

Carestream HPX-DR

For Non-Destructive Testing



WEATHERPROOF & WIRELESS DIGITAL RADIOGRAPHY FOR NDT.



HPX-DR Wireless Detectors

Carestream NDT is pleased to introduce our wireless DR detector for digital Imaging.

Carestream's new HPX-DR is a high performance, compact and lightweight DDA detector. It weighs in at only 12.5 lbs and has one of the slimmest profiles available at only 14x17" (35x43cm).

With rapid imaging and a potential for reduction of your overall shot time, it will improve throughput while reducing overall the consumable costs (for film or imaging plates).

The HPX-DR features heavy-duty shielding designed specifically for high exposure NDT applications. It boasts an impressive 139 μ pixel pitch with improved spatial resolution for finer detail imaging. The detector is rated for energies up to 3MeV and built to withstand the rigors of NDT. It can operate in either a wireless or tethered configuration with rapid transfer of images, FASTER and EASIER than ever before.

The HPX-DR detector is unique in design - coming standard with a rugged, weatherproof enclosure perfect for remote field work. Unlike other panels that claim a weatherproof design when used inside their protective carrying case, this detector has an IP57 enclosure rating without the protective case! With the HPX-DR you can stop wrapping your DDA panel in bags and keep working in rain, snow, mud or whatever Mother Nature throws at you!

- **REDUCED EXPOSURE** - DDA panels are highly sensitive. Combine this with the ability to do frame averaging and you will likely be able to reduce your exposure time and still capture the sensitivity needed for your critical inspection task.
- **FASTER** - Uses no disposable media in the process, eliminating cassette loading and unloading time, developing, processing and reloading for the next shot. The HPX-DR detector offers quick start up and calibration, and rapid image display after acquisition. Produce high quality digital images in seconds for immediate analysis.
- **EASIER** - The HPX-DR detector is lightweight and compact with an all-weather design that is simple to operate. In the lab, it can be operated on a powered tether and in the field it can run 100% on battery. With the 'hot swap' feature the panel can remain on when changing batteries, increasing uptime.
- **WIRELESS** - The HPX-DR detector can operate completely wireless giving the user full freedom of movement and minimizing set-up time on site. This is especially helpful for rope access teams looking for minimal weight, high sensitivity and a powerful wireless connection.
- **HIGH RESOLUTION** - The HPX-DR images have a 139 μ pixel pitch and 139 μ spatial resolution that can reveal small details. All powered by our INDUSTREX image analysis software with the most advanced NDT post-capture tools for image measurements, enhancements and analysis.










HPX-DR At-a-Glance



- **139 μ Pixel Pitch**
- **139 μ Spatial Resolution**
- **GOS DRX Standard Scintillator**
- **Portable at 12.5 lbs (5.7 Kg)**
- **Heavy Duty Shielding**
- **Exposure Range up to 3 MeV**

Features

-  **WIRELESS**
Ultimate hands free with robust wireless (802.11 A/N or G) secure data transfer, long distance communication and live panel monitoring. Get the most out of your wireless with reliable, mobile access point for extended range and a strong wireless signal.
-  **COMPACT DESIGN**
Rugged design with a durable aluminum frame and carbon fiber cover. Panel thickness is just 14.7 mm (0.58") one of the thinnest in the industry making it easy to slide between objects.
-  **CLOSE-TO-EDGE IMAGING**
The HPX-DR image area is slightly offset, allowing you closer access to the panel edge for profile work. This panel can fit between pipes and captures near edge so you can see and measure the outer wall.
-  **HIGH RESOLUTION**
139 μ pixel pitch is one of the best available, allowing for high quality imaging and defect detection. Multi-frame averaging improves the quality while reducing the overall noise in the image.
-  **IP57 ENCLOSURE**
The only panel with this high a degree of protection against liquid. Unlike others that need a special case for protection from the harsh elements of field work, the HPX-DR is built to meet IP57 enclosure standards.
-  **INDICATORS**
Multiple indicator lights on the panel edge communicate panel status, battery information and wireless connectivity. Its easy for the user to see at a glance the condition of the panel.
-  **FLEXIBLE POWER**
Powerful lithium-ion batteries allow users to make many images. When tethered the batteries automatically recharge or you can purchase a 3-battery quick charger to keep production moving. Battery 'Hot Swap' feature keeps the panel running during change. Magnetic tether stays attached but can break away if needed to eliminate damage to the panel connection in the event of a drop or pull. Power saving mode when panel has not been activated for a period of time.

