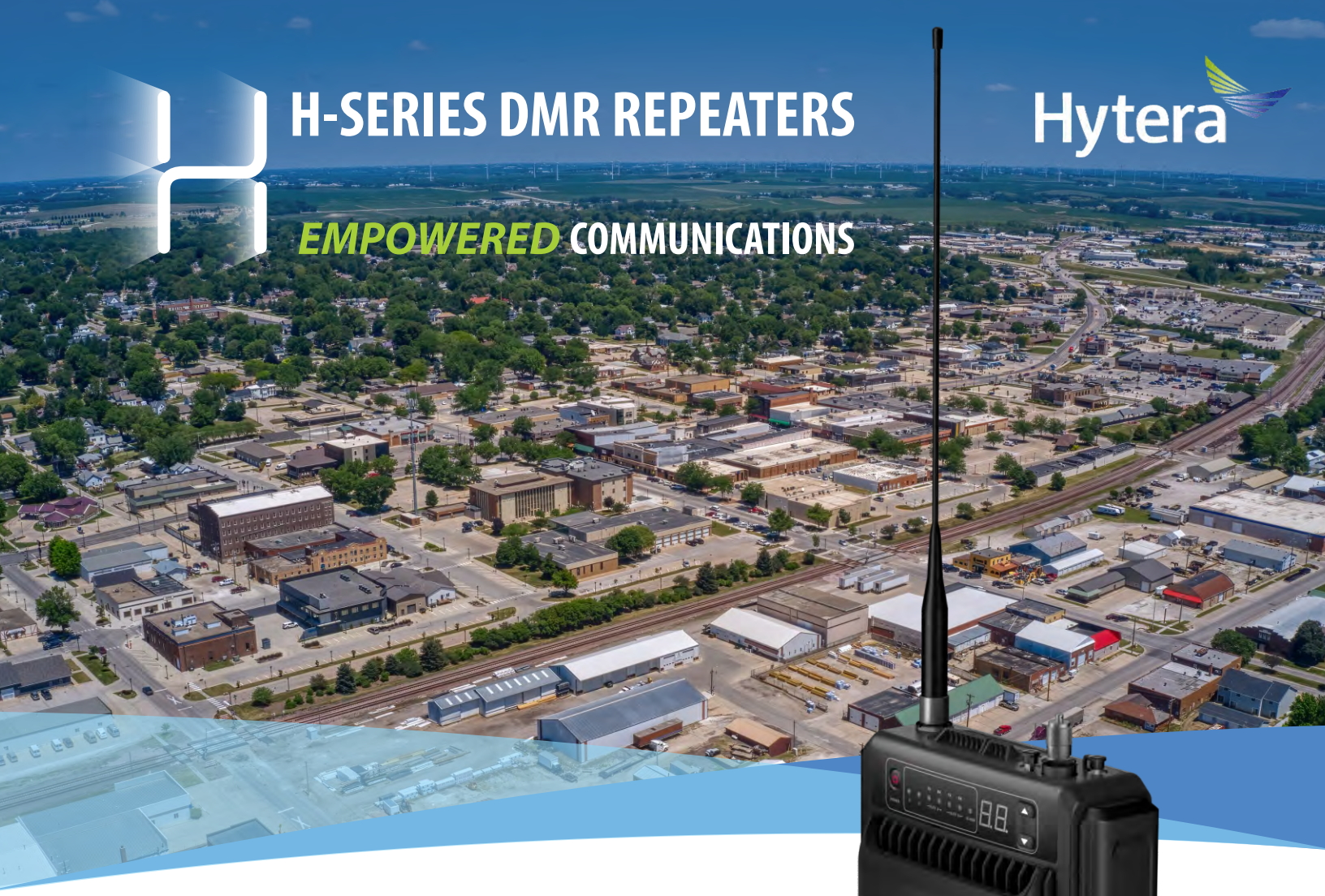
H-SERIES DMR REPEATERS

Hytera

EMPOWERED COMMUNICATIONS



Hytera HR65X
Compact DMR Repeater

Hytera was a founding member of the DMR Association and was the first company to successfully deploy DMR Tier II and Tier III systems. Since then, Hytera has been a leading provider of DMR radios and systems, and has continuously improved products based on customer feedback.

The Hytera H-Series is the culmination of this experience and spirit of innovation. The HR65X Compact Repeater is the next-generation in creative style and functionality that elevates the industry standards in professional digital two way radios.

