



ID-RP2010V (144 MHz, DV/FM)
ID-RP4010V (430/440 MHz, DV/FM)
ID-RP1200VD (1.2 GHz, DV/DD/FM)

D-STAR DIGITAL REPEATERS

D-STAR DV/DD^{*1} and FM Mode Compatible All-in-One Package D-STAR Repeater

The ID-RP2010V/RP4010V/RP1200VD is a 144/430 (440)/1200 MHz D-STAR repeater compatible with the D-STAR mode as well as analog FM for mixed mode operation. With an internal controller, the RF modules can function as a single band D-STAR/FM repeater. (ID-RP2C Controller is not required.)

For repeater owners with limited Internet resources, the optional UX-262 LTE Unit provides wireless Internet access. Combine the LTE unit and the Internet Gateway function, you can drop a repeater anywhere with LTE connectivity and be on the global network. ^{*1} DD mode is available for ID-RP1200VD, 1200 MHz repeater only.

- Integrated Controller Function
- Simple Internal Gateway Function
- Compatible with Repeater Controller, ID-RP2C
- Digital/Analog Mixed Mode Operation
- DD Mode Operation (ID-RP1200VD only)
- High Duty Cycle Operation
- Optional LTE Unit, UX-262 for Wireless Internet Connection
- New RF Direct Sampling^{*2} and FPGA Platform

^{*2} For ID-RP2010V/RP4010V.
Down conversion IF sampling for ID-RP1200VD.



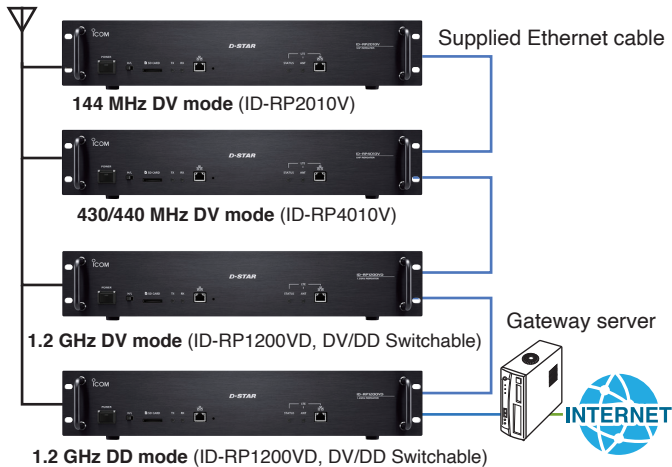
* Above photo shows the ID-RP4010V.

D-STAR DIGITAL

Integrated Controller Function

The D-STAR repeater, ID-RP2010V/RP4010V/RP1200VD has an integrated controller function with the RF module unit. Each repeater can work as an independent repeater to relay received signals. When connecting repeaters with a supplied Ethernet cable, cross-band operation is possible.

D-STAR Repeater Site (Full System)



Up to 4 modules can be connected to one gateway server.
The DD mode repeater must be directly connected to the gateway server.

Compatible with Repeater Controller, ID-RP2C

These new D-STAR repeaters are also compatible with the external repeater controller, ID-RP2C. You can replace a repeater module in an existing ID-RP2 series D-STAR repeater site to use with the ID-RP2C repeater controller.

DD Mode Operation (ID-RP1200VD only)

The 1.2 GHz repeater, ID-RP1200VD works in either DV or DD mode (switchable). DD mode provides data communication and Internet access at 128 kbps. The IC-9700, which has 1.2 GHz DD mode, becomes your wireless modem through your computer's Ethernet port.

Optional LTE Unit, UX-262 for IP Connection

By installing the optional LTE unit, the repeater can be directly connected to an LTE network* and the Internet. When using multiple repeater modules in a site, one LTE network can be shared with the multiple repeater modules. (up to 4 modules)

* Network coverage provided by a generally available data SIM card.
A static Global IP address is required for the Internet SIM.

Simple Internal Gateway Function

In combination with the optional LTE unit and simple internal Gateway function, a provisional D-STAR repeater site* can be easily deployed in the field in an emergency situation.

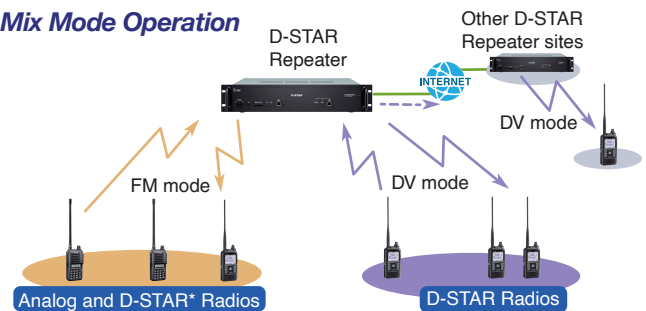
* Please check the legal requirements in your country before using the provisional repeater site.

