



FUSION Equine DR<sup>®</sup> II

# Service Manual

*Supports the Canon AX B2735W or B3543W panel*

*Non-integrated with x-ray generator*



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# Notices

The FUSION EQUINE DR® II digital radiography 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  
TUV Lab Tested  
CAN/CSA-C22.2 No. 60601-1 & 61010-1  
IEC 60601-1, 60601-1-2, 61010-1  
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 ensure 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 FUSION EQUINE DR® II digital radiography 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 radiography 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 radiography 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 FUSION EQUINE DR® II 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 FUSION EQUINE DR® II 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 FUSION EQUINE DR® II. The detector converts the X-ray energy to digital image data that is then passed to the FUSION EQUINE DR® II 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 Sound SmartDR™ Premier software, the images can be archived or printed to appropriate DICOM-compliant devices.

## Intended User Profile

The digital radiography 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 radiography 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 digital radiography system is intended for veterinary applications only and is not for use on humans.

## Intended Anatomy

The digital radiography 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 5. Cleaning the Digital Radiography System on page 144, for information about maintaining and cleaning the system components.

## Trademarks

Sound™ and Sound SmartDR™ Premier are trademarks and FUSION EQUINE DR® II is a registered trademark of Sound Technologies, Inc. The Intel Core™ i5 Processor is a trademark of Intel, Santa Clara, Calif. The Dual Band Wireless-AC 7260 is a product of Intel. Windows is a registered trademark of Microsoft Corporation in the United States and other countries; AX-B2735W and AX-B3543W panels, Canon name and Canon logo are trademarks or brand names of Canon Inc. All other trademarks are properties of their respective companies.

# 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 digital radiography 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                                                    |
|------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| <i>FUSION EQUINE DR® II User Manual</i>              | 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 digital radiography system.                                                                                                                | UM0005                                                         |
| <i>FUSION EQUINE DR® II Service Manual</i>           | 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. digital radiography system.                                                                                              | SM0005                                                         |
| Sound SmartDR™ Premier software online help/training | See the online/training 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 digital radiography system software user interface by clicking the hamburger menu in the main tool bar of the screen to access the SmartDR Premier Apps. | 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               | 2/14/2023  |            | Initial release. |

# 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.<br>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.<br>On product, indicates need to consult instructions for use for important cautionary information.                      | ISO 15223-1:2012/5.4.4                                                                                  |
|    | Warning.<br>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<br>Grounding terminal                                                                                           | IEC 60417-5019; IEC 60601-1/7219                                                                        |
|  | Warning.<br>Warning, electricity                                                                                                  | IEC-60601-1:2012, Table D-2, No. 3;<br>IEC 60601-1/7.2.14, 7.3.2                                        |

| Symbol                                                                            | Title/Meaning                                                                                                                               | Standard/Reference     |
|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
|  | Dangerous voltage.<br>Indicates hazard from dangerous voltages.                                                                             | IEC 60417-5036         |
|  | Non-ionizing electromagnetic radiation.<br>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 |



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## Chapter

# 1

## System Overview

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- [AX-B2735W X-ray Panel Technical Specifications](#) on page 9
- [AX-B3543Wv4 detector specifications](#) on page 21
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This chapter provides a high-level overview of the digital radiography 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 FUSION EQUINE DR® II system includes the following hardware components. Depending on the system, it may have different part.

**Table 4: Supported hardware**

| Hardware components                                  | Details                                                                                                                                                        | Part number |
|------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| Sound 14" Tablet PC                                  | Included Windows 10 Enterprise, SmartDR Premier Software, SmartPACS Software, Sound SMART DR Recovery Media Kit, Digital Pen, AC/DC Power Adapter and AC cord. | 20-900      |
| Canon AX-B2735W Csl panel detector                   | The panel comes with two batteries                                                                                                                             | 91-444      |
| Canon AX-B3543W Csl panel detector                   | The panel comes with two batteries                                                                                                                             | 91-445      |
| Canon dual-bay battery charger                       |                                                                                                                                                                | 10-137      |
| Canon Flat battery charger                           |                                                                                                                                                                | 10-499      |
| I/R detector check-in for Canon with ready indicator |                                                                                                                                                                | 10-426      |
| Sound FUSION DR Recovery Media Kit                   | Recovery media (thumb drive) and case                                                                                                                          | 70-880      |
| FUSION Equine DR II Accessory Kit                    |                                                                                                                                                                | 74-875      |
| FUSION Equine DR II PLUS Accessory Kit               |                                                                                                                                                                | 74-882      |
| FUSION Equine DR II Lite Accessory Kit               |                                                                                                                                                                | 74-871      |

**Table 5: FUSION EQUINE DR Storage Options**

| Item                                        | Details                                                                                                                  | Part Number |
|---------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|-------------|
| FUSION Equine DR II Lite PLUS Accessory Kit |                                                                                                                          | 70-870      |
| FUSION Equine DR II Complete Case Assembly  | Hard-side carrying case                                                                                                  | 34-907      |
| Sound Equine Backpack                       | Protective backpack for storage of Sound 14" Tablet, AX-B2735W panel, AX-B3543W panel, panel batteries, and accessories. | 70-798      |
| Sound Equine 1417 Bag                       | Protective bag for storage of the AX-B3543W panel, panel batteries, and accessories.                                     | 70-801      |
| Neoprene panel cover for 11x14 panel        | Accommodates AX-B3543W panel.                                                                                            | 70-805      |
| Neoprene panel cover for 14x17 panel        | Accommodates AX-B3543W panel.                                                                                            | 70-882      |
| Panel 11x14 detector tunnel                 | Accommodates AX-B2735W with podoblock.                                                                                   | 70-586      |
| Panel 14x17 detector tunnel                 | Accommodates AX-B3543W with podoblock.                                                                                   | 70-556      |
| MusicaVET                                   | Musica VET Imaging Processing                                                                                            |             |

## Sound 14" Tablet

The Sound 14" Tablet provides a rugged platform for the FUSION EQUINE DR® II and the Sound SmartDR™ Premier 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
- Micro-SD Card Slot

**Figure 1: Sound 14" Tablet**



## Sound 14" Tablet technical specifications

**Table 6: SOUND 14" Tablet technical specifications**

| Parameter | Description                                                                                          |
|-----------|------------------------------------------------------------------------------------------------------|
| 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                      | Description                                                                                    |
|--------------------------------|------------------------------------------------------------------------------------------------|
| 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<br>Output: 19VDC, 6.31A                                                      |
| Battery packs                  | 2, 60W                                                                                         |
| Enclosure                      | ABS + PC plastics and magnesium-aluminum alloy                                                 |
| 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) <sup>1</sup><br>Storage: -55°C to 70°C (-67°F to 158° |
| Humidity                       | 0% – 90% non-condensing                                                                        |

---

<sup>1</sup> For best performance and safety, recommended usage temperature is -10°C to 45°C (14°F to 113°F).

## Sound 14" Tablet controls and connectors

### Sound 14" Tablet controls, indicators, and connectors

Figure 2: Sound 14" Tablet controls, indicators, and connectors



Table 7: SOUND 14" TABLET 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<br>Blue: battery is 25-100% charged<br>Blinking blue: battery is charging<br>Orange: battery is 11-25% charged<br>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: SOUND 14" 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 SOUND 14" 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)<br>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)<br>30 days in standby mode                                           |
| Connections  | Micro USB charging cable (included)<br>Bluetooth 3.0 (backward, forward compatible)<br>Operating distance: 10 m (32 ft) |
| Indicators   | Power LED (green)<br>Pairing LED (blue)<br>Low battery LED (red)                                                        |

# Canon AX-B2735W Detector Specifications

The FUSION EQUINE DR® II system can include the AX-B2735W x-ray panel. The x-ray panel comes with the following components:

- battery
- battery charger
- ready indicator

**Figure 6: AX-B2735W physical dimensions**

The AX-B2735W is a light weight, wireless flat panel detector designed for digital radiographic x-ray systems. The AX-B2735W is small, rugged, and easy to use in hand-held and mobile applications. The AX-B2735W supports a number of connection methods, simplifying the integration challenge of going wireless. It can connect to a Multi-Box, a commercial access point or directly to a tablet or PC, and can work with RAD acquisition or auto-trigger.



**Figure 7: AX-B2735W physical dimensions**

## AX-B2735W Detector

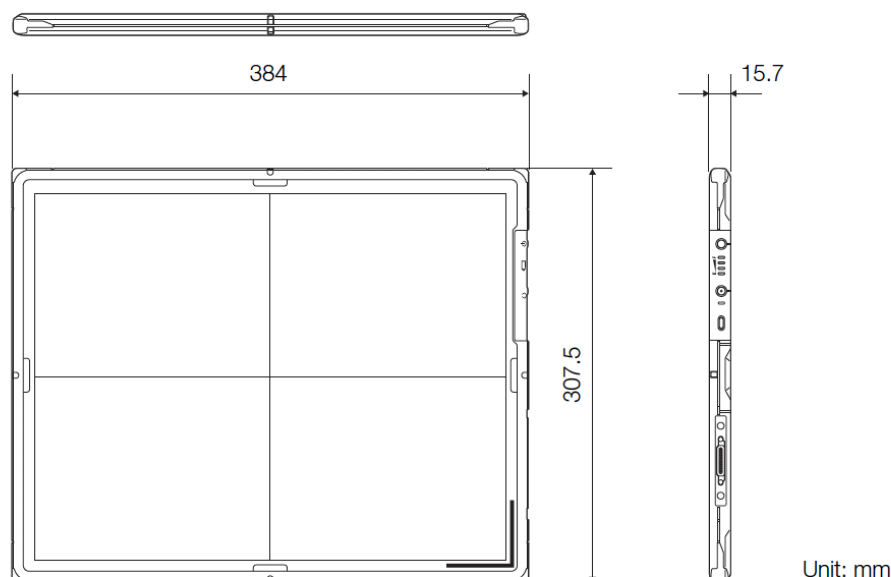


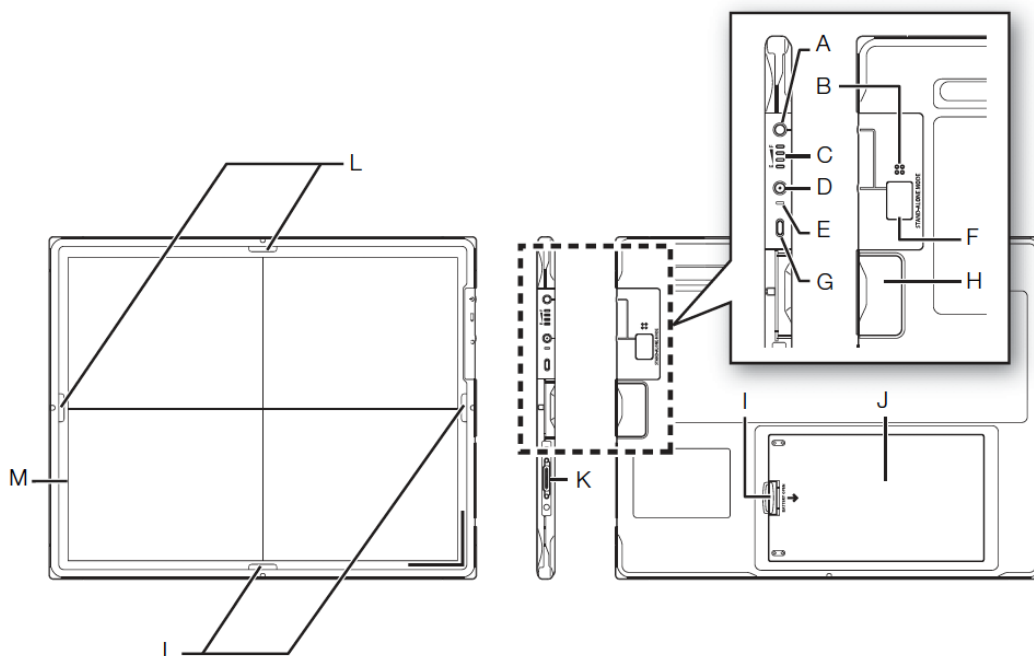
Table 9: AX-B2735W technical specifications

## AX-B2735W Detector

|                                                               |                                                                                |
|---------------------------------------------------------------|--------------------------------------------------------------------------------|
| Pixel pitch:                                                  | 125 µm                                                                         |
| Scintillator:                                                 | CsI (Cesium iodide)                                                            |
| Effective imaging area:                                       | 350 x 274 mm                                                                   |
| Gray scale:                                                   | 65536 gradations (A/D: 16 bit)                                                 |
| Attenuation equivalent of the detector front panel:           | Max. 0.21 mmAl                                                                 |
| Load capacity                                                 |                                                                                |
| Uniform load<br>(Over the whole area of the detector surface) | 310 kg or less                                                                 |
| Uniform load<br>(Effective imaging area)                      | 150 kg or less                                                                 |
| Local load<br>(On an area 40 mm in diameter)                  | 100 kg or less                                                                 |
| Environmental requirements:                                   |                                                                                |
| Operation                                                     |                                                                                |
| Temperature:                                                  | 5°C to 35°C                                                                    |
| Humidity:                                                     | 30% to 80% RH (without condensation)                                           |
| Atmospheric pressure:                                         | 613 to 1060 hPa                                                                |
| Storage (unpacked)                                            |                                                                                |
| Temperature:                                                  | 5°C to 40°C                                                                    |
| Humidity:                                                     | 30% to 85% RH (without condensation)                                           |
| Atmospheric pressure:                                         | 613 to 1060 hPa                                                                |
| Transportation (in packages at point of purchase)             |                                                                                |
| Temperature:                                                  | -30°C to 50°C                                                                  |
| Humidity:                                                     | 10% to 95% RH (without condensation)                                           |
| Atmospheric pressure:                                         | 613 to 1060 hPa                                                                |
| Applicable grid:                                              | 34, 40*, 52*, 60* lp/cm (* recommended)<br>(34 and 40 lp/cm have restrictions. |
| Wireless LAN:                                                 | Compliant with IEEE 802.11a/b/g/n                                              |
| Rated power supply:                                           | 9 to 12 V DC, 2.00 A                                                           |
| Wireless:                                                     | Powered by the battery pack                                                    |
| Dimensions and mass:                                          | Approx. 384 x 307.5 x 15.7 mm<br>Approx. 1.8 kg (incl. battery pack)           |

**Table 10: Canon AX-B2735W Series Panel part names and functions**

The detector is designed to capture radiographic images.



|          |                           |                                                                                                                                                                                                                                                                                                                 |
|----------|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>A</b> | <b>POWER switch</b>       | When the detector is off, press the POWER switch (for at least 0.5 seconds) to turn on the detector. When the detector is on, press and hold the POWER switch (for at least 3 seconds) to turn off the detector, or press and hold the POWER switch (for 1 second or less) to establish the communication link. |
| <b>B</b> | <b>Speaker</b>            |                                                                                                                                                                                                                                                                                                                 |
| <b>C</b> | <b>Power LED</b>          | Lights up when the detector turns on. Shows the remaining battery pack charge.                                                                                                                                                                                                                                  |
| <b>D</b> | <b>READY switch</b>       |                                                                                                                                                                                                                                                                                                                 |
| <b>E</b> | <b>READY LED</b>          | This LED lamp flashes while the detector is transitioning to exposure ready status, and lights up when the detector enters exposure ready status. Also flashes (approx. 3 seconds) when detector linkage is initiated. Flashes in the case of errors.                                                           |
| <b>F</b> | <b>Error code display</b> | If errors occur, an error code is displayed.                                                                                                                                                                                                                                                                    |
| <b>G</b> | <b>IR data port</b>       | Communication port for the detector link (registration/connection)                                                                                                                                                                                                                                              |
| <b>H</b> | <b>Wireless module</b>    | Transmits image data with wireless communication (IEEE 802.11a/b/g/n).                                                                                                                                                                                                                                          |
| <b>I</b> | <b>Battery cover lock</b> | Locks or unlocks the battery cover.                                                                                                                                                                                                                                                                             |

|          |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>J</b> | <b>Battery cover</b>                      | Holds the battery pack. Removing the battery cover enables to attach or remove the battery pack (detector's battery for wireless configuration).                                                                                                                                                                                                                                                                                                                                                              |
| <b>K</b> | <b>Cable connector</b>                    | Accepts the wiring cable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>L</b> | <b>Colored label locations (4 places)</b> | Affix accessory colored labels at the specified locations on the detector in order to distinguish it from other detectors. Affix colored labels that match the colors of the icons shown on the protocol selected on the Examination screen. The labels come in four colors: green, light blue, purple, and orange. The colored labels can also be affixed to locations at the top and sides of the detector as reminder markings to distinguish the top and bottom and left and right sides of the detector. |
| <b>M</b> | <b>Effective imaging area border</b>      | Indicates the effective imaging area and center position.                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

**Table 11: Canon AX-B2735W Wireless Communications**

Wireless connection is established between the internal wireless module of this product and a laptop computer or a wireless access point.

This product supports IEEE 802.11a/b/g/n (Frequency band: 2.4 GHz/5 GHz). The available frequency band and channel vary depending on the system requirements and the radio frequency regulations in the country or region where you purchased the device.

 **Important**

Note that the radio frequency channel configured for indoor use may not be usable in outdoor areas, depending on local radio frequency regulations.

 **Important**

When configuring other wireless LAN equipment, do not use the same radio frequency (channel) that is selected for this product. Otherwise, an interference between the two pieces of equipment may occur and may result in a decline in transmission speed and other troubles.

 **Important**

Before introducing other wireless equipment to the same environment where this product is set up, consult with the equipment system engineer.

 **Important**

Do not cover the wireless module on the detector with your hands or place obstacles in the way of the wireless access point. Otherwise, the properties of wireless communication, such as the throughput and operable distance, may decrease.

Table 12: Canon AX-Series Panel Battery Specifications

## Specifications

**Product name (model number):**

BATTERY PACK LB-4A

**Type:** Lithium ion battery

**Operation temperature:**

5°C to 35°C

**Operation humidity:**

85% Rh or less

**Rated voltage:** 11.1 V DC

**Capacity:** Typ. 1660 mAh / Min. 1600 mAh

**Charging current:** 1.6 A

**Charging time:** Approx. 150 minutes\* (full discharge to full charge)\*\*

**Cycle life:** Approx. 300 cycle (full discharge to full charge)

**Dimensions and mass:**

Approx. 93 x 162 x 7 mm

(excluding projecting parts)

Approx. 160 g

\* When charging the battery pack using the Battery Charger BC-1A

\*\* When the battery pack is charged fully (full discharge to full charge) at an ambient temperature of 25°C

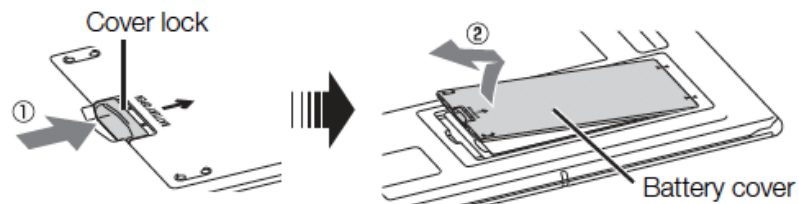
- All specifications above are based on Canon's testing standards.
- The specifications and exterior are subject to change without notice.

Figure 8: Attaching and removing the battery pack for the AX-Series

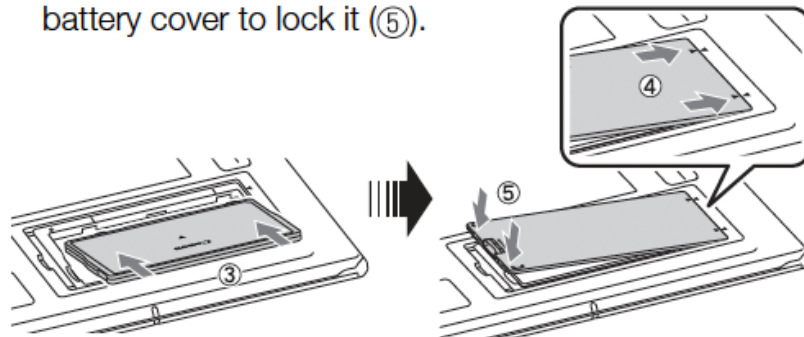
## Attaching or removing the battery pack

### Attaching the battery pack

Press and hold the battery cover lock (①) to release the lock, then lift up and pull out the battery cover (②).



Insert the battery pack fully (③). Insert the battery cover fully (④) and press down on the front of the battery cover to lock it (⑤).

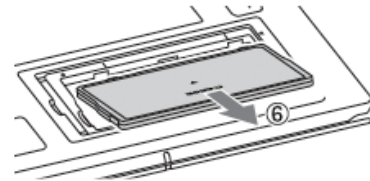


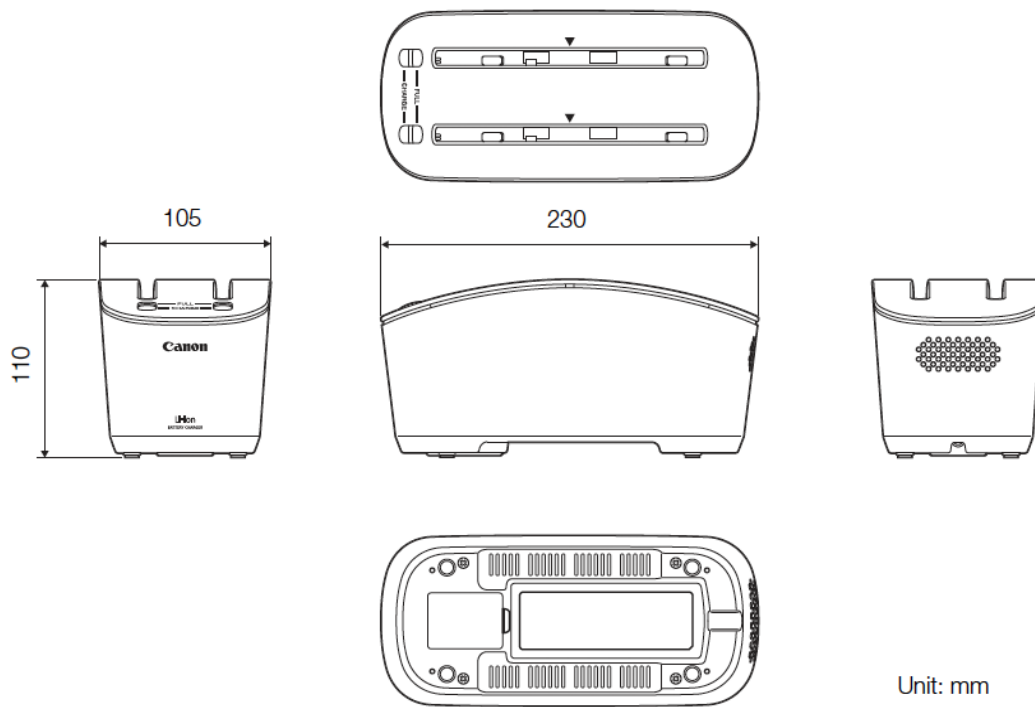
### Removing the battery pack

For details on how to remove the battery cover, refer to "Attaching the battery pack."

To remove the battery pack, pull the edge to remove the battery pack (⑥).

- For details, refer to the User's Manual for the CXDI detector.

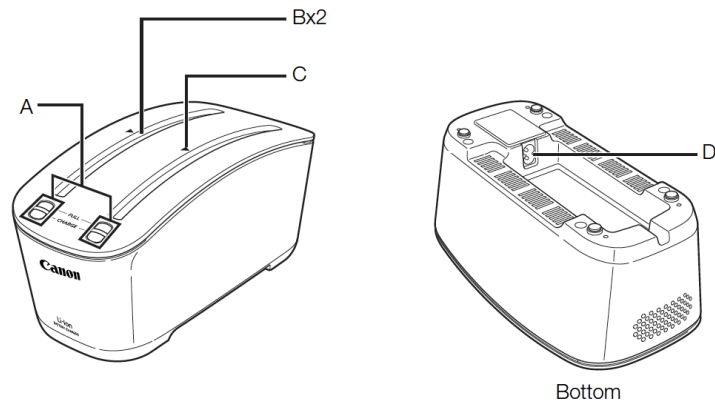


**Figure 9: AX Series battery charger dimensions**

- All specifications above are based on Canon's testing standards.
- The specifications and exterior are subject to change without notice.

**Table 13: AX Series battery charger part name and functions**

## Battery charger



|   |                                       |                                                                                                                                                                                            |
|---|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A | Charge status lamps<br>FULL<br>CHARGE | Light up when the batteries are fully charged.<br>Light up when the batteries are being charged.<br><b>i Information</b> See Charge status (→ page 12) for confirmation of other statuses. |
| B | Battery insertion slot                | Accepts the Battery Pack LB-1A.                                                                                                                                                            |
| C | Direction marker                      | Serves as an index mark for inserting the batteries correctly to the slot.                                                                                                                 |
| D | Power cord socket                     | Accepts the supplied power cord.                                                                                                                                                           |

Table 14: AX Series battery charger technical specifications

## Specifications

### Main specifications

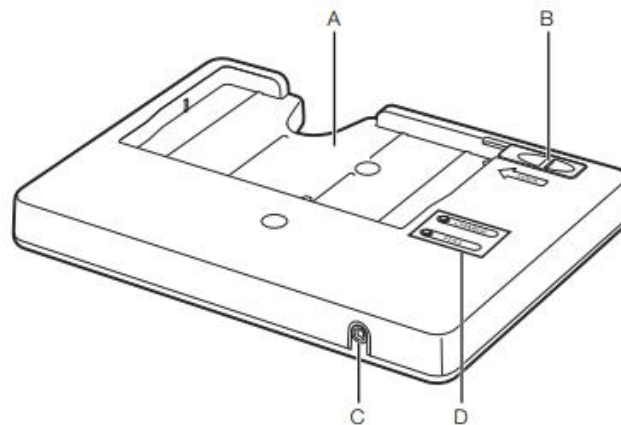
|                                           |                                                                |
|-------------------------------------------|----------------------------------------------------------------|
| Usage:                                    | Dedicated battery charger for the Battery Pack LB-1A*          |
| Battery charging slot:                    | 2 slots (two battery packs can be charged at one time)         |
| Rated input:                              | 100-240 V AC, 50/60 Hz, 0.7-0.37 A, 70-90 VA                   |
| Rated output:                             | 12.33 V DC/1.2 A                                               |
| Charging time:                            | Approx. 3 hours (full discharge to full charge)**              |
| Operation temperature and humidity range: | 5 to 35°C / 20 to 85% RH                                       |
| Storage temperature and humidity range:   | -30 to 60°C / 10 to 85% RH                                     |
| Dimensions and mass:                      | Approx. 105 x 230 x 110 mm<br>Approx. 780 g (excl. power cord) |
| * Battery Pack LB-1A:                     | Lithium ion<br>Capacity: Typ. 2490 mAh / Min. 2400 mAh         |

\*\* When the battery pack is charged fully (full discharge to full charge) at an ambient temperature of 25°C.

Table 15: AX Series single bay battery charger part names and functions

## Battery adaptor

---



|   |                                       |                                                                                                                                                                                                |
|---|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A | Battery bay                           | Accepts the Battery Pack LB-4A.                                                                                                                                                                |
| B | Battery lock                          | Locks or unlocks the battery pack.                                                                                                                                                             |
| C | DC IN jack                            | Accepts the cable of the dedicated AC adaptor.                                                                                                                                                 |
| D | Charge status lamps<br>CHARGE<br>FULL | Light up when the battery pack is being charged.<br>Light up when the battery pack is fully charged.<br><b>i Information</b> See Charge status (→ page 10) for confirmation of other statuses. |

**Table 16: Canon AX Series battery charger technical specifications****Main specifications****Battery adaptor**

|                                                                                                          |                                                                                                                             |
|----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Usage:                                                                                                   | Dedicated battery charger for the Battery Pack LB-4A*                                                                       |
| Power supply rating                                                                                      | INPUT: 12 V DC, 1.2 A (supplied from AC adaptor)<br>OUTPUT: 12.33 V DC, 1.0 A                                               |
| Charging time:                                                                                           | Approximately 2.5 hours (full discharge to full charge)**                                                                   |
| Operating environment                                                                                    | Temperature:<br>5°C to 35°C<br>Humidity: 20% to 85% RH (without condensation)<br>Atmospheric pressure:<br>700 to 1060 hPa   |
| Transportation and storage environment (in packages at point of purchase)                                | Temperature:<br>-30°C to 50°C<br>Humidity: 10% to 95% RH (without condensation)<br>Atmospheric pressure:<br>613 to 1060 hPa |
| Dimensions and mass:                                                                                     | Approximately 240 x 180 x 25 mm<br>Approximately 395 ± 20 g                                                                 |
| * Battery Pack LB-4A:                                                                                    | Lithium ion<br>Capacity: Typ. 1660 mAh / Min. 1600 mAh                                                                      |
| ** When the battery pack is charged fully (full discharge to full charge) at a room temperature of 25°C. |                                                                                                                             |

**AC adaptor**

|                      |                                                                           |
|----------------------|---------------------------------------------------------------------------|
| Model No.:           | MPU16A-105                                                                |
| Power supply rating  | INPUT: 100-240 V AC, 47-63 Hz, 0.33-0.18 A<br>OUTPUT: 12 V DC, 1.25 A max |
| Dimensions and mass: | Approximately 104 x 42 x 31 mm<br>Approximately 160 g                     |

**Table 17: Ready Indicator part names and functions**

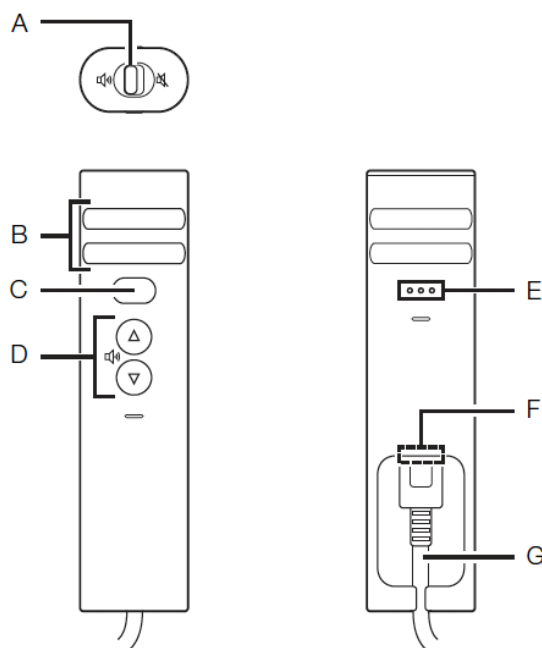
The ready indicator is connected to the image-capture computer via USB and is attached using the hook-and-loop fastener in a place where it can be easily seen.

