

- Others



- Be sure to reconnect the cables to the proper connectors. Otherwise, the instrument may malfunction or may be damaged.



- Never use with other power supplies and cables. Use DEPS9601 only

- During Cleaning

- Do not use anything other than neutral detergent for cleaning the cover of the instrument. Otherwise, the coating will be corroded.

- Storage

- Be sure to store the sensor unit a safe place where it will not fall or drop
- When not using the portable detector on the flat place or using the detector on the uneven Place, Be cautious for damage.

## ■ Power Supply Box

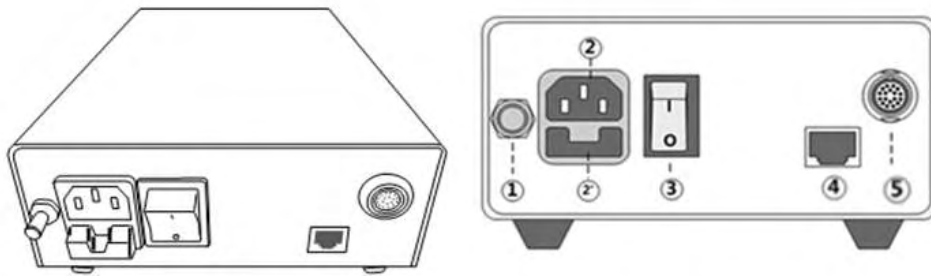


FIGURE 10 POWER SUPPLY BOX

Item	Description
Power Supply Box	① Grounding Jack : Common Ground or Earth
	② AC Inlet: AC Power Plug (2' - Fuse socket) Input AC Socket Type : IEC60320 C14 Type Input AC Socket : 6220(SCHURTER)
	③ Power switch: Power On/Off switch → Green colored indicator is constant when Power ON
	④ LAN port : LAN cable connector
	⑤ Main Cable Connector : connecting power supply with detector

Table 5 POWER SUPPLY BOX DESCRIPTION

## ■ Main Cable

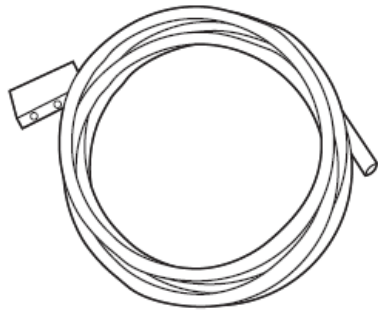


FIGURE 11 MAIN CABLE

This cable connects the detector to the power supply box.



Because the instrument's cable is long, take care so cables do not get tangled during use. Also, be careful not to get your feet caught in the cable.



Do not pull the cable by force. And If the cable gets tangled, do not pull the main body of portable detector by force. Otherwise, the cable is damaged and causes fire or electric shock.

## ■ Battery Recharger

The battery recharger is used for S3025-W. You can recharge the battery and check the charge condition.

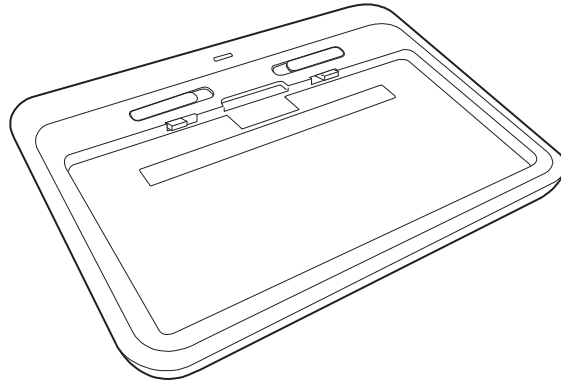


FIGURE 12 BATTERY RECHARGER

1. LED: Indicates the condition of charge. This is turned off when the power is disconnected or is not recharged.
2. The Battery recharger Terminal
3. Knob: It is used to detach a battery from the recharger.

Indicates as follows When the battery recharges, When the battery is recharging, it changes red into green according to the level of charge.

LED	The status of battery Recharger
• Red	• Fast charging mode ( Until About 90% )
• Green	• Normal charging mode ( About 85% ~ 100 % )
• Blue	• The error of charging

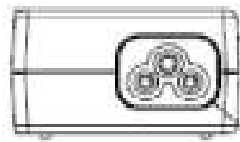
Table 6 BATTERY RECHARGER INDICATE LED



If LED light is blue during recharging the battery, stop recharging the battery immediately and check whether there are Impurities or not in the battery recharger Terminal (2).

