

## DR-ID 1200DU

### Operation Manual

3rd Edition : March 2015

**For Safe Operation**

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**System  
Configuration  
(Product Overview)**

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**Basic Operation**

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**Daily Inspection and  
Maintenance**

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**Appendix**

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**Maintenance and  
Inspection**

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This Operation Manual describes details on how to operate the DR-ID 1200DU and cautions to be observed when operating it.

Please read the Operation Manual thoroughly before actually operating the DR-ID 1200DU along with “DR-ID 300CL Operation Manual” and other manuals for the related products.

After reading this manual, store it nearby the DR-ID 1200DU so that you can see it whenever necessary.



# Introduction

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DR-ID 1200DU is an X-ray equipment which acquires a general radiograph from the indirect-conversion flat panel sensor.

DR-ID 1200DU consists of DR-ID 1200DS and DR-ID 1201SE/DR-ID 1202SE/DR-ID 1211SE/DR-ID 1212SE/DR-ID 1213SE.

DR-ID 1201SE, DR-ID 1202SE, DR-ID 1211SE, DR-ID 1212SE and DR-ID 1213SE :

Wireless communication mode or wired communication mode is available. When used in wireless communication mode, an access point and battery pack (optional) are required.

Each flat panel sensor complies with IEC 62220-1 (MEDICAL ELECTRICAL EQUIPMENT - CHARACTERISTICS OF DIGITAL X-RAY IMAGING DEVICES - ) as a general X-ray radiography equipment.

The detector of flat panel sensors features 150 micron pixel pitch, a wide 16-bit dynamic range and exposure times up to 3.8 seconds.

This Operation Manual includes descriptions of matters necessary when using the DR-ID 1200DU such as the equipment overview, operation procedures and precautions to observe, as well as daily inspections and maintenance.

Accompanying documents were originally drafted in the English language.

***Installation may only be conducted by authorized service personal.***



## CAUTIONS

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**This system is classified as a medical device under EC Directive 93/42/EEC.**

***Process waste correctly, as stipulated by local law or any regulations that apply.***

**Caution : Rx Only in the United States** (Federal law restricts this device to sale by or on the order of a physician.)

### **Open-Source Software Contained in This Product**

This product contains third party's software that is made available as open source software or free software.

This software is provided "as is" with no warranty of any kind as to its merchantability or fitness for any particular purpose.

For the information on open source software contained in this product, please see the attached DVD. Source codes for certain type of open source software used in this product are available at delivery cost. If you would like to receive such source codes, please contact FUJIFILM dealer or the service representatives at the agency from which you purchased this product. (Please be noted that any inquiries concerning the contents of source codes should be directed to original licensors of open source software.)

**Note** : FUJIFILM has successfully performed verification and validation testing on all third party software and has confirmed its suitability to be used in this system.

### **Patent Marking**

DR-ID 1201SE/DR-ID 1202SE are covered by one or more of the following US patents: US 5,681,666/US 6,413,645 or international equivalents.

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## Maintenance and Inspection

# Chapter 1 For Safe Operation

## 1.1 Safety

Before using the DR-ID 1200DU, read this section thoroughly to ensure that you use the product properly.

### Electric Shock Warnings and Cautions



#### WARNING

The power supply to the DR-ID 1200DU is AC100 to 240V.

To avoid electric shocks, users should always take the following precautions:

- Do not open any covers when it is not necessary.
- Install the equipment in a location where it will not be exposed to water.
- Check that the equipment is securely earthed.
- Check that all of the cables are completely and securely connected.
- Keep the control cabinet out of reach of patients.



#### WARNING

Do not touch the patient's body while touching the control cabinet and the image processing unit. Otherwise, the patient may receive an electric shock.



#### WARNING

Do not use a multiple tap connector or extension cable for powering the devices constituting the system. Otherwise, fire or electric shock may occur due to the electrical load exceeding the allowable limit.



#### WARNING

Observe the following precautions when using the cables.

- Do not touch the plug and connector with wet hands. Otherwise, electric shock may result, causing death or severe injury.
- Hold the plug or connector when removing the cable.  
Pulling the cable or carrying by holding it may damage the cable, causing fire or electric shock.
- Do not damage or remodel the cable.  
Do not place a heavy object on the cable or lay it under the flat panel sensor. Do not step on, pull, forcibly bend, or bundle the cable. Otherwise, fire or electric shock may result.
- Do not use the flat panel sensor for the radiographic examination stand if its cable becomes overloaded. Otherwise, the cable may be damaged, causing fire or electric shock.



#### WARNING

Do not turn on the system with dew condensation on the flat panel sensor. Otherwise, fire or electric shock may result.



### WARNING

Do not use the equipment in a location where metal particles could come into the equipment. This may cause an electric shock.



### WARNING

Do not disassemble or remodel the equipment. Otherwise, fire or electric shock may result. Keep away from the parts inside the product, which may cause electric shock. If you touch them accidentally, death or severe injury may result.



### WARNING

Do not hit or drop the equipment or subject it to severe shock. Otherwise, the equipment may be damaged. If the damaged equipment is used, fire or electric shock may result. In addition, do not apply strong pressure onto the flat panel sensor. If applied, the flat panel sensor deforms and the waterproof function may be compromised.



### WARNING/AVERTISSEMENT

Do not use the flat panel sensor without the battery packs. If the battery packs are not attached, an electric shock may result.

N'utilisez pas le détecteur à panneau plat sans les batteries. Si les batteries ne sont pas connectées, un choc électrique risque de se produire.



### WARNING

Make sure to use the optional parts and accessories recommended by us. Failure to use the optional parts and accessories recommended by us may result in damage to the equipment and/or electric shock and injury.



### CAUTIONS

As the cables of the equipment are long, be careful not to entangle the cables during use. Also, be careful not to trip over the cables. Falls could result in injury.



### CAUTIONS

Follow the specified procedure when turning off the equipment. Otherwise, the flat panel sensor could be damaged by thermal shock.



### CAUTIONS

Do not store magnetic media near the DR system and control cabinet. Otherwise, magnetism generated by the equipment may cause the data to be lost.



### CAUTIONS

Keep the equipment away from patient's body fluids, chemicals, water, etc. Otherwise, it may become damaged, causing fire or electric shock. If necessary, protect the flat panel sensor by covering it with a disposable bag.



## Explosion Warnings



### WARNING

Because this equipment is not explosion-proof, do not use combustible and explosive gases near the equipment.



### WARNING

Flammable gasses may stay in the room after disinfection. If you turn the system on just after disinfection, ensure that the room is well ventilated before powering on the system.

## Warnings for Abnormalities



### WARNING

If any of the following occurs, immediately turn off the power of each unit, unplug the power cable from the outlet, and then contact our official dealer or FUJIFILM Representative.

- When smoke, strange odor, or abnormal sound is present.
- When a foreign object (such as a metal object) or liquid enters the product.
- When the equipment is dropped or hit and is damaged.

## Avertissements relatifs aux anomalies



### AVERTISSEMENT

Si l'une des conditions répertoriées ci-après se produit, mettez immédiatement chaque unité hors tension, débranchez le cordon d'alimentation de la prise secteur, puis contactez notre revendeur agréé ou notre représentant FUJIFILM.

- En cas de présence de fumée, d'une odeur étrange ou d'un bruit anormal.
- En cas de pénétration d'un corps étranger (comme un objet métallique) ou d'un liquide dans le produit.
- En cas d'endommagement de l'équipement suite à une chute ou à un impact.

## Installation Precautions



### CAUTIONS

Do not install the equipment in a location with the following conditions.

- Where the temperature changes sharply.
- Close to heat sources such as a heater.
- Where the equipment may be exposed to water due to water leakage or ingress.
- Where corrosive gas may be generated.
- Where there is excessive dust.
- Where the equipment is subject to frequent or excessive vibration/shock.
- Where the equipment is exposed to direct sunlight.
- Where there is no ventilator.



### CAUTIONS

When the docking stand is installed, be sure to use the DS Anchor fixing bracket or fixing metal fittings to prevent its overturning.



### CAUTIONS

Use the equipment on a flat place. If the equipment falls, it may cause damage to the equipment or personal injury.



### CAUTIONS

When you move the equipment, place it in the cassette storage box of a mobile X-ray unit or hold it by hand to prevent it from falling. If the cart is used to move the equipment, place it horizontally.



### CAUTIONS

For veterinary or mobile applications, contact our official dealer or FUJIFILM Representative.



### CAUTIONS

When the devices are used outdoors in wireless communication mode, contact our official dealer or FUJIFILM Representative.



### CAUTIONS/ATTENTION

Do not place any object in a place where removal of the power cable is prevented.  
Ne placez aucun objet à un emplacement gênant le débranchement du câble d'alimentation.



### CAUTIONS

To ensure optimal image quality, it is recommended that you do not use the flat panel sensor near devices (motor, transformer, switching supply, etc.) that generate electromagnetic noise.



### CAUTIONS

To ensure optimal image quality, it is recommended that you do not place the cables (power cable, communication cable, etc.) of the equipment near devices (motor, transformer, switching supply, etc.) that generate electromagnetic noise and their cables.

## Connection Instructions



### WARNING

Make sure that the devices to be connected to the equipment are authorized for connection.



### WARNING

Connect the Docking unit DR-ID 1200DU only to the access point, image processing unit or the control cabinet.

## Precautions on External Network Connection



### CAUTIONS

When a setting of the network to which the equipment is connected has been changed, check that the change does not affect the system operation and take measures if necessary.

The setting change may include the following:

- Change of connection destination
- Addition of devices
- Removal of devices
- Update of devices
- Upgrade of devices

## Warnings and Cautions on Network



### WARNING

Make sure to use the optional parts, accessories and networks recommended by us. Failure to use the optional parts, accessories and networks recommended by us may result in damage to the equipment and/or electric shock and injury.



### CAUTIONS

Connect to the Ethernet Network of 100BASE-TX or 10BASE-T prescribed in the IEEE standard 802.3. Do not connect telephone lines to LAN connector. Only UTP-type straight LAN cables of 4-pair Category 5 cable (CAT 5E) or higher are appropriate for connection to this connector.



### CAUTIONS

After connecting this system to the network with other systems, confirm that the other systems are not affected. If they are affected, take countermeasures such as network separation.

## System Isolation Instructions



### WARNING

To ensure complete system isolation, never install any unauthorized accessories or other such items. When it is necessary to install authorized accessories or optional items, contact our official dealer or FUJIFILM Representative.



### WARNING

Keep equipment other than those used for patients out of their reach to ensure appropriate system isolation.



### WARNING

In normal use, have a patient take a proper positioning for exposure. The operator should operate the system in a place where safety from radiation is ensured. The operator should also make sure before exposure that no one but the patient is in the exposure area and the operating area of the system.

## Software Precautions



### CAUTIONS

Do not install additional software to the system. Do not uninstall any of the software preinstalled in the system.

The system is preinstalled with the appropriate software. If other software is installed or if the existing software is uninstalled, various operational errors may result.

## Disinfection Instructions



### WARNING

Confirm that the respiratory density of disinfectant including solvent is under legal regulation. Certain disinfectants may damage health. When using a disinfectant, follow instructions supplied by the manufacturers.



### WARNING

Do not use the following disinfectants or sterilizers at the time of disinfection. Quality, performance and safety of the equipment cannot be assured.

- Chloric disinfectant which is strongly corrosive to metals and rubber parts.
- Disinfectant whose uses on metals, plastics, and coating are forbidden according to the instructions supplied with the disinfectant.
- Formalin gas and disinfectant sprays that may get inside the equipment.
- Ultraviolet sterilizers

Disinfectant ethanol is recommended for disinfection. Carefully read the instructions and cautions supplied with the disinfectant before use.

For details on the disinfectant, contact a FUJIFILM dealer or the service representatives at the agency from which you purchased the disinfectant.



### CAUTIONS

If flat panel sensor is not disinfected, it may lead secondary infection.  
Be sure to disinfect with ethanol after use.



### CAUTIONS

Clean the sensor unit of the flat panel sensor with ethanol for disinfection, etc. for each patient to prevent infection.

## Precautions for Charging the Battery Pack



### CAUTIONS

- Use the battery charger recommended by FUJIFILM Corporation.  
For details on operations, refer to the instruction manual for the battery charger.
- Do not charge the battery pack near fire or under strong sunshine. If the built-in protection mechanisms are activated by a high temperature, the battery pack cannot be charged. Also, if the built-in protection mechanisms are damaged, the battery pack may be charged with extremely high current and voltage, and abnormal chemical reactions may occur inside the battery pack, causing it to overheat, emit smoke, explode or ignite.
- To charge the battery pack, be sure to use the designated battery charger and to observe the charging conditions specified by FUJIFILM Corporation. If the battery pack is charged in other conditions (temperature or voltage/current higher than specified, remodeled battery charger, etc.), the battery pack may be overcharged or charged with extremely high current, and abnormal chemical reactions may occur inside the battery pack, causing it to overheat, emit smoke, explode or ignite.
- Immediately stop charging the battery pack, if charging is not completed within the specified time. Otherwise, the battery pack may overheat, emit smoke, explode or ignite.
- Do not use the flat panel sensor near the power cable.
- Do not use the broken battery charger.
- Do not use a faulty or broken battery charger or AC adapter.

