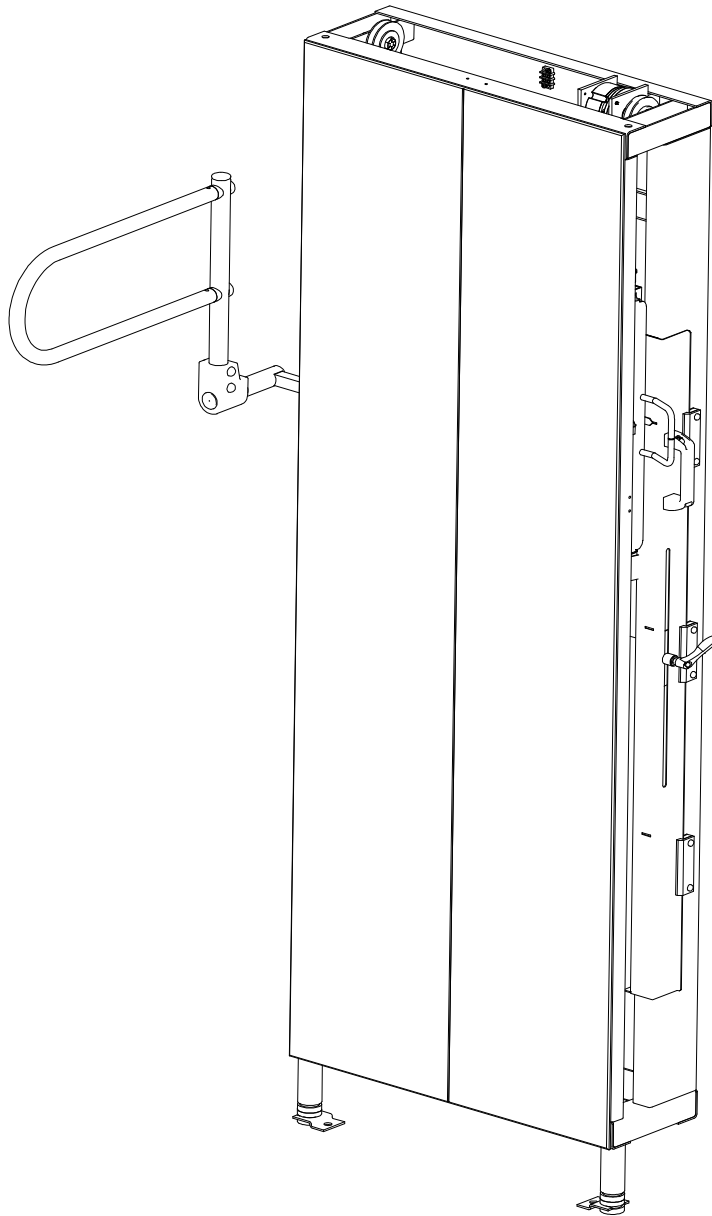


A172F Full Spine Wall Stand

Installation and Operation Manual

07821 Rev D



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REVISION HISTORY

REVISION	ECR	Description	Release Date
A	9441	Production Release	February, 2017
B	9477	Add 3.8, 3.9 was 3.8, update TOC. Update Wiring Diagram (add BRN, BLU on brake wires); add NOTE in DR Position Detents section of 6.2	March 2017
C	9607	Updated address to Niles, IL: Added Intended Use, Attenuation, and Cleaning to sheet 1.	July 2017
D	10007	Corrected missing section in TOC	August 2018

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1. General Information

1.1 Introduction

This wall stand is designed for use in medical X-ray environments. It allows the use of a traditional film grid cabinet and can also be used with a variety of digital receptors. A magnetic lock is provided for vertical movement.

Each wall stand has a model number label that provides the serial number and date of manufacture. Reference these numbers when ordering parts or requesting further information or assistance.

Intended Use

This is an x-ray wallstand, a mechanical device intended to hold and position an X-ray image receptor during a radiographic procedures.















Attenuation

All included components between the patient and image receptor have been certified to comply with 21 CFR Chapter 1 Subchapter J (§1020.30).



Cleaning

The manufacturer recommends disinfection of the equipment between uses for any surfaces that may come in contact with the patient during a radiographic procedure.

