**HF3000-Series Installation Manual**

# Contents

# 1 PURPOSE

This procedure describes the specifications, installation steps, and regulatory information for the HF3000-series SmartCabinet.

# 2 SCOPE

This procedure applies to installation of HF3000-series SmartCabinets

# 3 REFERENCE DOCUMENTS

None

# 4 PRODUCT SPECIFICATION:

**Power Brick**    100-240 VAC, 1.5A Max, 50-60 Hz, power supply is rated to IEC/EN/UL-62368-1 and IEC/EN/UL-60601-1 (medical grade).

**Cabinet Power**    12.5V DC, 7.2A

**AC Cable**    The cabinet is supplied with a power cable.

**Fuse**    None

**Environment**    Operating environment between 50 and 90 degrees F (10C – 32C), non-condensing; must be installed in an environment free of corrosive agents and excessive dust

**Size**    78 inches high by 36 inches wide by 27 inches deep

**Weight**

| Weight in lbs. | Without Doors | With Doors |
|---|---|---|
| Base Cabinet with 2 shelves | 160 | 220 |
| Cabinet with 3 shelves | 175 | 235 |
| Cabinet with 4 shelves | 190 | 250 |
| Cabinet with 5 shelves | 205 | 265 |
| Cabinet with 6 shelves | 220 | 280 |
| Cabinet with 7 shelves | 235 | 295 |
| Cabinet with 8 shelves | 250 | 310 |
| Cabinet with 9 shelves | 265 | 325 |
| Cabinet with 10 shelves | 280 | 340 |
| Cabinet with 11 shelves | 295 | 355 |

**Weight Capacity**    The weight capacity of each shelf if 25 lbs.

**Network**    Auto-select  10/100Mbps Ethernet

# 5 RESPONSIBILITY

| Activity | Responsible Party |
| --- | --- |
| Shipping | WaveMark |
| Receiving | Customer |
| Unpacking | Customer |
| Moving Cabinet and Shelves from Receiving to Department | Customer |
| Training on shelf installation and shelf movement | WaveMark |
| Shelf Installation | Customer |
| Placing Inventory on shelves | Customer |
| Connecting cabinet to power and Ethernet | Customer |
| Installing wall bracket | Customer |

# 6 WORK SAFETY

It is our highest priority that all field installations comply with the company's installation and safety procedures and any safety procedures in place at the location of installation.

In order to assure that equipment is installed in a safe manner and in compliance with installation guidelines only trained personnel are authorized to activate or service cabinets. This product contains no user-serviceable components.

# 7  UNPACKING AND TRANSPORT

> **NOTE:** Two people are required to move the cabinet from the shipping container to its final location. Cabinet contains sensitive electronic components. Take care in moving the cabinet from the shipping container.

## 7.1 Unpacking the HF3000

**Step 1**  Prior to unpacking the cabinets, inspect all packing for shipping damage. Take pictures of any observed damage and immediately report to WaveMark Customer Support toll free at 877.492.8362 or email support@wavemark.com. Include all relevant pictures, a brief description of damage, as well as cabinet serial number.

Note: Side marked "Ramp" must be facing out with 10ft (3 meters) of clearance to accommodate ramp and cabinet unloading.

**Step 2**  Cut and remove strapping. Remove outer layers of packaging and discard. Be careful not to damage the cabinet when cutting the packaging.

**Step 3**  Lower ramp:

1. Remove packing foam from ramp.
2. Lift the wooden ramp out of the groove and position ramp by inserting pin on the ramp into the hole on the pallet.  The edge of the ramp should sit flat against the crate edge.



**Step 4**  With one person holding each side of the cabinet, guide cabinet down the ramp to the floor.

**Step 5**  Inspect the cabinet for damage.  Take pictures of observed damage and immediately report to WaveMark Customer Support toll free at 877.492.8362 or email support@wavemark.com. Include all relevant pictures, a brief description of damage, as well as cabinet serial number.

Don't proceed with the installation of any damaged cabinet.