## Battery Pack Instructions



### WARNING

- Battery pack requires regular checkup and replacement. Battery capacity begins to wane after a period of time.
- If this equipment is not in use for while, store it with the battery pack removed. Not removing the battery pack may cause malfunction.



### CAUTIONS

Observe the following precautions when using the battery pack (optional).

- The battery pack (125Y120005) is used with the flat panel sensor. Do not use them in other combinations.
- Charge the battery pack only with the designated battery charger. If the battery pack is charged under the charging conditions (voltage, current and charging method) different from those specified by FUJIFILM Corporation, the battery pack may emit smoke, ignite, explode or leak fluid.
- Store the battery pack in a cool and dark place. Recharge the stored battery pack every six months or every year. Otherwise a decrease in battery capacity or other problems may result.
- Do not leave the removed battery pack in the car or other places exposed to high temperature. If the battery pack is used or stored in a place where it is exposed to high temperature, the battery pack may emit smoke, ignite, explode or leak fluid.
- Use or store the battery pack only in the environmental conditions specified by FUJIFILM Corporation. If the battery pack is used or stored in a place where it is exposed to high temperature, the battery pack may emit smoke, ignite, explode or leak fluid.
- When disposing of the battery pack, consult our official dealer or FUJIFILM Representative.
- Do not disassemble or remodel the battery pack. The battery pack is equipped with built-in safety and protection mechanisms. If they are damaged, the battery pack may overheat, emit smoke, explode or ignite.
- Be careful not to drop the battery pack. The patient may be injured.
- Do not touch the terminal of the battery pack directly. There is a risk of electric shock.
- Do not connect the positive (+) and negative (-) terminals with a wire or any metal object. Do not carry or store the battery pack together with metal objects such as necklaces or hairpins. Otherwise, the battery pack may short-circuit and overcurrent may flow, causing the battery pack to overheat, emit smoke, explode or ignite. Metal objects such as necklaces or hairpins may also become hot.
- Do not throw the battery pack into fire or expose it to excessive heat. Otherwise, its insulator may melt, its gas release vent or safety mechanisms may be damaged, and/or its electrolyte may catch fire, causing the battery pack to overheat, emit smoke, explode or ignite.
- Do not use or leave the battery pack in a place where it is exposed to high temperature (80°C or higher), such as fire or a heater. If the resin separator is damaged due to heat, the battery pack may short-circuit, causing it to overheat, emit smoke, explode or ignite.
- Do not immerse the battery pack in water or seawater, and do not allow it to become wet. If the built-in protection mechanisms are damaged, the battery pack may overheat, emit smoke, explode or ignite.
- Do not pierce the battery pack with a nail, hit it with a hammer, or step on it. Otherwise, the battery pack may be damaged or deformed and short-circuit, causing it to overheat, emit smoke, explode or ignite.
- Do not subject the battery pack to strong impact or throw it. If the built-in protection mechanisms are damaged, the battery pack may be charged with extremely high current and voltage, and abnormal chemical reactions may occur inside the battery pack, causing it to overheat, emit smoke, explode or ignite.
- Do not use an apparently damaged or deformed battery pack. Otherwise, the battery pack may overheat, emit smoke, explode or ignite.

- Do not solder the battery pack directly. Otherwise, its insulator may melt, or its gas release vent or safety mechanisms may be damaged, causing the battery pack to overheat, emit smoke, explode or ignite.
- Do not reverse the positive (+) and negative (-) terminals. Otherwise, the battery pack may be reverse-charged during charging. As a result, abnormal chemical reactions may occur inside the battery pack, or extremely high current may flow during discharging, causing it to overheat, emit smoke, explode or ignite.
- The battery pack has a predetermined polarity. If you cannot connect the battery pack to the battery charger or other equipment, do not connect the battery pack forcefully. Make sure that the terminals are correctly oriented. If the battery pack is connected in reverse, it will be reverse-charged, and abnormal chemical reactions may occur inside the battery pack, causing it to overheat, emit smoke, explode or ignite.
- Do not connect the battery pack to an electrical outlet or cigarette lighter socket in a car. Overcurrent may flow to the battery pack due to high voltage applied, causing the battery pack to overheat, emit smoke, explode or ignite.
- Do not use the battery pack for equipment other than those specified. Otherwise, the guaranteed performance will be reduced and/or the service life will be shortened. Depending on the equipment to which the battery pack is connected, extremely high current may flow, causing the battery pack to be damaged, overheat, emit smoke, explode or ignite.
- If the electrolyte leaked from the battery pack enters the eyes, do not rub them. Wash the eyes immediately with clean water such as tap water, and consult a doctor. Otherwise, eye injury may result.
- Do not use the battery pack in combination with a primary battery such as a dry battery or other battery of a different capacity, type and/or brand. Otherwise, the battery pack may be overcharged during charging, and abnormal chemical reactions may occur inside the battery pack, causing it to overheat, emit smoke, explode or ignite.
- Do not put the battery pack in a microwave oven or high-pressure container. Otherwise, the battery pack may be rapidly heated or damaged, causing it to overheat, emit smoke, explode or ignite.
- If the battery pack leaks or emits an unusual odor, remove it from fire immediately. Otherwise, the leaked electrolyte may catch fire, causing the battery pack to overheat, emit smoke, explode or ignite.
- If you notice an unusual odor, heat, discoloration, deformation or any other abnormality during use, charging or storage, remove the battery pack from the equipment or battery charger, and stop using it. Otherwise, the battery pack may overheat, emit smoke, explode or ignite.
- Do not use the battery pack exposed to a strong magnetic field of an MRI system, etc.
- Do not use the battery pack immersed in liquid.

## Other Warnings and Cautions



### WARNING

No modification of this equipment is allowed.



### CAUTIONS

Install the system in accordance with what is provided by IEC 60601-1-1:2000 and IEC 60601-1:2005 Chapter 16. Contact our official dealer or FUJIFILM Representative for installation (except the flat panel sensor) of the system.



### CAUTIONS

Do not hit or drop the equipment. Otherwise, injury or damage to images, etc. may result.

**CAUTIONS**

Be sure to inspect the system periodically.

To assure optimum performance of the equipment, it is necessary to systematically perform maintenance and inspection. For information on maintenance and inspection, contact our official dealer or FUJIFILM Representative.

**CAUTIONS**

Do not perform maintenance and inspection while the equipment is used for a patient.

**CAUTIONS**

The institution where the equipment is installed is responsible for its use and maintenance. In addition, this equipment should not be used by persons other than doctors or suitably trained staff.

**CAUTIONS**

Be careful not to expose the flat panel sensor to X-ray without a subject.

**CAUTIONS**

Although the flat panel sensor conforms to IPX6, no warranty is given as to the prevention of water intrusion in the flat panel sensor. If the flat panel sensor is splashed with water, wipe off moisture and ensure that the flat panel sensor is completely dry before use.

## Contraindications and Prohibitions

No contraindications present.

## Classification

- According to the type of protection against electrical shock  
Class 1 equipment
- According to the degree of protection against electrical shock  
Type B applied part
- According to the degree of protection against harmful ingress of water  
IPX0 (The flat panel sensor conforms to IPX6)
- According to the degree of safety of application in the presence of a flammable anesthetics mixture with air or with oxygen or nitrous oxide.  
Equipment not suitable for use in the presence of a flammable anesthetics mixture with air or with oxygen or nitrous oxide.
- According to the mode of operation  
CONTINUOUS OPERATION

# 1.2 Electromagnetic Compatibility (EMC)

## 1.2.1 DR-ID 1200

DR-ID 1200DU consists of DR-ID 1200DS and DR-ID 1201SE/DR-ID 1202SE/DR-ID 1211SE/DR-ID 1212SE/DR-ID 1213SE.

This equipment has been tested and found to comply with the limits for medical devices to the IEC 60601-1-2 (EN 60601-1-2), Medical Device Directive 93/42/EEC.

These limits are designed to provide reasonable protection against harmful interference in a typical medical installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to other devices in the vicinity.

However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to other devices, which can be determined by tuning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving device.
- Increase the separation between the equipment.
- Connect the equipment into an outlet on a circuit different from that to which the other device(s) are connected.

If the problem cannot be solved with the above measures, stop using this equipment and consult the manufacturer, our official dealer or FUJIFILM Representative for help.



### WARNING

- **Do not place devices generating electromagnetic wave near this equipment.**
- **If a device(s) other than those specified is connected, predetermined EMC performance cannot be guaranteed.**



## Further Information for IEC 60601-1-2 (EN 60601-1-2)

1. Medical electrical equipment needs special precautions regarding EMC and needs to be installed and put into service according to the EMC information provided in the accompanying documents.
2. Portable and mobile RF communications equipment can affect medical electrical equipment.
3. Information regarding the cable affecting EMC is as follows.

| Name          | Connected Device                              | Maximum Length  | General Specification                      |
|---------------|---|---|--|
| Network Cable | Between the DR-ID 1200PU and the DR-ID 1200MC | 20m (65.6 ft)   | Cat5e or more, UTP type and straight cable |
|               | Between the DR-ID 1200DU and the DR-ID 1200MC |   |  |
|               | Between the DR-ID 1200MC and the DR-ID 300CL  |   |  |
| Power Cable   | DR-ID 1200MC, DR-ID 300CL                     | Use a hospital grade power cable. (for North America)               |  |
|               |   | A non-hospital grade power cable can be used. (for other countries) |  |

4. The use of accessories, transducers and cables other than those specified, with the exception of transducers and cables sold by FUJIFILM Corporation as replacement parts for internal components, may result in increased emissions or decreased immunity of the DR-ID 1200DU.
5. The DR-ID 1200DU should not be used adjacent to or stacked with other equipment.  
If adjacent or stacked use is necessary, the DR-ID 1200DU should be observed to verify normal operation in the configuration in which it will be used.
6. Basic performance of the equipment and the system  
After image data are acquired from the flat panel sensor, data correction is performed by the control cabinet, and the image is saved in and displayed on the image processing unit.
7. Test items (Tables 1 to 4)


**Table 1**

| Guidance and manufacturer's declaration - electromagnetic emissions   |            |         |   |
|---|------------|---------|---|
| The DR-ID 1200 is intended for use in the electromagnetic environment specified below.<br>The customer or the user of the DR-ID 1200 should assure that they are used in such an environment. |            |         |   |
| Emissions test  | Compliance |         | Electromagnetic environment - guidance  |
| RF emissions<br>CISPR 11  | Group 1    |         | The DR-ID 1200 uses RF energy only for their internal function. Therefore, their RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.                                     |
| RF emissions<br>CISPR 11  | Class B    |         | The DR-ID 1200 is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes. |
| Harmonic emissions<br>IEC 61000-3-2   | Complies   | Class B |   |
| Voltage fluctuations/<br>flicker emissions<br>IEC 61000-3-3   | Complies   |         |   |

**Table 2**

| <b>Guidance and manufacturer's declaration - electromagnetic immunity</b>   |   |   |  |
|---|---|---|--|
| The DR-ID 1200 is intended for use in the electromagnetic environment specified below.<br>The customer or the user of the DR-ID 1200 should assure that they are used in such an environment. |   |   |  |
| <b>Immunity test</b>  | <b>IEC 60601-1-2 test level</b>   | <b>Compliance level</b>   | <b>Electromagnetic environment - guidance</b>  |
| Electrostatic discharge (ESD)<br>IEC 61000-4-2  | ±6kV contact<br>±8kV air  | ±6kV contact<br>±8kV air  | Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%.  |
| Electrical fast transient/burst<br>IEC 61000-4-4  | ±2kV for power supply lines<br>±1kV for input/output lines  | ±2kV for power supply lines<br>±1kV for input/output lines  | Mains power quality should be that of a typical commercial or hospital environment.  |
| Surge<br>IEC 61000-4-5  | ±1kV line(s) to line(s)<br>±2kV line(s) to earth  | ±1kV line(s) to line(s)<br>±2kV line(s) to earth  | Mains power quality should be that of a typical commercial or hospital environment.  |
| Voltage dips, short interruptions and voltage variations on power supply input lines<br>IEC 61000-4-11  | <5% $U_T$<br>(>95% dip in $U_T$ )<br>for 0.5 cycle<br>40% $U_T$<br>(60% dip in $U_T$ )<br>for 5 cycles<br>70% $U_T$<br>(30% dip in $U_T$ )<br>for 25 cycles<br><5% $U_T$<br>(>95% dip in $U_T$ )<br>for 5 s | <5% $U_T$<br>(>95% dip in $U_T$ )<br>for 0.5 cycle<br>40% $U_T$<br>(60% dip in $U_T$ )<br>for 5 cycles<br>70% $U_T$<br>(30% dip in $U_T$ )<br>for 25 cycles<br><5% $U_T$<br>(>95% dip in $U_T$ )<br>for 5 s | Mains power quality should be that of a typical commercial or hospital environment. If the user of the DR-ID 1200 requires continued operation during power mains interruptions, it is recommended that the DR-ID 1200 be powered from an uninterruptible power supply or a battery. |
| Power frequency (50/60Hz) magnetic field<br>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 prior to application of the test level.   |   |   |  |