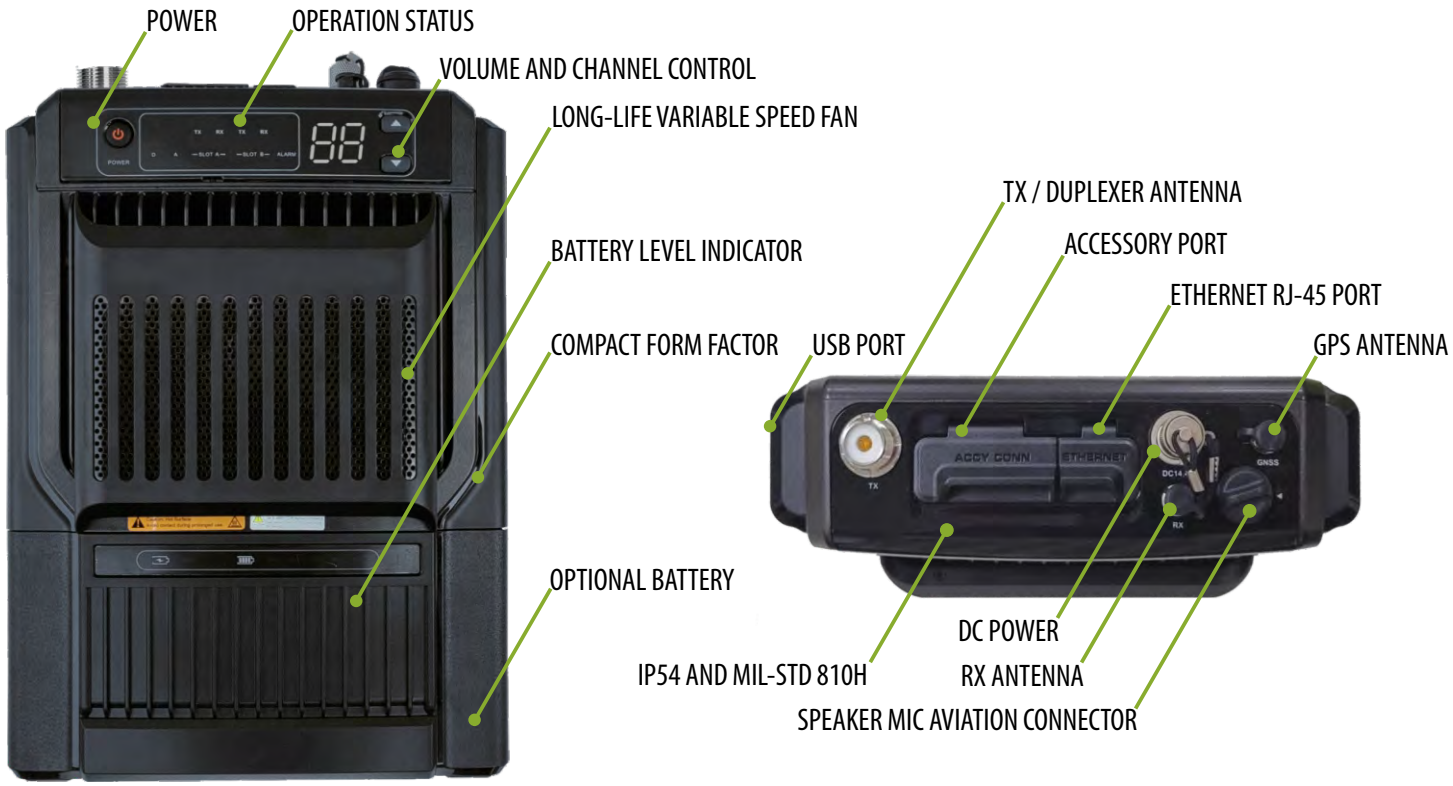
The HR65X is a new state-of-the-art radio repeater, providing a more efficient and reliable experience with outstanding performance, compact size, flexible power options, and system interconnect capabilities.

DMR
DIGITAL MOBILE RADIO ASSOCIATION

THE NEW STANDARD OF QUALITY AND PERFORMANCE

The HR65X is the next generation in compact DMR repeaters designed to expand radio range with consistent, reliable, and seamless voice and data communications. It is fully compliant with the DMR standard with TDMA digital technology that provides 2 simultaneous voice channels to double voice channel capacity.

