INFIRAY OUTDOOR

HYBRID COMPACT

MULTIFUNCTION THERMAL OPTIC

The Hybrid Compact (HCH50R) is the next evolution of the HYBRID series, combining advanced thermal performance with versatile functionality. It features a 50 mm F/0.9 lens and the industry's first available 10 μm thermal sensor. The 640×480 InfiRay sensor with a ≤15 mK NETD rating delivers exceptional thermal sensitivity and clarity. The Hybrid Compact functions as a weapon sight, thermal clip-on, or handheld monocular. Its 3.5x native magnification and 60mm eye relief provide a comfortable, immersive view. The "Fast Engine" low-latency architecture (15 ms) and 60 Hz refresh rate ensure a smooth, life-like image, improving target tracking and accuracy. A 1440×1080 AMOLED display provides a crisp image, while the integrated laser rangefinder and ballistic calculator adjust for drop based on target distance. Built-in photo and video recording with 64GB of internal storage lets you capture every detail.
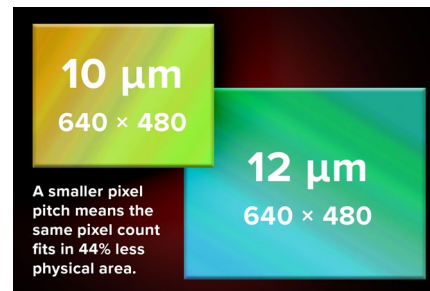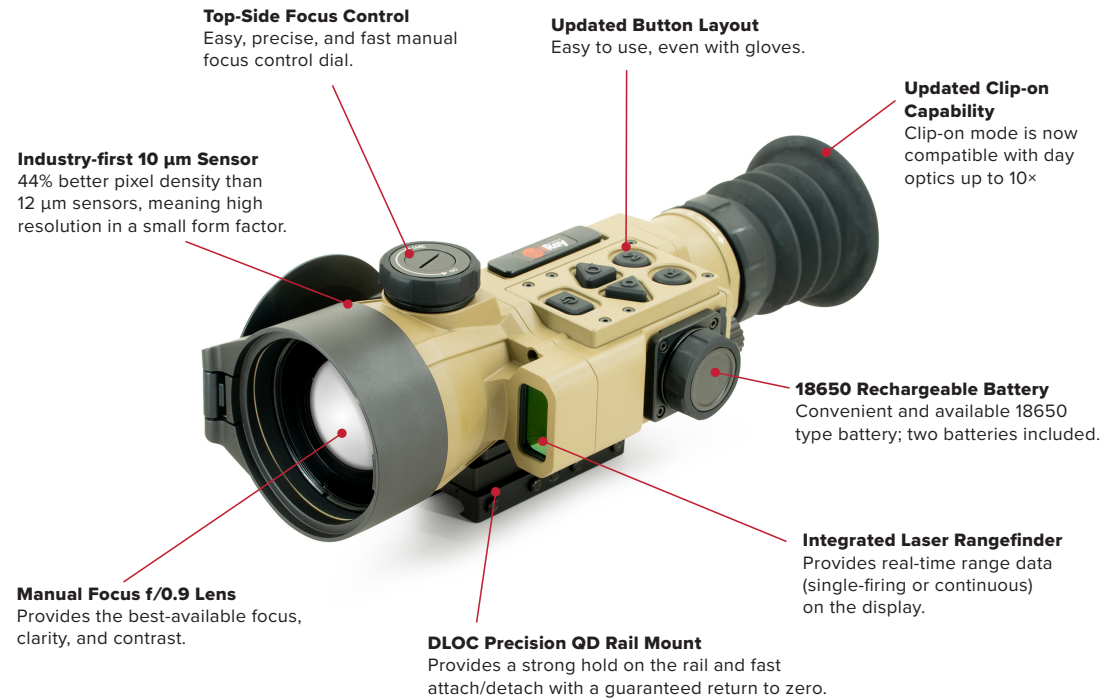

Inf iRay Outdoor

NEW HCH50R

SENSOR	
Resolution	640×480
Pixel Size	10 µm
Frame Rate	60 Hz / 30 Hz
Sensor Sensitivity	≤15 mK
Image Processing	InfiRay Fast Engine Low-latency Processor
Core	InfiRay 640

OPTICS	
Objective Lens	50 mm f/0.9
Native Magnification	3.5×
Digital Zoom	8×
Field of View	7.3° × 5.5°
Detection Range	3,060 yards
Display Type	0.71-inch AMOLED
Display Resolution	1440×1080
Color Palettes	White Hot, Black Hot, Red Hot, Color, Crimson, Viridian, Violet
Picture-in-Picture	Yes
Rangefinder	Integrated 1,200 yd LRF
Eye Relief	60 mm
Diopter Range	-5 to +2

ELECTRONICS	
Onboard Recording	Video and Image
Onboard Storage	64 GB
Wireless Connectivity	Image and Video via App.
Data/Power Connector	USB-C
Power Supply	18650 Rechargeable (Two Nitecore USB-C cells included)
Max. Operating Time	7+ Hours Each
Start Up Time	<3 Seconds, Instant from Standby

PHYSICAL	
Size	9.87″ × 4.05″ × 3.07″
Weight	25.56 oz.

ENVIRONMENTAL & WARRANTY	
Warranty	5 Years
Housing Material	Magnesium Alloy
Housing Color	Cerakote® Tan H-235
Mount Type	DLOC Precision Picatinny Rail Mount
Ingress Protection	IP67
Operation Temperature	-25°F – 122°F
Max Recoil Rating	1,200 G/s^2

INVISIBLE LASER RADIATION AVOID DIRECT EYE EXPOSURE CLASS 3R LASER PRODUCT

905 nm 142.7 nJ
40 ns   25 kHz

REGISTRATION: irayusa.com/register
WARRANTY: irayusa.com/warranty
SUPPORT/SERVICE: irayusa.com/support

Top-Side Focus Control
Easy, precise, and fast manual focus control dial.

Updated Button Layout
Easy to use, even with gloves.

Updated Clip-on Capability
Clip-on mode is now compatible with day optics up to 10×

Industry-first 10 µm Sensor
44% better pixel density than 12 µm sensors, meaning high resolution in a small form factor.

18650 Rechargeable Battery
Convenient and available 18650 type battery; two batteries included.

Manual Focus f/0.9 Lens
Provides the best-available focus, clarity, and contrast.

DLOC Precision QD Rail Mount
Provides a strong hold on the rail and fast attach/detach with a guaranteed return to zero.

Integrated Laser Rangefinder
Provides real-time range data (single-firing or continuous) on the display.

10 µm
640 × 480

12 µm
640 × 480

A smaller pixel pitch means the same pixel count fits in 44% less physical area.

Like other HYBRID series models, the HCH50R can be used as a clip-on thermal (with day scope magnification up to 10×) or as a dedicated thermal weapon sight. The industry's first available 10 µm sensor increases pixel density by 44%, providing high resolution while reducing the overall size of the unit. Powered by a 18650 cell rechargeable battery , the HCH50R includes a Bluetooth remote for seamless clip-on control and a secure DLOC Picatinny rail mount for quick, repeatable attachment. The HCH50R comes with a durable hard case for reliable protection in the field.

To visit the product webpage, scan the QR code or go to irayusa.com/hch50r

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