The LED lamps on the detector light up when the detector is in exposure ready status. As the available image-capturing time (maximum 10 minutes) after the detector is changed to exposure ready status, is reduced to 5 minutes remaining, 1 minute remaining and 10 seconds remaining, or when the X-rays are received by the detector, the detector beeps, or the LED lamps on the detector light up or flash. The volume can be controlled or set to mute.

This unit is used as an interface of the image-capture computer for infrared communication with the detector, which registers the detector to the laptop computer.

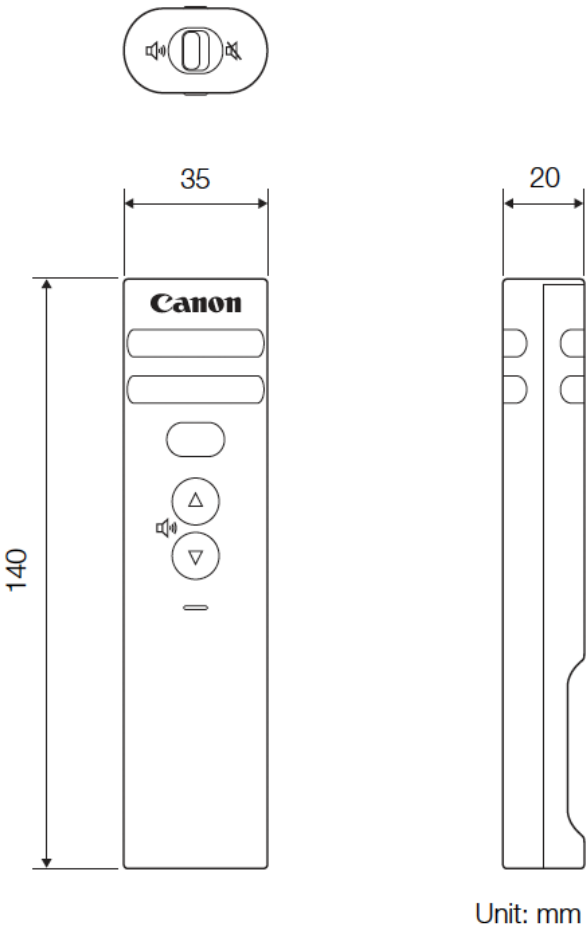
 **Important**

Do not install the ready indicator such a position that its IR data port faces the monitor, reflector, or other IR data communication equipment, except for the detector.



|          |                             |                                                                                                                                                                                                                                                    |
|----------|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>A</b> | <b>Mute switch</b>          | Slide to  to enable the mute function, and to  to disable the mute function. |
| <b>B</b> | <b>LED status indicator</b> | Lights up or flashes to indicate detector status, detector registration, and connection status.                                                                                                                                                    |
| <b>C</b> | <b>IR data port</b>         | Communication port for the detector link (registration/connection)                                                                                                                                                                                 |
| <b>D</b> | <b>Volume button</b>        | Click  to turn up the volume, and  to turn down the volume.                  |
| <b>E</b> | <b>Speaker</b>              | A beeping sound is emitted from the speaker openings.                                                                                                                                                                                              |
| <b>F</b> | <b>Micro USB connector</b>  | Connector for the micro USB cable (Micro B type)                                                                                                                                                                                                   |
| <b>G</b> | <b>Micro USB cable</b>      | Connect to the image-capture computer.                                                                                                                                                                                                             |

Figure 10: Ready Indicator dimensions



# Canon AX-B3543W detector specifications

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

**Figure 11: Canon AX-B3543W**



**Figure 12: Canon AX-B3543W detector physical dimensions**

## AX-B3543W Detector

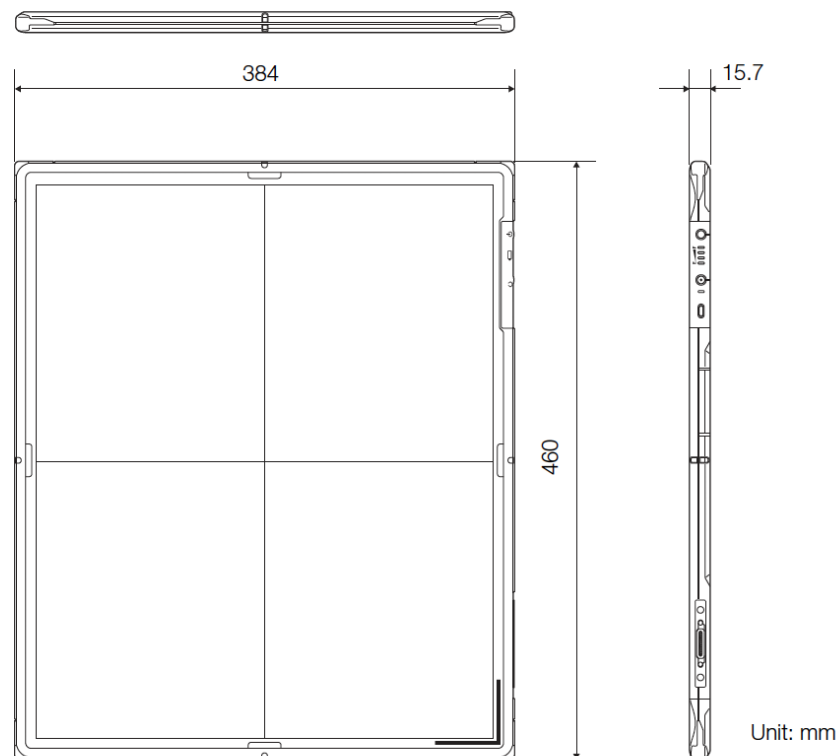


Table 18: Canon AX-B3543W X-Ray detector technical specifications

## AX-B3543W Detector

|                                                               |                                                                                 |
|---------------------------------------------------------------|---------------------------------------------------------------------------------|
| Pixel pitch:                                                  | 125 µm                                                                          |
| Scintillator:                                                 | CsI (Cesium iodide)                                                             |
| Effective imaging area:                                       | 350 x 426 mm                                                                    |
| Gray scale:                                                   | 65536 gradations (A/D: 16 bit)                                                  |
| Attenuation equivalent of the detector front panel:           | Max. 0.21 mmAl                                                                  |
| Load capacity                                                 |                                                                                 |
| Uniform load<br>(Over the whole area of the detector surface) | 310 kg or less                                                                  |
| Uniform load<br>(Effective imaging area)                      | 150 kg or less                                                                  |
| Local load<br>(On an area 40 mm in diameter)                  | 100 kg or less                                                                  |
| Environmental requirements:                                   |                                                                                 |
| Operation                                                     |                                                                                 |
| Temperature:                                                  | 5°C to 35°C                                                                     |
| Humidity:                                                     | 30% to 80% RH (without condensation)                                            |
| Atmospheric pressure:                                         | 613 to 1060 hPa                                                                 |
| Storage (unpacked)                                            |                                                                                 |
| Temperature:                                                  | 5°C to 40°C                                                                     |
| Humidity:                                                     | 30% to 85% RH (without condensation)                                            |
| Atmospheric pressure:                                         | 613 to 1060 hPa                                                                 |
| Transportation (in packages at point of purchase)             |                                                                                 |
| Temperature:                                                  | –30°C to 50°C                                                                   |
| Humidity:                                                     | 10% to 95% RH (without condensation)                                            |
| Atmospheric pressure:                                         | 613 to 1060 hPa                                                                 |
| Applicable grid:                                              | 34, 40*, 52*, 60* lp/cm (* recommended)<br>(34 and 40 lp/cm have restrictions.) |
| Wireless LAN:                                                 | Compliant with IEEE 802.11a/b/g/n                                               |
| Rated power supply:                                           | 9 to 12 V DC, 2.00 A                                                            |
| Wireless:                                                     | Powered by the battery pack                                                     |
| Dimensions and mass:                                          | Approx. 384 x 460 x 15.7 mm<br>Approx. 2.3 kg (incl. battery pack)              |

**Table 19: AX-B3543W RF transmitter specifications**

| Frequency band | Wireless LAN standard IEEE 802. |      | Frequency band (MHz)   | Modulation | Data rate (Mbps)                    | Effective radiation power (dBm) |
|----------------|---------------------------------|------|------------------------|------------|-------------------------------------|---------------------------------|
| 2.4 GHz        | 11b                             |      | 2412-2472              | DSSS       | 11                                  | Max.+12.48                      |
|                | 11g                             |      |                        | OFDM       | 54                                  |                                 |
|                | 11n                             | HT20 |                        |            | 75                                  |                                 |
|                |                                 |      | HT40                   | 2422-2462  |                                     | 150                             |
| 5 GHz          | 11a                             |      | 5180-5320              | OFDM       | 54                                  | Max.+17.35                      |
|                | 11n                             | HT20 | 5500-5700<br>5745-5825 |            | 75                                  |                                 |
|                |                                 |      | HT40                   |            | 5190-5310<br>5510-5670<br>5755-5795 |                                 |

## System Restore Thumb Drive

The system Restore Thumb Drive is used to restore the system to the Sound Default settings.

**Figure 13: FUSION DR Recovery media - Sound™ tablet PC**

## Software

The following software is supported for use with this digital radiography system.

- Windows 10 Enterprise IoT
- Sound SmartDR™ Premier
- Sound Smart PACS™ 1.7
- MusicaVET

## Carrying Cases

You may choose to store the Sound™ system in the carrying cases described in this

**section.** The hard side carrying case accommodates Sound 14" Tablet, AX-B2735W and two batteries for the panel with Canon Flat Battery charger. Sound Equine Backpack

**accommodates the Sound 14" Tablet, the AX-B2735W** and AX-B3543W panel detectors, and two batteries for the AX-Series panel detector.

## Sound Equine Hard-Side Carrying Case

You may choose to store the Sound™ system in the hard case described in this section. The hard case accommodates the Sound 14" Tablet, the AX-B2735W panel detector, and two batteries for the AX panel detector.

**Figure 14: FUSION EQUINE DR® II Hard-Side Carrying Case**



The Backpack accommodates:

- Sound 14" Tablet
- AX-B2735W Panel
- Two panel batteries
- Power supply and cable for tablet
- Extra accessories

## Sound Equine Backpack

You may choose to store the Sound™ system in the backpack described in this section. The backpack accommodates the Sound 14" Tablet, the AX-B2735W and AX-B3543W panel detectors, and two batteries for the AX-Series panel detectors.

**Figure 15: FUSION EQUINE DR® II Backpack**



The Backpack accommodates:

- Sound 14" Tablet
- AX-B2735W or AX-B3543W Panels
- Two panel batteries
- Power supply and cable for tablet
- Extra accessories

## Sound Equine 14x17 Bag

You may choose to store the Sound™ system in the 14x17 bag described in this section. The bag accommodates the Sound 14" Tablet, the AX-B2735W and AX-B3543W panel detectors, and two batteries for the AX-Series panel detectors.

**Figure 16: Sound Equine 14x17 Bag showing panel (1) and battery (2) storage areas**



**Figure 17: The FUSION 1417 bag, panel storage area**



## System storage accessories

In addition to the system storage cases, you may choose to include one or more of the accessories described in this section to store FUSION EQUINE DR® II system components.

### Neoprene Panel Cover

The neoprene panel cover protects the panel detector.

**Figure 18: Neoprene Panel Cover for AX-B2735W Panel**



**Figure 19: Neoprene Panel Cover for AX-B3543W Panel**



## Sound Panel Frame and Handle

Figure 20: Sound custom frame for the AX-B3543W Panel



Figure 21: AX-B3543W Frame Side View



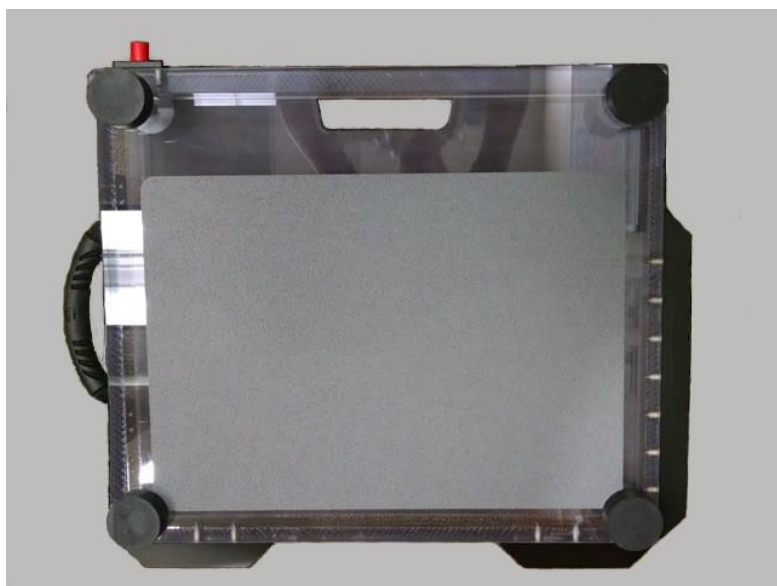
**Figure 22: AX-B3543W Frame Top View**



### Detector Tunnel Podoblock

The Detector Tunnel Podoblock for the AX-Series offers another storage option.

**Figure 23: Detector Tunnel Podoblock for the AX-B2743W panel**



**Figure 24: Detector Tunnel Podoblock for the AX-B3543W panel****Tablet Rotation**

The new/improved tablet cradle release/locking feature provides the user to quickly & easily release the top lid tablet cradle assembly to position the tablet height and use the rotation feature of the cradle assembly so it can be used in landscape and/or portrait mode.

**Figure 25: Cradle Release Label and Tablet Rotation**

## Chapter

# 2

## Safety, Warranty, and Licensing Information

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Your FUSION EQUINE DR® II system uses the Sound SMART DR™ Premier software. All information and instructions contained in this document are intended to promote safe and effective installation, service and maintenance of the digital radiography 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 digital radiography system components.

All components of the digital radiography 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 digital radiography 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 digital radiography 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 and configuration. 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 digital radiography 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 FUSION EQUINE DR® II.)

## Service Technician Training

All service technicians conducting installation, service, and maintenance of the digital radiography 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 FUSION 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 FUSION 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 Digital radiography 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 FUSION 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 FUSION EQUINE DR®, y compris les câbles spécifiés par le fabricant

Use the following guidance tables for emissions and separation distances:

**Table 20: Emissions — FUSION EQUINE DR® II equipment and systems**

| Emissions test             | Compliance                | Electromagnetic environment guidance                                                                                                                                                                        |
|----------------------------|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RF emissions<br>CISPR 11   | Group 1                   | FUSION 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<br>CISPR 11   | Class A or B              | Class A                                                                                                                                                                                                     |
| Harmonics IEC<br>61000-3-2 | Class A, B, C, D or<br>NA | Class A                                                                                                                                                                                                     |
| Flicker IEC<br>61000-3-3   | Complies or NA            | Complies                                                                                                                                                                                                    |
|                            |                           | FUSION 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 21: Electromagnetic Immunity — All equipment and systems not life-supporting**

| Immunity test           | EN/IEC 60601<br>test level  | Compliance<br>level         | Electromagnetic<br>environment — guidance                                                                            |
|-------------------------|-----------------------------|-----------------------------|----------------------------------------------------------------------------------------------------------------------|
| ESD EN/IEC<br>61000-4-2 | ±8 kV contact<br>±15 kV air | ±8 kV contact<br>±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<br>61000-4-4 | ±2 kV mains<br>±1 kV I/Os   | ±2 kV mains<br>±1 kV I/Os   | Mains power quality should be that of a typical commercial or hospital environment                                   |

| Immunity test                                            | EN/IEC 60601 test level                                                                                                                           | Compliance level                                                                                                                            | Electromagnetic environment — guidance                                                                                                                                                                                                                                    |
|----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Surge EN/IEC 61000-4-5                                   | ±1 kV differential<br>±2 kV common                                                                                                                | ±1 kV differential<br>±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<br>At 0°, 45°, 90°, 135°, 180°, 225°, 270°, 315°: 100% dip for 1 cycles<br>30% dip for 25/30 cycles<br>>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<br>>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 22: 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<br>150 kHz – 80 MHz | (V1)=3Vrms       | $D=(3.5/V1)(\sqrt{P})$                                                                                                                                                                                                                                                                                                                                                 |
| Radiated RF EN/IEC 61000-4-3  | 3 V/m<br>80 MHz – 2.5 GHz  | (E1)=3V/m        | $D=(3.5/E1)(\sqrt{P})$ 80 to 800 MHz                                                                                                                                                                                                                                                                                                                                   |
|                               |                            |                  | $D=(7/E1)(\sqrt{P})$<br><br>800 MHz to 2.5 GHz<br>Where P = max power in watts and D = recommended separation distance in meters.<br>Field strengths from fixed transmitters, as determined by an electromagnetic site survey, should be less than the compliance levels (V1 and E1).<br>Interference may occur in the vicinity of equipment containing a transmitter. |

| Emissions test                                                                                                                                                                                                                                     | EN/IEC 60601 test level | Compliance level | Electromagnetic environment — guidance |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|------------------|----------------------------------------|
| <b>Note:</b> Portable and mobile communications equipment should be separated from the system by no less than the distances calculated or listed in <a href="#">Table 19: Immunity — All equipment and systems not life-supporting</a> on page 29. |                         |                  |                                        |

Table 23: Separation — Equipment not life-supporting

| Max output power (watts) | Separation (m) at specified frequencies:                      |                                                           |                                                                |
|--------------------------|---------------------------------------------------------------|-----------------------------------------------------------|----------------------------------------------------------------|
|                          | Separation (m)<br>150 kHz to 80 MHz<br>$D=(3.5/V1)(\sqrt{P})$ | Separation (m)<br>80 to 800 MHz<br>$D=(3.5/E1)(\sqrt{P})$ | Separation (m)<br>800 MHz to 2.5.0 GHz<br>$D=(7/E1)(\sqrt{P})$ |
| 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 24: 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 |       |

| Temp. (°C) | Power Supplied (VDC) | Frequency (MHz) | RF Output Power EIRP (dBm) |       | Limit |
|------------|----------------------|-----------------|----------------------------|-------|-------|
| 45         | 11.4                 | 2412            | 12.32                      | 12.38 |       |
|            |                      | 2442            | 12.59                      | 12.58 |       |
|            |                      | 2472            | 12.68                      | 13.05 |       |

Table 25: 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 26: 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     |       |

| Temp. (°C) | Power Supplied (VDC) | Frequency (MHz) | RF Output Power EIRP (dBm) |       |       | Limit |
|------------|----------------------|-----------------|----------------------------|-------|-------|-------|
|            |                      | 2472            | 12.82                      | 12.81 | 15.83 |       |

Table 27: 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 28: 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 |             |

| Temperature (°C) | Voltage (Vdc) | RF Output Power EIRP (dBm) |       | Limit (dBm) |
|------------------|---------------|----------------------------|-------|-------------|
| 45               | 11.4          | 12.55                      | 12.47 |             |
|                  | 12.5          | 12.95                      | 13.08 |             |
|                  | 10.3          | 12.36                      | 12.33 |             |
|                  | 11.4          | 12.52                      | 12.51 |             |
|                  | 12.5          | 13.10                      | 13.15 |             |
|                  |               |                            |       |             |

Table 29: 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     |             |
|                  | 12.5          | 12.18                      | 11.91 | 15.06     |             |

Table 30: 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 31: 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 32: EIRP (802.11a) - Transmitter**

| Temp. (°C) | Power Supplied (VDC) | Test Result (EIRP, dBm) |       |             |       |             |       | Limit |
|------------|----------------------|-------------------------|-------|-------------|-------|-------------|-------|-------|
|            |                      | Channel 149             |       | Channel 157 |       | Channel 165 |       | 14    |
|            |                      | ANT1                    | ANT2  | ANT1        | ANT2  | ANT1        | ANT2  |       |
| -20        | 10.3                 | 10.21                   | 10.31 | 10.23       | 10.27 | 10.22       | 10.28 |       |
|            | 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 33: EIRP (802.11n20) - Transmitter**

| Temp.<br>(°C) | Power<br>supplied<br>(VDC) | Test Result (EIRP, dBm) |      |               |             |       |               |             |       |               | Limit |
|---------------|----------------------------|-------------------------|------|---------------|-------------|-------|---------------|-------------|-------|---------------|-------|
|               |                            | Channel 149             |      |               | Channel 157 |       |               | Channel 165 |       |               |       |
|               |                            | ANT1                    | ANT2 | ANT1+<br>ANT2 | ANT1        | ANT2  | ANT1+<br>ANT2 | ANT1        | ANT2  | ANT1+<br>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  | 12.71         | 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         |       |
|               | 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 34: EIRP (802.11n40) - Transmitter**

| Temp.<br>(°C) | Power<br>Supplied<br>(VDC) | Test Result (EIRP, dBm) |      |         |             |      |         | Limit |
|---------------|----------------------------|-------------------------|------|---------|-------------|------|---------|-------|
|               |                            | Channel 151             |      |         | Channel 159 |      |         | 2     |
|               |                            | ANT1                    | ANT2 | ANT1+AN | ANT1        | ANT2 | ANT1+AN |       |
| -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 35: EIRP (802.11ac80) - Transmitter**

| Temp. (°C) | Power Supplied (VDC) | Test Result (EIRP, dBm) |      |           | Limit |
|------------|----------------------|-------------------------|------|-----------|-------|
| -20        | 10.3                 | Channel 155             |      |           | 14    |
|            |                      | ANT1                    | ANT2 | ANT1+ANT2 |       |
|            |                      | 7.35                    | 7.27 | 10.32     |       |
| 25         | 11.4                 | 7.79                    | 7.76 | 10.79     |       |
|            |                      | 7.78                    | 8.18 | 10.99     |       |
|            |                      | 7.34                    | 7.23 | 10.30     |       |
| 45         | 11.4                 | 7.77                    | 7.69 | 10.74     |       |
|            |                      | 7.77                    | 8.27 | 11.04     |       |
|            |                      | 7.30                    | 7.28 | 10.30     |       |
|            | 12.5                 | 7.81                    | 7.79 | 10.81     |       |
|            |                      | 7.76                    | 8.28 | 11.04     |       |
|            |                      |                         |      |           |       |

## Equipment Classification

The digital radiography 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 digital radiography system may be shipped in several boxes. The digital radiography 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 digital radiography system. Do not install digital radiography 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 digital radiography 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 digital radiography 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 digital radiography 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 digital radiography system are sensitive to electrostatic discharge (ESD). Personnel servicing components of the digital radiography 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 digital radiography system components and equipment. When cleaning the digital radiography 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 digital radiography system must be powered from an AC supply circuit that includes an adequate earth ground. Connect the digital radiography system components only to receptacles labeled or marked as medical grade.



**Warning:** The digital radiography 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 digital radiography 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 digital radiography 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 digital radiography system must be powered off before connecting any cables.

All electrical and grounding connections to the digital radiography 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 digital radiography 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 digital radiography 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 digital radiography system or use the digital radiography 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 digital radiography 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 digital radiography 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 digital radiography 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 digital radiography 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 digital radiography 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 digital radiography 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 prevent 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 digital radiography system and related equipment. Failure to obtain training prior to servicing the digital radiography 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 digital radiography system.

The digital radiography 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 digital radiography 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 digital radiography system.

Do not attempt to perform service or troubleshooting on the digital radiography 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 digital radiography 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 prevent unnecessary or unintentional radiation exposure.

Some components of the digital radiography 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 digital radiography 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 prevent the spillage of liquids or bodily fluids on or into the components of the digital radiography 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 digital radiography system must be stored, transported, installed, and operated in accordance with the environmental conditions provided in this manual.

The digital radiography 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 prevent the spillage of liquids or bodily fluids on or into the components of the digital radiography 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 prevent overheating of the components inside these enclosures.

The digital radiography 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 digital radiography 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 digital radiography 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 digital radiography system within recommended parameters.

**Table 36: Environmental parameters for transportation storage, and operation of computer and peripherals**

| Action                     | Temperature                 | Humidity                   | Air pressure   |
|----------------------------|-----------------------------|----------------------------|----------------|
| Transportation and storage | -22 – 122°F<br>(-30 – 50°C) | 10 – 95%<br>Non-condensing | 613 to 1060hPa |

| Action    | Temperature             | Humidity                    | Air pressure   |
|-----------|-------------------------|-----------------------------|----------------|
| Operation | 41 – 95°F<br>(5 – 35°C) | 30 – 80%<br>non- condensing | 613 to 1060hPa |

At the end of service life of any component of the digital radiography 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 FUSION EQUINE DR® II's equipment at ambient temperatures below 41°F or above 95°F (5°C, 35°C) or at other abnormal conditions. Ambient operating temperature for the isolation transformer, if used, is 32–113°F (0–45°C). 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 FUSION EQUINE DR® II system without authorization by the seller.

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

## Safety

Apply the directions in this chapter precisely to avoid damage to the digital radiography 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 digital radiography 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 digital radiography 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 digital radiography 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 digital radiography 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 digital radiography system within recommended parameters.

**Table 37: Environmental parameters for transportation, storage, and operation of computer and peripherals**

| Action                     | Temperature                | Humidity                   | Air pressure                                         |
|----------------------------|----------------------------|----------------------------|------------------------------------------------------|
| Transportation and storage | -4 – 131°F<br>(-20 – 55°C) | 10 – 95%<br>Non-condensing | 700 hPa – 1060 hPa<br>(10 – 5 lb/in2, 0.7 – 1.0 atm) |

| Action    | Temperature              | Humidity                   | Air pressure                                              |
|-----------|--------------------------|----------------------------|-----------------------------------------------------------|
| Operation | 50 – 90°F<br>(10 – 32C°) | 30 – 75%<br>Non-condensing | 700 hPa – 1060<br>hPa (10 – 15 lb/<br>in2, 0.7 - 1.0 atm) |

## Chapter

# 3

## Installing the FUSION EQUINE DR® II System

### Contents

- [\*Tools Needed for Installation\*](#) on page 51
- [\*Charging the System Components\*](#) on page 51
- [\*Installing the AX-B2735W Panel\*](#) on page 61
- [\*Installing the AX-B3543W Panel\*](#) on page 61
- [\*Non-integrated X-ray Generator\*](#) on page 61
- [\*Power-up the System\*](#) on page 64
- [\*Logging In to the Sound User Account\*](#) on page 65
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- [\*Installation Report Form\*](#) on page 71

This chapter provides the information that you need to install the FUSION EQUINE DR® II system.

## Tools Needed for Installation

The following basic tools are needed for installing the digital radiography system:

|                                             |                                                                  |
|---------------------------------------------|------------------------------------------------------------------|
| Digital volt-ohm meter (20,000 $\Omega/V$ ) | 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 [SOUND 14" TABLET controls, indicators, and connectors](#) on page 6 for more information.
2. Charge the panel battery.
  - See [Charging the AX-B2735W panel battery](#) on page 51.
  - See [Charging the AX-B3543W detector batteries](#) on page 51.

## Charging the AX-B2735W and AX-B3543W batteries



**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 cable, which you connect to an AC power source. The charger has a rated input of 100–240 V AC (50/60 Hz, 0.7–0.37 A, 70–90 VA). The charger rated output is 12.33 V DC (1.2 A).



**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.

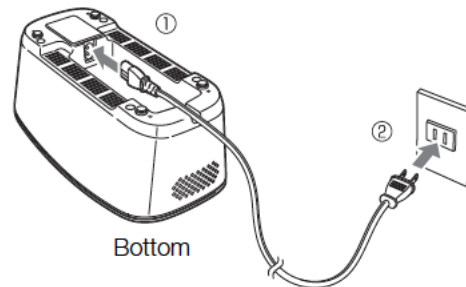
**Figure 26 : AX Series battery charger operating procedures**

**i Information** Fully charge the battery pack the first time it is used.

**i Information** The battery discharges gradually. The battery pack should be charged no more than two days before use.

## 1 Connect the battery charger to the power source.

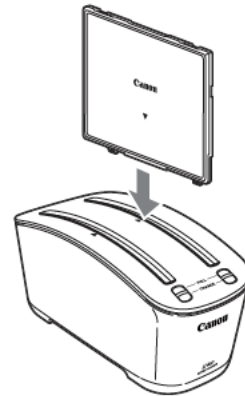
Insert the power cord into the power cord socket (①) and then insert the power cord plug into the AC outlet (②).



## 2 Charge the battery pack.

Insert the Battery Pack LB-1A as illustrated. Align the direction of the battery pack (▼) with the direction marker (▲) of the battery charger.

Insert the battery pack correctly and charging begins automatically. The CHARGE lamp lights blue when the battery is being charged. After the battery charge is completed, the FULL lamp lights green.

**Table 38: AX Series battery charger charge status**

## Charge status

| CHARGE lamp<br>Blue | FULL lamp<br>Green | Status                                                                                                  |
|---------------------|--------------------|---------------------------------------------------------------------------------------------------------|
| ×                   | ×                  | The battery charger is not plugged in or the battery pack is not inserted.                              |
| ○                   | ×                  | The battery pack is being charged.                                                                      |
| ×                   | ○                  | Battery charge is completed.                                                                            |
| ☆                   | ×                  | Battery charging not possible. (Waiting for temperature to reach levels suitable for battery charging.) |
| ☆                   | ☆                  | Error                                                                                                   |

○ : Lights on ☆ : Flashes × : Lights off

**i Information** If the CHARGE or FULL lamp flashes, see Troubleshooting (→ page 14).

**i Information** Two battery packs can be charged at the same time.

**i Information** Battery charging is not possible when the temperature of the battery pack is too high or too low.

**i Information** It takes approximately 3 hours (room temperature: 25°C) to fully charge a completely discharged battery pack. The required charging time varies depending on the ambient temperature and the remaining battery level.

The remaining battery charge can be confirmed on the monitor of the CXDI control system.

| Display                                                                             | Battery level | Status and required action                                                                                 |
|-------------------------------------------------------------------------------------|---------------|------------------------------------------------------------------------------------------------------------|
|  | 100-60%       | Charge sufficient to perform examinations.                                                                 |
|  | 59-9%         | Charge sufficient to perform examinations.<br>A spare battery pack may be required.                        |
|  | 8-5%          | Almost discharged (a few examinations are possible).<br>Replace the battery pack with a fully charged one. |
|  | 4-0%          | Discharged.<br>Replace the battery pack with a fully charged one.                                          |

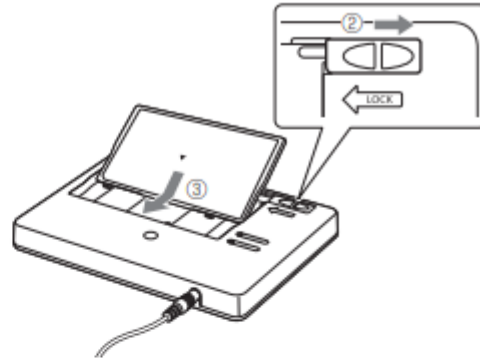
## Remove the battery pack.