Despite taking action on upper step, if LED light is still blue, stop recharging the battery.

Recharger Adapter



Input AC Socket Type : IEC 320 C6 Type.

➤ The use



FIGURE 13 BATTERY INSERT

After the Adaptor (AD-9019S) connects to Power cord, be sure to connect it to Adaptor terminal on the back side of Recharger

Be sure to insert the battery to recharger until it sounds clack.

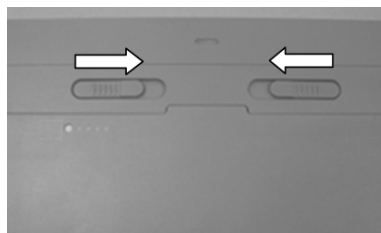


FIGURE 14 BATTERY LOCK

Be sure to push inside two knobs to the end when the battery detached from the recharger.



- When using the S3025-W battery recharger, always use the battery (SDB-3S1PA) provided by Samsung Electronics Co. Ltd..



- When using Battery recharger, Be sure to use Adapter (AD-9019S) Provided by Samsung Electronics Co. Ltd..
- When moving the S3025-W battery recharger, always separate the power and battery pack



- When using the S3025-W battery recharger, Always be cautious about touching liquid, impurities. In case of short trouble.

- Do not disassemble the battery recharger.



- When using the S3025-W battery recharger, be sure to comply with the user environment. The performance of S3025-W battery can be down and the durability can be shorter.



- Be sure to use the S3025-W battery recharger in the Control Room. This battery recharger is not designed to use in the Examination Room.



- When not using the S3025-W battery recharger for a long time. Always do separate the battery recharger from the Power.



- When inserting the battery to the battery recharger, Be careful of being caught clothes or impurities.

■ Battery



FIGURE 15 BATTERY

This is the battery for using the S3025-W (Detector) by wireless communications



- Be sure to recharge the battery by using the S3025-W (Detector) or the battery recharger (DEPS-9606) provided by Samsung Electronics Co. Ltd..



- If the battery is needed to be stored for a long period, battery should be removed from the application and stored in a place where humidity and temperature are low.



- While the battery is charged, used and stored, keep it away from object materials with static electric charges.



- If the terminals of the battery become dirty, wipe with a dry cloth before using the battery.



- Be sure to use the battery in the environment designated by Samsung. Otherwise, the life of battery can be short



- Stop using the battery if the battery becomes abnormally hot, disorder, discoloration, deformation, or abnormal conditions is detected during use, charge, or storage.



Don't short circuit (+) and (-) terminals with metallic object intentionally.



- Not be sure to touch liquid on the surface of the battery.



Don't pierce the battery with a sharp object such as a needle, screw drivers.



- Do not hit the battery with heavy objects.



- Don't step on the battery and throw or drop the battery on the hard floor to avoid mechanical shock.



- Don't disassemble the battery or modify the battery design including electric circuit.



## 4. OPERATING THE SYSTEM HARDWARE

### ■ Operating the System Hardware

#### ■ IP set up

[My Network Places] → [Properties] → [Local Area Connection] → [Properties] → [Internet Protocol (TCP/IP)]

→ [Use the following IP address]

IP address : 192 . 168 . 197 . 20 (Console PC)

Detector IP address is 192. 168. 197. 80 (default)

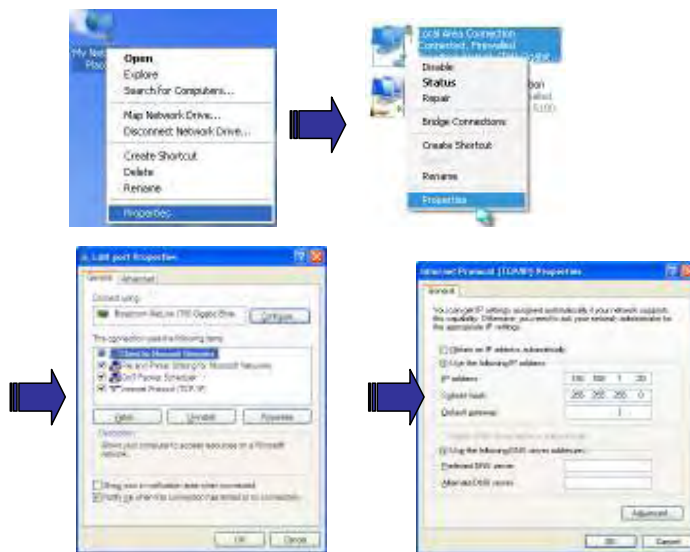


Figure 16 IP SET UP

It is possible to change IP address, but it shouldn't be the same as the detector IP address.