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PRODUCT SPECIFICATIONS

MECHANICAL

Size (cm)	35 x 43 Cassette (ISO 4090) 38.35 x 45.95 x 1.47cm
Weight	5.7 kg (12.5 lbs.)
Housing Material	Aluminum
Sensor Protection Material	Carbon fiber and aluminum plate
Load Limit	Distributed evenly over detector area: 170 kg. (375 lb.)
Receptor Type	Amorphous silicon on glass - no tiling
Conversion Screen	GOS
Pixel Size (µm)	139 x 139
Energy Range	Up to 3 MeV
Scan Method	Progressive
A/D Conversion (bits)	116
Resolution	3.6 lp/mm
Expected Life	80 kR

DETECTOR BATTERY (BOTH)

Technology	Lithium-polymer Technology "Smart" battery technology prevents overcharge
Size	21 x 15 x 0.67 cm
Weight	0.4 kg (12.4 oz.)
Voltage/Energy	14.8V DC, 2.1Ah (nominal) capacity
Battery "Hot Swap" Capability	Yes
Expected Life (Battery)	500 charge / discharge cycles results in ~80% full charge energy
Safety	IEC 60601 -1:1988 + Amendment 1:1991 + Amendment 2:1995 IEC 62133:2002 - Safety requirements for secondary cells and batteries containing alkaline or other non-acid electrolytes
Electromagnetic Compatibility	IEC 60601-1-2 Ed. 2.1, 2004 - Electrical Equipment Electromagnetic Compatibility Requirements and tests, including CISPR 11:1999 + A2:02 emissions Group 1, Class A

WIRELESS SYSTEM (BOTH)

Network Protocol	TCP/IP, IPv4/IPv6
Network Type	Isolated Private Wireless LAN (WLAN), Enterprise Wireless
Wireless Protocol	802.11 A - or - N - or - G
Antenna	Frequency Band: 5 and 2.4 GHz Available Channels (fixed at installation): 1, 5, 9, 13, 36, 40, 44, 48, 52, 56, 60, 64, 100, 104, 108, 112, 116, 120, 124, 128, 132, 136, 140, 149, 153, 157, 161, 165
Max. Power of Detector Radio	50 mW
No. of Antennas on Detector	2
IP Addressing	Static Private IP Address for Detectors and AP
Agency Approvals	FCC Part 15
Dual Homed PC (2 NIC Cards)	Private network connection

SECURITY (BOTH)

WPA2-PSK AES	Factory loaded and user loaded keys
SSID	Broadcast
User name and Password	Non-default user name and password

ENTERPRISE WIRELESS (BOTH)

IP Addressing	Static or DHCP
Authentication	The detector supports authentication with most radius servers using the following protocols: EAP-TLS, EAP-PEAP-MSCHAPV2, EAP-FAST, EAP-PEAP-TLS, EAP-TTLS, EAP-TTLS-MSCHAPV2
Encryption Methods	AES-CCMP, WPA2-AES
Certificates Supported	.pem, .crt, .cer, .der, .p7b, .pfx, .p12 extensions
Keys	Private keys with .key extensions
QOS	Control signals and data path can be separately configured

ENVIRONMENTAL (BOTH)

Shock	High shock tolerance
Temperature Range (°C)	-20 to +50 Ambient-Storage (-23 to +60) Shipping (-23 to +60)
Relative Humidity Non-Condensing	Operating 10 - 86% Storage 10 - 86%
Ingress Protection	IP57



SERVICE Can't be down? Carestream offers an optional service protection plan that keeps you running in almost any situation. Under this plan we cover excessive drops, glass breakage and almost any physical damage that can occur to the panel during a 12 month period. (See service agreement for more details.)