1.2 Definition of Symbols Used on the Equipment

Symbol Legends	
Symbol	Definition
	Date of manufacture
	Manufacturer
	Serial Number
	Reference Number (Model/Part Number)
	Keep Dry
	NOTE This symbol represents Information that assists the user of the manual in the performance of a task. It may provide the user with better methods of conducting the task, or it may point out conditions that could cause the system to fail to operate properly.
	Points out special procedures, or precautions, that personnel must follow to avoid equipment damage.
	Identifies situations or actions that may affect patient or user safety. Disregarding a warning could result in patient or user injury.
	TYPE B APPLIED PART This symbol indicates equipment providing a particular degree of protection against electric shock, particularly regarding allowable leakage currents and reliability of the protective earth connection (if present).
	This symbol indicates an Electro Sensitive Device is present which must be carefully handled to prevent damage to the device.
	ELECTRIC SHOCK HAZARD WARNING This symbol indicates an electric shock hazard.
	DANGER VOLTAGE This symbol indicates hazards arising from dangerous voltages.
	DIRECT CURRENT This symbol indicates a direct current source.
	PROTECTIVE EARTH TERMINATIONS This symbol indicates protective earth terminations in device.

1.3 Specification Summary Table

Electrical Ratings	24VDC, 1A 																
Maximum Total Counterbalanced Load	40 lbs / 18 kg																
Environmental Conditions	<p>Temperature range for:</p> <table border="0"> <tr> <td>Transport and Storage</td> <td>Use</td> </tr> <tr> <td>-40° F to +158° F</td> <td>+50° F to +104° F</td> </tr> <tr> <td>-40° C to +70° C</td> <td>+10° C to +40° C</td> </tr> </table> <p>Relative Humidity Limits for:</p> <table border="0"> <tr> <td>Transport and Storage</td> <td>Use</td> </tr> <tr> <td>10% to 100%</td> <td>30% to 75%</td> </tr> </table> <p>Atmospheric pressure range for:</p> <table border="0"> <tr> <td>Transport and Storage</td> <td>Use</td> </tr> <tr> <td>14.67 inHg to 31.30 inHg</td> <td>20.67 inHg to 31.30 inHg</td> </tr> <tr> <td>500 hPa to 1060 hPa</td> <td>700 hPa to 1060 hPa</td> </tr> </table>	Transport and Storage	Use	-40° F to +158° F	+50° F to +104° F	-40° C to +70° C	+10° C to +40° C	Transport and Storage	Use	10% to 100%	30% to 75%	Transport and Storage	Use	14.67 inHg to 31.30 inHg	20.67 inHg to 31.30 inHg	500 hPa to 1060 hPa	700 hPa to 1060 hPa
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Information regarding potential EMC interference and advice for avoidance	<ul style="list-style-type: none"> • Main power quality should be that of a typical commercial or hospital environment • Power frequency magnetic fields should be at levels characteristic of a typical location in a commercial or hospital environment 																
Degree of protection against harmful ingress of water	IPXO/Ordinary																
Degree of protection against electric shock	Class I, Type B Applied Parts 																
This equipment is not suitable for use with flammable anesthetic mixture with air or with oxygen or nitrous oxide.																	

1.4 Notices



NOTE

This manual contains information for assemblers and users. This manual is to be delivered to the assembler of the product, who upon completion of installation, is to transfer it to the product user. Any person responsible for failure to comply with these instructions may be liable for resultant damages in accordance with the law.

Careful attention to all the details and instructions enclosed herein is necessary for proper installation. Should there be any questions, problems, or suggestions with either these instructions or the equipment supplied, please feel free to contact Summit Industries (see the address and telephone numbers on the cover sheet). Applicable comments or suggestions are welcome.

The equipment supplied and described in this manual will perform reliably when operated, maintained, and repaired in accordance with these instructions. Check it periodically and repair when necessary to ensure reliable operation. Replace broken, missing, worn, inaccurate or non-functioning parts. The equipment or its components should not be modified.

Neither the seller nor the manufacturer can assume responsibility for any malfunction of this equipment resulting from improper operation, maintenance or repair, or if any of its components are damaged or modified.