**Table 3**

| <b>Guidance and manufacturer's declaration - electromagnetic immunity</b>   |                                 |                         |  |
|---|---------------------------------|-------------------------|--|
| The DR-ID 1200 is intended for use in the electromagnetic environment specified below.<br>The customer or the user of the DR-ID 1200 should assure that they are used in such an environment.   |                                 |                         |  |
| <b>Immunity test</b>  | <b>IEC 60601-1-2 test level</b> | <b>Compliance level</b> | <b>Electromagnetic environment - guidance</b>  |
| Conducted RF<br>IEC 61000-4-6   | 3 Vrms<br>150 kHz to 80 MHz     | 3 Vrms                  | Portable and mobile RF communications equipment should be used no closer to any part of the DR-ID 1200, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.<br><br>Recommended separation distance<br>$d = 1.2\sqrt{P}$<br>$d = 1.2\sqrt{P}$ 80 MHz to 800 MHz<br>$d = 2.3\sqrt{P}$ 800 MHz to 2.5 GHz<br><br>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 metres (m).<br>Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey, <sup>a</sup> should be less than the compliance level in each frequency range. <sup>b</sup><br>Interference may occur in the vicinity of equipment marked with the following symbol:<br><br> |
| Radiated RF<br>IEC 61000-4-3  | 3 V/m<br>80 MHz to 2.5 GHz      | 3 V/m                   |  |
| NOTE 1: At 80 MHz and 800 MHz, the higher frequency range applies.<br>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 strength 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 DR-ID 1200 is used exceeds the applicable RF compliance, the DR-ID 1200 should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the DR-ID 1200.<br>b Over the frequency range 150 kHz to 80 MHz, field strength should be less than 3 V/m. |                                 |                         |  |

**Table 4**

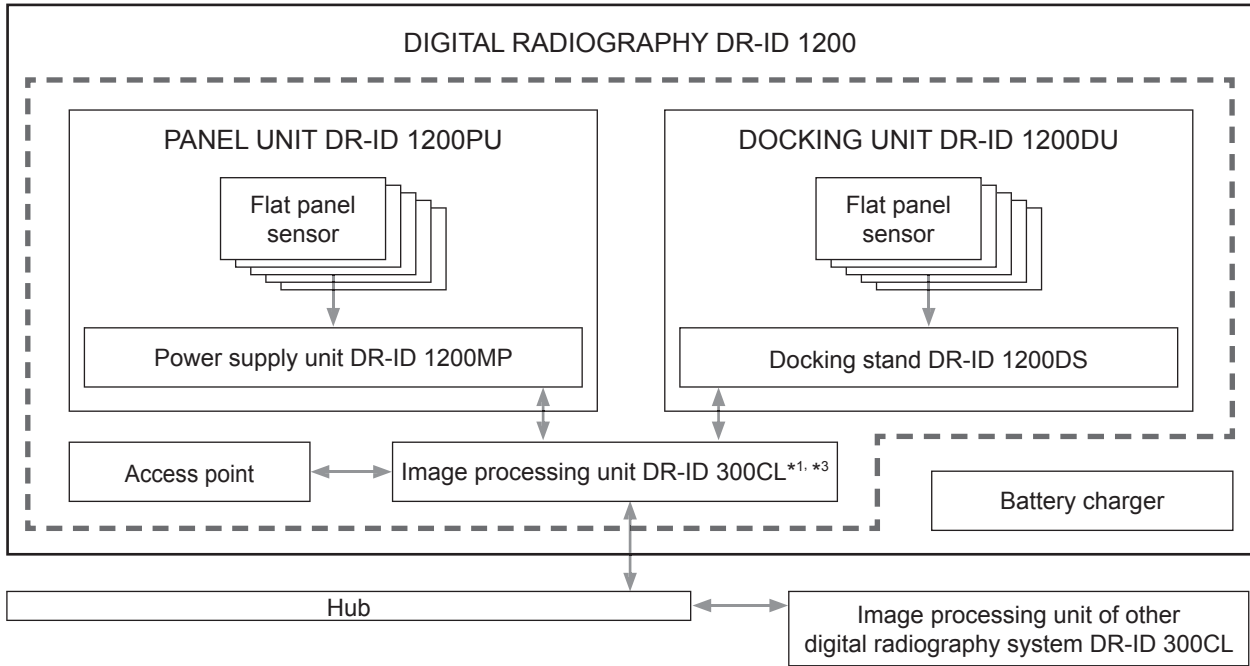
| <b>Recommended separation distances between<br/>Portable and mobile RF communications equipment and the DR-ID 1200</b>  |  |  |   |
|---|--|--|---|
| <p>The DR-ID 1200 is intended for use in the electromagnetic environment in which radiated RF disturbances are controlled.</p> <p>The customer or the user of the DR-ID 1200 can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the DR-ID 1200 as recommended below, according to the maximum output power of the communications equipment.</p> |  |  |   |
| Rated maximum output<br>power of transmitter<br>W   | Separation distance according to frequency of transmitter<br>m |  |   |
|   | 150 kHz to 80 MHz<br>$d = 1.2\sqrt{P}$                         | 80 MHz to 800 MHz<br>$d = 1.2\sqrt{P}$ | 800 MHz to 2.5 GHz<br>$d = 2.3\sqrt{P}$ |
| 0.01  | 0.12   | 0.12                                   | 0.23                                    |
| 0.1   | 0.38   | 0.38                                   | 0.73                                    |
| 1   | 1.2  | 1.2                                    | 2.3                                     |
| 10  | 3.8  | 3.8                                    | 7.3                                     |
| 100   | 12   | 12                                     | 23                                      |
| <p>For transmitters rated at a maximum output power not listed above, the recommended separation distance <math>d</math> in metres (m) can be estimated using the equation applicable to the frequency of the transmitter, where <math>P</math> is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.</p>   |  |  |   |
| <p>NOTE 1: At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.</p> <p>NOTE 2: These guidelines may not apply in all situations.<br/>Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.</p>  |  |  |   |

# Chapter 2 System Configuration (Product Overview)

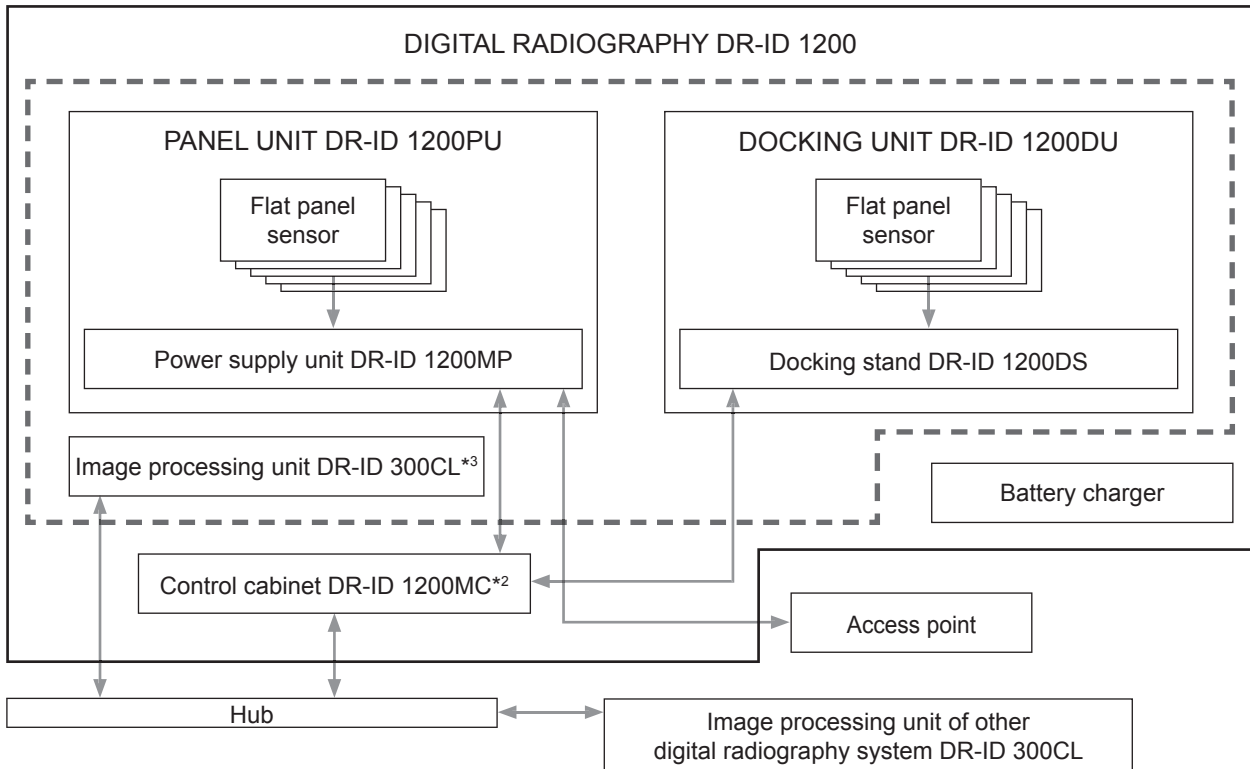
## 2.1 DR-ID 1200DU


### 2.1.1 System Configuration

(When the optional access point is used)



(When an access point installed in the hospital is used)

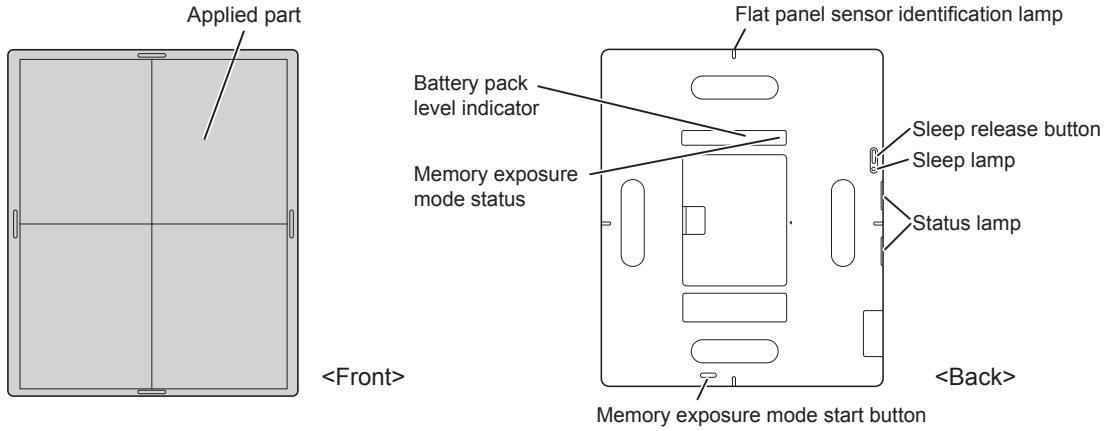


- The products in  can be installed in patient environment. However, this is not the case when the image processing unit or access point is connected to the AC power supply.
- The Docking unit DR-ID 1200DU consists of DR-ID 1200DS and DR-ID 1201SE/DR-ID 1202SE/DR-ID 1211SE/DR-ID 1212SE/DR-ID 1213SE.
- The image processing unit DR-ID 300CL is configured by installing image processing software on a commercially available personal computer conforming to IEC 60950-1 or equivalent.
- Up to five flat panel sensors can be connected. Only one flat panel sensor can be connected to one docking stand in wired communication mode. Up to three docking stands can be used.
- \*1 The software for the control cabinet is installed on the image processing unit (DR-ID 300CL).
- \*2 Depending on the configuration, the control cabinet (DR-ID 1200MC) may not be included in the system. If not included, the software for the control cabinet can be installed on the image processing unit (DR-ID 300CL). For detail specification of image processing unit, please refer to “DR-ID 300CL Operation Manual”.
- \*3 When the image processing unit (DR-ID 300CL) is used in patient environment, run the notebook computer on battery power.

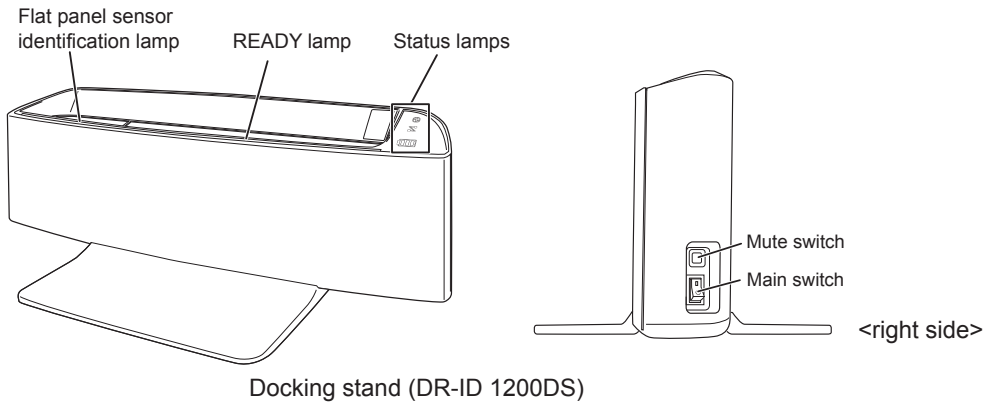
# 2.2 Unit Names and the Functions





Unit names and the functions of the DR-ID 1200DU are described below.













