

**X-Ray FLAT PANEL IMAGER
FDXA3543RPS**

**Active Area: 345 (H) × 425 (V) mm
(14" × 17")**

FEATURING:

- **High Resolution**
- **High Contrast**
- **Short Cycle time**
- **Mounted with AED**
- **DC input type**

– High Resolution and High Contrast CsI Phosphor Screen –

- CETD has long experience to develop and manufacture fine and thick pillar structure of CsI phosphor screen with high resolution and high sensitivity.

– Low Noise ROIC and Analog Circuit –

- ROIC and analog circuit are designed and specified to be suitable for high sensitivity X-ray conversion layer.

INTENDED USE:

FDXA3543RPS 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..... DC17-26V
 Output..... DC24V, 1.2A (MAX)
 Overall Dimensions..... 198×100×25 mm (W(H)×D(V)×(H))
 Weight 0.5 kg (approx.)

Environmental:

| | Environmental conditions for storage and transport (See remarks.) | Environmental use conditions | Remarks |
|----------------------|-------------------------------------------------------------------|--------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Temperature | -20 to 70°C | +10 to 35°C | <p><u>Storage condition range</u></p> <p>Caution · Avoid dew condensation anytime, including during use, transport or storage. · Unpack the product after it sufficiently fits into a new environment. · About 8 hours or more is required for environmental fitting.</p> |
| Humidity | 10 to 90% (No dew condensation allowed) | 10 to 85% (No dew condensation allowed) | |
| Atmospheric pressure | 50 to 106 kPa | 70 to 106 kPa | - |

Classification:

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

* Back of FPI is not Type B applied part.

* Use with ensure protective means and insulation performance that satisfies the above rules to ensure the safety of the entire X-ray system

ACCESSORIES

Cables:

- DC Cable 1.8 m×1
- GND Cable 3 m×1

CD:

- CD (Defect map)..... 1×1
- SDK

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 |

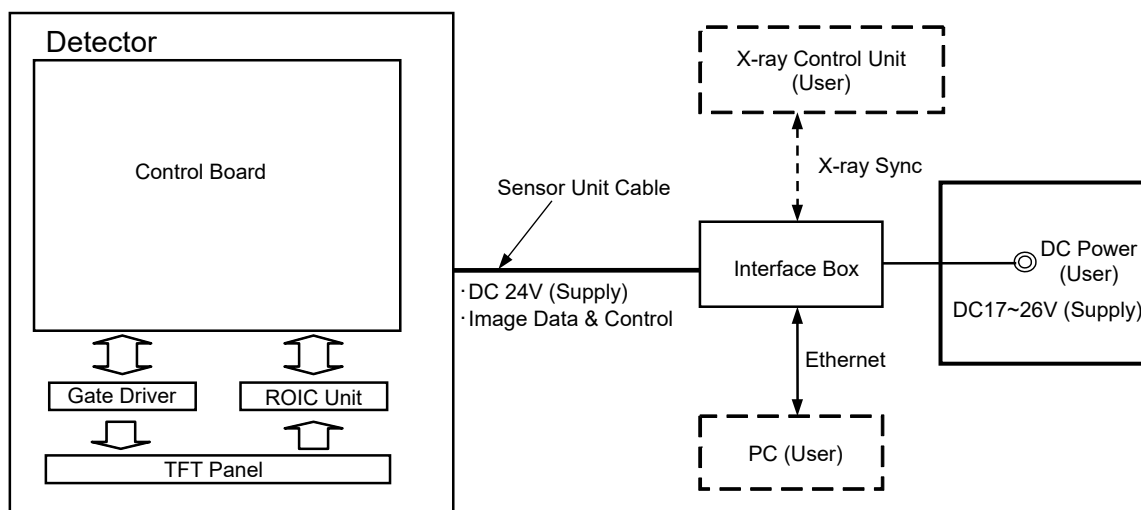
Interface Box:

| | |
|-------------------------------------|-------------------------------------------------------------------------------------------------------|
| Power Input | DC17-26V |
| Data Output | 16bit Digital Output Ethernet (1000BASE-T) |
| Command Control | Ethernet (1000BASE-T) |
| X-ray Synchronization Control | External (When using this function, connect the cable and check for electromagnetic interference.) |

Image Acquisition Exposure period:

X-ray period 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. If the Ethernet is disconnected, a connection error occurs and it is necessary to reconnect. While the Ethernet is disconnected, stop the X-ray exposure on the system side.

LED Display Mode:

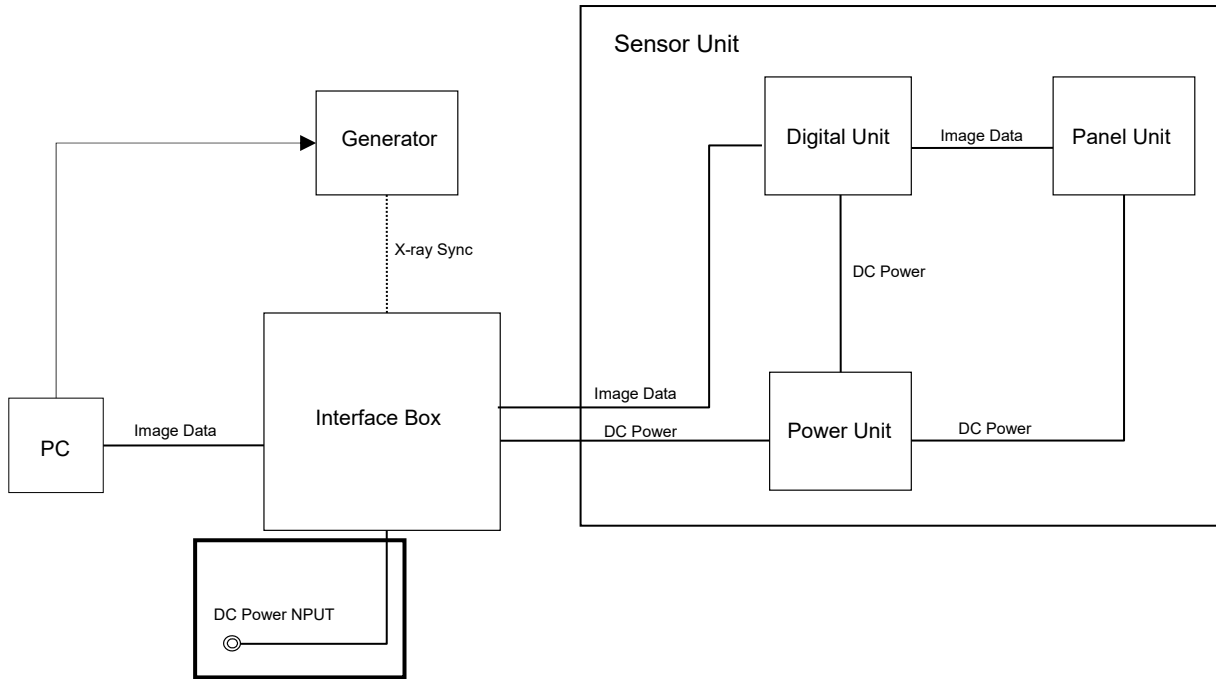
<POWER LED>

- 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:

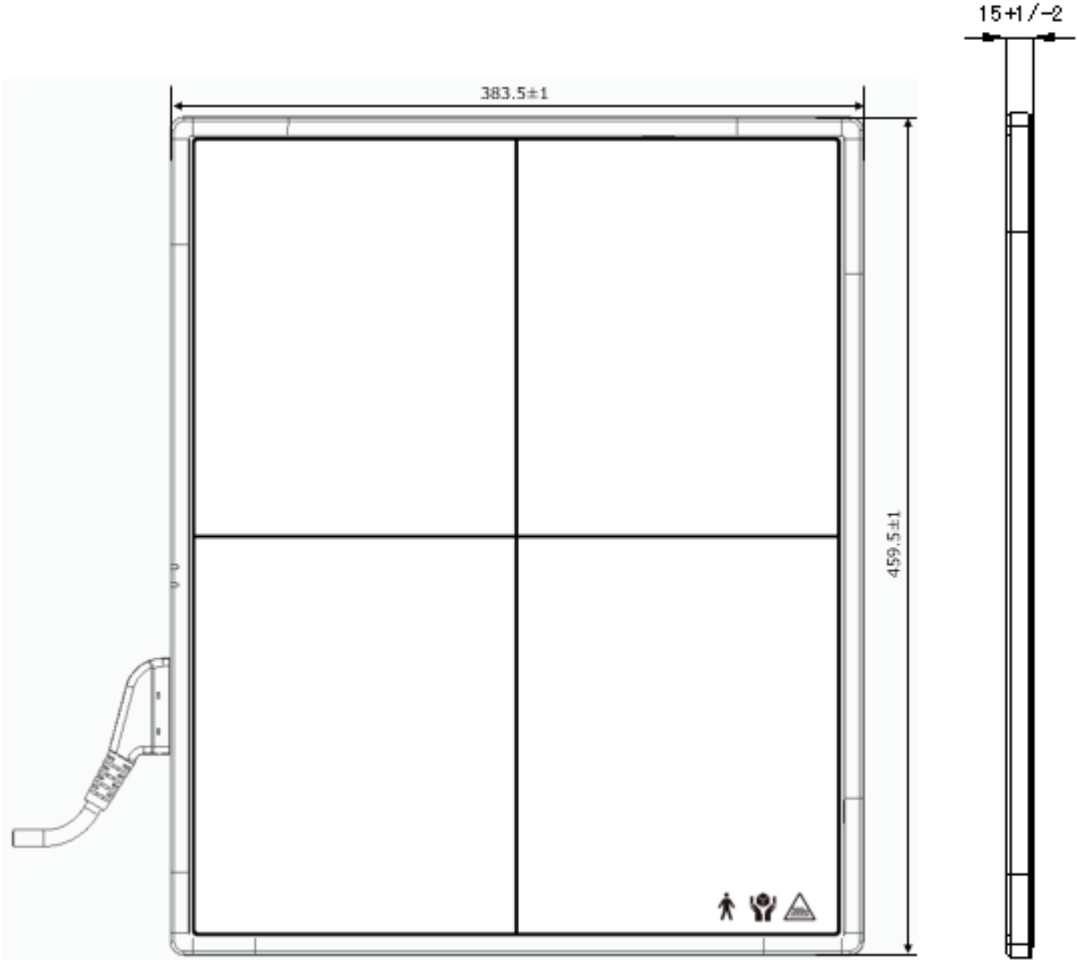


Communication Availability:

| 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

