stryker

iBed® Locator

Operations and Installation Manual

REF 5212 WM

Connected Hospital®

EN

Symbols

⚠️	General warning
⚠	Caution
REF	Catalogue number
SN	Serial number
▲▲▲	Manufacturer
⎓	Direct current
🧍	Type B Equipment: Equipment providing a particular degree of protection against electric shock, particularly regarding allowable leakage current and reliability of the protective earth connection. Internally Powered Equipment
IPX5	Protection against water jets
US Patents	For US Patents see www.stryker.com/patents
c 𝐔𝐋 us	Medical Electrical Equipment recognized by Underwriters Laboratories Inc for use with Stryker hospital beds in accordance with UL 60601-1 First Edition (2003) and CAN/CSA C22.2 No. 601.1-M90 with Updates 1 and 2.

Table of Contents

Warning/Caution/Note Definition

The words **WARNING**, **CAUTION**, and **NOTE** carry special meanings and should be carefully reviewed.

WARNING

Alerts the reader about a situation which, if not avoided, could result in death or serious injury. It may also describe potential serious adverse reactions and safety hazards.

CAUTION

Alerts the reader of a potentially hazardous situation which, if not avoided, may result in minor or moderate injury to the user or patient or damage to the product or other property. This includes special care necessary for the safe and effective use of the device and the care necessary to avoid damage to a device that may occur as a result of use or misuse.

Note - Provides special information to make maintenance easier or important instructions clearer.

Summary of safety precautions

Always read and strictly follow the warnings and cautions listed on this page. Service only by qualified personnel.

WARNING

- Always map the **iBed** Locator to the room number/location to provide accurate location information. Failure to map the **iBed** Locator to the room number/location will yield incorrect remote information. If the **iBed** Locator is moved after it was installed and mapped, you must remap the **iBed** Locator to the new room number/location.
- Always make sure that you clear all obstructions between the **iBed** Locator and the head end of bed. Line of sight interference could cause the room number/location information to be unavailable.
- Always install **iBed** Locators at least 71 in. from one another in the same room. Failure to do so could result in a bed communicating with the wrong **iBed** Locator and provide the wrong location information.
- Only use AA alkaline (type LR6) batteries.
- Always reinstall the **iBed** Locator to the same wall plate/wall spacer. If the **iBed** Locator is moved after it was installed and mapped, you must remap the **iBed** Locator to the new room number/location.

CAUTION

- Improper usage of the product can cause injury to the patient or operator. Operate the product only as described in this manual.
- Do not modify the product or any components of the product. Modifying the product can cause unpredictable operation resulting in injury to patient or operator. Modifying the product also voids its warranty.
- Always mount the **iBed** Locator to the wall. Follow your internal contamination control requirements when mounting the module.
- Do not clean, disinfect, service, or perform maintenance while the product is in use.
- Always unplug the power cord from the wall outlet when large spills occur near the circuit boards and cables. Clean up the fluid and inspect the product. Do not return the product to service until dry and tested for safe operation.
- Always wipe with clean water (or 70% isopropyl alcohol, if using **Virex**® TB) and dry each product after disinfecting. Some disinfectants are corrosive in nature and may cause damage to the product. If you do not rinse and dry the product, you may leave a corrosive residue on the surface of the product. This corrosive residue could cause premature degradation of critical components. Failure to follow these disinfecting instructions may void your warranty.

Introduction

This manual assists you with the operation or maintenance of your Stryker product. Read this manual before operating or maintaining this product. Set methods and procedures to educate and train your staff on the safe operation or maintenance of this product.

CAUTION

- Improper usage of the product can cause injury to the patient or operator. Operate the product only as described in this manual.
- Do not modify the product or any components of the product. Modifying the product can cause unpredictable operation resulting in injury to patient or operator. Modifying the product also voids its warranty.

Note

- This manual is a permanent part of the product and should remain with the product even if the product is sold.
- Stryker continually seeks advancements in product design and quality. This manual contains the most current product information available at the time of printing. There may be minor discrepancies between your product and this manual. If you have any questions, contact Stryker Customer Service or Technical Support at 1-800-327-0770.

Product description

The **iBed**® Locator is a battery powered module that mounts to the hospital wall in a fixed location. The **iBed** Locator communicates its current location to Stryker compatible products through infrared (IR) LED technology. This product is a required system component for wireless connectivity.

Intended use

iBed Locator is intended for use with Stryker compatible products listed in the specifications table. For further instructions, see your Operations Manual.