\* Exposure plane is shown in this figure.




Flat panel sensor

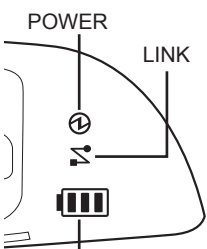





| Name   | Description  |  |                          |                          |    |
|--|--|--|--------------------------|--------------------------|----|
| Flat panel sensor  | The DR-ID 1201SE and DR-ID 1202SE incorporate a GOS indirect panel. The DR-ID 1211SE, DR-ID 1212SE and DR-ID 1213SE incorporate a CsI indirect panel.  |  |                          |                          |    |
| Flat panel sensor identification lamp  | The flat panel sensor currently in use is identified by the color of this lamp. The color of this lamp is selected from among lime yellow, blue, purple, orange and pink at the time of installation. If the color is not specified, this lamp is lit in white. This lamp on the flat panel sensor currently in use is lit in the same color as the panel icon selected on the display of the image processing unit.   |  |                          |                          |    |
| Sleep lamp   | This LED shows the sleep status.   |  |                          |                          |    |
|  | <table border="1"> <tr> <td rowspan="2"> (Blue)</td> <td>Off</td> <td>Sleep off or Sleep state</td> </tr> <tr> <td>On</td> <td>Extra sleep state</td> </tr> </table> <p>* When the flat panel sensor is not operated for 2 minutes, it is placed in the sleep mode.<br/>Extra sleep mode, which can further save power, can also be set. To specify or change the setting of sleep mode or extra sleep mode, contact a FUJIFILM dealer.</p> |  (Blue) | Off                      | Sleep off or Sleep state | On |
|  (Blue) | Off  |  | Sleep off or Sleep state |                          |    |
|  | On   | Extra sleep state  |                          |                          |    |
| Sleep release/memory exposure mode start button  | Releases the extra sleep mode when pressed for 2 seconds.  |  |                          |                          |    |
| Memory exposure mode start button  | When this button is held pressed for 2 seconds while pressing the sleep release/memory exposure mode start button, the memory exposure mode starts up. The memory exposure mode can be started up when no exposure menu is registered and calibration is not being performed.  |  |                          |                          |    |
|        |  |  |                          |                          |    |
| Battery pack level indicator   | Memory exposure mode status<br>In the memory exposure mode, the number of exposed images or an error during the start-up of memory exposure mode is displayed.   |  |                          |                          |    |

| Name  | Description  |   |                          |                   |                       |                          |     |           |   |    |          |     |           |  |                       |                |     |        |  |    |           |     |
|---|--|---|--------------------------|-------------------|-----------------------|--------------------------|-----|-----------|---|----|----------|-----|-----------|--|-----------------------|----------------|-----|--------|--|----|-----------|-----|
| Status lamp   | Indicates the equipment status by LEDs.  |   |                          |                   |                       |                          |     |           |   |    |          |     |           |  |                       |                |     |        |  |    |           |     |
|   | <table border="1"> <tr> <td rowspan="3">READY  (Green)</td> <td>On</td> <td>Exposure possible</td> </tr> <tr> <td>Blinks for 1.0 second</td> <td>During exposure sequence</td> </tr> <tr> <td>Off</td> <td>Not ready</td> </tr> <tr> <td rowspan="2">POWER  (Blue)<br/>(The power on/off state of the flat panel sensor is displayed.)</td> <td>On</td> <td>Power ON</td> </tr> <tr> <td>Off</td> <td>Power OFF</td> </tr> <tr> <td rowspan="2">ERROR  (Orange)</td> <td>Blinks for 1.0 second</td> <td>Error occurred</td> </tr> <tr> <td>Off</td> <td>Normal</td> </tr> <tr> <td rowspan="2">LINK  (White)</td> <td>On</td> <td>Connected</td> </tr> <tr> <td>Off</td> <td>Communication not possible.</td> </tr> </table> <p>* When the battery pack is not attached, all LEDs are off.</p> | READY  (Green) | On                       | Exposure possible | Blinks for 1.0 second | During exposure sequence | Off | Not ready | POWER  (Blue)<br>(The power on/off state of the flat panel sensor is displayed.) | On | Power ON | Off | Power OFF | ERROR  (Orange) | Blinks for 1.0 second | Error occurred | Off | Normal | LINK  (White) | On | Connected | Off |
| READY  (Green)   | On   |   | Exposure possible        |                   |                       |                          |     |           |   |    |          |     |           |  |                       |                |     |        |  |    |           |     |
|   | Blinks for 1.0 second  |   | During exposure sequence |                   |                       |                          |     |           |   |    |          |     |           |  |                       |                |     |        |  |    |           |     |
|   | Off  | Not ready   |                          |                   |                       |                          |     |           |   |    |          |     |           |  |                       |                |     |        |  |    |           |     |
| POWER  (Blue)<br>(The power on/off state of the flat panel sensor is displayed.) | On   | Power ON  |                          |                   |                       |                          |     |           |   |    |          |     |           |  |                       |                |     |        |  |    |           |     |
|   | Off  | Power OFF   |                          |                   |                       |                          |     |           |   |    |          |     |           |  |                       |                |     |        |  |    |           |     |
| ERROR  (Orange)  | Blinks for 1.0 second  | Error occurred  |                          |                   |                       |                          |     |           |   |    |          |     |           |  |                       |                |     |        |  |    |           |     |
|   | Off  | Normal  |                          |                   |                       |                          |     |           |   |    |          |     |           |  |                       |                |     |        |  |    |           |     |
| LINK  (White)  | On   | Connected   |                          |                   |                       |                          |     |           |   |    |          |     |           |  |                       |                |     |        |  |    |           |     |
|   | Off  | Communication not possible.   |                          |                   |                       |                          |     |           |   |    |          |     |           |  |                       |                |     |        |  |    |           |     |

 **HINT**  
For details on the flat panel sensor identification lamp and battery pack level indicator, see “3.1.6 Lamp Indications on the Flat Panel Sensor”.



| Name  | Description  |  |   |
|---|--|--|---|
| Docking stand (DR-ID 1200DS)  | Supplies the power to the flat panel sensor and connects the flat panel sensor and the image processing unit.                            |  |   |
| Main switch   | Supplies the power to the docking stand and the flat panel sensor  |  |   |
| Status lamps<br> | POWER  (Blue)   | On   | Power ON  |
|   | (The power on/off state of the docking stand is displayed.)  | Off  | Power OFF   |
|   | LINK  (White)   | On   | Connected<br>(This lamp is lit when communication with the control cabinet is established after inserting the flat panel sensor.) |
|   | Battery pack level indicator                            | Indicates the charge level of the battery pack for the flat panel sensor in yellowish green.<br>Lights in orange when an error occurs. |   |
| Mute switch   | Mutes the buzzer that sounds when the flat panel sensor is inserted or when the battery pack for the flat panel sensor is fully charged. |  |   |
| Flat panel sensor identification lamp   | This lamp is lit in the same color as the flat panel sensor identification lamp on the flat panel sensor currently in use.               |  |   |
| READY lamp (Green)  | This lamp is lit when the flat panel sensor currently in use is ready for exposure.  |  |   |



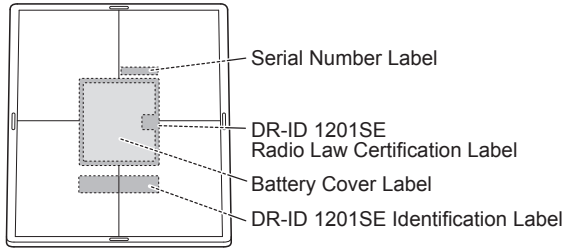
- Note that the flat panel sensor inserted into the docking stand can only be charged or used for communication. It cannot be used for exposures.
- If the battery pack level indicator of the docking stand lights in orange, press the main switch to turn it off and press the switch again to turn the power back on.

# 2.3 Locations of Labels and Signs

Locations of labels and signs affixed to the DR-ID 1200DU, and the relevant safety signs are shown below.

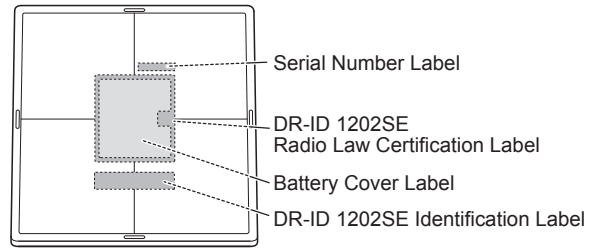
## 2.3.1 Locations of Labels

Flat panel sensor (DR-ID 1201SE)



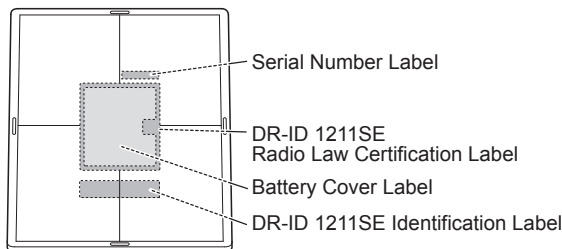
<Exposure plane>

Flat panel sensor (DR-ID 1202SE)



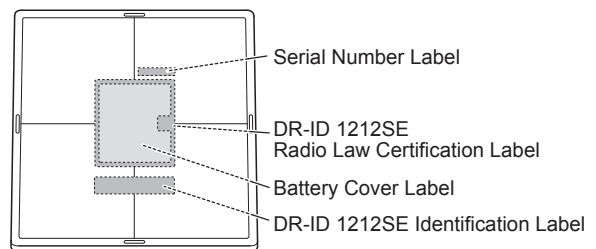
<Exposure plane>

Flat panel sensor (DR-ID 1211SE)



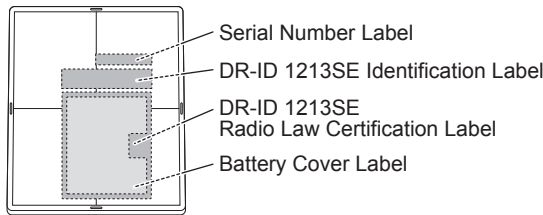
<Exposure plane>

Flat panel sensor (DR-ID 1212SE)

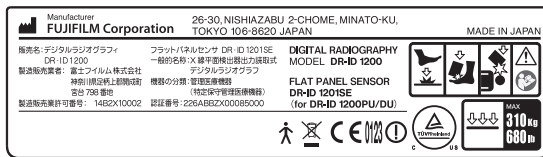


<Exposure plane>

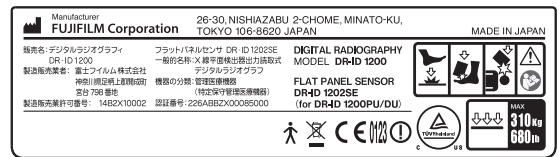
Flat panel sensor (DR-ID 1213SE)



<Exposure plane>



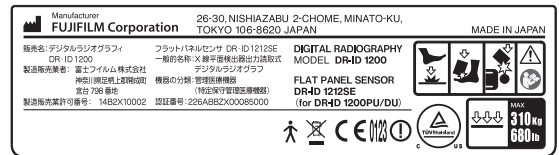
DR-ID 1201SE Identification Label



DR-ID 1202SE Identification Label



DR-ID 1211SE Identification Label



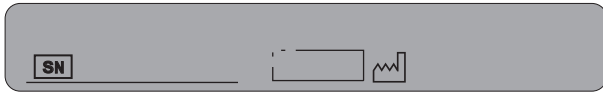
DR-ID 1212SE Identification Label



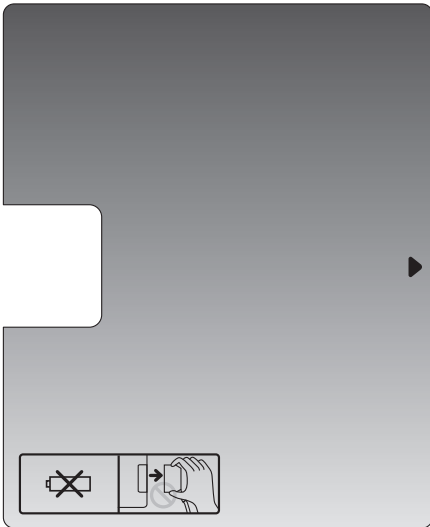
DR-ID 1213SE Identification Label



\* c may not be included on the labels for Europe.



