O card.

Procedure

1. Open the **Management** screen. See the topic, *Displaying the Management screen* on page 68, for instructions.

   The **Config** screen displays.
2. Select **Advanced Options**. See *Advanced Options window* on page 78
3. Configure the fields as desired, and click **Save**.

Advanced Options window

Figure 29: Config screen — Advanced Options

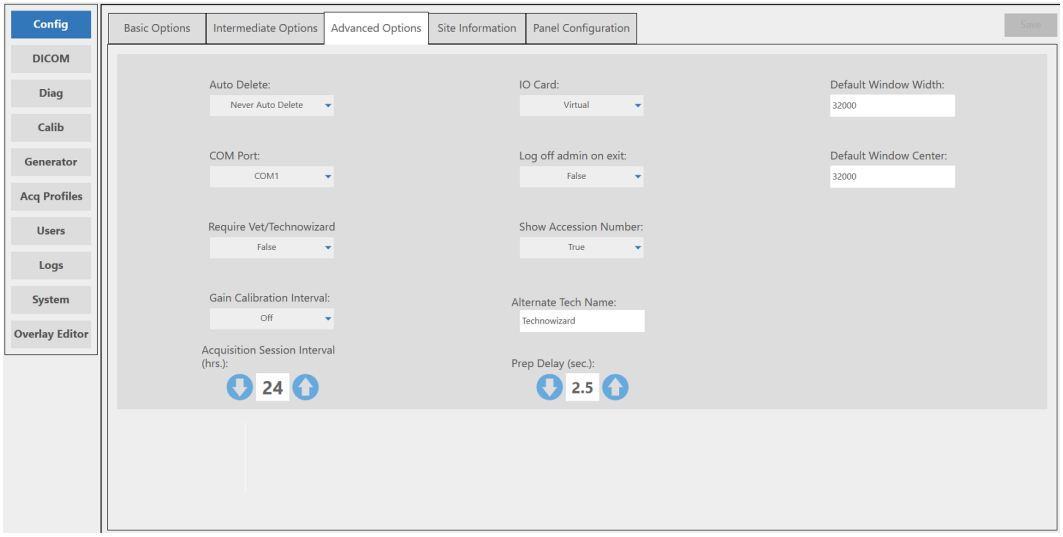


Figure 30: Advanced Configuration Options first column

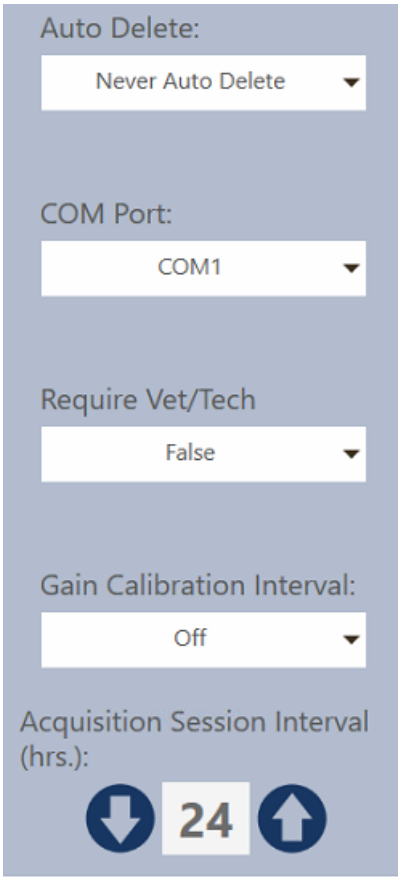


Table 37: Advanced Configuration Options first column

Field	Details
Auto Delete	Select the option that best fits the needs of the site. The options are Never Auto Delete, 50, 75, and 90. Never Auto Delete is the default value. Selecting any value other than Never Auto Delete causes patient records to be deleted when the percent of used hard disk space is greater than the value selected. The oldest patient records are deleted first and records are deleted until the percent of used disk space is less than the selected value. You can also specify that records older than the selected number of months should be automatically deleted. Selecting one of the date range options (3 months, 6 months, or 12 months) will cause the auto-delete function, which runs on logoff, to delete any patient record that is older than the number of months selected.
COM Port	Select the COM port that the system will use from the list of available ports. The default port is the lowest available port.
Require Vet/Tech Selection	Set this value to True to require the user to select a vet and/or tech before closing the study. Options: True or False. Default: False.
Gain Calibration Interval	Specify the gain calibration interval from one of these options: Off (calibration does not expire), Quarterly (calibration is valid for three months), Semi-annual (calibration is valid for six months), or Annual (calibration is valid for one year). The default value is Off.

Field	Details
Acquisition Session Interval (hrs.)	Specify the acquisition session interval in hours. When a shot is acquired into a study that already has a shot of the same anatomy, the new shot is placed into a new series if the interval between the first shot and the new shot exceeds the acquisition session interval.

Figure 31: Advanced Configuration Options second column

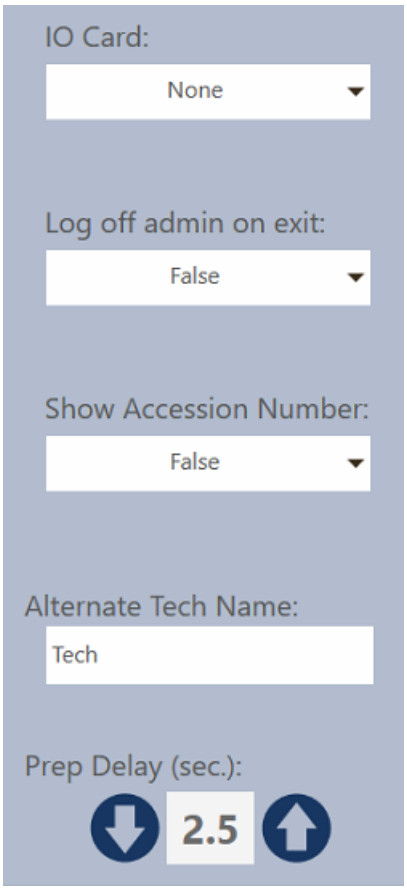


Table 38: Advanced Configuration Options second column

Field	Details
I/O Card	Select the I/O card that the system will use. The options are Virtual and Mark II. Mark II is the default.
Log off admin on exit	If True is selected, and the Sound user is logged in to the Window operating system, the Sound user is logged out automatically when the software client is closed. True is the default value. If False is selected, the Windows desktop is displayed when the software client is closed.

Field	Details
Show Accession Number	If set to True, the Accession Number field displays on Add Patient, Edit Patient, and Add Study screens. If set to false, this field does not appear on these screens.
Alternate Tech Name	Enter up to 12 characters to create an alternate technician name.
Gain Calibration Interval	Specify the gain calibration interval from one of these options: Off (calibration does not expire), Quarterly (calibration is valid for three months), Semi-annual (calibration is valid for six months), or Annual (calibration is valid for one year). The default value is Off.
Prep Delay (sec.)	The prep delay interval in seconds. The default setting is 2.5. The setting may be set to .5, 1, 1.5, 2, 2.5, 3, 3.5, or 4 seconds as needed by the site.

Figure 32: Advanced Configuration Options third column

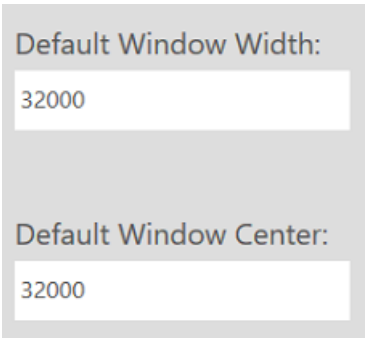


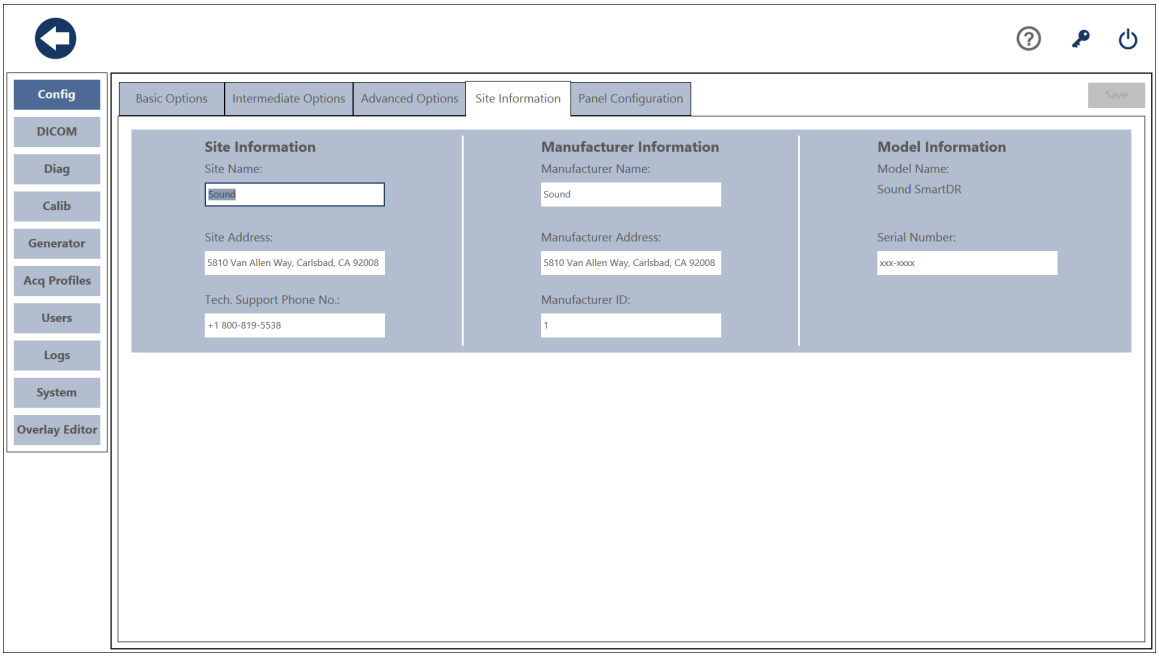
Table 39: Advanced Configuration Options second column

Field	Details
Default Window Width	Use this field to set the default window value for Musica.
Default Window Center	Use this field to set the default level value for Musica.

Site Information

The site information is preconfigured at the factory.

Figure 33: Site Information tab



Configuring Panels

This chapter describes how to configure the flat-panel detectors that are supported for use with this system.

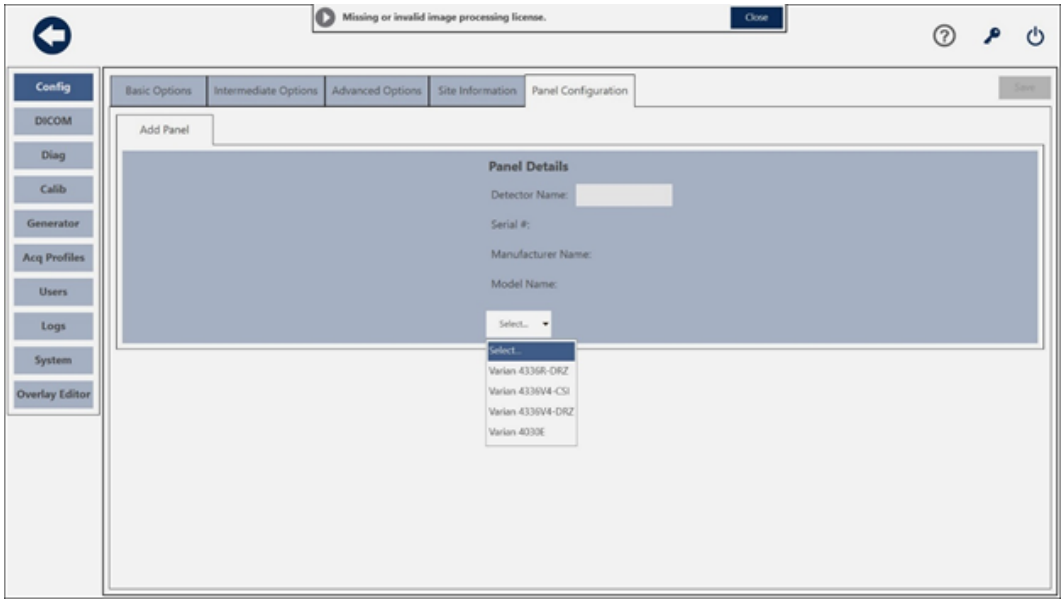
Procedure

1. Open the **Management** screen. See the topic, *Displaying the Management screen* on page 68, for instructions.

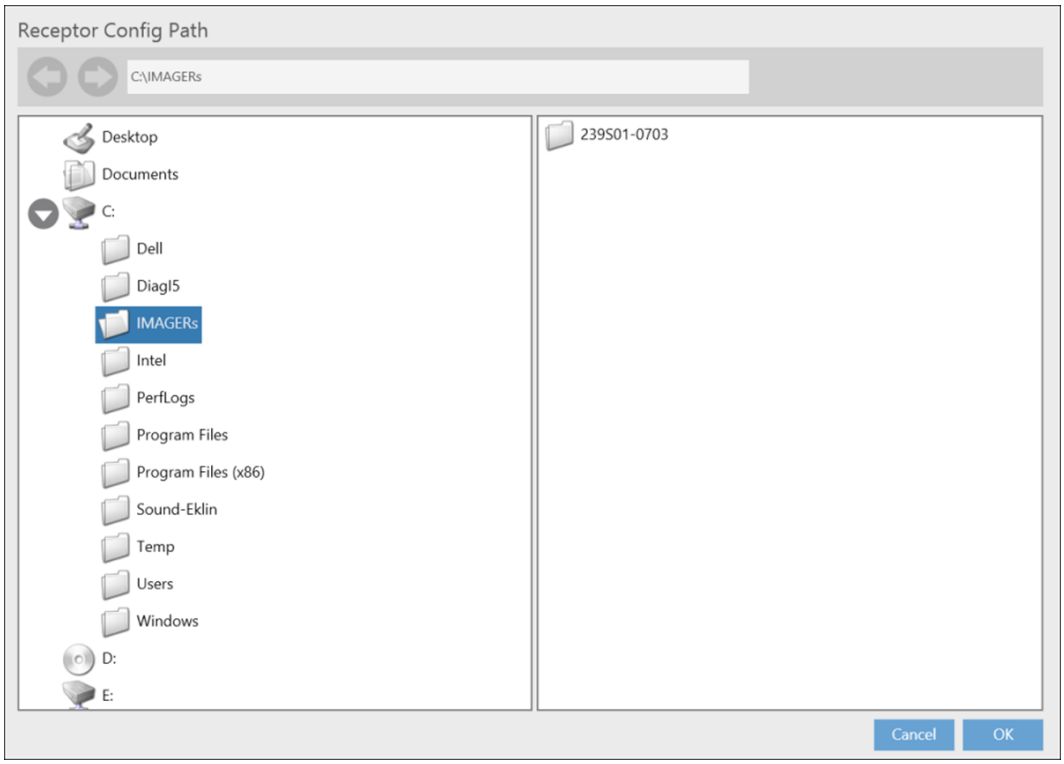
   The **Config** screen is displayed automatically.
2. Click the **Panel Configuration** tab.

3. In the Model Name field on the **Add Panel** tab, select the detector that you want to install.

Figure 34: Config screen — Panel Configuration



4. If installing the PS 2530 detector, the **Receptor Config Path** window displays. Select `Imagers`. If installing the PS 4336Wv4, the panel is added to the system. Skip to step 7.

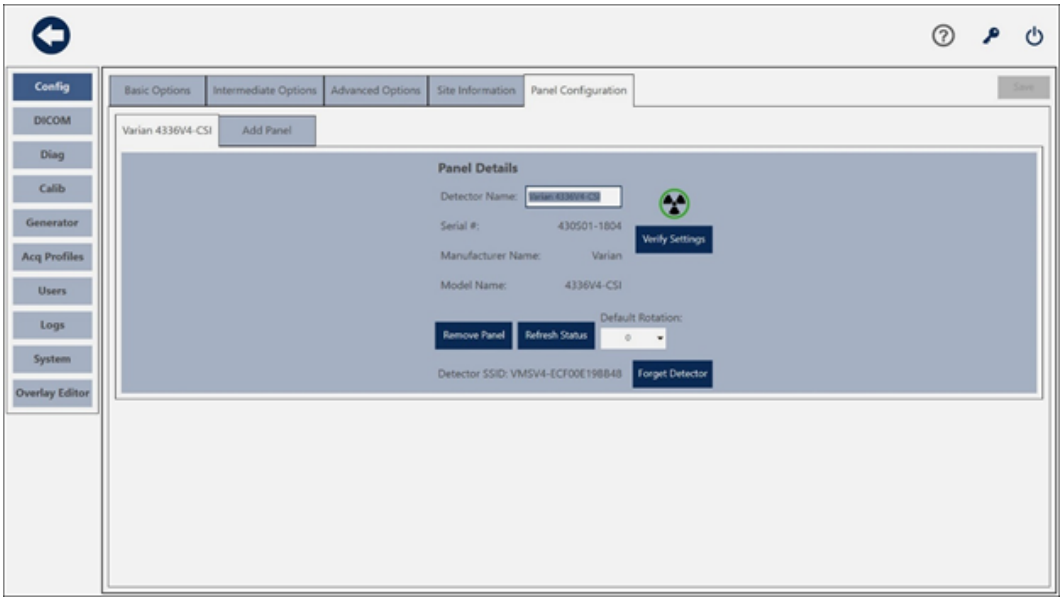


5. In the pane on the right, select the serial number of the panel that you want to add.

6. Click **OK**

   The panel is added to the system.

Figure 35: Config screen — Panel Configuration with PS 4336Wv4 panel



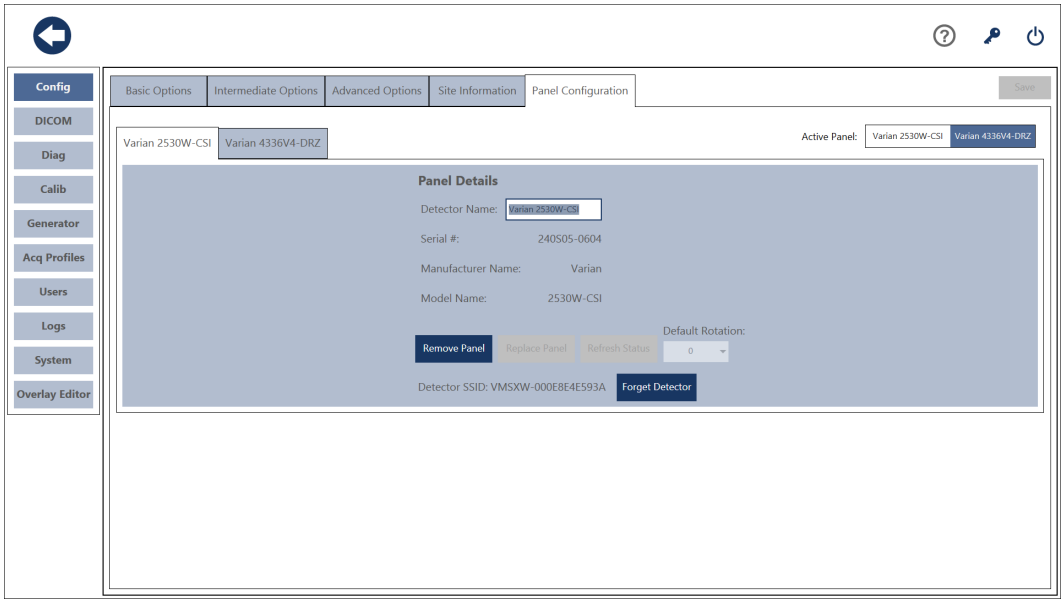
7. Optional: In the Detector Name field, type a name for the detector. Type a name that will make it easy to identify which panel is installed.
8. Optional: In the **Default Rotation** field, select the default rotation of the panel.
9. Optional: Test the connection by clicking **Verify Settings**.

   A message is displayed indicating whether the connection to the panel is working. In addition the circle around the icon above the **Verify Settings** button is green if the connection is working.
10. Click **Save** to save the panel configuration.

11. In systems with a dual panel configuration, repeat these steps to add the second panel.

Separate subtabs for the configured panels display. Click a tab to display information about the panel. See *Panel configuration controls* on page 85 for information about controls on this screen.

Figure 36: Panel Configuration Screen - Dual Panel Configuration



You can perform several panel configuration operations from each subtab. Before you begin, select the desired panel as the Active Panel, in the upper right of the main tab, and select the subtab. Then, perform of the operations described below.

Panel configuration controls

Controls for configuring detectors

Panel Configuration Controls

Control	Description	Steps
Remove Panel	Removes the panel from the configuration.	1. Select the desired **Active Panel**. 2. Click the subtab. 3. Tap **Remove Panel** and **Save**.
Forget Detector	Removes the SSID for the selected panel.	1. Select the desired **Active Panel**. 2. Click the subtab. 3. Tap **Forget Detector**.

Control	Description	Steps
Replace Panel PS 2530W only	Allows you to select the configuration file for the PS 2530W detector.	1. Select the desired **Active Panel**. 2. Click the subtab. 3. Tap **Replace Panel**. 4. In the **Receptor Config Path** window, select Imagers. 5. In the pane on the right, select the serial number of the panel that you want to add. 6. Click **OK**. 7. Specify the name, default rotation, and verify the settings as described in the configuration procedure. Click **Save**.
Remember Detector	Establishes automatic panel connection.	1. Select the desired **Active Panel**. 2. Click the subtab. 3. Tap **Remember Detector**.
Refresh Status	Displays the status of the selected panel if connected.	1. Select the desired **Active Panel**. 2. Click the subtab. 3. Tap **Refresh Status**.

Automatic panel connection using remember detector

When the system is configured for use with a wireless panel, and the panel has been configured for the system, the **Remember Detector** button is available only after the connection to the panel has been established.

When the wireless panel is connected to the PC using a static IP address, clicking **Remember Detector** enables the panel to connect to the PC automatically on startup.

If if Auto Panel Connect is not enabled, the connection must be made through the Windows wireless network tool in the **Network and Sharing Center**. See the topic, *Creating the initial panel connection manually* on page 86.

If a panel with Auto Panel Connect set to **True** is removed, the system will no longer attempt to automatically connect to a panel.

Creating the initial panel connection manually

Complete this task to create the initial connection between the PC and the panel manually through the Windows **Network and Sharing Center**.

Prerequisites

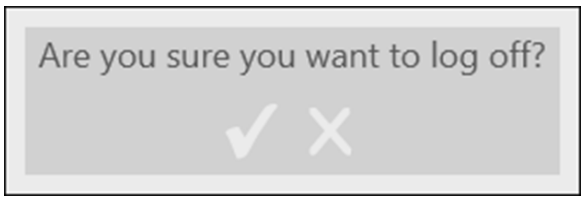
Ensure that the following prerequisites are met:

- Remove the battery from the panel and write down the WI-FI MAC address on the sticker underneath. You will need this address to create the network connection to the panel.
- Replace the panel's battery and press the power button on the side of the panel to turn it on. Hold the button for approximately 3 seconds until the blue LED light comes on.

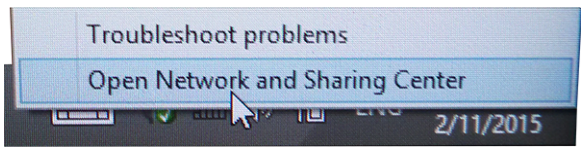
Procedure

1. Open the **Management** screen, and select the **Advanced Options** tab.
2. In the **Log off admin on exit** drop-down list, ensure that **False** is selected.
3. Select **Save**.
4. Select the **Log off** button.

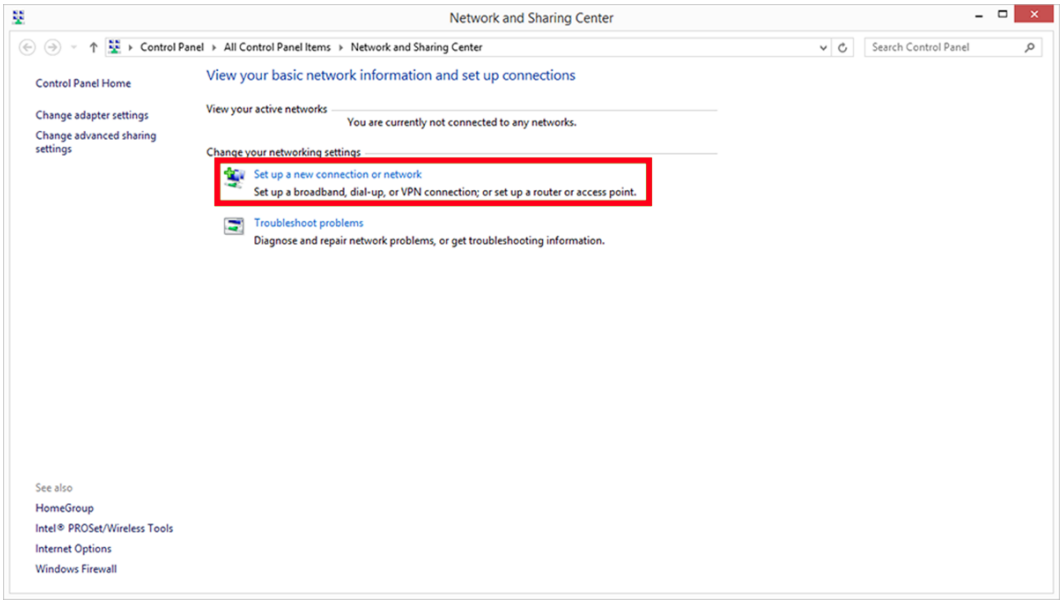
5. In the **Are you sure you want to log off?** dialog box, select the check mark icon to log off.



6. Depending on whether you are using the touch screen or a mouse, complete one of the following actions:
   - **Touch screen:** Press and hold on the wireless icon in the lower-right side of the Windows system tray, then remove your finger from the screen and select **Network Connections** from the pop-up menu.
   - **Mouse:** Right-click on the wireless icon in the lower-right side of the Windows system tray, and select **Network Connections** from the pop-up menu.

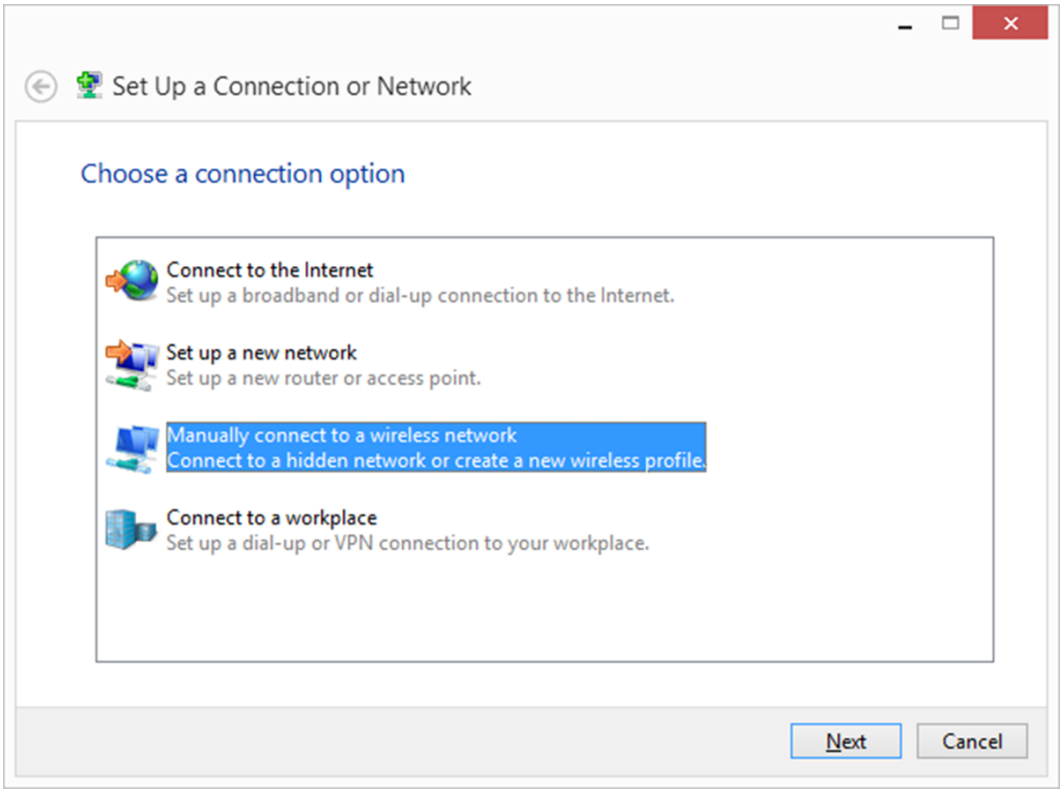


7. In the **Network Connections** window, select **Set up a new connection or network**.



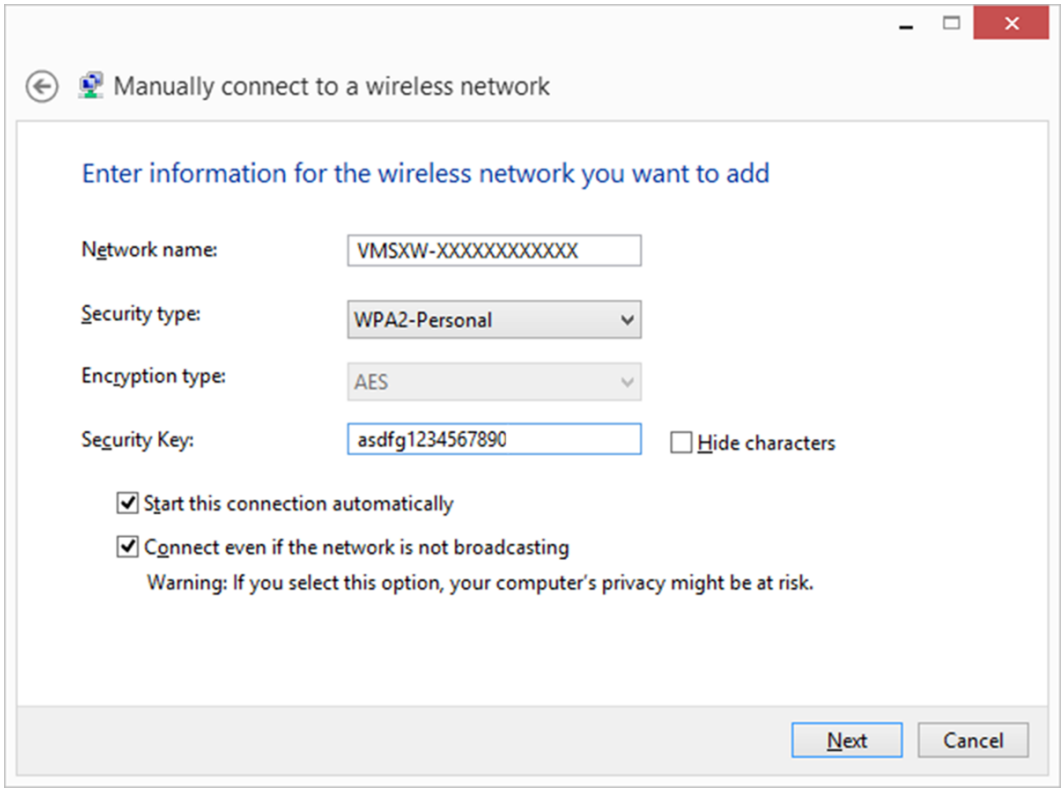
The **Set Up a Connection or Network** window is displayed.

8. Select **Manually connect to a wireless network**, and click **Next**.



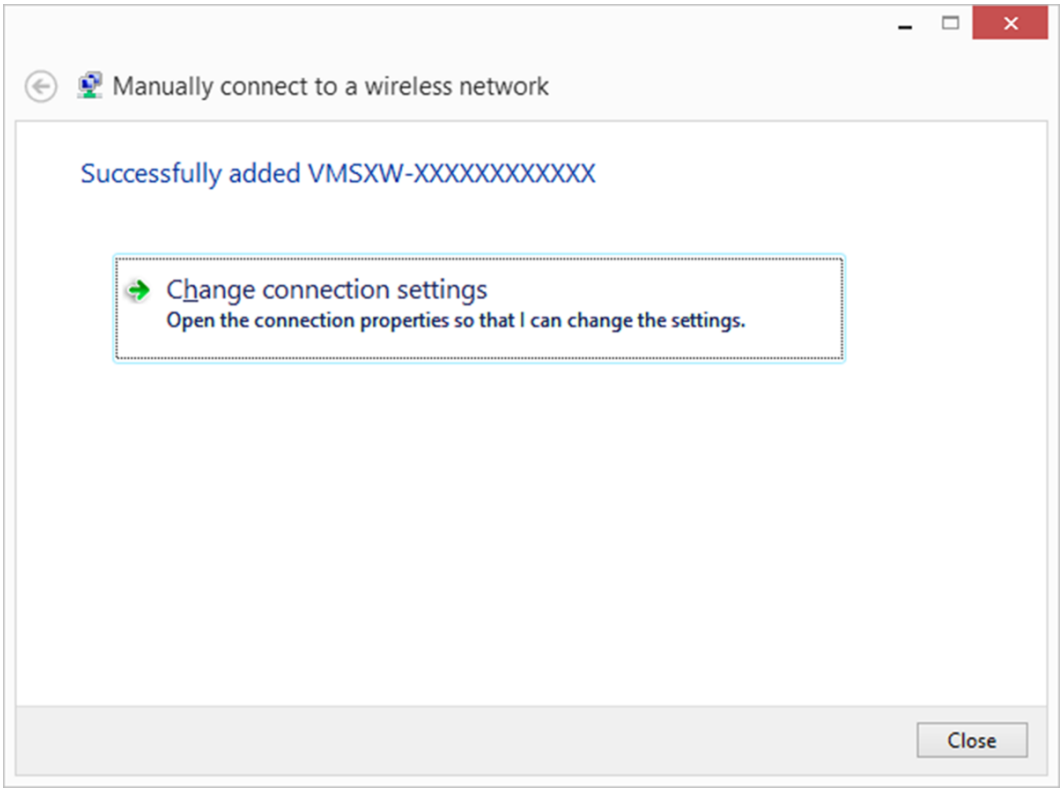
The **Manually connect to a wireless network** window is displayed.

