

# Carestream DRX-Plus

For Non-Destructive Testing

WEATHERPROOF & WIRELESS DIGITAL RADIOGRAPHY FOR NDT.



# Introducing the **DRX-Plus** Wireless Digital CR System

## Carestream NDT is pleased to introduce the newest Wireless DDA for digital Imaging.

Carestream's new DRX-Plus is a high performance, compact and lightweight DDA. Weighing in at only 6.75 lbs. and with the one of the slimmest profiles (14x17") available today, it will improve throughput while reducing consumable costs of film or imaging plates.

The DRX-Plus is also unique in design, including a rugged, weatherproof enclosure perfect for remote field work. Unlike other panels that claim a weatherproof design when

used inside their protective carrying case, the DRX-Plus has its own IP57 enclosure rating (submersible up to 1 m). This is without the protective case! With the DRX-Plus you can stop wrapping your DDA panel in bags and keep working in rain, snow, mud or whatever Mother Nature throws at you!

The resolution on the DRX-Plus boasts an impressive 139 micron pixel pitch. It can be used in either a tethered or wireless configuration and its high speed, wireless configuration transfers images FASTER and EASIER than ever before.

- **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 dose and still capture all the sensitivity needed for your critical inspection task.
- **FASTER** – Uses no disposable media in the process so you cut out cassette loading and unloading time, developing, processing and reloading for the next shot. The DRX-Plus offers quick start up and calibration, and rapid image display after acquisition. Produce high quality digital images in seconds for immediate analysis.
- **EASIER** – At 6.75 lbs. the DRX-Plus is a lightweight, compact all-weather design that is simple to operate. In the lab it can be put on a powered tether and in the field run 100% via battery. With the 'hot swap' feature the panel can remain on when changing batteries, increasing uptime.
- **WIRELESS** – The DRX-Plus 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 DRX-Plus has 139 micron pixel pitch that can reveal small details, cracks, and defects. Powered by our INDUSTREX image analysis software with the most advanced NDT post-capture tools for image measurements, enhancements and analysis.



# DRX-Plus At-a-Glance



## 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 weighing in at only 6.75 lbs. (3 Kg). 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 DRX-Plus image area is slightly offset, allowing you closer access to the panel edge for profile work. This panel fits between pipes and captures low so you can see and measure the outer wall.

## HIGH RESOLUTION

139 micron 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 dose to make the shot.

## 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 DRX-Plus housing 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 up to several hundred image frames (depending on integration time). When tethered the batteries automatically recharge or you can purchase a 3 battery quick charger to keep production moving. Battery 'Hot Swap' feature keeps 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 45.95 x 1.47 cm
Weight	3.06 kg. (6.75 lb.)
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	Attached Gd <sub>2</sub> O <sub>2</sub> S:Tb
Pixel Size (µm)	139 x 139
Energy Range (kVp)	Up to 150
Scan Method	Progressive
A/D Conversion (bits)	16

#### DETECTOR BATTERY

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
Charge Capability	340 maximum images per charge in "Direct Connect Mode" (depends on shot time) 14 days per charge in undisturbed "Sleep Mode"
Expected Life	500 charge / discharge cycles results in ~80% full charge energy
Safety	IEC 60601 -1:1988 + Amendment 1:1991 + Amendment 2:1995 - Medical Electrical Equipment 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-Medical Electrical Equipment Electromagnetic Compatibility Requirements and tests, including CISPR 11:1999 + A2:02 emissions Group 1, Class A

#### WIRELESS SYSTEM

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

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

#### ENTERPRISE WIRELESS

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

Shock	High shock tolerance
Temperature Range (°C)	Operating (+15 to +30) 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.)