Serial Number Label

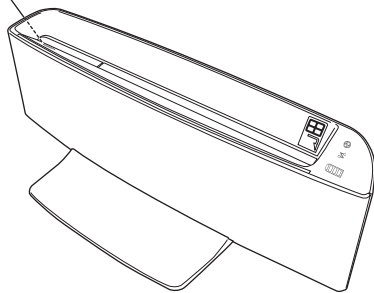


Battery Cover Label

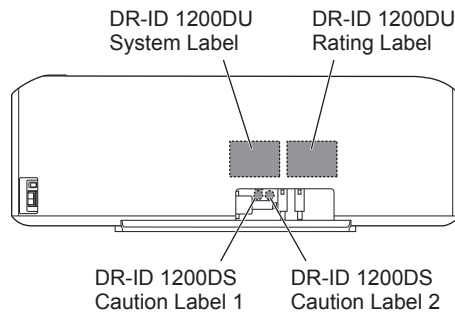


DR-ID 1201SE/DR-ID 1202SE/DR-ID 1211SE/  
DR-ID 1212SE/1213SE  
Radio Law Certification Label  
\* The "FCC/IC" information is for North America only.

Do Not Step On This Surface label



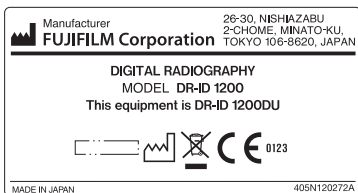
Docking stand (DR-ID 1200DS)



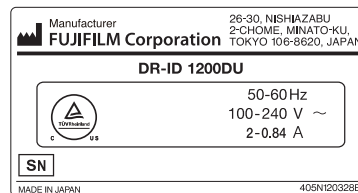
For the types of connectable cables,  
consult our official dealer  
or FUJIFILM Representative



Pour en savoir plus sur les types de câbles  
connectables, contactez notre revendeur  
agréé ou notre représentant FUJIFILM.



DR-ID 1200DU System Label



DR-ID 1200DU Rating Label



Do Not Step On This Surface label



\* may not be included on the labels for Europe.

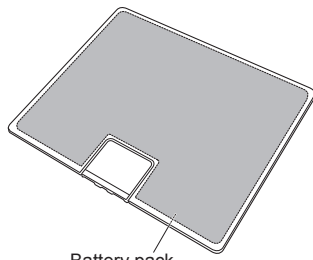


DR-ID 1200DS Caution Label 1



DR-ID 1200DS Caution Label 2

## Battery pack (optional)



Battery pack Rating Label



Battery Pack Rating Label





















\* The label varies, depending on the battery pack.



For details on the labels of the image processing unit, see the “Console Advance (DR-ID 300CL) Operation Manual”.




















## 2.3.2 Safety and Other Symbols

The following safety symbols are used in the labels or on its body.

| Symbol  | Description   |
|---|---|
|    | This symbol indicates compliance of the equipment with Directive 93/42/EEC.   |
|    | This symbol indicates compliance of the equipment with Directive 93/42/EEC. This symbol indicates that the equipment is classified as Class 2 equipment in the R&TTE Directive.   |
|    | Caution (See “2.3.1 Locations of Labels” (page 2-6).)   |
|    | OFF (To indicate disconnection from the mains, at least for mains switches or their positions, and all those cases where safety is involved.)   |
|    | ON (To indicate connection to the mains, at least for mains switches or their positions, and all those cases where safety is involved.)   |
|    | Protective earth (ground)   |
|    | Alternating current   |
|    | This symbol indicates that the equipment is a Type B Applied Part.  |
|   | Ready (To indicate the machine is ready for operation.)   |
|  | Electric energy   |
|  | General mandatory action sign   |
|  | This symbol indicates that this product is not to be disposed of with your household waste, according to the WEEE Directive (2002/96/EC) and your national law. This product should be handed over to a designated collection point.<br>Improper handling of this type of waste could have a possible negative impact on the environment and human health due to potentially hazardous substances that are generally associated with EEE. At the same time, your cooperation in the correct disposal of this product will contribute to the effective usage of natural resources.<br>For more information about waste, please contact our official dealer or FUJIFILM Representative. |
|  | Year of manufacture   |
|  | Caution for local load / Do not drop the flat panel sensor to the user/patient Entire surface   |
|  | Entire surface load   |
|  | This symbol includes RF transmitters or indicates equipment that intentionally applies RF electromagnetic energy for diagnosis or treatment.  |
|  | Refer to Instruction Manual/Booklet   |
|  | No stepping on surface  |
|  | This symbol indicates that the part is not a battery.   |
|  | This symbol instructs the user not to disconnect the SE cable during use.   |

## 2.3.3 Symboles de sécurité et autres

Les symboles de sécurité suivants sont utilisés sur les étiquettes ou sur le corps de l'équipement.

| Symbole   | Description  |
|---|--|
|    | Ce symbole indique la conformité de l'équipement à la directive 93/42/CEE.   |
|    | Ce symbole indique la conformité de l'équipement à la directive 93/42/CEE.<br>Ce symbole indique que l'équipement appartient à la catégorie 2 de la classification de la directive R&TTE.  |
|    | Attention (Voir « 2.3.1 Emplacement des étiquettes » (page 2-6).)  |
|    | HORS TENSION (Pour indiquer une déconnexion de l'alimentation secteur, au moins au niveau des interrupteurs secteurs ou leur position, et tous les cas dans lesquels la sécurité est en jeu.)  |
|    | SOUS TENSION (Pour indiquer une connexion à l'alimentation secteur, au moins au niveau des interrupteurs secteurs ou leur position, et tous les cas dans lesquels la sécurité est en jeu.)   |
|    | Protection via mise à la terre (masse)   |
|    | Courant alternatif   |
|    | Ce symbole indique que l'équipement est une pièce appliquée de type B.   |
|   | Prêt (Pour indiquer que la machine est prête à être utilisée.)   |
|  | Énergie électrique   |
|  | Symbole général d'action obligatoire   |
|  | Ce symbole indique que ce produit ne doit pas être mis au rebut avec les déchets ménagers, conformément à la directive DEEE (2002/96/CE) et à la législation nationale en vigueur. Ce produit doit être remis à un centre de collecte approprié.<br>Une manipulation incorrecte de ce type de déchet peut avoir un impact négatif sur l'environnement et sur la santé humaine, en raison des substances potentiellement dangereuses généralement associées aux EEE.<br>Votre coopération pour la mise au rebut correcte de ce produit contribuera en outre à une utilisation efficace des ressources naturelles.<br>Pour en savoir plus sur les déchets, contactez notre revendeur agréé ou notre représentant FUJIFILM. |
|  | Année de fabrication   |
|  | Attention relative à une charge placée de façon localisée /<br>Ne faites pas tomber le détecteur à panneau plat sur l'utilisateur/le patient   |
|  | Charge sur l'intégralité de la surface   |
|  | Ce symbole inclut les émetteurs RF ou indique un équipement émettant intentionnellement de l'énergie électromagnétique RF à des fins de diagnostic ou de traitement.   |
|  | Consultez le mode d'emploi   |
|  | Ne montez pas sur la surface   |
|  | Ce symbole indique que la pièce n'est pas une batterie.<br>Ce symbole indique à l'utilisateur de ne pas débrancher le câble de branchement d'abonné pendant l'utilisation.   |

# Chapter 3 Basic Operation

## 3.1 Preparing the Flat Panel Sensor

This section describes how to prepare the flat panel sensor.

### 3.1.1 Type of Flat Panel Sensor

DR-ID 1201SE, DR-ID 1202SE, DR-ID 1211SE, DR-ID 1212SE, DR-ID 1213SE

The battery pack (optional) is required when the flat panel sensor is used in wireless communication mode.

### 3.1.2 Number of the Connectable Flat Panel Sensors

To enable the flat panel sensor, its ID needs to be registered in advance by our official dealer or FUJIFILM Representative.

Up to a hundred flat panel sensors can be registered.

Up to five flat panel sensors can be connected. Only one flat panel sensor can be connected to one docking stand in wired communication mode. Up to three docking stands can be used.



Depending on the configuration, the control cabinet (DR-ID 1200MC) may not be included in the system. If not included, the software for the control cabinet can be installed on the image processing unit (DR-ID 300CL). For detail specification of image processing unit, please refer to "DR-ID 300CL Operation Manual"

### 3.1.3 Inserting/Removing the Flat Panel Sensor into/from the Radiographic Examination Stand

Follow the procedure below to insert/remove the flat panel sensor into/from the radiographic examination stand.

① For details, see the Operation Manual for the radiographic examination stand



#### CAUTIONS

For the positioning at the time of inserting/removing the flat panel sensor, see the Operation Manual for the radiographic examination stand.



#### CAUTIONS

Make sure that the flat panel sensor is installed in the radiographic examination stand securely.



#### CAUTIONS

Be careful not to have your fingers caught when inserting/removing the flat panel sensor into/from the radiographic examination stand.



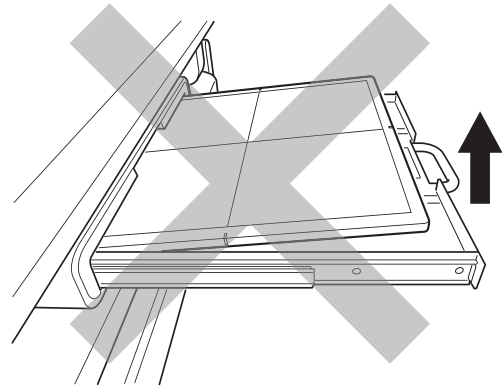
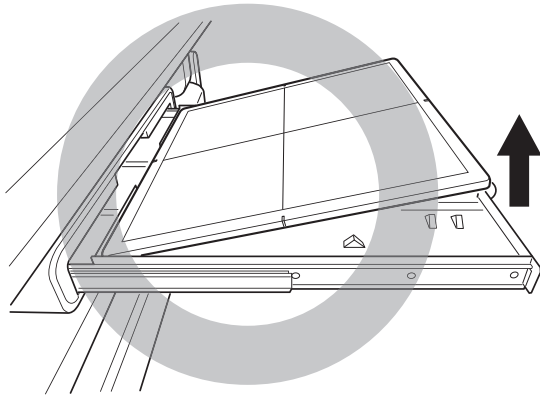
#### CAUTIONS

When pulling out/pushing in the tray of the radiographic examination stand after setting the flat panel sensor on it, be careful not to drop the flat panel sensor or damage the tray.



## CAUTIONS

Before inserting/removing the flat panel sensor into/from the radiographic examination stand, pull out the tray completely. Otherwise, the flat panel sensor may be damaged.



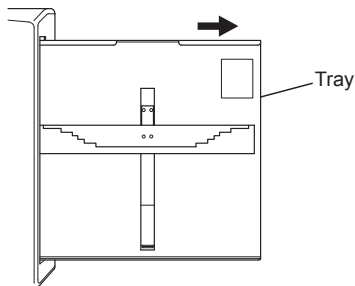
### [1] Upright type



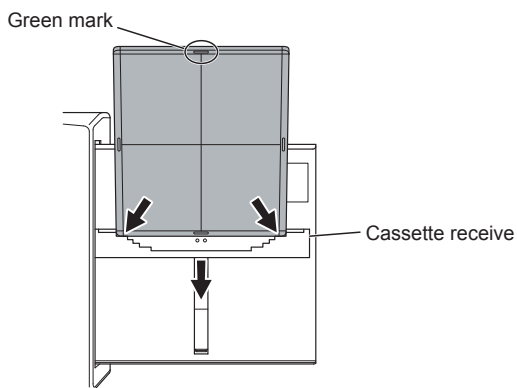
## CAUTIONS

When inserting the flat panel sensor into the radiographic examination stand, direct the exposure plane toward the X-ray tube.

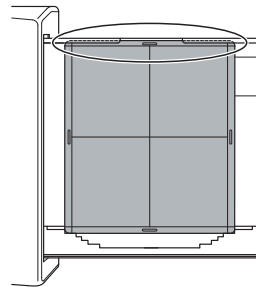
#### 1 Pull out the tray.



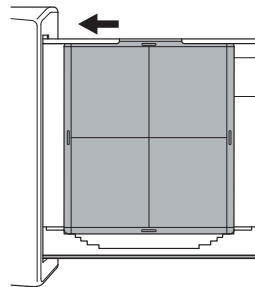
#### 2 Insert the flat panel sensor into the cassette receive with the green mark of the flat panel sensor up, and then move it downwards.



#### 3 Set the flat panel sensor to the upper part of the tray.



#### 4 Push the tray back into place after setting the flat panel sensor.



#### 5 Remove the flat panel sensor after use.

Pull out the tray, push the cassette receive downwards, and then remove the flat panel sensor. Push the tray back into place.



