

**X-Ray FLAT PANEL IMAGER  
FDXA3543RP**

**Active Area: 35 (H) × 43 (V) cm  
(14" × 17" )**

**FEATURING:**

- **Excellent Sensitivity & Resolution**
- **Excellent Image Quality**
- **Excellent Reliability**

– Excellent Sensitivity & Resolution –

- Advanced and proven fine structured CsI:TI and direct vapor deposition technology deliver higher sensitivity and better resolution.
- Reflection coating on CsI:TI screen enables excellent Detective Quantum Efficiency (DQE) and low noise.
- A high Modulation Transfer Function (MTF) FPI is the result of these outstanding technologies diagnostic images, while delivering the benefits of lower radiation dose to the patient. The FDXA3543RP achieves a new level of functionality and reliability in developing functional FPI's for system manufacturers.

– Excellent Image Quality –

- Achieves a raw image with a low-noise through the use of unique circuit technology.
- Images have a shorter lag time with an improved refresh function, suitable for radiographic double exposure.

– Excellent Reliability –

- Excellent durability by using CsI:TI screen direct vapor deposition method.
- The structure is highly reliable and protected from degradation due to the use of a unique moisture-proof sealing method for the CsI:TI screen

**INTENDED USE:**

FDXA3543RP is an X-ray flat panel imager for radiographic use. This device can be used with an x-ray generator. It provides digital signal by detecting X-rays which pass through patient body and strike its surface. It does not provide clinical image, nor function of controlling X-ray generator. For medical diagnosis, it additionally requires image processing with application software to visualize digital image. It is not intended to use for mammography, and angiography applications.

FPI is offered to the production maker of the X-ray diagnosis equipment as parts.

## COMPONENTS AND CHARACTERISTICS

**Flat Panel Sensor Unit:**

Sensor Protection Plate ..... Carbon Fiber Plate  
 Cooling ..... Natural Air Cooling  
 Input ..... DC24V (from Interface Box)  
 Overall Dimensions ..... 383.5×459.5×15 mm (W(H)×D(V)×(H))  
 Weight ..... 3.2 kg (approx.)

**Interface Box:**

Input ..... AC100-240V, 50/60Hz  
 Output ..... DC24V, 1.3A  
 Overall Dimensions ..... 280×100×50 mm (W(H)×D(V)×(H))  
 Weight ..... 1.1 kg (approx.)

**Dimensional Outline:**

Refer to pages 7 to 8

**Environmental:**

	Environmental conditions for storage and transport (See remarks.)	Environmental use conditions	Remarks
Temperature	-20 to 70°C	+10 to 35°C	<p style="text-align: center;"><u>Storage condition range</u></p> <p>Caution</p> <ul style="list-style-type: none"> <li>• Avoid dew condensation anytime, including during use, transport or storage.</li> <li>• Unpack the product after it sufficiently fits into a new environment.</li> <li>• About 8 hours or more is required for environmental fitting.</li> </ul>
Humidity	10 to 90% (No dew condensation allowed)	10 to 85% (No dew condensation allowed)	
Atmospheric pressure	50 to 106kPa	70 to 106kPa	—

**Classification:**

The type of protection against electric shock ..... Class I  
 The type of applied part ..... Type B applied part

**ACCESSORIES**

**Cables:**

AC Cable ..... 1.8 m×1  
GND Cable ..... 3 m×1

**CD:**

CD ( Defect map ) ..... 1×1

**OPTION ACCESSORIES**

**Sensor Unit Cable**

Sensor Unit – Interface Box ..... 4, 9 or 14m

## MAIN CHARACTERISTICS

### Image Format:

X-ray Conversion Layer .....	Cesium Iodide (Csl) with Amorphous Silicon (a-Si) Photodiode
Active Area .....	346(H)×426(V) mm (13.6×16.8 inch)
Pixel Matrix .....	2466(H)×3040(V)
Pixel Pitch .....	140 μm
Cycle Time .....	Single Exposure (EXP period 500msec) 6sec. Double Exposure (EXP period 500msec) 6sec.

(Cycle time is the time to complete image transfer from the X-ray Exposure. Cycle time does not include image processing time. The image processing time is determined by the specifications of the image processing unit.)