**Step 6**  If required, clean the cabinet exterior following procedure in Section 11.

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## 7.2 Cabinet and Shelf Transportation

**Step 1**   Identify cabinet location and locate nearest electrical outlet and network jack.

Confirm that the cabinet location is free from airborne corrosive agents, excessive dust or dripping water. The floor should be level and dry

**Step 2**   Before moving a cabinet to its location, walk the route to identify obstructions such as signs, door frames, or flooring issues such as elevator thresholds that might be a problem for the cabinet wheels.

⚠️   The cabinet is designed to be rolled over smooth flooring; the cabinet should never be tilted, placed on its side, or rolled across parking lots.

**Step 3**   Except for the top and bottom shelves, cabinet shelves will be shipped separately from the cabinet. Remove shelves from their shipping containers and carefully place on the bottom shelf for transport.

Shelves should first be placed vertically and then tilted gently to create points of contact with both side walls. This reduces the risk of the shelves being damaged during transport inside the hospital facility.

While not necessary, packing foam and bags can be used for added safety during transport.



To avoid injury and/or damage to equipment during cabinet transport, follow these safety precautions:

- Do not place more than 10 shelves inside a cabinet.

- Do not use the cabinet to transport any other materials (e.g. RFID tags, point of use stations, box readers, etc.) as it may damage the cabinet or materials and will void warranty.

- Do **not** transport shelves in the following orientations. This will increase the risk of injury or damage to the shelves.



**Step 4**    Move the cabinet with shelves to its final location by pushing/pulling only the lower half of the cabinet. Move the cabinet safely to avoid objects and people who may be traveling in the same corridors.

The cabinet is designed to be very stable but moving too quickly and pushing against the top of the cabinet may cause it to tip.
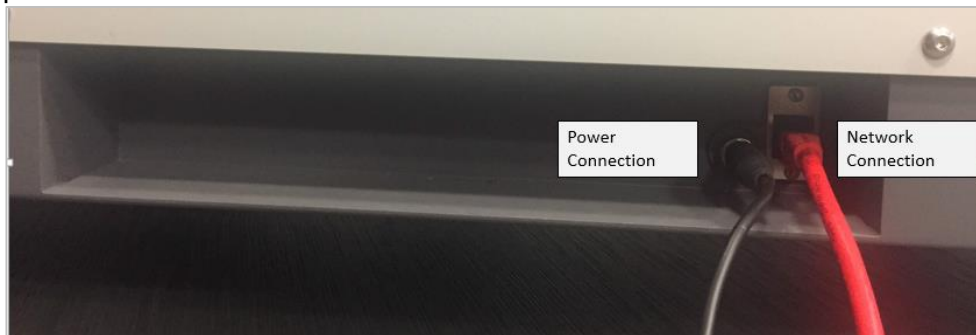
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⚠️ When entering and exiting elevators, the cabinet's wheels may lodge in the elevator door gap. If this happens, gently move the cabinet from side to side and pull/push to dislodge it.  DO NOT USE EXCESSIVE FORCE!

## CABINET AND SHELF INSTALLATION PROCESS

### 8.1 Cabinet Installation

**Step 1**    Locate power and network cables shipped with the cabinet and remove all packaging and safety covers.

**Step 2**    The cabinet network and power connections are located in the base of the cabinet back panel near the floor.



**Step 3**    Connect the DC power cable (attached to the power brick) to the cabinet and twist the connector until secure.  This requires several full turn twists until completely tightened. Connect the electrical AC cable to the power brick.

**Step 4**    Connect network cable to the back of the cabinet next to the power connector.

**Step 5**    Tuck power brick into the cavity as shown below:

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**Step 6**     Connect network cable to network port on wall, and connect AC power cord to an electrical outlet on wall. The wall outlet must be easily accessible.

NOTE: If the network cable is not long enough, obtain a longer straight-thru network cable (a crossover cable will not work).  In the final installation the network cable should not be under physical stress and should not be resting against electrical equipment such as motors or heating units.

When successfully connected, the cabinet shelf illumination lights, shelf indicator LEDs, and eBox LEDs will turn on in about one minute.  The cabinet is now ready for configuration.

If this does not occur and power/network connections and sources are confirmed to be correct and live, contact WaveMark Customer Support via phone at 877.492.8362 or via email at support@wavemark.com

**Step 7**     Place cabinet into its final position.

**Step 8**     Secure cabinet to the wall with the included mounting hardware. See Section 9 for more information.

## 8.2 Shelf installation

> **NOTE:** Only trained technicians should install or adjust shelf location.
> The bottom and top shelves must remain in place and should not be moved.