Remove the charged battery pack from the battery charger.

**Figure 27: AX Series single bay battery charger operating procedures**

### Charge the battery pack.

Unlock the battery lock (②), check the orientation (▼) of the battery pack, and insert the battery pack diagonally from above (③).



With the battery pack inserted firmly all the way, slide the battery lock to the LOCK side to secure the battery pack (④).

Insert the battery pack correctly and charging begins automatically. The CHARGE lamp lights blue when the battery is being charged. After the battery charge is completed, the FULL lamp lights green.

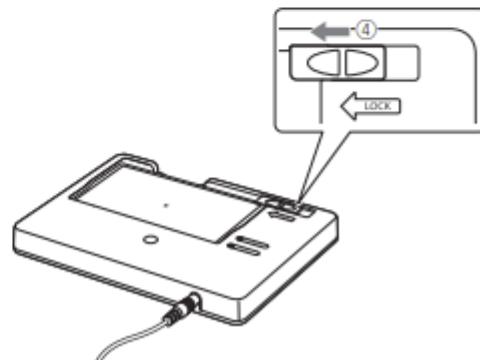


Table 39: AX Series single bay battery charger charge status

### Charge status

| CHARGE lamp<br>Blue | FULL lamp<br>Green | Status                                                                                                  |
|---------------------|--------------------|---------------------------------------------------------------------------------------------------------|
| ×                   | ×                  | The battery adaptor is not plugged in or the battery pack is not inserted.                              |
| ○                   | ×                  | The battery pack is being charged.                                                                      |
| ×                   | ○                  | Battery charge is completed.                                                                            |
| ☆                   | ×                  | Battery charging not possible. (Waiting for temperature to reach levels suitable for battery charging.) |
| ☆                   | ☆                  | Error                                                                                                   |

○ : Lights on ☆ : Flashes × : Lights off

**i Information** If the CHARGE or FULL lamp flashes, see Troubleshooting (→ page 11).

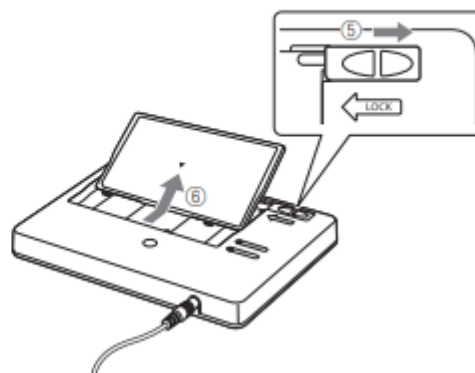
**i Information** Battery charging is not possible when the temperature of the battery pack is too high or too low.

**i Information** It takes approximately 2.5 hours (room temperature: 25°C) to fully charge a completely discharged battery pack. The required charging time varies depending on the ambient temperature and the remaining battery level.

### 3. Installing the FUSION EQUINE DR® II X-ray

#### Remove the battery pack.

Unlock the battery lock (⑤), lift up the battery pack diagonally and remove it (⑥).



## Troubleshooting the Battery Charger

Table 40: Troubleshooting the battery charger

| Symptom                                      | Cause                                                                 | Remedy                                                                                                                                                                                                               |
|----------------------------------------------|-----------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The battery pack cannot be charged.          | The power cord is unplugged from the AC outlet.                       | Connect the plug to the AC outlet firmly.                                                                                                                                                                            |
|                                              | The battery pack is not inserted into the battery charger correctly.  | Insert the battery pack into the battery charger firmly.                                                                                                                                                             |
|                                              | Charging has automatically stopped to protect the battery charger.    | Pull the plug out from the AC outlet and consult your sales representative or local Canon dealer.                                                                                                                    |
|                                              | The ambient temperature is lower than -10°C or higher than 75°C.      | Charge the battery in an ambient temperature of between 5 to 35°C. However, note that a rapid temperature change may result in condensation.                                                                         |
| Only the CHARGE lamp flashes.                | The battery temperature is outside the range of charging temperature. | Wait until the temperature returns to the range suitable for charging.                                                                                                                                               |
| The CHARGE and FULL lamps flash.             | An error has occurred.                                                | Remove the battery pack from the battery charger, and insert it again after two seconds.<br>If the problem is not resolved, stop using the battery pack and consult your sales representative or local Canon dealer. |
| A fully charged battery is consumed quickly. | Battery capacity decreases.                                           | The battery pack is a consumable item (the estimated battery product life is approximately 300 uses). Use a new, fully charged battery pack.                                                                         |
|                                              | The battery pack was charged or used in low temperatures.             | In low temperatures, battery capacity decreases. The battery consumption rate increases compared to room temperatures.                                                                                               |

### 3. Installing the FUSION EQUINE DR® II X-ray

| Symptom                                                                     | Cause                                                                    | Remedy                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------------------------------------------------------------------|--------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The battery pack bulges abnormally.                                         | The battery pack is malfunctioning.                                      | Stop using the battery pack and consult your sales representative or local Canon dealer.                                                                                                                                                                                                                                                                                                |
|                                                                             | The battery charger or the battery pack is malfunctioning.               |                                                                                                                                                                                                                                                                                                                                                                                         |
| Charging does not finish.                                                   | An extended period of time is required to fully charge the battery pack. | The battery charger is functioning properly.<br>Continue charging the battery pack. However, the charging time varies depending on the ambient temperature or the status of the battery pack.<br>It takes about 3 hours (when the ambient temperature is 25°C) to fully charge the battery pack. (A time-out error occurs if charging has not finished even after 6 hours have passed). |
| The detector will not turn on even though a battery pack has been attached. | The battery pack is not charged.                                         | Fully charge the battery pack.                                                                                                                                                                                                                                                                                                                                                          |
|                                                                             | The detector's power is turned off.                                      | Press the POWER button on the detector.                                                                                                                                                                                                                                                                                                                                                 |

**Table 41: Troubleshooting the single bay battery charger**

| Symptom                                      | Cause                                                                    | Remedy                                                                                                                                                                                                                                                                                                                                                                                            |
|----------------------------------------------|--------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The battery pack cannot be charged.          | The battery pack is not inserted into the battery adaptor correctly.     | Insert the battery pack into the battery adaptor firmly.                                                                                                                                                                                                                                                                                                                                          |
|                                              | Charging has automatically stopped to protect the battery adaptor.       | Stop using the battery adaptor and consult your sales representative.                                                                                                                                                                                                                                                                                                                             |
|                                              | The ambient temperature is lower than -10°C or higher than 75°C.         | Charge the battery in an ambient temperature of between 5°C to 35°C. However, note that a rapid temperature change may result in condensation.                                                                                                                                                                                                                                                    |
| Only the CHARGE lamp flashes.                | The battery temperature is outside the range of charging temperature.    | Wait until the temperature returns to the range suitable for charging.                                                                                                                                                                                                                                                                                                                            |
| The CHARGE and FULL lamps flash.             | An error has occurred.                                                   | Remove the battery pack from the battery adaptor, and insert it again after two seconds.<br>If the problem is not resolved, stop using the battery pack and consult your sales representative.                                                                                                                                                                                                    |
| A fully charged battery is consumed quickly. | Battery capacity decreases.                                              | The battery pack is a consumable item (the estimated battery product life is approximately 300 uses). Use a new, fully charged battery pack.                                                                                                                                                                                                                                                      |
|                                              | The battery pack was charged or used in low temperatures.                | In low temperatures, battery capacity decreases. The battery consumption rate increases compared to room temperatures.                                                                                                                                                                                                                                                                            |
| The battery pack bulges abnormally.          | The battery pack is malfunctioning.                                      | Stop using the battery pack and consult your sales representative.                                                                                                                                                                                                                                                                                                                                |
|                                              | The battery adaptor or the battery pack is malfunctioning.               |                                                                                                                                                                                                                                                                                                                                                                                                   |
| Charging does not finish.                    | An extended period of time is required to fully charge the battery pack. | The battery adaptor is functioning properly.<br>Continue charging the battery pack. However, the charging time varies depending on the ambient temperature or the status of the battery pack.<br>It takes approximately 2.5 hours (when the ambient temperature is 25°C) to fully charge the battery pack. (A time-out error occurs if charging has not finished even after 4 hours have passed). |

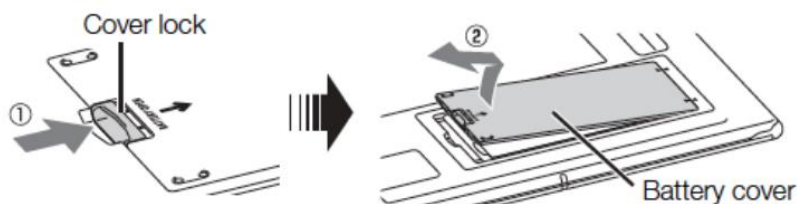
## Attaching or Removing the battery pack

Figure 28: Procedure to remove or attach the AX-Series panel battery pack

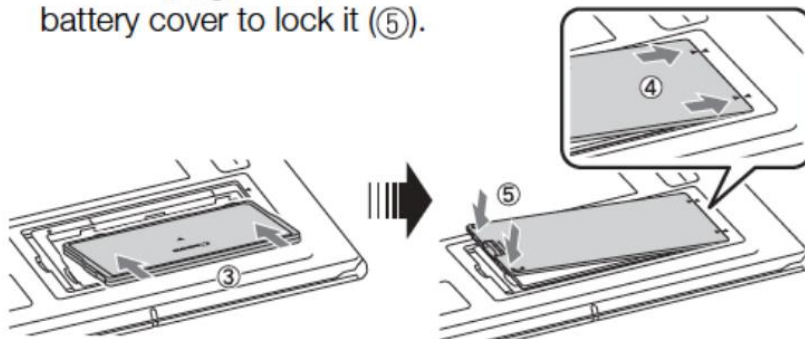
### Attaching or removing the battery pack

#### Attaching the battery pack

Press and hold the battery cover lock (①) to release the lock, then lift up and pull out the battery cover (②).



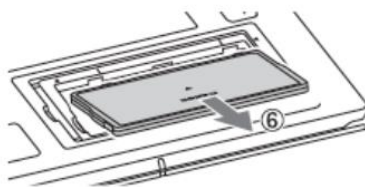
Insert the battery pack fully (③). Insert the battery cover fully (④) and press down on the front of the battery cover to lock it (⑤).



#### Removing the battery pack

For details on how to remove the battery cover, refer to "Attaching the battery pack."

To remove the battery pack, pull the edge to remove the battery pack (⑥).



## Installing the AX-B2735W panel

The AX-B2735W panel is a lightweight and portable digital X-ray imaging device for radiographic use but not for human diagnostic use.

### Procedure

1. Remove the panel from the carrying case.
2. Attach a fully charged battery pack in the AX-B2735W panel. See [Attaching or Removing, the battery pack](#) on page 52.
3. Optional: Install the Sound frame and handle.
4. Optional: Install the neoprene cover over the panel.

## Installing the AX-B3543W panel

The AX-B3543W panel is a lightweight and portable digital X-ray imaging device for radiographic use but not for human diagnostic use.

### Procedure

1. Remove the panel from the carrying case
2. Attach a fully charged battery pack in the AX-B3543W panel. See [Attaching or Removing the battery pack](#) on page 52.
3. Optional: Install the Sound frame and handle.
4. Optional: Install the neoprene cover over the panel.

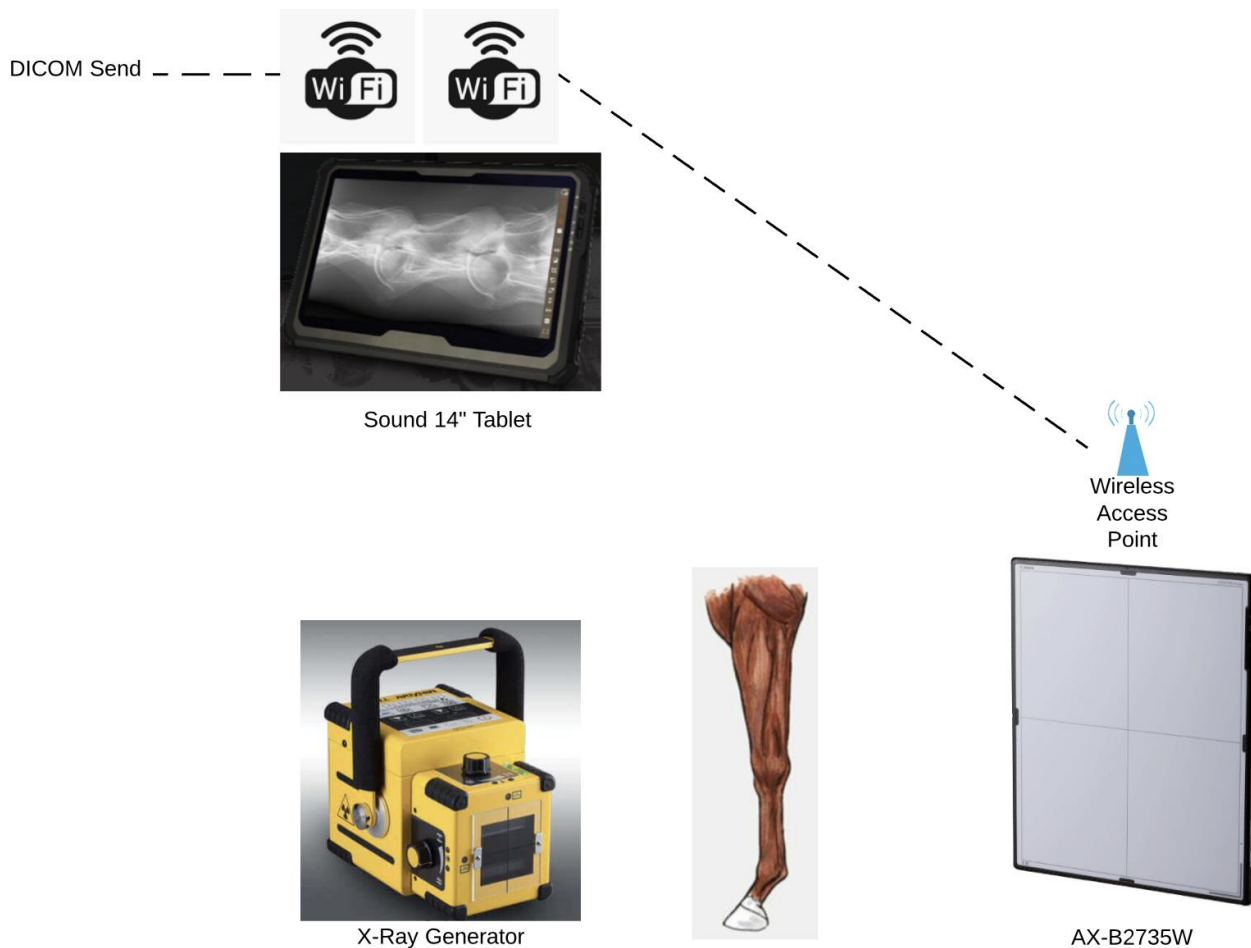
## Non-integrated X-ray Generator

The detector, itself, detects X-ray exposure and automatically starts capturing images. There is no need to connect the X-ray generator and imaging system.

## Connection diagram for the AX-B2735W panel

The following diagram shows the connections between the main components of the digital radiography system.

**Figure 29: Connection diagram: AX-B2735W panel**

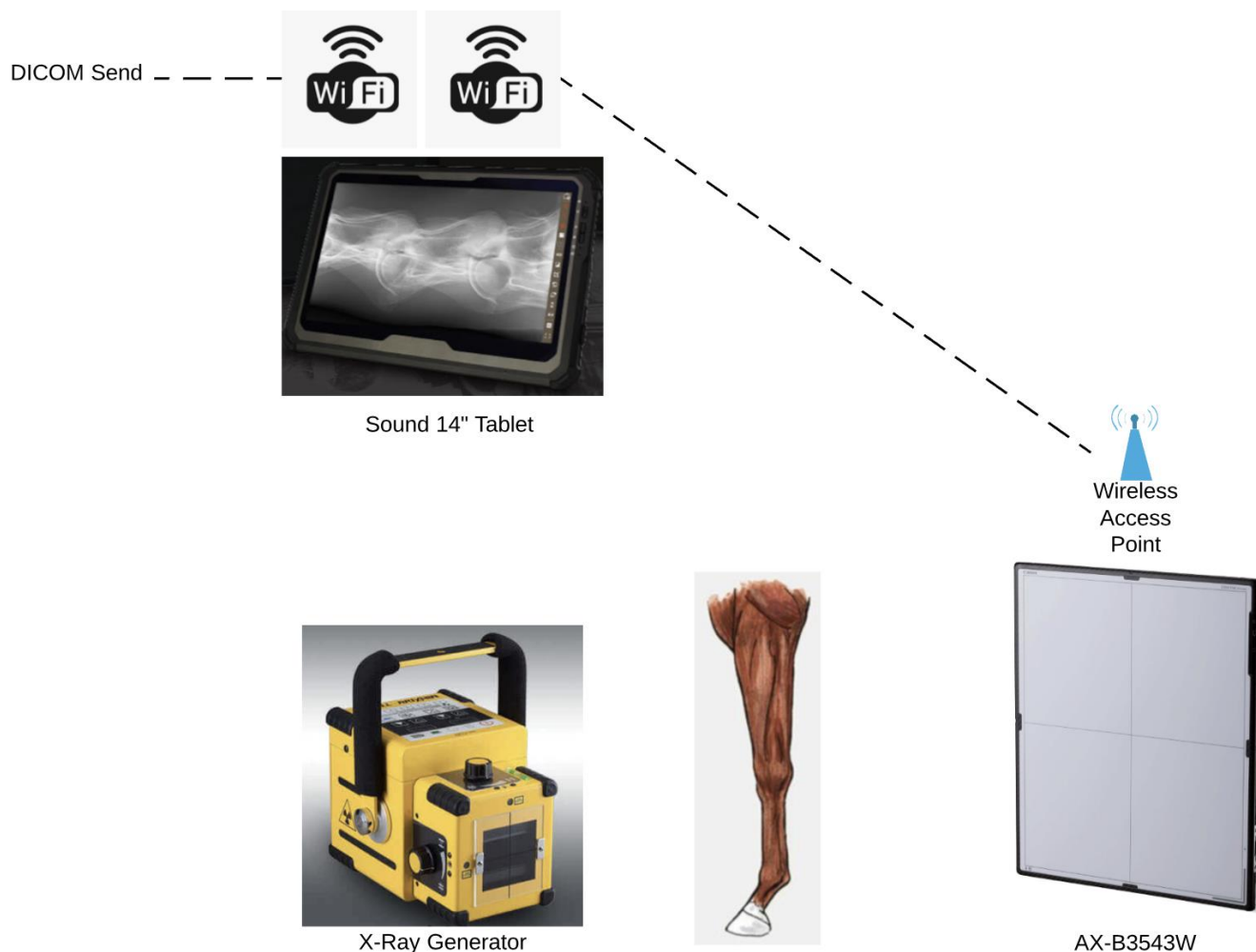


- Sound 14" Tablet and AX-B2735W Panel connected through WiFi
- Sound 14" Tablet and DICOM Send (PACS) connected through WiFi

## Connection diagram for the AX-B3543W panel

The following diagram shows the connections between the main components of the digital radiography system.

**Figure 30: Connection diagram, AX-B3543W panel**



- Sound 14" Tablet and AX-B3543W Panel connected through Wi-Fi
- Sound 14" Tablet and DICOM Send (PACS) connected through Wi-Fi

## 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 Tablet, keyboard (if used), and mouse (if used).  
The power button is on the upper-right edge of the casing. The Tablet automatically logs in to the Sound account.
4. Turn on the panel.  
The power button is on the upper-right side of the panel.  
The system is now installed and ready for configuration.

## Logging in to the Sound User Account

The Sound user account for the digital radiography 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 Sound SmartDR™ Premier 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 Sound SmartDR™ Premier Software

Sometimes, in order to maintenance on the PC using the Windows operating system, it is necessary to log off of the Sound SmartDR™ Premier 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

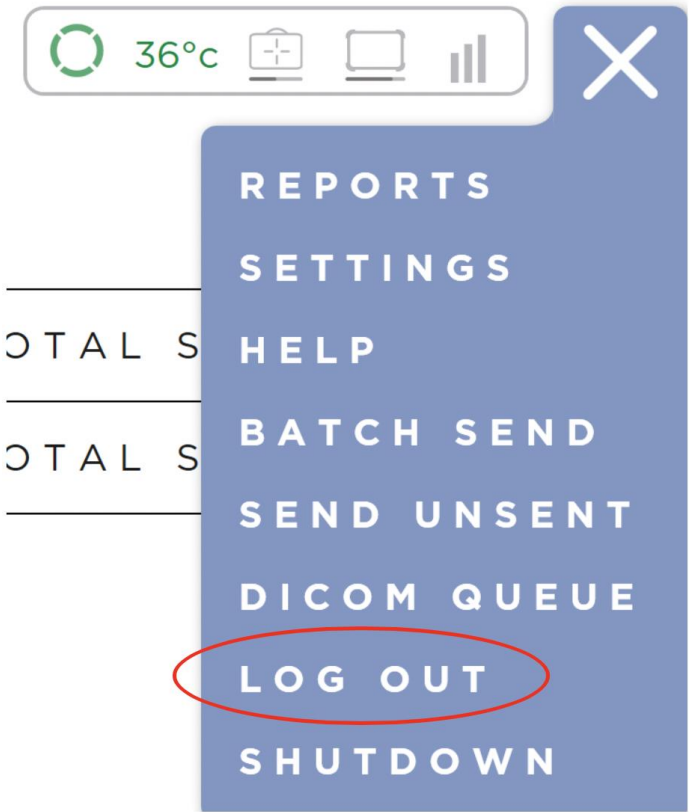
- 1. From the Home Screen, click on the hamburger menu located on the upper right corner.

Figure 31: Sound SmartDR™ Premier Software Home Screen

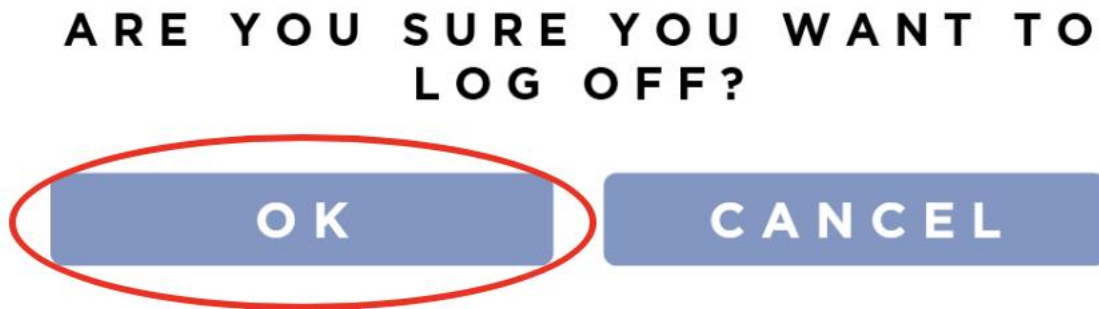


- 2. Select **Log Out** from the drop- down list.

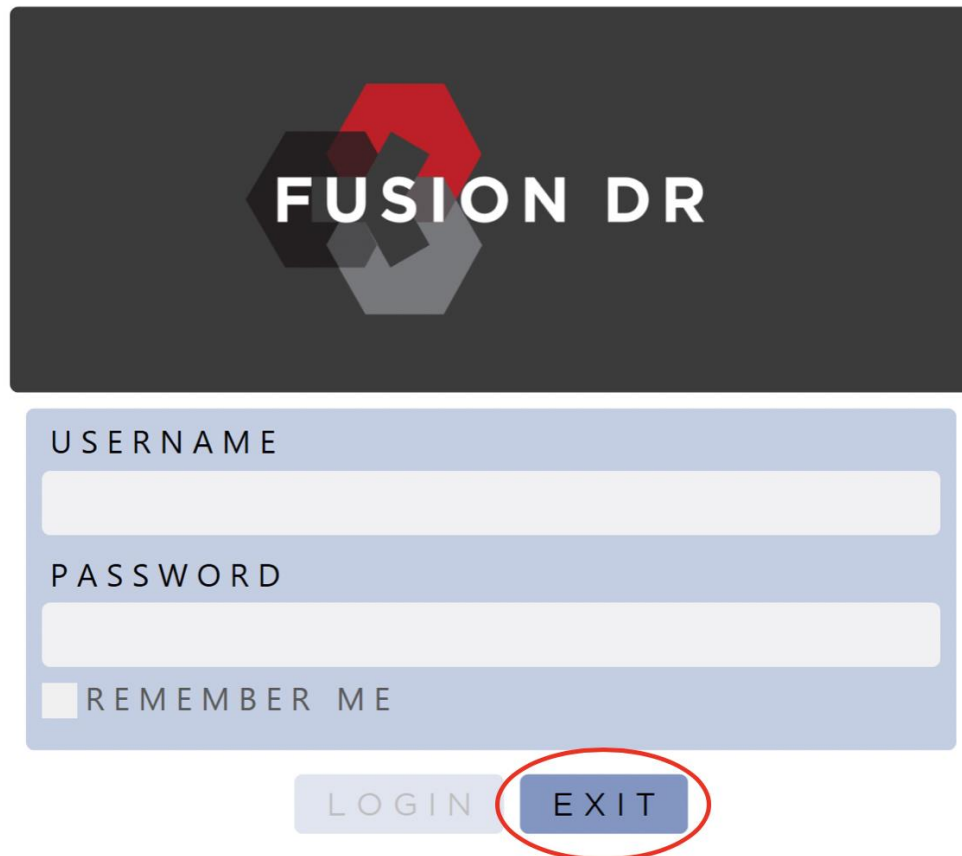
Figure 32: Sound SmartDR™ Premier Software drop-down menu



3. Click on OK to Log Out.



4. Click on EXIT to close the FUSION DR screen .



5. The following messages are displayed before the software closes to display the Windows desktop.  
**IMPORTANT!** The Sound SmartDR™ Premier software automatically backup the database if you log off or shutdown the software.

BACKUP IN  
PROGRESS...

BACKUP COMPLETE.

# CLOSING.

## Shutting Down the PC

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

### About this task



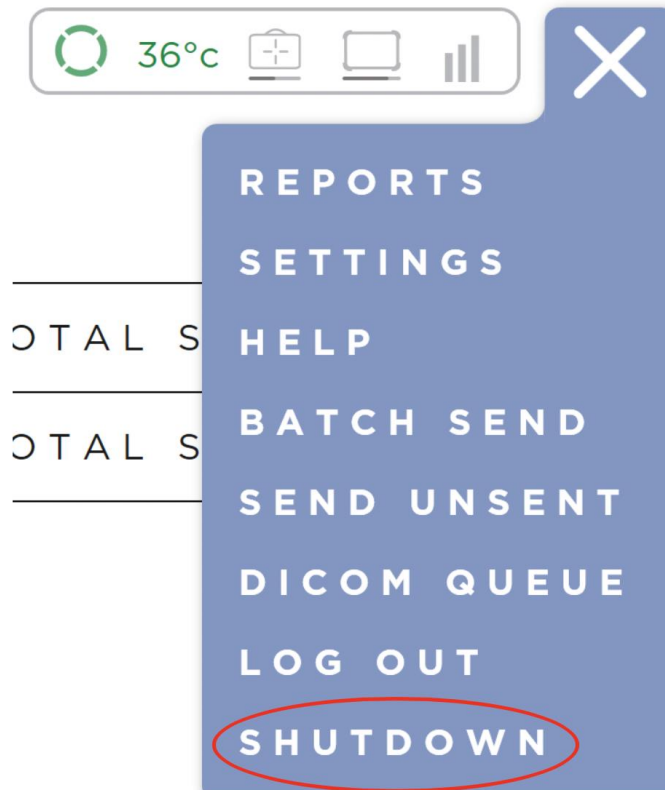
**Note:** If system updates are available, but have not been installed, you must complete this process twice to shut down the system.

### Procedure

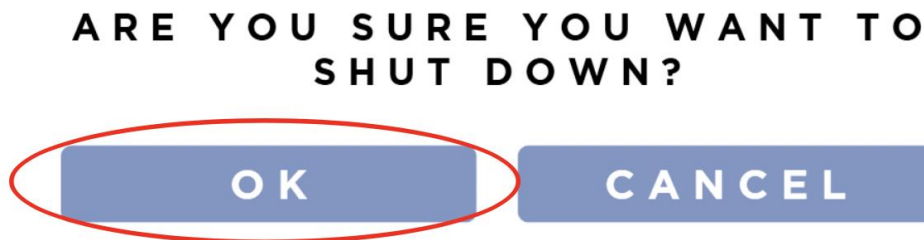
1. From the Home Screen, click on the hamburger menu located on the upper right corner.



2. From the drop-down menu click on SHUTDOWN.



3. At the prompt, click on OK to shut down the system.



4. The following messages are displayed before the software closes to display the Windows desktop. **IMPORTANT!** The Sound SmartDR™ Premier software automatically backup the database if you log off or shutdown the software.

BACKUP IN  
PROGRESS...

BACKUP COMPLETE.

CLOSING.