Expected service life

The **iBed** Locator has a 10 year expected service life under normal use conditions and with appropriate periodic maintenance.

The batteries have a three year expected service life under normal use conditions.
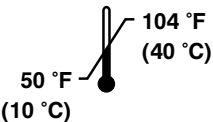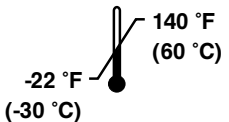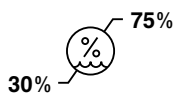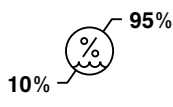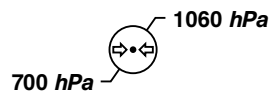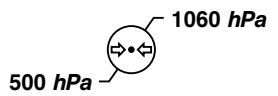
Specifications

Overall length	11.5 in.	29.2 cm
Overall width	1.5 in.	3.8 cm
Overall height	2.9 in.	7.4 cm
Weight includes locator, mounting plate, and install batteries	0.85 lb	0.39 kg
Battery voltage	Quantity 3 1.5V AA Alkaline battery type LR6 • Do not use rechargeable batteries. • Use industrial name brand batteries.	
System voltage rating	4.5 VDC	

	Internally powered
Wireless connection	Uses Infrared (IR) LED based Stryker proprietary communication scheme
Compatible products	Model 3009 **ProCuity**® Bed Series Model FL27 **InTouch**® Critical Care Bed Model 3002 **S3**® MedSurg Bed Model 3005 **S3**® MedSurg Bed

Stryker reserves the right to change specifications without notice.

Specifications listed are approximate and may vary slightly from product to product or by power supply fluctuations.

Environmental conditions	Operation	Storage and transportation
Ambient temperature	104 °F (40 °C) 50 °F (10 °C)	140 °F (60 °C) -22 °F (-30 °C)
Relative humidity (non-condensing)	75% 30%	95% 10%
Atmospheric pressure	1060 *hPa* 700 *hPa*	1060 *hPa* 500 *hPa*

Product illustration
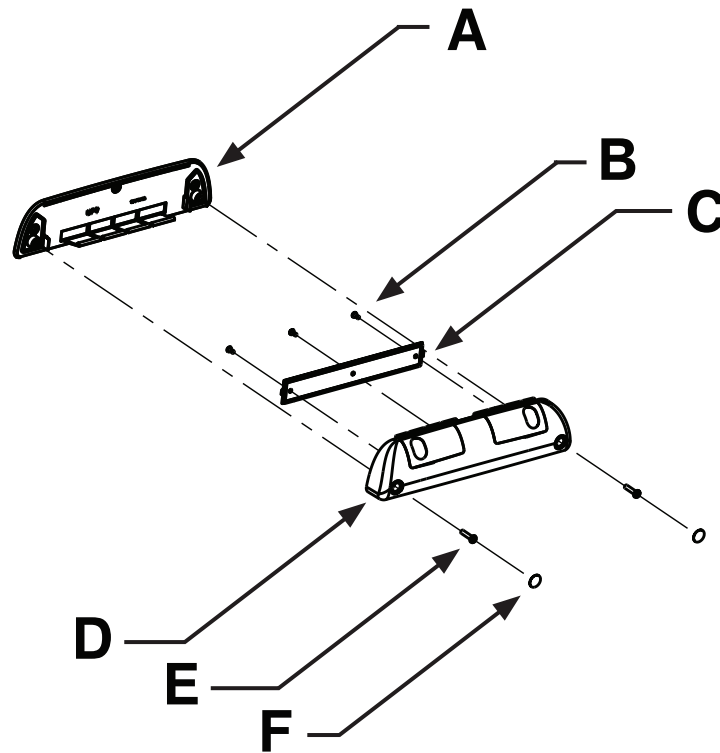
Figure 1 – Product illustration

A	Wall plate		D	Wall module	
B	5/16 in. screw		E	7/8 in. screw	
C	Battery door		F	Screw cover	

Contact information

Contact Stryker Customer Service or Technical Support at: 1-800-327-0770.

Stryker Medical
3800 E. Centre Avenue
Portage, MI 49002
USA

To view your operations or maintenance manual online, see https://techweb.stryker.com/.

Have the serial number (A) of your Stryker product available when calling Stryker Customer Service or Technical Support. Include the serial number in all written communication.

Serial/identification number location

The serial number and the bed bay identification number (BBID) (A) is located on the backside of the product (Figure 2).