**Step 1**     Stabilize cabinet against a wall or equivalent.

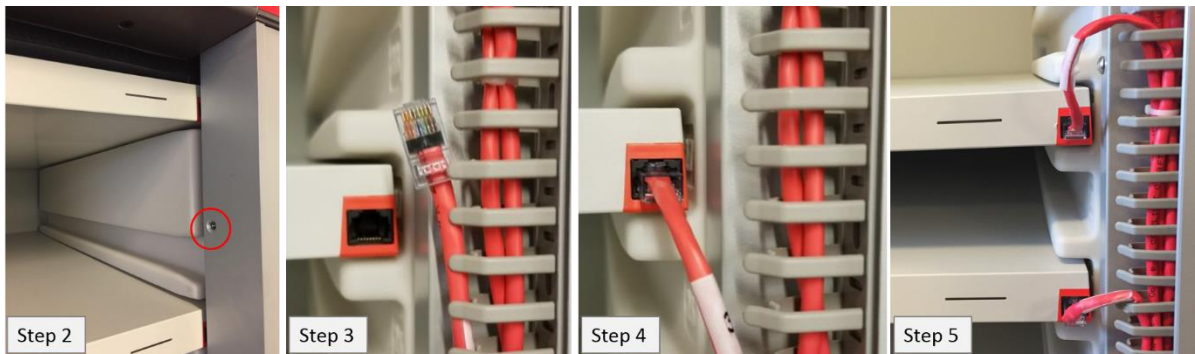Note: If this is the initial installation, remove shelves transported in cabinet and set aside.

**Step 2**     Use the allen wrench provided with the cabinet to remove the end corner caps by removing the four screws from each corner cap. Set corner caps aside in a manner that will prevent them from falling over.

**Step 3**     Insert Shelf:

1.  Orient shelf so the red receptacle is facing out towards front of cabinet and on the right to be closest to the red network cables.
2.  Place shelf in the desired location ensuring that it is aligned in the same numbered track on each side of the cabinet. Shelf center-to-center spacing should not be less than 6.5".
3.  Push shelf toward the back of the cabinet until secure.

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**Step 4**   Insert nearest red cable into the red receptacle on the front-right of each shelf.  Repeat steps 3 and 4 for additional shelves.

**Step 5**   Secure all unused network connectors and excess cables are secured in the cable chase.  Be sure that cables are not twisted or crossed.



**Step 6**   Replace end covers and secure with the screws.  The cabinet is now ready for final configuration.  If cabinet was previously configured the cabinet will resume normal inventory cycle counting.

## 8.3 Shelf Removal

**Step 1**   Stabilize cabinet against a wall or equivalent.

**Step 2**   Use the allen wrench provided with the cabinet to remove the end corner caps by removing the four screws from each corner cap. Set corner caps aside in a manner that will prevent them from falling over.

**Step 3**   Unplug red cable from shelf to be removed.

**Step 3**   Slide shelf out and set aside.

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![CardinalHealth WaveMark™ logo]

# 8 CABINET WALL SECURING PROCESS

⚠️ **Safety Warning: The HF3000-series must be secured to a wall to provide stability and prevent personal injury from tipping. Hospital personnel must secure cabinet using appropriate hardware.**

## 9.1 Directions for installing with Screw Inserts.

**Step 1** Place a mark on the wall 79" from the floor at the point that will be the center of the cabinet.

**Step 2** Place bottom edge of bracket on the mark.

**Step 3** Place a mark in the center of the 2 holes.

**Step 4** Drill approximately 1 ½" deep using a ¼" drill where you placed the marks indicating the center of the holes.

⚠️ Prior to drilling the hole, ensure that the wall can accommodate the bracket. Confirm with the appropriate authorities that the target section of the wall may be drilled, penetrated, and can support hardware without adverse impact on safety, health or operating environment.

**Step 5** Remove screws from plastic inserts and tap the plastic inserts into drilled hole until the flanges are flush with the wall.