9. Fill in the fields in the screen. See *Network profile settings* on page 93.



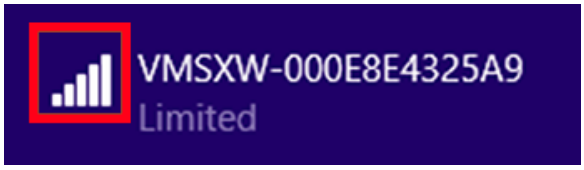
10. Click **Next** to complete the profile.

In the **Manually connect to a wireless network** window, a success message is displayed.

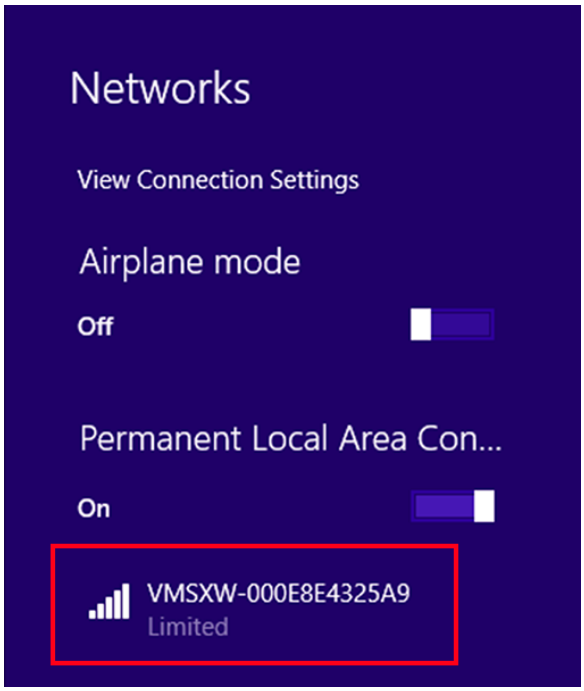


11. Click **Close** to close the window.

12. If the panel is active and within the connection range, the PC connects automatically; however it might take a minute or two to create the initial connection. Click the wireless icon in the Windows system tray, and ensure that the network profile you created appears in the list and shows active bars. Also, check the indicator lights on the panel. The blue and green LEDs should be lit indicating that the panel is active and connected to the network.

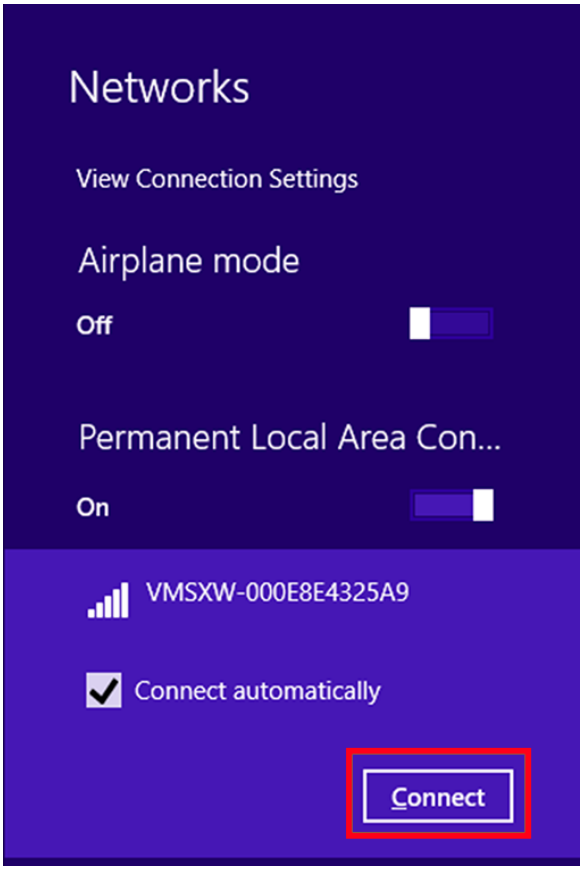


The following image shows a panel that is connected to the network. Note that the connection is described as Limited. This is because, in this instance, the PC is not connected to the Internet. It has no bearing on the PC to panel connection.



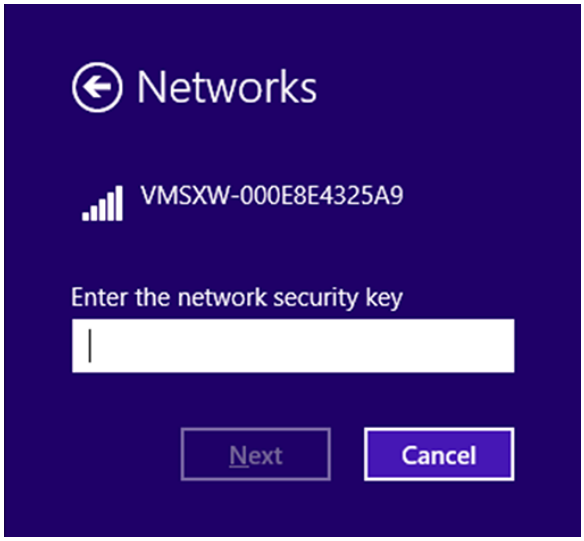
13. If the panel does not connect automatically, you can make the initial connection manually by clicking on the Wi-Fi icon in the Windows system tray, and clicking on the network profile for the panel in the list.

    The profile expands.



14. Ensure that the **Connect automatically** check box is selected, and click **Connect**.

15. In the Enter the network security key field, type the security key: `asdfg1234567890`, and click **Next**.



The PC will connect to the panel and display the connection in the Networks list.

16. Verify that the connection shows active bars, and check the LED lights on the side of the panel to ensure that the blue and the green lights are displayed indicating a connection.

After you have created this initial connection, the panel and the PC will connect automatically in the future.

Network profile settings

Network profile settings

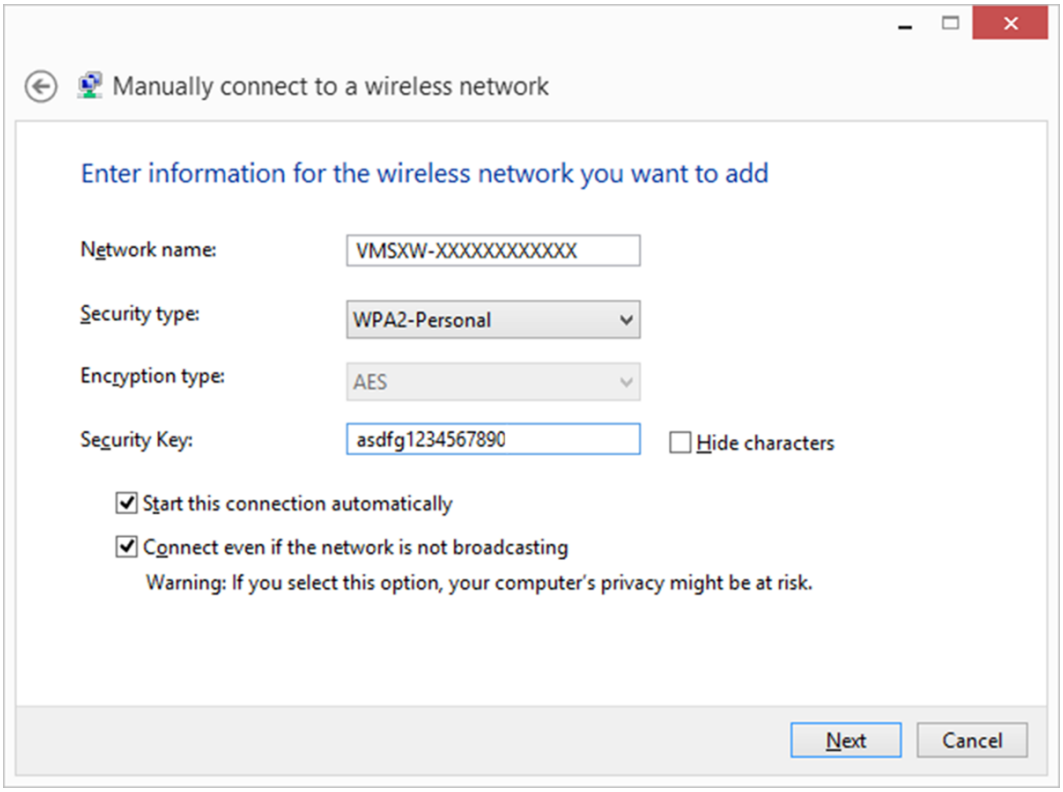


Table 40: Network profile settings

Field	Value
Network name	VMSXW- If the MAC address for the panel does not have the VMSXW- prefix, add it when you enter the network name. For example, if the MAC address on the sticker is 000E8E4325A9, type VMSXW-000E8E4325A9 into the Network name field. If the MAC address includes the VMSXW- prefix, just enter the MAC address as it appears on the sticker.
Security type	WPA2-Personal
Encryption type	AES
Security Key	asdfg1234567890
Hide characters	Optional. Select this if you want to prevent others from seeing what you are typing into the fields.
Start this connection automatically	Select this check box to automatically connect to the panel.

Field	Value
Connect even if the network is not broadcasting	Select this check box to ensure that the panel can be detected.

Removing panels

In some cases, it might be necessary to remove a panel.

About this task

Note: If the panel is configured to automatically connect to the PC using **Remember Detector**, the PC will no longer attempt to make the connection after the panel is removed.

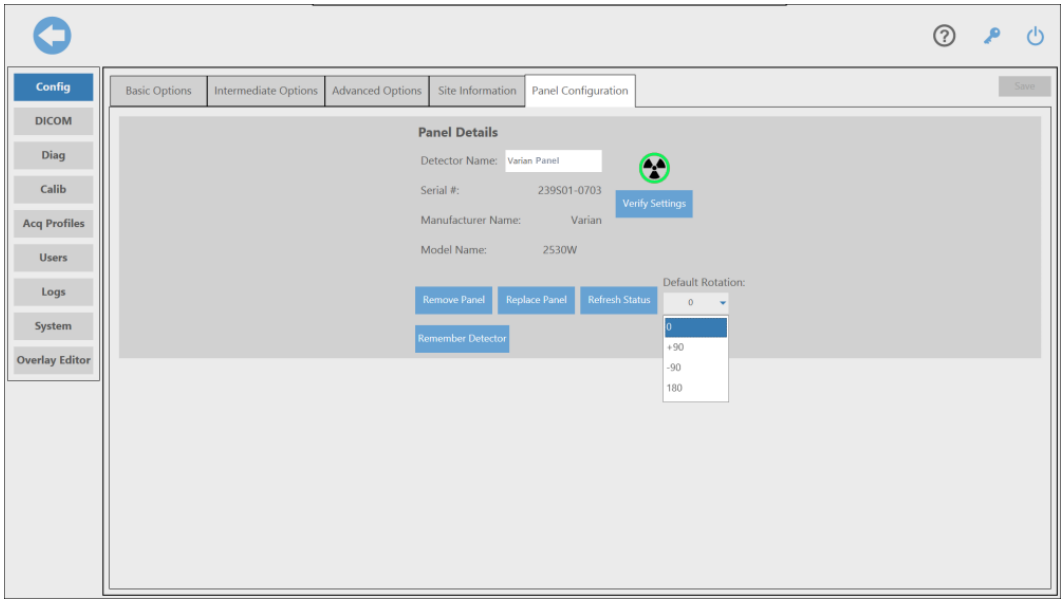
Procedure

1. Open the **Management** screen. See the topic, *Displaying the Management screen* on page 68, for instructions.

   The Configuration window is displayed automatically.
2. Click **Panel Configuration**.

   The panel that is currently configured with the system is displayed.

Figure 37: Config screen — Panel Configuration Remove Panel button



3. Click **Remove Panel**.

   The panel is removed. If you add the same panel again, you must restart the PC before you can connect to the panel properly.

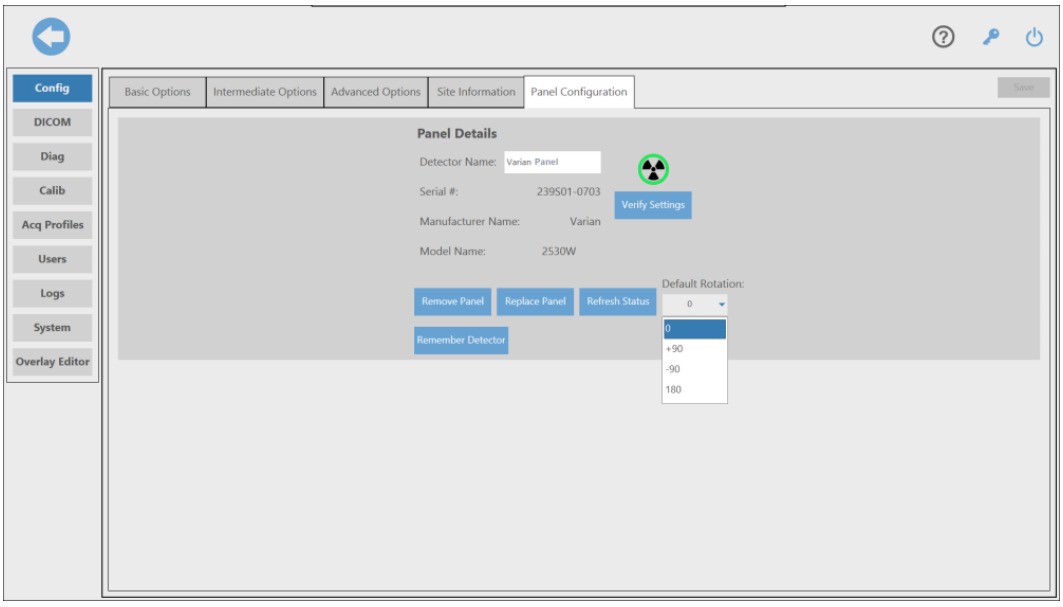
Replacing detectors (PS 2530W)

Detectors can be replaced in the **Management** screen with another panel of the same type. The previous panel does not need to be uninstalled and the PC does not need to be restarted to replace a panel.

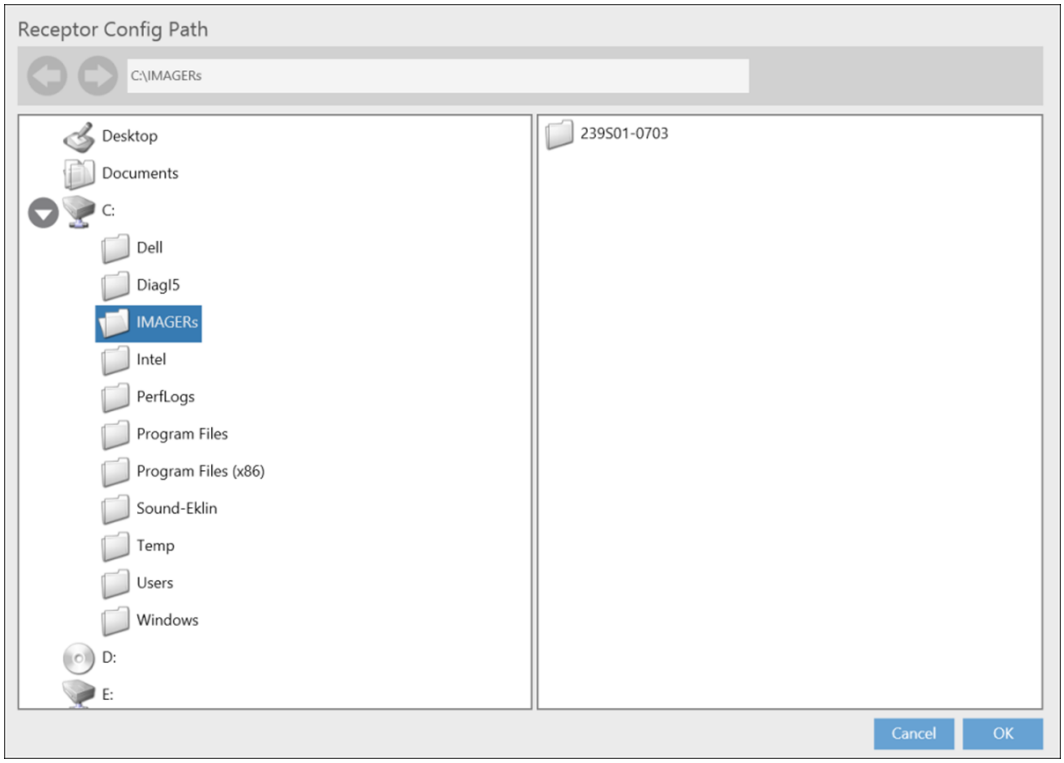
Procedure

1. Open the **Management** screen. See the topic, *Displaying the Management screen* on page 68, for instructions.

   The **Config** window is displayed by default.
2. Select the **Panel Configuration** tab.



3. Select **Replace Panel**.
   The **Receptor Config Path** window opens and displays the `c:\IMAGERs` directory.



4. Select the serial number of the panel that you want to replace, and select **OK**.

DICOM Storage Devices

NEXT EQUINE DR® can communicate with DICOM devices at the site or at remote locations.

Warning: It is the responsibility of the service technician or the site network administrator to ensure that the DICOM devices and the network are configured properly to work with NEXT EQUINE DR®. Incorrectly configured DICOM devices or network will result in failures in DICOM transferring the images acquired by NEXT EQUINE DR®.

Il est de la responsabilité du technicien de service ou du réseau de sitesadministrateur de veiller à ce que les dispositifs de DICOM et le réseau sont correctement configurés au travail NEXT EQUINE DR®. Mal configuré dispositifs DICOM ou réseau se traduira par des échecs dans DICOMtransférer les images acquises par NEXT EQUINE DR®.

DICOM devices are configured in the **Management** screen, **DICOM** tab.

DICOM consists of the following components which must be configured for DICOM to work properly:

- General configuration
- Storage server configuration
- Worklist server configuration
- Email server configuration
- MPPS configuration

Important: Consult with the site's IT department for IP addresses and AE titles for all DICOM storage servers.

Valid configuration characters

The following table lists the characters that may be used to configure DICOM attributes.

Table 41: Valid characters for DICOM configuration

0-9	A-Z	a-z	<space>	!	"
#	$	%	&	‘	(
)	*	+	,	-	.
/	:	;	<	>	=
?	@	[	]	\	^
_	{	}	|	~	‘

Configuring general DICOM settings

The x-ray system can communicate onsite and remotely with DICOM devices such as storage devices and worklists.

About this task

Warning: It is the responsibility of the Service Tech or the site network administrator to ensure that DICOM devices and the network are configured properly to work with the x-ray system. Improper configuration can result in failures in sending images acquired by the x-ray system.

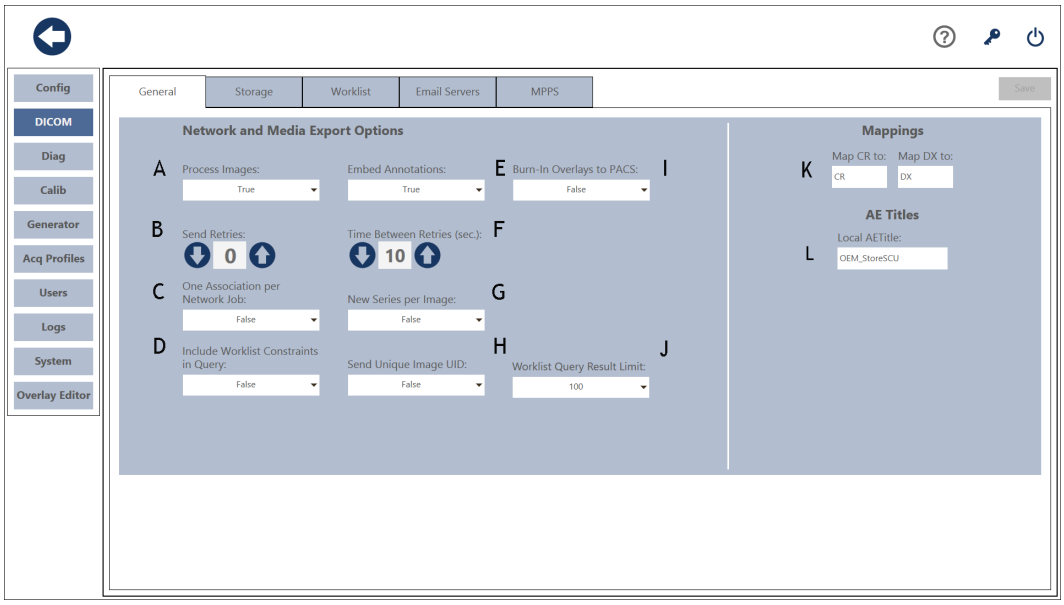
Il est de la responsabilité de la Tech de service ou à l'administrateur réseau de site pour s'assurer que les dispositifs DICOM et le réseau sont correctement configurés pour fonctionner avec le système x -ray. Une mauvaise configuration peut entraîner des défaillances dans l'envoi d'images acquises par le système x -ray.

Procedure

1. Open the **Management** screen. See the topic, *Displaying the Management screen* on page 68, for instructions.
2. Click **DICOM**.

   The **General** tab is displayed by default.
3. Configure the settings as necessary for the site. See *DICOM General configuration settings* on page 99 for information.

Figure 38: DICOM General tab



DICOM General configuration settings

DICOM General tab parameters

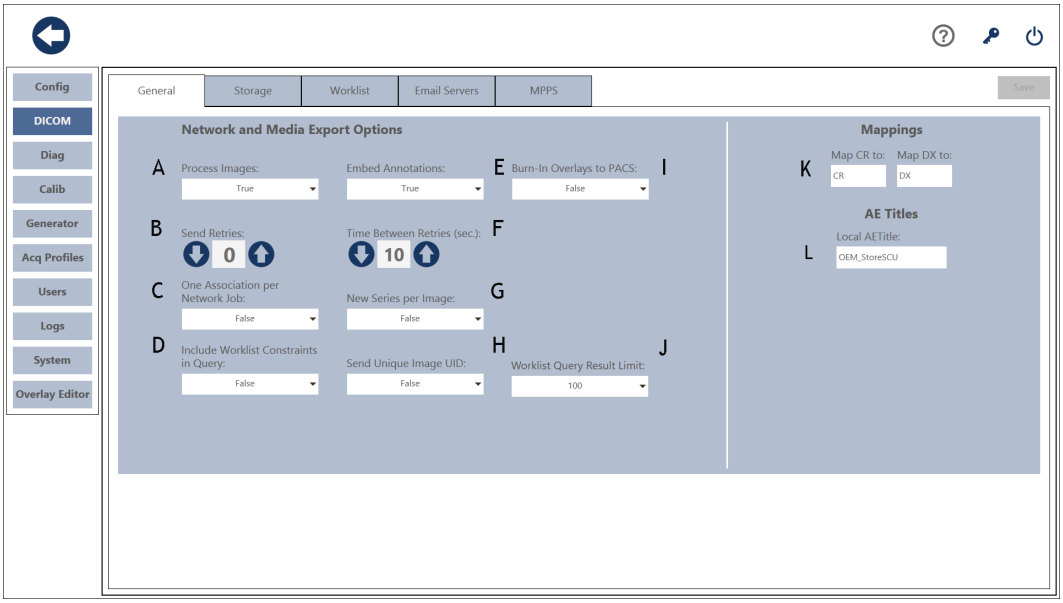


Table 42: DICOM General configuration settings

A	Set the **Process Images** option to True or False. True is the default. When set to True, the images are sent to the DICOM device with image processing and all user-applied image processing.
B	Set the number of **Send Retries** to a value from 0 to 10. The default setting is 0. This setting defines how many times a failed network DICOM job will be resent to the DICOM device.
C	Set the **One Association per Network Job** to True or False. False is the default. When set to True, the system creates only one network association to the PACs when sending a patient. When set to False, the system creates multiple associations to the PACs when sending a patient.
D	Set the **Include Worklist Constraints in Query** to True or False. The default value is False. Set this option to True to include the data range selected on the Worklist screen as part of the query; the RIS filters the data by date. Set this option to False to require the system to filter and display the worklist results based on the date range selected on the Worklist screen.
E	Set the **Embed Annotations** option to True or False. True is the default. This option can be set to True only if the **Process Images** option is also set to True. When **Embed Annotations** is set to True, all annotations are sent to the DICOM device as part of the image.
F	Set the **Time Between Retries (sec)** to a value from 0 to 200 seconds. The default is 10 seconds. This option defines the number of seconds between attempts to resend failed DICOM jobs to the DICOM device, with 0 meaning no wait period.

G	Set the **New Series per Image** option to True or False. False is the default. When set to True, the system sends each image to the DICOM device with a new series indicator.
H	Set the **Send Unique Image UID** option to True or False. False is the default. When this option is True, the system sends a new image UID each time the image undergoes the DICOM export process. When this option is False, the system sends the original image UID each time the image undergoes the DICOM export process.
I	Set the **Burn-in Overlays to PACS** option to True or False. The default is False. Set the parameter to True to embed overlays into the transferred image.
J	Set the **Worklist Query Result Limit** to one of these values: 100, 200, 500, 1000, 2500, or 5000. 100 is the default. Increasing the number of results also increases the time required to complete the query.
K	Configure the modality mappings. When the modality mapping is set, the image type sent has the modality tag (0008,0060) value changed to the value stored in the mapping setting for that image type. By default, the modality attributes are set to the same value as the corresponding local x-ray system database modality attributes.
L	Specify the **Local AE Title** for the system. The default value is OEM_StoreSCU.

Adding DICOM storage servers

This topic describes how to add DICOM storage servers.

About this task

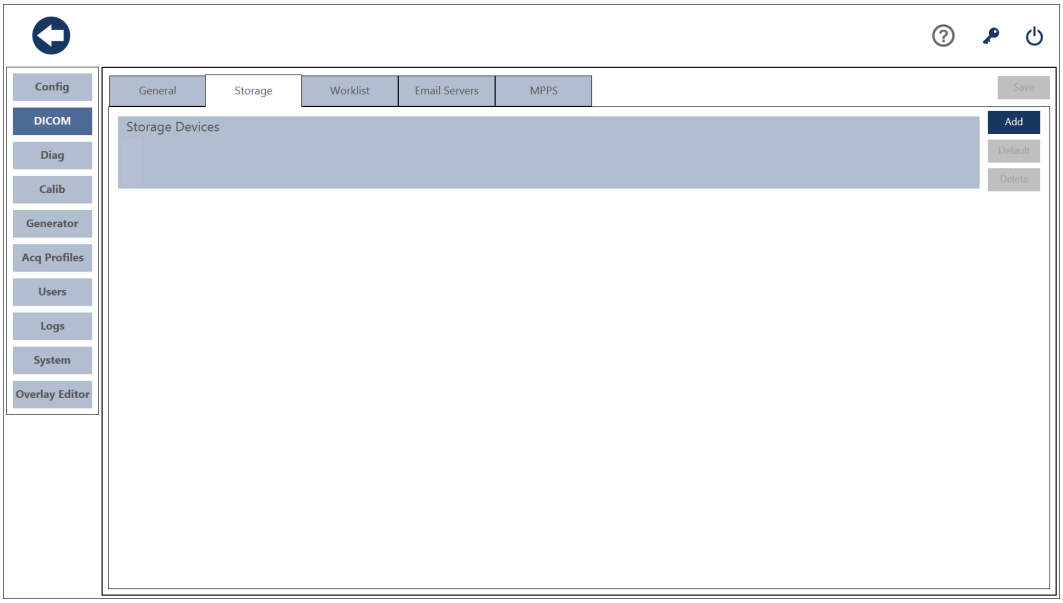
The system tracks DICOM batch sends by server.

Procedure

1. Open the **Management** screen. See the topic, *Displaying the Management screen* on page 68, for instructions.
2. Click **DICOM** > **Storage** tab.

   The Storage tab is displayed. If no storage servers have been configured, the tab is blank as shown in the following image. Otherwise, the configured storage servers are displayed in the Storage Devices area of the **Storage** tab.

Figure 39: DICOM Storage tab



3. Click **Add**.
   The fields for configuring a new DICOM storage server for the system are displayed.

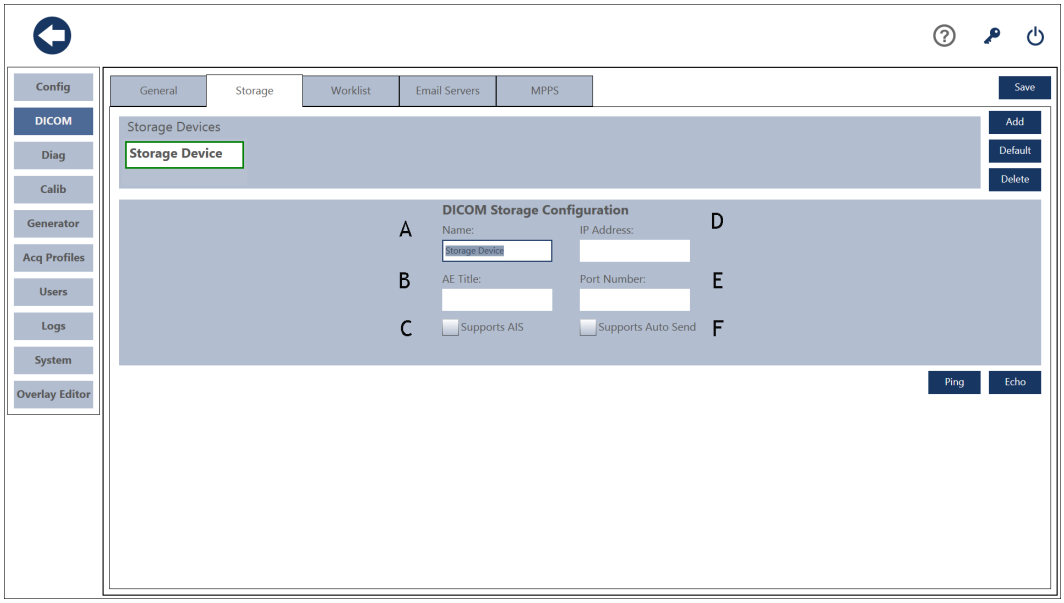


Table 43: DICOM Worklist server settings

A	Type the name for the device. The field supports a name of up to 64 characters. The characters ^ and \ are not supported.
B	The AE Title of the DICOM device. This is the Application Entity title that is required for DICOM functionality. **Important:** The AE title is case-sensitive and must contain no more than 16 characters.
C	Select the check box if the server is an ANTECH Imaging Services (AIS) server. An AIS server allows authorized access to images and reports at any time from any Internet-enabled computer. The default setting is deselected.
D	Type the IP address of the DICOM server where the images are sent. The IP address must conform to the standard format for IP addresses: *xxx.xxx.xxx.xxx*, where *xxx* is an integer from 0-255. Contact the site IT department or PACS administrator for the IP address of the storage server.
E	Specify the port number for the DICOM server connection. The default is blank. Contact the site IT department or PACS administrator for the IP address of the storage server.
F	Select this check box if you want to automatically send studies and images to the storage server. The default is deselected.

4. Complete the fields, and click **Save** to save the storage server.

5. Optional: You can verify the connectivity between the system and the new device by clicking **Ping** or **Echo**.

Ping	Verifies that there is network communication between the PC and the DICOM device.
Echo	Verifies that there is network communication and that the DICOM device can respond to communication from the PC.

6. Optional: If more than one storage server is configured, you can specify the default device by selecting the device and clicking **Default**.

Adding DICOM worklist servers

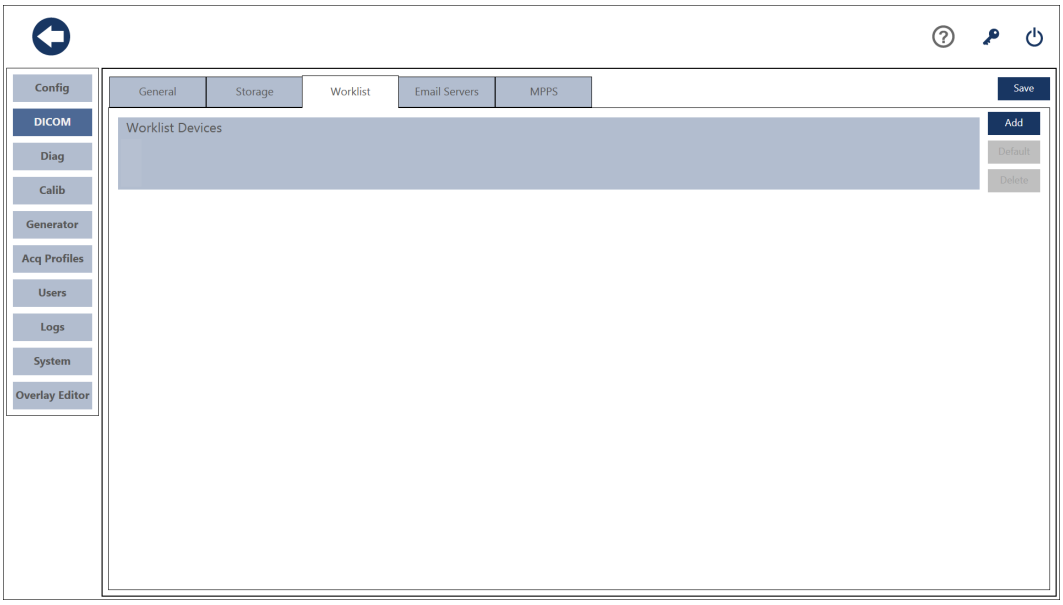
This topic describes how to add worklist servers on the system.