## 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:         | <input type="checkbox"/> New | <input type="checkbox"/> Reinstalled | <input type="checkbox"/> 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                         |  | <input type="checkbox"/> Chest stand<br><input type="checkbox"/> Table      |  |
| Positioner type                           |  | Make<br>Model                                                               |  |
| High resolution monitor type              |  | Make<br>Model                                                               |  |
| Control station in:                       |  | <input type="checkbox"/> Exam area<br><input type="checkbox"/> Control area |  |
| Are all interface cables clearly labeled? |  | <input type="checkbox"/> Yes<br><input type="checkbox"/> No                 |  |
| Distance from tower PC to patient area    |  |                                                                             |  |
| Modem telephone number (if any)           |  |                                                                             |  |

|                                 |                                                                   |
|---------------------------------|-------------------------------------------------------------------|
| Detector setup                  |                                                                   |
| Detector manufacturer and model | Wireless <input type="checkbox"/> Yes <input type="checkbox"/> No |

### 3. Installing the FUSION EQUINE DR® II X-ray

|                                        |                       |
|----------------------------------------|-----------------------|
| Mfr and model of second panel (if any) | Wireless____Yes____No |
| X-ray generator                        |                       |
| Manufacturer                           | Model                 |
| Integrated with the DR system          | Wireless____Yes____No |

---

## Chapter

# 4

## Configuring the FUSION EQUINE DR® II System

### Contents

- [\*Configuring the X-ray Generator\*](#) on page 74
- [\*Displaying the Management screen\*](#) on page 74
- [\*Configuring Basic Options\*](#) on page 75
- [\*Configuring Intermediate Options\*](#) on page 77
- [\*Configuring Advanced Options\*](#) on page 79
- [\*Site Information\*](#) on page 81
- [\*Configuring Panels\*](#) on page 81
- [\*DICOM Storage Devices\*](#) on page 89
- [\*Configuring Acquisition Profiles\*](#) on page 94
- [\*Managing Users\*](#) on page 104
- [\*Configuring Logging\*](#) on page 113
- [\*Customizing Overlays\*](#) on page 115

The digital radiography 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 64, for instructions.
2. Configure Basic Options. See the topic, [Configuring Basic Options](#) on page 65, for instructions.
3. Configure Intermediate Options. See the topic, [Configuring Intermediate Options](#) on page 67, for instructions.
4. Configure Advanced Options. See the topic, [Configuring Advanced Options](#) on page 69, for instructions.
5. Configure the panel. See the topic, [Configuring Panels](#) on page 71, for instructions.
6. Configure DICOM. See the topic, [DICOM Storage Devices](#) on page 86, for information.
7. Configure acquisition profiles. See the topic, [Configuring Acquisition Profiles](#) on page 97, 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 106, for instructions.
9. Configure logs. See the topic, [Log Files](#) on page 144, for information about log file options.
10. Customize overlays. See the topic, [Customizing Overlays](#) on page 116, for instructions.
11. Select system backup options. See the topic, [Backing Up FUSION EQUINE DR Data and Settings](#) on page 122, 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 digital radiography 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 digital radiography 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 **Hamburger** icon: .

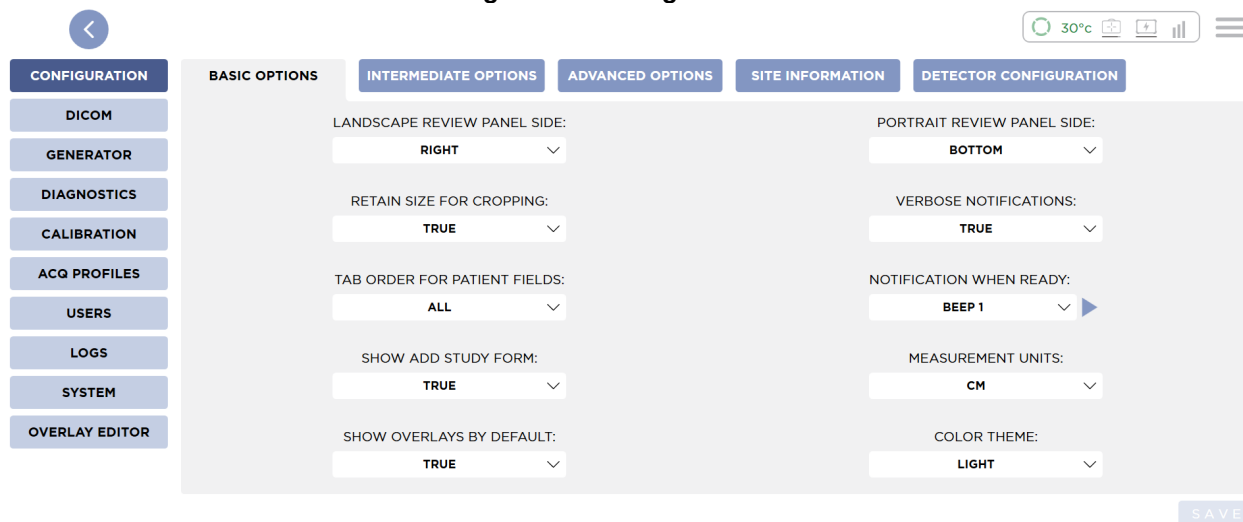
The following image shows where the icon is located at the top of the **Clinical** screen.

**Figure 33: Location of Hamburger 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 34: Management screen**



## Configuring Basic Options

Configuring the System Options is the first step in configuring the digital radiography system.

### Procedure

1. Open the **Management** screen. See the topic, [Displaying the Management screen](#) on page 64, for instructions.
2. Configure the options as necessary for the site. See [Basic Options window](#) on page 66.
3. Click **Save**.

## Basic Options window

### Basic Configuration Options window

Basic Configuration Options window

CONFIGURATION | BASIC OPTIONS | INTERMEDIATE OPTIONS | ADVANCED OPTIONS | SITE INFORMATION | DETECTOR CONFIGURATION

DICOM

GENERATOR

DIAGNOSTICS

CALIBRATION

ACQ PROFILES

USERS

LOGS

SYSTEM

OVERLAY EDITOR

LANDSCAPE REVIEW PANEL SIDE: **RIGHT**

RETAIN SIZE FOR CROPPING: **TRUE**

TAB ORDER FOR PATIENT FIELDS: **ALL**

SHOW ADD STUDY FORM: **TRUE**

SHOW OVERLAYS BY DEFAULT: **TRUE**

PORTRAIT REVIEW PANEL SIDE: **BOTTOM**

VERBOSE NOTIFICATIONS: **TRUE**

NOTIFICATION WHEN READY: **BEEP 1**

MEASUREMENT UNITS: **CM**

COLOR THEME: **LIGHT**

SAVE

**Table 42: 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.                                                                                                                               |
| 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.                               |
| Verbose Notifications        | Select True to enable verbose system notifications. False 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. |

| Field                     | Details                                                                                                                                                                                                                                                                                                |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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.                                                                                                                                                            |
| 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.                                                                     |
| Measurement Units         | Set the units for measurements to millimeters (mm) or centimeters (cm).                                                                                                                                                                                                                                |

## 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 64.  
The **Config** screen displays.
2. Select **Intermediate Options**. See [Intermediate Options window](#) on page 67.
3. Configure the options as desired, and click **Save**.

## Intermediate Options window

Intermediate Configuration Options window

#### 4. Configuring the FUSION EQUINE DR® X-ray

The screenshot shows the configuration interface for the FUSION EQUINE DR X-ray system. The interface has a sidebar on the left with navigation buttons: CONFIGURATION, BASIC OPTIONS, INTERMEDIATE OPTIONS (selected), ADVANCED OPTIONS, SITE INFORMATION, and DETECTOR CONFIGURATION. Below these are buttons for DICOM, GENERATOR, DIAGNOSTICS, CALIBRATION, ACQ PROFILES, USERS, LOGS, SYSTEM, and OVERLAY EDITOR. The main area displays the INTERMEDIATE OPTIONS configuration. It includes fields for DEFAULT SPECIES (CANINE), ENABLED (checked), DEFAULT WEIGHT UNITS (KG), PROMPT WHEN ADDING SHOTS (FALSE), GENERATE PATIENT ID (unchecked), PATIENT ID PREFIX (empty field), DEFAULT PATIENT LAST NAME TO OWNER LAST NAME (TRUE), DOCTORS NAME TAG (PERFORMING PHYSICIAN), and AUTOMATIC STUDY DESCRIPTION (TRUE). A SAVE button is located at the bottom right.

**Table 43: Intermediate Configuration Options**

| Field                                        | Details                                                                                                                                                                                                                                                                                                                                                                    |
|----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Default Species                              | Select the default species for imaging. Canine is the default value.                                                                                                                                                                                                                                                                                                       |
| Default Weight Units                         | Select the default unit for patient weights. The options are pounds (lbs) and kilograms (kg). Pounds are the default value.                                                                                                                                                                                                                                                |
| 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. |
| Generate Patient ID                          | Selecting True in this field causes patient IDs to be automatically generated. The default value is False.                                                                                                                                                                                                                                                                 |
| Patient ID Prefix                            | When Generate Patient ID is set to True, you can specify an alphanumeric 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.                                                   |
| Doctors Name Tag                             | Set the value for the Doctor Name tag to Performing Physician or Referring Physician.                                                                                                                                                                                                                                                                                      |

# 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 64, for instructions.  
The **Config** screen displays.
2. Select **Advanced Options**. See [Advanced Options window](#) on page 69
3. Configure the fields as desired, and click **Save**.

## Advanced Options window

### Advanced Configuration Options window

Figure 35: Config screen — Advanced Options

The screenshot displays the 'Advanced Options' configuration window. On the left is a sidebar with buttons for 'CONFIGURATION', 'BASIC OPTIONS', 'INTERMEDIATE OPTIONS', 'ADVANCED OPTIONS' (which is highlighted), 'SITE INFORMATION', and 'DETECTOR CONFIGURATION'. The main content area is split into two columns. The left column includes settings for 'HIGH WATERMARK' (set to 75), 'SHOW ACCESSION NUMBER' (set to TRUE), 'REQUIRE IMAGE REJECT REASON' (set to FALSE), 'X-RAY STORAGE TIME (MS)' (set to 1000), and 'GRID FREQUENCY (LP/CM)' (set to 52). The right column includes 'LOW WATERMARK' (set to 25), 'REQUIRE VET/TECH SELECTION' (set to FALSE), 'GAIN CALIBRATION INTERVAL' (set to OFF), 'ALTERNATE TECH NAME' (disabled), and 'WINDOW' and 'LEVEL' (both set to 32768). At the bottom of the screen are four buttons: 'RESTORE DEFAULTS', 'EXPORT', 'IMPORT', and 'SAVE'. The top right corner shows a system status bar with a temperature of 30°C, signal strength indicators, and a menu icon.

**Table 44: Advanced Configuration Options**

| Field                               | Details                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| High Watermark                      | 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. |
| 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.                                                                                                                                                                        |
| Low Watermark                       | Select the option that best fits the needs of the site. The options are 25, 50, and 75. 25 is the default value. Selecting any value other than 25 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.                                                  |
| 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.                                                                                                                                                                                                                                                                                           |
| 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.                                                                                                                                                                                                                                                                                                                         |
| Require Image Reject Reason         | If set to True, a prompt will appear and you will have to select a reason when rejecting an image. If set to false, this field does not appear on these screens.                                                                                                                                                                                                                                                                                                 |
| 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.                                                                                                                                                                               |
| 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.                                                                                                                                                                                  |

# Site Information

The site information is preconfigured at the factory.

Figure 36: Site Information tab

The screenshot displays the 'Site Information' configuration screen. On the left is a sidebar with navigation tabs: CONFIGURATION, BASIC OPTIONS, INTERMEDIATE OPTIONS, ADVANCED OPTIONS, SITE INFORMATION (selected), DETECTOR CONFIGURATION, DICOM, GENERATOR, DIAGNOSTICS, CALIBRATION, ACQ PROFILES, USERS, LOGS, SYSTEM, and OVERLAY EDITOR. The main area is divided into three columns: SITE INFORMATION, MANUFACTURER INFORMATION, and MODEL INFORMATION. The SITE INFORMATION column has fields for SITE NAME (pre-filled with 'Sam DEMO') and SITE ADDRESS (pre-filled with '5810 Van Allen Way, Carlsbad, CA 92008'). The MANUFACTURER INFORMATION column has fields for MANUFACTURER NAME (pre-filled with 'Sound'), MANUFACTURER ADDRESS (pre-filled with '5810 Van Allen Way, Carlsbad, CA 92008'), and TECH. SUPPORT PHONE NO. (pre-filled with '+1 800-819-5538'). The MODEL INFORMATION column has fields for MODEL NAME (pre-filled with 'Sound FusionDR') and SERIAL NUMBER (pre-filled with 'FDR0-0000-0000'). A 'SAVE' button is located at the bottom right of the main area.

## Configuring Panels

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

### Procedure

1. Install the Ready Indicator (PN: 10-426) into the USB port on the Tablet
2. Open the **Management** screen. See the topic, [Displaying the Management screen](#) on page 64, for instructions.  
The **Config** screen is displayed automatically.
3. Click the **Panel Configuration** tab.

- Click on the **Add Panel** tab, select the detector that you want to install.

**Figure 37: Register Detector**

- Enter the SSID information by using the last 5 digits of the serial number of the detector. In this instance the last 5 digits of the panel serial is 00001.
- The port will automatically select the COM port the IR Dongle is using.

**Figure 38: Entering SSID and Serial Number**

The screenshot shows the 'REGISTER DETECTOR' screen in the FUSION EQUINE DR® X-ray configuration software. The interface includes a sidebar with navigation options: CONFIGURATION, BASIC OPTIONS, INTERMEDIATE OPTIONS, ADVANCED OPTIONS, SITE INFORMATION, and DETECTOR CONFIGURATION. The main area is titled 'ADD DETECTOR' and contains a 'REGISTER DETECTOR' section. The detector model is set to 'AX-B2735W'. The settings are organized into three columns: DETECTOR SETTINGS, ACCESS POINT SETTINGS, and LINK SETTINGS. The DETECTOR SETTINGS column includes fields for NAME (AX-B2735W), SERIAL NUMBER (highlighted with a red box), WIRELESS IP ADDRESS (192.168.100.11), WIRED IP ADDRESS (192.168.100.101), and DEMO MODE (unchecked). The ACCESS POINT SETTINGS column includes fields for SSID (AX-AP-00001), BAND (5GHz), and CHANNEL (36). The LINK SETTINGS column includes fields for PORT (Indicator), PRIMARY INTERFACE (Wireless), and a LINK button. A REGISTER button is located at the bottom of the main area. A SAVE button is located at the bottom right of the screen.

REGISTER DETECTOR

AX-B2735W

DETECTOR SETTINGS

NAME: AX-B2735W

SERIAL NUMBER: [Red Box]

WIRELESS IP ADDRESS: 192.168.100.11

WIRED IP ADDRESS: 192.168.100.101

DEMO MODE: ☐

ACCESS POINT SETTINGS

SSID: AX-AP-00001

BAND: 5GHz

CHANNEL: 36

LINK SETTINGS

PORT: Indicator

PRIMARY INTERFACE: Wireless

LINK

REGISTER

SAVE

7. Click on the Link button. This will initialize the software to register the panel.

Figure 39: Initializing Software

INITIALIZING LINK

CANCEL

LINK INITIALIZED, WAITING  
FOR DETECTOR

CANCEL

8. Align the Ready Indicator and the Panel Press down on the power button on the panel.

### Registration

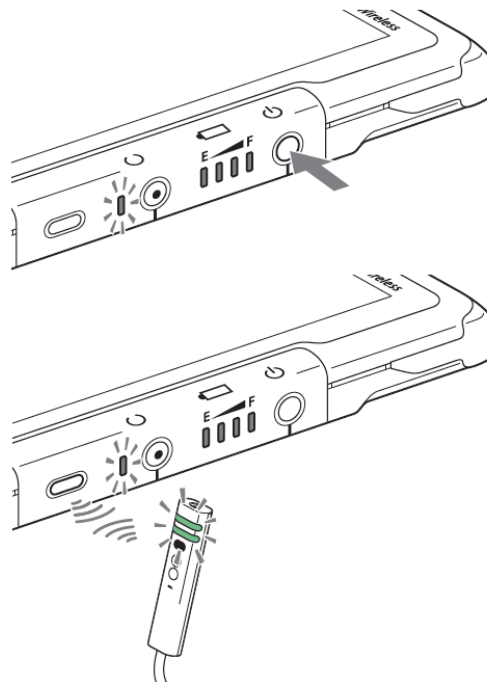
Press and release the POWER switch again.

READY LED flashes  
(approx. 3 seconds).

While READY LED flashes (approx. 3 seconds), locate the IR data port of the detector near the ready indicator or the IR data communication unit (within 30 cm).

When the registration is completed, the two LED lamps on the ready indicator flash three times for 0.5 seconds at 0.5 second intervals, and a three-tone beep is emitted.

Proceed to the next **Connection**.



9. When the linking process is complete, the dialog will automatically close. The Serial Number field should now be populated with the Detectors Serial Number.

Figure 40: Completion of Linking Detector

**FINISHED LINKING  
DETECTOR**

**CANCEL**

10. Pressing the Register button will show the Detector Registration Dialog and start the registration process. The process will start by Identifying the Detector.

Figure 41: Starting Registration Process

## IDENTIFYING DETECTOR

CLOSE

11. Next the system will save the Detector to the Database. And the system will Initialize the Link with the Detector.

Figure 42: Initializing Detector

## SAVING DETECTOR TO DATABASE

CLOSE

## INITIALIZING DETECTOR

CLOSE

12. Once the panel has been initialized, the registration process is complete. Press the Close button to close the Dialog.

Figure 43: Registration Complete



## 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 <b>Active P</b> subtab. 3. Tap <b>Remove Pane</b> |

## Network profile setting

Table 45: Network profile settings

## Reference information

## (1) IP address of image capture Tablet (Local IP addresses)

| Item             | Setting value  |
|------------------|----------------|
| Local IP address | 192.168.100.10 |
| Subnet mask      | 255.255.255.0  |

## (2) IP address (target IP address) allocated to the detector

| Item        | Setting value  |
|-------------|----------------|
| AX-B2735W   | 192.168.100.11 |
| AX-B3543W   | 192.168.100.11 |
| Subnet mask | 255.255.255.0  |

\* **IMPORTANT!** *Panel switching is not available . Only 1 panel can be registered at a time.*

\* When the link (recognition/connection) has been established for the first time, 192.168.100.11 is allocated automatically as the address.

## Removing panels

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

### Procedure

1. Open the **Management** screen. See the topic, [Displaying the Management screen](#) on page 64, for instructions.

The Configuration window is displayed automatically.

2. Click **Panel Configuration**.

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

**Figure 44: Config screen — Panel Configuration Remove Panel button**

#### 4. Configuring the FUSION EQUINE DR® X-ray

The screenshot shows the configuration interface for the FUSION EQUINE DR X-ray. The top navigation bar includes a back arrow, a system update notification, and a temperature display (30°C). The left sidebar contains a list of configuration categories: CONFIGURATION, BASIC OPTIONS, INTERMEDIATE OPTIONS, ADVANCED OPTIONS, SITE INFORMATION, and DETECTOR CONFIGURATION. The DETECTOR CONFIGURATION tab is selected, displaying the configuration for the AX-B2735W detector. The configuration details include the detector name, default rotation, serial number, SSID, wireless IP address, and wired IP address. The 'REMOVE DETECTOR' button is highlighted with a red circle.

| CONFIGURATION  | BASIC OPTIONS | INTERMEDIATE OPTIONS | ADVANCED OPTIONS | SITE INFORMATION | DETECTOR CONFIGURATION |
|----------------|---------------|----------------------|------------------|------------------|------------------------|
| DICOM          | AX-B2735W     |                      |                  |                  |                        |
| GENERATOR      |               |                      |                  |                  |                        |
| DIAGNOSTICS    |               |                      |                  |                  |                        |
| CALIBRATION    |               |                      |                  |                  |                        |
| ACQ PROFILES   |               |                      |                  |                  |                        |
| USERS          |               |                      |                  |                  |                        |
| LOGS           |               |                      |                  |                  |                        |
| SYSTEM         |               |                      |                  |                  |                        |
| OVERLAY EDITOR |               |                      |                  |                  |                        |

DETECTOR DETAILS - MODEL NAME: AX-B2735W

DETECTOR NAME: AX-B2735W

DEFAULT ROTATION: 0

SERIAL #: DEMO

SSID: AX-AP-DEMO

WIRELESS IP ADDRESS: 192.168.100.11

WIRED IP ADDRESS: 192.168.100.101

REMOVE DETECTOR

SAVE

### 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.

## DICOM Storage Devices

FUSION EQUINE DR® II 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 FUSION EQUINE DR® II. Incorrectly configured DICOM devices or network will result in failures in DICOM transferring the images acquired by FUSION EQUINE DR® II.

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

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

**Figure 45: DICOM Storage Configuration**

GENERAL STORAGE WORKLIST MPPS

SmartPACS

ADD  
DEFAULT  
DELETE

STORAGE DEVICES

**DICOM STORAGE CONFIGURATION**

NAME: SmartPACS IP ADDRESS: 192.168.1.108

AE TITLE: SMARTPACS01 PORT NUMBER: 104

☐ SUPPORTS AIS ☒ SUPPORTS AUTO SEND

PING ECHO SAVE

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

- General configuration
- Storage server 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 46: Valid characters for DICOM configuration**

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

## Configuring general DICOM settings

The digital radiography 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 digital radiography system. Improper configuration can result in failures in sending images acquired by the digital radiography 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 64, for instructions.
2. Click **DICOM**.

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

- Configure the settings as necessary for the site. See [DICOM General configuration settings](#) on page 88 for information.

Figure 46: DICOM General tab

Figure 46 shows the DICOM General tab configuration interface. The interface includes a sidebar with navigation options: CONFIGURATION, DICOM (selected), GENERATOR, DIAGNOSTICS, CALIBRATION, ACQ PROFILES, USERS, LOGS, SYSTEM, and OVERLAY EDITOR. The main area is titled 'GENERAL' and contains 'NETWORK AND MEDIA EXPORT OPTIONS' and 'LOCAL AE TITLES'.

**NETWORK AND MEDIA EXPORT OPTIONS**

| PROCESS IMAGES: | EMBED ANNOTATIONS: | BURN-IN OVERLAYS TO PACS: |
|-----------------|--------------------|---------------------------|
| TRUE            | TRUE               | FALSE                     |

**LOCAL AE TITLES**

LOCAL AETITLE: OEM\_StoreSCU

**SEND UNIQUE IMAGE UID:** FALSE

**INCLUDE WORKLIST CONSTRAINTS IN QUERY:** FALSE

**WORKLIST QUERY RESULT LIMIT:** 100

**SEND RETRIES:** 0

**TIME BETWEEN RETRIES (SEC.):** 10

SAVE

## DICOM General configuration settings

### DICOM General tab parameters

Figure 47: DICOM General tab Parameters

Figure 47 shows the DICOM General tab configuration interface, identical to Figure 46. The interface includes a sidebar with navigation options: CONFIGURATION, DICOM (selected), GENERATOR, DIAGNOSTICS, CALIBRATION, ACQ PROFILES, USERS, LOGS, SYSTEM, and OVERLAY EDITOR. The main area is titled 'GENERAL' and contains 'NETWORK AND MEDIA EXPORT OPTIONS' and 'LOCAL AE TITLES'.

**NETWORK AND MEDIA EXPORT OPTIONS**

| PROCESS IMAGES: | EMBED ANNOTATIONS: | BURN-IN OVERLAYS TO PACS: |
|-----------------|--------------------|---------------------------|
| TRUE            | TRUE               | FALSE                     |

**LOCAL AE TITLES**

LOCAL AETITLE: OEM\_StoreSCU

**SEND UNIQUE IMAGE UID:** FALSE

**INCLUDE WORKLIST CONSTRAINTS IN QUERY:** FALSE

**WORKLIST QUERY RESULT LIMIT:** 100

**SEND RETRIES:** 0

**TIME BETWEEN RETRIES (SEC.):** 10

SAVE

Table 47: DICOM General configuration settings

#### 4. Configuring the FUSION EQUINE DR® X-ray

|   |                                                                                                                                                                                                                                                                                                                                   |
|---|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A | Set the <b>Process Images</b> 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 <b>Send Unique Image UID</b> 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. |
| C | Set the number of <b>Send Retries</b> 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.                                                                                                                                       |
| D | Set the <b>Embed Annotations</b> option to True or False. True is the default. This option can be set to True only if the <b>Process Images</b> option is also set to True. When <b>Embed Annotations</b> is set to True, all annotations are sent to the DICOM device as part of the image.                                      |
| E | Set the <b>Time Between Retries (sec)</b> 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.                                                                                 |
| F | Set the <b>Burn-in Overlays to PACS</b> option to True or False. The default is False. Set the parameter to True to embed overlays into the transferred image.                                                                                                                                                                    |
| G | Specify the <b>Local AE Title</b> 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

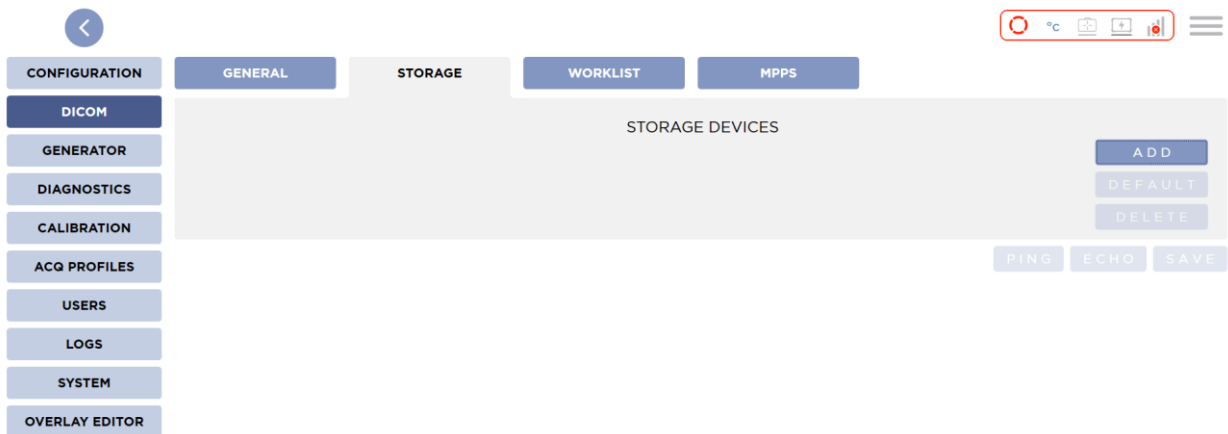
The system tracks DICOM batch sends by server.

## Procedure

1. Open the **Management** screen. See the topic, [Displaying the Management screen](#) on page 64, 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.

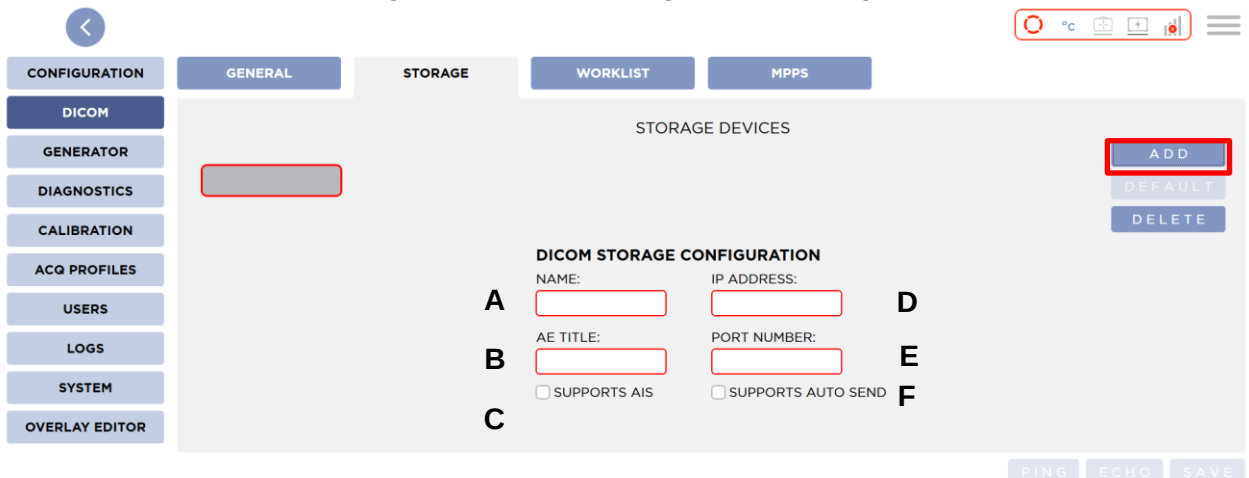
Figure 48: DICOM Storage tab



3. Click **Add**.

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

Figure 49: DICOM Storage 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.<br><br><b>Important:</b> 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**.

## Configuring Acquisition Profiles

Acquisition profiles are required to take images with the digital radiography 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](#) on page 97, for instructions.
2. Create protocols. See the topic, [Creating protocols](#) on page 100, for instructions.
3. Edit protocols. See the topic, [Editing protocols](#) on page 105, for instructions.
4. Delete protocols. See the topic, [Deleting protocols](#) on page 105, 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](#) on page 64, for instructions.

2. Click **Acq Profiles**.

The **Profile Settings** tab is displayed by default.

Figure 50: Acq Profiles — Profile Settings Tab

The screenshot displays the 'Profile Settings' tab within the 'Acq Profiles' section. The interface is organized into several key areas:

- Navigation Sidebar:** Located on the left, it includes buttons for CONFIGURATION, DICOM, GENERATOR, DIAGNOSTICS, CALIBRATION, **ACQ PROFILES** (highlighted), USERS, LOGS, SYSTEM, and OVERLAY EDITOR.
- Tab Headers:** At the top of the main area are tabs for PROFILE SETTINGS (selected), PROTOCOLS, and ADVANCED.
- Main Selection Grid:** This central area is divided into four columns: SPECIES, REGION, ANATOMY, and SHOT.
 

| SPECIES    | REGION         | ANATOMY    | SHOT         |
|------------|----------------|------------|--------------|
| CANINE     | BODY           | ABDOMEN    | DV           |
| FELINE     | LEFT FORELIMB  | CSPINE     | LAT LEFT     |
| EQUINE     | RIGHT FORELIMB | PELVIS     | LAT RIGHT    |
| BOVINE     | LEFT HINDLIMB  | SKULL      | VD           |
| REPTILE    | RIGHT HINDLIMB | SPINE      | VD OBL LEFT  |
| AVIAN      |                | THORAX     | VD OBL RIGHT |
| SMALL MAMM |                | WHOLE BODY |              |
| PRIMATE    |                |            |              |
| OVINE      |                |            |              |
| PORCINE    |                |            |              |
- Imaging Profile Panel:** On the right, this panel includes:
  - PATIENT SIZE:** A dropdown menu currently set to 'SMALL'.
  - IMAGING PROFILE:** A section with expandable options for:
    - PATIENT X-ORIENTATION: 'RIGHT' (dropdown)
    - PATIENT Y-ORIENTATION: 'HEAD' (dropdown)
    - LATERALITY: 'BOTH' (dropdown)
    - AUTOCROP OPTIONS: 'TRUE' (dropdown)
    - AUTOCROP PREVIEW: An unchecked checkbox.
    - DEFAULT ROTATION: '0' (dropdown)
    - H-REVERSE: A button with a right-pointing arrow.
    - V-REVERSE: A button with a down-pointing arrow.
  - COPY TO ALL SIZES:** A button at the bottom of the panel.
- SAVE Button:** A button located at the bottom right of the interface.

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 nickname from the text box.