All operators of and service personnel for this x-ray equipment must know and understand the dangers of excessive radiation exposure. This equipment is sold with the understanding that, since its proper use and

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application is in the control of the operator and beyond the control of the manufacturer or its agents, the seller disclaims all responsibility for any injury resulting from improper use and application of this equipment.

1.5 Unpacking

Always exercise caution when opening, unpacking, and moving equipment. Do not dispose of the cartons and crates until you have located all parts and the machine is fully assembled.

The manufacturer is relieved of any responsibility for damages during shipment after it is in the possession of the carrier. Examine all cartons carefully at the time of delivery. If damage is apparent, have the delivering driver fill out the proper forms and sign them. Should you discover concealed damage, immediately notify the transportation agent and ask for the appropriate form(s). Carriers will not accept concealed damage claims if filed after 15 days from date of receipt of the merchandise.

2. Pre-installation Information

Exercise caution when unpacking and moving equipment. Prior to the steps below, x-ray/light field alignment should be performed. Tracking should be checked and adjusted if necessary. Mark the system centerline on the wall and/or floor to assist with wall stand placement.

2.1 Mechanical Layout

Plan the room layout before starting installation. The site must comply with federal regulations and local codes as well as the dimensional and power requirements of this and other equipment.

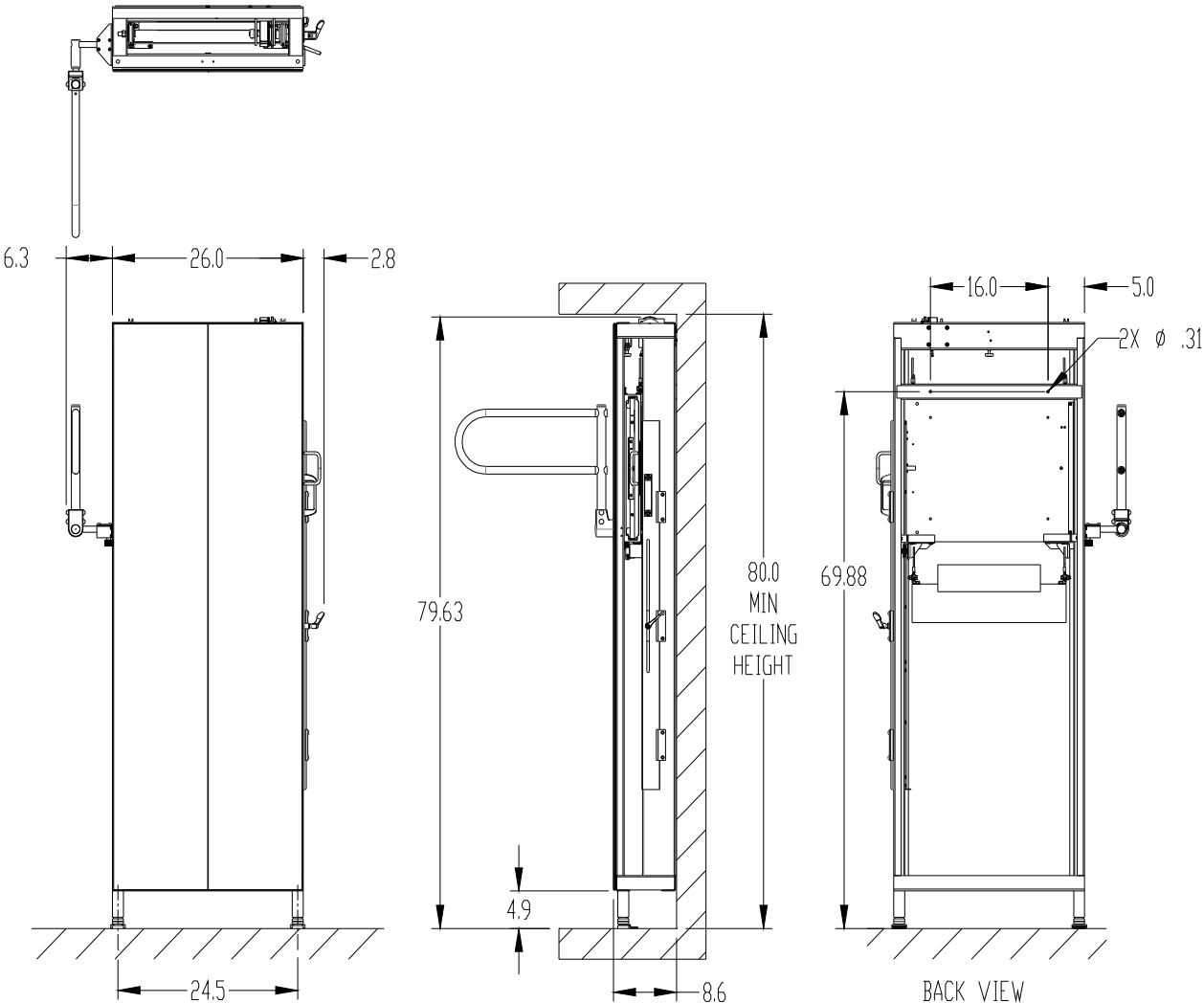


Figure 1: A172F Mechanical Layout

2.2 Installation Hardware