A
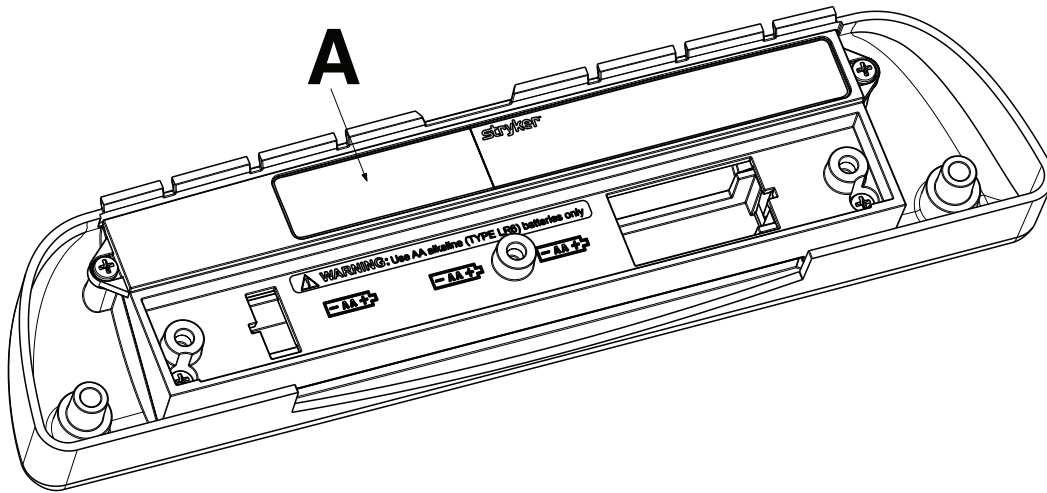
Figure 2 – Serial/identification number location

Installation

Wall module assembly checklist

Make sure that you have all the required components to install the **iBed** Locator.

Wall module assembly components (5212-100-005)

(1) Wall module (5212-100-001)

(1) Wall plate (5212-100-025)

(1) Battery door (5212-100-002)

(1) Hardware assembly (5212-100-100):

(3) #6-32 x 5/16" pan head machine screw (0002-115-000)

(2) #10-32 x 7/8" pan head machine screw (0002-116-000)

(2) Screw cover (5212-100-803)

Note
- To mount the wall plate (5212-100-025) you will need three hospital supplied fasteners (not included).
- To mount the wall plate (5212-100-025) with the wall module spacer kit option (5212-700-003), you will need four hospital supplied fasteners (not included).

Installing the iBed Locator

WARNING
- Always map the **iBed** Locator to the room number/location to provide accurate location information. Failure to map the **iBed** Locator to the room number/location will yield incorrect remote information. If the **iBed** Locator is moved after it was installed and mapped, you must remap the **iBed** Locator to the new room number/location.
- Always make sure that you clear all obstructions between the **iBed** Locator and the head end of bed. Line of sight interference could cause the room number/location information to be unavailable.
- Always install **iBed** Locators at least 71 in. from one another in the same room. Failure to do so could result in a bed communicating with the wrong **iBed** Locator and provide the wrong location information.
- Only use AA alkaline (type LR6) batteries.

CAUTION - Always mount the **iBed** Locator to the wall. Follow your internal contamination control requirements when mounting the module.

Tools required:
- #2 Phillips screwdriver
- Pencil
- Level
- Tape measure
- Tool required for hospital supplied fasteners

Procedure:
1. Record the **iBed** Locator identification number (*Serial/identification number location* (page 5)) and room number/location on the *iBed Locator association form* (page 20).
2. Using a tape measure and pencil, mark the center of the wall between 4 in. to 5 in. (A) from the floor (Figure 3).

   Note
   - Make sure that you mark the mounting location (B) on the wall (C) within 1/2 in. left or right from the center line of the bed for the **iBed** Locator to work.

- If mounting distance from the wall (C) is required, use the optional Wall Module Spacer Kit (5212-700-003) to mount the **iBed** Locator.