#### ■ Checking Connection

Check LED on the detector & power supply

Ping test: [Start] → [Run] → ping -t 192.168.197.80

## ■ Operation

### ➤ Switching power on / off

This equipment is turned on by the Power Button of each component.

Table 9 lists the methods for checking the power on status of the system components.

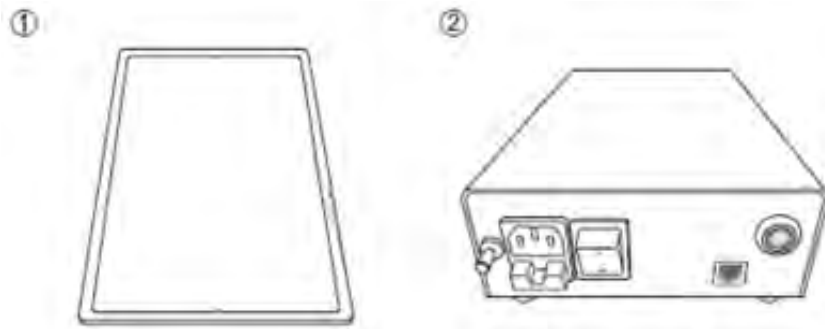


FIGURE 17 POWER APPLIED COMPONENTS (S3025-W)

Component	Power button location	To check the power status
Detector	Power switch on the bottom of the right side	Dimming blue power LED
Power supply Box	The front side of Power supply box	Green power LED

Table 7 CHECKING THE POWER STATUS OF COMPONENTS (S3025-W)

All connection should be done, before turn on the power supply box.

Turn on the power of the detector power supply box, workstation.

The green light of the LED indicator on the detector is on, the detector power is on.

The blue light of the LED indicator on the detector is blinking, the detector is getting prepared to work and initialize.

Turn off the power of the detector power supply box

When Detector is not turned on, be sure to check the Connection, the status of Battery and installation at first.



Below table 10 for turning off each component.

Component	Power Button Location	To check the power status
Detector	On the bottom of the right side	White power LED is turned off.
Power supply	The front side of PSU	Green power LED is turned off.

Table 8 POWER OFF STATUS

## ■ Operating description

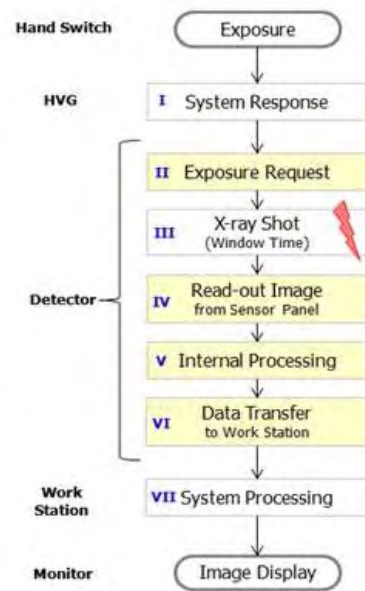


Figure 18: TIMING CHART

Item	min.	typ.	max.	unit
Exposure request time (II) Before x-ray pulse start	-	-	0.5	sec
Exposure window	-	0.5	4.0	sec
Image transmitted after exposure done (IV + V + VI)	Wireless	3.5	4.0	sec
	Wired	-	2.05	2.50
Image cycle time for exposure of 0.5sec	8	-	-	sec
Booting time	-	34	40	sec

Table 9 OPERATING TIME TABLE

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## ***FCC Statement of Conformance***

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

## ***IC Information***

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions:

- (1) This device may not cause interference, and
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

Cet appareil est conforme avec Industrie Canada RSS standard exempts de licence(s), Son utilisation est soumise à Les deux conditions suivantes:

- (1) cet appareil ne peut pas provoquer d'interférences et
- (2) cet appareil doit accepter Toute interférence, y compris les interférences qui peuvent causer un mauvais fonctionnement du dispositif.

Tests for EMC and RF including wireless EMC were performed according to the standards in the following table below.

<b>Item</b>	<b>Standards</b>
EMC	IEC 60601-1-2
Wireless EMC	EN 301 489-1 EN 301 489-17
RF	47 CFR Part 15C 47 CFR Part 15E EN 300 328 EN 301 893

## EMC Declaration

### 1. Compliance Statement

This equipment complies with IEC 60601-1-2 EMC standards for medical devices.