Procedure

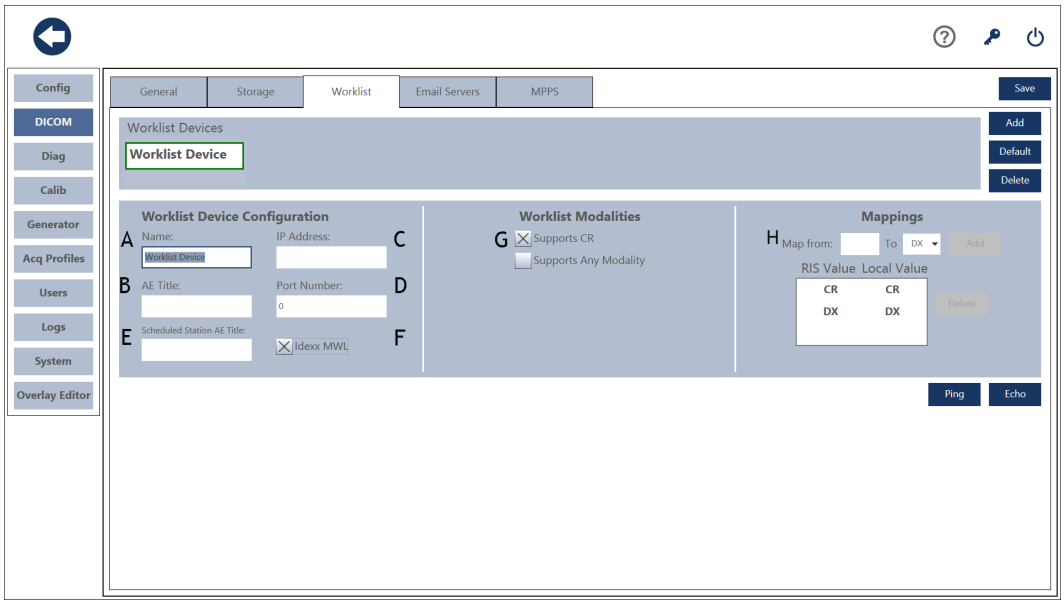
1. Open the **Management** screen. See the topic, *Displaying the Management screen* on page 68, for instructions.
2. Click **DICOM** > **Worklist** tab.

   The **Worklist** tab is displayed. If no other worklist servers have been created, the tab is blank as shown in the following image.

Figure 40: DICOM Worklist tab



3. Select **Add**.
   The fields for configuring a new worklist server are displayed.



4. Configure the fields as necessary for the site. See *DICOM Worklist server parameters* on page 105 for more information.
5. Optional: You can verify the connectivity between the system and the new device by clicking **Ping** or **Echo**.

Ping	Verifies that there is network communication between the PC and the DICOM device.
Echo	Verifies that there is network communication and that the DICOM device can respond to communication from the PC.

DICOM Worklist server parameters

DICOM Worklist server parameters

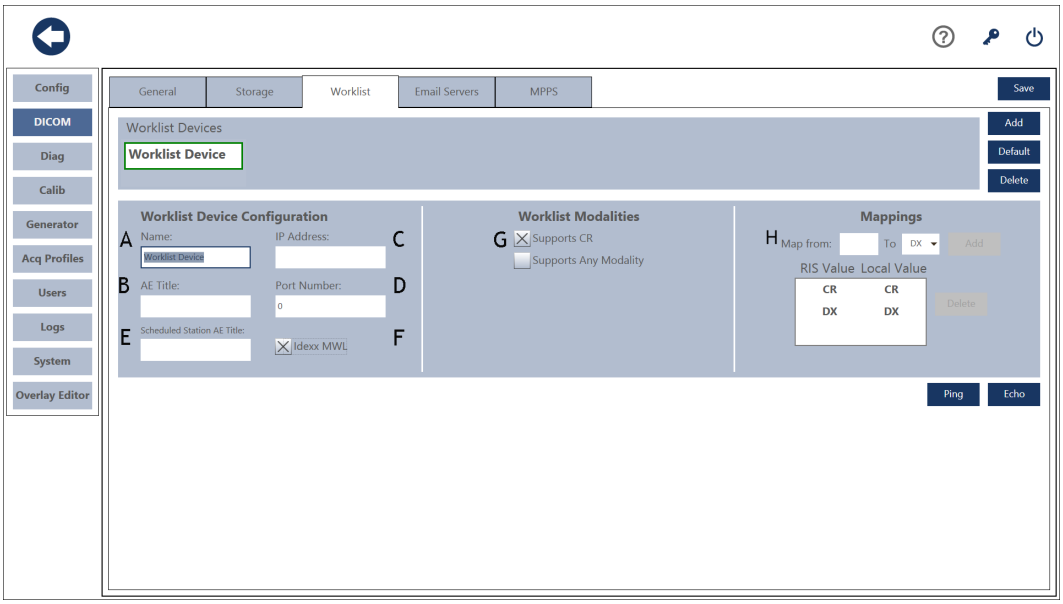


Table 44: DICOM Worklist server parameters

A	Type the name for the device. The field supports a name of up to 64 characters. The characters ^ and \ are not supported.
B	The AE Title of the DICOM device.
C	Type the IP address of the DICOM server where the images are sent. The IP address must conform to the standard format for IP addresses: *xxx.xxx.xxx.xxx*, where *xxx* is an integer from 0-255. Contact the site IT department or PACS administrator for the IP address of the storage server.
D	Specify the port number for the DICOM server connection. The default is blank. Contact the site IT department or PACS administrator for the IP address of the storage server.
E	Enter a value in this field to specify the Scheduled Station AE Title. The system uses this value to filter the results of queries to the MWL server.
F	Enable if the worklist server is an Idexx server.
G	Select the supported worklist modalities for the search. Only those patients with the modalities selected are returned by the search.
H	Configure or delete the modality mappings. Use the Mappings table to specify the modality attribute the PACS applies to images it receives from the x-ray system. For example, if DX images are acquired on the x-ray system, but the PACS is not configured to support DX, you can map the DX modality to a compatible PACS-supported modality such as CR. This mapping ensures that the DX images have the CR modality attribute applied to them when received by the PACS, and that they are displayed from the PACS. By default, the PACS modality attributes are set to the same value as the corresponding local x-ray system database modality attributes

Adding email servers

This topic describes how to add an email server to the system.

About this task

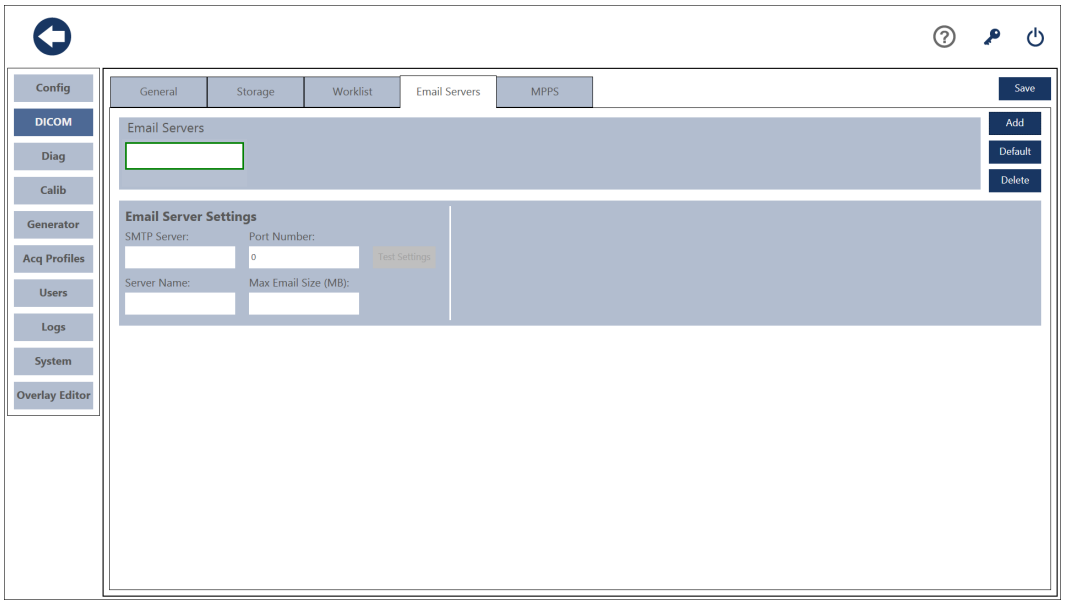
The system can send images to email addresses.

Procedure

1. Open the **Management** screen. See the topic, *Displaying the Management screen* on page 68, for instructions.
2. Click **DICOM** > **Email Servers** tab.

   The Email tab displays. If no email servers have been configured, the tab is blank. Otherwise, the configured email servers are displayed in the **Email Servers** tab.
3. Click **Add**.

   The fields for configuring a new email server for the system are displayed.



Control or Field	Description
Email Server	Enter email server used.
SMTP Server	Enter URL of the Simple Mail Transfer Protocol (SMTP) server.
Port Number	Enter the port number for the SMTP server.
Server Name	Enter the server name.
Max Email Size (MB)	Enter the maximum size in MB allowed for an email message.

4. Complete the fields.
5. Tap **Save**.

Adding MPPS devices

This topic describes how to add an MPPS device to the system.

About this task

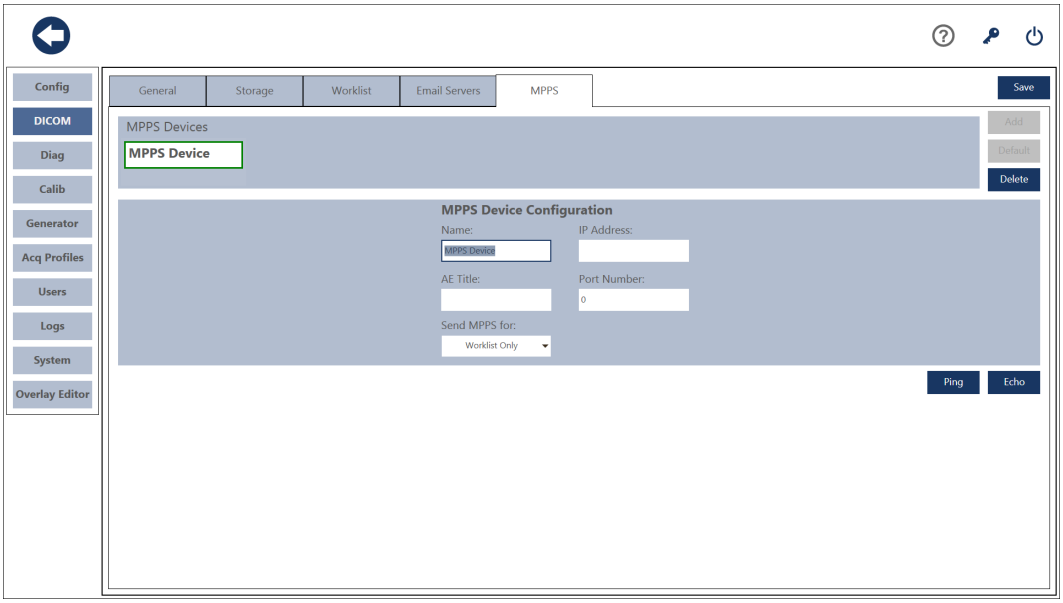
The system can send images to email addresses.

Procedure

1. Open the **Management** screen. See the topic, *Displaying the Management screen* on page 68, for instructions.
2. Click **DICOM** > **MPPS** tab.

   The MPPS tab displays. If no MPPS server has been configured, the tab is blank. Otherwise, the configured MPPS server is displayed in the **MPPS** tab.
3. Click **Add**.

   The fields for configuring an MPPS server for the system display.



Control or Field	Description
Name	Enter MPPS device name.
IP Address	Enter the IP address of the MPPS device.
AE Title	Enter the AE title.
Port Number	Enter the port number for the MPPS device.
Send MPPS for	Select Everyone to send MPPS data for all patients. Select Worklist Only to send MPPS data only for patients imported from a worklist.

4. Complete the fields.
5. Tap **Save**.

Configuring Acquisition Profiles

Acquisition profiles are required to take images with the x-ray system. This section describes how to configure acquisition profiles for the installation site.

About this task

Acquisition profiles consist of two parts: profile settings and protocols.

Procedure

1. Configure profile settings. See the topic, *Configuring acquisition profile settings*, for instructions.
2. Create protocols. See the topic, *Creating protocols* on page 115, for instructions.
3. Edit protocols. See the topic, *Editing protocols* on page 120, for instructions.
4. Delete protocols. See the topic, *Deleting protocols* on page 120, for instruction.

Configuring acquisition profile settings

Generally, the default settings for acquisition profiles meet the needs of the majority of sites. Complete this task only if the default settings do not meet the needs of the site.

About this task

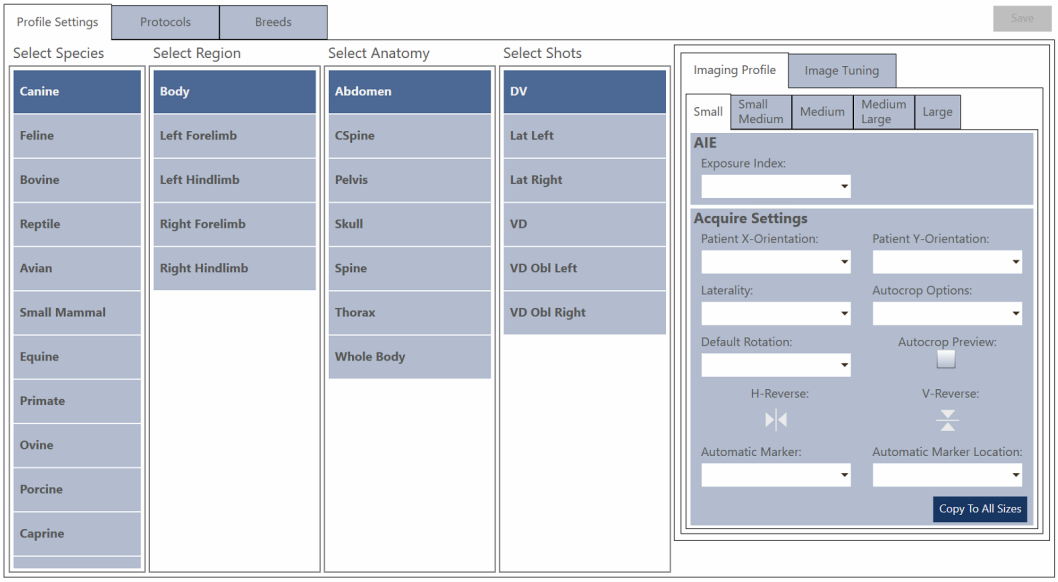
Sound and Vet users can modify the image profiles for acquisition profiles.

Procedure

1. Open the **Management** screen. See the topic, *Displaying the Management screen*, for instructions.

2. Click **Acq Profiles**.
   The **Profile Settings** tab is displayed by default.

Figure 41: Acq Profiles — Profile Settings Tab



3. Select the species, region, anatomy, and shots for which you want to modify the image profile. You can add a nickname to any region, anatomy, or view by right-clicking or tapping and holding one of these tiles. After you add the nickname, it appears in parentheses next to the original name. You can remove the nickname by right-clicking or tapping and holding the tile and then clearing the text box.

4. If desired, select the **Autocrop Preview** check box on the Imaging Profile tab. When enabled, the x-ray system tries to detect the proper cropping region and allows you to make changes as needed.
   a) Following image capture, a box drawn in dotted lines indicates the proposed cropping region.
   b) To accept, click the **Crop** button in the image control toolbar. If you prefer a different region, click and drag on the image to create a new box.
   c) Release the mouse button. When you capture the next image or end the study, the system sends only the part of image in the displayed crop region to PACS.

Figure 42: Incorrect crop region detected

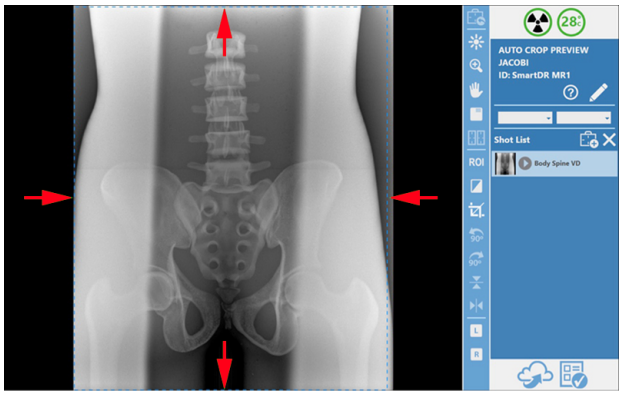


Figure 43: New crop region selected

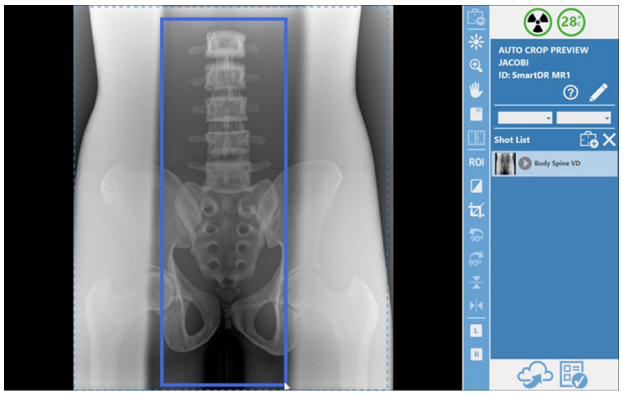
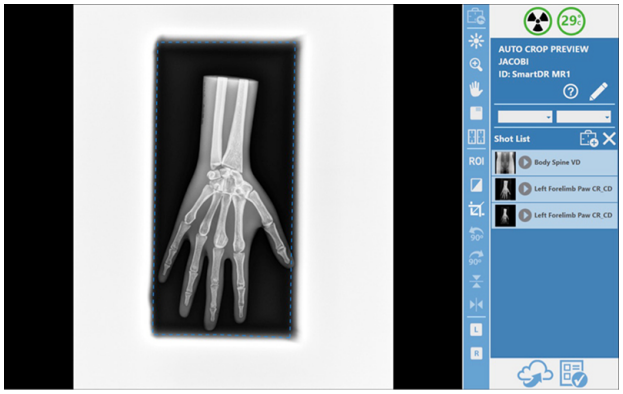
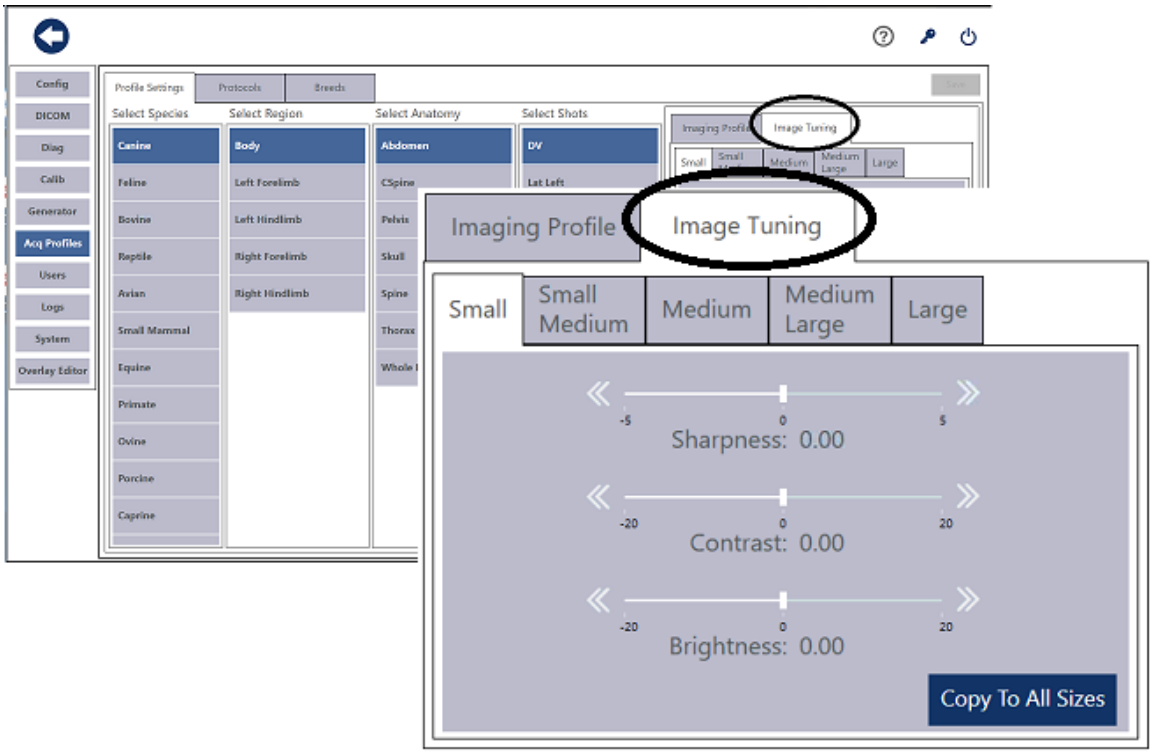


Figure 44: Properly detected cropping region



5. On the **Imaging Profile** tab, select the subtab labeled with the body size (small, small medium, medium, medium large, or large) for which you are modifying the profile settings and make the necessary modifications. Alternatively, you can modify the settings for any body size and click **Copy To All Sizes** to apply those settings to all body sizes.
6. On the **Imaging Profile** tab, set your preference for the automatic marker and automatic marker location. If enabled, this settings directs the system to place automatically an L or R marker in the selected location. If desired, tap **Copy To All Sizes** to apply those settings to all body sizes. See *Image Profile settings* on page 113 for settings descriptions.
7. Complete the following steps to configure image tuning.
   a) In Management Settings, select **Acq Profiles > Image Tuning**



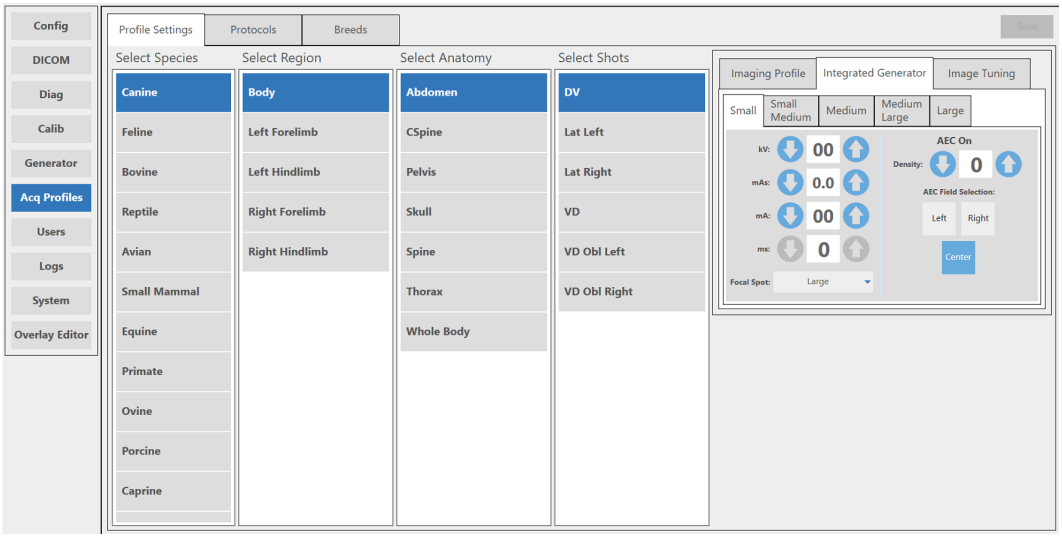
   b) Complete one of the following tasks:

Options	Instructions
Set the tuning options for individual patient sizes.	**a.** Select the patient size tab. **b.** Specify the settings for that patient size. Repeat as necessary. **c.** Click **Save**.
Set the tuning options for all patient sizes at once.	**a.** Select a patient size tab. **b.** Specify the image tuning settings you want to apply to all patient sizes. **c.** Click **Copy To All Patient Sizes**. **d.** Click **Save**.

8. If your system includes an integrated generator, you can modify the technique settings for a specific shot using the **Integrated Generator** tab.
   a) Tap **Integrated Generator** tab.
   b) If desired, use the up or down areas to adjust the technique variables: kV, mAs, mA, and ms.
   c) If your site uses Automatic Exposure Control (AEC), you can adjust the density and field selection parameters, if needed.

Note: Do not adjust Focal Spot or Density values or activate the AEC field selection controls unless directed by a support technician. Modifying these values render your calibration invalid, resulting in degraded image quality.

Figure 45: Acquisition Profile, Integrated Generator subtab



9. Click **Save**.

Image Profile settings

Table 45: Imaging Profile Settings

Setting	Description
Exposure Index	Allows you to select from one of the following files containing exposure index parameters: EIparams_Avian, EIparams_Body, EIparams_Default, or EIparams_HeadNeck.
Patient X-orientation	Allows you to select one of these options: anterior, posterior, left, right, head, or foot.
Patient Y-orientation	Allows you to select one of these options: anterior, posterior, left, right, head, or foot.

Setting	Description
Laterality	Allows you to select one of these options: left, right, both, unpaired
Autocrop Options	Allows you to select one of these options: off, default, chest, C-spine, T-spine, or small ROI.
Autocrop Preview	Enable or disable a preview of the acquired image as a full panel with the crop review feature enabled with automatically detected shutters displayed.
Default Rotation	Allows you to set the default rotation to one of these options: 0, +90, +180, and -90.
H-Reverse	Set this to off or on.
V-Reverse	Set this to off or on.
Automatic Marker	Allows you to set an automatic marker from one of these options: none, L, or R. Default is none.
Automatic Marker Location	Allows you to set the automatic marker location for one of these options: upper left, upper middle, upper right, middle left, middle right, lower left, lower middle, or lower right. Upper left is the default location.

Image Tuning tab

In the Image Tuning tab, you can view and modify the workbench settings (Sharpness, Brightness, Contrast) for any patient size for any position in the software.

The tab is displayed in the Management Settings > Acq Profiles screen.

Figure 46: Imaging Tuning settings

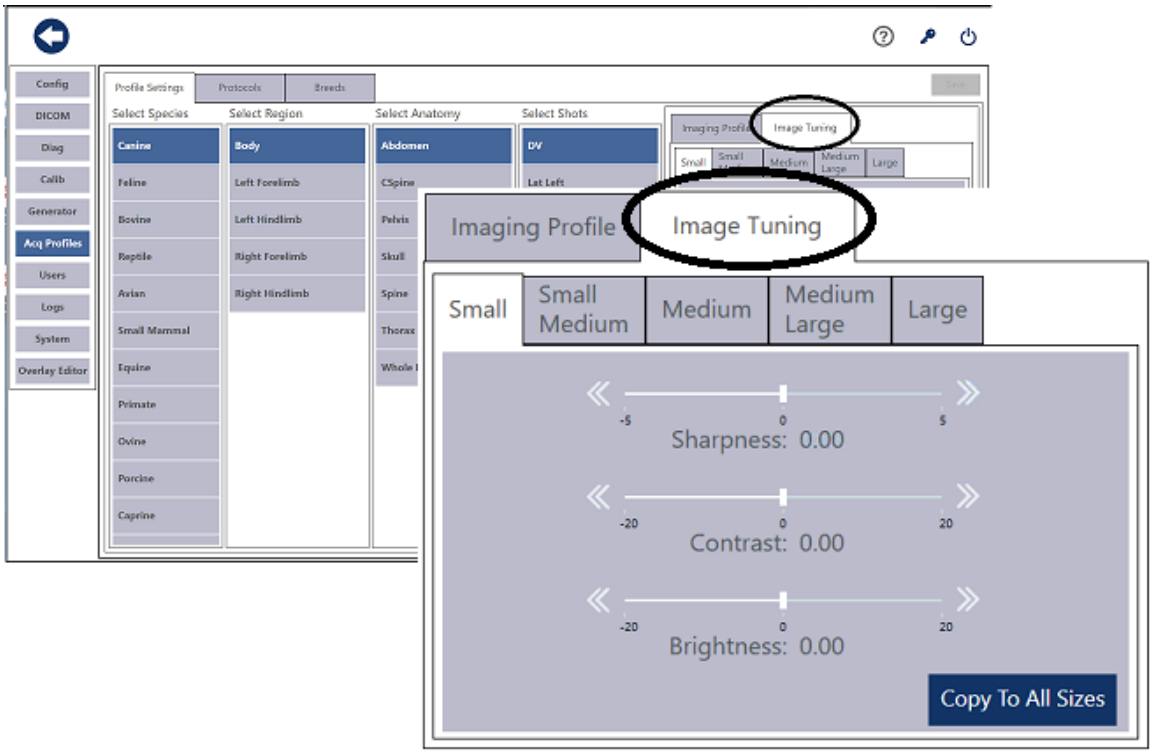


Table 46: Image Tuning Controls

Control	Details
Patient size tabs	Each tab contains the image tuning settings for that patient size. You also have the option of configuring the settings for one size and copying those settings to all of the sizes.
Sliders	Use the sliders to configure the image tuning settings for sharpness, contrast, and brightness.
Copy To All Sizes button	Select this button to copy the settings on the tab to all of the patient sizes.

Creating protocols

Sound and Vet users can create protocols for acquisition profiles in the Management screen. All users can create protocols when they select shots in the clinical interface.

About this task

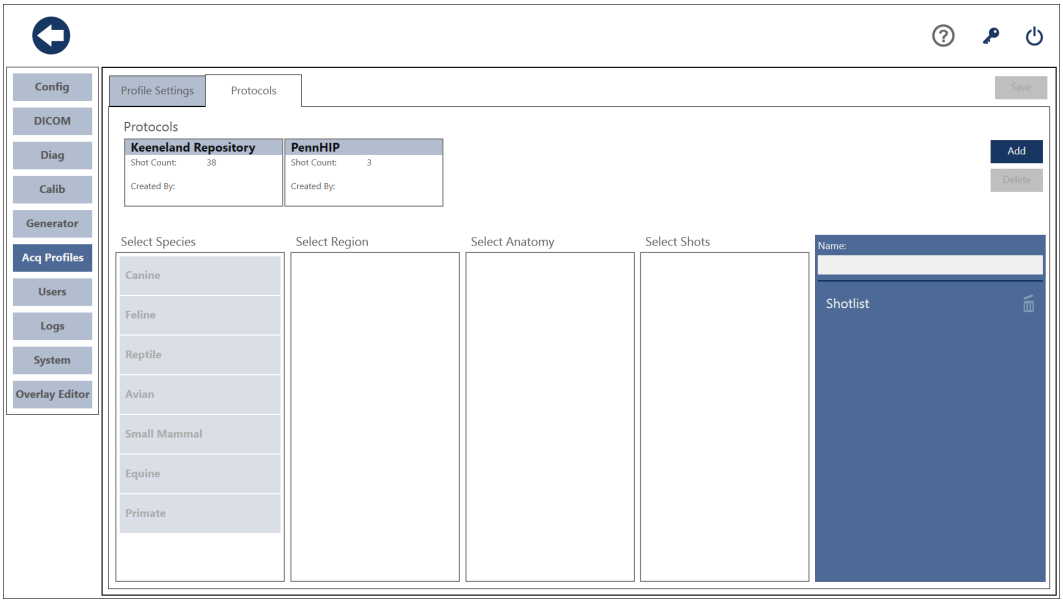
Creating protocols allows users to select the same shots in the future by selecting a Protocol tile instead of selecting all of the shots again.

Procedure

1. Open the **Management** screen. See the topic, *Displaying the Management screen* on page 68, for instructions.
2. Click **Acq Profiles** > **Protocols** tab.

   The **Protocols** tab is displayed, and the **Add** button is active.

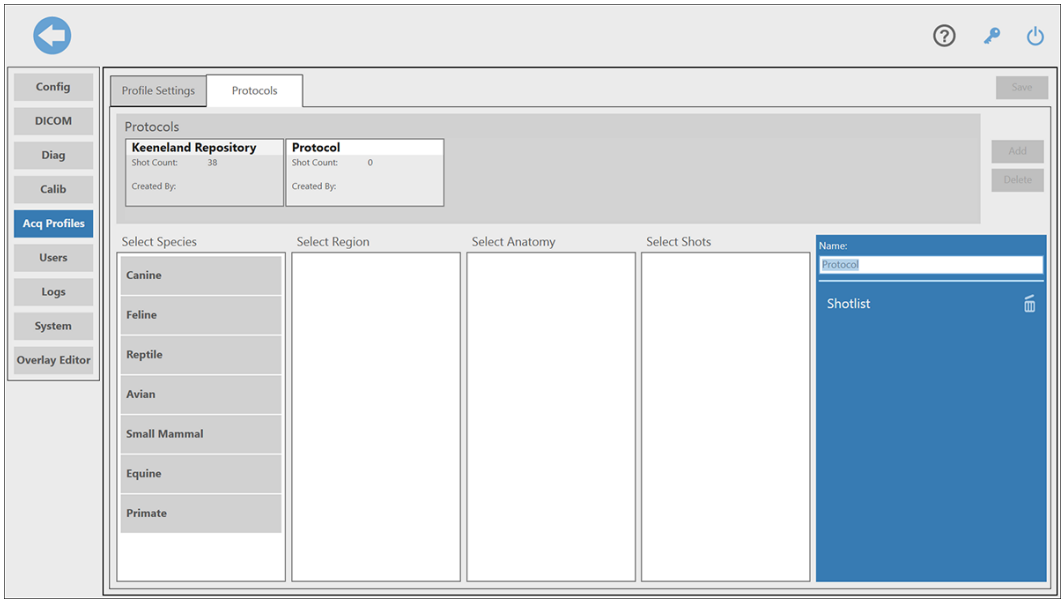
Figure 47: Acq Profiles — Protocols tab



The Keeneland Repository protocol is configured by default. This protocol is used for taking images that can then be submitted to the Keeneland Repository and reviewed digitally by veterinarians at horse auctions. It is not for use with the small animal configuration of Sound SMART DR™ The PennHIP protocol is also provided as a default protocol for use with canines.