4. If desired, select the **Autocrop Preview** check box on the Imaging Profile tab. When enabled, the digital radiography 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 dropping 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 51: Incorrect crop region detected

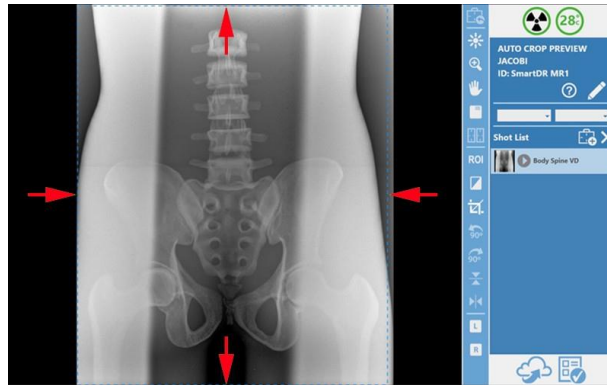
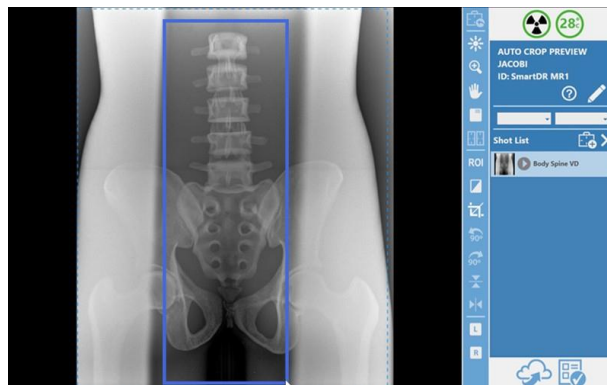
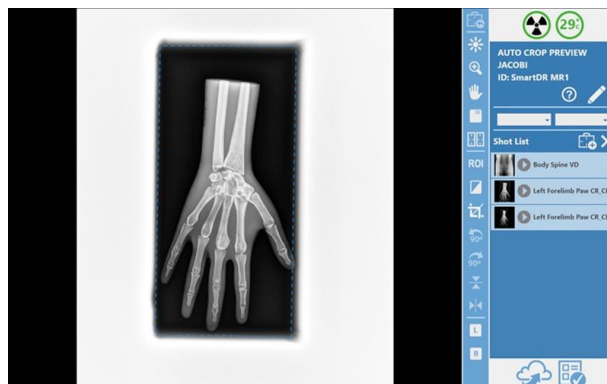


Figure 52: New crop region selected



The following figure shows an image where the cropping region is properly detected. In this case, the user can click the **Crop** button to complete the cropping process.

Figure 53: Properly detected cropping region



5. On the **Imaging Profile** tab, select the body size 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 preferences for AIE and Acquire Settings. If desired, tap **Copy To All Sizes** to apply those settings to all body sizes. See [Image Profile settings](#) on page 100 for settings descriptions.
7. Click **Save**.

## Image Profile settings

**Table 48: Imaging Profile Settings**

| Setting               | Description                                                                                                                                            |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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.                                                            |
| 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.                                                                                                                                 |

## 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 64, for instructions.

2. Click **Acq Profiles > Protocols** tab.

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

**Figure 54: Acq Profiles — Protocols tab**

The screenshot displays the 'Protocols' tab within the 'Acq Profiles' section. On the left, a sidebar contains navigation links: Config, DICOM, Diag, Calib, Generator, **Acq Profiles**, Users, Logs, System, and Overlay Editor. The main content area has two tabs: 'Profile Settings' and 'Protocols'. Under the 'Protocols' tab, there are two protocol cards. The 'Keeneland Repository' card shows 'Shot Count: 38' and 'Created By:'. The 'PennHIP' card shows 'Shot Count: 3' and 'Created By:'. To the right of these cards are 'Add' and 'Delete' buttons. Below the cards are four columns for selection: 'Select Species' (listing Canine, Feline, Reptile, Avian, Small Mammal, Equine, Primate), 'Select Region', 'Select Anatomy', and 'Select Shots'. To the right of these columns is a 'Name:' input field and a 'Shotlist' button with a trash icon.

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 55: Acq Profiles — Protocols tab, new protocol

The screenshot shows the 'Acq Profiles' screen with the 'Protocols' tab selected. On the left is a sidebar with navigation options: Config, DICOM, Diag, Calib, Acq Profiles (highlighted), Users, Logs, System, and Overlay Editor. The main area has two tabs: 'Profile Settings' and 'Protocols'. The 'Protocols' tab contains a table with two columns: 'Keeneland Repository' and 'Protocol'. The 'Keeneland Repository' column shows 'Shot Count: 38' and 'Created By:'. The 'Protocol' column shows 'Shot Count: 0' and 'Created By:'. To the right of the table are 'Add' and 'Delete' buttons. Below the table are four columns: 'Select Species', 'Select Region', 'Select Anatomy', and 'Select Shots'. The 'Select Species' column lists: Canine, Feline, Reptile, Avian, Small Mammal, Equine, and Primate. To the right of these columns is a 'Name' field with 'Protocol' entered and a 'Shotlist' button with a trash icon. A 'Save' button is in the top right corner.

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

Figure 56: Acq Profiles screen — Protocols tab, species selected

This screenshot is similar to Figure 55, but with 'Small Mammal' selected in the 'Select Species' column. Consequently, the 'Select Region' column is now populated with a list: 'Body', 'Left Forelimb', 'Left Hindlimb', 'Right Forelimb', and 'Right Hindlimb'. The 'Name' field still contains 'Protocol', and the 'Shotlist' button is visible. The 'Add' and 'Delete' buttons are still present to the right of the protocol table. The 'Save' button remains in the top right corner.

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

Figure 57: Acq Profiles — Protocols tab, region selected

The screenshot shows the 'Acq Profiles' interface with the 'Protocols' tab selected. The left sidebar contains navigation options: Config, DICOM, Diag, Calib, Generator, Acq Profiles (selected), Users, Logs, System, and Overlay Editor. The main area is divided into several sections:

- Profile Settings:** Includes 'Keeneland Repository' (Shot Count: 38), 'PennHIP' (Shot Count: 3), and 'NewProtocol' (Shot Count: 0). Each entry has a 'Created By:' field.
- Select Species:** A list of species including Canine, Feline, Reptile, Avian, Small Mammal, Equine (selected), and Primate.
- Select Region:** A list of regions including Left Keeneland Repository, Left Forelimb, Right Forelimb, Left Hindlimb, Right Hindlimb, Left Body, Right Body, and Right Keeneland Repository. 'Left Keeneland Repository' is selected.
- Select Anatomy:** A list of anatomical parts including Carpus, FFetlock, HFetlock, Hock, and Stifle. 'Carpus' is selected.
- Select Shots:** An empty list.
- Shotlist:** A panel on the right showing the 'Name:' as 'NewProtocol' and a 'Shotlist' button.

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

Figure 58: Acq Profiles — Protocols tab, anatomy selected

This screenshot is similar to Figure 57, but with additional selections. In the 'Select Anatomy' list, 'Carpus' is still selected. In the 'Select Shots' list, four items are now populated: 'DLPPO', 'DMPLO', 'FLM', and 'Sky\_DRow'. The 'Shotlist' panel on the right remains the same, showing 'Name: NewProtocol'.

#### 4. Configuring the FUSION EQUINE DR® X-ray

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 59: Acq Profiles — Protocols tab, shot selected**

The screenshot shows the 'Acq Profiles' interface with the 'Protocols' tab selected. On the left is a sidebar with navigation options: Config, DICOM, Diag, Calib, Generator, Acq Profiles (highlighted), Users, Logs, System, and Overlay Editor. The main area has two tabs: 'Profile Settings' and 'Protocols'. Under 'Protocols', there are three protocol cards: 'Keeneland Repository' (Shot Count: 38), 'PennHIP' (Shot Count: 3), and 'NewProtocol' (Shot Count: 2). Below these are four selection columns: 'Select Species' (with 'Equine' selected), 'Select Region' (with 'Left Keeneland Repository' selected), 'Select Anatomy' (with 'Carpus' selected), and 'Select Shots' (with 'DLPMO' selected). To the right of these columns is a 'Name:' field containing 'NewProtocol' and a 'Shotlist' area. The 'Shotlist' contains the selected items: 'Left Keeneland Repository', 'Repository Carpus', and 'DLPMO'. A 'Save' button is in the top right corner.

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 60: Acq Profiles — Protocols tab, protocol saved**

The screenshot shows the 'Acq Profiles' interface with the 'Protocols' tab selected. The 'Keeneland Repository' and 'Body Pelvis Lat Right' protocol cards are visible. The 'Select Species' column now has 'Small Mammal' selected instead of 'Equine'. The 'Select Region' column has 'Body' selected instead of 'Left Keeneland Repository'. The 'Select Anatomy' column has 'Pelvis' selected instead of 'Carpus'. The 'Select Shots' column has 'DV' selected instead of 'DLPMO'. The 'Name:' field now contains 'Body Pelvis Lat Right'. The 'Shotlist' area now contains only 'Body Pelvis Lat Right'. The 'Save' button remains in the top right corner.

## 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 64, 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 61: Acq Profiles — Protocols tab, edit protocol**

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

## Deleting protocols

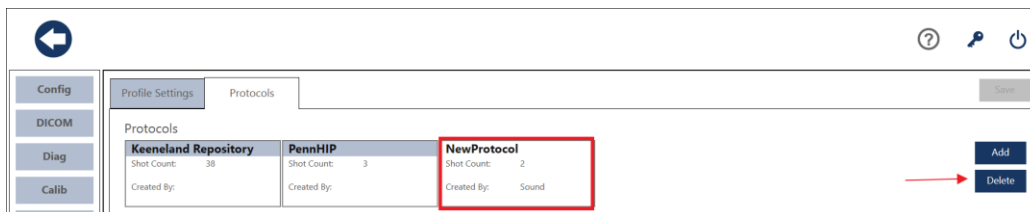
Sound and Vet users can delete image protocols.

### Procedure

1. Open the **Management** screen. See the topic, [Displaying the Management screen](#) on page 64, for instructions.
2. Click **Acq Profiles > Protocols** tab.

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

**Figure 62: Acq Profiles — Protocols tab, delete protocol**



4. Click **Delete**.  
The protocol is deleted from the system.
5. After your changes are complete, 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 108.
- [Editing users](#) on page 110.
- [Resetting passwords](#) on page 111.
- [Deleting users](#) on page 114.

## Users, privileges, and credentials

The tasks that you can complete with the digital radiography 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 49: Features and fields accessible to the Vet user type**

| Feature                                | Accessible fields                                                                                             |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------|
| <b>Config &gt; System Options</b>      | Review Panel Side, Language, Retain Size for Cropping, Verbose Notifications, Default Species, Default Weight |
| <b>Diagnostics &gt; Data Collector</b> | All                                                                                                           |
| <b>Acq Profiles</b>                    | All                                                                                                           |
| <b>Users</b>                           | All                                                                                                           |
| <b>System</b>                          | All                                                                                                           |
| <b>Overlay Editor</b>                  | 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 50: Features and fields accessible to the Tech user type**

| Feature                           | Accessible fields                                                            |
|-----------------------------------|------------------------------------------------------------------------------|
| <b>Config &gt; System Options</b> | Review Panel Side, Language, Retain Size for Cropping, Verbose Notifications |

| Feature                      | Accessible fields |
|------------------------------|-------------------|
| 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 106 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 64, 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 63: 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 64: 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 111 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 65: Users window — saved user**

The screenshot shows the 'Users' window in the software interface. On the left is a sidebar with navigation options: Config, DICOM, Diag, Calib, Generator, Acq Profiles, **Users**, Logs, System, and Overlay Editor. The main area is titled 'Users' and contains a search bar with 'newvetuser' entered. Below the search bar are two tabs: 'Sound' and 'Vet'. The 'Vet' tab is selected, showing 'User Information' and 'Preferences' sections. The 'User Information' section includes fields for Username (newvetuser), First Name (Jane), Last Name (Smith), and Email Address (newvet@newvet.com). The 'Preferences' section includes a 'Default Tech' dropdown and a table for search and display settings. The table has columns for 'Search' and 'Display' with various options like Patient, Patient ID, Owner, Vet, Tech, and Study. A 'Save' button is located at the bottom right of the main area.

| Search     | Display |
|------------|---------|
| Patient    | 1 Day   |
| Patient ID | 2 Days  |
| Owner      | 1 Week  |
| Vet        | 2 Weeks |
| Tech       | 1 Month |
| Study      | All     |

## 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

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

### Procedure

1. Open the **Management** screen. See the topic, [Displaying the Management screen](#) on page 64, for instructions.

2. Click **Users**.

The **Users** screen is displayed.

Figure 66: 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 111 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 **Sound SmartDR™ Premier** software is running, log out of the software.

The Windows desktop is displayed.

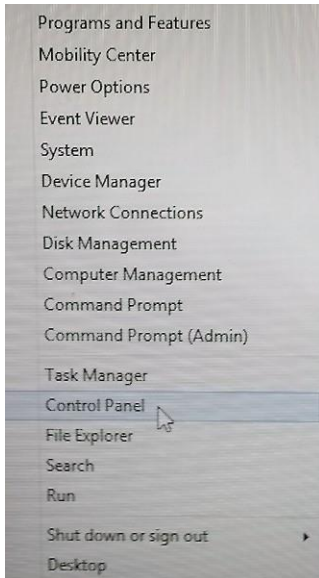
#### 4. Configuring the FUSION EQUINE DR® X-ray

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

**Figure 67: Windows Start button**

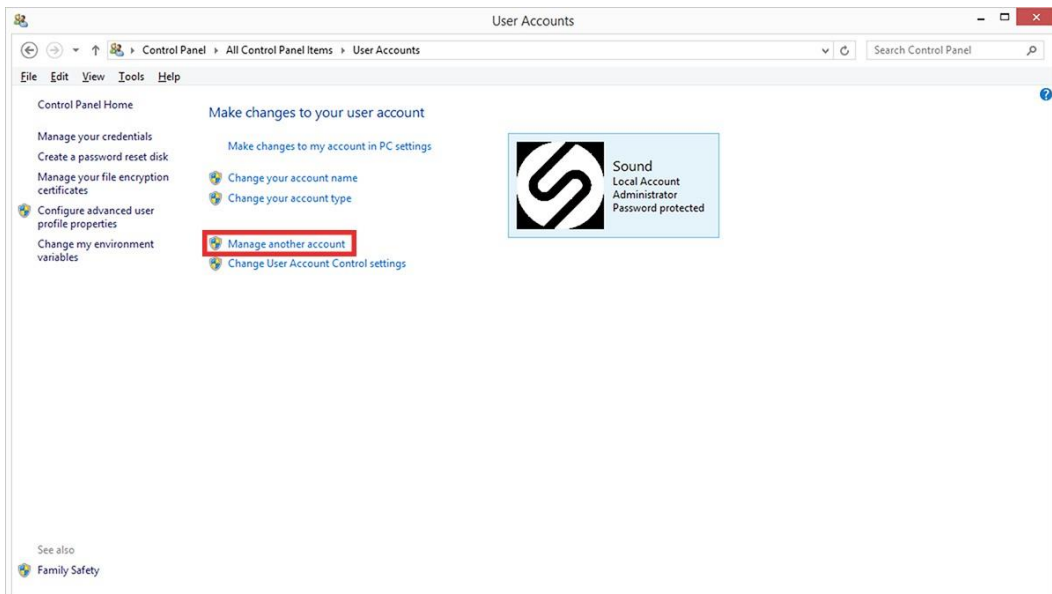


**Figure 68: Windows Start menu — Control Panel**



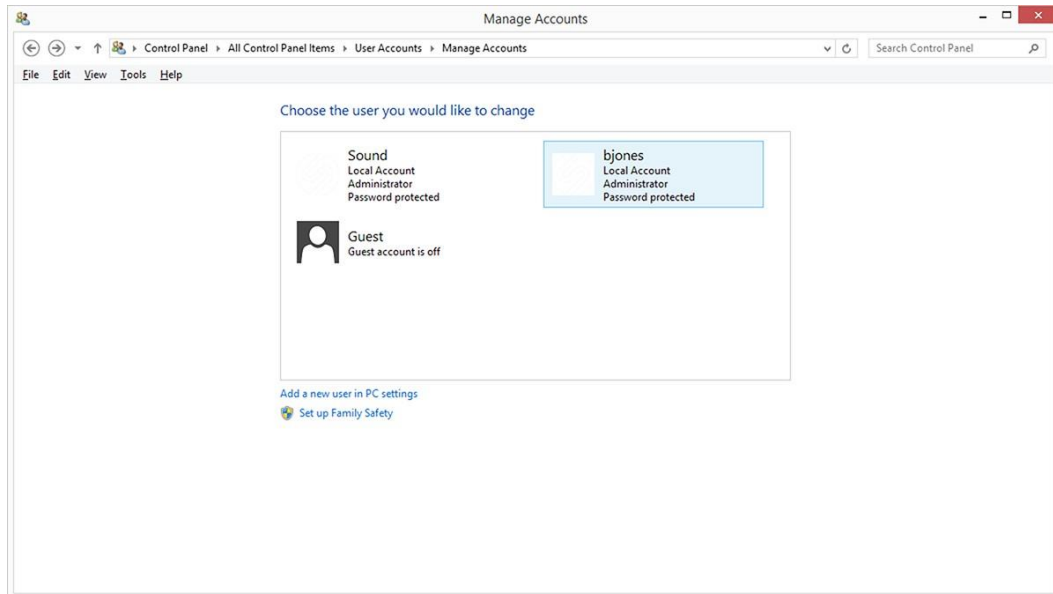
3. In the **User Accounts** window, select **Manage another account**.

**Figure 69: Make changes to your account window**



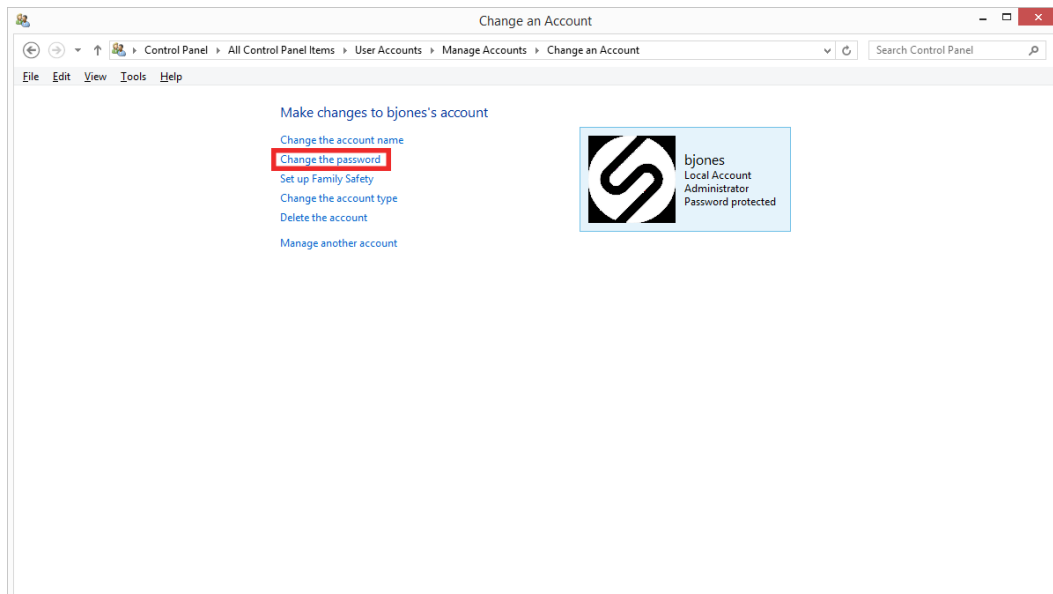
4. In the **Manage Accounts** window, select the user account that you want to change.

**Figure 70: Choose the user you would like to change window**



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

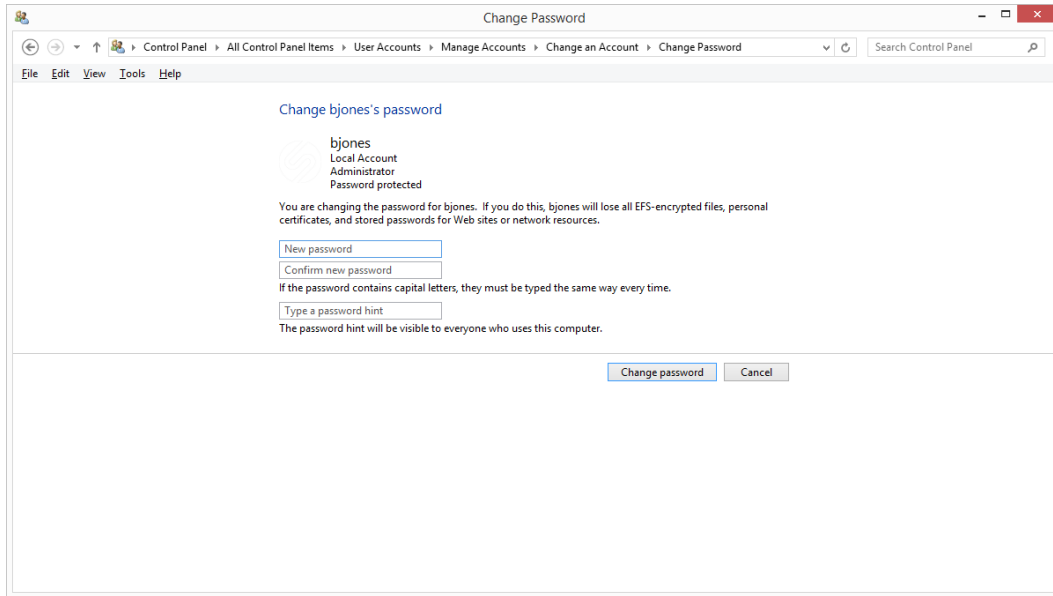
**Figure 71: Make changes to user account**



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 72: 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 **Sound SmartDR™ Premier** 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 64, for instructions.
2. Click **Users**.

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

The screenshot shows the 'Users' management window. On the left is a sidebar with navigation options: Config, DICOM, Diag, Calib, Generator, Acq Profiles, **Users**, Logs, System, and Overlay Editor. The main area is titled 'Users' and contains a list of users. The user 'newvetuser' is selected and highlighted with a red box. Below the list, there are two panels: 'User Information' and 'Preferences'. The 'User Information' panel shows fields for Username (newvetuser), First Name (Jane), Last Name (Smith), and Email Address (newvet@newvet.com). The 'Preferences' panel shows a 'Default Tech' dropdown and a table for search and display settings.

| Search     | Display |
|------------|---------|
| Patient    | 1 Day   |
| Patient ID | 2 Days  |
| Owner      | 1 Week  |
| Vet        | 2 Weeks |
| Tech       | 1 Month |
| Study      | All     |

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 144 to familiarize yourself with the types of log files and what they capture.

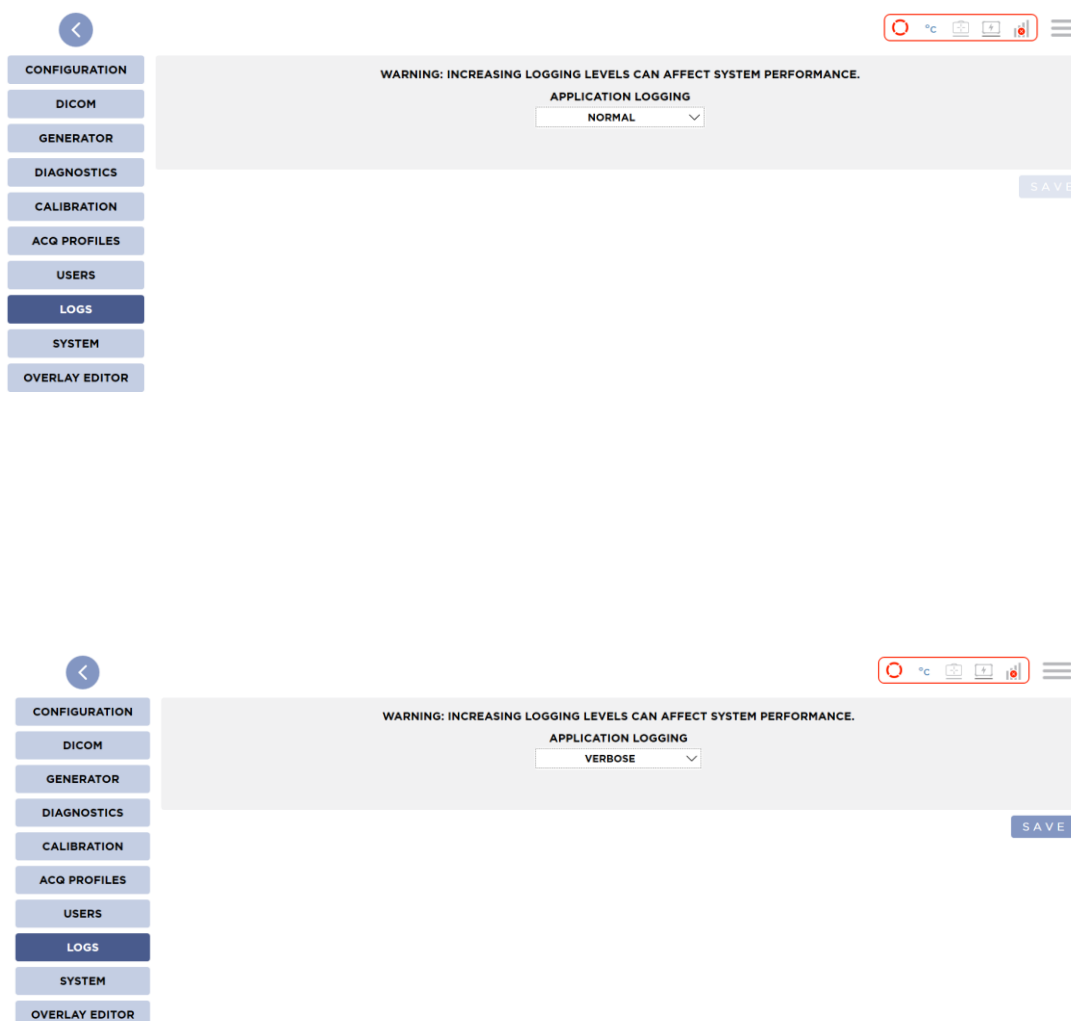
### Procedure

1. Open the **Management** screen. See the topic, [Displaying the Management screen](#) on page 64, for instructions.

2. Select **Logs**.

The logging window is displayed:

**Figure 73: Logs screen**



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

**Important:** Set Sound (Application) 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

Open the **Management** screen. See the topic, [Displaying the Management screen](#) on page 64, for instructions.

### 1. Select **Overlay Editor**.

The overlay data elements and grid are displayed.

**Figure 74: Overlay Editor**

CONFIGURATION TAP TO MOVE ITEMS FROM LIST BELOW TO DESIRED LOCATION:

DICOM

GENERATOR

DIAGNOSTICS

CALIBRATION

ACQ PROFILES

USERS

LOGS

SYSTEM

OVERLAY EDITOR

0010,0020 PATIENT ID

0010,0030 PATIENT DOB

0010,2201 PATIENT SPECIES DESCRIPTION

0010,2292 PATIENT BREED DESCRIPTION

0010,1030 PATIENT WEIGHT

0010,0040 PATIENT SEX

0010,2203 PATIENT SEX NEUTERED

0010,2297 RESPONSIBLE PERSON

0008,0090 REFERRING PHYSICIAN

0008,0102 CODE VALUE

0008,0104 CODE MEANING

0018,5101 VIEW POSITION

0020,000d STUDY INSTANCE UID

0008,1030 STUDY DESCRIPTION

0008,0020 STUDY DATE

0008,0070

Upper Left PATIENT NAME

Upper Middle

Upper Right

Middle Left

Center B

Middle Right

Lower Left

Lower Middle

Lower Right

REMOVE ALL

PREVIEW

SAVE

A Overlay data elements.

B Overlay grid.

2. Select the overlay data and click on the desired area of the grid.

You can select 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.

Figure 75: Overlay with data

The interface consists of a left sidebar with a list of configuration categories and a main area with a list of DICOM data points and a 3x3 grid for overlay placement.

**Left Sidebar (Configuration Categories):**

- CONFIGURATION
- DICOM
- GENERATOR
- DIAGNOSTICS
- CALIBRATION
- ACQ PROFILES
- USERS
- LOGS
- SYSTEM
- OVERLAY EDITOR (Selected)

**Top Bar:** Includes a back arrow, a temperature indicator (°C), a battery level indicator, a signal strength indicator, and a menu icon.

**Grid Labels:**

- Upper Left
- Upper Middle
- Upper Right
- Middle Left
- Center
- Middle Right
- Lower Left
- Lower Middle
- Lower Right

**Grid Data Points:**

- Upper Left: PATIENT NAME, PATIENT BREED DESCRIPTION
- Upper Middle: PATIENT ORIENTATION
- Upper Right: REFERRING PHYSICIAN, RESPONSIBLE PERSON

**Buttons:**

- REMOVE ALL
- PREVIEW
- SAVE

3. Once you have the desired overlay data inserted, click on the Preview button to verify location of the data.

Figure 76: Overlay preview with data, Landscape



Figure 77: Overlay preview with data, Portrait



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:



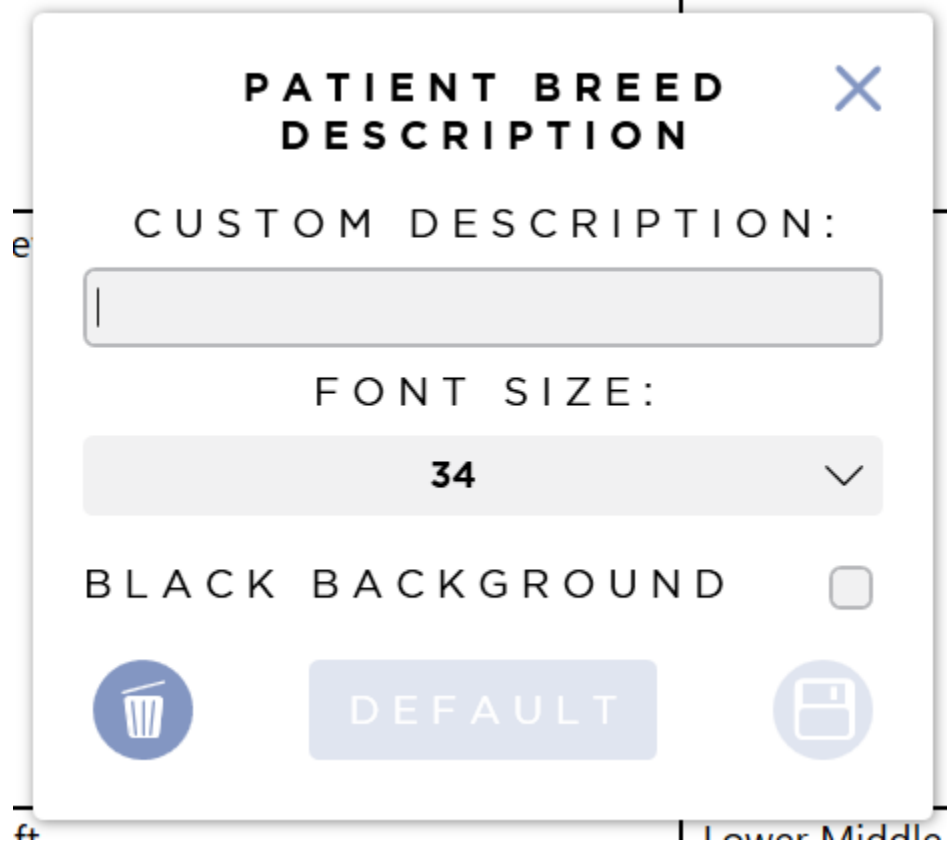
## Deleting overlay data elements

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 64, 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.