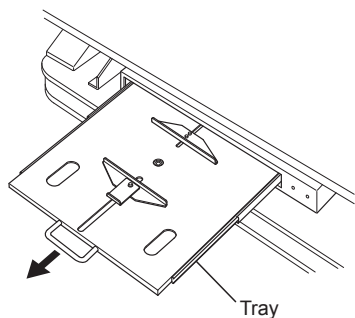
## [2] Bed type



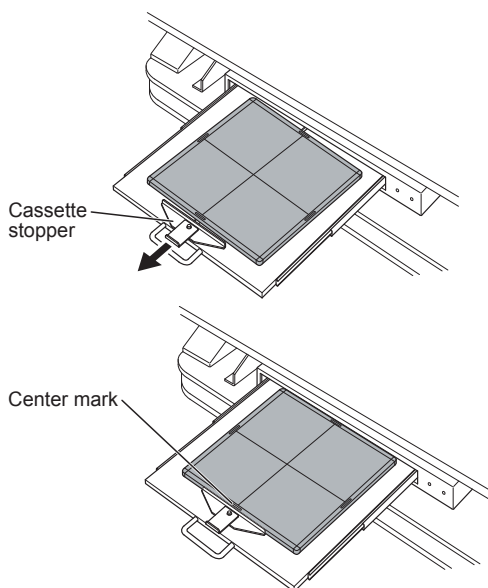
### CAUTIONS

When inserting the flat panel sensor to the radiographic examination stand, direct the exposure plane upwards.

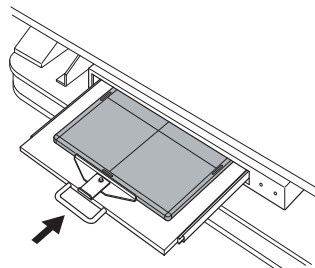
- 1 Pull out the tray by using the handle.



- 2 Pull the cassette stopper, and set the flat panel sensor so that its center mark is aligned with the center of the stopper.



- 3 Push the tray back into place by using the handle after setting the flat panel sensor.



- 4 Remove the flat panel sensor after use.

Hold the handle and pull out the tray. Remove the flat panel sensor while pulling the cassette stopper, and then push the tray back into place.

### 3.1.4 Charging the Battery Pack for the Flat Panel Sensor

Use the battery charger recommended by FUJIFILM Corporation.

For details on operations, refer to the instruction manual for the battery charger.

### 3.1.5 Installing/Removing the Battery Pack for the Flat Panel Sensor

Follow the procedure below to install/remove the battery pack for the flat panel sensor.



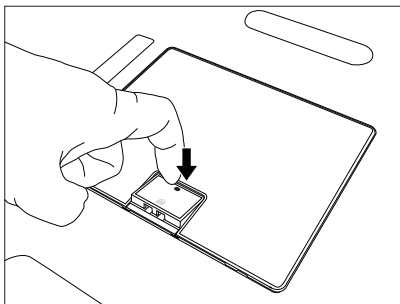
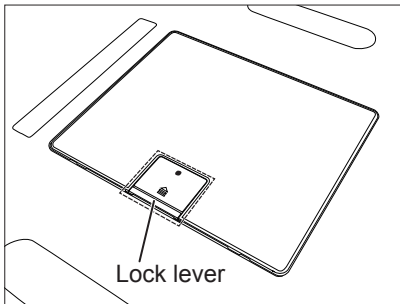
When installing/removing the battery pack, place the flat panel sensor on a flat place.



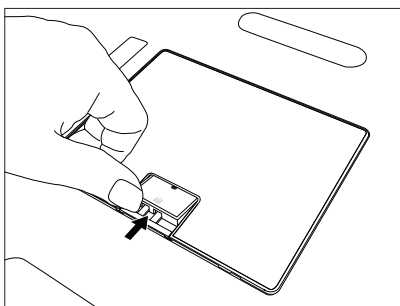
Do not remove the battery pack until a processed image appears in the window of the image processing unit after the exposure.

#### 1 Remove the battery cover.

Place the flat panel sensor with the back side facing upward and press the “●” portion of the lock lever.



Slide the lock lever in the direction of the arrow to remove the battery cover.



#### 2 Install the battery pack.

Slide the battery pack along the dent of the battery section of the flat panel sensor toward the connector terminal. Align the guide mark of the battery pack with that of the flat panel sensor, and push the battery pack in to install it.

Make sure that battery pack is securely installed.



When installing the battery pack, do not press the lock lever.



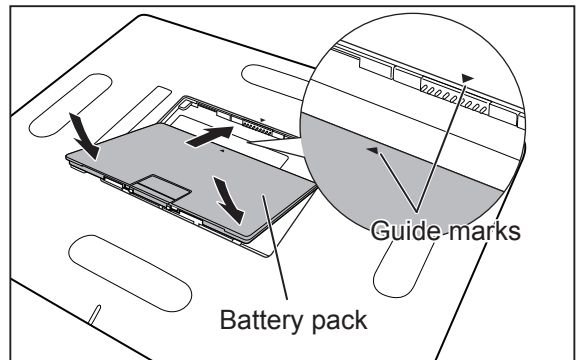
Pushing the battery pack in with the guide marks misaligned may damage the connector terminal.



When attaching the battery pack, make sure that the waterproof packing attached to the connector terminal of the flat panel sensor is aligned properly.



When the battery pack is installed in the flat panel sensor, the power is automatically turned on.



- To remove the battery pack, perform the same procedure as Step **1** (removing the battery cover).
- To install the battery cover, perform the same procedure as Step **2** (installing the battery pack).

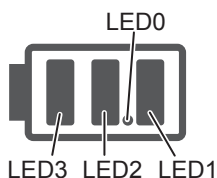
### 3.1.6 Lamp Indications on the Flat Panel Sensor

This section explains the indications of the flat panel sensor identification lamp and the battery pack level indicator. For other lamp indications, see “2.2 Unit Names and the Functions”.

#### ■ Flat panel sensor identification lamp

|                                 |                                    |
|---------------------------------|------------------------------------|
| The flat panel sensor is active | : Blinking in white                |
| While in sleep/extra sleep mode | : Blinking in identification color |
| While detecting an impact       | : Blinking in red                  |

#### ■ Battery pack level indicator



(When the battery pack is being charged)

|   |  |
|---|--|
| Fully charged   | LED1, 2, 3: Lit in green                       |
| Available time: 60 minutes or more                          | LED3: Blinking in green, LED1, 2: Lit in green |
| Available time: 30 minutes or more but less than 60 minutes | LED2 : Blinking in green, LED1: Lit in green   |
| Available time: Less than 30 minutes                        | LED1: Blinking in green                        |

(When the battery pack is not charged)

|   |                          |
|---|--------------------------|
| Available time: 60 minutes or more                          | LED1, 2, 3: Lit in green |
| Available time: 20 minutes or more but less than 60 minutes | LED1, 2: Lit in green    |
| Available time: Less than 20 minutes                        | LED1: Lit in green       |
| Available time: 10 minutes or less                          | LED0: Lit in orange      |

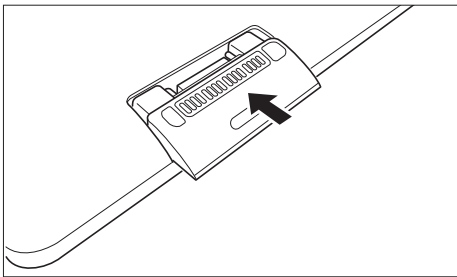
## 3.1.7 Attaching the Flat Panel Sensor to the Docking Stand



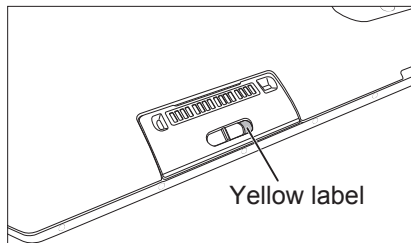
### CAUTIONS

- Handle the docking stand carefully. Do not hit or drop the docking stand or subject it to severe shock to avoid possible damage.
- If any damage such as cracking, chipping or peeling is found on the docking stand, use it after repair. Otherwise, personal injury may result. Consult a FUJIFILM dealer for repair.
- If excessive force is applied to the docking stand, it may be damaged. In addition, do not apply excessive force to the flat panel sensor inserted in the docking stand.
- When moving the docking stand that has already been installed, consult our official dealer or local representative.
- Do not pull the cable forcibly. Otherwise, the cable may be broken or the docking stand may be damaged.
- When the flat panel sensor is inserted, make sure that a buzzer sounds or that the battery pack level indicator blinks.

- 1** Disconnect the connector from the flat panel sensor and then attach the adapter for the docking stand.

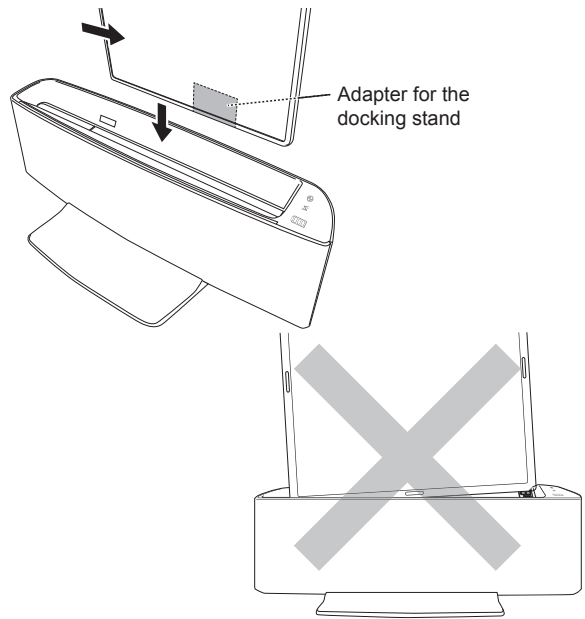
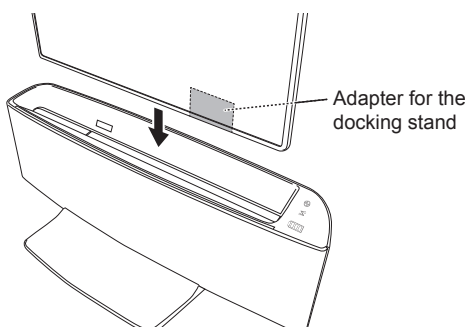


When the adapter for the docking stand is attached to the flat panel sensor, make sure that the yellow label below the lock key can be seen and the adapter for the docking stand is locked securely.



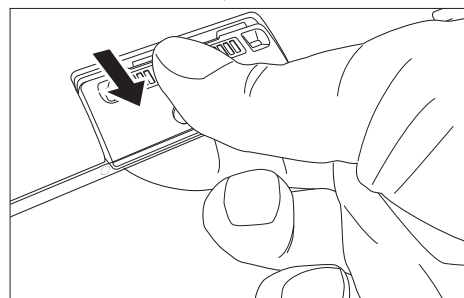
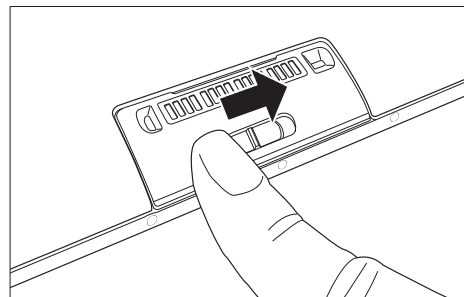
- 2** Insert the flat panel sensor.

Check the position of the adapter for the docking stand, align the flat panel sensor with the docking stand, and slowly insert the flat panel sensor straight into the docking stand until it stops along the right and left guides (or along the right guide for DR-ID 1213SE) of the docking stand. If the instruction above is not followed, the flat panel sensor or the docking stand may be damaged.



### HINT

When removing the adapter for the docking stand from the flat panel sensor, slide the lock key toward the right side, and pull out the adapter for the docking stand.



## 3.2 Starting Up and Shutting Down the DR-ID 1200DU

---

This section explains how to start up and shut down the DR-ID 1200DU.

---

### 3.2.1 Starting Up the DR-ID 1200DU

#### **1** Turn on the main switch on the docking stand.

Make sure that the POWER lamp among the status lamps is lit in blue.



---

Start up the DR-ID 1200DU with the initial settings properly made by our official dealer or FUJIFILM Representative.

---

### 3.2.2 Shutting Down the DR-ID 1200DU

#### **1** Turn off the main switch on the docking stand.

Make sure that the POWER lamp among the status lamps is off.

## 3.3 How to Use the Memory Exposure Mode

In the memory exposure mode, a maximum of 100 exposures (DR-ID 1201SE/DR-ID 1202SE/DR-ID 1211SE/DR-ID 1212SE) or 200 exposures (DR-ID 1213SE) can be made only with the flat panel sensor, without using the image processing unit.

### 3.3.1 Start-up

- 1 Press and hold the memory exposure mode start button and the sleep release/memory exposure mode start button at the same time for 2 seconds.

### 3.3.2 Image Reading

- 1 Insert the flat panel sensor into the docking stand.

For details on how to insert the flat panel sensor into the docking stand, see “3.1.7 Attaching the Flat Panel Sensor to the Docking Stand”.