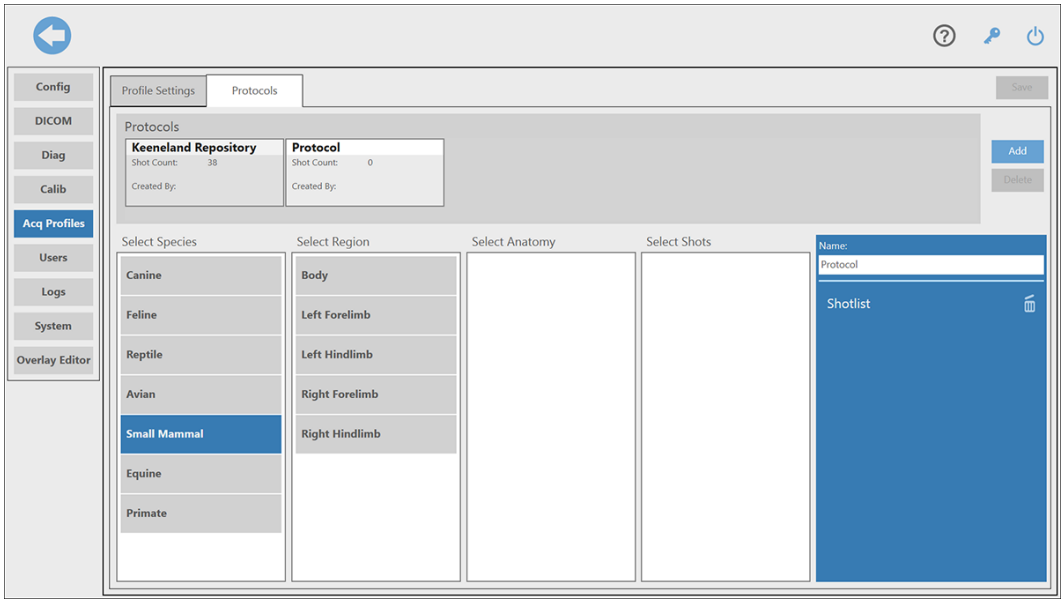
3. Click **Add**.
   A new protocol is added to the Protocols list.

Figure 48: Acq Profiles — Protocols tab, new protocol



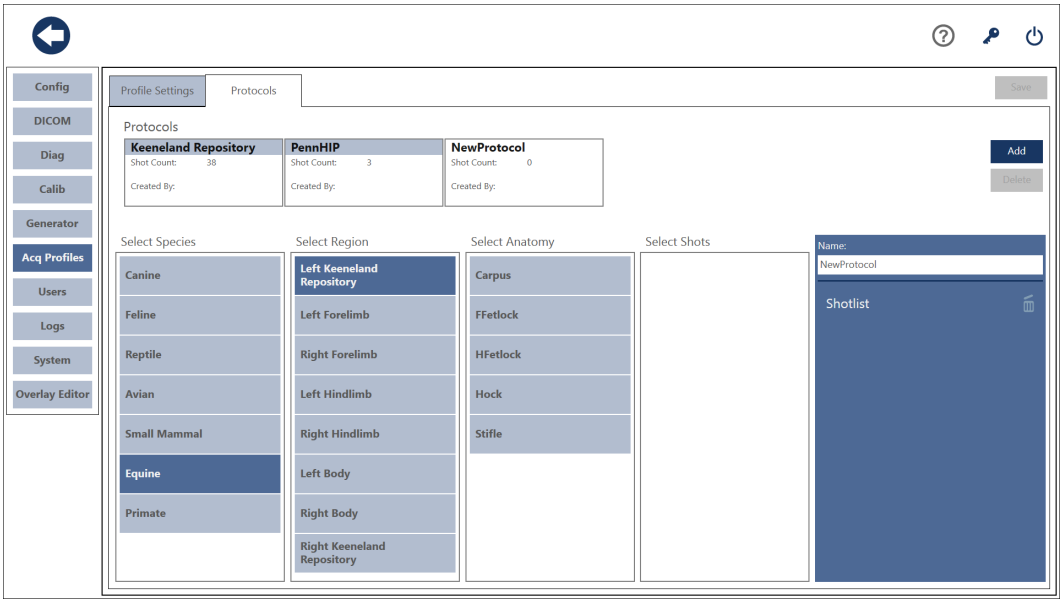
4. Select the species that you want to use for the protocol.
   The Select Region list is populated.

Figure 49: Acq Profiles screen — Protocols tab, species selected



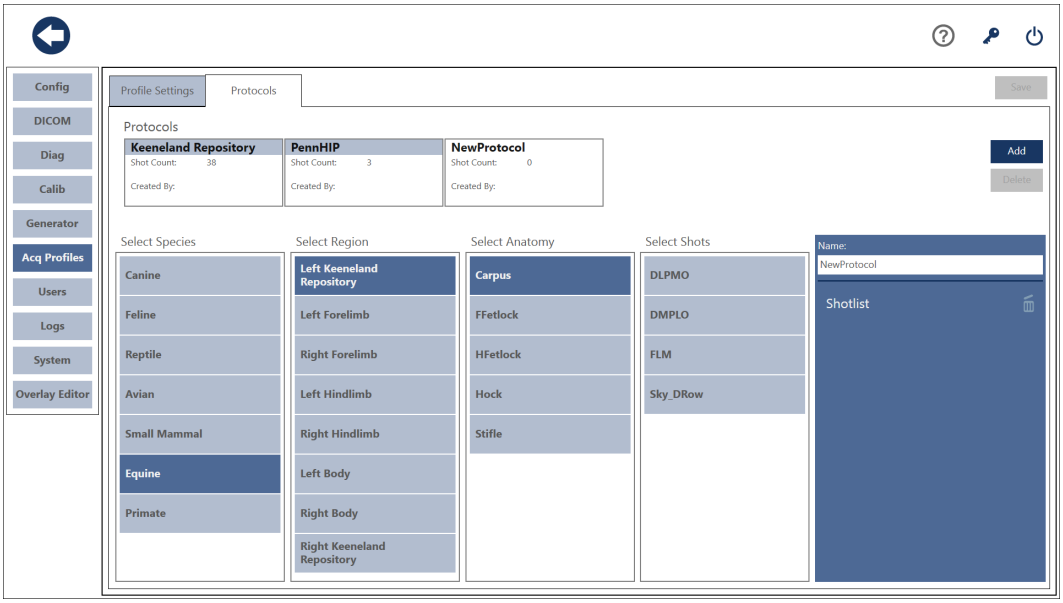
5. Select the region that you want to include in protocol.
   The Select Anatomy list is populated.

Figure 50: Acq Profiles — Protocols tab, region selected



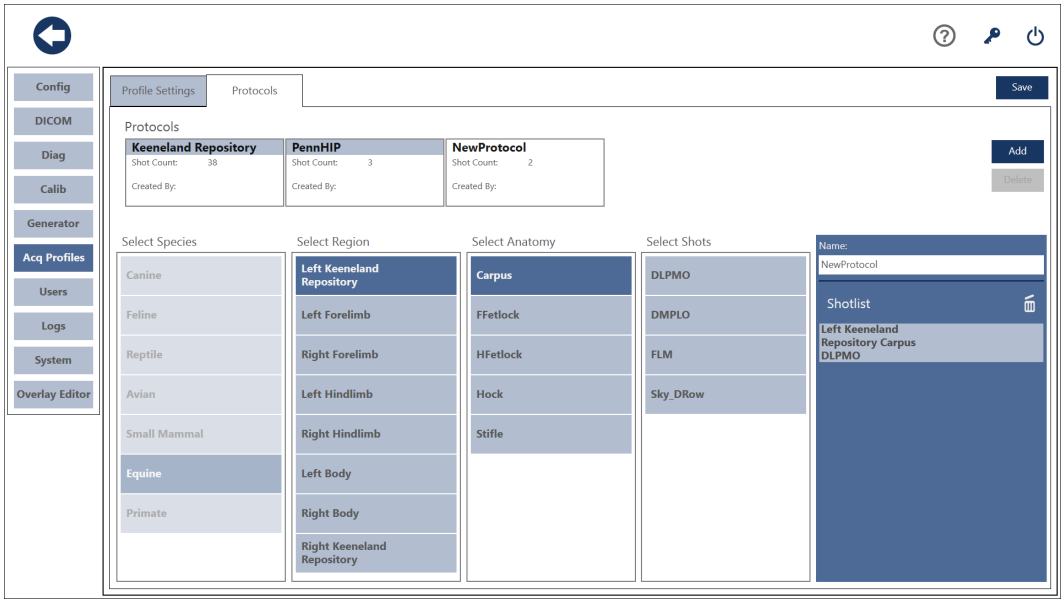
6. Select the part of anatomy that you want to include in the protocol.
   The Select Shots list is populated.

Figure 51: Acq Profiles — Protocols tab, anatomy selected



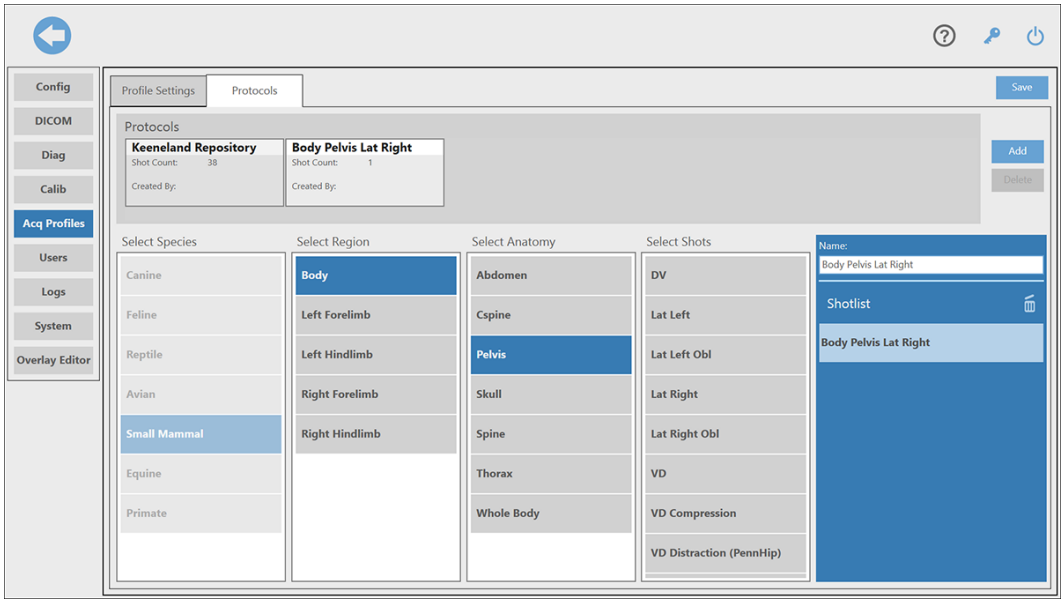
7. Select the shots that you want to include in the protocol.
   The shots are added to the Shot List when you click on them.

Figure 52: Acq Profiles — Protocols tab, shot selected



8. In the Shot List, type a name for the Protocol in the Name field. The Name field is just above the Shot List.
9. If you need to delete a shot from the list, select the shot and click the garbage can icon at the top of the Shot List.
10. Click **Save** to save the new protocol.

Figure 53: Acq Profiles — Protocols tab, protocol saved



Editing protocols

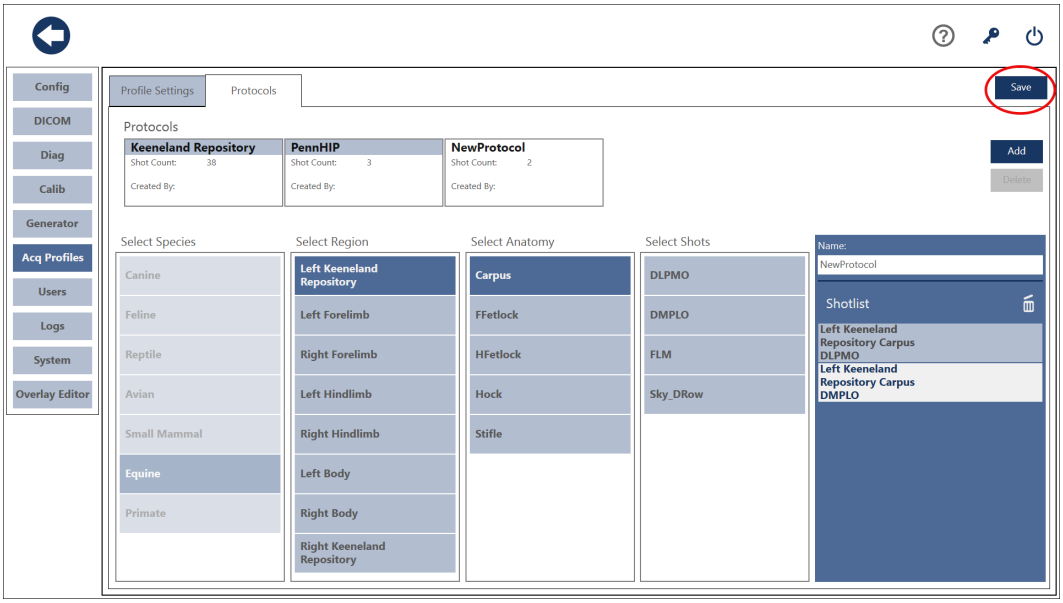
Sound and Vet users can edit existing protocols.

Procedure

1. Open the **Management** screen. See the topic, *Displaying the Management screen* on page 68, for instructions.
2. Click **Acq Profiles** > **Protocols** tab.
3. Select the protocol that you want to edit.

   The protocol details are displayed. The name of the protocol can be edited, new shots can be added, and existing shots can be removed. The species may not be changed.

Figure 54: Acq Profiles — Protocols tab, edit protocol



4. After your changes are complete, click **Save**.

Deleting protocols

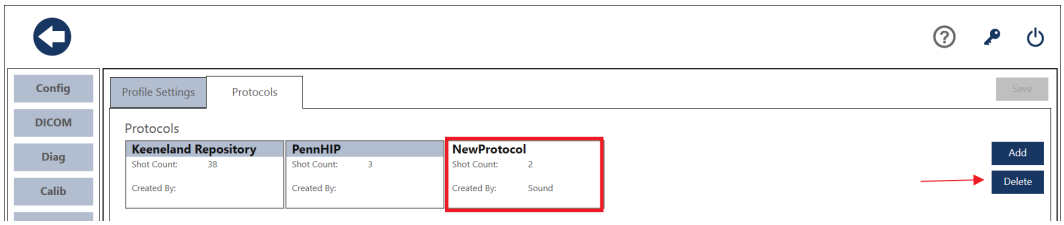
Sound and Vet users can delete image protocols.

Procedure

1. Open the **Management** screen. See the topic, *Displaying the Management screen* on page 68, for instructions.
2. Click **Acq Profiles** > **Protocols** tab.

3. In the Protocols list, select the protocol that you want to delete.

Figure 55: Acq Profiles — Protocols tab, delete protocol



4. Click **Delete**.

   The protocol is deleted from the system.

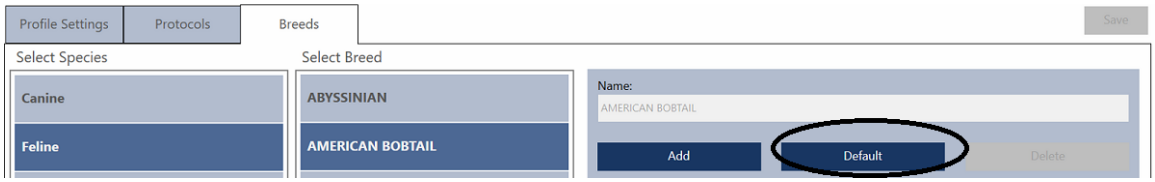
5. After your changes are complete, click **Save**.

Configuring the default breed

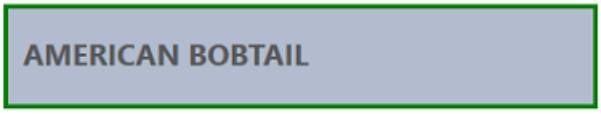
If desired, you can specify a default breed for a species in the Acq Profiles configuration options.

Procedure

1. Go to **Management** > **Acq Profiles** > **Breeds**.
2. Select the species and breed.
3. Select **Default**.

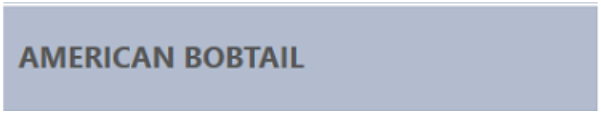


The breed now has a green border indicating that it is the default.



4. To remove the default designation, select the default breed and select **Default** again.

   The green border is removed.



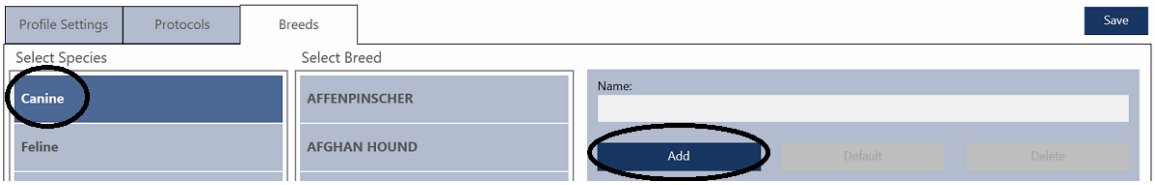
Adding new breeds

New breeds can be added to the acquisition profiles as needed.

Procedure

1. Go to **Management** > **Acq Profiles** > **Breeds**.

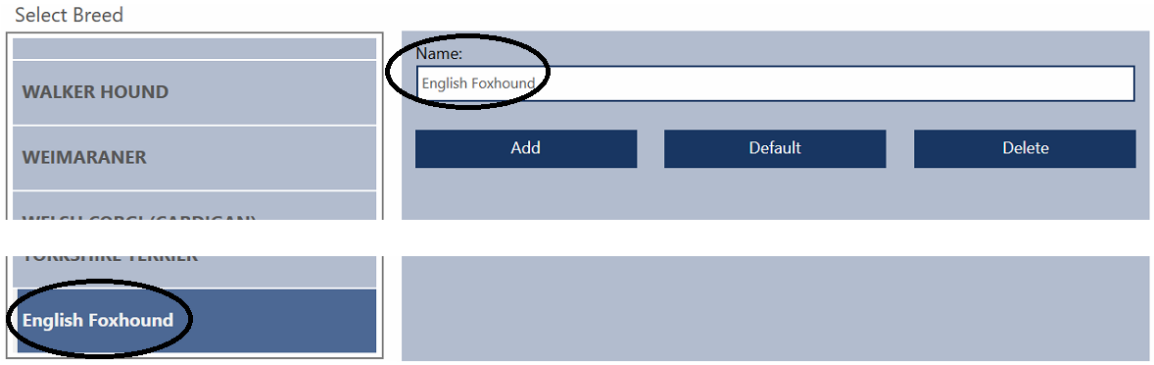
2. Select the species for the breed you want to add.



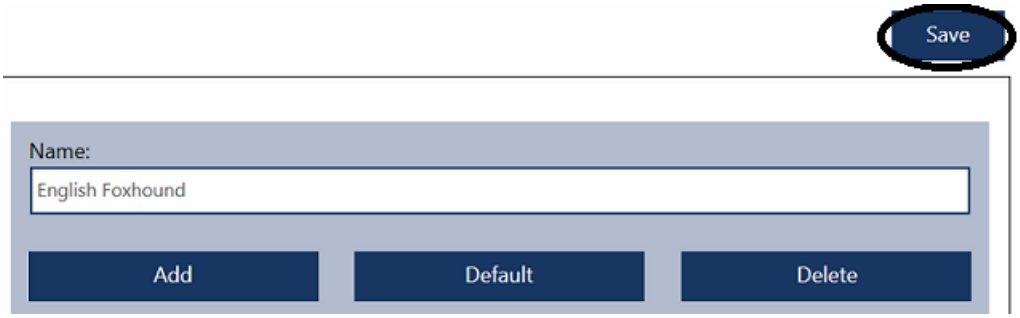
3. Click **Add**.

   The breed is added to the bottom of the Breed column.

4. In the Name field, type a name for the breed.



5. Click **Save**.



Managing Users

Sound users can create, delete, or edit a user in the **Management** screen. All users can edit their preferences in this screen.

Prerequisites

Before you complete any of the tasks in this section, review the topic, *Access levels and privileges*.

Procedure

See one of the following topics to complete the desired task:

- *Adding users* on page 124.
- *Editing users* on page 127.
- *Resetting passwords* on page 128.
- *Deleting users* on page 131.

Users, privileges, and credentials

The tasks that you can complete with the x-ray system are controlled by the type of user that you use to log in to the PC.

Sound user account privileges

The PC logs into this account automatically at power-up or after restarting. The Sound user account has the following privileges:

- is the default user.
- has full access to the **Management** and **Clinical** screens.
- cannot be added or deleted.
- has the default password: `password`.

Windows Administrator user account privileges and credentials

The Windows Administrator user account has full access to the Windows operating system. The default password is `RedCat07`.

Vet user account

The Vet user type:

- can have a designated default Tech user for each user of this type created.
- has limited access to the Management screen. See the following table for specific features and fields this user type can access.
- can be added and deleted. After the user is saved, only the First Name, Last Name, Email Address, and preferences can be changed. Users must be deleted and re-created to change the password and username for an existing user.
- can have a unique password of any length for each user.

The Vet user type has access to the following features and fields:

Table 47: Features and fields accessible to the Vet user type

Feature	Accessible fields
Config > **System Options**	Review Panel Side, Language, Retain Size for Cropping, Verbose Notifications, Default Species, Default Weight
Diagnostics > **Data Collector**	All

Feature	Accessible fields
Acq Profiles	All
Users	All
System	All
Overlay Editor	All

Tech access

The Tech user type:

- can have a designated default Vet user for each user of this type created.
- has limited access to the Management screen. See the following table for specific features and fields this user type can access.
- can be added and deleted. After the user is saved, only the First Name, Last Name, Email Address, and preferences can be changed. Users must be deleted and re-created to change the password and username for an existing user.
- can have a unique password of any length for each user.

The Tech user type has access to the following features and fields:

Table 48: Features and fields accessible to the Tech user type

Feature	Accessible fields
Config > **System Options**	Review Panel Side, Language, Retain Size for Cropping, Verbose Notifications
Diagnostics > **Data Collector**	All
Users	All

Adding users

Users are created in the **Management** screen in the **Users** tab. The access someone has to **Management** screen features depends on the type of user created for them.

Prerequisites

Review *Users, privileges, and credentials* on page 123 to gain a better understanding of the access levels assigned to each user type.

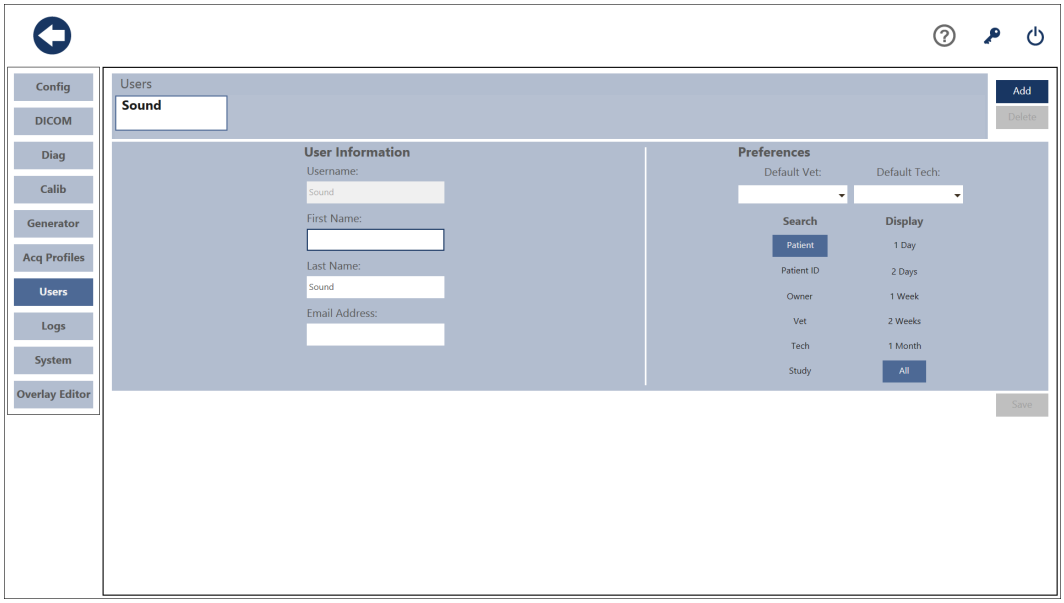
Procedure

1. Open the **Management** screen. See the topic, *Displaying the Management screen* on page 68, for instructions.

2. Click **Users**.

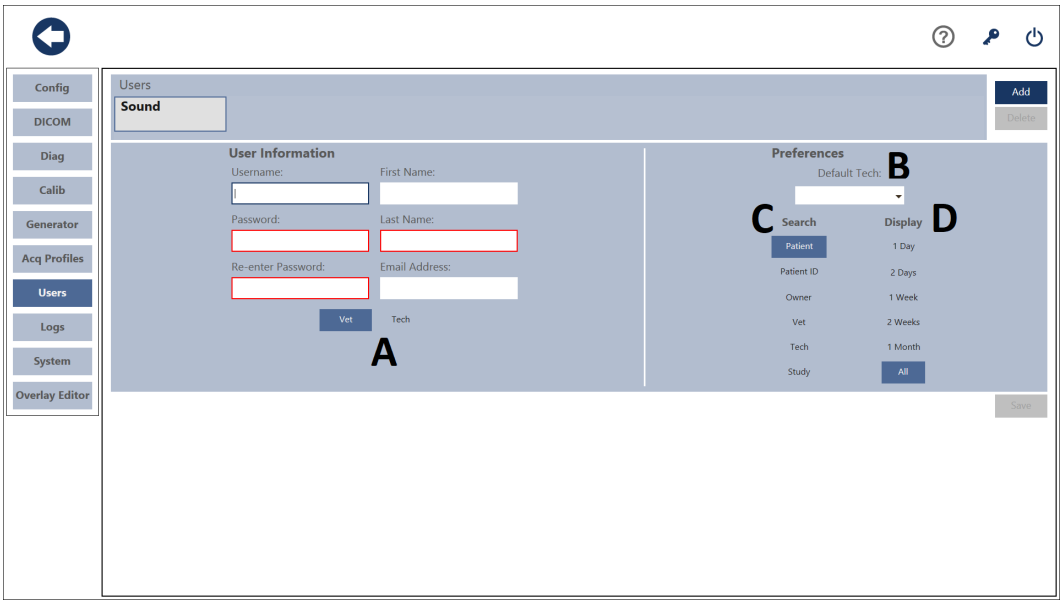
   The User window is displayed, showing the users that already exist in the system. The following figure shows only the Sound user because no other users have been created yet.

Figure 56: Users window



3. In the **Users** window, click **Add** in the upper-right corner of the screen.
   The fields for creating a user are displayed. The fields outlined in red are required.

Figure 57: Users window — add user



A	User-type selection buttons. You can select either **Vet** or **Tech**.
B	**Preferences** > **Default *X*** If the user type is Vet, this field allows you to select the default Tech for this user. If the user type is Tech, this field allows you to select the default Vet for this user.
C	The search criteria available for the user.
D	Display options for the user.

4. Under User Information, enter the information for the new user.
5. Under Preferences > Default *user_type*, select the default user. *user_type* is Vet or Tech depending on the type selected for the new user.

   If Vet is the type selected for the new user, you can select a default Tech to be associated with the new Vet user. If Tech is the type selected for the new user, you can select a default Vet to be associated with the new Tech user. The preferences are displayed at the top of the **Patient List** screen.
6. Under Preferences > Search, select the search preferences for the user.

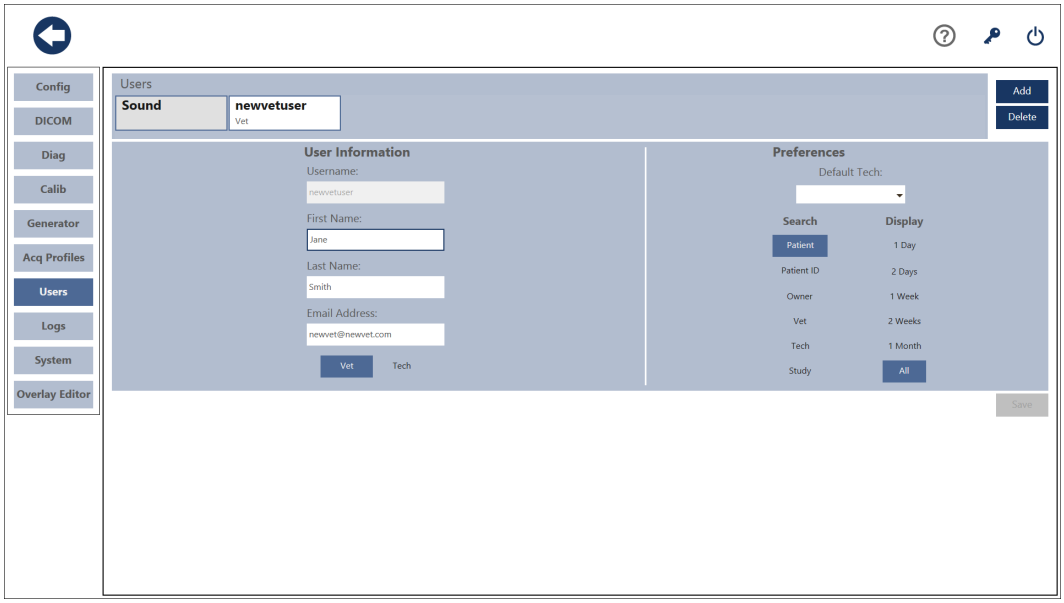
   You can select multiple search preferences.
7. Under Preferences > Display, select the display preferences for the user.

   Important: After the new user is saved, the username becomes read-only. To change the username or password for an existing user, use the Windows operating system. See the topic *Resetting passwords* on page 128 for instructions.

8. Select **Save**.

   The new user is added to the system and displayed in the Users area at the top of the screen.

Figure 58: Users window — saved user



Editing users

After a user has been created, you can edit any of the user information and preferences except the username and password.

About this task

Usernames must be deleted and re-created to be changed.

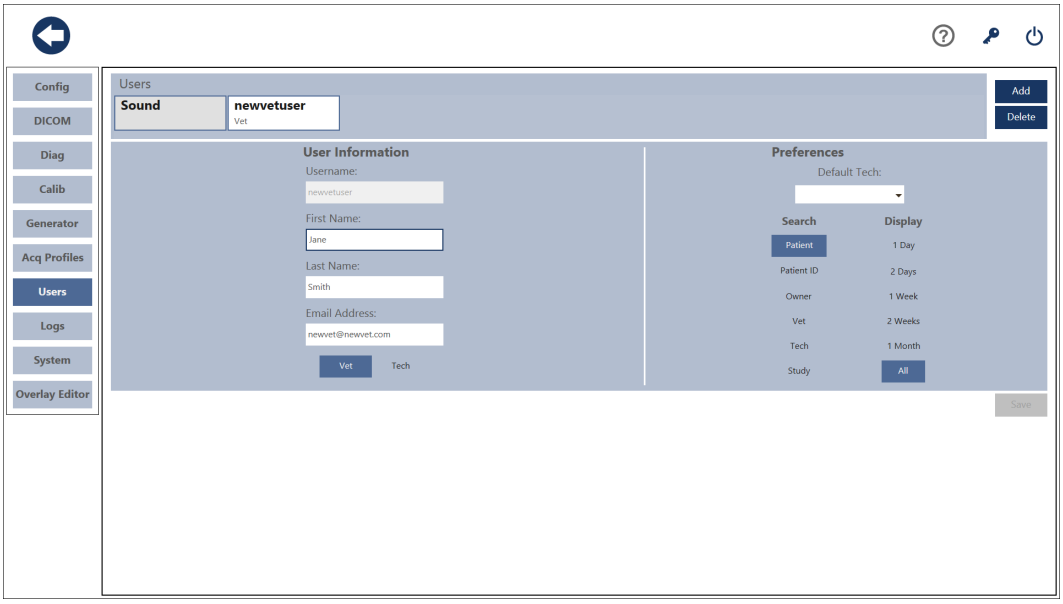
Procedure

1. Open the **Management** screen. See the topic, *Displaying the Management screen* on page 68, for instructions.

2. Click **Users**.

   The **Users** screen is displayed.

Figure 59: Users screen



3. Edit the fields as necessary.

   Attention: User names and passwords must be edited through the Windows operating system. See *Resetting passwords* on page 128 for instructions.

4. Click **Save**.

Resetting passwords

User passwords can be reset and changed through the Windows operating system.

Procedure

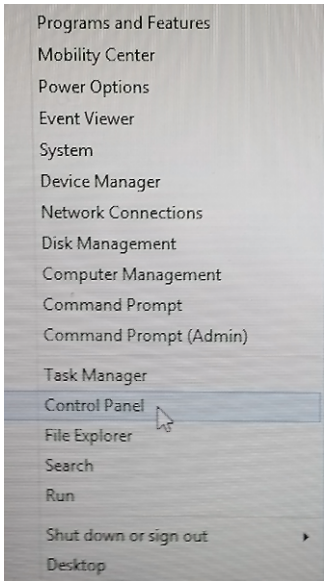
1. If you are at the Windows desktop, go to the next step. If the NEXT EQUINE DR® software is running, log out of the software.