Figure 3 – Mounting specifications

3. Center the wall plate (A) on the mark that was made in step 2 and use a pencil to mark the bottom of the wall plate (A) (Figure 4).
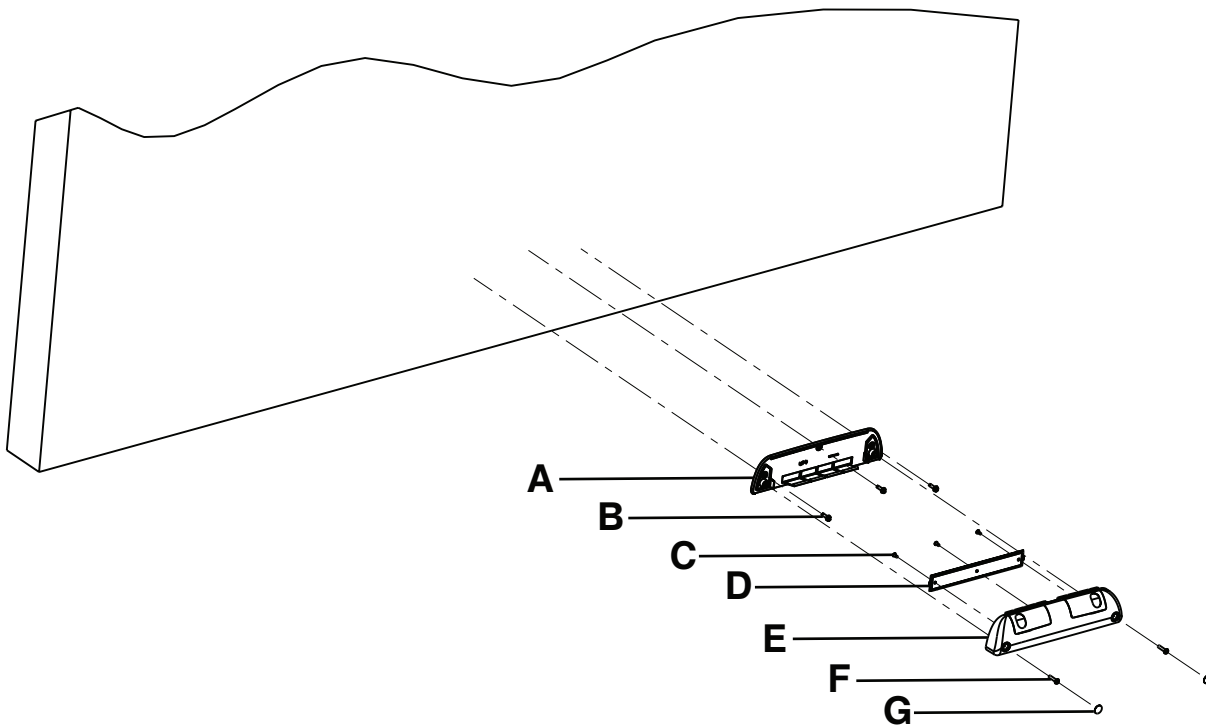
Figure 4 – Mounting with wall plate

4. Using a level on top of the wall plate (A), confirm that the bottom and center of the wall plate are level while positioned on the reference marks created in step 2 and 3.

5. Using a pencil, mark the three wall plate screw holes (A).

6. Using an appropriate tool, secure the wall plate (A) to the wall with the hospital supplied fasteners (B, not included).

7. Insert three AA alkaline batteries (not included) into the wall module (E).

   Note
   • Do not use rechargeable batteries.
   • For best results, purchase industrial brand name batteries.

8. Using a #2 Phillips screwdriver, install three screws (C) to secure the battery door (D) to the wall module (E).

9. Insert the hinged edge of the wall module (E) into the slots at the top of the wall plate (A).

10. Swing the wall module (E) down against the wall plate (A).

11. Using a #2 Phillips screwdriver, install two screws (F) to secure the wall module (E) to the wall plate (A).

12. Affix the two screw covers (G) to the wall module (E).

13. Complete the *Installation checklist* (page 11).

Installing the iBed Locator with a wall spacer option

Make sure that you have all the required components to install the wall module spacer.

Wall module spacer kit components (5212-700-003)

(1) Wall spacer (5212-100-125)   (3) Button head cap screw (0004-589-000)

WARNING
• Always map the **iBed** Locator to the room number/location to provide accurate location information. Failure to map the **iBed** Locator to the room number/location will yield incorrect remote information. If the **iBed** Locator is moved after it was installed and mapped, you must remap the **iBed** Locator to the new room number/location.
• Always make sure that you clear all obstructions between the **iBed** Locator and the head end of bed. Line of sight interference could cause the room number/location information to be unavailable.
• Always install **iBed** Locators at least 71 in. from one another in the same room. Failure to do so could result in a bed communicating with the wrong **iBed** Locator and provide the wrong location information.
• Only use AA alkaline (type LR6) batteries.