Fasteners are NOT provided for anchoring to the wall, ceiling, or floor. Select appropriate hardware for the materials present at the installation site.

2.3 Wall Mounting

The wall fasteners must attach solidly to two wall joists. If wall stand positioning does not allow this it is recommended to use a 1x6 or 1x4 wood header to span the joists. Place this header inside the wall (before finishing) if room construction allows as the frame can then be mounted flush to the finished wall.

3. Installation

If the floor or wall conditions are not suitable for level, secure installation corrective action must be taken before proceeding.

3.1 Foot Clamps

The foot clamps assemble by sliding into the groove on the frame feet (see figure 2). If desired mark and pre-drill so that they can be easily installed after mounting the frame to the wall.

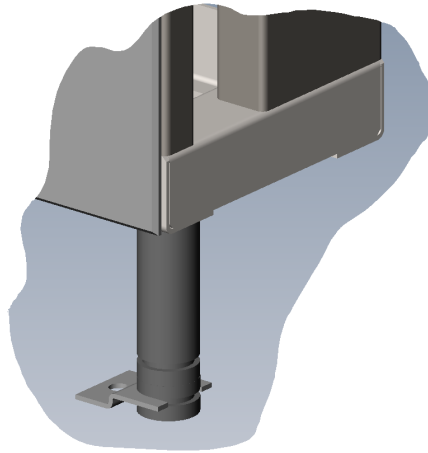


Figure 2: Foot Clamp

3.2 Mount the Frame to the Wall

Stand the frame up and align it to the system centerline. Make sure it is level in both vertical directions and perpendicular to the beam. Remove the front panel and mount the frame to the wall using appropriate fasteners (not included).

3.3 Mount the Frame to the Floor

Assemble and mount the foot clamps to the floor using appropriate fasteners (not included).

3.4 Power the Wall Stand

Connect the cable marked "TO 24 VDC SUPPLY" to a 24VDC (1A minimum) to engage the lock. See section 5 for wiring diagram.

3.5 Install the Tray and Receptor Panel

Install the tray and receptor panel into the grid cabinet.

3.6 Release the Counterweight

Remove the strap holding the counterweight in place.

3.7 Trim the Counterweight

Balance the system by placing trim weights in the slot on top of the main counterweight.

3.8 Install the Detent Channel Handle

Remove the detent channel shipping screw and washer (see figure 3). Replace with the spacer, washer, and handle (shipped in a separate bag with the accessories).