   The Windows desktop is displayed.

2. Right-click the Windows **Start** button and select **Control Panel**.

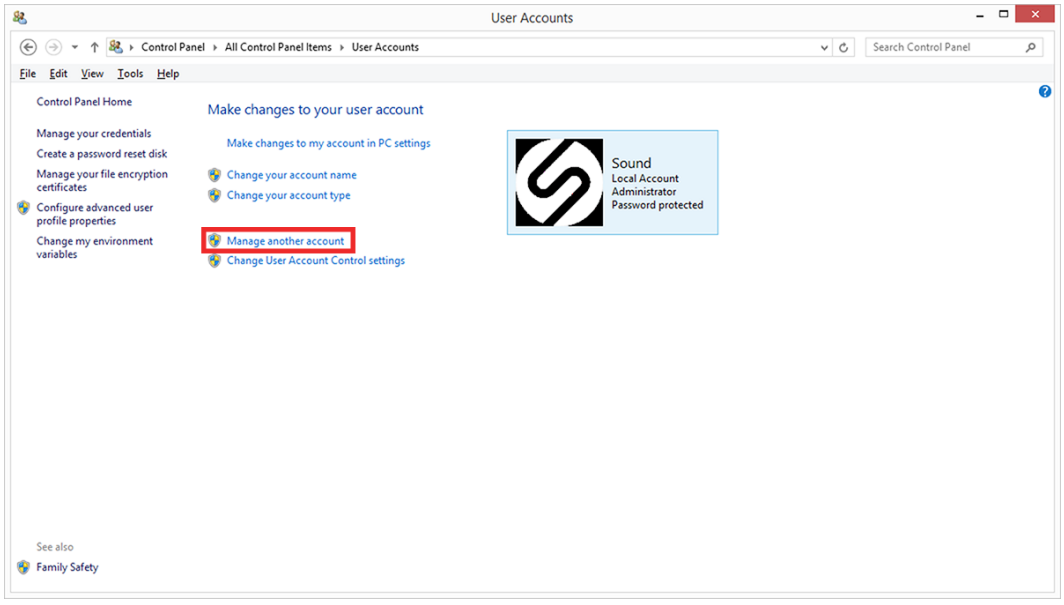
Figure 60: Windows Start button

Figure 61: Windows Start menu — Control Panel



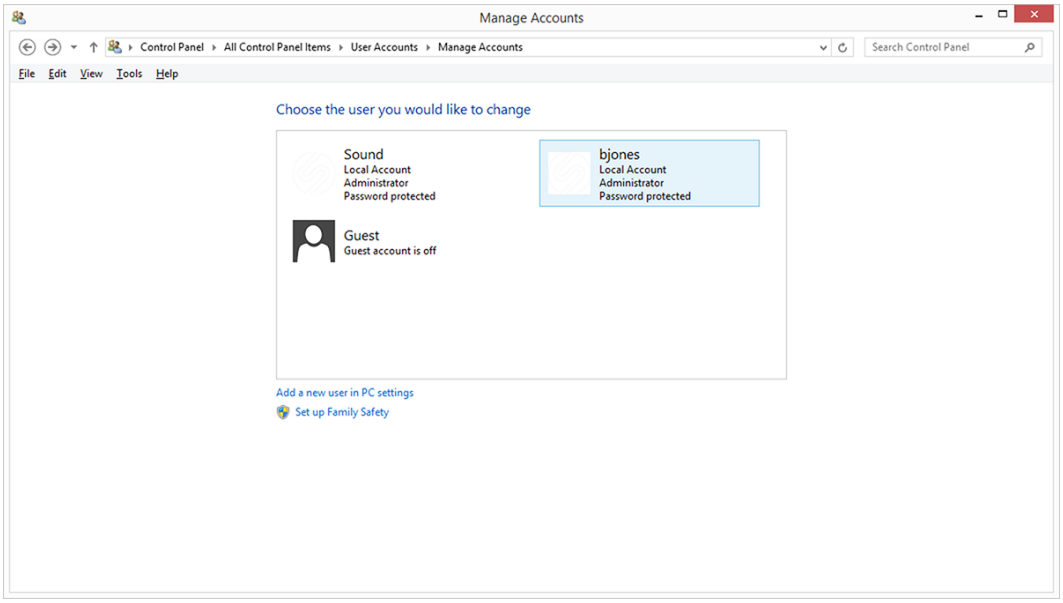
3. In the **User Accounts** window, select **Manage another account**.

Figure 62: Make changes to your account window



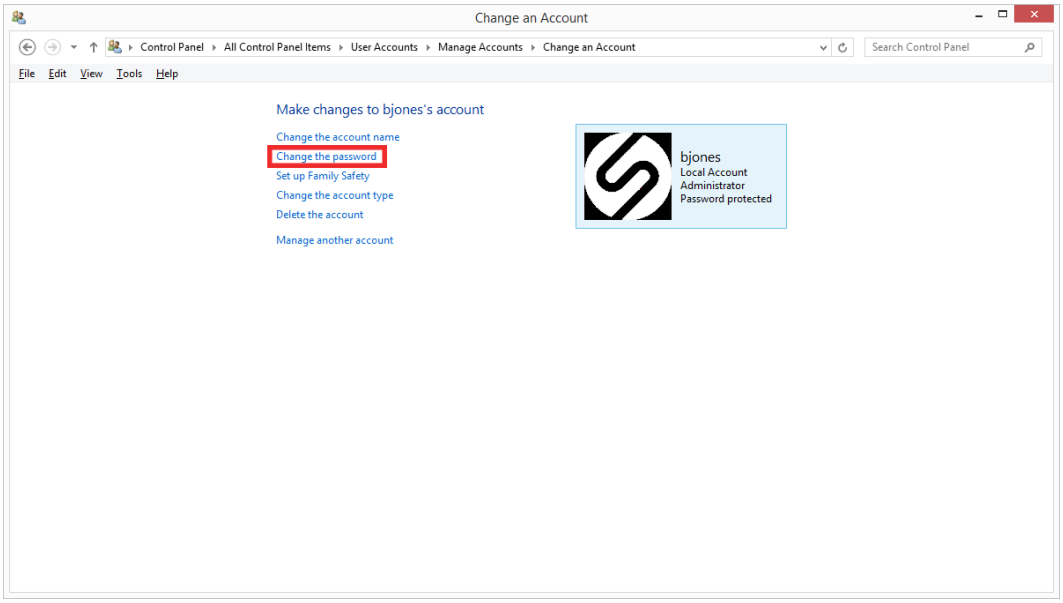
4. In the **Manage Accounts** window, select the user account that you want to change.

Figure 63: Choose the user you would like to change window



5. In the **Make changes to XXX account** window, select **Change the password**.

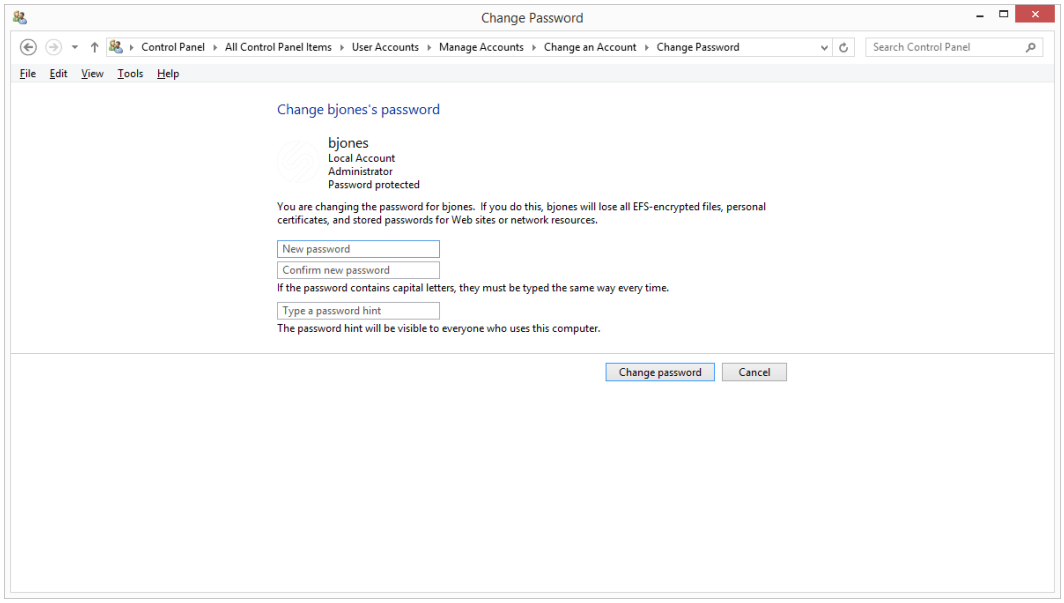
Figure 64: Make changes to user account



6. In the **Change Password** window, complete the fields.

   The password must meet the requirements for Windows passwords. The password hint field is optional.

Figure 65: Change Password window



7. Select the **Change password** button to save the changes.
8. Close the **Change an Account** window.

   The Windows menu ribbon is hidden again, and you remain in the NEXT EQUINE DR® software interface.

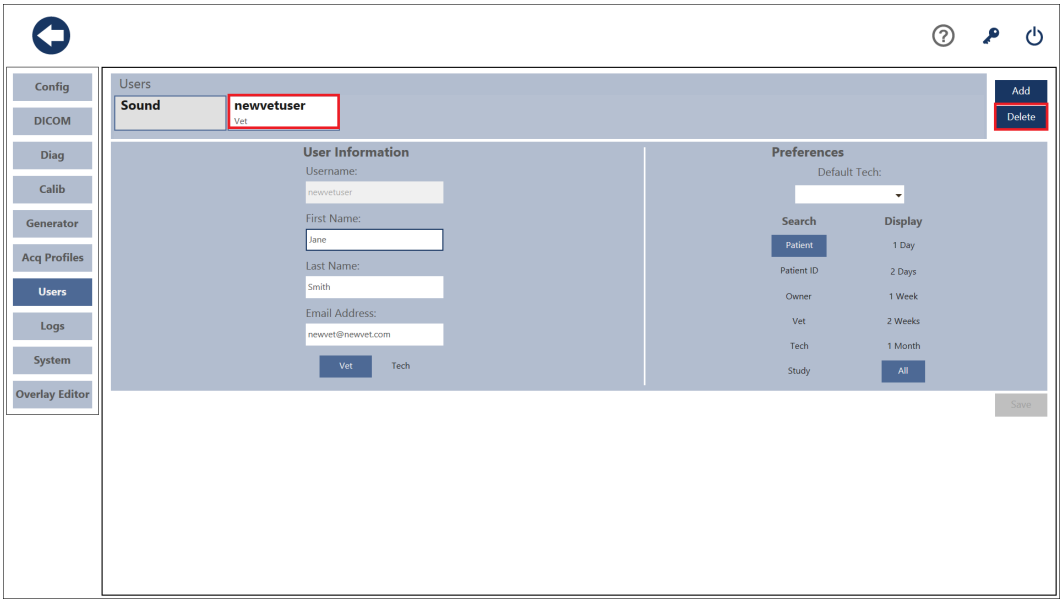
Deleting users

Users can be deleted in **Management** screen in the Users tab.

Procedure

1. Open the **Management** screen. See the topic, *Displaying the Management screen* on page 68, for instructions.
2. Click **Users**.

3. In the Users area of the window, select the user that you want to delete.



4. Click **Delete**.

   A dialog with the message `Are you sure?` is displayed. Select the check mark to delete the user.

Configuring Logging

Application and DICOM logging can be configured to use Normal or Verbose modes.

Prerequisites

Before you begin this task, review the topic *Log Files* on page 172 to familiarize yourself with the types of log files and what they capture.

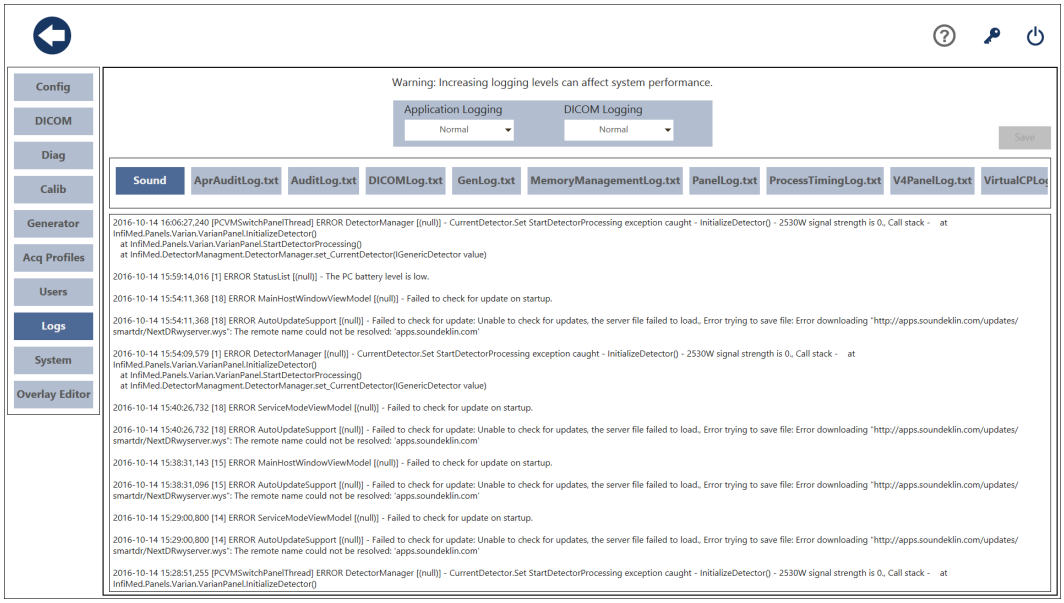
Procedure

1. Open the **Management** screen. See the topic, *Displaying the Management screen* on page 68, for instructions.

2. Select **Logs**.

   The logging window is displayed:

Figure 66: Logs screen



3. Select the tab for the log files that you want to configure, and select the configuration options.

   Important: Set Sound (Application) or DICOM logging to Verbose mode only when instructed to do so by a technical support representative.

Customizing Overlays

Using the Overlay Editor, Vet and Sound users can customize image overlay to display the DICOM tags that they want to display.

About this task

The Overlay Editor consists of two main parts; the DICOM Tag List and the Layout Grid, both of which are displayed to the right.

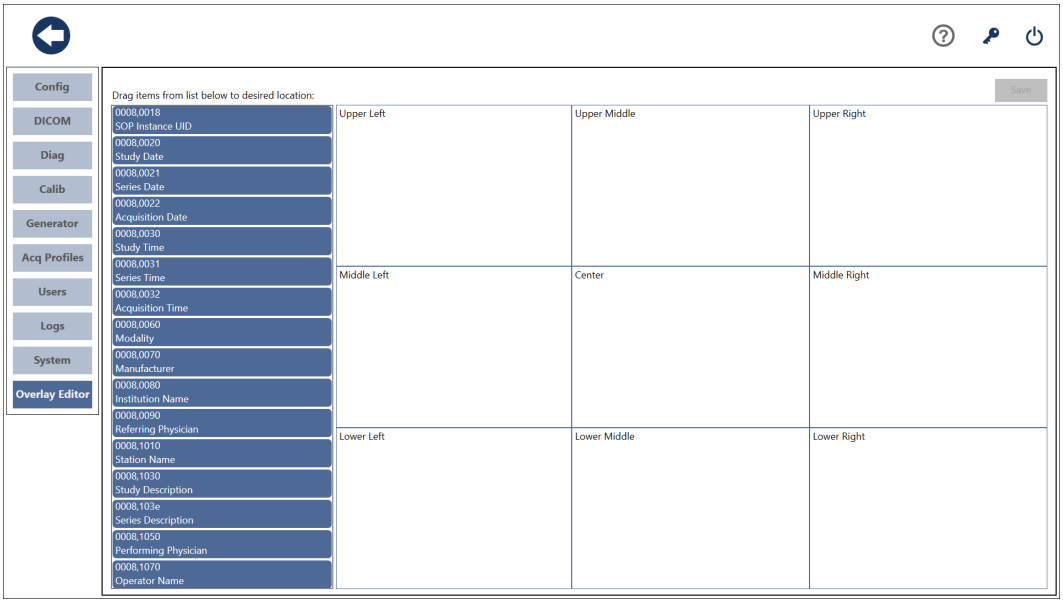
The Grid is made up of nine (9) boxes, each of which represent an area of the image display screen.

Procedure

1. Open the **Management** screen. See the topic, *Displaying the Management screen* on page 68, for instructions.

2. Select **Overlay Editor**.
   The overlay data elements and grid are displayed.

Figure 67: Overlay Editor



A	Overlay data elements.
B	Overlay grid.

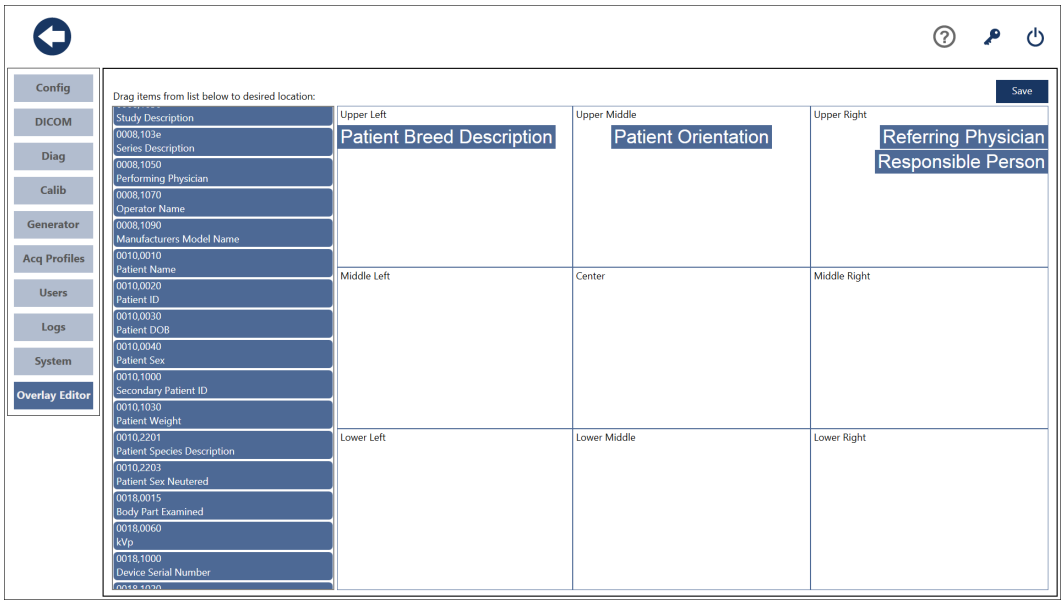
3. Select and drag the overlay data to the desired area of the grid.

   You can drag as much or as little data onto the grid as you choose. For example, the following image shows the Patient Breed Description, Patient Orientation, Referring Physician, and Responsible Person data points have been added to the grid.

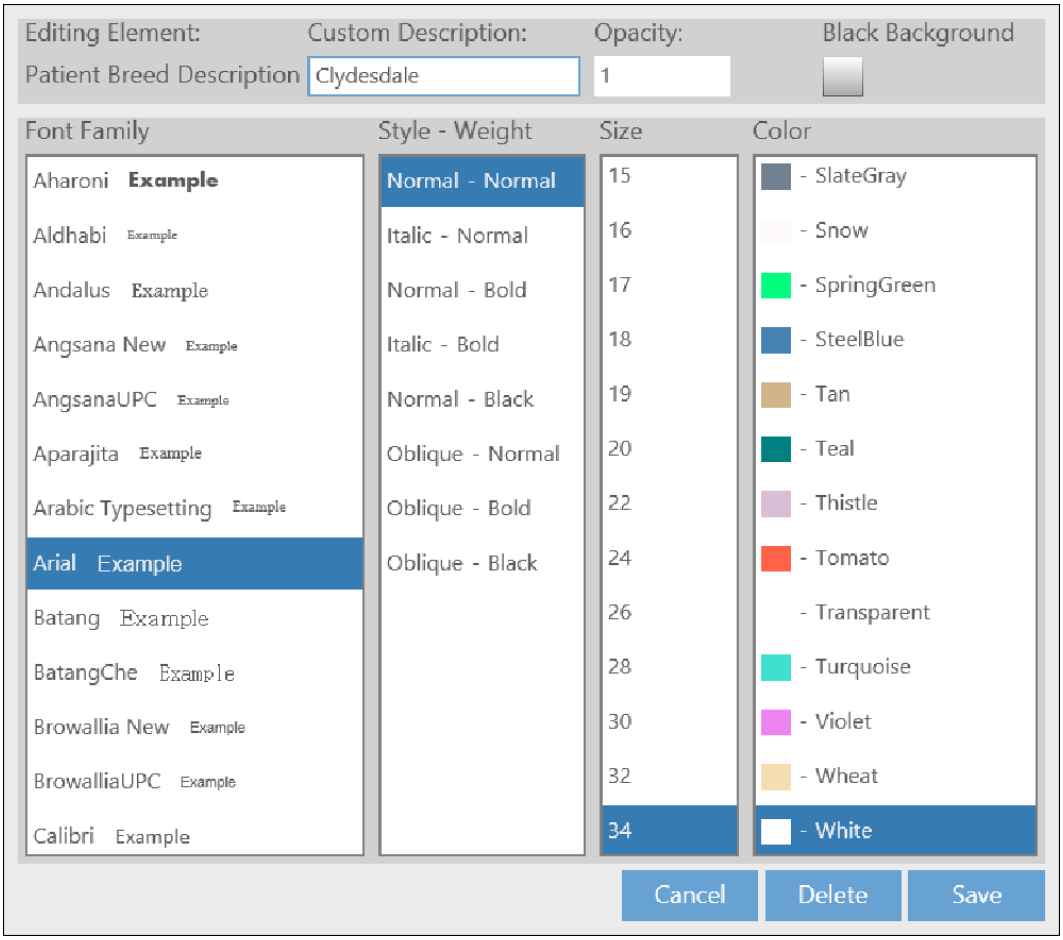
   When you import a patient from a worklist, the Study Description field will be populated as described below:

Worklist data provided:	Study description contains
Requested Procedure Description tag (0032. 1060) is provided.	Requested Procedure Description data
Study Description tag (0008,1030) is provided; Requested Procedure Description tag (0032. 1060) is not provided.	Study Description data
Requested Procedure Tag (0032, 1060) and Study Description Tag (0008, 1030) are not provided.	Protocol Name if a preconfigured protocol is selected or Exam of first shot if individual shots are selected.

Figure 68: Overlay with data



4. To customize the attributes of the overlay data items, select a data item, and edit the attributes as desired.



5. In the attribute window, click **Save**.
6. When you are done customizing the overlay and overlay data elements, click **Save** in the Overlay Editor.
   The value for the selected tags will be displayed in the Acquire/Review screen when the user selects the **Overlay** icon in that screen's tool bar:

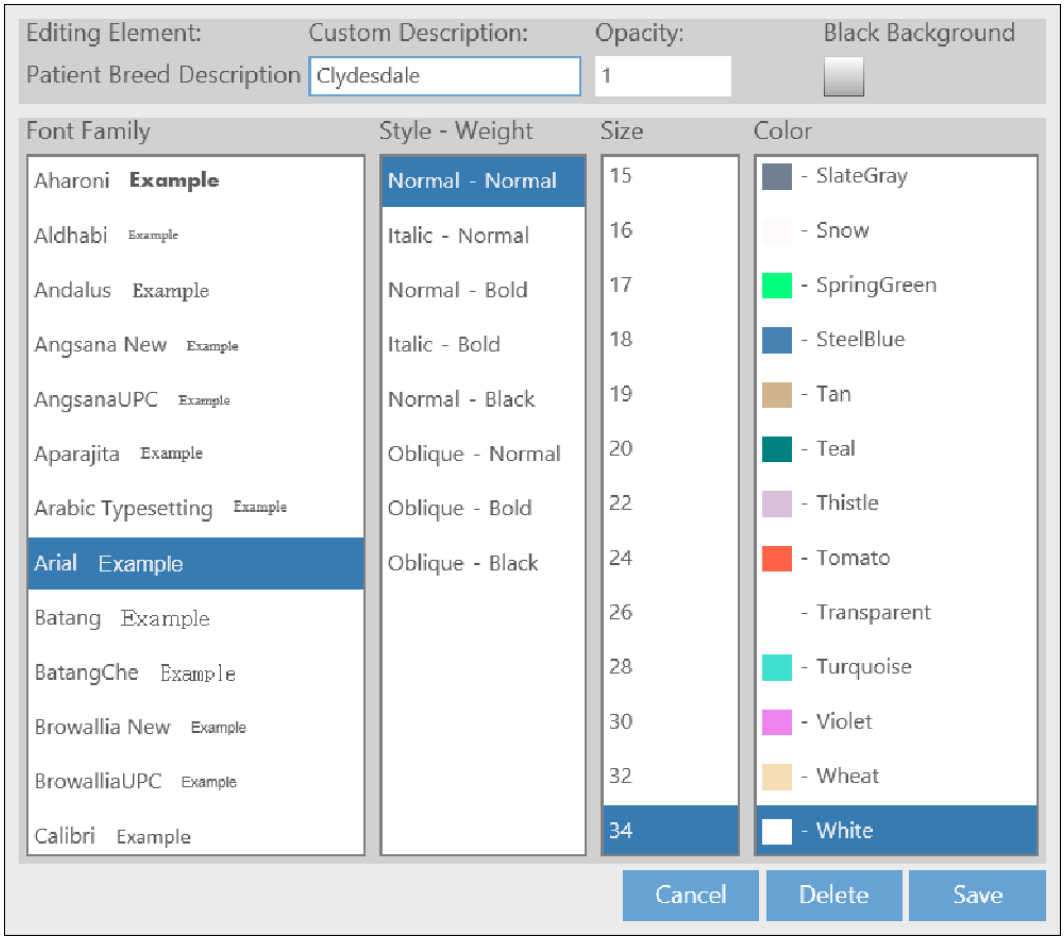
Deleting overlay data elements

Overlay data elements can be deleted from overlays by Vet and Sound users.

Procedure

1. Open the **Management** screen. See the topic, *Displaying the Management screen* on page 68, for instructions.
2. Click **Overlay Editor**.

3. Click the data element that you want to remove from the overlay grid.
   The data attribute window opens.



4. In the data attribute window, click **Delete**.
5. In the Overlay Editor, click **Save**.

Chapter

5

Maintaining the NEXT EQUINE DR® X-ray System

Contents

This chapter describes how to maintain the system after it is installed and configured.

In includes information about backing up and restoring the system, updating the system, calibrating the panel, and cleaning the components of the system.

Starting the SmartDR System Configuration Tool

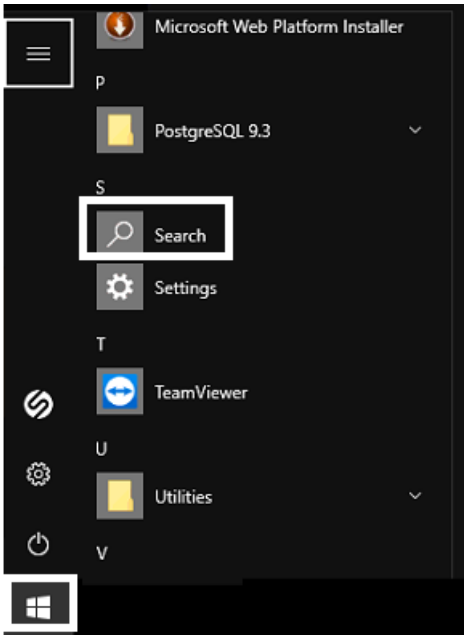
Sound SMART DR™ includes a program called the SmartDR System Configuration Tool that can be used for system maintenance tasks such as exporting and importing configurations and restoring the master database.

About this task

Complete this task to start the SmartDR System Configuration Tool.

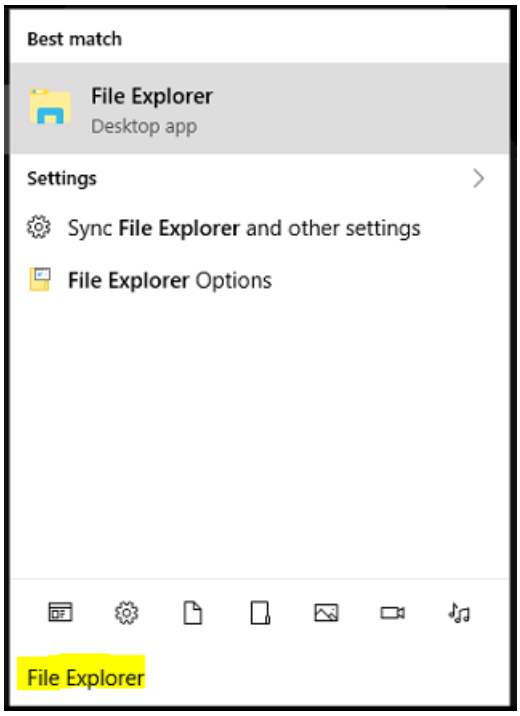
Procedure

1. Exit the Sound SMART DR™ application.
   The Windows desktop is displayed.
2. Select the Windows **Start** icon, and scroll down to **Search**.

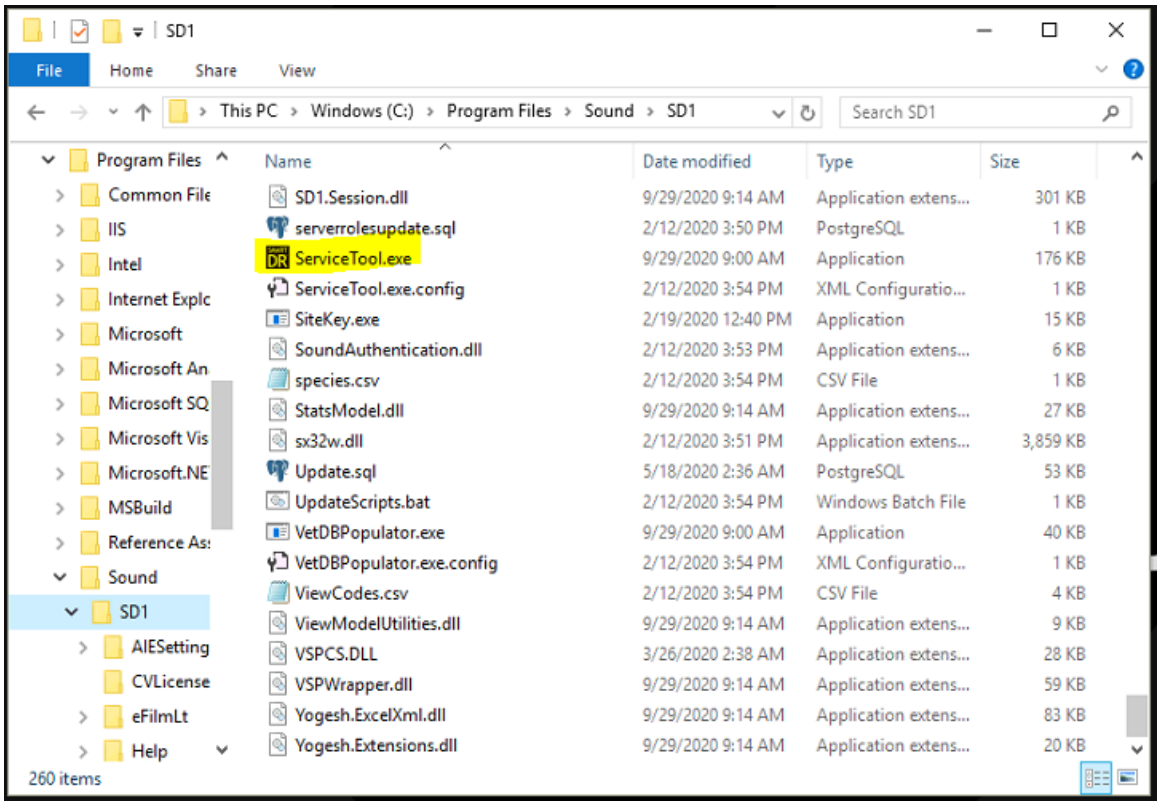


   The Search field is displayed.

3. Type `File Explorer` in the Search field.



4. Open the File Explorer, and navigate to: `C:\Program Files\Sound\SD1`.
5. Scroll down to `ServiceTool.exe`, and double-click to start the application.



The SoundDR System Configuration Tool opens.

What to do next

Complete the necessary tasks.

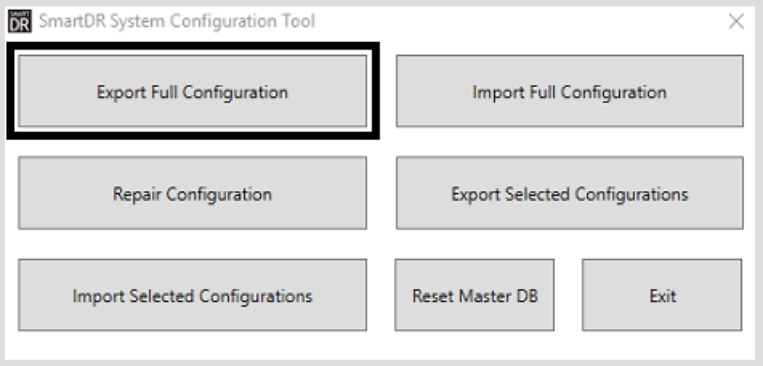
Export the full system configuration

You can use the SmartDR System Configuration Tool to export the complete system configuration for use in the event that the configuration needs to be restored at some point.