**Step 6** Place the bracket in place and insert the screws. Tighten the screws only tight enough to hold the bracket in place until the cabinet is in place.

**Step 7** Position cabinet so it interfaces with bracket and tighten screws.

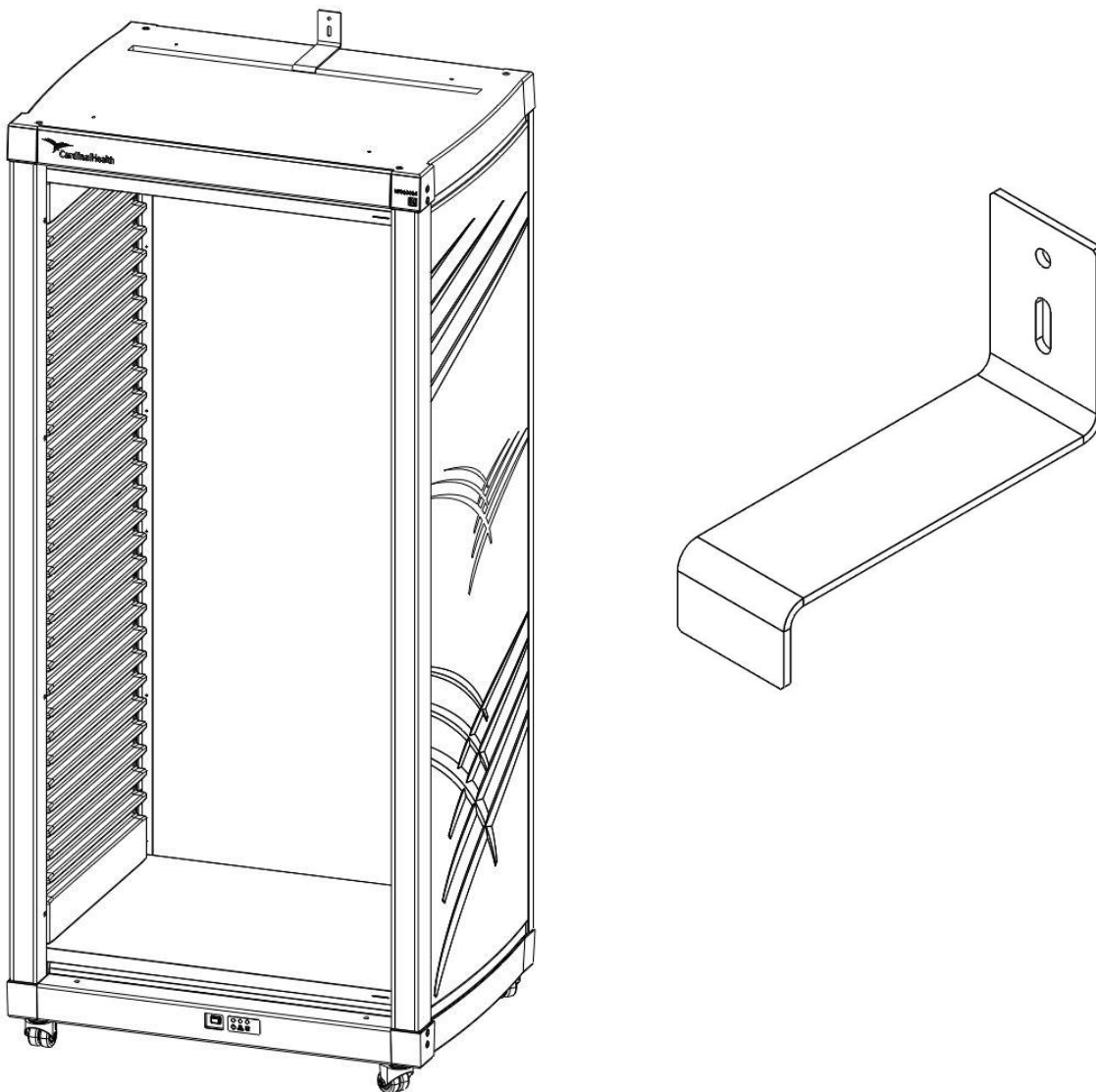## 9.2 Directions for installing with Expanding Inserts.