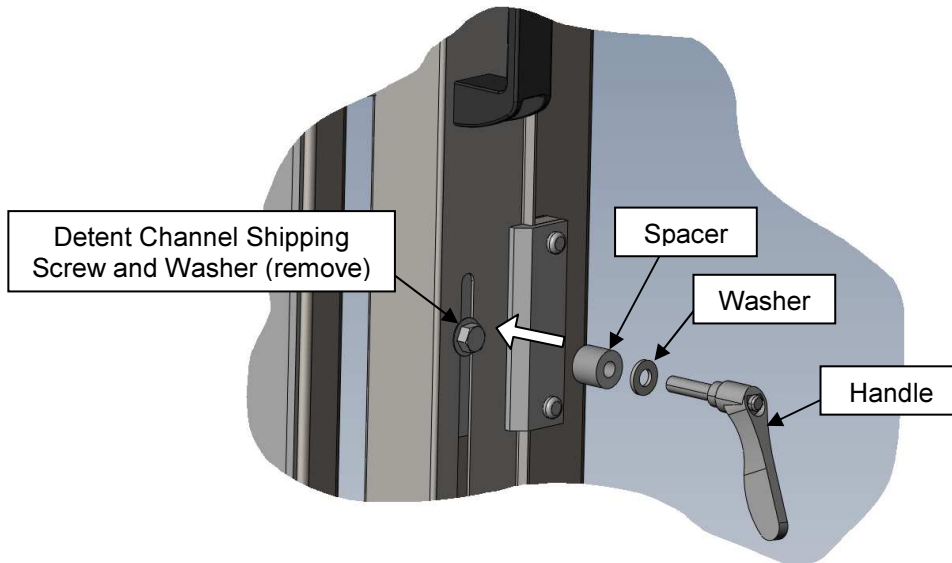


Figure 3

3.9 Check/Secure All Cables

Form a service loop on the cables to DR panel (if using). Check that there is enough extra cable to accommodate the full range of vertical travel. Secure with zip ties and mounts.

4. Basic Maintenance

The following schedule of maintenance is required for safety of operation, continued ease of use, and continued long life of the product.

The maintenance program should be performed only by qualified and authorized service personnel. Frequency of the service should be 30 days after installation and annually thereafter unless indicated otherwise by local codes and regulations.

Maintenance Items

Clean exterior of the assembly, inspecting for damage and missing hardware.

Verify smooth travel along the entire vertical range; check all rollers and bearings for proper operation.

Check all fasteners for tightness including the floor and wall mounts.

Verify proper operation of the lock release switch and lock.

Inspect all cable connections and cable strain reliefs. All connections should be tight and secure. Inspect exposed cabling for damage.

Inspect counterweight cables for fraying, damage, or wear.