This equipment needs special precautions regarding EMC and needs to be installed and put into service according to the EMC information provided in the user manual.

Do not use any wireless devices, including cellular phones, near the system. All wireless devices, whether they comply with the EMC standard or not, may emit electromagnetic interferences and cause the system to malfunction when they are used nearby.

This equipment should not be used adjacent to or stacked with other equipment; if adjacent or stacked use is necessary, the equipment should be tested and verified in order to ensure normal operations in the configuration in which it will be used.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

All interconnect cables to peripheral devices must be shielded and properly grounded, except when technologically prohibited. Use of cables not properly shielded and grounded may result in the equipment causing radio frequency interference.

**EMC Cable List**

Port No.	Name	Type*	Cable Max. > 3 m	Cable Shielded	Comments
Signal					
1	Tether cable	I/O	7.0	Shielded	None
*Note: I/O = Signal Input or Output Port (Not Involved in Process Control)					

The use of cables or accessories other than those specified may result in increased emissions or decreased immunity.

Should any interference (EMC) be detected with other equipment, please position other equipment away from this one.

When using this system on a patient with an implantable pacemaker or an implantable cardioverter defibrillator, the patient must be informed that continuous X-ray exposure in pulse form may cause the pacemaker or cardioverter defibrillator to malfunction.

When using this system, ensure that X-rays are not exposed directly onto the patient's implantable pacemaker or implantable cardioverter defibrillator, and that the exposure time is kept as short as possible.

This equipment may be interfered with by other equipment, even if that other equipment complies with CISPR EMISSION requirements.

This device contains wireless module.  
 "FCC ID : A3LWIDT30Q"



Restriction of use of Wi-Fi using 5 GHz bands(5150 - 5350 MHz) "In the EU, the Wi-Fi function in this equipment should not be used outdoors.

≡ Wired & Wireless Interface

<b>Wired</b>	<b>Standard</b>	IEEE 802.3 compliant
	<b>Physical data rate</b>	10/100/1000 BASE-T
<b>Wireless</b>	<b>Standard</b>	IEEE 802.11 a/b/g/n WI-FI
	<b>Frequency</b>	2.4GHz/5GHz dual
	<b>Modulation</b>	OFDM with BPSK, QPSK, 16 QAM, 64 QAM, DBPSK, CCK
	<b>Security</b>	Open, WEP, WPA/WPA2 PSK, WPA/WPA2 Enterprise
	<b>Physical data rate</b>	<ul style="list-style-type: none"> <li>•IEEE 802.11a : 6-54Mbps</li> <li>•IEEE 802.11b : 1-11Mbps</li> <li>•IEEE 802.11g : 6-54Mbps</li> <li>•IEEE 802.11n : 6.5-300Mbps</li> </ul>
<b>Power Output (EIRP)</b>	For 2.4 GHz band : 13.80 dBm For 5 GHz Lower sub-band : 14.76 dBm For 5 GHz Higher sub-band : 12.39 dBm	


**Table1**

<b>Guidance and manufacturer's declaration- Electromagnetic emissions</b>		
This Wireless Detector is intended for use in the electromagnetic environment specified below. The user of this Wireless Detector should assure that it is used in such an environment		
Emission test	Compliance	Electromagnetic environment - guidance
RF emissions CISPR 11	Group 1	This Wireless Detector uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class A	This Wireless Detector is suitable for use in all establishments other than domestic, and may be used in domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes, provided the following warning is heeded:
Harmonics emission IEC 61000-3-2	Class A	
Voltage fluctuations/ flicker emissions IEC 61000-3-3	Complies	Warning: This equipment/system is intended for use by healthcare professionals only. This equipment/system may cause radio interference or may disrupt the operation of nearby equipment. It may be necessary to take mitigation measures, such as re-orienting or relocating the Wireless Detector or shielding the location.