CAUTION - Always mount the **iBed** Locator to the wall. Follow your internal contamination control requirements when mounting the module.

Tools required:

• #2 Phillips screwdriver

• T27 Torx driver

• Level

• Tape measure

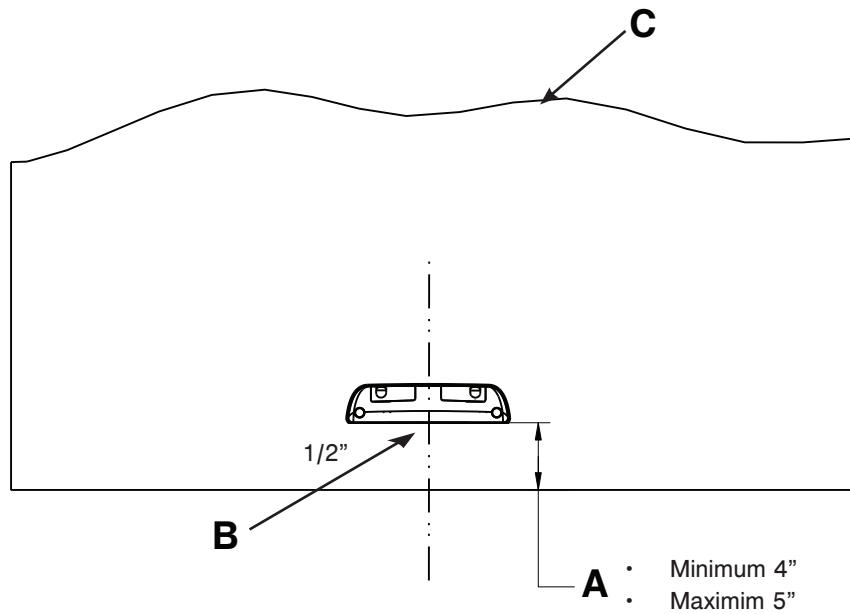• Pencil

• Tool required for hospital supplied fasteners

Procedure:

1. Record the **iBed** Locator identification number (*Serial/identification number location* (page 5)) and room number/ location on the (*iBed Locator association form* (page 20)).

2. Using a tape measure and pencil, mark the center of the wall between 4 in. to 5 in. (A) from the floor (Figure 3).

   Note - Make sure that you mark the mounting location (B) on the wall within 1/2 in. left or right from the center line of the bed for the **iBed** Locator to work.