The screenshot shows a modal window titled "PATIENT BREED DESCRIPTION" with a close button (X) in the top right corner. Inside the window, there is a section labeled "CUSTOM DESCRIPTION:" followed by a text input field. Below this is a "FONT SIZE:" section with a dropdown menu currently set to "34". Underneath is a "BLACK BACKGROUND" section with an unchecked checkbox. At the bottom of the window, there are three elements: a circular icon with a trash can (Delete), a rectangular button labeled "DEFAULT", and a circular icon with a floppy disk (Save).

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

## Chapter

# 5

## Maintaining the FUSION EQUINE DR® II System

### Contents

- [\*Backing Up FUSION EQUINE DR Data and Settings\*](#) on page 121
- [\*Restoring FUSION EQUINE DR Data and Settings\*](#) on page 122
- [\*Restoring the Tablet Hard Drive\*](#) on page 123
- [\*Updating the Sound SMART DR Software with Auto Update\*](#) on page 125
- [\*Windows Operating System Updates\*](#) on page 127
- [\*Export/Import the System Configurations\*](#) on page 127
- [\*Performing Panel Gain Calibration\*](#) on page 136
- [\*Viewing Gain Calibration History\*](#) on page 141
- [\*Cleaning the Digital radiography System\*](#) on page 144

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

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

## Backing Up FUSION EQUINE DR® II Data and Settings

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

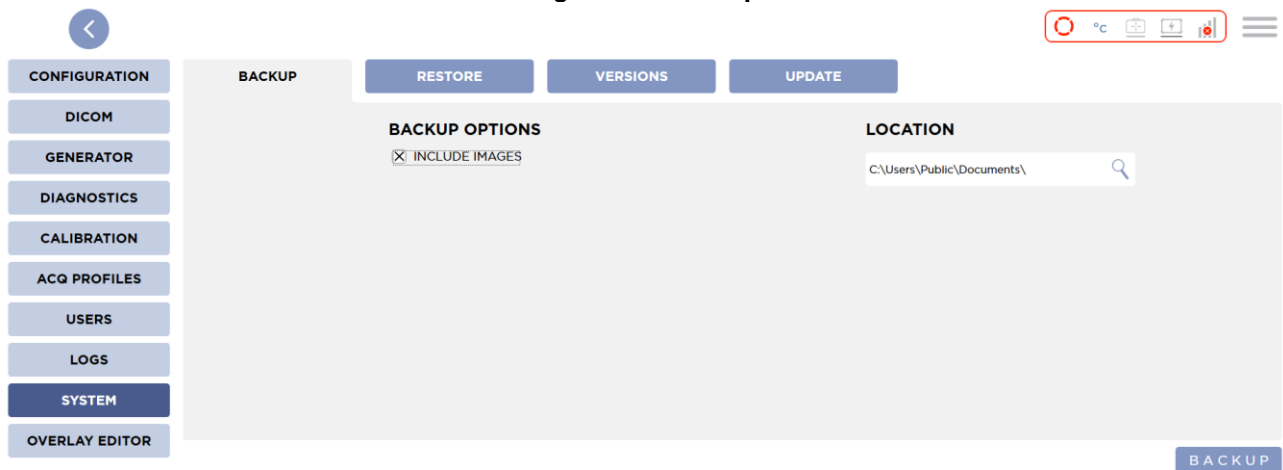
### Procedure

1. Open the **Management** screen. See the topic, [Displaying the Management screen](#) on page 64, for instructions.

2. Click **System**.

The **Backup** tab displays.

Figure 78: Backup



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 FUSION EQUINE DR® II Data and Settings

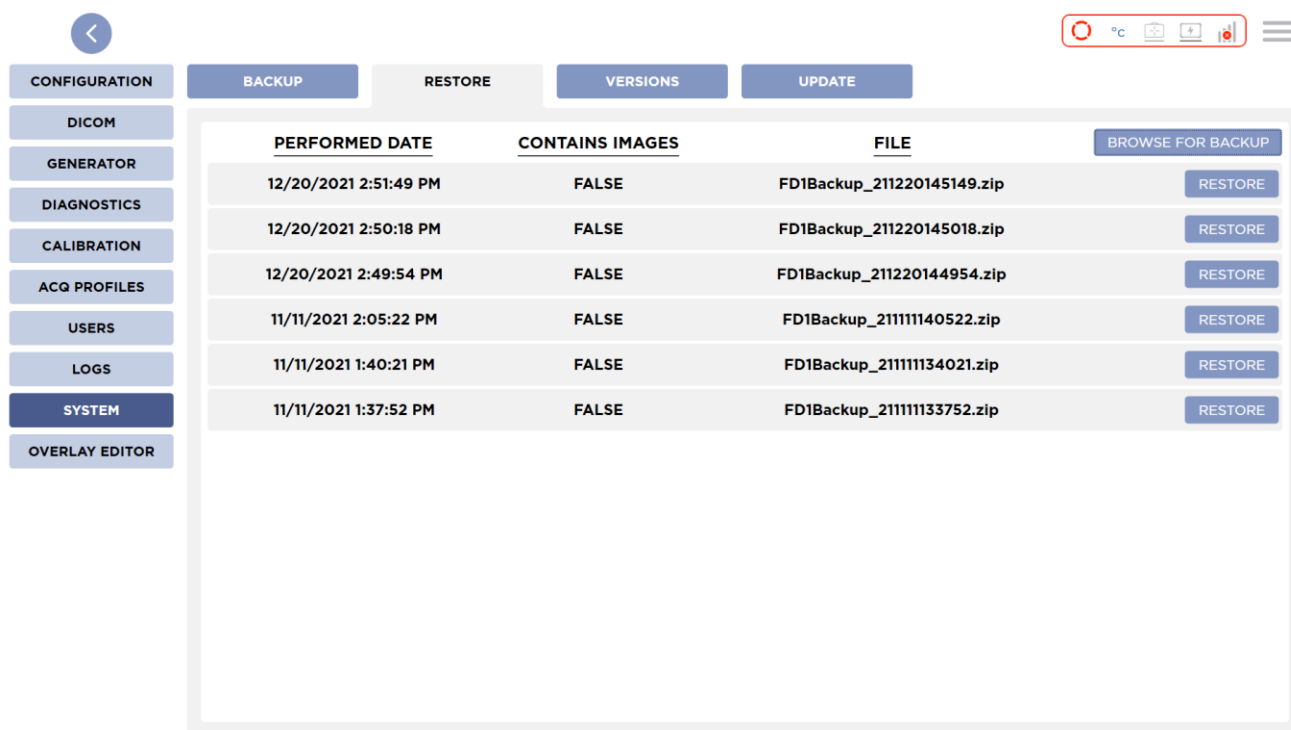
Sound and Vet users can restore a system that has been backed up.

### Procedure

1. Open the **Management** screen. See the topic, [Displaying the Management screen](#) on page 64, for instructions.
2. Click **System > Restore**.

The list of backups is displayed.

Figure 79: Restore tab

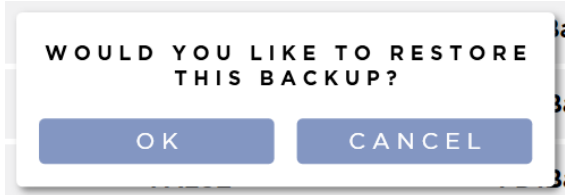


| PERFORMED DATE        | CONTAINS IMAGES | FILE                       |         |
|-----------------------|-----------------|----------------------------|---------|
| 12/20/2021 2:51:49 PM | FALSE           | FD1Backup_211220145149.zip | RESTORE |
| 12/20/2021 2:50:18 PM | FALSE           | FD1Backup_211220145018.zip | RESTORE |
| 12/20/2021 2:49:54 PM | FALSE           | FD1Backup_211220144954.zip | RESTORE |
| 11/11/2021 2:05:22 PM | FALSE           | FD1Backup_211111140522.zip | RESTORE |
| 11/11/2021 1:40:21 PM | FALSE           | FD1Backup_211111134021.zip | RESTORE |
| 11/11/2021 1:37:52 PM | FALSE           | FD1Backup_211111133752.zip | RESTORE |

- Click the icon that is displayed next to the restore point.

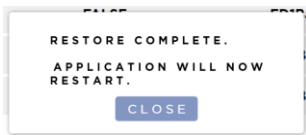


The following message is displayed:



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

**Figure 76: Restore tab – message**



- Click the Close button in the message.
- 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 SOUND 14" 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

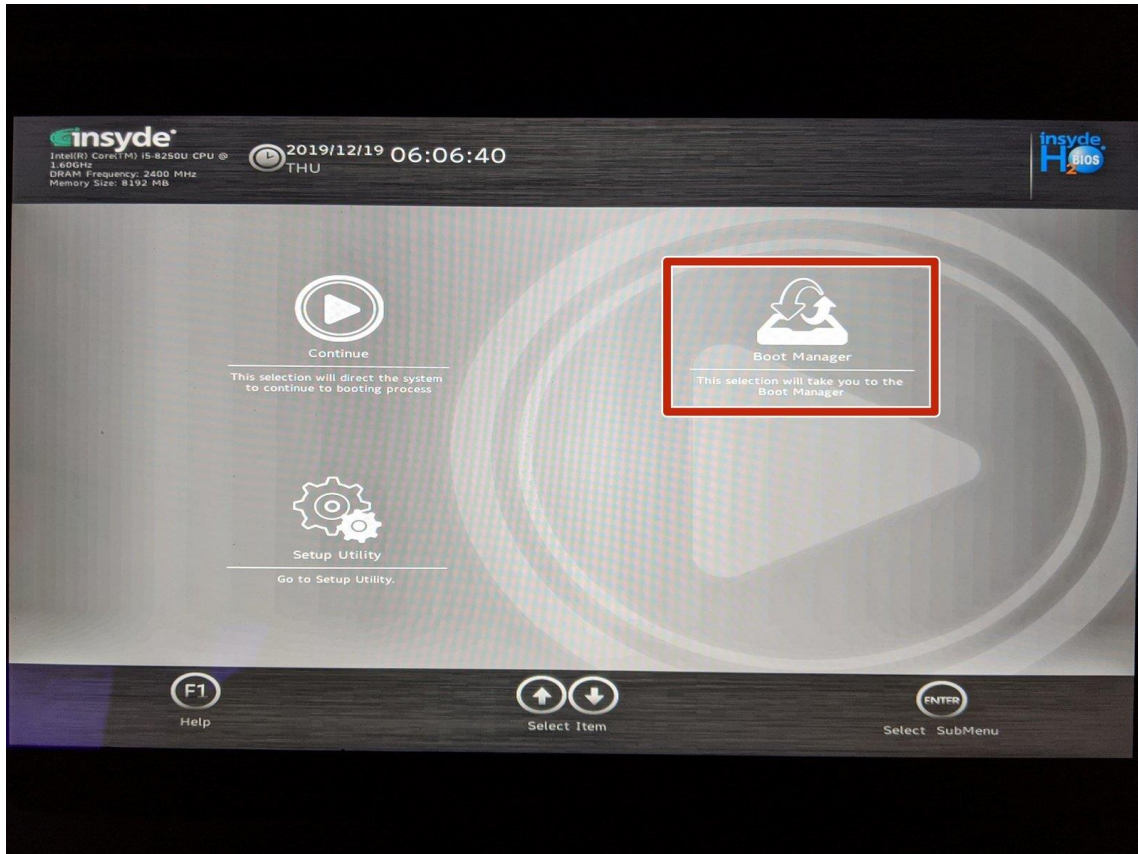
- [Log out of the FUSION DR™ software.](#)
- Press the power button to power down the tablet.



- Insert the FUSION DR™ Recovery Media into a USB port on the tablet. See [SOUND 14" TABLET Tablet controls and connectors](#) on page 6 for port locations.

## 5. Maintaining the FUSION EQUINE DR® X-ray

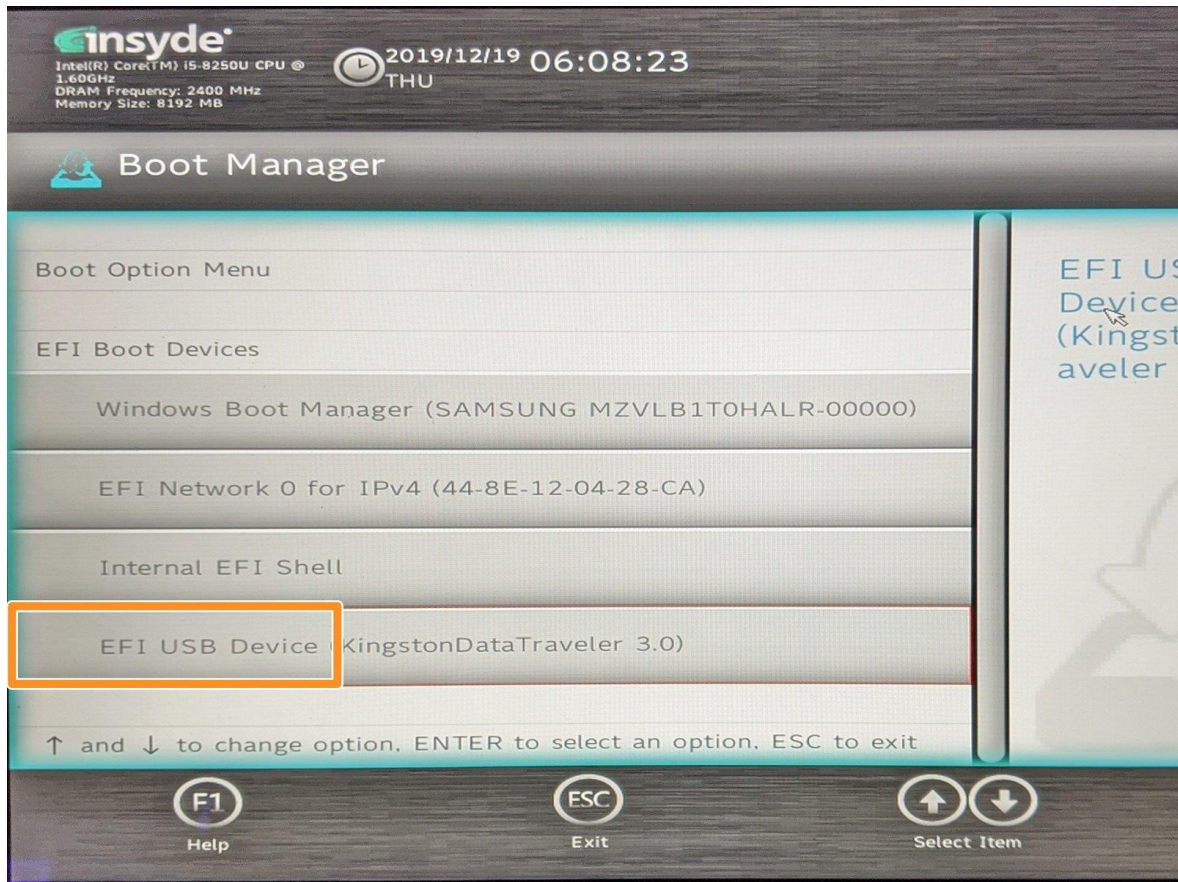
4. Ensure the wireless keyboard and mouse are connected and operational.
5. Press the power button on the tablet to power it up. The blue LED above the button lights.
6. During initial boot-up, press the ESC key repeatedly until the system displays the Configuration screen.



7. Select **Boot Manager**.

8. Under **EFI Boot Devices**, select **EFI USB Device (KingstonData Traveler 3.0)**.

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



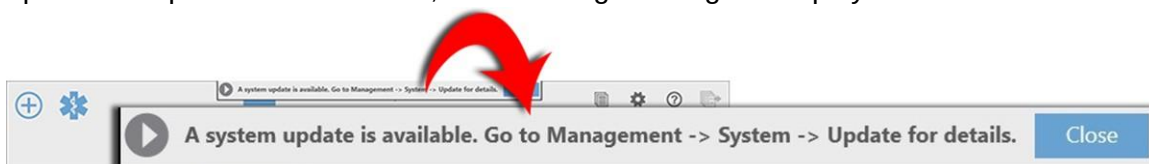
The tablet will restart several times during the process. Once installation is complete, the tablet will power down.

## Updating the Sound SmartDR™ Premier Software with Auto Update

Digital radiography system updates can be installed or not as needed by the site.

### About this task

When you log in to the Sound SmartDR™ PC, the software automatically checks for updates. If updates are available, the following message is displayed:



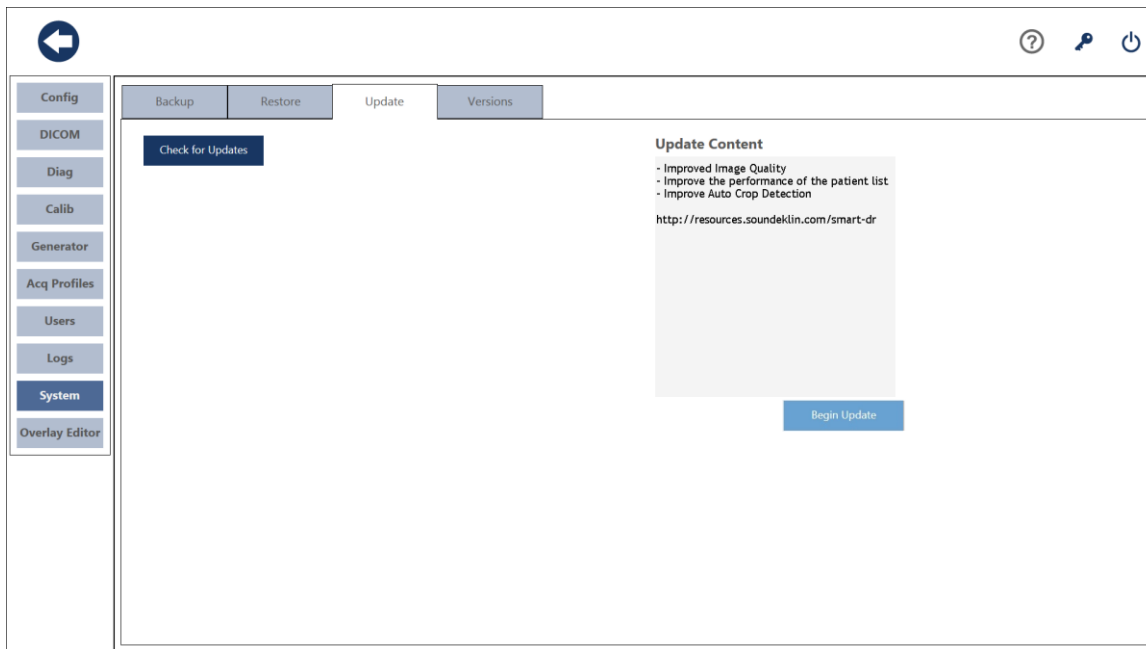
### Procedure

1. Open the **Management** window. See the topic, [Displaying the Management screen](#) on page 64, 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.

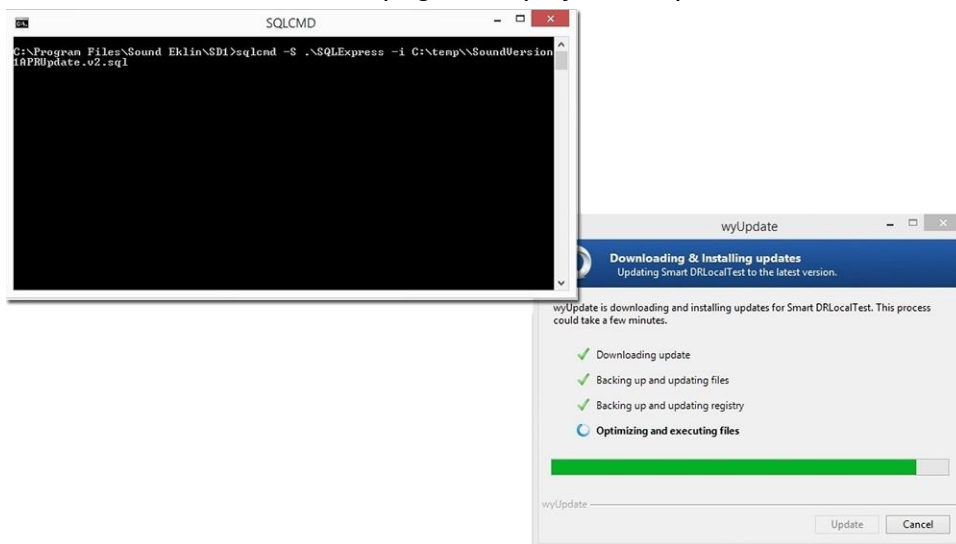
Figure 80: Update tab



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

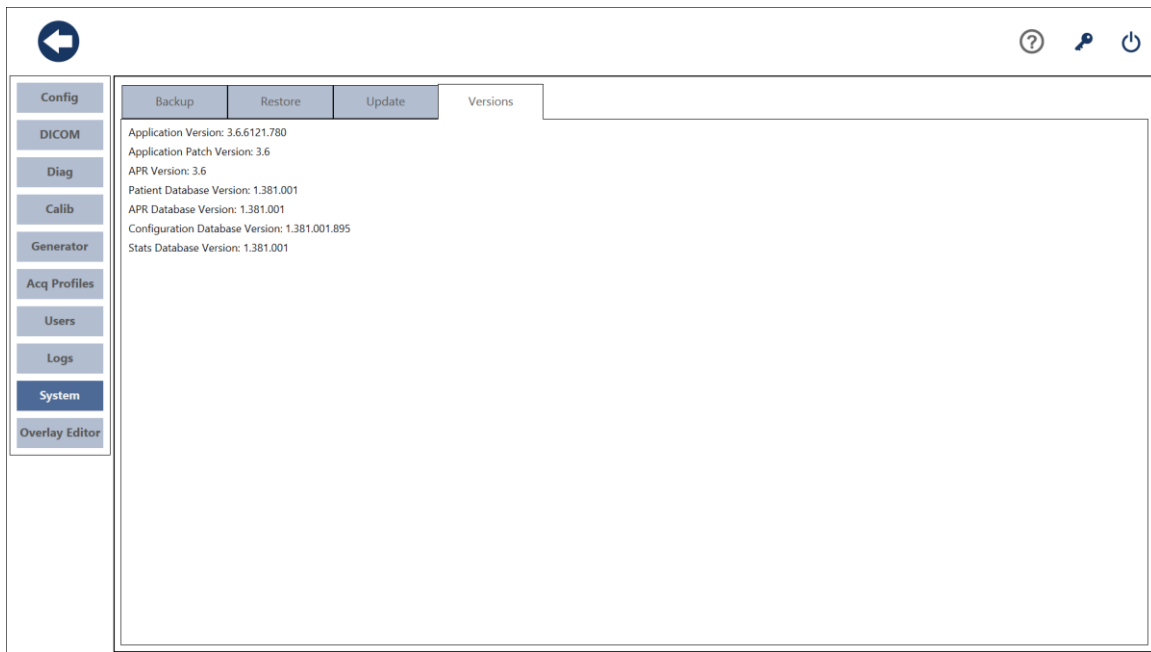
3. If you want to install the update, select **Begin Update**.

The digital radiography 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 **Sound SmartDR™ Premier** software.

5. Open the **Management** window. See the topic, [Displaying the Management screen](#) on page 64, 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.

## Export/Import the System Configurations

The **Sound SmartDR™ Premier** software has the capability to export/import system configuration and patient data and import that same data onto another FUSION EQUINE DR® II 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 FUSION EQUINE DR® II 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 1.0 of the **Sound SmartDR™ Premier** software.



**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 129.
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 132.
3. Repair a system configuration using a backup created by the export process. See [Repairing a system configuration](#) on page 135.

## 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. Open the **Management** screen. See the topic, [Displaying the Management screen](#) on page 64, for instructions.  
The **Config** screen displays.
2. Select **Advanced Options**. See [Advanced Options window](#) on page 69

## Advanced Options window

30°C

CONFIGURATION BASIC OPTIONS INTERMEDIATE OPTIONS **ADVANCED OPTIONS** SITE INFORMATION DETECTOR CONFIGURATION

DICOM

GENERATOR

DIAGNOSTICS

CALIBRATION

ACQ PROFILES

USERS

LOGS

SYSTEM

OVERLAY EDITOR

HIGH WATERMARK: 75

LOW WATERMARK: 25

SHOW ACCESSION NUMBER: TRUE

REQUIRE VET/TECH SELECTION: FALSE

REQUIRE IMAGE REJECT REASON: FALSE

GAIN CALIBRATION INTERVAL: OFF

X-RAY STORAGE TIME (MS): 1000

ALTERNATE TECH NAME ENABLED: ☐

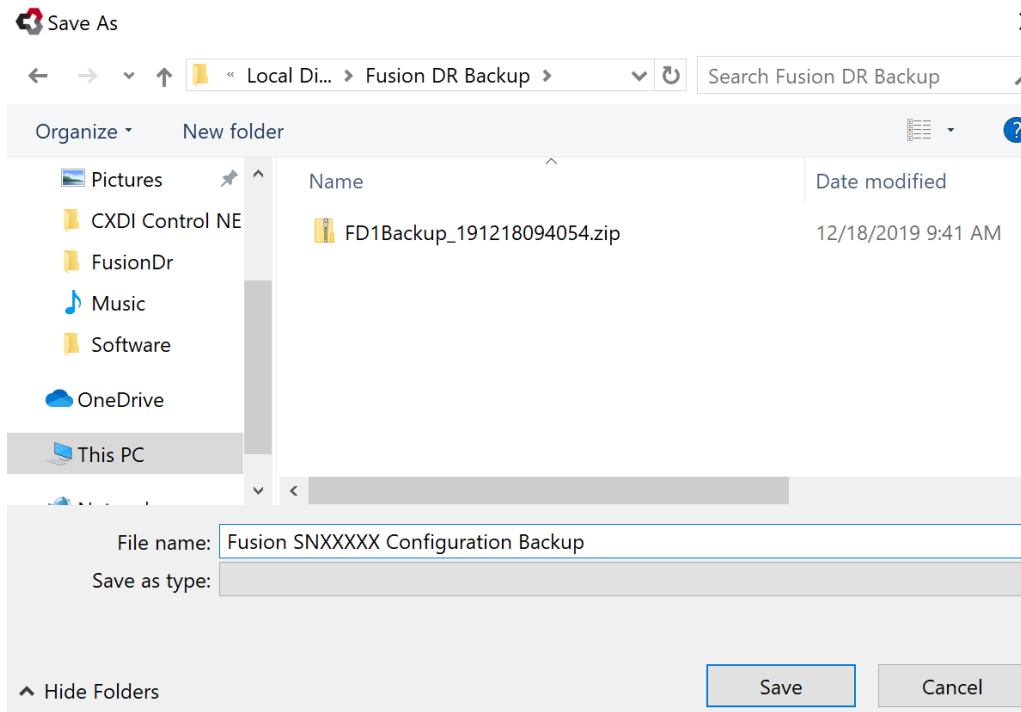
GRID FREQUENCY (LP/CM): 52

WINDOW 32768

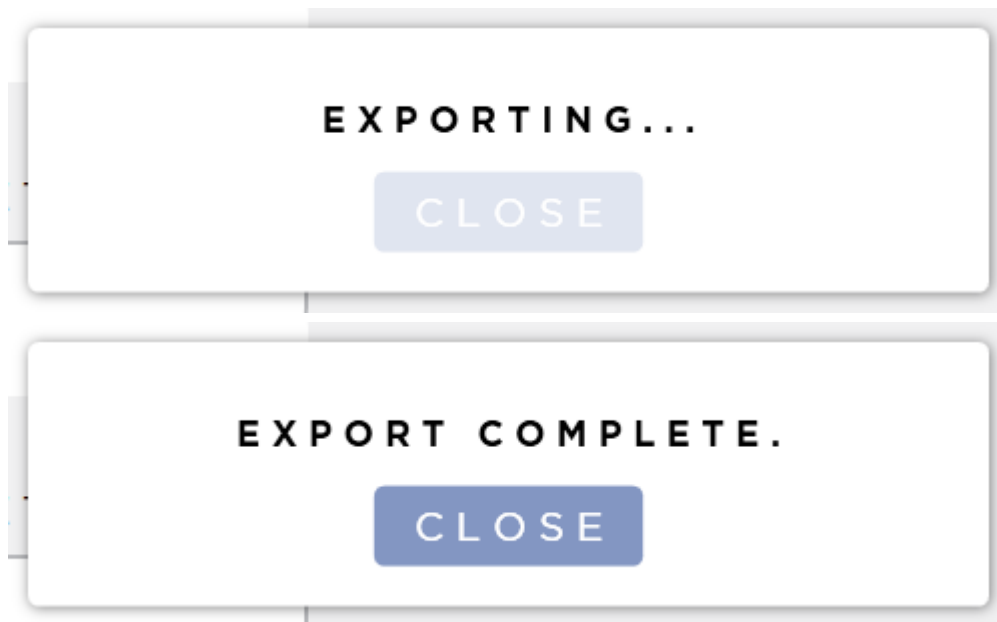
LEVEL 32768

RESTORE DEFAULTS EXPORT IMPORT SAVE

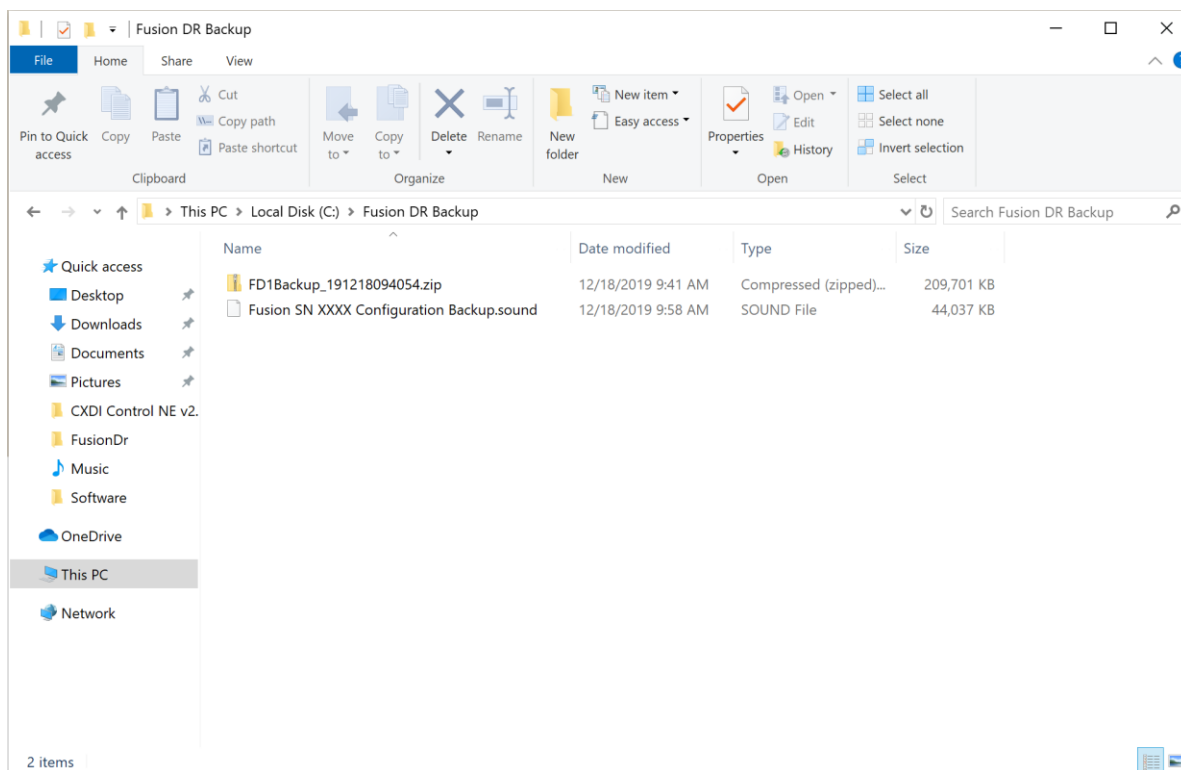
- Click on **Export**. Name the file and select the desired location you would like to export the FUSION DR configuration settings. Ex, filename: Fusion SNXXXXX Configuration Backup, location: C:\Fusion DR Backup



4. Click on **Save**. The following prompts will be displayed.



5. Click on **Close** when the export is completed.
6. Verify the file was exported in the file location



## 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. Open the **Management** screen. See the topic, [Displaying the Management screen](#) on page 64, for instructions.