- Ultra Compact for Flexible Installations and Portability
- Optional Battery for Mobile Applications and Backup Power
- Interconnect Multiple Repeaters with IP-Connect
- Supports both Analog and Digital modes



Ultra-Compact Form Factor

Weighing only 4 pounds, 6 ounces and measuring less than 7" tall (without the optional battery) the HR652X delivers unprecedented performance in a compact form factor. It can be deployed in portable applications or be installed on any flat surface in areas with limited wall space.

Analog & Digital Auto Switch

The HR65X can operate in analog mode, DMR mode, or dynamic mixed digital/analog mode, which automatically switches between analog and digital calls, and provides an ideal solution for smooth analog to digital migration with minimal investment.

Reliable Operation

The HR65X is built to perform in harsh environments with MIL-STD-810H compliance for ruggedness and impact resistance, and IP54 rated for dust and water intrusion. The HR652 can be configured for 25W high power transmission or variable Wattage low power transmission for localized coverage and preventing interference.

Higher Security

The HR65X supports Digital End-to-End and Over-the-Air Encryption with optional ARC4 and AES advanced encryption algorithms.

Farther Coverage

The HR652 features industry-leading RX sensitivity and 25 Watts output power, increasing the effective communication range for DMR radios throughout a campus, or on each floor of a high-rise building. It covers more area than other compact repeaters, delivering cost-effective coverage for the entire facility. The HR65X also functions as a Single Frequency Repeater that uses both DMR timeslots to receive and forward calls over a single frequency in Direct Mode.

Optional Battery Power

The HR65X features an optional battery for portable applications and for battery backup in fixed indoor installations in the event of a power outage. The 12.5Ah large-capacity battery can provide up to 4 hours at 25W. Fast charging technology enables the battery to be fully charged in just 3.5 hours with the optional AC/DC power adapter 100W fast charger.

Portable

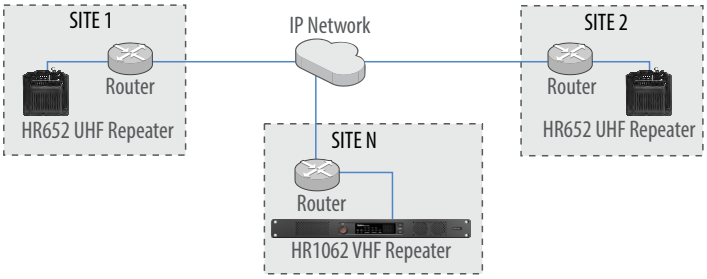
The HR65X can be equipped with the optional battery, dedicated antenna, GPS, and a light backpack for mobile search and rescue operations. It can also be deployed in vehicles for mobile coverage and powered by the vehicle battery. The HR652 can be turned on and used immediately upon arriving at the site. The ultra-light design can also be used with drones to achieve a wider range of signal coverage.

THE NEW STANDARD IN RADIO NETWORK CONNECTIVITY

FLEXIBLE CONNECTIVITY

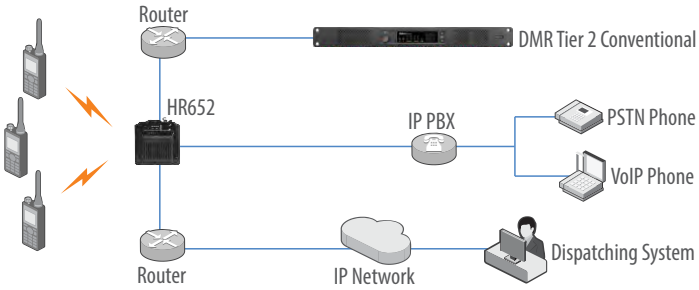
IP Connect (License Required)

IP Connect enables linking multiple HR65X repeaters via Ethernet LAN/WAN networks, third-party IP networks, VPNs, and microwave. It provides cost-effective and flexible way to expand coverage to multiple locations, or to provide supplemental coverage for a campus, or large building to ensure radio network coverage throughout the entire facility. IP-Connect also provides cross-connect functionality to link radios using different UHF/VHF frequency bands.

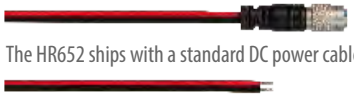


Flexible Interconnection

The HR65X repeater is designed as an intelligent and seamless communication platform with the flexibility to connect with a variety of systems, including SIP and VoIP Phones, dispatching systems, DMR Tier II, and IP Connect Systems.