3. Center the wall spacer (A) on the mark that was made in step 2 and Use a pencil to mark the bottom of the wall spacer (A) (Figure 5).
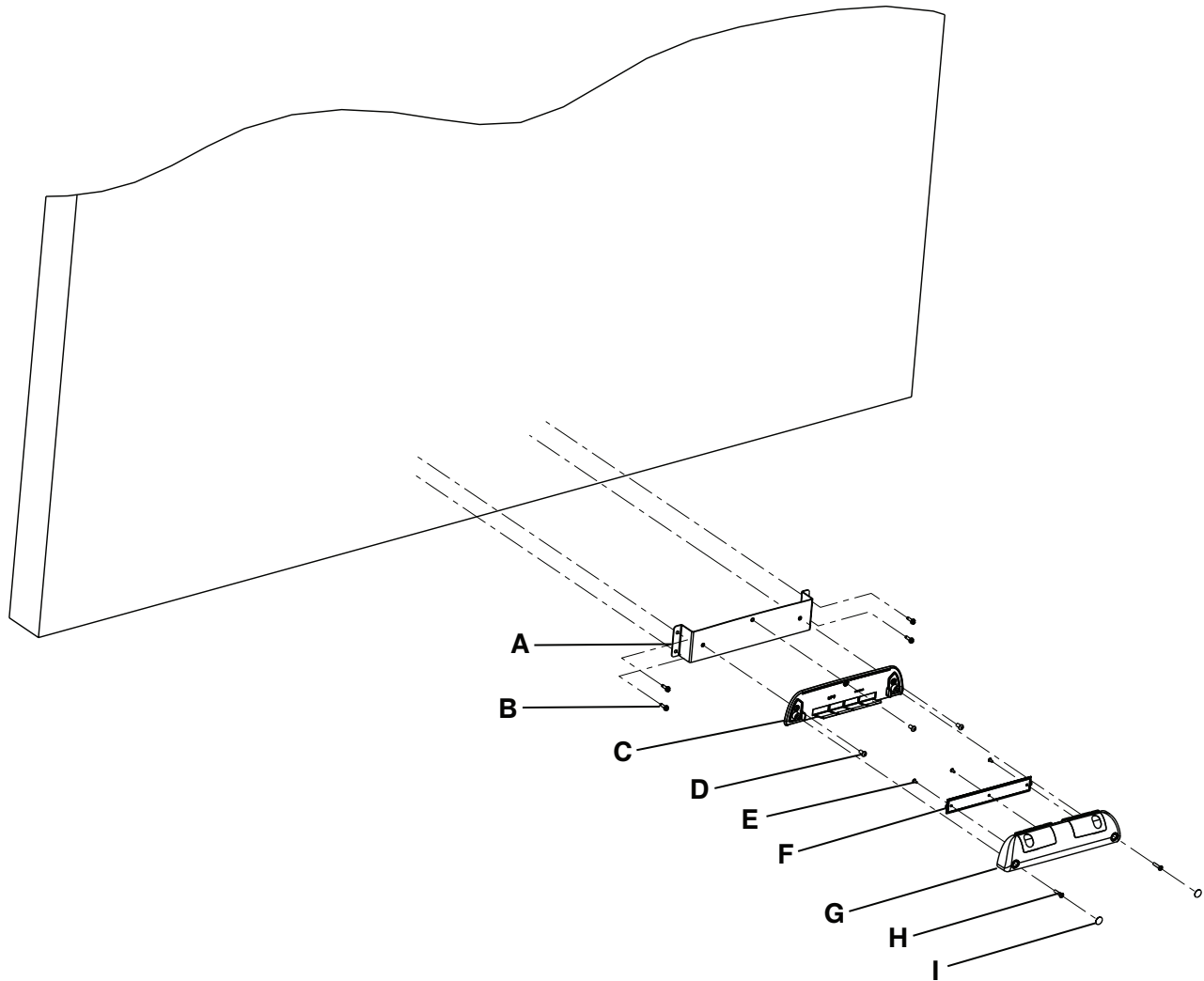
Figure 5 – Mounting with wall spacer

4. Using a level on top of the wall spacer (A), confirm that the bottom and center of the wall spacer are level while positioned on the reference marks created in step 2 and 3.

5. Using a pencil, mark the four wall plate screw holes (A).

6. Using an appropriate tool, secure the wall spacer (A) to the wall with the hospital supplied fasteners (B, not included).

7. Insert three AA alkaline batteries (not included) into the wall module (G).

   Note - Do not use rechargeable batteries.

8. Using a #2 Phillips screwdriver, install three screws (E) to secure the battery door (F) to the wall module (G).

9. Using a T27 Torx driver, install three screws (D) to secure the wall plate (C) to the wall spacer (A).

10. Insert the hinged edge of the wall module (G) into the slots at the top of the wall plate (C).

11. Swing the wall module (G) down against the wall plate (C).

12. Using a #2 Phillips screwdriver, install two screws (H) to secure the wall module (G) to the wall plate (C).

13. Affix the two screw covers (I) to the wall module (G).

14. Complete the *Installation checklist* (page 11).

Installation checklist

Follow this checklist with Model 5212 **iBed** Locator:

_____ Confirm that you do not have any unused components after you install.

Note – Your **iBed** Locator does not ship with extra components.

_____ Check that the **iBed** Locator ID number and room number/location have been recorded on the *iBed Locator association form* (page 20).

_____ Use a tape measure to check that the **iBed** Locator is installed at the horizontal center of the wall behind the bed location.

_____ Use a tape measure to check that the **iBed** Locator is installed no less than 4 in. from the floor and no more than 5 in. from the floor.

_____ Use a level to make sure that the **iBed** Locator is level.

_____ Check that three AA alkaline batteries (not included) have been installed.

_____ All fasteners are secure.

Product ID number:			
Installed by:		Date:	
Inspected by:		Date:	

Note – Maintain a copy of this record for at least 10 years.

Operation

Connecting the iBed Locator

Note

- **iBed** Locator is battery operated. This product remains in sleep mode until connected.
- **iBed** Locator does not have an on/off switch.

To connect :

1. Plug the product into a wall outlet and turn on the battery backup, if available.

2. Position the product in front of the **iBed** Locator.

3. Set the brakes.

    Note

    - **iBed** Locator wakes up and sends its BBID to the Stryker compatible product to share the location. The product returns to sleep mode.
    - This process repeats anytime the product is connected.
    - After seven days, **iBed** Locator wakes up and sends its BBID to the Stryker compatible product to share the location. The product returns to sleep mode.