### Performance:

Limiting Resolution .....	3.7 Lp/mm typ.
MTF (2.0 Lp/mm, 70 kVp, 1×1) .....	45% typ.
DQE (DQE (0), Quantum - Limited) .....	65% typ.
A/D Conversion .....	16 bit

### Ratings:

Energy Range .....	40-150 kVp
Maximum Entrance Dose (low Gain) ( Linear Output Range ) .....	35 μGy

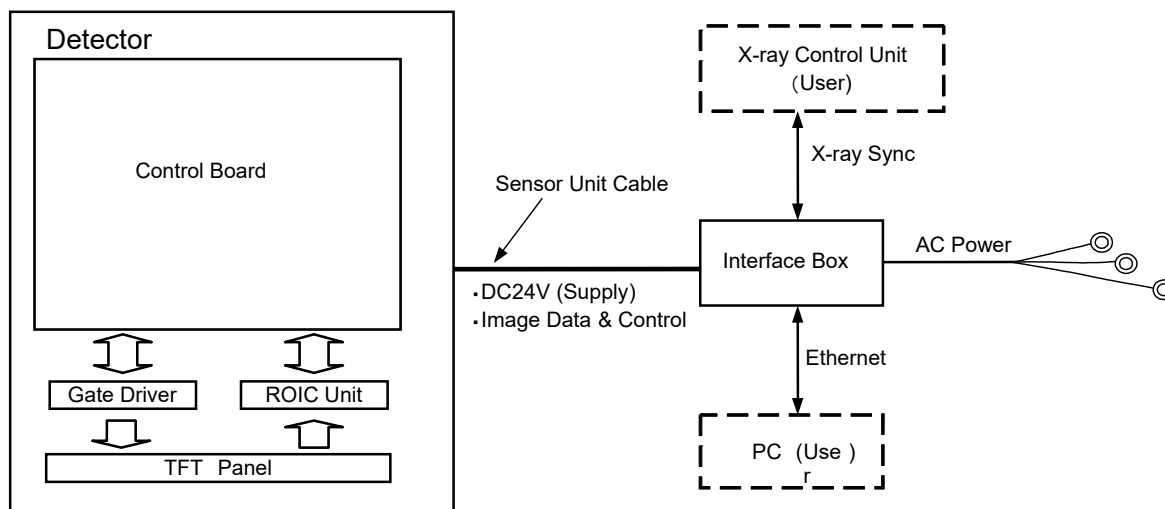
### Interface Box:

Data Output .....	16 bit Digital Output Ethernet (1000BASE-T)
Command Control .....	Ethernet (1000BASE-T)
X-ray Synchronization Control .....	External
Power Input .....	AC100-240V, 50/60 Hz

### Image Acquisition Exposure period:

X-ray period (ms) ..... Standard 500ms (500ms to 4000ms (by 500ms step)) selectable by command

## Product Components and Interface:



### NOTE:

Do not disconnect Ethernet connection while DC24V is operating and supplying to Sensor Unit.