**Table2**

<b>Guidance and manufacturer's declaration- Electromagnetic immunity</b>			
This Wireless Detector is intended for use in the electromagnetic environment specified below. The customer or the user of this Wireless Detector should assure that it is used in such an environment.			
IMMUNITY test	IEC 60601 test level	Compliance level	Electromagnetic environment – guidance
Electrostatic discharge (ESD) IEC61000-4-2	±6 kV Contact ±8 kV Air	±6 kV Contact ±8 kV Air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30 %
Electrical fast Transient / burst IEC61000-4-4	±2kV for power supply lines ±1kV for input/output lines	±2kV for power supply lines ±1kV for input/output lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC61000-4-5	±1 kV differential mode ±2 kV common mode	±1 kV differential mode ±2 kV common mode	Mains power quality should be that of a typical commercial or hospital environment.
Power frequency (50/60Hz) Magnetic field IEC61000-4-8	3.0 A/m	3.0 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.
Voltage dips, short Interruptions and Voltage variations on power supply input lines IEC61000-4-11	<5% U <sub>T</sub> (>95% dip in U <sub>T</sub> ) for 0.5cycle  40% U <sub>T</sub> (60% dip in U <sub>T</sub> ) for 5 cycle, 6 cycle  70% U <sub>T</sub> (30% dip in U <sub>T</sub> ) for 25 cycle, 30 cycle  <5% U <sub>T</sub> (>95% dip in U <sub>T</sub> ) for 5 sec	<5% U <sub>T</sub> (>95% dip in U <sub>T</sub> ) for 0.5cycle  40% U <sub>T</sub> (60% dip in U <sub>T</sub> ) for 5 cycle, 6 cycle  70% U <sub>T</sub> (30% dip in U <sub>T</sub> ) for 25 cycle, 30 cycle  <5% U <sub>T</sub> (>95% dip in U <sub>T</sub> ) for 5 sec	Mains power quality should be that of a typical commercial or hospital environment. If the user of this Wireless Detector requires continued operation during power mains interruptions, it is recommended that this Wireless Detector be powered from an uninterruptible power supply or a battery
<b>Note:</b> U <sub>T</sub> is the a.c. mains voltage prior to application of the test level.			

**Table3**

Guidance and manufacturer's declaration- Electromagnetic immunity			
This Wireless Detector is intended for use in the electromagnetic environment specified below. The customer or the user of this Wireless Detector should assure that it is used in such an environment.			
IMMUNITY test	IEC 60601 TEST LEVEL	Compliance level	Electromagnetic environment – guidance
<p>Conducted RF IEC 61000-4-6</p> <p>Radiated RF IEC 61000-4-3</p>	<p>3 Vrms 150 kHz to 80 MHz</p> <p>3 V/m 80 MHz to 2,5 GHz</p>	<p>3 Vrms 150 kHz to 80 MHz</p> <p>3 V/m 80 MHz to 2,5 GHz</p>	<p>Portable and mobile RF communications equipment should be used no closer to any part of this Wireless Detector, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.</p> <p><b>Recommended separation distance</b></p> <p><math>d = \left[\frac{3.5}{V_T}\right]\sqrt{P}</math></p> <p><math>d = \left[\frac{3.5}{E_1}\right]\sqrt{P}</math> 80 MHz to 800 MHz</p> <p><math>d = \left[\frac{7}{E_1}\right]\sqrt{P}</math> 800 MHz to 2,5 GHz</p> <p>where <math>P</math> is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and <math>d</math> is the recommended separation distance in metres (m).</p> <p>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></p> <p>Interference may occur in the vicinity of equipment marked with the following symbol:</p> 
NOTE 1 At 80 MHz and 800 MHz, the higher frequency range applies.			
NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.			
<p><sup>a</sup> Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which this Wireless Detector is used exceeds the applicable RF compliance level above, this Wireless Detector should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating this Wireless Detector.</p> <p><sup>b</sup> Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.</p>			

**Table4**

Recommended separation distances between portable and mobile RF communications equipment and this Wireless Detector			
This Wireless Detector is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of this Wireless Detector can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and this Wireless Detector as recommended below, according to the maximum output power of the communications equipment.			
Rated maximum output power of transmitter W	Separation distance according to frequency of transmitter m		
	150 kHz to 80 MHz $d = \left[\frac{3.5}{V1}\right]\sqrt{P}$	80 MHz to 800 MHz $d = \left[\frac{3.5}{E1}\right]\sqrt{P}$	800 MHz to 2.5 GHz $d = \left[\frac{7}{E1}\right]\sqrt{P}$
0.01	0.12	0.12	0.24
0.1	0.37	0.37	0.74
1	1.17	1.17	2.34
10	3.69	3.69	7.38
100	11.67	11.67	23.34
For transmitters rated at a maximum output power not listed above, the recommended separation distance <i>d</i> in metres (m) can be estimated using the equation applicable to the frequency of the transmitter, where <i>P</i> is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.			
NOTE 1 At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.			
NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.			

## RF exposure compliance

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 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. This device has been tested and found to comply with FCC/IC radiation exposure limits set forth for an uncontrolled equipment and meets the FCC radio frequency (RF) Exposure Guidelines in Supplement