Service

Replacing the batteries

WARNING
- Only use AA alkaline (type LR6) batteries.
- Always reinstall the **iBed** Locator to the same wall plate/wall spacer. If the **iBed** Locator is moved after it was installed and mapped, you must remap the **iBed** Locator to the new room number/location.

Tools required:

- #2 Phillips screwdriver
- Small slotted screwdriver

Procedure:

1. Using a small slotted screwdriver, remove the two screw covers (G) from the wall module (E) (Figure 4). Save the screw covers.

   Note - If the screw covers are damaged, reorder using part number 5212-100-803 (x2).

2. Using a #2 Phillips screwdriver, remove the two screws (F) that secure the wall module (E) to the wall plate (A). Save the screws.

3. Lift up and swing the wall module (E) out to remove it from the wall plate (A).

4. Use a #2 Phillips screwdriver, remove the three screws (C) that secure the battery door (D) to the wall module (E). Save the screws.

5. Remove and save the battery door (D).

6. Remove the three AA alkaline batteries from the wall module (E). Discard the batteries.

   Note - Do not dispose of as unsorted municipal waste. See your local distributor for return or collection systems available in your country.

7. Reverse steps to reinstall.

   Note
   - Do not use rechargeable batteries.
   - For best results, purchase industrial brand name batteries.

8. Verify proper operation before you return the product to service.

Preventive maintenance

Remove product from service before you perform the preventive maintenance inspection. Check all items listed during annual preventive maintenance for all Stryker Medical products. You may need to perform preventive maintenance checks more often based on your level of product usage. Service only by qualified personnel.

Inspect the following items:

_____ Confirm the module battery status, replace as needed

_____ All fasteners are secure

_____ Module casing not cracked or damaged

_____ Wall plate/wall spacer not cracked or damaged

_____ Lenses not cracked or damaged

_____ Replace the batteries (every two years)

Product serial number:
Completed by:
Date:

5212-009-101 Rev AA.3

Cleaning

CAUTION
- Do not clean, disinfect, service, or perform maintenance while the product is in use.
- Always unplug the power cord from the wall outlet when large spills occur near the circuit boards and cables. Clean up the fluid and inspect the product. Do not return the product to service until dry and tested for safe operation.

Recommended cleaning method:

1. Hand wash all surfaces on the product with a mild detergent using spray or pre-soaked wipes.

   Note
   - Do not steam clean or hose off the product.
   - Do not immerse any part of the product.

2. Follow the cleaning solution manufacturer's instructions for appropriate contact time and rinsing requirements.

   Note - Avoid oversaturation. Do not allow the product to remain wet.

3. Dry the product before you return the product to service.

4. Clean the lenses on the front of the product with a soft cloth, if necessary.

Disinfecting

CAUTION

- Do not clean, disinfect, service, or perform maintenance while the product is in use.
- Always unplug the power cord from the wall outlet when large spills occur near the circuit boards and cables. Clean up the fluid and inspect the product. Do not return the product to service until dry and tested for safe operation.
- Always wipe with clean water (or 70% isopropyl alcohol, if using **Virex**® TB) and dry each product after disinfecting. Some disinfectants are corrosive in nature and may cause damage to the product. If you do not rinse and dry the product, you may leave a corrosive residue on the surface of the product. This corrosive residue could cause premature degradation of critical components. Failure to follow these disinfecting instructions may void your warranty.

Recommended disinfectants:

- Quaternary (active ingredient - ammonium chloride)
- Phenolic (active ingredient - o-phenylphenol)
- Chlorinated bleach solution (5.25% - less than 1 part bleach to 100 parts water)
- Alcohol (active ingredient - 70% isopropyl alcohol)
- **Virex**® TB

Recommended disinfecting method:

1. Apply the recommended disinfectant solution by spray or pre-soaked wipes.
2. Hand wash all surfaces of the product with the recommended disinfectant.
3. Disinfect all exposed surfaces.
4. Follow the disinfecting solution manufacturer's instructions for appropriate contact time and rinsing requirements.

   Note
   - Follow the manufacturer's dilution recommendations for appropriate contact time and rinse requirements. Follow the chemical manufacturer's guidelines to disinfect.
   - Avoid oversaturation. Do not allow the product to remain wet.