### LED Display Mode:

#### <POWER LED>

Lighting in green: Proper start

Blinking in orange: HEALTHY error

#### <LAN LED>

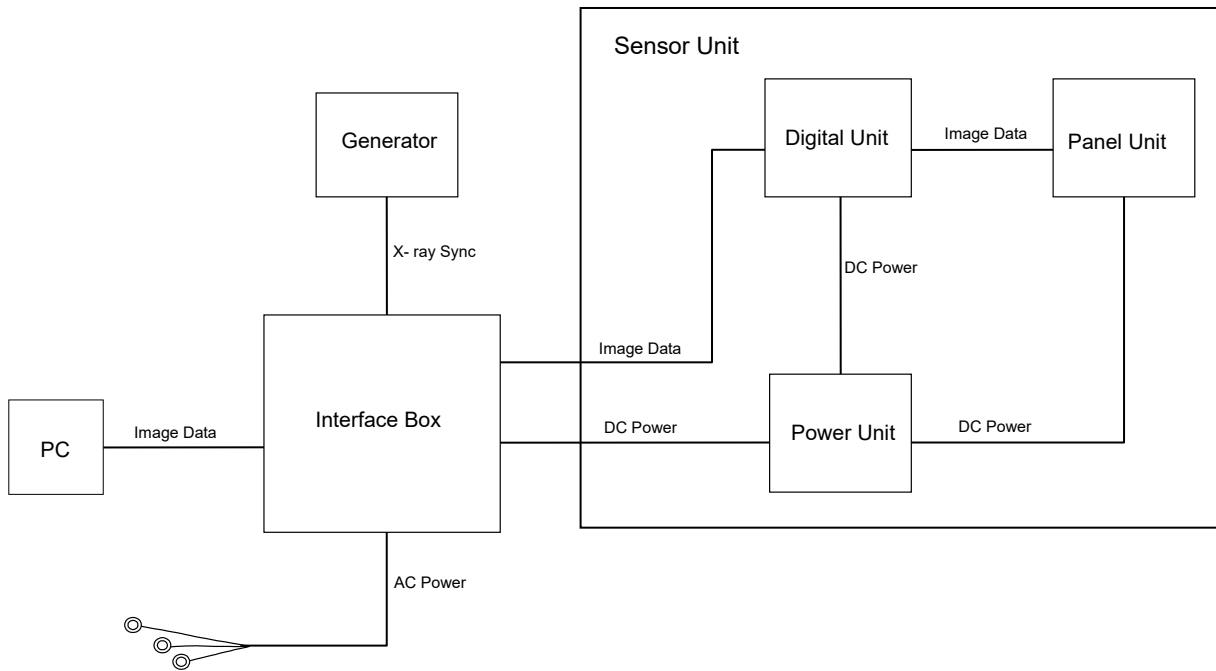
Lighting in green: Proper connection

Lighting in orange: Waiting for connection

Blinking in green: Communication error

Blinking in orange: MAC address error

**Image Acquisition Communication Block Diagram:**

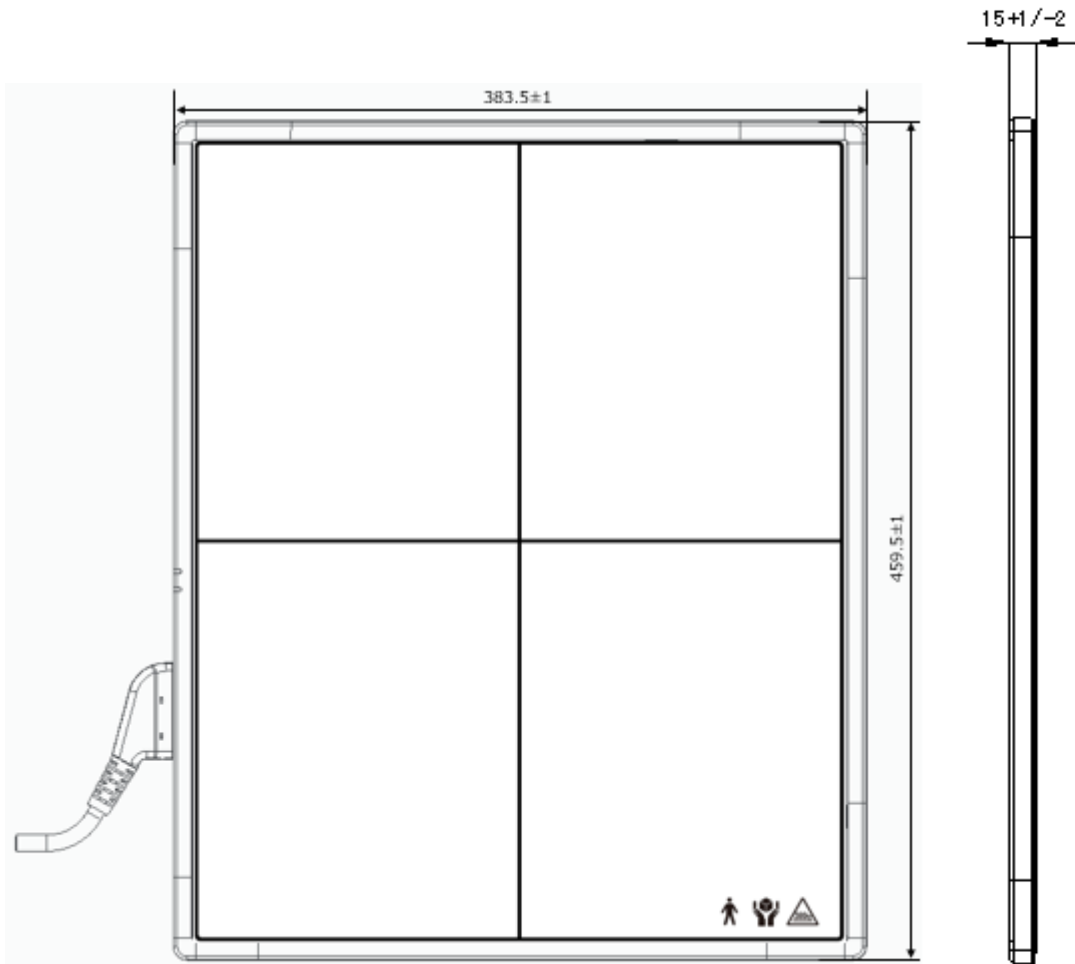


**Communication Availability:**

Signal Name	Type	Ethernet Command Control (PC)	D-Sub Signal Control (X-ray Controller)
EXP_REQ	INPUT	OK	OK
EXP_OK	OUTPUT	N.A	OK

**DIMENSIONAL OUTLINE (1)**  
(Flat Panel Sensor Unit)

Unit: mm



**DIMENSIONAL OUTLINE (2)**  
(Interface Box)

Unit: mm