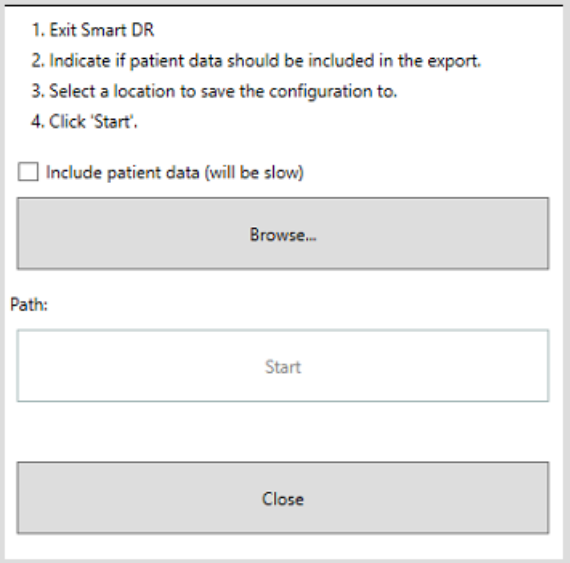
Procedure

1. Start the SmartDR System Configuration Tool.

   See *Starting the SmartDR System Configuration Tool* on page 140 for instructions.
2. Select **Export Full Configuration**.



3. Follow the instructions in the **Export Full Configuration** window.



4. Select **Close** to close the export window.

Import the full system configuration

You can import a full system configuration that has been previously exported.

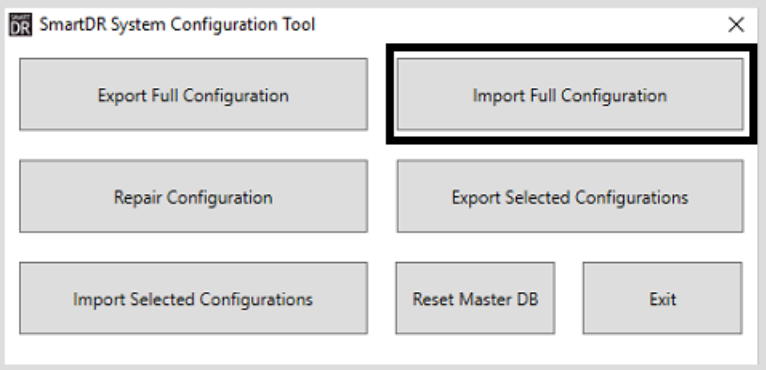
Prerequisites

A full system configuration must have been exported before this task can be started.

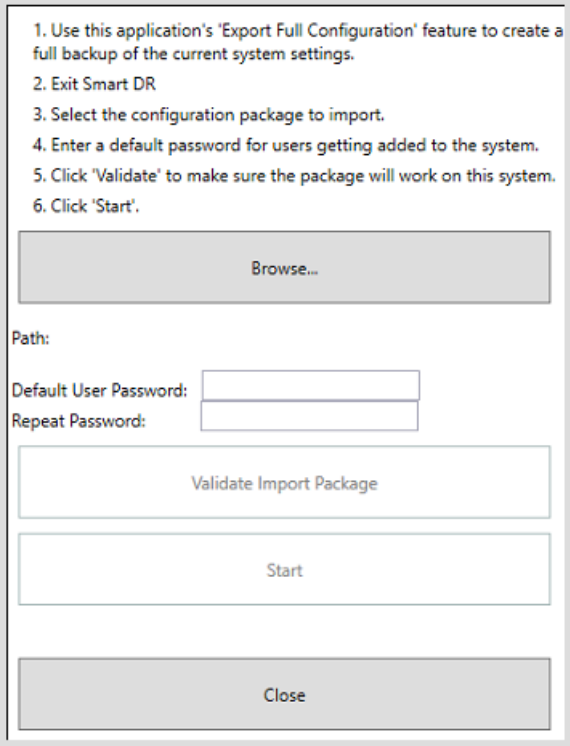
Procedure

1. Start the SmartDR System Configuration Tool.

   See *Starting the SmartDR System Configuration Tool* on page 140 for instructions.
2. Select **Import Full Configuration**.



3. Follow the instructions in the import window.



4. Select **Close** when the import is complete.

Export Selected Configurations

You can export selected configurations so that they are available for import later if needed.

Prerequisites

You must export selected configurations before you can start this task.

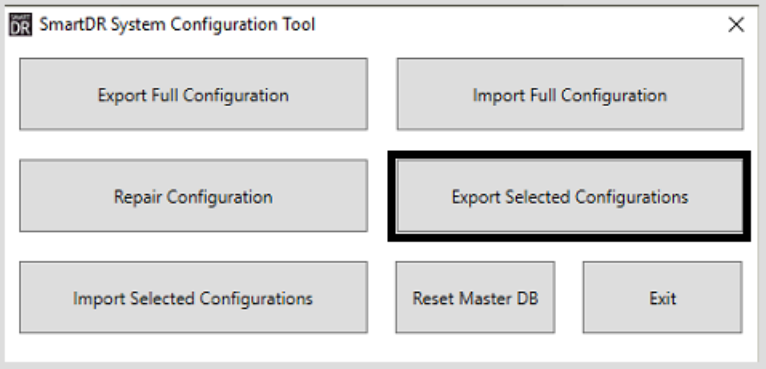
About this task

When you export selected configurations, an export of the complete configuration is performed. Then, from that, you can select the configurations that you want to import when performing an import of selected configurations.

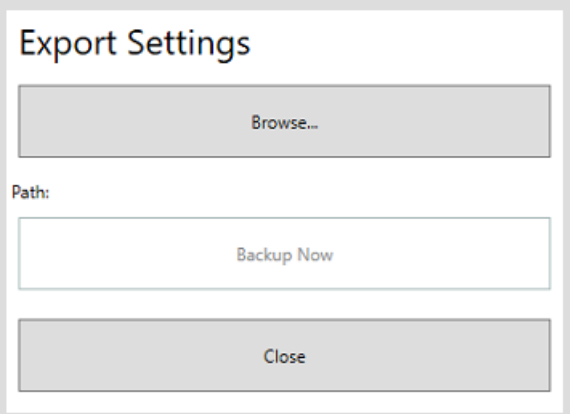
Procedure

1. Start the SmartDR System Configuration Tool.

   See *Starting the SmartDR System Configuration Tool* on page 140 for instructions.
2. Select **Export Selected Configurations**.

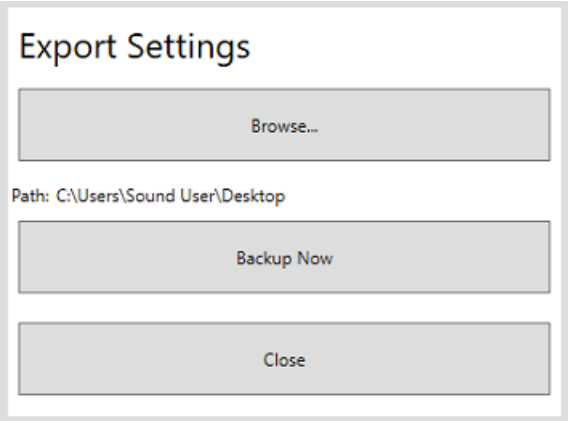


   The **Export Settings** window opens.
3. Select **Browse...** and navigate to the location where you want to save the exported configurations. You can use **Make New Folder** in the **Browse** window to create a folder at the desired location if needed.



   After you have selected the save to location, the path is displayed and the **Backup Now** button is active.

4. After you have selected the path, select **Backup Now**.



5. After the backup is complete, select **Close**.

Import Selected Configurations

If a configuration has been exported as part of the Export Selected Configurations process, you can import the configuration if needed.

Prerequisites

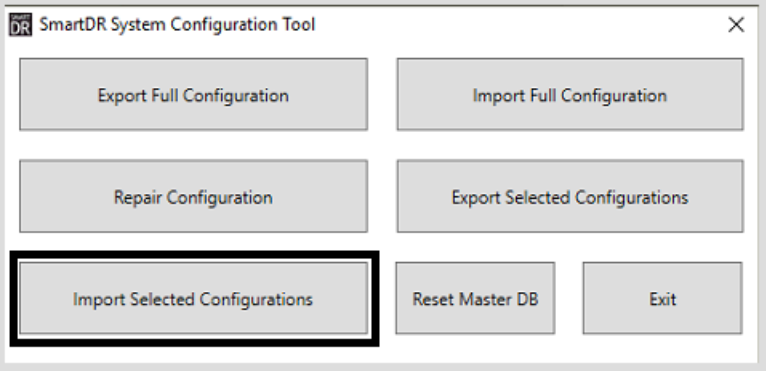
A configuration must have been exported using Export Selected Configurations before it can be imported.

Procedure

1. Start the SmartDR System Configuration Tool.

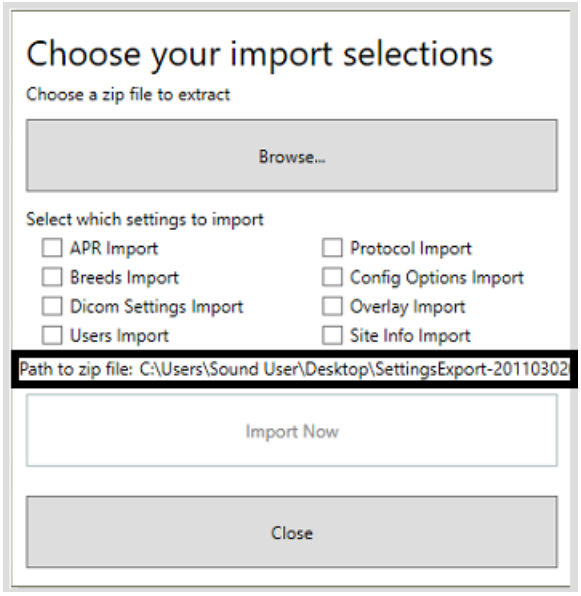
   See *Starting the SmartDR System Configuration Tool* on page 140 for instructions.

2. Select **Import Selected Configurations.**



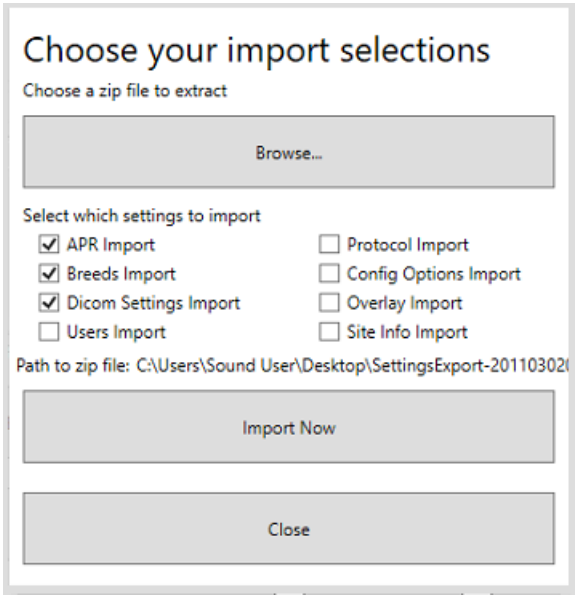
   The **Choose your import selections** window opens.

3. Select **Browse...**, and navigate to the directory where the configurations were saved during the Export Select Configurations procedure.



The path and selected file are displayed in the Path field.

4. Select the configurations to import.

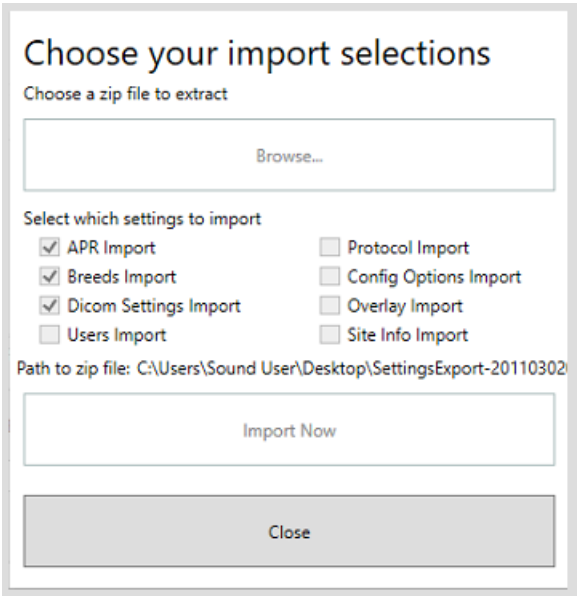


The **Import Now** button becomes active.

5. Select **Import Now**.

   The import may take several seconds. When the import is complete, the **Close** button becomes active.

6. After the import is completed, select **Close**.



Repair Configuration

In some cases, you may want to repair an existing configuration instead of replacing it.

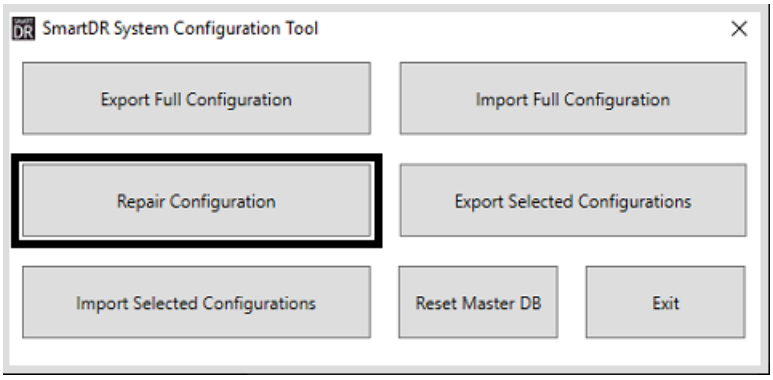
Prerequisites

A configuration must have been exported from Sound SMART DR™ before you can start this task.

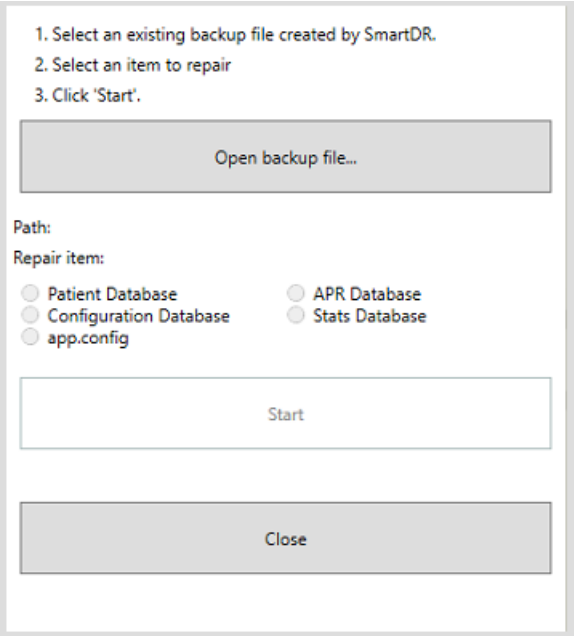
Procedure

1. Start the SmartDR System Configuration Tool.

   See *Starting the SmartDR System Configuration Tool* on page 140 for instructions.
2. Select **Repair Configuration.**



3. Follow the instructions in the repair dialog.



4. After the repair is complete, select **Close**.

Reset the main database

If the main database becomes corrupt or fails in some way, it can be reset using the SmartDR System Configuration Tool.

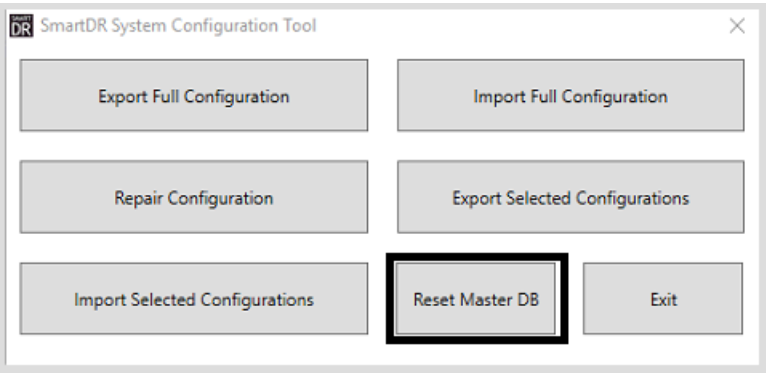
About this task

The SmartDR System Configuration Tool is accessible from the Windows file system.

Procedure

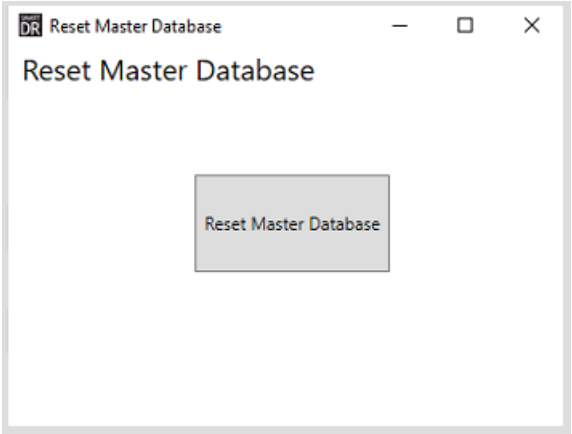
1. Start the SmartDR System Configuration Tool.

   See *Starting the SmartDR System Configuration Tool* on page 140 for instructions.
2. Select **Reset Master DB**.



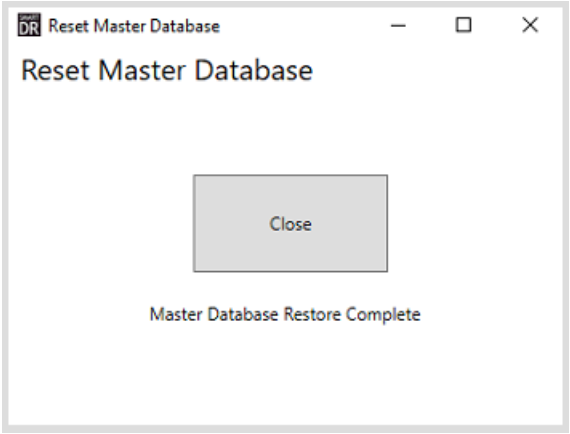
   The **Reset Master Database** window is displayed.

3. Select **Reset Master Database**.



The database is reset.

4. After the database is reset, select **Close** to close the **Reset Master Database** window.



Backing Up NEXT EQUINE DR® Data and Settings

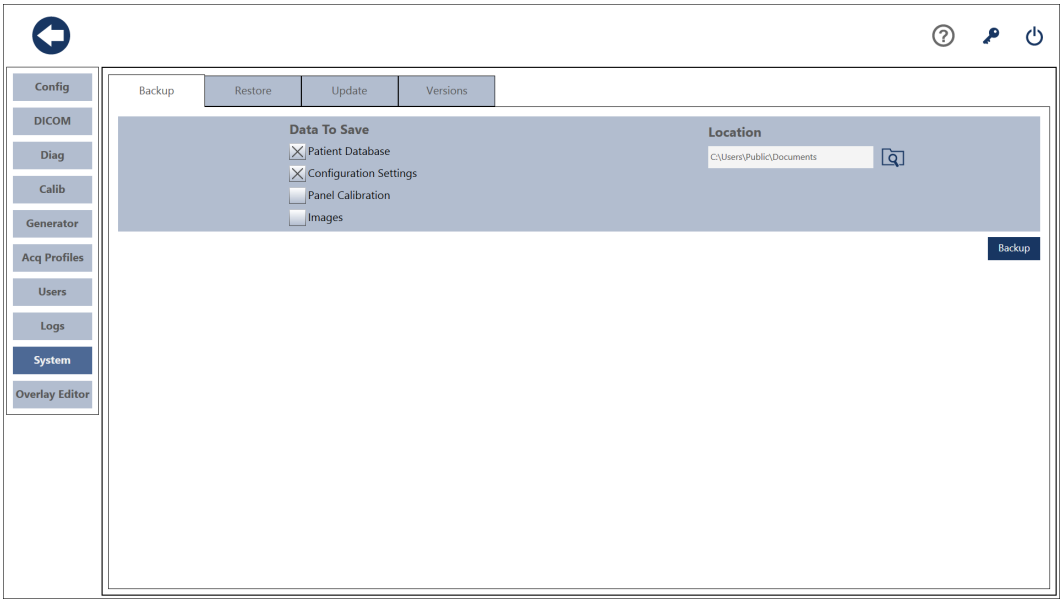
A Sound or Vet user can back up the patient database, configuration settings, panel calibration, images, and other system files.

Procedure

1. Open the **Management** screen. See the topic, *Displaying the Management screen* on page 68, for instructions.

2. Click **System**.
   The **Backup** tab displays.

Figure 69: Backup tab



Patient Database	Selecting this option creates the backup file `ImVetDataStore.bak`.
Configuration Settings	Selecting this option creates the backup files `SD1.exe.config`, `ImVetConfiguration.bak`, and `VetAprSettings.bak`.
Panel Calibration	Selecting this option backs up the `Imagers` directory.
Images	Selecting this option backs up the `image_db` folder.
Location	The directory location of the zip file created by the backup process.

3. Under Data To Save, select the data that you want to back up.
   The default selections are **Patient Database** and **Configuration Settings**. In addition to the data you select, the system also automatically backs up the statistics database (ImVetStats.bak) and SQL system databases (master.bak, msdb.bak, and model.bak).
4. In the Location field, select the default path or specify a new path to the directory where the backup files will be stored. The default path is `C:\Users\`*`current_user`*`\Documents`, where *current_user* is the user that is currently logged in.
5. Click **Backup**.
   The backup process creates a zip file called SD1Backup_*YYMMDDHHMMSS*, where *YYMMDDHHMMSS* is the two-digit year, month, day, hour, minute, and second of the backup.

Restoring NEXT EQUINE DR® Data and Settings

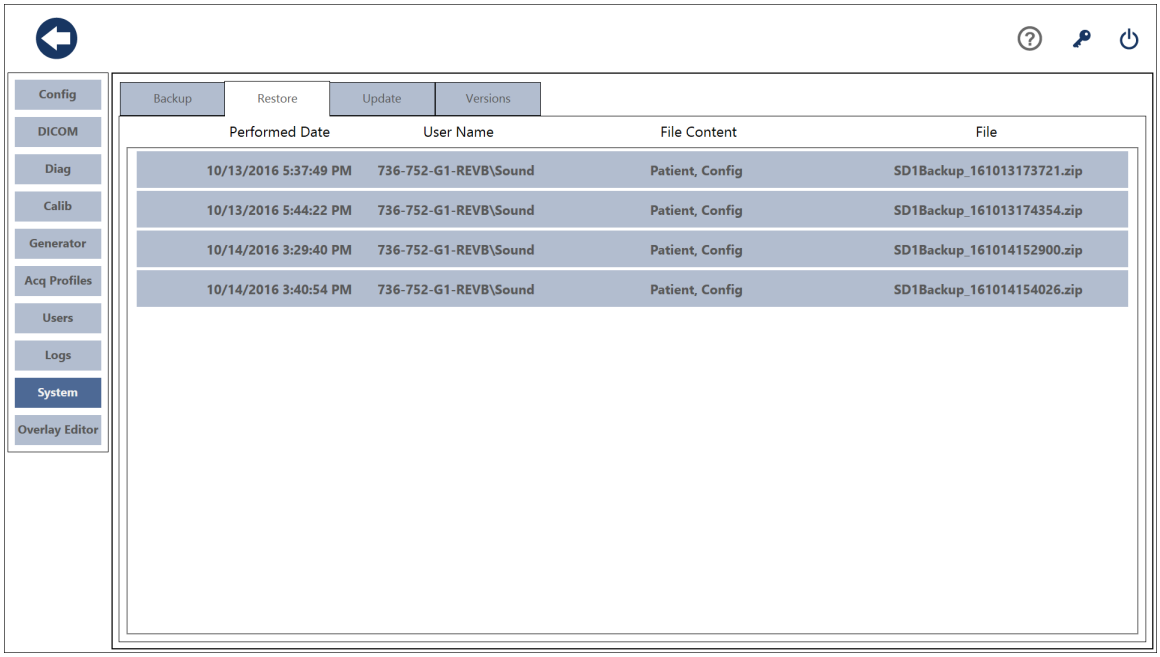
Sound and Vet users can restore a system that has been backed up.

Procedure

1. Open the **Management** screen. See the topic, *Displaying the Management screen* on page 68, for instructions.
2. Click **System** > **Restore**.

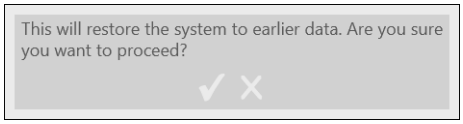
   The list of backups is displayed.

Figure 70: Restore tab



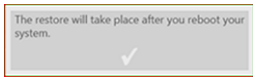
3. Click the icon that is displayed next to the selected restore point.

The following message is displayed:



When the backup data is restored, a message is displayed.

Figure 71: Restore tab -- message



4. Click the check mark in the message.
5. Restart the system when you are ready for the restoration to take effect.

Restoring the Tablet Hard Drive

This topic describes how to restore the DT340T tablet hard drive from a thumb drive.

About this task

Warning: This process permanently overwrites the entire contents of the hard drive. Perform this procedure only on a new hard drive or on an existing drive that has suffered critical data corruption.

Procedure

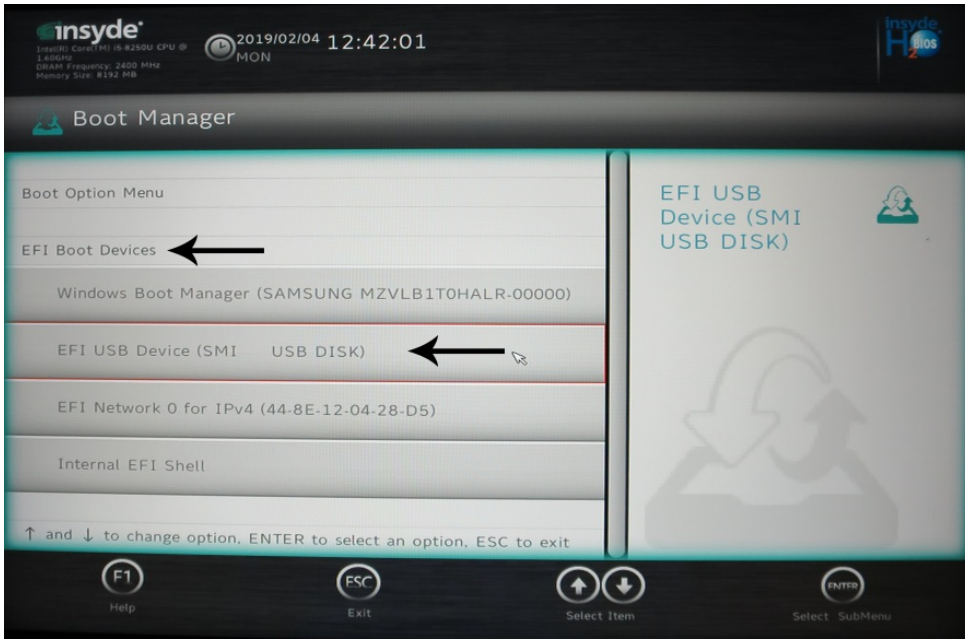
1. *Log out of the Sound SMART DR™ software*.
2. Press the power button to power down the tablet.

3. Insert the Sound SMART DR™ Recovery Media into a USB port on the tablet. See *DT340T Tablet controls and connectors* on page 6 for port locations.
4. Ensure the wireless keyboard and mouse are connected and operational.
5. Press the power button on the tablet to power it up. The blue LED above the button lights.

6. During initial boot-up, press the ESC key repeatedly until the system displays the Configuration screen.

7. Select **Boot Manager**.
8. Under **EFI Boot Devices**, select **EFI USB Device (SMI USB DISK)**.

   The tablet will now boot from the recovery media and start the automated installation process. This automated process requires no user input.



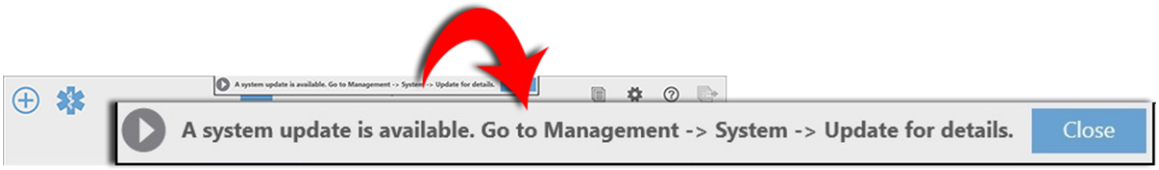
   The tablet will restart several times during the process. Once installation is complete, the tablet will power down.

Updating the Sound SMART DR™ Software with Auto Update

X-ray system updates can be installed or not as needed by the site.

About this task

When you log in to the NEXT EQUINE DR® PC, the software automatically checks for updates. If updates are available, the following message is displayed:

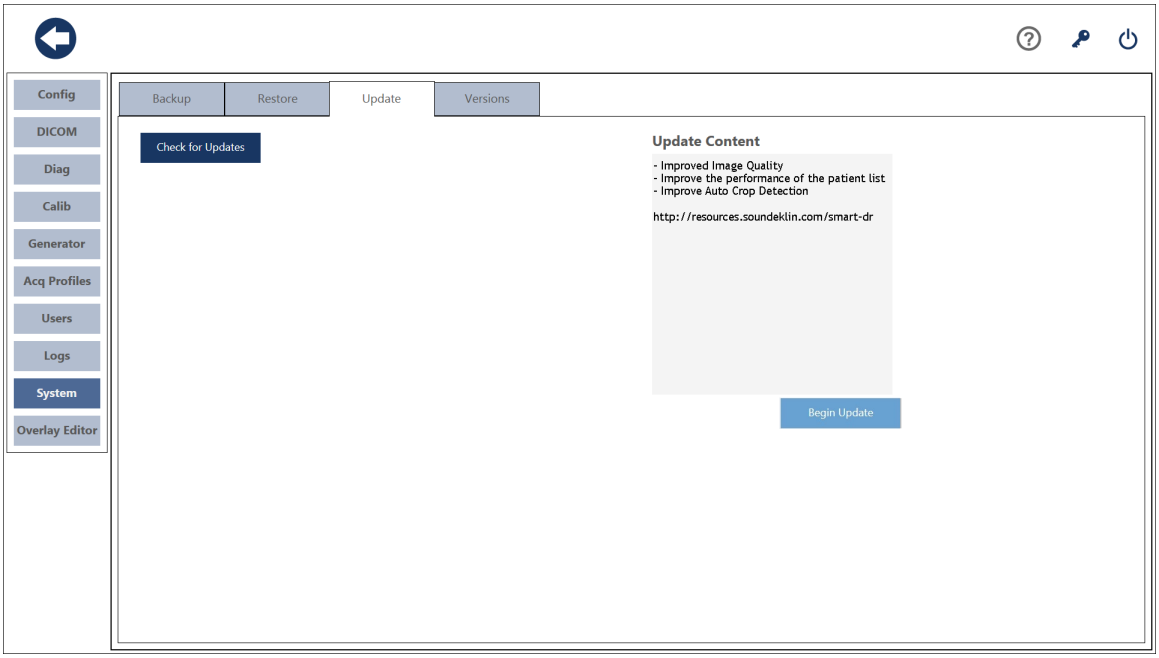


Procedure

1. Open the **Management** window. See the topic, *Displaying the Management screen* on page 68, for instructions.
2. Click **System** > **Update**.

   The **Update** tab is displayed. When the software detects new updates for the system, they are displayed in the Update Content area of the tab. If no updates are displayed, you can select **Check for Updates** to check manually.

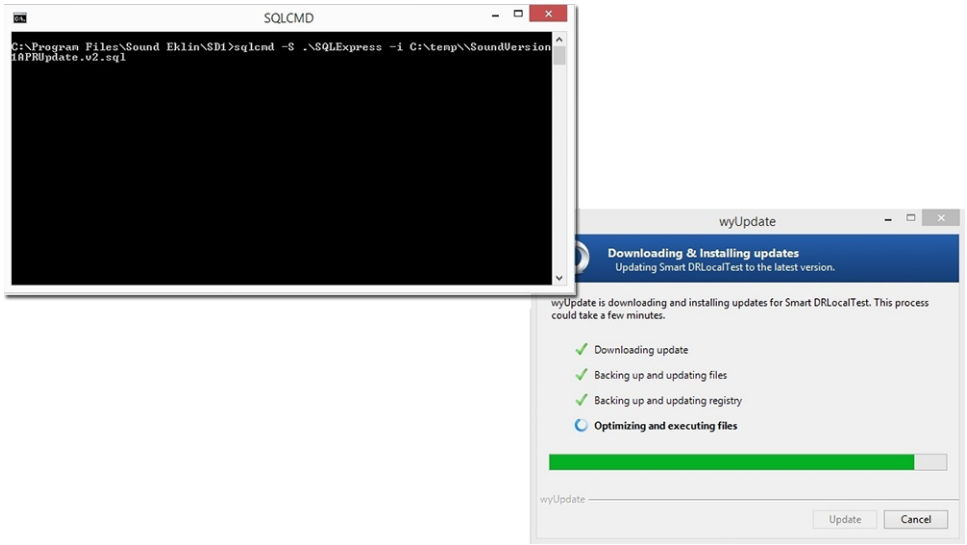
Figure 72: Update tab



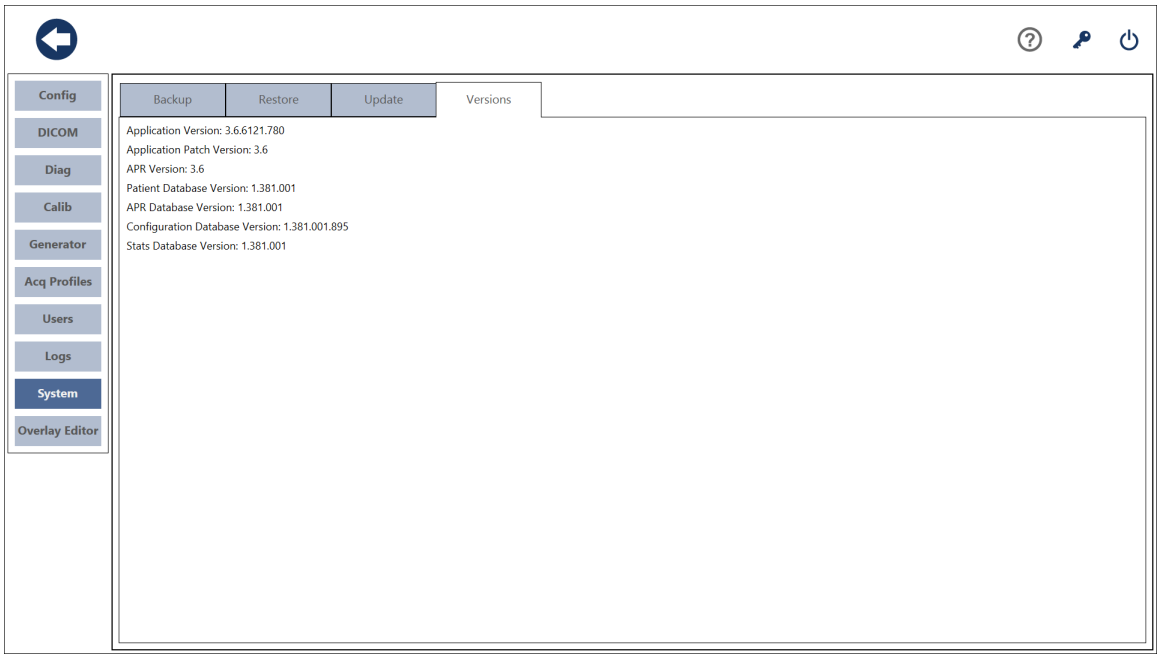
If you want to install the update, select **Begin Update**.