**Step 1** Place a mark on the wall 79" from the floor at the point that will be the center of the cabinet.

**Step 2** Place bottom edge of bracket on the mark.

**Step 3** Place a mark in the center of the 2 holes.

**Step 4** Drill approximately 1 ½" deep using a ¼" drill where you placed the marks indicating the center of the holes.

⚠️ Prior to drilling the hole, ensure that the wall can accommodate the bracket. Confirm with the appropriate authorities that the target section of the wall may be drilled, penetrated, and can support hardware without adverse impact on safety, health or operating environment.

**Step 5**    Remove screws from plastic inserts and tap the plastic inserts into drilled hole until the flanges are flush with the wall.

**Step 6**    Place the expanding inserts in the holes.  Tighten the screws until the inserts are snug. Remove screws from the inserts.

**Step 7**    Hold the bracket in position and insert screws back into the inserts.  Tighten the screws enough to hold the bracket in place until the cabinet is in position.

**Step 8**    Position cabinet so it interfaces with bracket and tighten screws.

**Illustrations for mounting bracket and securing cabinet:**

**CardinalHealth** 
**WaveMark™**

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Doc. No. Revision

**07-0002 Rev.3**

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# 9  CABINET SERVICING PROCESS

The cabinet must be serviced only by trained service personnel.

# 10 CABINET CLEANING PROCESS

## 11.1 Cleaning with a detergent

Mix a mild detergent solution such as 1:100 dilution of Alconox, Liquinox, or other mild detergent. Isopropyl Alcohol is an acceptable alternative. Quaternary Ammonium (Quat) is also an acceptable alternative. Do not use Sodium Hypochlorite or other bleach solutions as they could oxidize stainless steel and other electronic parts.

## 11.2 Cleaning with wipes

Clean all surfaces by spraying liberally with the cleaning solution and wiping down with general purpose wipes. Wipe dry with general purpose wipes. Dispose of wipes in accordance with local and hospital regulations.

⚠️ To clean under the cabinet, carefully move the cabinet (disconnect wall-mount hardware, unplug the cabinet, then roll cabinet away from its location).

# 11 APPENDIX

## Appendix 1: Notice of FCC Compliance

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his/her own expense.

Changes or modifications not expressly approved by Cardinal Health could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: **(1)** this device may not cause harmful interference, and **(2)** this device must accept any interference received, including interference that may cause undesired operation.

This product must be professionally activated by Cardinal Health/ WaveMark trained personnel and must only be serviced by Cardinal Health/ WaveMark trained service personnel.

## Appendix 2: Notice of Industrie Canada Compliance

Operation is subject to the following two conditions: **(1)** this device may not cause interference, and **(2)** this device must accept any interference, including interference that may cause undesired operation of the device.

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This device has been designed to operate with the antennas listed below and having a maximum gain of 0 dB. Antennas not included in this list are strictly prohibited for use with this device. Acceptable antenna is Cardinal Health part number 04-0175-R.

To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that permitted for successful communication.

Son fonctionnement est soumis aux deux conditions suivantes: (1) cet appareil ne doit pas causer d'interférences et (2) cet appareil doit accepter toute 13ause1313rence, y compris les 13ause1313rences pouvant provoquer un fonctionnement indésirable de l'appareil..

Cet appareil a été conçu pour fonctionner avec les antennes énumérées ci-dessous et ayant un gain maximal de 0 dB. Les antennes ne figurant pas dans cette liste sont strictement interdites d'utilisation avec cet appareil. L'antenne acceptable est la pièce numéro 04-0175-R de Cardinal Health.

Pour réduire le 14ause14 de brouillage radioélectrique 14ause aux autres utilisateurs, le type d'antenne et son gain doivent être choisis de manière à ce que la puissance rayonnée isotrope équivalente (par exemple) ne soit pas supérieure à celle autorisée pour une communication réussie.

# 12 REVISION HISTORY

| Rev. | Date | Reviewer | Description of the Revision | Change No. |
|------|------|----------|----------------------------|------------|
| 1 | 12.12.2018 | Lars Rohrberg | New Document | NA |
| 3 | 1.30.2019 | Rich Leitermann | Updates, change-bars activated | NA |
| 4 | 2.20.2019 | Bob Quinn | Updates | N/A |
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