The **Config** screen displays.

2. Select **Advanced Options**. See [Advanced Options window](#) on page 126.

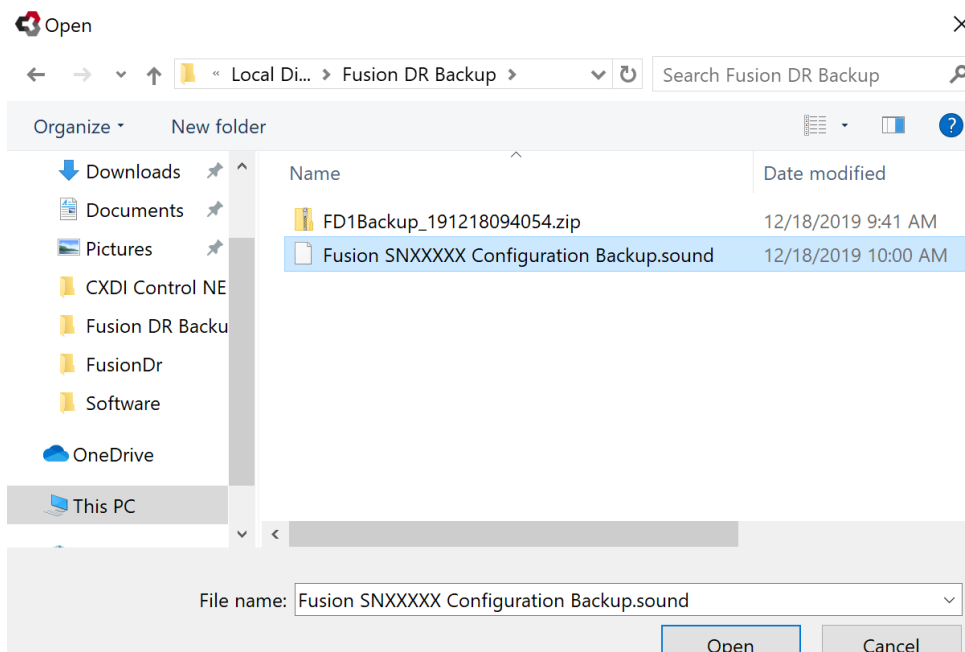
## Advanced Options window

The Advanced Options window displays the following settings:

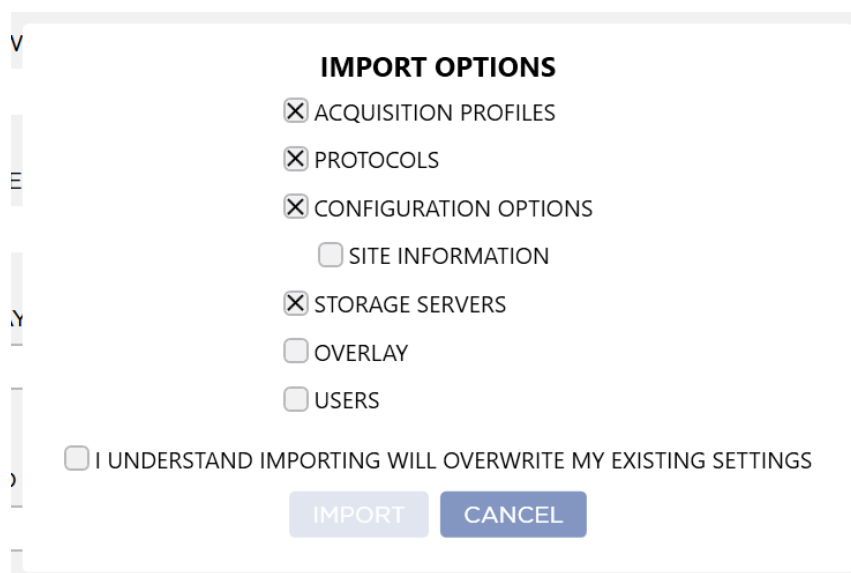
| Setting                      | Value                             |
|------------------------------|-----------------------------------|
| HIGH WATERMARK:              | 75                                |
| LOW WATERMARK:               | 25                                |
| SHOW ACCESSION NUMBER:       | TRUE                              |
| REQUIRE VET/TECH SELECTION:  | FALSE                             |
| REQUIRE IMAGE REJECT REASON: | FALSE                             |
| GAIN CALIBRATION INTERVAL:   | OFF                               |
| X-RAY STORAGE TIME (MS):     | 1000                              |
| ALTERNATE TECH NAME          | ENABLED: <input type="checkbox"/> |
| GRID FREQUENCY (LP/CM)       | 52                                |
| WINDOW                       | 32768                             |
| LEVEL                        | 32768                             |

Buttons at the bottom: RESTORE DEFAULTS, EXPORT, IMPORT, SAVE.

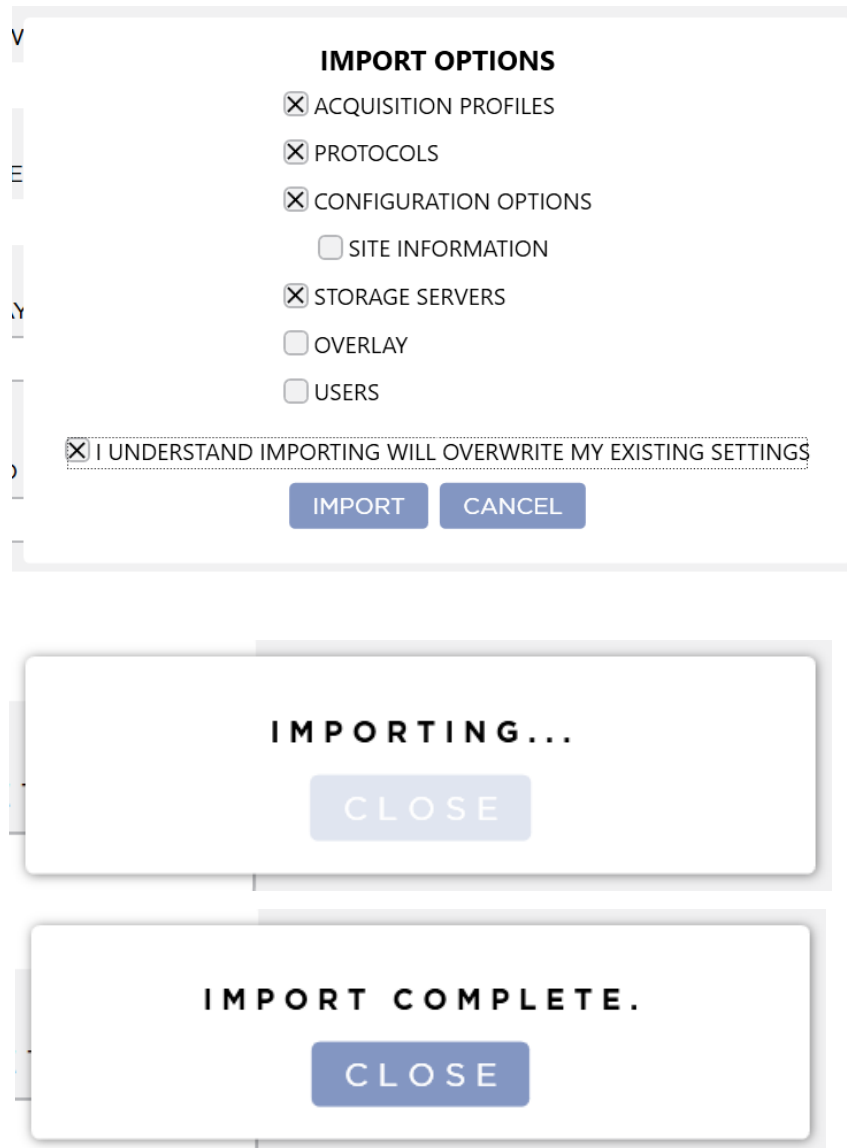
- Click on **Import**. Go to the location of the file to be imported, select it, and click **OPEN**. Ex, filename: Fusion SNXXXXX Configuration Backup, location: C:\Fusion DR Backup.



- The following window will prompt. Acquisition Profile, Protocols, Configuration Options (excluding Site Info), and Storage Servers are selected by default. Check Site Info, Overlay, and Users if would like settings to be imported.



- Click on **I understand importing will overwrite my existing settings** and click on **Import**.



6. Click on **Close** when the import is completed.
7. The **Sound SmartDR™ Premier** software will close and relaunch automatically.

## Panel Data Collection

The **Sound SmartDR™ Premier** software has the capability to collect the panel data. This tool allows you to export and backup the panel data. These files can be used for repair and troubleshooting purposes.

## About this task

Use this tool to create a backup of the complete configuration and panel data of one FUSION EQUINE DR® II system. Or, you can use this backup to repair and troubleshoot a damaged system configuration, also running the same version of the software.



**Note:** This tool is distributed with version 1.0 of the **Sound SmartDR™ Premier** software.



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



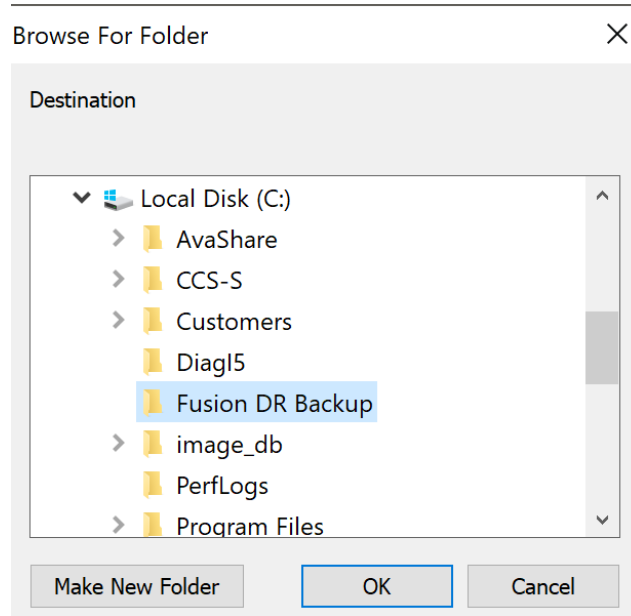
**Note:** Run this application as Administrator.

## Procedure

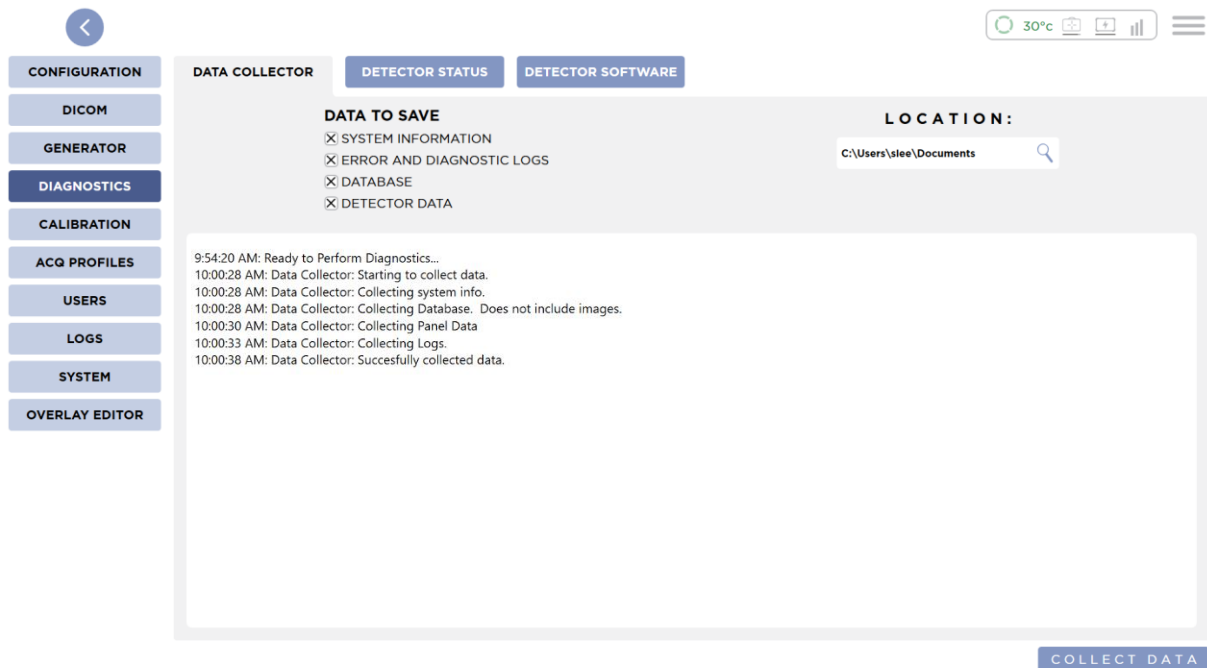
1. Open the **Management** screen. See the topic, [Displaying the Management screen](#) on page 64, for instructions.
2. Select the **Diag** tab.

### The Data Collector screen displays

3. By default **System Information**, **Error and Diagnostics Logs**, and **Database** are selected. Check **Detector Data**.
4. Selecte the desired location you would like to backup these files and click **OK**. Ex, C:\Fusion DR Backup

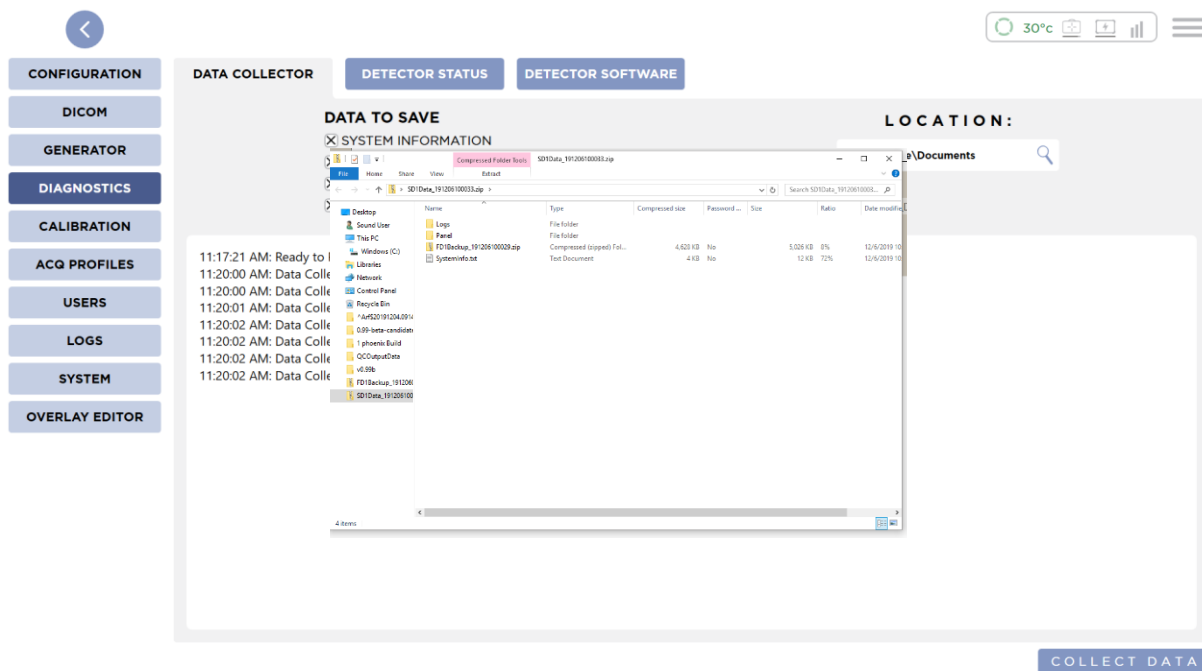


5. Click on **Collect Data**.



6. Successfully collected data will display in the status window.

7. Verify the export by browsing the location backed up files.



## Performing Panel Calibration

The Sound user can perform gain calibration on the active panel. Set the gain calibration frequency Config> Advanced Options screen. The calibration consists on 4 Successful exposures.

### Prerequisites

Before you begin this task, ensure that the panel is installed, configured, and active on the x-ray system.

### Procedure

1. Open the **Management** screen. See the topic, [Displaying the Management screen](#) on page 64, for instructions.

2. Click **Calib.**

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

30°C

CONFIGURATION  
DICOM  
GENERATOR  
DIAGNOSTICS  
**CALIBRATION**  
ACQ PROFILES  
USERS  
LOGS  
SYSTEM  
OVERLAY EDITOR

CALIBRATION HISTORY

START DATE END DATE

11/21/2021 12/21/2021

INSTRUCTIONS

1. SET SID TO (0) CM OR (1) INCHES.  
2. OPEN THE COLLIMATOR BLADES AND ENSURE THAT THE DETECTOR IS FULLY ILLUMINATED.  
3. ENSURE THAT NOTHING IS IN THE BEAM PATH.

| DATE PERFORMED | RESULT |
|----------------|--------|
|----------------|--------|

START CALIBRATION

## 3. Setup the Technique on your generator to the following:

- SID distance between panel and the front of the collimator = 40 in
- Have the collimator blades completely open.
- Align the collimator light and center the cross hairs to the panel.



**Note:** Recommend the collimator light is overlapping the panel by 2 inches to ensure the panel is getting fully exposed.

- Setup the technique on the generator as a starting point:
  - KVP = 68
  - mAs = .08



**Note:** Technique is used as a reference point. Technique maybe need to be increased/decreased according to the software.

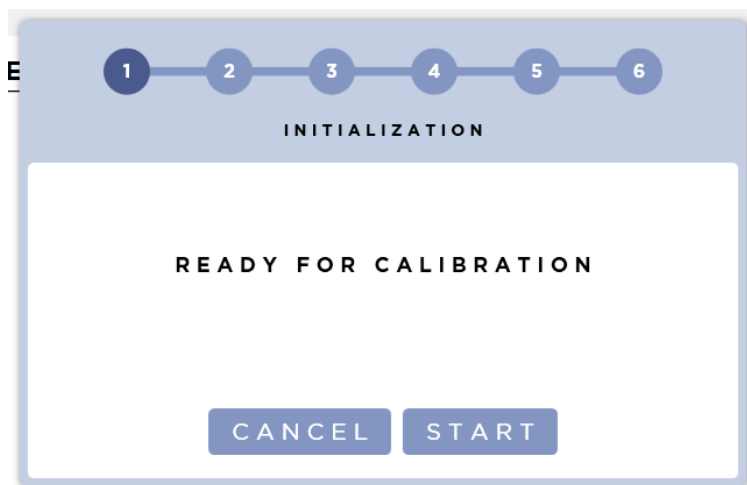
4. Follow the instructions in the screen, and select **StartCalibration**.

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

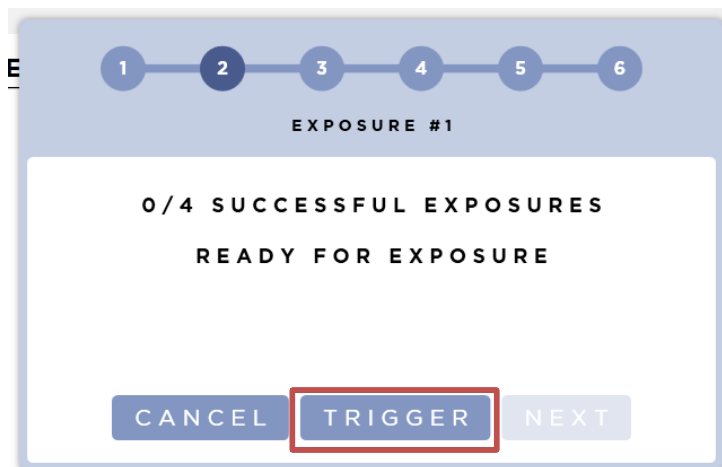
5. The calibration window will prompt and prepare.



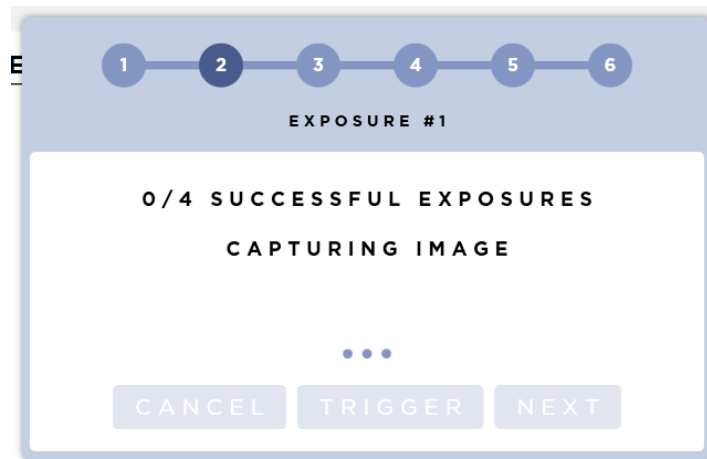
6. When the system is ready for an exposure the Trigger button will be enable. Click on the **Trigger** button.



**Note:** When you hit **Trigger**, you have a 3 to 5 second window to take an exposure. If you do not make an exposure during that time frame the calibration will fail. Repeat step 6.



7. Take an x-ray exposure.



8. The software will display the Dosage % and determine if the exposure was a success or failure.

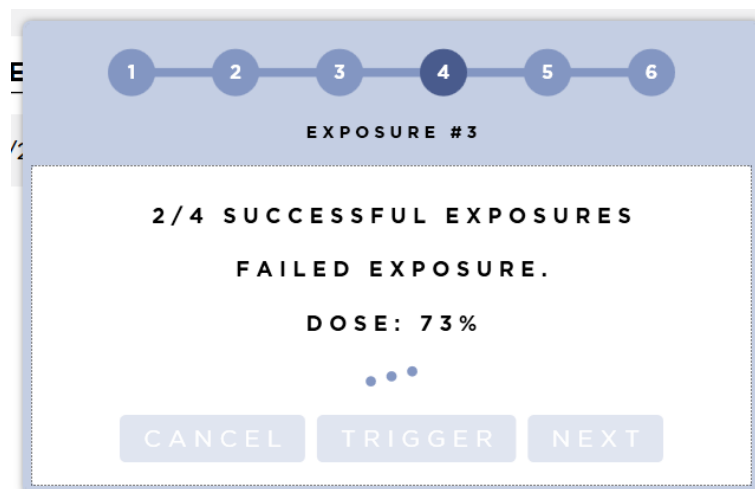


**Note:** Failure of a successful calibration exposure consists on being too high or too low. Adjust technique on the generator and retake the calibration shot., you have a 3 to 5 second window to take an exposure.

#### Successful Calibration Exposure

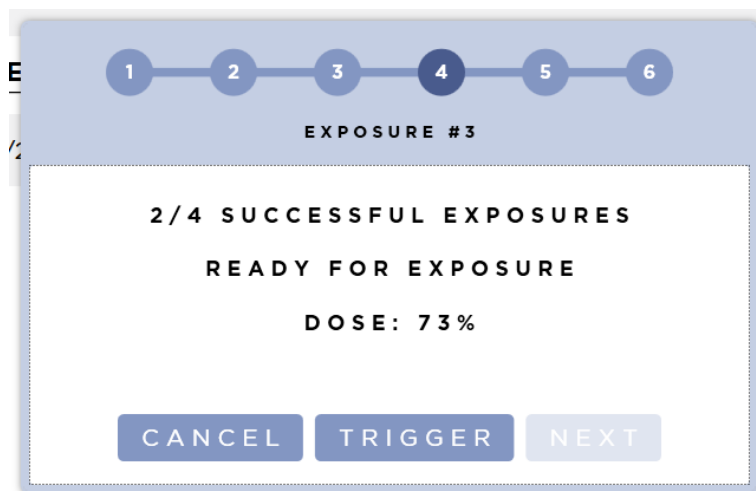


#### Failed Calibration Exposure



9. Continue taking the calibration exposures by repeating steps 6 and 7. Panel calibration consists of 4 successful exposures.

### 2nd Calibration Exposure



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



11. Click **Close** to exit out of Panel Calibration.

# Viewing Calibration History

## Procedure

1. Open the **Management** screen. See the topic, [Displaying the Management screen](#) on page 64, for instructions.
2. Select **Calib.**

**Calibration History** Tab is selected by default

3. **Calibration History** is selected by default.

## Calibration History

**CALIBRATION HISTORY** SELF TEST HISTORY

START DATE END DATE

4/1/2020 5/1/2020

**INSTRUCTIONS**

1. SET SID TO {0} CM OR {1} INCHES.
2. OPEN THE COLLIMATOR BLADES AND ENSURE THAT THE PANEL IS FULLY ILLUMINATED.
3. ENSURE THAT NOTHING IS IN THE BEAM PATH.

| DATE PERFORMED | RESULT |
|----------------|--------|
|----------------|--------|

START CALIBRATION

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.

## Performing Panel Self Test

The Sound user can perform self test on the active panel.

### Prerequisites

Before you begin this task, ensure that the panel is installed, configured, and active on the x-ray system.

### Procedure

1. Open the **Management** screen. See the topic, [Displaying the Management screen](#) on page 64, for instructions.
2. Select **Calib.**
3. Click on Start Self Test. The software will automatically run the self tests between the software and panel.

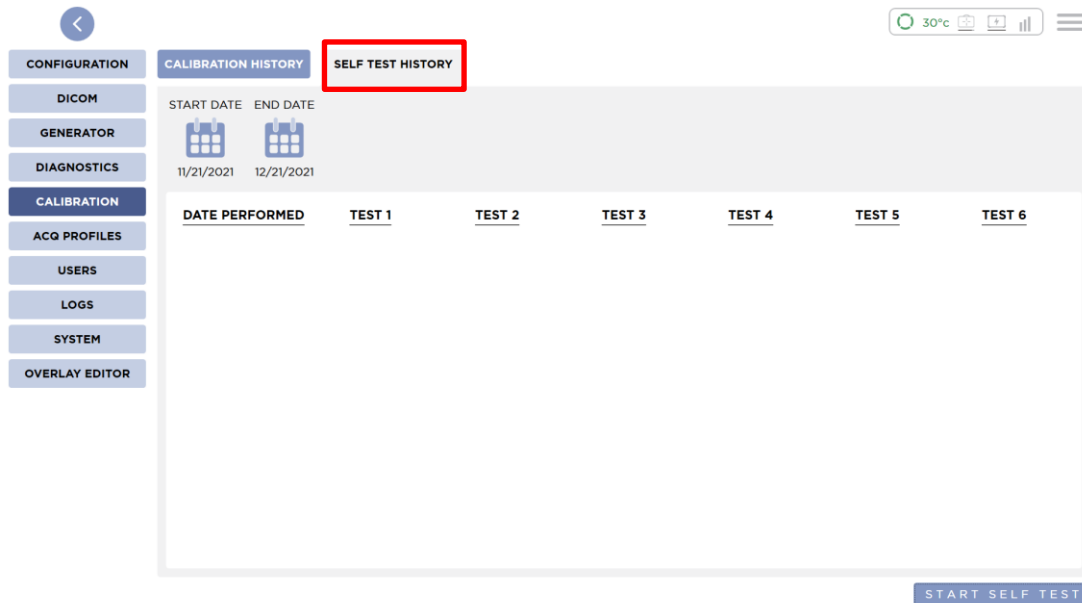
The screenshot displays the 'SELF TEST HISTORY' tab in a software interface. At the top, there are two tabs: 'CALIBRATION HISTORY' and 'SELF TEST HISTORY'. Below the tabs, there are two calendar icons for 'START DATE' (4/1/2020) and 'END DATE' (5/1/2020). The main area shows a table with columns: 'DATE PERFORMED', 'TEST 1', 'TEST 2', 'TEST 3', 'TEST 4', 'TEST 5', and 'TEST 6'. A progress bar is visible above the table, with steps 1 through 8, and 'TEST #1' is highlighted. A dialog box is open in the center of the screen with the text 'Starting Test' and a 'CANCEL' button. At the bottom right, there is a 'START SELF TEST' button.