3. If you want to install the update, select **Begin Update**.

   The x-ray software closes, and the update begins automatically. A **DOS** window and the **wyUpdate** window are displayed. When the update is complete, the software restarts, and a web page is displayed that provides information about the update.



4. Close the web browser to return to the NEXT EQUINE DR® software.
5. Open the **Management** window. See the topic, *Displaying the Management screen* on page 68, for instructions.
6. Select **System** > **Versions**, and ensure that the updates were successful.



Windows Operating System Updates

Only install important or required Windows operating system updates.

Caution: Do not update the Intel PRO/100 card driver. The list of updates might include the Intel PRO/100 card because the Pleora driver replaces the Intel driver for the PaxScan panel. If the Intel PRO/100 driver is updated, the connection to the PaxScan x-ray panel will no longer work properly.

Ne pas mettre à jour le pilote Intel PRO / 100 de la carte. La liste des mises à jour pourrait inclure le processeur Intel PRO / 100 carte car le pilote Pleora remplace le pilote Intel pour la PaxScanpanneau . Si le PRO / 100 pilote Intel est mis à jour , la connexion au panneau x -ray PaxScan ne fonctionnera plus correctement.

Using the System Configuration Tool

The System Configuration tool, a standalone application available with NEXT EQUINE DR®, allows you to export system configuration and patient data and import that same data onto another NEXT EQUINE DR® system. This tool also allows you to use a backup created by the export process to repair a damaged system configuration.

About this task

Use this tool to create a backup of the complete configuration and patient data of one NEXT EQUINE DR® system. Then, you can import this back up onto other systems running the same version of the software. Or, you can use this backup to repair a damaged system configuration, also running the same version of the software.

Note: This tool is distributed with version 3.0 of the NEXT EQUINE DR® software. You can also use it on version 2.0 systems, but you need to load it on the PC.

Note: You can use this tool transfer configurations or data between systems running the same version of the software.

Note: Run this application as Administrator.

Procedure

1. Create a backup of the system configuration and patient data. See *Exporting the system configuration and database* on page 156.
2. Import a backup created by the export process onto another system running the same version of the software. See *Importing a system configuration* on page 159.
3. Repair a system configuration using a backup created by the export process. See *Repairing a system configuration* on page 162.

Exporting the system configuration and database

Use the System Configuration tool to export the system configuration and database for import to another system or for use in repairing a corrupt SD1.exe.config file or database.

About this task

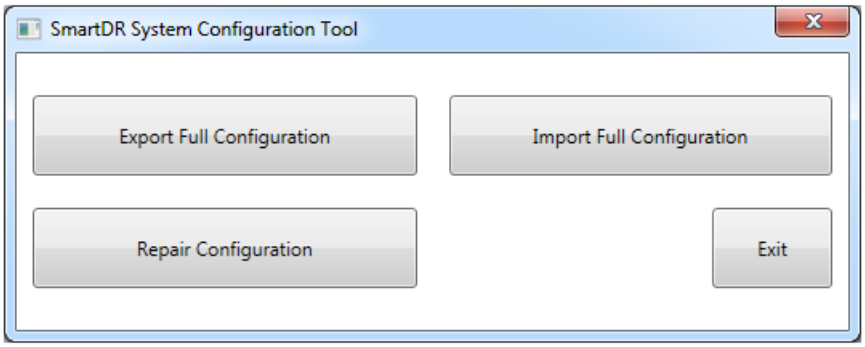
This tool allows you save system configuration and patient data for transfer to another system.

Procedure

1. Log off NEXT EQUINE DR®. See *Logging Out of the NEXT EQUINE DR Software* on page 63 for more information.
2. Navigate to `C:\Program Files\Sound\SD1\`.
3. Double-click ServiceTool.exe.

   The main screen displays.

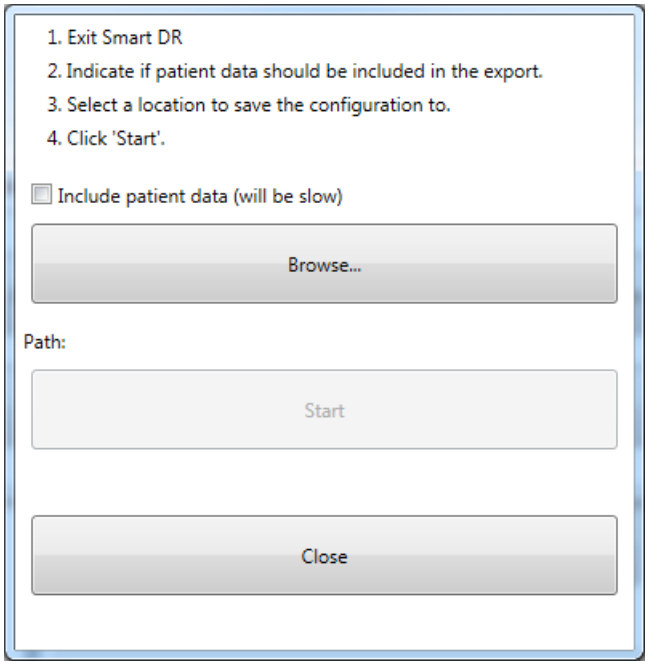
   Figure 73: SmartDR System Configuration Tool

4. Click **Export Full Configuration**.

   The following screen displays.

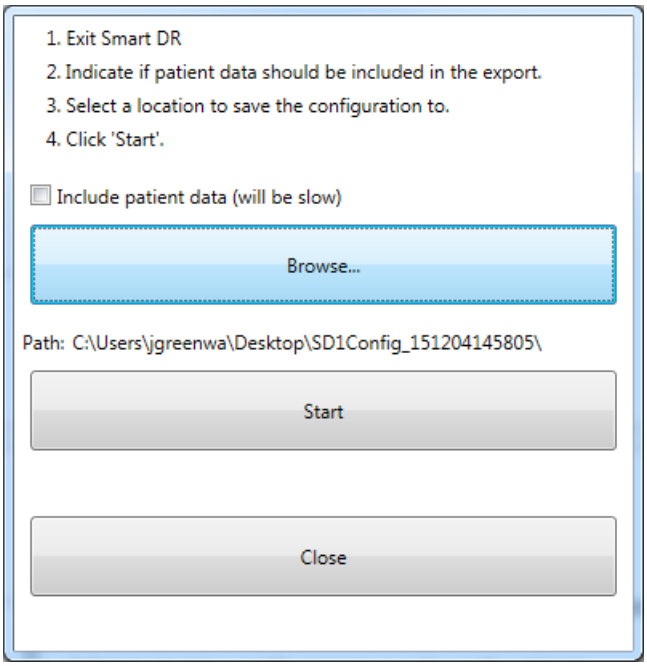
   Figure 74: Export Selection Screen

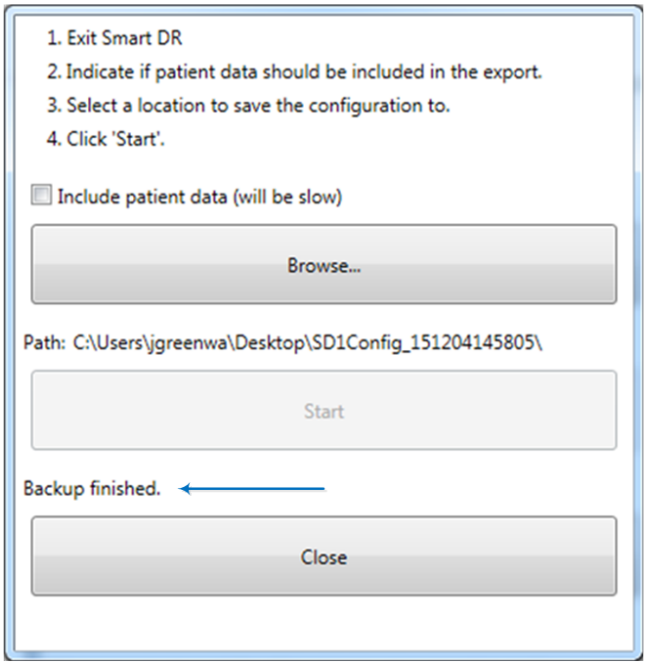
   

5. If desired, check **Include patient data** to include patient data in the export. Including this data slows the export process.
6. Click **Browse**.

7. Select the location for the exported data in the **Browse for Folder** screen. Click **OK**.
8. The selected location displays in the Path area. Click **Start**.

   When the tool finishes generating the backup file, a message displays and the **Cancel** button changes to a **Close** button.





9. Wait until the tool has finished generating the backup file for export. Click **Close**.

   The directory created by this process does not contain the same content as the SmartDR backup file. You cannot use them interchangeably with backup files created by SmartDR. In addition, do not change the contents of the directory once the System Configuration tool generates it. Making changes to the directory content or the files may cause the import operation to fail or corrupt the system.

   Next, you can use the System Configuration tool to import these files onto another SmartDR system.

Importing a system configuration

Use the System Configuration tool to import a system configuration and database created by the tool's export process.

About this task

This tool allows you save system configuration and patient data for transfer to another system.

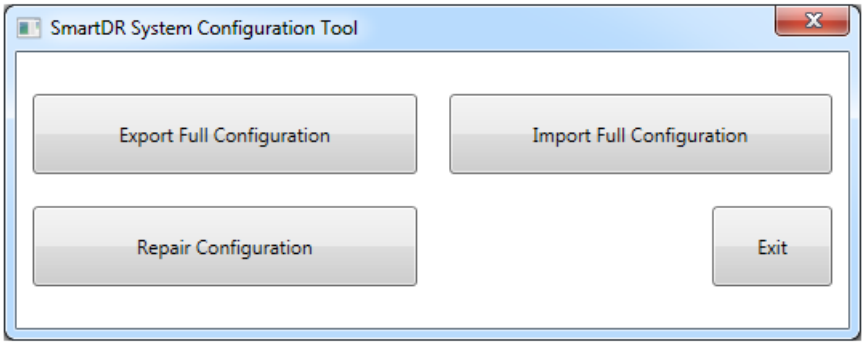
Note: The process requires that you have a set of backup files created using the System Configuration available to load onto the system.

Procedure

1. Log off NEXT EQUINE DR®. See *Logging Out of the NEXT EQUINE DR Software* on page 63 for more information.
2. Navigate to `C:\Program Files\Sound\SD1\`.
3. Double-click ServiceTool.exe.

   The main screen displays.

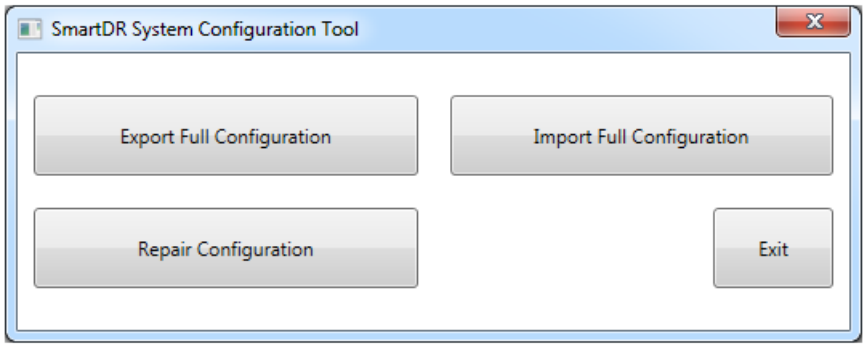
   Figure 75: SmartDR System Configuration Tool

4. Create a full backup of the current system settings. If the import process fails, you can import this back up to restore current system settings.

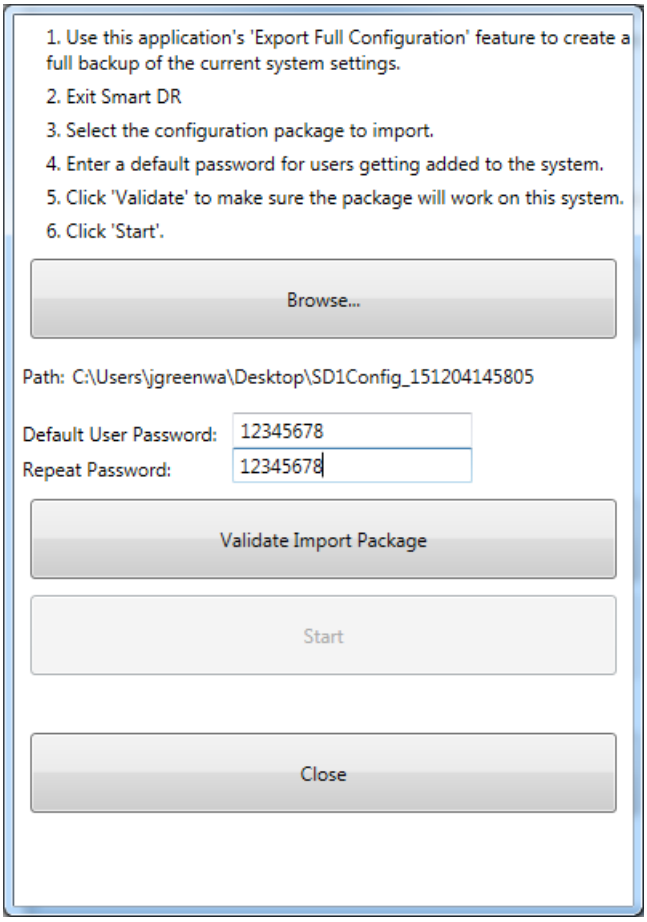
5. Click **Import Full Configuration**.
   The Import Selection screen displays.

Figure 76: Import Selection Screen



6. Click **Browse** to navigate to an archive for import to this system. Click OK.
   Be sure this archive was created using the System Configuration tool. The Import Select screen displays with the location of the selected archive identified.

Figure 77: Import Selection Screen with Path Identified



7. Enter the default password for user accounts generated during the import process.

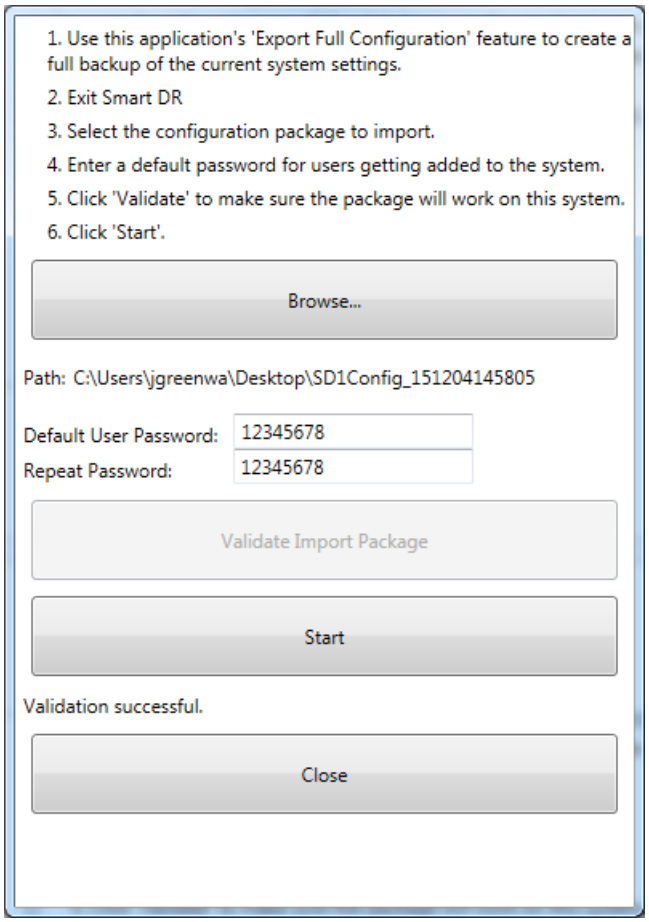
   Be sure that the passwords you create meet the length and complexity requirements. If the default password fails to meet these requirements, the import process will fail to generate accounts for new users included in the archive.

8. Click **Validate Import Package**.

   The validation process unpacks the archive and checks that its contents are complete and valid. This process also checks that the versions of the databases in the package are compatible with the software on the system. If any of these checks fail, you receive a notification and the tool halts the import process.

   A message displays indicating a successful validation.

Figure 78: Successful Validation

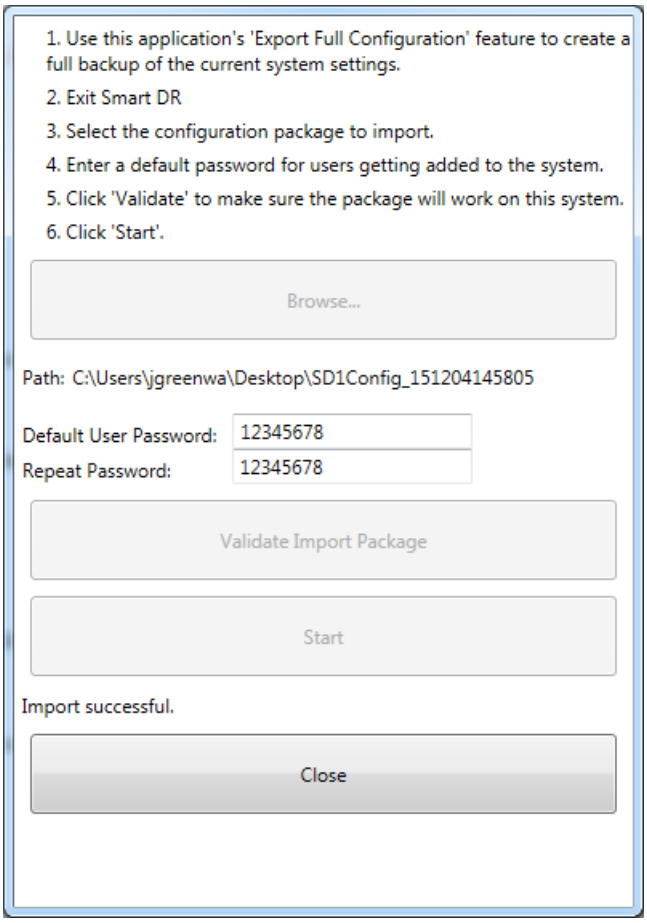


9. Click **Start**.

   The tool provides messages indicating the progress of the import process. These messages also notify you if the tool cannot copy specific files or panel calibration data, or cannot restore databases. Such failures halt the import process. If the import process fails, any changes already completed remain on the system. Also note that if the backup includes patient data, the import process might require significant time. There is no option to cancel.

   The tool also notifies you when it cannot add a user account; add these accounts manually. The tool continues to attempt to add new user accounts despite a failure unless that failure is due to an insufficient default password. In that case, the tool stops adding new user accounts.

   Figure 79: Successful Import



10. Once the Import successful message displays, click **Close**.

Repairing a system configuration

Use the System Configuration tool to repair a corrupt SD1.exe.config file.

About this task

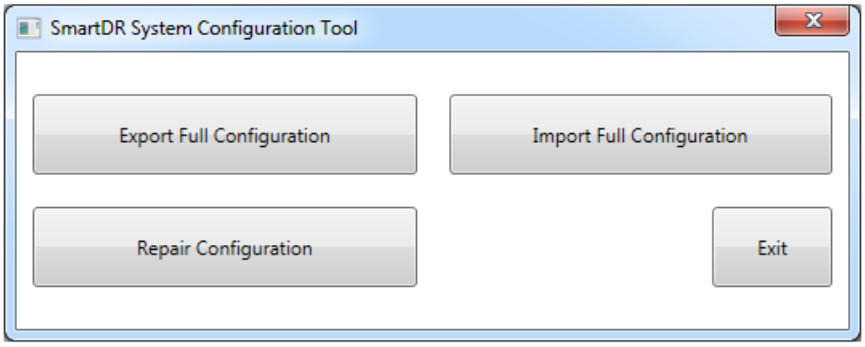
You will use a backup file exported by the System Configuration tool. See *Exporting the system configuration and database* on page 156 for more information.

Procedure

1. Log off NEXT EQUINE DR®. See *Logging Out of the NEXT EQUINE DR Software* on page 63 for more information.
2. Navigate to `C:\Program Files\Sound\SD1\`.
3. Double-click ServiceTool.exe.

   The main screen displays.

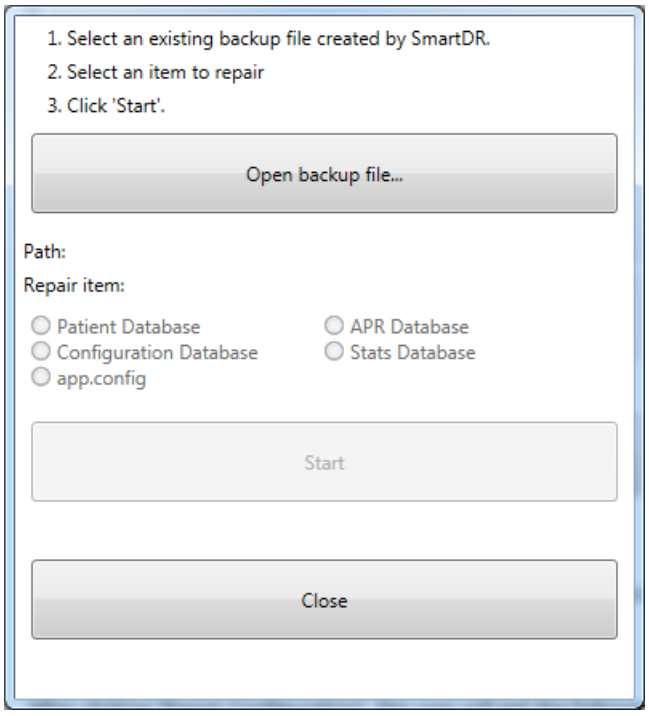
   Figure 80: SmartDR System Configuration Tool



4. Click **Repair Configuration**.

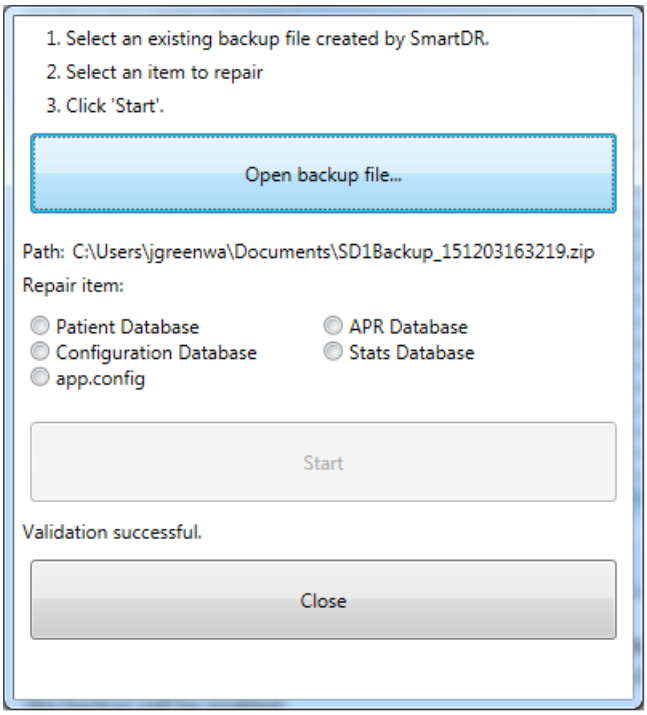
   The following screen displays.

   Figure 81: Open Backup File



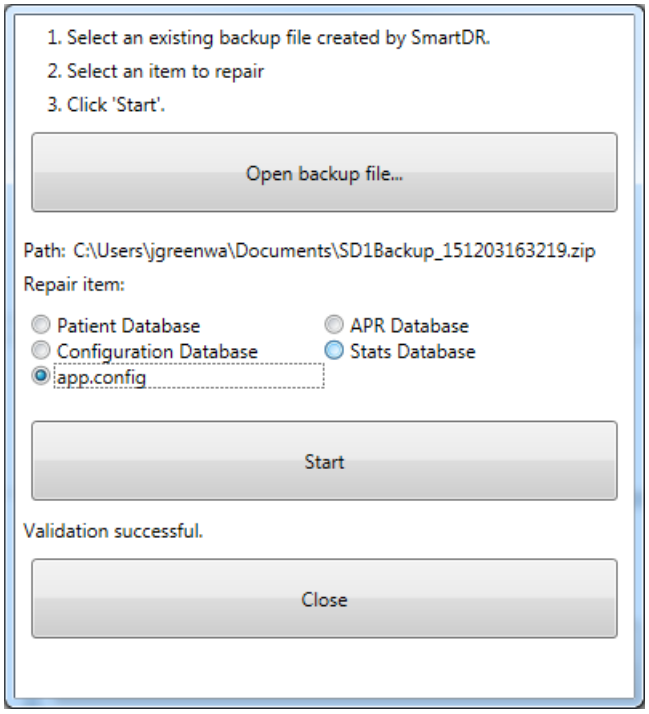
5. Click **Open backup file...**.
6. Browse for an SD1 backup file to use for the repair process.
   The path to the SD1 backup file appears in the window.

Figure 82: Select Repair Items



7. Select the items to repair.
   Only items in the archive are available for selection.

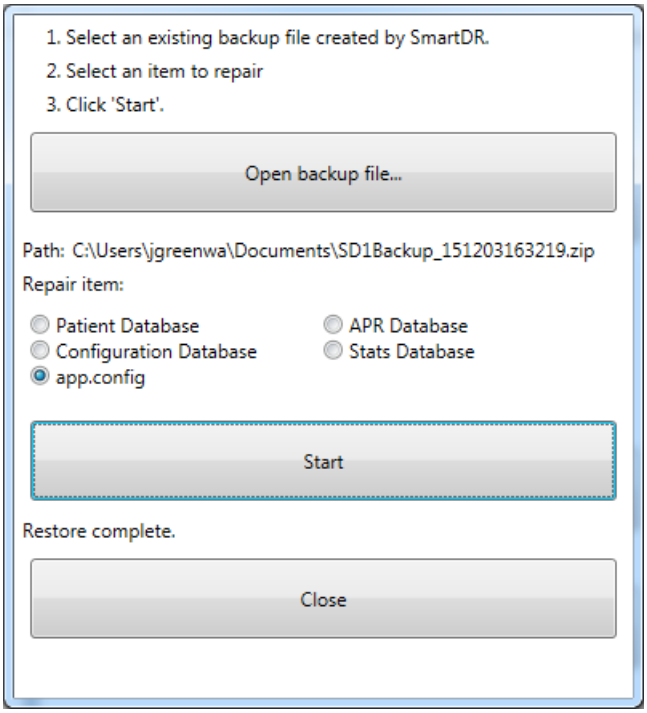
Figure 83: Ready to Start Repair Process



8. Click **Start** to begin the repair process.

   A message displays indicating when the repair process is complete. The tool also reports errors if the repair fails.

Figure 84: Repair Process Complete



Note: During the repair process, the System Configuration tool does not check to ensure the compatibility of the database version with the software on the system. The system reports the database version incompatibility during start-up of the Sound SMART DR™ software. If this situation occurs, run `C:\temp\RunAllScripts.bat` to update the restored database.

Performing Panel Gain Calibration

The Sound user can perform gain calibration on the active panel. Set the gain calibration frequency Config> Advanced Options screen.

Prerequisites

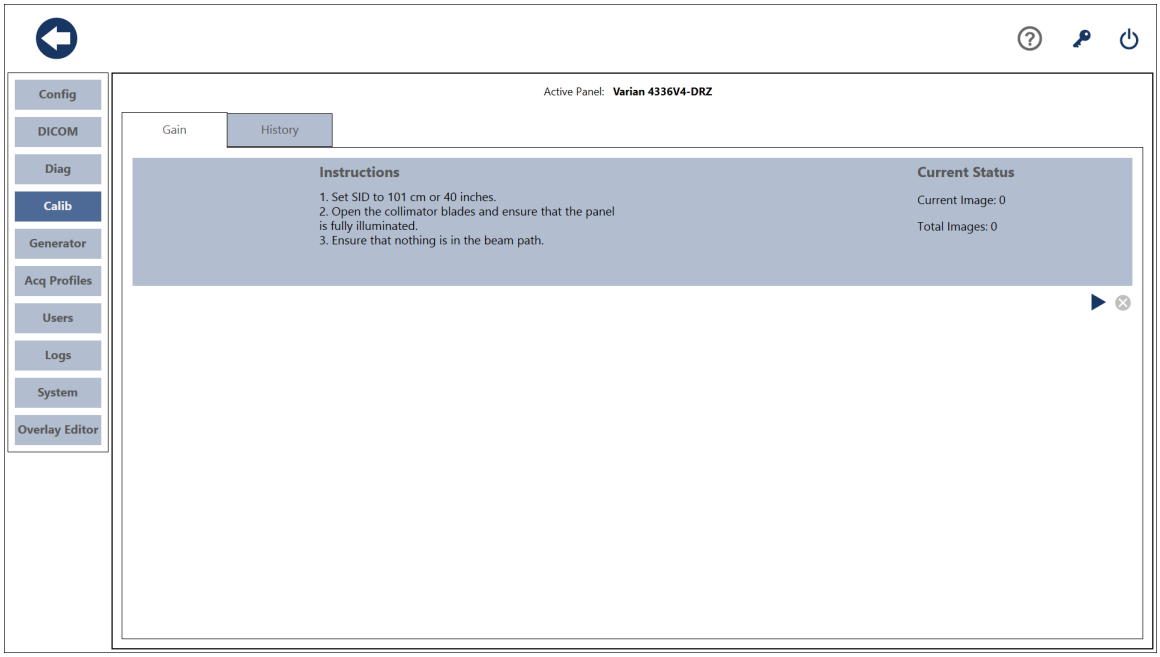
Before you begin this task, ensure that the panel is installed, configured, and active on the x-ray system. If it is not, the **Gain** tab will not be displayed. See *Configuring Advanced Options* on page 77 for information about setting the Gain Calibration frequency.

Procedure

1. Open the **Management** screen. See the topic, *Displaying the Management screen* on page 68, for instructions.

2. Click **Calib**.

   The **Gain** tab is displayed by default.



3. Follow the instructions in the screen, and select **Start Calibration**.

   The **Start Calibration** button looks like this:

   ▶

   When you start the calibration process, the system backs up the `\IMAGERs` directory. The default backup location is `C:\Users\Current_User\Documents`.

   Gain calibrations can be stopped if necessary. If the calibration is stopped or fails, the calibration data is discarded and the pious calibration data is used.

   Note: The panel will experience a time-out if you allow more than two minutes between image acquisitions during gain calibration. If the time-out occurs, cancel and restart the calibration.

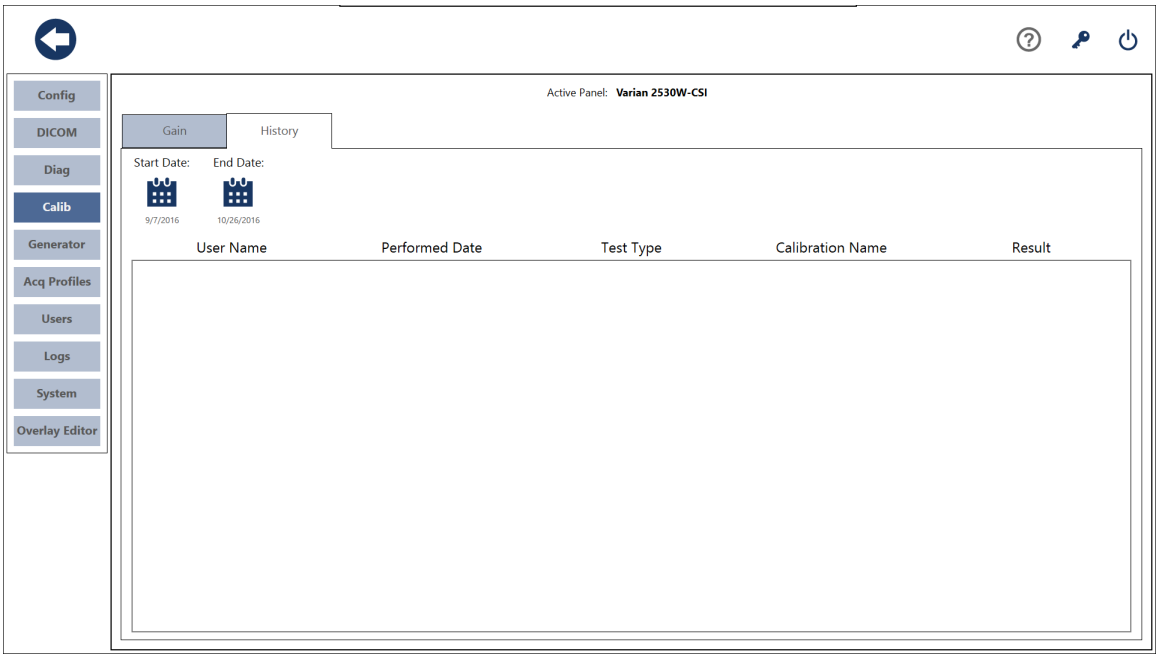
   When the calibration is complete, a message is displayed indicating success or failure.