### 3.3.3 List of Error Codes

If an error occurs while starting up or using the memory exposure mode, the corresponding error code is displayed in the memory exposure mode status. Terminate the memory exposure mode and then perform the countermeasure against each error. Error codes are listed in the table below.

| Error code                     | Occurrence condition  | Countermeasure  |
|--------------------------------|---|---|
| E01                            | Calibration of the flat panel sensor is in progress.                  | Wait for a while and then start up the memory exposure mode again.  |
|                                | An exposure menu is registered on the image processing unit.          | Terminate or suspend the study on the image processing unit.  |
|                                | The flat panel sensor is inserted in the docking stand.               | Remove the flat panel sensor from the docking stand.  |
| E03                            | An X-ray is irradiated when exposure is not available.                | Connect the flat panel sensor to the image processing unit or remove and attach the battery pack and then restart the memory exposure mode. |
| E04                            | The flat panel sensor detects an impact.                              | Connect the flat panel sensor to the image processing unit.   |
| E05                            | The remaining capacity of the battery pack is low.                    | Replace the battery pack.   |
| E06, E07, E17, E18             | The temperature of the flat panel sensor or battery back is abnormal. | Check if the operating temperature is within the temperature range specified in the environmental operating conditions.                     |
| E08, E09, E11 to E14, E16, E19 | An abnormality occurred on the flat panel sensor.                     | Consult our official dealer or local representative.  |
| E10                            | Calibration has failed.   | Restart the memory exposure mode.   |
| E15                            | Image storage has failed.   | Consult our official dealer or local representative.  |

If the same error occurs repeatedly, consult our official dealer or local representative.

### 3.3.4 How to Terminate Memory Exposure Mode

Remove the battery pack from the flat panel sensor, or insert the flat panel sensor into the docking stand.



#### HINT

Images exposed in the memory exposure mode are not lost even if the battery pack is removed from the flat panel sensor.

# Chapter 4 Daily Inspection and Maintenance

## 4.1 Daily User Inspection and Maintenance

During maintenance and inspection, strictly observe precautions contained in “Chapter 1 For Safe Operation” in this manual for you to use the DR-ID 1200DU under best conditions.

### 4.1.1 Periodical Inspection

#### Inspection Every Three Months

Once every three months, remove any dirt or dust accumulated in each part of the equipment using a vacuum cleaner or air duster, clean each part with a slightly moistened soft cloth and then wipe off any moisture with a dry cloth.

● See “2.2 Unit Names and the Functions” (page 2-3).



#### CAUTIONS

Be sure to turn off the power before cleaning each part of the device.

| No. | Unit              | No. | Unit          |
|-----|-------------------|-----|---------------|
| 1   | Flat panel sensor | 2   | Docking stand |



#### CAUTIONS

Ensure sufficient space when cleaning the equipment on a table, etc.

# 4

## Daily Inspection and Maintenance



## A.1 Specifications

Specifications of the DR-ID 1200DU are shown below.

### A.1.1 Reduced Equivalent (DR-ID 1200)

Peak reduced equivalent on the front panel of the flat panel sensor: 0.5 mmAl

### A.1.2 Power Supply Conditions

|               |             |
|---------------|-------------|
| Rated voltage | : 100-240V~ |
| Input current | : 2-0.84A   |
| Frequency     | : 50-60Hz   |

### A.1.3 Environmental Conditions

#### (1) Operating Conditions

|                      |   |
|----------------------|---|
| Temperature          | : 15°C (15%RH) - 30°C (80%RH)                       |
| Humidity             | : 15%RH (15°C) - 80%RH (30°C) (no dew condensation) |
| Atmospheric pressure | : 700hPa - 1060hPa                                  |

#### (2) Non-operating Conditions

**(Environmental conditions under which power can be supplied)**

|                      |                                       |
|----------------------|---------------------------------------|
| Temperature          | : 5°C - 35°C                          |
| Humidity             | : 10%RH - 80%RH (no dew condensation) |
| Atmospheric pressure | : 700hPa - 1060hPa                    |

#### (3) Storage Conditions

|                      |                                       |
|----------------------|---------------------------------------|
| Temperature          | : -30°C - 50°C                        |
| Humidity             | : 10%RH - 90%RH (no dew condensation) |
| Atmospheric pressure | : 700hPa - 1060hPa                    |



#### CAUTIONS

- When the flat panel sensor is used in high temperature condition for long period of time, it may cause image artifacts and/or failure of the device.
- When using the DR-ID 1201SE, DR-ID 1211SE or DR-ID 1213SE, if the temperature is 37°C and the humidity is 90% RH (no dew condensation), continuous use of 30 minutes or less is possible.  
Using Manual Mode (energy saving mode) from the console when the temperature and humidity are the same allows up to 1 hour of continuous use.



For details on the power supply conditions and environmental conditions of the image processing unit, see the "Console Advance (DR-ID 300CL) Operation Manual".

## A.1.4 Image Performance

Each flat panel sensor complies with IEC 62220-1 (MEDICAL ELECTRICAL EQUIPMENT - CHARACTERISTICS OF DIGITAL X-RAY IMAGING DEVICES - ) as a general X-ray radiography equipment.

To ensure optimal image quality, it is recommended that you do not use the flat panel sensor near devices (motor, transformer, switching supply, etc.) that generate electromagnetic noise.

## A.1.5 Load Restriction

Entire surface load :

DR-ID 1201SE, DR-ID 1202SE, DR-ID 1211SE, DR-ID 1212SE, DR-ID 1213SE :  
310kg (683.6 lb)

Local load :

DR-ID 1201SE, DR-ID 1202SE, DR-ID 1211SE, DR-ID 1212SE, DR-ID 1213SE :  
160kg (352.8 lb) /  $\varnothing$ 40mm (1.6in.) (Based on FUJIFILM measurement specifications)



### CAUTIONS

**Do not apply an excessive force to the exposure plane.**

**The sensor inside the flat panel sensor may be damaged, and it may not be possible to make an exposure properly.**

## A.1.6 Radio Waves

Wireless specifications for the flat panel sensor and the access point are as follows.

|                        | Flat panel sensor           | Access point (optional)     |
|------------------------|-----------------------------|-----------------------------|
| Wireless specification | IEEE802.11n                 | IEEE 802.11n                |
| Transmit frequency     | 5.2, 5.3, 5.6, 5.8, 2.4 GHz | 5.2, 5.3, 5.6, 5.8, 2.4 GHz |
| Modulation             | OFDM                        | OFDM                        |
| Frequency tolerance    | $\pm$ 20 ppm                | $\pm$ 20 ppm                |
| Data transfer rate     | 35 Mbps                     | 35 Mbps                     |
| Transfer power         | 17 dBm or less              | 15.91 dBm or less           |

For wireless specifications of the image processing unit, see "DR-ID 300CL Operation Manual".



### CAUTIONS

- **Transmit frequencies available vary, depending on the country.**
- **Radio waves available outdoors vary, depending on the country where the system is used.**  
(For Canada)  
**Radio waves in the 5.2GHz and 5.3GHz frequency band can be used indoors only.**  
(For U.S.)  
**Radio waves in the 5.2GHz frequency band can be used indoors only.**  
**When radio waves in the 5.3GHz and 5.6GHz frequency bands are selected, the DFS function will operate.**
- **When the FDR D-EVO II and any other wireless equipment are operating on the same frequency channel in a hospital, it may take time to show an image on the image processing unit monitor.**



## CAUTIONS

The available scientific evidence does not show that any health problems are associated with using low power wireless devices. There is no proof, however, that these low power wireless devices are absolutely safe. Low power Wireless devices emit low levels of radio frequency energy (RF) in the microwave range while being used. Whereas high levels of RF can produce health effects (by heating tissue), exposure of low-level RF that does not produce heating effects causes no known adverse health effects. Many studies of low-level RF exposures have not found any biological effects. Some studies have suggested that some biological effects might occur, but such findings have not been confirmed by additional research. DR-ID 1201SE/DR-ID 1202SE/DR-ID 1211SE/DR-ID 1212SE/DR-ID 1213SE has been tested and found to comply with FCC/IC radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines and RSS-102 of the IC radio frequency (RF) Exposure rules.

Les connaissances scientifiques dont nous disposons n'ont mis en évidence aucun problème de santé associé à l'usage des appareils sans fil à faible puissance. Nous ne sommes cependant pas en mesure de prouver que ces appareils sans fil à faible puissance sont entièrement sans danger. Les appareils sans fil à faible puissance émettent une énergie radioélectrique (RF) très faible dans le spectre des micro-ondes lorsqu'ils sont utilisés. Alors qu'une dose élevée de RF peut avoir des effets sur la santé (en chauffant les tissus), l'exposition à de faibles RF qui ne produisent pas de chaleur n'a pas de mauvais effets connus sur la santé. De nombreuses études ont été menées sur les expositions aux RF faibles et n'ont découvert aucun effet biologique. Certaines études ont suggéré qu'il pouvait y avoir certains effets biologiques, mais ces résultats n'ont pas été confirmés par des recherches supplémentaires. DR-ID 1201SE/DR-ID 1202SE/DR-ID 1211SE/DR-ID 1212SE/DR-ID 1213SE a été testé et jugé conforme aux limites d'exposition aux rayonnements énoncées pour un environnement non contrôlé et respecte les règles les radioélectriques (RF) de la FCC lignes directrices d'exposition et d'exposition aux fréquences radioélectriques (RF) CNR-102 de l'IC.

# A.2 External View and Weight

The external view and weight of the DR-ID 1200DU are shown below.



**Specifications, dimensions and weight are subject to change for improvement without prior notice.**

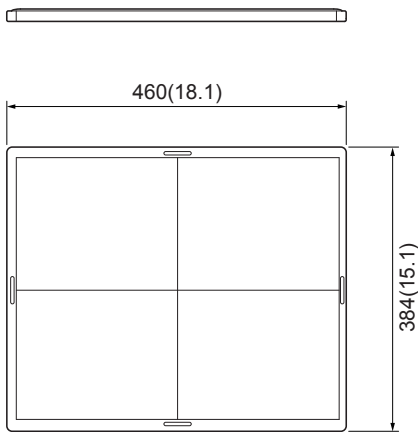
## A.2.1 DR-ID 1200

### ■ DR-ID 1200DU

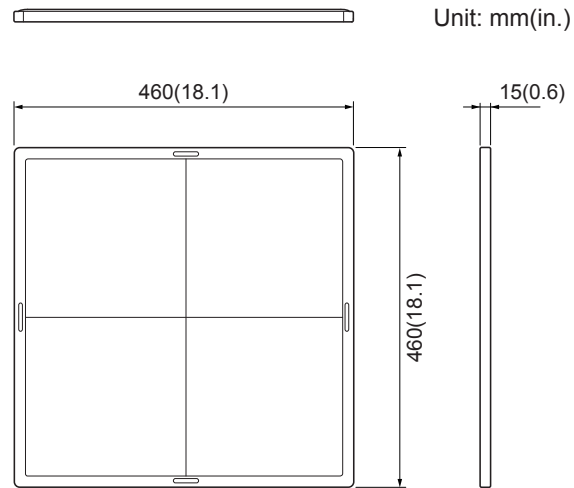
|                                  | Width<br>(mm(in.)) | Depth<br>(mm(in.)) | Height<br>(mm(in.)) | Weight<br>(kg(lb))     |
|----------------------------------|--------------------|--------------------|---------------------|------------------------|
| Flat panel sensor (DR-ID 1201SE) | 460(18.1)          | 384(15.1)          | 15(0.6)             | 2.6(5.8)*              |
| Flat panel sensor (DR-ID 1202SE) | 460(18.1)          | 460(18.1)          | 15(0.6)             | 3.2(7.1)*              |
| Flat panel sensor (DR-ID 1211SE) | 460(18.1)          | 384(15.1)          | 15(0.6)             | 2.6(5.8)*              |
| Flat panel sensor (DR-ID 1212SE) | 460(18.1)          | 460(18.1)          | 15(0.6)             | 3.2(7.1)*              |
| Flat panel sensor (DR-ID 1213SE) | 328(13.0)          | 268(10.6)          | 15(0.6)             | 1.5(3.3)* <sup>1</sup> |
| Docking stand                    | 579(22.8)          | 93(3.7)            | 202(8.0)            | 5.5(12.1)              |

\* The weight of the battery pack is included.

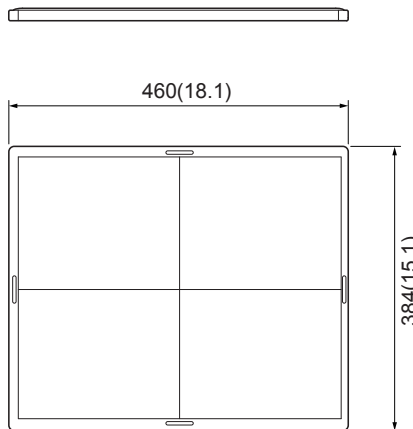
Unit: mm(in.)