4. Self Test Finished Success will display when completed.
5. Click **Close**.

# Viewing Panel Self Test History

## Procedure

1. Open the **Management** screen. See the topic, [Displaying the Management screen](#) on page 64, for instructions.
2. Select **Calib.**
3. Select **Self Test 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 the pop-up calendar, Select the last date in the date range for histories that you want to view. The self test history for the range of dates you selected is displayed.

## Cleaning the Digital Radiography System

### About this task

The digital radiography 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 digital radiography 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 digital radiography 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 digital radiography. 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.

- a. [Approved Disinfection Agents](#) on page 144
- b. [Cautions](#) on page 145
- c. [Removing](#)
- d. [From Fans and Heatsinks](#) on page 145

## 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 digital radiography 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 digital radiography 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 digital radiography 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

- [\*Verifying Application Version Information\*](#) on page 147
- [\*Log Files\*](#) on page 147
- [\*Collecting Data\*](#) on page 149
- [\*Viewing Panel Software Versions\*](#) on page 151
- [\*Diagnosing WiFi Connection Issues\*](#) on page 152

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

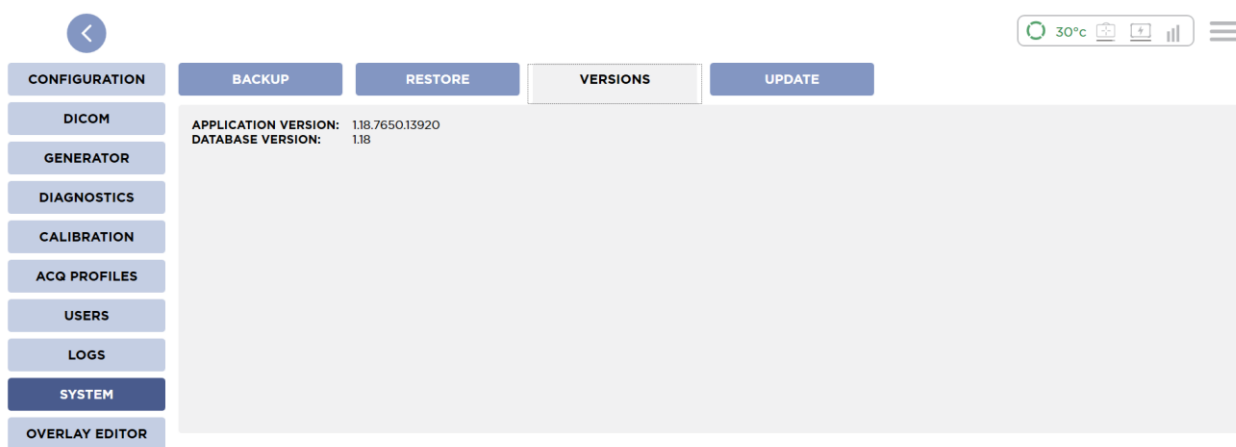
Version information can be useful for troubleshooting and updating the system.

### Procedure

1. Open the **Management** screen. See [Displaying the Management screen](#) on page 64 for instructions.
2. Click **System > Versions**.

Version information for software and system components are displayed.

**Figure 81: Versions tab**

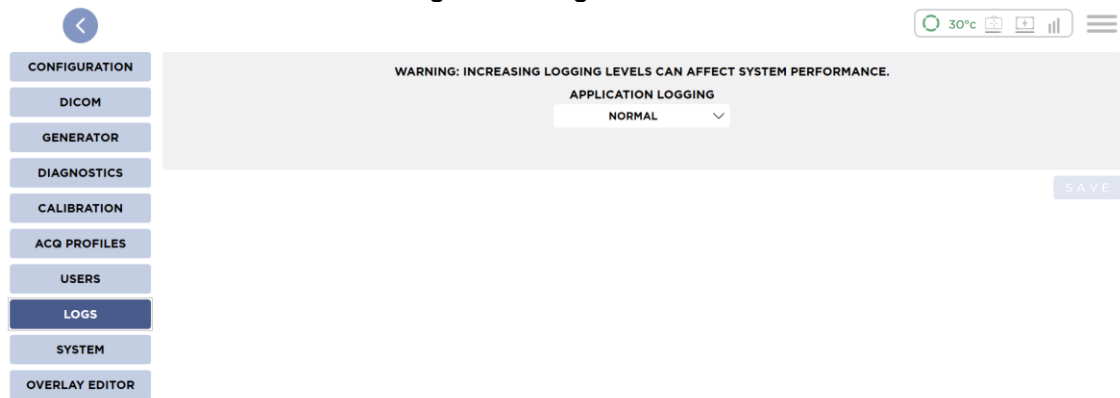


## Log Files

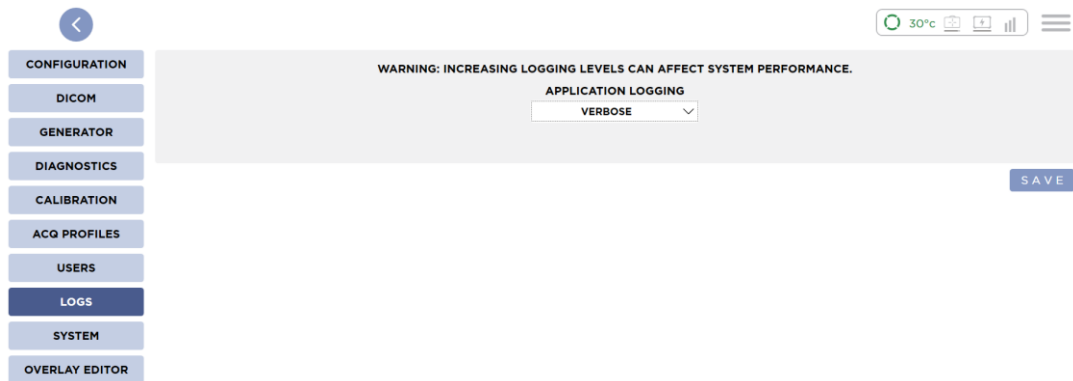
The digital radiography system captures and saves information about how applications and DICOM are functioning and saves that information to log files.

The following logging files can be set in the Management screen on the **Logs** tab.

Figure 82: Logs window



1. Application Logging is set to Normal as default.
2. For increased logging levels, click on the drop down menu and select **Verbose**.



3. Click on **Save**. This mode provides additional details for troubleshooting and service purposes. **WARNING!** Increasing the logging levels can affect system performance.

# Collecting Data

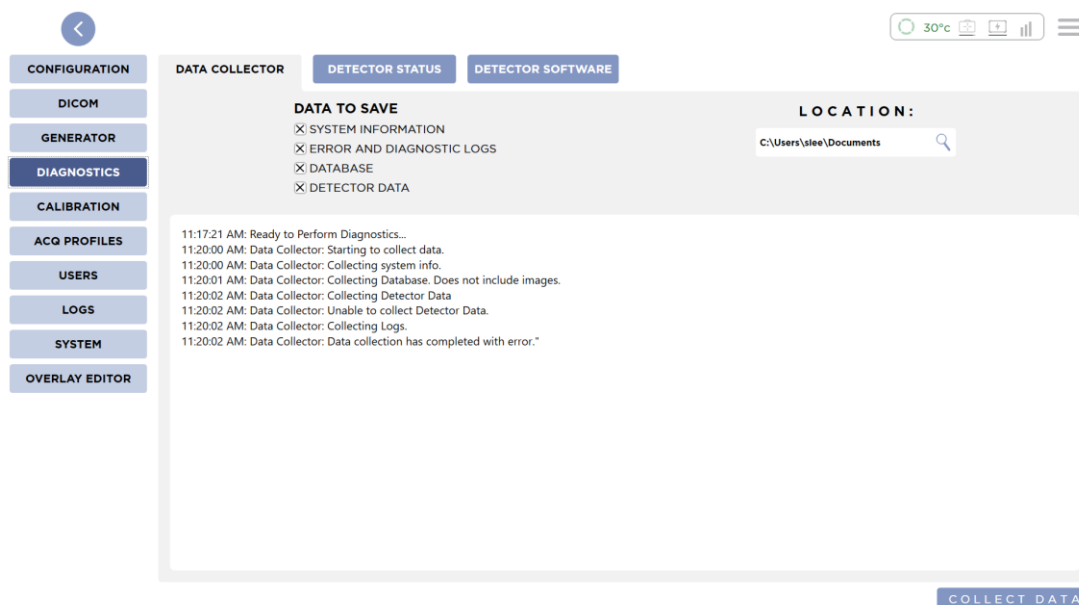
The Data Collector feature can be used to gather information about the digital radiography system for backup and diagnostic purposes.

## 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 64 for instructions.
2. Click **Diag > Data Collector**.



3. By Default **System Information**, **Error and Diagnostics Logs**, and **Database** are selected. Check **Panel Data**.

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.

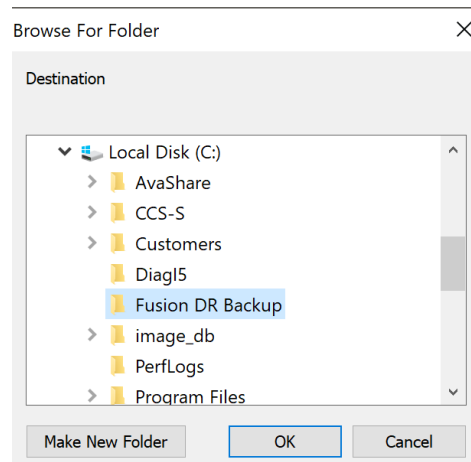
Database

Enable this option to back up the system database.

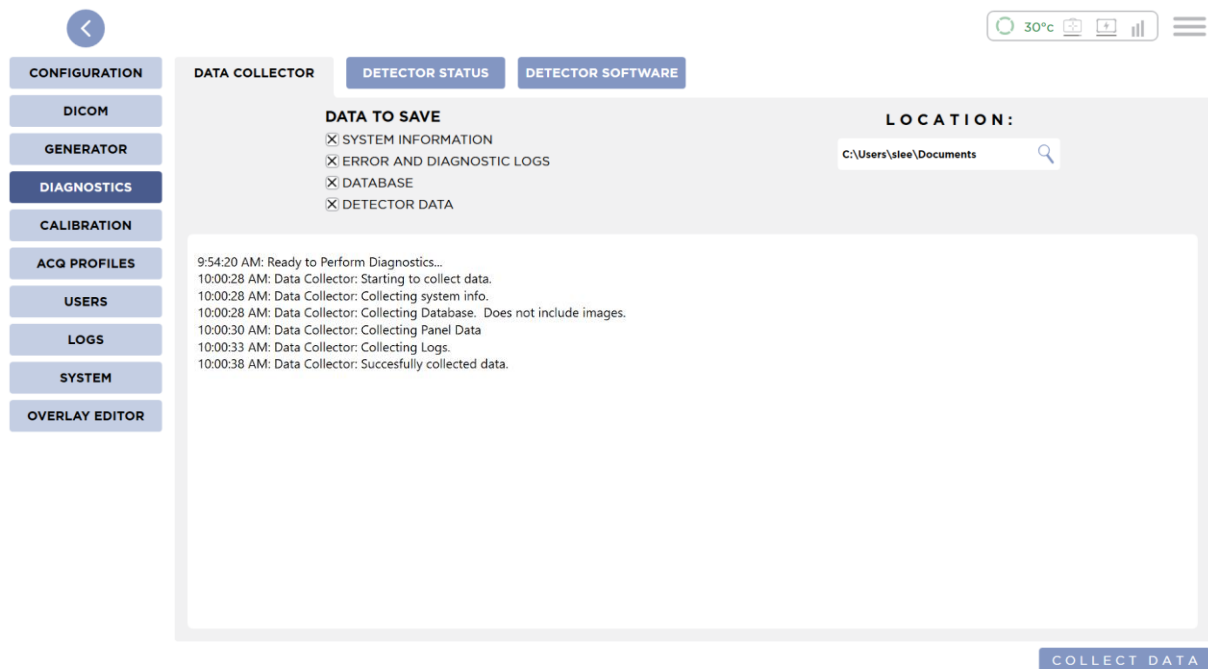
Panel Data

Enable this option to back up panel files used to troubleshoot errors and diagnose problems with the panel.

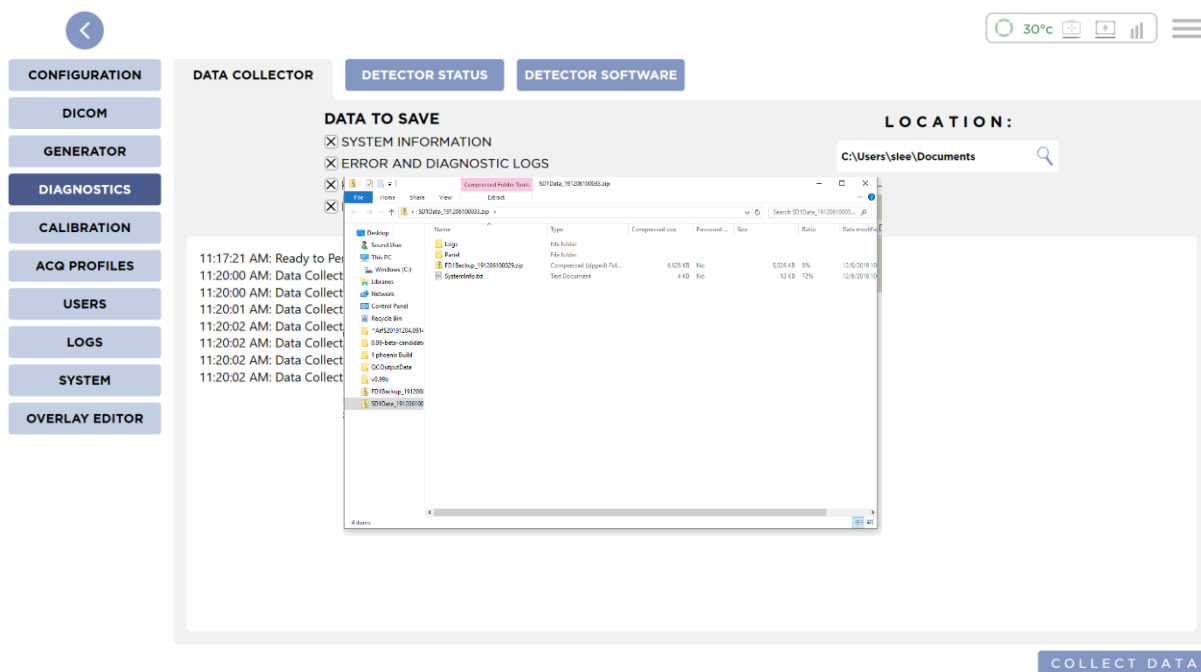
4. Selected the desired location you would like to backup these files and click **OK**. Ex, C:\Fusion DR Backup.



5. Click on **Collect Data**.



6. Successfully collected data will display in the status window.
7. Verify the export by browsing the location backed up files.

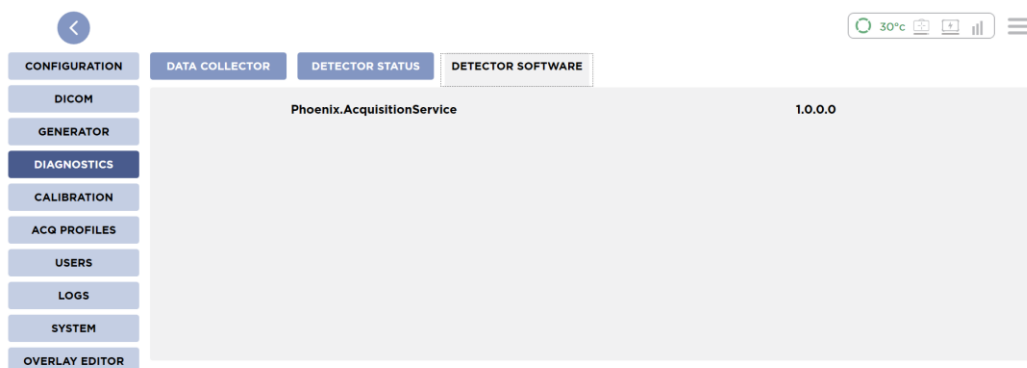


## Viewing Panel Software Versions

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 64, for instructions.
2. Select **Diag**.
3. Select **Detector > Software Versions**, and ensure that the version match the following image.

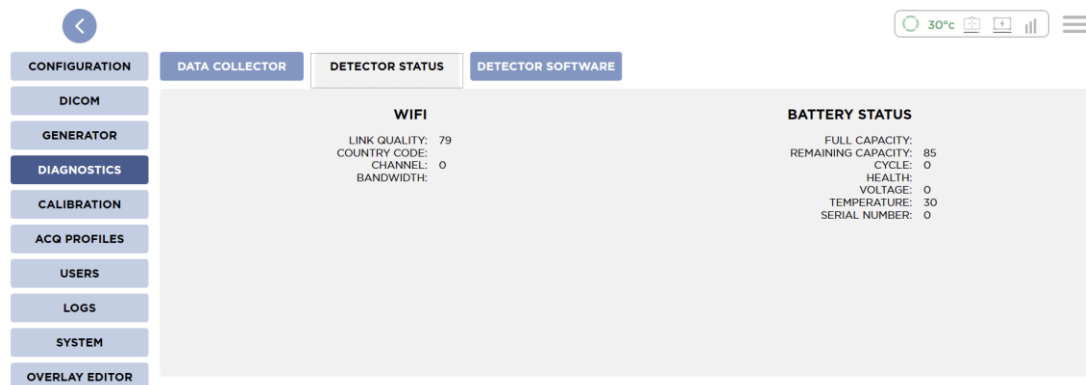


## Diagnosing WiFi Connection Issues

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 64, for instructions.
2. Select **Diag**
3. Select **Detector > Detector Status**. See [WiFi tab settings](#) on page 151 for parameter descriptions.



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

## WiFi tab settings

Table 51: WiFi tab parameters

| Field              | Description                                                                  | Valid values                   |
|--------------------|------------------------------------------------------------------------------|--------------------------------|
| Link Quality       |                                                                              | 0 – 100                        |
| Country Code       | The country code set on the panel.                                           | Not applicable                 |
| Channel            | The wireless channel set on the panel.                                       | Default: 36                    |
| Bandwidth          | This value is set on the panel.                                              | Not applicable                 |
| 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. | 0 – 100%                       |
| Cycle              | The number of times the battery has been charged.                            | Cycle count of battery charged |
| Health             |                                                                              | 0 – 100%                       |
| Voltage            | The current battery voltage measured in mV.                                  | Current Voltage of Battery     |

| Field         | Description                                   | Valid values                |
|---------------|-----------------------------------------------|-----------------------------|
| Temperature   | Current panel temperature in degrees Celsius. | 5 - 35° C                   |
| Serial Number | The serial number of the installed panel.     | Panel battery Serial Number |

## Chapter

# 7

## Access Help

### Contents

- [Help Options window](#) on page 156

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 SmartDR™ Premier** software, training videos, and the Sound™ Support Portal.

### Help Options window

Figure 83: Help Options window

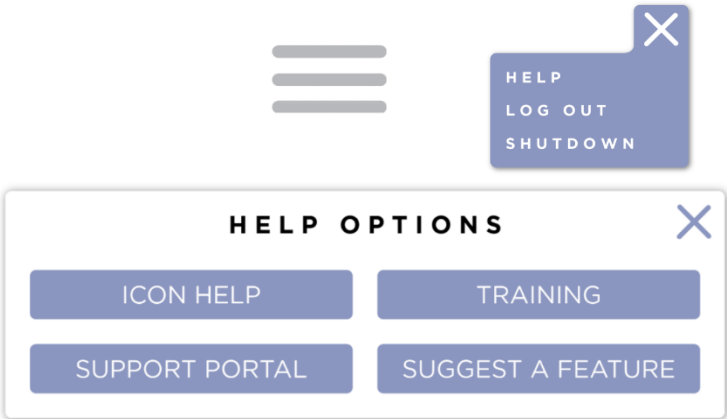


Table 52: Help Options

| Item                                                                                | Descriptions                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | Accesses <b>Help Options</b> window.                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Icon Help</b>                                                                    | Displays tips identifying icons displayed on the current screen.                                                                                                                                                                                                                                                                                                                                                 |
| <b>Training</b>                                                                     | Accesses training videos that demonstrate how to perform common tasks using the interface.                                                                                                                                                                                                                                                                                                                       |
| <b>Support Portal</b>                                                               | Accesses the <b>Support Portal</b> . See <a href="#">Figure 84: Access the Sound Experience Support Portal</a> on page 155. <ul style="list-style-type: none"> <li>First time users click <b>Register New User</b> to set up a login and password.</li> <li>Use the portal to chat with Sound™ support professionals, submit a support ticket, review training videos, and view warranty information.</li> </ul> |
| <b>Suggest a Feature</b>                                                            | Accesses portal you can use to provide feedback to Sound™ about the Sound SmartDR™ Premier software. See <a href="#">Figure 85: Suggest a Feature</a> on page 155.                                                                                                                                                                                                                                               |

| Item                                                                              | Descriptions       |
|-----------------------------------------------------------------------------------|--------------------|
|  | Closes the window. |

Figure 84: Access the Sound Experience Support Portal



Figure 85: Suggest a Feature

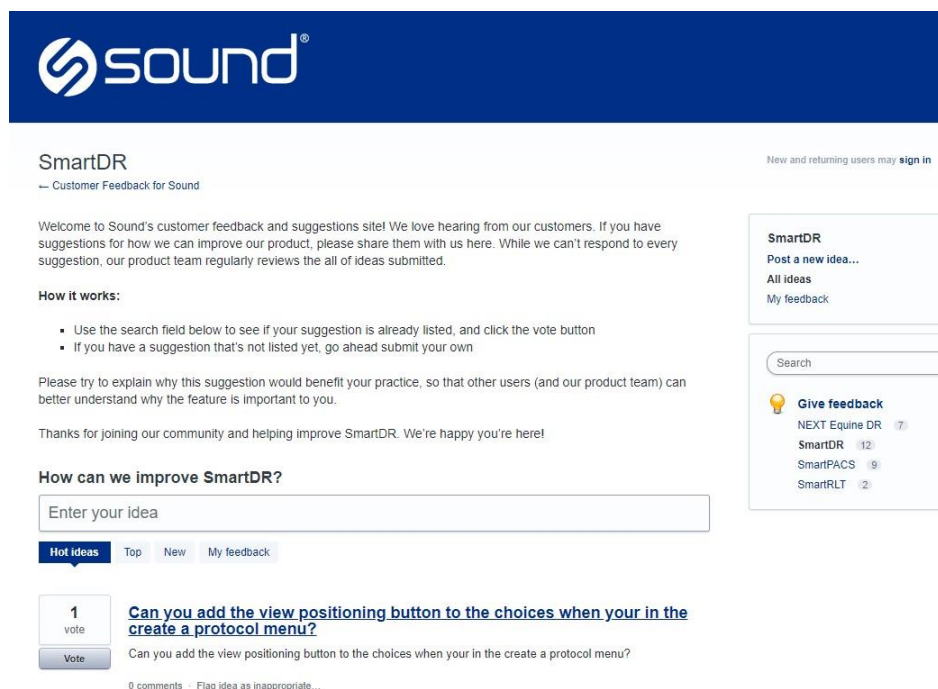
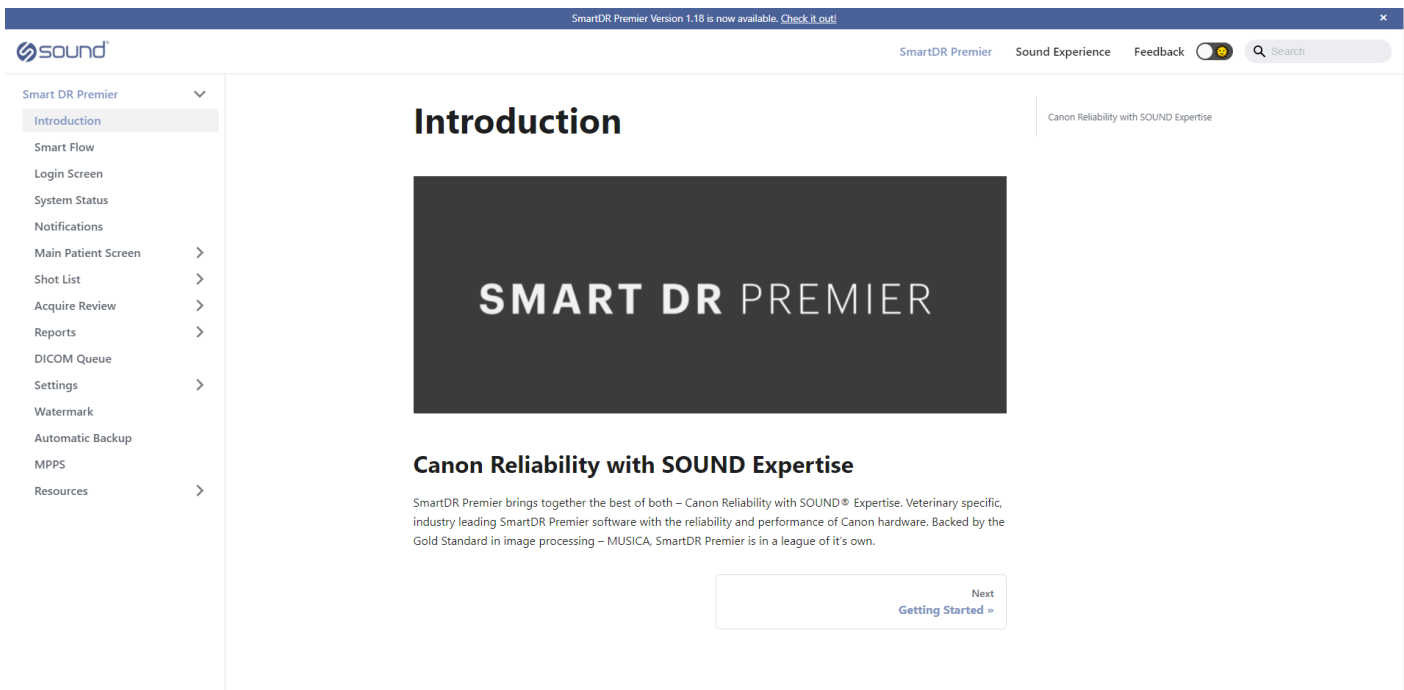
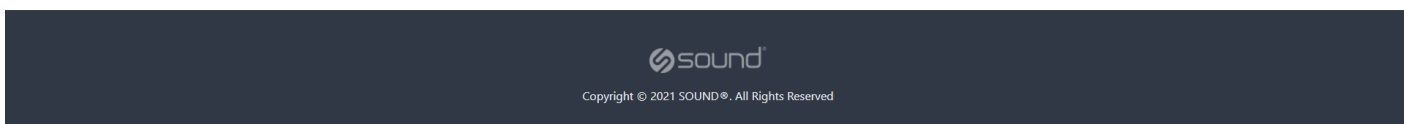
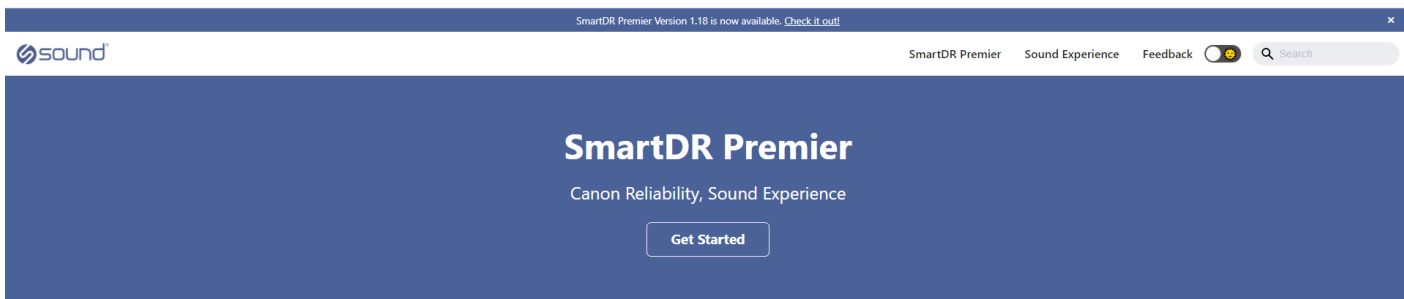


Figure 86: Training



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## Appendix

# A

## Technical Support

### Contents

- [\*Locating the System Serial Number\*](#) on page 160

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.

**Main Office** 800-268-5354

**Support** 800-819-5538

### Shipping address

Sound Technologies, Inc.  
3200 Lionshead Ave  
Suite 100  
Carlsbad, CA 92010  
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.
- On the side of the FUSION Equine DR II case, there is a label with the serial number.



---

# Appendix

## B

### Applicable Regulations:

ACMA Radio Regulations Radiocommunications Equipment (General) Rules 2021 Edition

### Description:

Report (technical file) update due to updated EMF standard (stored at CINC, no distribution)

#### Compliance – applicable standards and other supporting documents

Evidence of compliance with applicable standards may be demonstrated by test reports, endorsed/accredited test reports, certification/competent body statements.

Having had regard to these documents, I am satisfied the above mentioned product complies with the requirements of the relevant ACMA Standards made under the *Radiocommunications Act 1992* and the *Telecommunications Act 1997*.

List the details of the documents the above statement was made, including the standard title, number and, if applicable, number of the test report/endorsed test report or certification/competent body statement

|                                                                                           |
|-------------------------------------------------------------------------------------------|
| Radio: Radiocommunications (Short Range Devices) Standard 2014                            |
| Test Report No. 11355752S-T, 13307242S-A, 12812923S-A-R2, 13307242S-C-R1, 113555752S-P-R4 |
| Test Report No. 11355752S-T                                                               |
| EMC: Radiocommunications (Electromagnetic Compatibility) Standard 2017                    |
| Test Report No. 12773836S-B-R2, 12773836S-F-R2                                            |
| EME: Radiocommunications Equipment (General) Rules 2021                                   |
| Test Report No. 12812927S-D, 14525282S-G                                                  |

**Sound Technical Support**  
**3200 Lionshead Ave Suite 100**  
**Carlsbad, CA 92010 USA**

**Main Office: +1 (800) 268-5354**

**Support: +1 (800) 819-5538**

**[www.soundvet.com](http://www.soundvet.com)**

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