5. Wiring Diagram

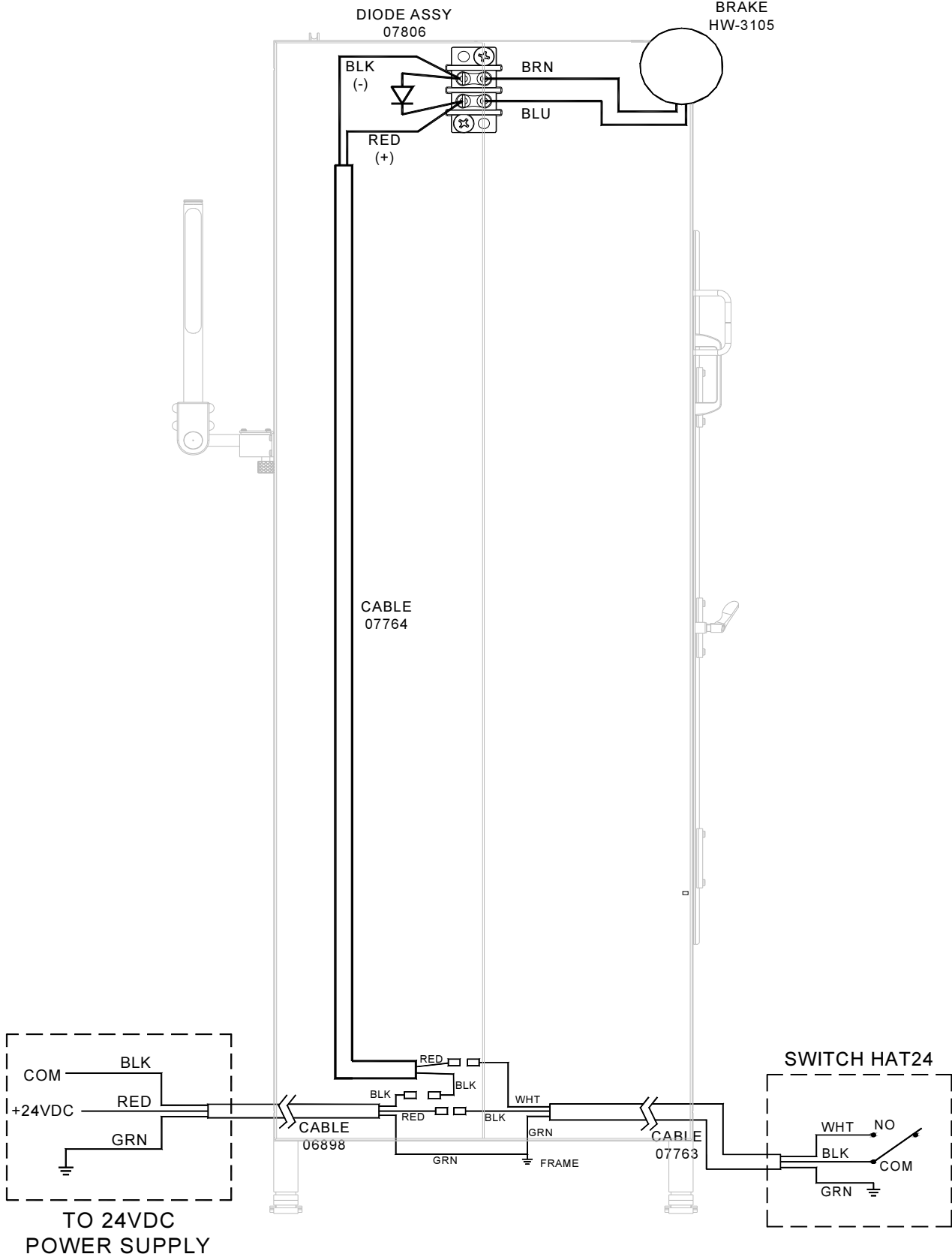


Figure 4

6. Basic Operation

Read and understand all of the instructions before operating. If the wall stand has been modified or has accessories read and understand their instructions as well (if applicable).

To prevent the spread of infectious diseases, after use on each patient the manufacturer strongly recommends disinfecting all surfaces of this device that could come in contact with the following patient.

6.1 Safety



X-ray equipment is dangerous to both patient and operator unless protective measures are strictly observed.

It is important that everyone working with X-rays be properly trained in usage of this equipment. The manufacturer assumes that all operators authorized to use this equipment are cognizant of the danger of excessive exposure to radiation, are sufficiently trained, and have the required knowledge for it. The equipment described herein is sold with the understanding that the manufacturer and its agents and representatives are not liable for injury or damage that may result from exposure to radiation. Various protective material and devices are available. The use of such materials and devices is recommended.

Below is a partial list of potentially hazardous situations to avoid:

- Do not operate the wall stand if any lock is not working properly
- Do not operate the wall stand if you see any damaged wires or cables
- Do not sit, stand, or climb onto the image receptor
- Do not allow any repair work to be performed while a patient is present in the room with the equipment
- Never leave patients unattended at any time

6.2 Operation

Electric Lock

The full spine wall stand allows vertical motion of the receptor with an electric lock that is applied without power. To move the receptor depress the foot switch to apply power and release the electric lock. Relocate the cabinet and release the foot switch to reengage the lock.

Tray

For a standard grid cabinet with film tray pull the tray handle to expose the tray and load a film cassette, CR plate, or cassette-sized DR plate. A tray stop is provided to prevent the tray from pulling all the way out. Each tray has its own release mechanism to be used if full tray removal is desired. Push tray in to seat completely to align the cassette centerline with the frame centerline.

DR Position Detents

If equipped with DR Position Detents, the full spine wall stand is capable of assisting with three 17" overlapping exposures 15" apart. Following is one way to set up the exposures (see figure 5). When the pointer (moves with the cabinet) aligns with a slot on the detent channel (marked 1, 2, and 3), the cabinet mechanically interlocks with the detent channel. Basic sequence:

- 1) Move the cabinet up to the highest exposure position based on the patient and desired image.
- 2) Loosen the detent channel lock to allow mobility of the detent channel. Use the detent channel handle to move the detent channel up or down until it interlocks with the cabinet at position 1 (the uppermost). Tighten the detent channel lock (NOTE: the handle position can be adjusted by gently pulling it away from the body axially, rotating it, and then allowing it to retract to its original position).
- 3) Take the first exposure.

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- 4) Unlock the cabinet using the foot pedal and move it down to interlock at position 2. Lock the cabinet
- 5) Take the second exposure.
- 6) Unlock the cabinet again and move it down to interlock at position 3. Lock the cabinet.
- 7) Take the third and final exposure.