OPTIONAL ACCESSORIES



The HR652 ships with a standard DC power cable.

PS8002
AC/DC Power Adapter
100W Fast Charger
100~240VAC/2A 16.8V/8A/134.4W
(required to charge battery)

SM25A1
Palm Speaker Microphone
with LCD, IP54

BRK36
Wall-Mount
Bracket

BL9915
Li-Ion Battery Pack
12500mAh

NCN035
Backpack

Supports
third-party
Antenna

MR3332S-3
Internal Duplexer,
5 MHz separation

PC47
Programming Cable

GPS04
GPS Antenna SMA connector,
1575MHz

SPECIFICATIONS

General	
Frequency Range	UHF 400-470MHz
Channel Capacity	1,024 Channels
Channel Spacing	12.5kHz / 20kHz / 25kHz
Operational Voltage	DC Power Input: 14.4V ±15% Battery Voltage: 12-16.8VDC
Current Consumption	DC: Standby ≤0.35A, Transmitting 10W ≤3A, 25W ≤6A AC: Standby ≤0.35A, Transmitting ≤1.2A
Battery	14.4V/125Ah/1,800W
Battery Life (50-50 Duty Cycle)	High Power setting 25W: 4 hours Low Power setting 10W: 9 hours
Weight	4lb, 6oz (2.0 kg) without battery
Dimensions (HxWxD)	7 15/16" x 8 5/16" x 3 3/16" (201 x 211 x 80mm)
Frequency Stability	± 0.5ppm
Antenna Impedance	50Ω
Duty Cycle	100%
Networking	Conventional Single Site Repeater Mode, IP-Connect

Receiver	
Digital Sensitivity	0.2µV (BER5 5%) 0.18µV (Typical)/BER 5%
Analog Sensitivity	0.16µV (Typical) (12dB SINAD) 0.18µV (12dB SINAD)
Adjacent Selectivity	TIA-603: 65dB@12.5kHz, 75dB@20/25kHz ETSI: 60dB@12.5kHz, 70dB@20/25kHz
Spurious Response Rejection	TIA-603: 80dB@12.5/20/25kHz ETSI: 80dB@12.5/20/25kHz
Intermodulation	TIA-603: 75dB@12.5/20/25kHz ETSI: 70dB@12.5/20/25kHzd
Blocking	90dB
Hum and Noise	40dB@12.5kHz, 43dB@20kHz, 45dB@25kHz
Rated Audio Distortion	≤3%
Audio Response	+1 to -3dB
Conducted Spurious Emission	Operating ≤1GHz: <-57dBm Standby >1GHz: ≤-47dBm

Transmitter	
RF Power Output	High Power setting 5-25W (Continuous Adjustable) Low Power setting 1-5W (Continuous Adjustable)
FM Modulation	11K0F3E @ 12.5kHz 14K0F3E @ 20kKh 16K0F3E @ 25kHz
4FSK Digital Modulation	12.5kHz Data Only: 7K60FXD 12.5kHz Data and Voice: 7K60FXW
Conducted/Radiated Emission	Operating: ≤1GHz: -36dBm, >1GHz: -30dBm Standby: ≤1GHz: -57dBm, >1GHz: -47dBm
Modulation Limiting	±2.5kHz @ 12.5kHz ±4.0kHz @ 20kHz ±5.0kHz @ 25kHz
FM Hum and Noise	40dB @ 12.5kHz, 43dB @ 20kHz, 45dB @ 20/25kHz
Adjacent Channel Power	60dB @ 12.5kHz, 70dB @ 20/25kHz
Audio Response	+1 to -3dB
Audio Distortion	≤3%
Digital Vocoder Type	AMBE+2™
Digital Protocol	ETSI-TS 102 361-1,-2,-3

Environmental	
Operating Temperature	-22°F to +140°F (-30°C to +60°C)
Storage Temperature	-40°F to +185°F (-40°C to +85°C)
Dust and Water Intrusion	IP54
Shock, Vibration, and Humidity	MIL-STD 810H

All specifications are subject to change without notice due to continuous development.

Ordering Information	
HR652-U1	Compact DMR Repeater UHF 400-470MHz, 5-25W, DMR Tier II & Analog Conventional Mode

Hytera