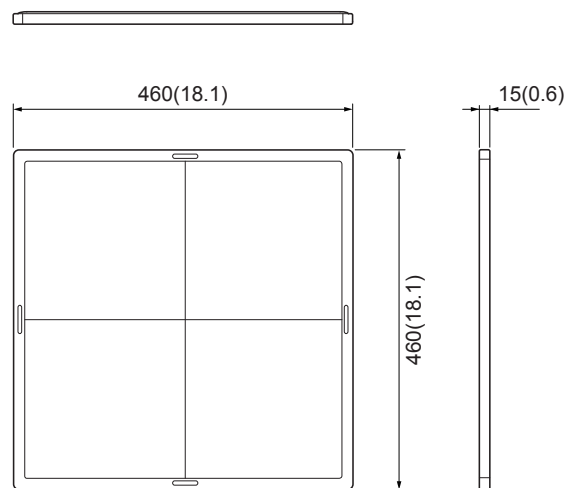
Flat panel sensor (DR-ID 1201SE)



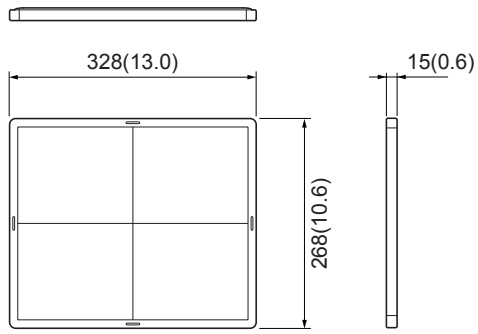
Flat panel sensor (DR-ID 1202SE)



Flat panel sensor (DR-ID 1211SE)

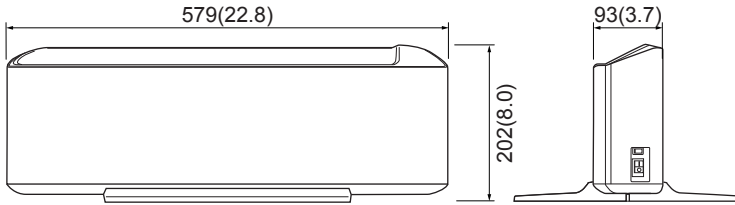
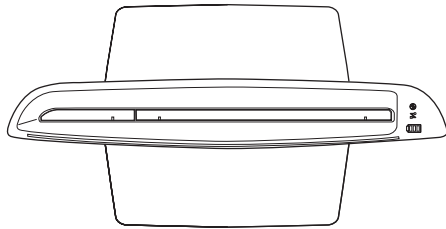


Flat panel sensor (DR-ID 1212SE)



Flat panel sensor (DR-ID 1213SE)

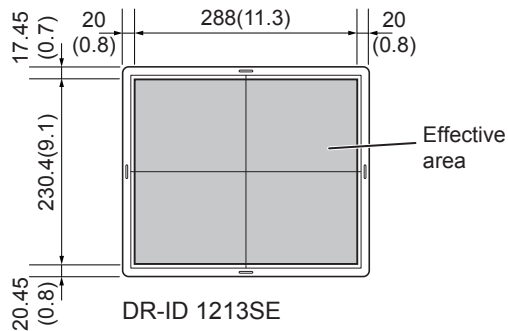
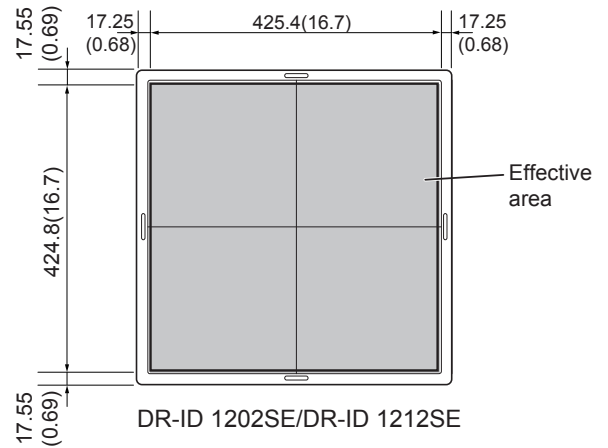
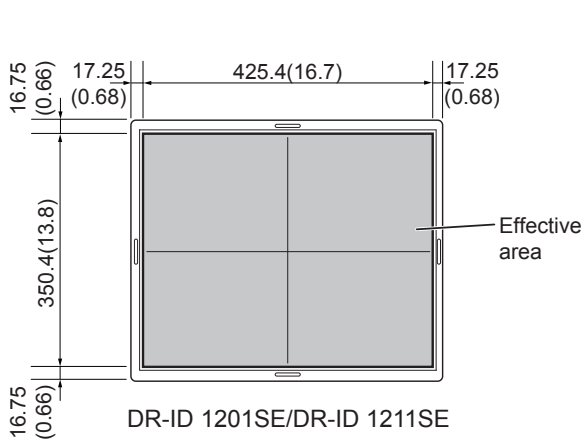
Unit: mm(in.)



Docking stand



The effective area of the flat panel sensor is as shown in the figure below.



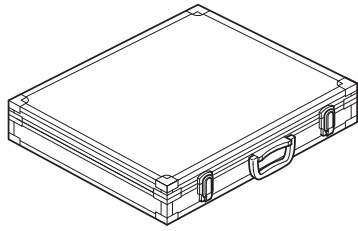


# Appendix O Use of Optional Items

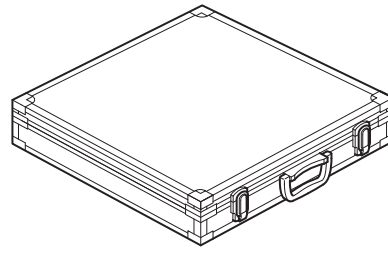
## O.1 Optional Items

| Name                          | Description  |
|-------------------------------|--|
| SE storage case               | A case used for carrying and storing the flat panel sensor.<br>▶ For the external view and precautions, see “O.2 Using the SE Storage Case”page O-2).    |
| Adapter for the docking stand | An adapter used for attaching the flat panel sensor to the docking stand.  |
| Battery pack                  | A battery pack for the flat panel sensor.<br>▶ For precautions, charging and installing/removing, see pages 1-6, 1-7 and 3-4.                            |
| DS Anchor Fixing Bracket      | An anchor and fixing tool set used for fixing the docking stand to the floor.<br>▶ For the external view, see “O.3 DS Anchor Fixing Bracket” (page O-3). |
| Wall Fixing Bracket           | A fixing tool used for fixing the docking stand to the wall.<br>▶ For the external view, see “O.4 Wall Fixing Bracket” (page O-4).                       |

## O.2 Using the SE Storage Case



SE storage case for 35  
(DR-ID 1201SE/DR-ID 1211SE)



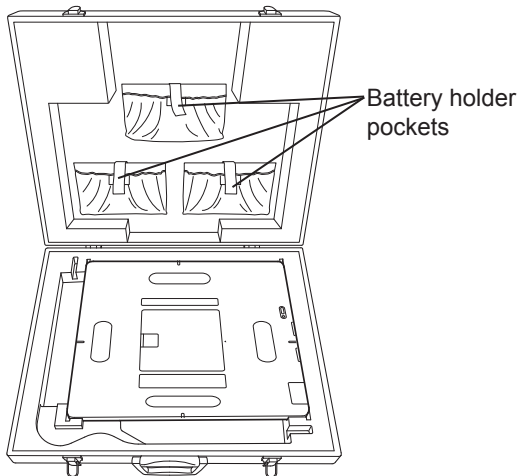
SE storage case for 43  
(DR-ID 1202SE/DR-ID 1212SE)



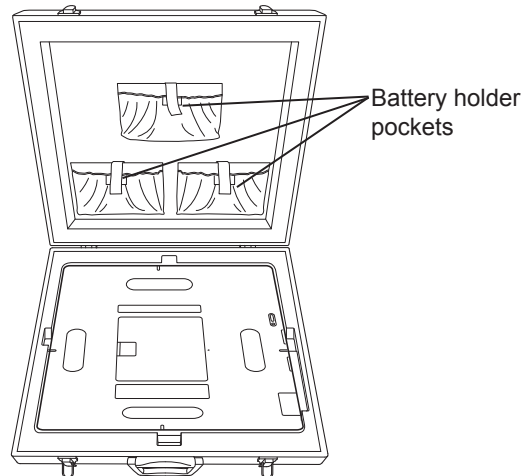
### CAUTIONS

- Do not store the SE storage case in a location with the following conditions.
  - Where the SE storage case is exposed to direct sunlight.
  - Where the temperature and humidity change dramatically.
  - Where there is excessive dust.
  - Where chemicals are stored.
  - Where the SE storage case may be exposed to water due to water leakage or ingress.
- Store the flat panel sensor and the cable properly in the SE storage case. Otherwise, they may be caught under the case lid and damaged.
- Do not store anything other than the flat panel sensor in the SE storage case.
- Carefully carry the SE storage case when the flat panel sensor is inside.
- The SE storage case and/or the flat panel sensor inside may be damaged if the case is subject to an impact.
- Do not open/close the SE storage case in a location where there is excessive dust or dirt.
- Do not put the SE storage case on an unstable place. If it falls or drops, personal injury may result.
- Be careful not to have your hand or an object caught when closing the SE storage case.

When storing the flat panel sensor in the SE storage case, place it with the exposure plane down. For details, see the illustrations below.



SE storage case for 35  
(DR-ID 1201SE/DR-ID 1211SE)

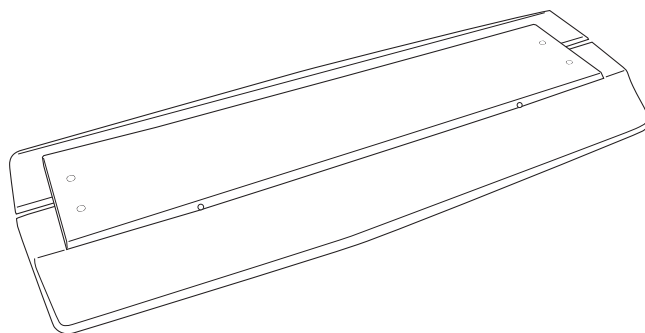


SE storage case for 43  
(DR-ID 1202SE/DR-ID 1212SE)



## O.3 DS Anchor Fixing Bracket

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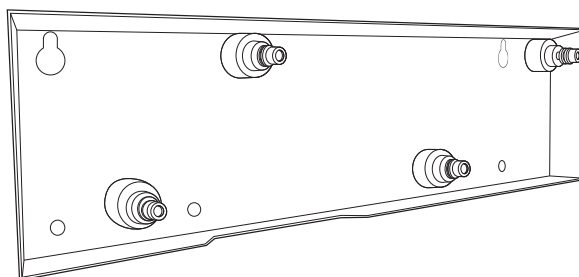
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Contact a FUJIFILM dealer for installation of the DS anchor fixing bracket.

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## O.4 Wall Fixing Bracket

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**Contact a FUJIFILM dealer for installation of the wall fixing bracket.**

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# Maintenance and Inspection

## 1 Maintenance and Inspection Items Assigned to Specified Dealer

For periodical inspection of the equipment and necessary arrangements, consult our official dealer or local representative.

### Periodical Maintenance

Make sure that the periodical maintenance and inspection assigned to our official dealer or FUJIFILM Representative are performed as specified.

#### Maintenance and Inspection Items Assigned to Specified Dealer

| Periodical Maintenance and Inspection Items                    | Period        |
|--|---------------|
| Checking of the image  | Every year    |
| Checking of the operation record by referring to the error log | Every year    |
| Checking of the units  | Every 2 years |

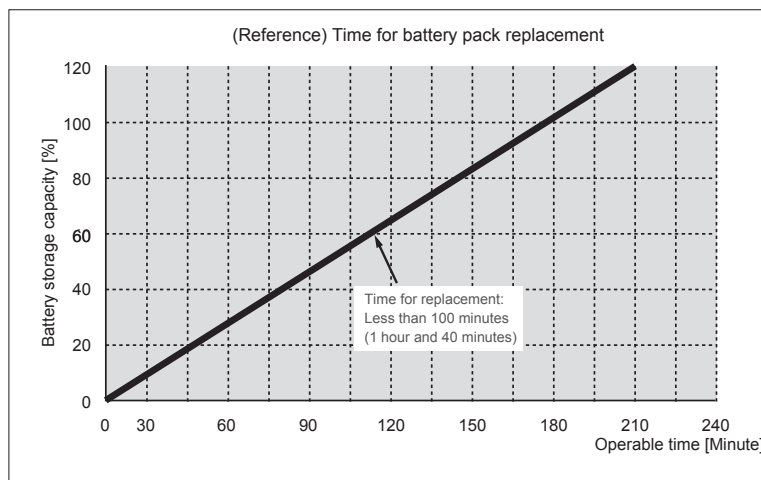
\* It is recommended that the battery pack be replaced, if the battery storage capacity becomes lower than 60%.

The battery pack should be replaced when the operable time is less than the following.

- DR-ID 1201SE/DR-ID 1202SE/DR-ID 1211SE/DR-ID 1212SE/DR-ID 1213SE :  
100 minutes (1 hour and 40 minutes)

\* Refer to the operable time displayed on the image processing unit when the battery pack is fully charged and no exposure menu is registered.

\* Depending on the usage environment, etc., the displayed time is slightly different from the actual operable time.



The cycles of periodical maintenance and inspection and of parts replacement differ depending on the usage and the daily operation time.

For details, contact our official dealer or FUJIFILM Representative.

# FUJIFILM



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