Viewing Gain Calibration History

Procedure

1. Open the **Management** screen. See the topic, *Displaying the Management screen* on page 68, for instructions.
2. Select **Calib**.

3. Select **History**.



4. Select the **Start Date** icon.

   In the pop-up calendar, select the first date in the date range for histories that you want to view.

5. Select the **End Date** icon.

   In pop-up calendar, select the last date in the date range for histories that you want to view. The gain calibration history for the range of dates that you selected is displayed.

Cleaning the X-ray System

About this task

The x-ray system is designed and suitable for use in typical clinical environments. During use, the system, all peripherals, and the detector should be adequately protected against spilled or splashed fluids and should therefore not require disinfection beyond routine cleaning as part of preventive maintenance of the equipment.

Cleaning performed during preventative maintenance requires only compressed air and a mild soap and water solution. If disinfection is desired or becomes necessary, a disinfectant solution may be used in place of soap and water to clean the x-ray system equipment. In either case, prepare the solution in accordance with instructions provided by the manufacturer of the cleaning agent.

Warning: Do not pour or spray liquid directly onto any component of the x-ray system. Apply the cleaning agent to a clean cloth and gently wipe the equipment to clean.

Warning: Ne pas verser ou vaporiser de liquide directement sur l'un des composants du système x-ray. Appliquer l'agent de nettoyage sur un chiffon propre et essuyez doucement l'équipement à nettoyer.

Procedure

Review the information in the following topics, and perform cleaning and maintenance tasks in accordance with the information provided. Cleaning and preventative maintenance should be performed approximately every six months or as required by the site.

- *Approved Disinfection Agents* on page 169
- *Cautions* on page 169
- *Removing Dust From Fans and Heatsinks* on page 169

Approved Disinfection Agents

Any EPA-registered agent classified as a low- or intermediate-level product for hard, non-porous surfaces and equipment may be used. Prepare and use disinfectants in accordance with manufacturer’s instructions.

Cautions

The system must be out-of-service for the duration of cleaning. Cleaning should therefore be performed during scheduled maintenance unless made necessary by contamination. Do not use the x-ray system for patient imaging when cleaning the equipment.

- All system components, including the table and x-ray generator must be powered down prior to cleaning the equipment. Covers are removed and, typically, a cleaning liquid is used. The removal of power is required to protect service personnel and the equipment against injury or damage caused by unintentional or excessive application of liquid to electrical components of the system.
- Allow 15 minutes after cleaning before turning equipment back on. This period allows any residual cleaning fluid to evaporate before power is re-applied to the equipment.
- After turning equipment back on, allow at least 15 minutes for the detector subsystem to initialize before attempting to use the x-ray system for imaging or calibration.

Removing Dust From Fans and Heatsinks

Even in a clinical environment, dust and other contaminants accumulate around fans and heatsinks inside the x-ray system computer. Special attention must be paid to these areas so that the airflow that cools the electronics can pass freely through the computer case and heatsinks. Surfaces inside the computer are typically very dry and can be blown clean with compressed air available at most retail stores that sell electronics.

Observing ESD precautions, use the compressed air to carefully remove all dust, hair, and other impediments from the openings in the front and rear of the computer case, from in and around the CPU heatsink and fan, and from the fan in the bottom of the power supply.

Do not use a cloth, with or without cleaning solution, to clean internal components of the computer. Cloth may be used, dampened with cleaning solution as desired, only to clean external surfaces of the computer.

Chapter

6

Diagnostics

Contents

This chapter describes the diagnostic tools that are available to Sound users for troubleshooting issues that might arise after the system is installed and configured.

Verifying Application Version Information

Sound and Vet users can verify version information for the system software and components.

About this task

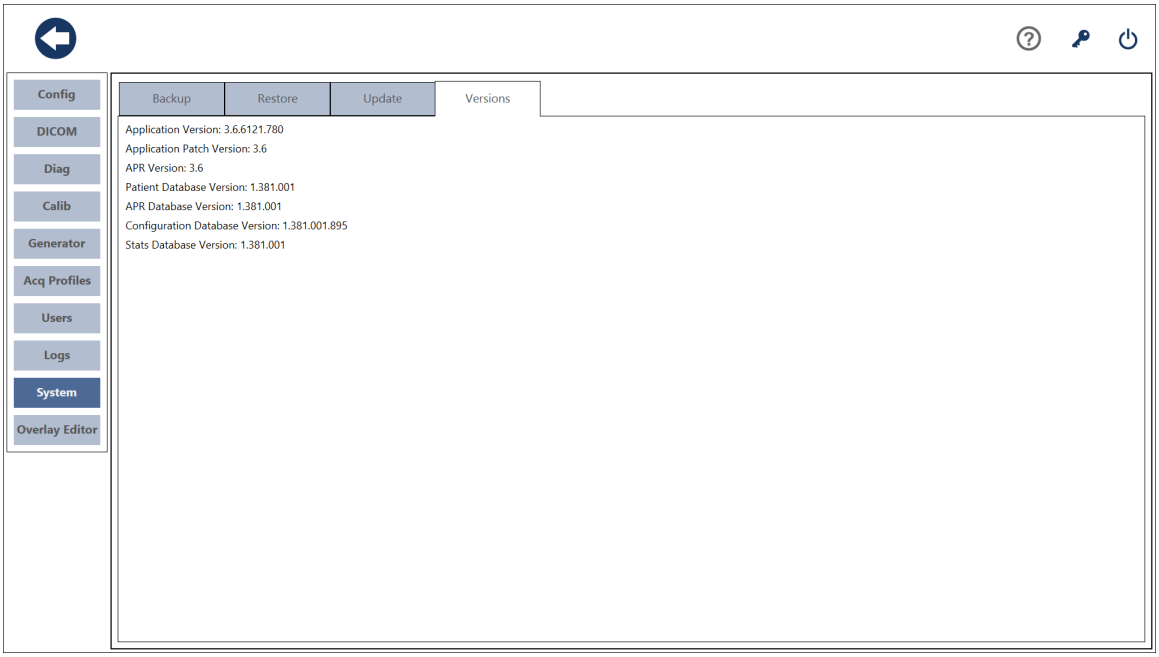
Version information can be useful for troubleshooting and updating the system.

Procedure

1. Open the **Management** screen. See *Displaying the Management screen* on page 68 for instructions.
2. Click **System** > **Versions**.

   Version information for software and system components are displayed.

Figure 85: Versions tab

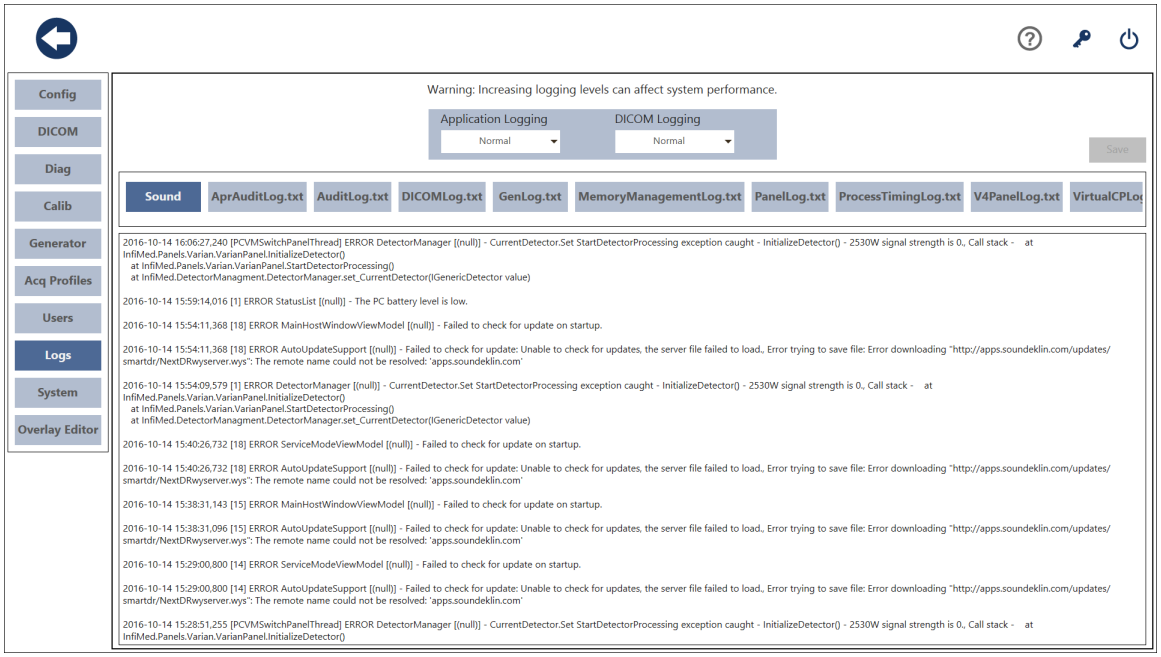


Log Files

The x-ray system captures and saves information about how applications and DICOM are functioning and saves that information to log files.

The following log files can be viewed in the Management screen on the **Logs** tab.

Figure 86: Logs window



Sound — This log file captures information about the performance of the PC application.

APRAuditLog.txt — The `APRAditLog.txt` log records information about manual changes made to APR settings from within the software.

AuditLog.txt — The `Auditlog.txt` report records information about the PC application such as when it was started and ended, and the initials of the technologists who log in and log out.

DICOMLog.txt — The `DICOMLog.txt` file records information about export and import jobs for the DICOM devices configured for this x-ray system. The logs record the start and end of the job; type of job; data file; destination; status; remote IP address; remote port; copies; and DICOM device options.

Important: Set Application or DICOM logging to Verbose mode only when instructed to do so by a technical support representative.

GenLog.txt — The `GenLog.txt` file records communication between the PC and the x-ray generator.

MemoryManagementLog.txt — The `MemoryManagementLog.txt` file records information about how the PC application is using system memory.

PanelLog.txt — The `PanelLog.txt` file records communication between the PC application and the flat-panel detector.

ProcessTimingLog.txt	The `ProcessTimingLog.txt` file records information about the amount of time x-ray system processes are taking.
v4PanelLog.txt	The `v4PanelLog.txt` records communication between the PC application and the 4336Wv4 panel.
VirtualCPLog.txt	The `VirtualCPLog.txt` file records information about the initialization and connection status.

Reviewing log files

Application and DICOM log files can be configured to use Normal or Verbose modes. The log files can be reviewed in the **Management** screen in the Logs tab.

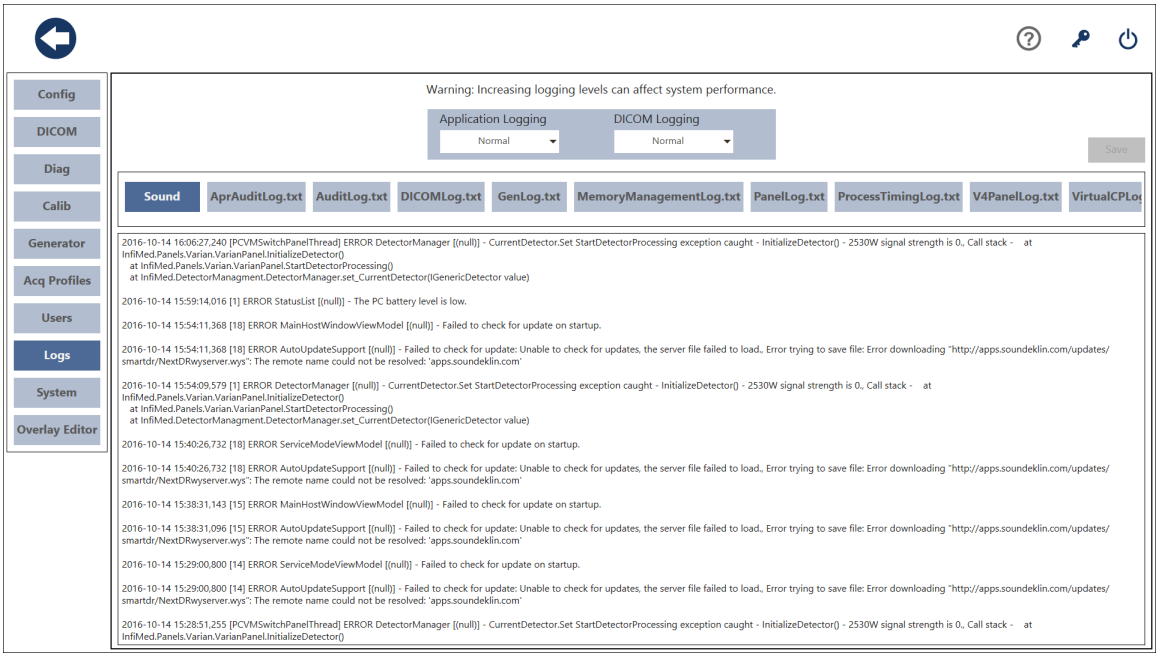
Prerequisites

Before you begin this task, review the topic *Log Files* on page 172 to familiarize yourself with the types of log files and what they capture.

Procedure

1. Open the **Management** screen. See the topic, *Displaying the Management screen* on page 68, for instructions.
2. Click **Logs**.

   The logging window is displayed:



3. In the log file window, click the name of the log file that you want to review.

   The information that the log has captured is displayed in the space beneath the log file toolbar. For example, **Sound** is selected in the figure above, and the log file contents are displayed in the area below. The log text files are saved to the `C:\DiagI5` directory.

Collecting Data

The Data Collector feature can be used to gather information about the x-ray system for backup and diagnostic purposes.

About this task

Any user type can access all of the fields in Data Collector.

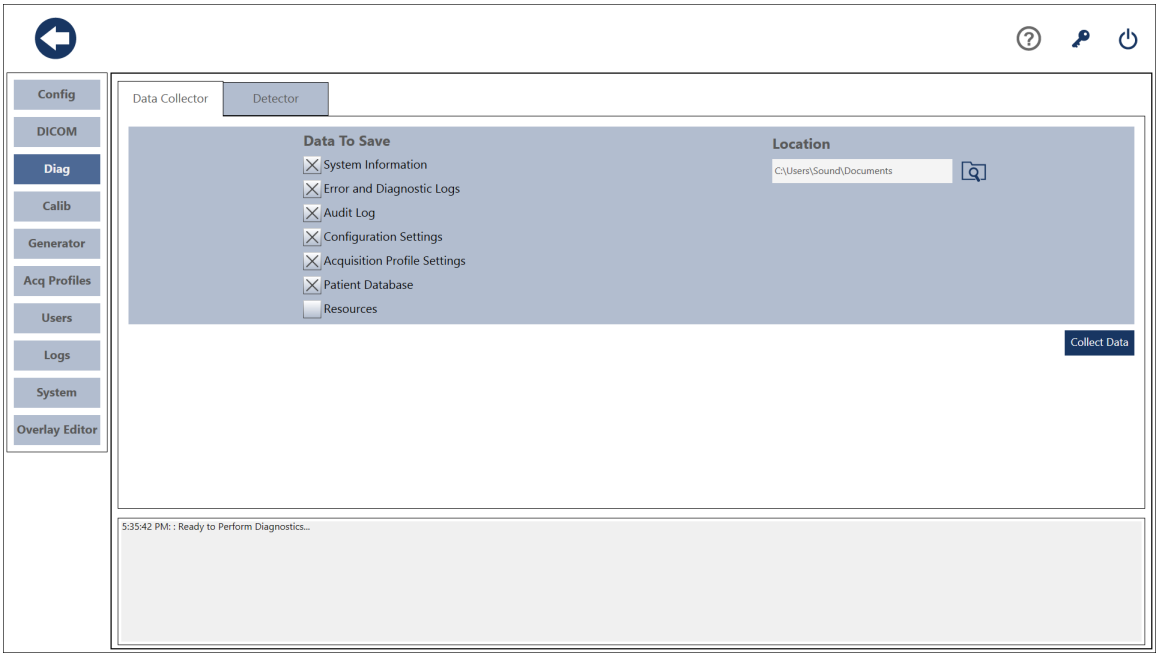
Procedure

1. Open the **Management** screen. See *Displaying the Management screen* on page 68 for instructions.
2. Click **Diag** > **Data Collector**.

3. Select the types of data to be collected.

   You can select or deselect any of the data options displayed on the tab. By default, all of the options except Patient Database and Resources are selected.

Figure 87: Data Collector



System Information	Enable this option to back up system information.
Error and Diagnostic Logs	Enable this option to back up information that can be used to troubleshoot errors and diagnose problems with the system.
Audit Log	Enable this option to back up information about audits.
Configuration Settings	Enable this option to back up the system configuration data.
Acquisition Profile Settings	Enable this option to back up acquisition profile data.
Patient Database	Enable this option to back up the patient database.
Resources	Enable this option to back up language support settings.

The `StandAloneStrings` and `VetStrings.xml` files are backed up only for United States English.

The files are in XML format, and they are located in the `C:\Program Files\Sound Eklin\Resources\Languages`.

4. In the Location field, accept the default location or specify a new location in which to save the collected data.

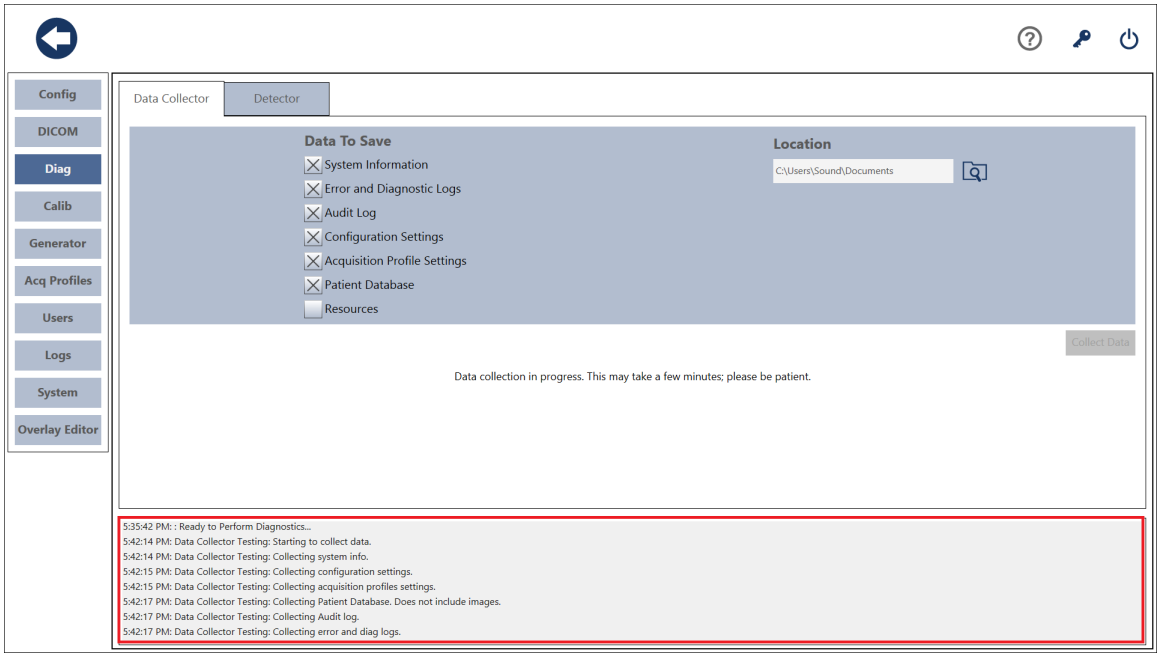
   The default location is the `C:\Users\Current_User\Documents` directory, where *Current_User* is the username that is logged into the Windows operating system. For example, the images in this topic show the location path `C:\Users\Sound\Documents`. Sound is the user that is logged into the Windows operating system.

   The files are saved to a password-protected zip file.. The zip file's name is SD1Data_*YYMMDDHHMMSS*, and the password is `gen5Logs`. *YYMMDDHHMMSS* is the two-digit year, month, day, hour, minute, and second that the file is saved.

5. Click **Collect Data** to begin the data collection process.

   When the process is complete, a log that shows the diagnostic tests that were performed is displayed. See the highlighted area of *Figure 88: Data Collector results* on page 177.

Figure 88: Data Collector results



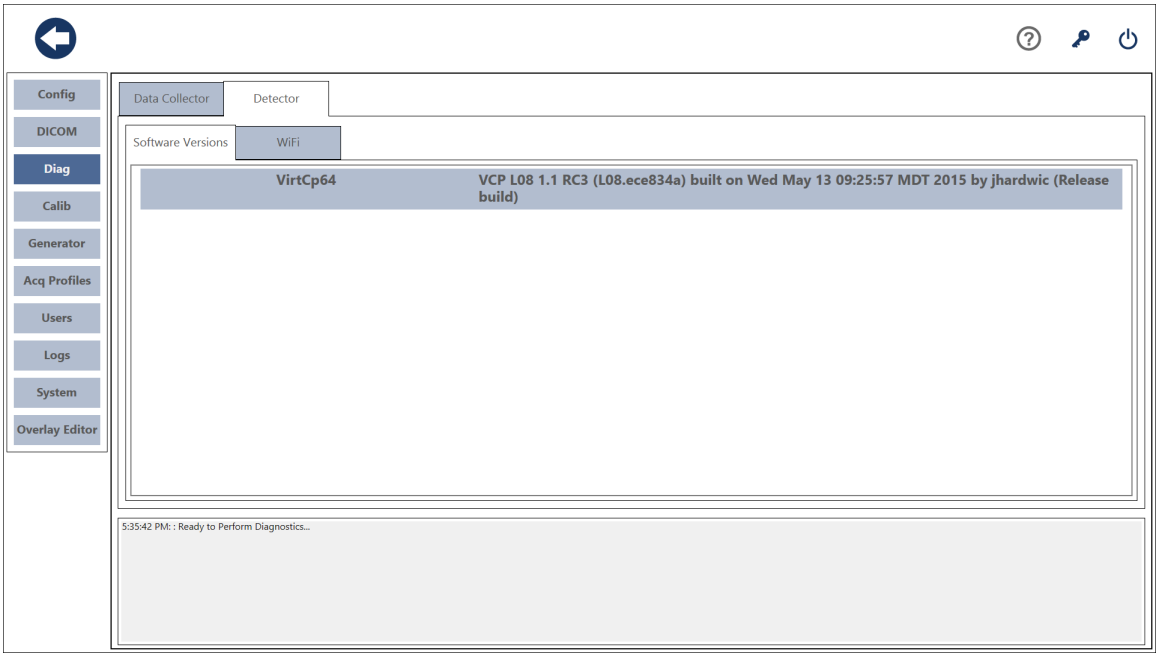
Viewing Panel Software Versions

Viewing the panel software version can be useful in diagnosing problems with the panel.

Procedure

1. Open the **Management** screen. See the topic, *Displaying the Management screen* on page 68, for instructions.
2. Select **Diag**.

3. Select **Detector** > **Software Versions**, and ensure that the versions match the following image.



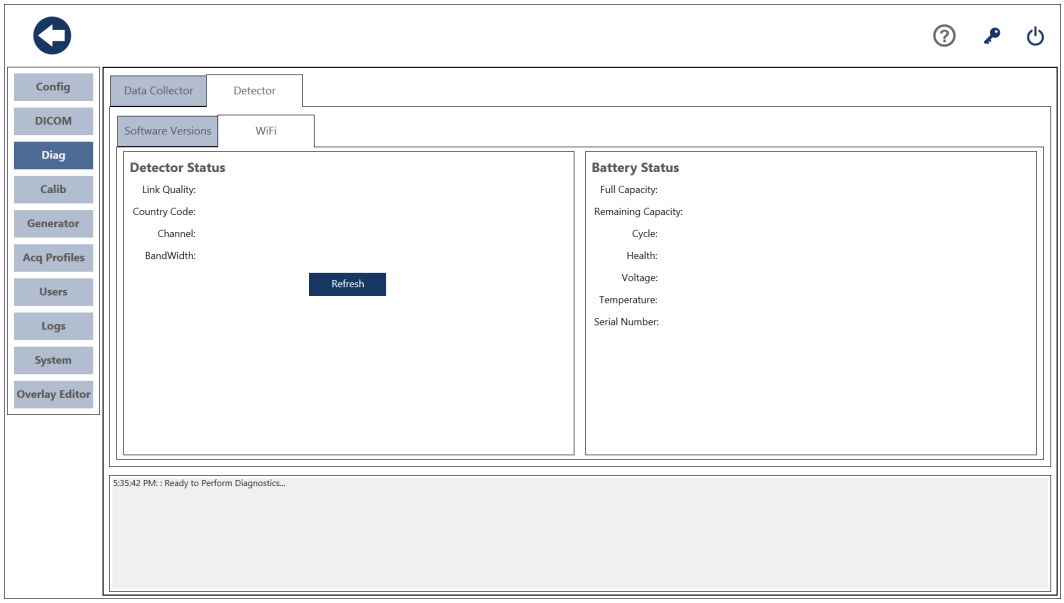
Diagnosing WiFi Connection Issues

Information about the panel WiFi connection can be viewed in the **Management** screen.

Procedure

1. Open the **Management** screen. See the topic, *Displaying the Management screen* on page 68, for instructions.
2. Select **Diag**.

3. Select **Detector** > **WiFi**. See *WiFi tab settings* on page 179 for parameter descriptions.



4. Optional: Select **Refresh** to reload the WiFi information.

WiFi tab settings

Table 49: WiFi tab parameters

Field	Description	Valid values
Link Quality		0 – 100
Country Code	The country code set on the panel.	Default: 841
Channel	The wireless channel set on the panel.	Default: 40
Bandwidth	This value is set on the panel.	20 or 40. Default: 40
Full Capacity	The maximum panel battery charge measured in mAh as reported by the battery.	Not applicable
Remaining Capacity	The current panel battery charge measured in mAh as reported by the battery.	Not applicable
Cycle	The number of times the battery has been charged.	Not applicable
Health		0 – 100%
Voltage	The current battery voltage measured in mV.	Not applicable

Field	Description	Valid values
Temperature	Current panel temperature in degrees Celsius.	Not applicable
Serial Number	The serial number of the installed panel.	Not applicable

Chapter

7

Access Help

Contents

Sound provides options for help with the user interface. Access them from the **Help** icon on main screen and in other locations in the application.

Help Options window

The **Help Options** window provides access to information about icons used in the Sound SMART DR™ software, training videos, and the Sound™ Support Portal.

Help Options window

Figure 89: Help Options window

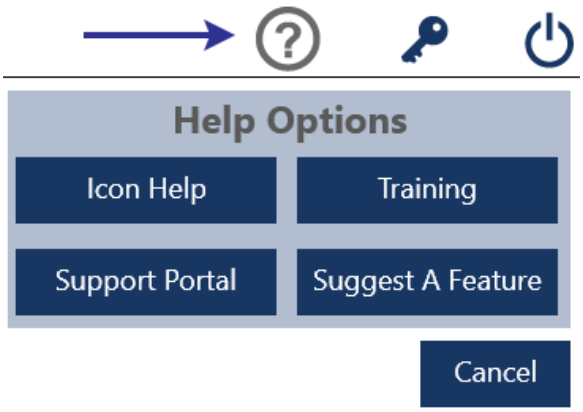


Table 50: Help Options

Item	Descriptions
	Accesses **Help Options** window.
Icon Help	Displays tips identifying icons displayed on the current screen.
Training	Accesses training videos that demonstrate how to perform common tasks using the interface.
Support Portal	Accesses the **Support Portal**. See *Figure 90: Access the Sound Experience Support Portal* on page 183. • First time users click **Register New User** to set up a login and password. • Use the portal to chat with Sound™ support professionals, submit a support ticket, review training videos, and view warranty information.

Item	Descriptions
Suggest a Feature	Accesses portal you can use to provide feedback to Sound™ about the Sound SMART DR™ software. See *Figure 91: Suggest a Feature* on page 183.
Cancel	Closes the window.

Figure 90: Access the Sound Experience Support Portal

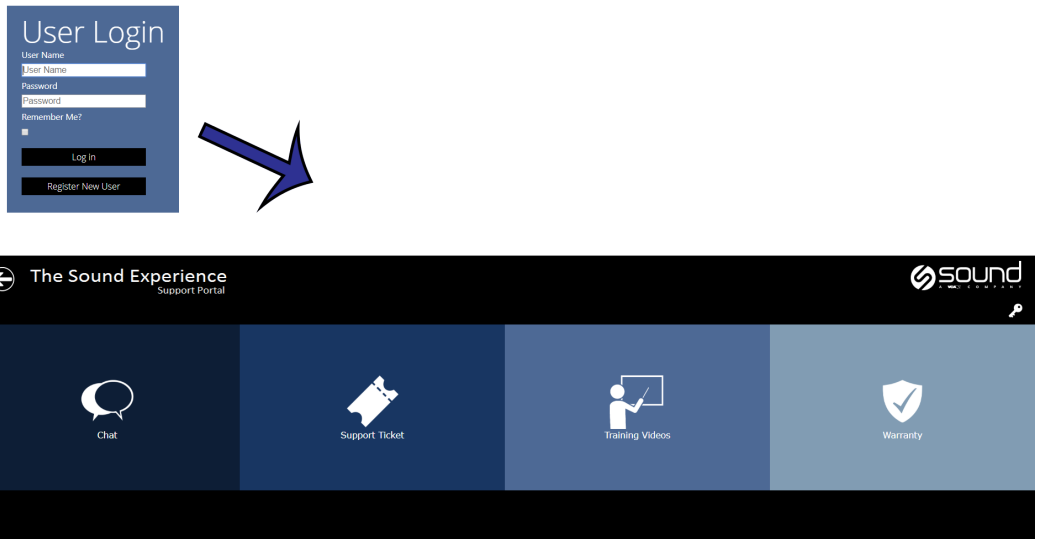
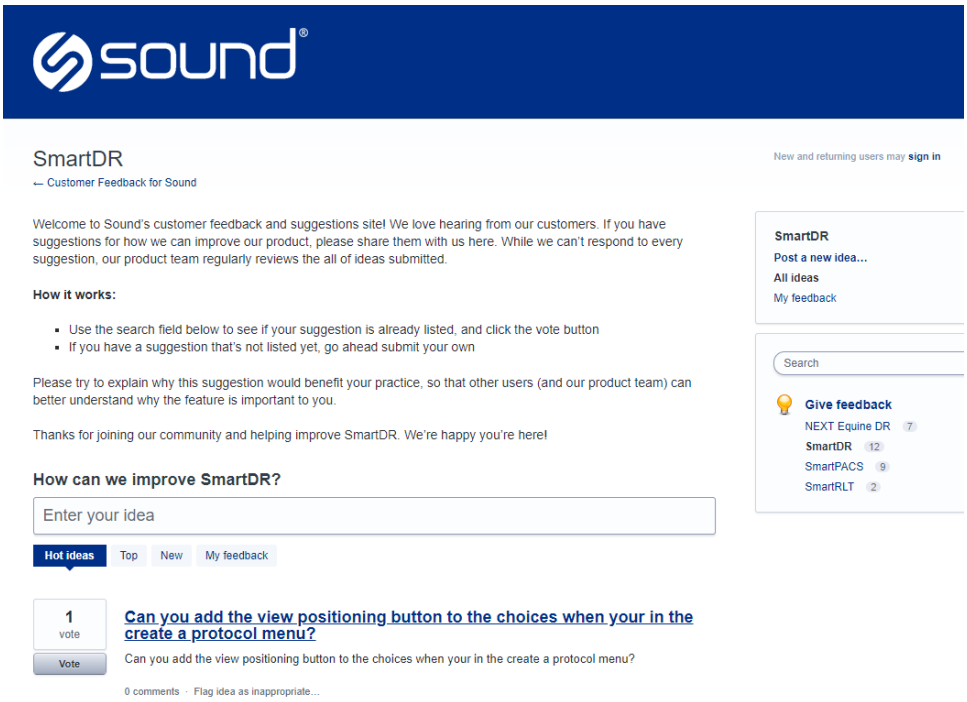


Figure 91: Suggest a Feature



Appendix
A

Technical Support

Contents

Use the following information for contacting customer support.

Office hours	Weekdays 8:00 A.M. - 5:00 P.M. Pacific time. Emergency 24-hour support is available.
Toll free	800-819-5538
Telephone	760.918.9626
Fax	760.918.9620
International	+1.760.918.9626

Shipping address

Sound Technologies, Inc.
5810 Van Allen Way
Carlsbad, CA 92008
USA

Website

http://www.soundvet.com/

Locating the System Serial Number

When you contact technical support, you must provide the serial number of the system for which you are requesting assistance.

Procedure

Open the **Management** screen, select **Config** > **Site Information**.

The system serial number is located in the **Model Information** section.