5. Dry the product before you return the product to service.

EMC information

<table>
<tr><td colspan="3">Guidance and manufacturer's declaration - electromagnetic emissions</td></tr>
<tr><td colspan="3">The Model 5212 iBed Locator is intended for use in the electromagnetic environment specified below. The customer or the user of the Model 5212 iBed Locator should assure that it is used in such an environment.</td></tr>
<tr><td>Emissions test</td><td>Compliance</td><td>Electromagnetic environment</td></tr>
<tr><td>RF Emissions
CISPR 11</td><td>Group 1</td><td>The Model 5212 iBed Locator uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.</td></tr>
<tr><td>RF Emissions
CISPR 11</td><td>Class A</td><td>The Model 5212 iBed Locator is suitable for use in all establishments other than domestic and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.</td></tr>
</table>

<table>
<tr><td colspan="4">Recommended separation distances between portable and mobile RF communications equipment and the Model 5212 iBed Locator</td></tr>
<tr><td colspan="4">The Model 5212 iBed Locator is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the Model 5212 iBed Locator can help prevent electromagnetic interferences by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the Model 5212 iBed Locator as recommended below, according to the maximum output power of the communications equipment.</td></tr>
<tr><td rowspan="2">Rated maximum output power of transmitter

W</td><td colspan="3">Separation distance according to frequency of transmitter

m</td></tr>
<tr><td>150 kHz to 80 MHz

d=(1.2) ($\sqrt{P}$)</td><td>80 MHz to 800 MHz

d=(1.2) ($\sqrt{P}$)</td><td>800 MHz to 2.5 GHz

d=(2.3) ($\sqrt{P}$)</td></tr>
<tr><td>0.01</td><td>0.12</td><td>0.12</td><td>0.23</td></tr>
<tr><td>0.1</td><td>0.38</td><td>0.38</td><td>0.73</td></tr>
<tr><td>1</td><td>1.2</td><td>1.2</td><td>2.3</td></tr>
<tr><td>10</td><td>3.8</td><td>3.8</td><td>7.3</td></tr>
<tr><td>100</td><td>12</td><td>12</td><td>23</td></tr>
<tr><td colspan="4">For transmitters rated at a maximum output power not listed above, the recommended separation distance <i>d</i> in meters (m) can be estimated using the equation applicable to the frequency of the transmitter, where <i>P</i> is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.
Note 1: At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.
Note 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects, and people.</td></tr>
</table>

<table>
<tr><td colspan="4">Guidance and manufacturer's declaration - electromagnetic immunity</td></tr>
<tr><td colspan="4">The Model 5212 iBed Locator is suitable for use in the electromagnetic environment specified below. The customer or the user of the Model 5212 iBed Locator should assure that it is used in such an environment.</td></tr>
<tr><td>Immunity test</td><td>IEC 60601 test level</td><td>Compliance level</td><td>Electromagnetic environment-guidance</td></tr>
</table>

Guidance and manufacturer's declaration - electromagnetic immunity			
Electrostatic discharge (ESD) IEC 61000-4-2	±6 kV contact ±8 kV air	±6 kV contact ±8 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%.
Power frequency (50/60Hz) magnetic field IEC 61000-4-8	3 A/m	3 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.
Note: U_T is the a.c. mains voltage before applications of the test level.			
Radiated RF IEC 61000-4-3	3 V/m 80 MHz to 2.5 GHz	3 V/m	Portable and mobile RF communications equipment should be used no closer to any part of the Model 5212 **iBed** Locator, including cables, than the recommended separation distance calculated from the equation appropriate for the frequency of the transmitter. Recommended separation distance $d=(1.2)(\sqrt{P})$ $d=(2.3)(\sqrt{P})$ 800 MHz to 2.5 GHz where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in meters (m). Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey[a] should be less than the compliance level in each frequency range.[b] Interference may occur in the vicinity of equipment marked with the following symbol:

Guidance and manufacturer's declaration - electromagnetic immunity
Note 1: At 80 MHz and 800 MHz, the higher frequency range applies.   **Note 2:** These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects, and people.
[a] Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast, and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the Model 5212 **iBed** Locator is used exceeds the applicable RF compliance level above, the Model 5212 **iBed** Locator should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the Model 5212 **iBed** Locator.   [b] Over the frequency range 150 kHz to 80 MHz, field strengths are less than 3 V/m.

iBed Locator association form

iBed Locator ID number	Room number/location

Note

- Give this form to your Stryker Technology Specialist or your Network Administrator so they can create the associations on the server.
- The bed will not have an IP address until configured by Information Technology (IT) services.

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