Patient Grip Handle

(If equipped) The patient grip handle can be rotated to change position by pulling it straight out. When the handle is in the correct position allow it to spring retract to its original position. If the handle does not spring retract on its own rotate it slightly clockwise or counterclockwise to allow it to engage. Handle MUST be engaged before use.

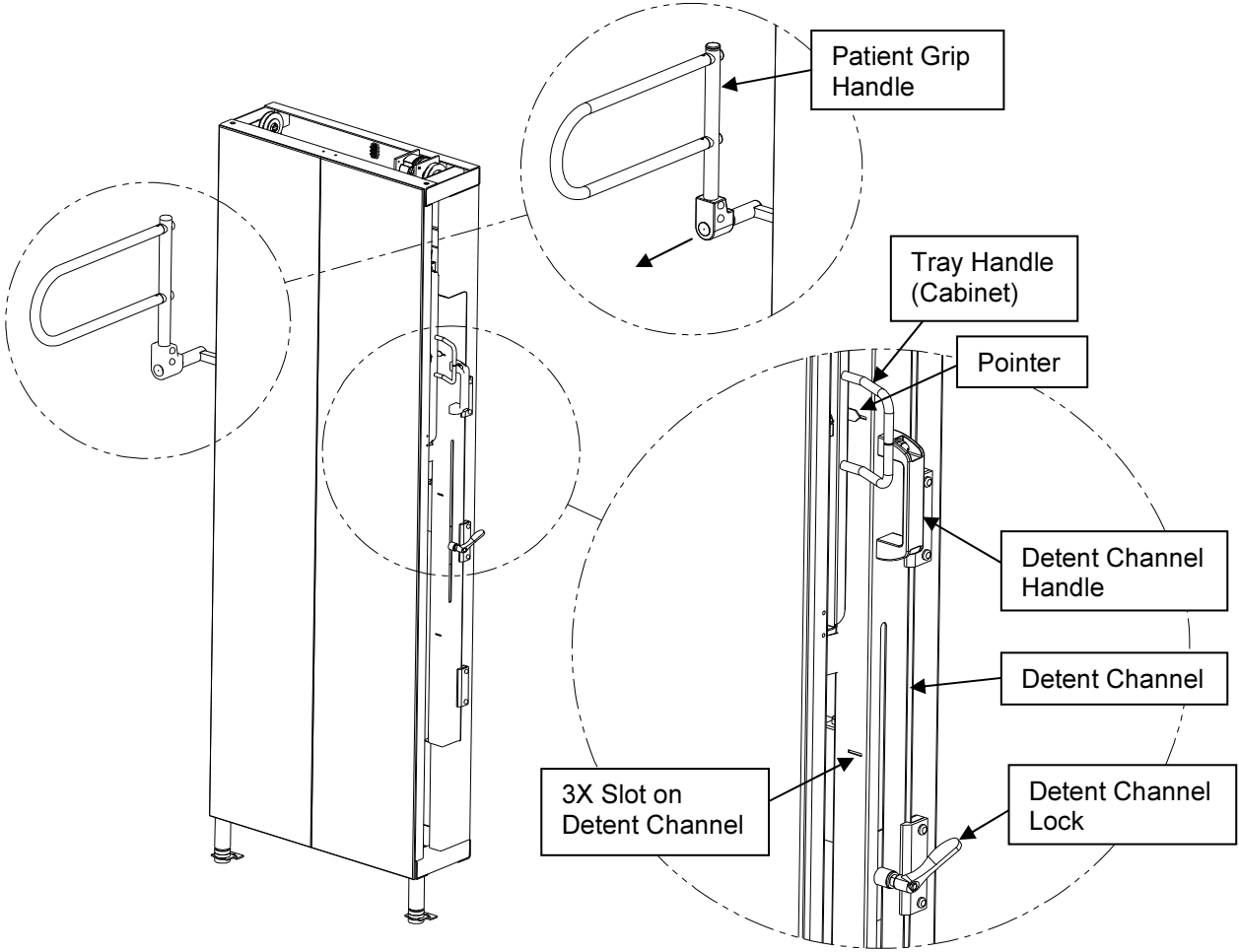


Figure 5: Full Spine Wall Stand (Shown load right with DR position detents and patient grip handle)