D-STAR DV/Analog FM Mix Mode Operation*

When using the Mix mode operation, the repeater receives both D-STAR DV and analog FM mode signals and relays the received signal in the same mode. This Mix mode function is convenient for migrating an existing analog repeater to an D-STAR repeater, while keeping analog FM mode compatibility. Single mode operation (either DV or FM mode) is also programmable. For analog FM mode operation, CTCSS, DTCS codes and 1750 Hz tone are programmable.

* The D-STAR gateway function cannot be used with FM mode signal.

Mix Mode Operation



* D-STAR radio can receive both FM and DV mode signals.

High Duty Cycle Operation

Employing a high-performance power amplifier, the D-STAR repeater can endure up to 60 minutes of continuous transmission and provides a reliable high duty cycle operation at 25 W RF output*.

* 25 W RF output power for ID-RP2010V/ID-RP4010V. 10 W output for ID-RP1200VD

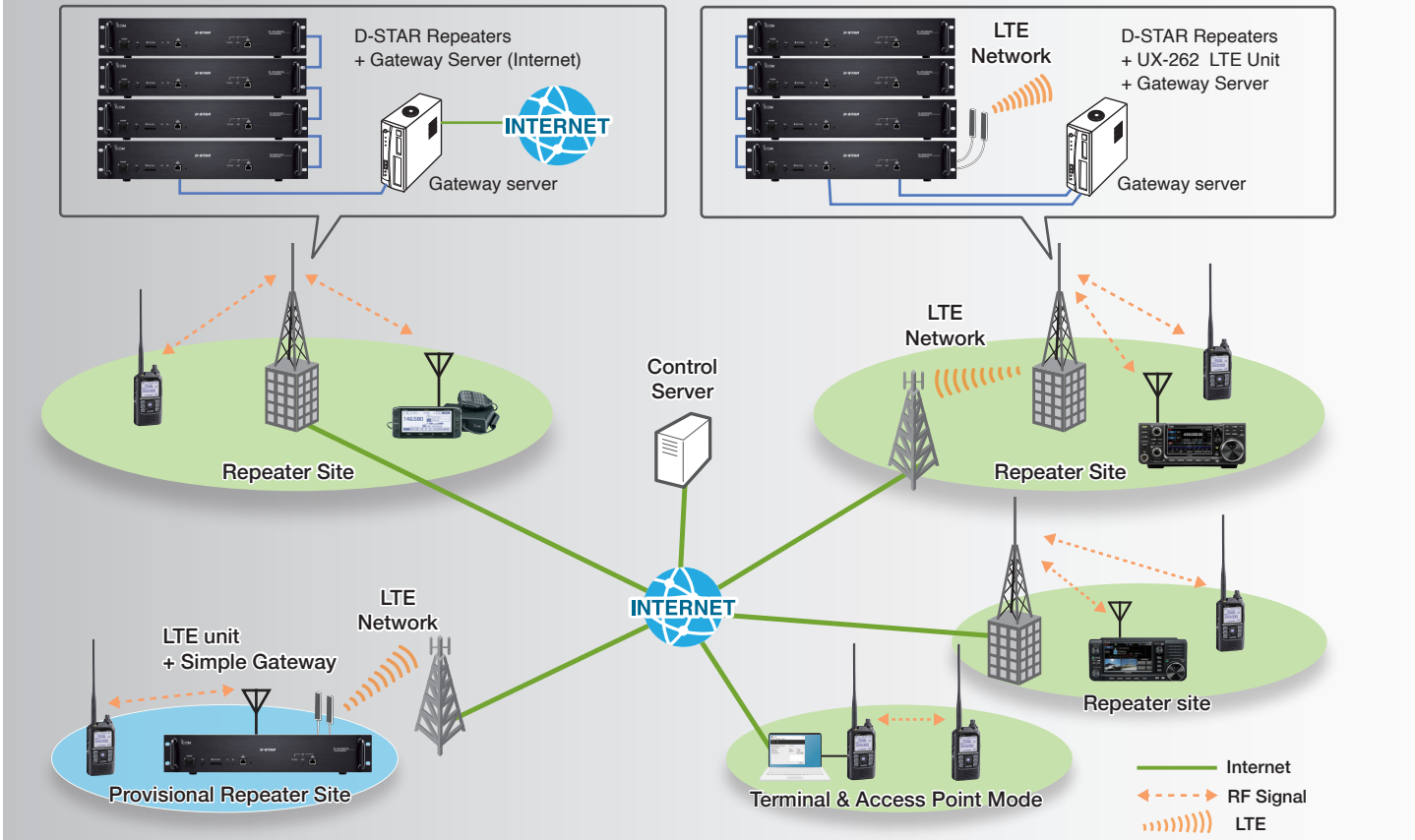
New RF Direct Sampling and FPGA Platform

The ID-RP2010V/RP4010V repeaters use the RF Direct Sampling method. For 1.2 GHz, the Down Conversion IF sampling is used in the ID-RP1200VD repeater. Signals are processed in the FPGA digital domain, that eliminated distortion and other elements seen in the legacy superheterodyne receivers. The result is receiver sensitivity that is greatly improved.

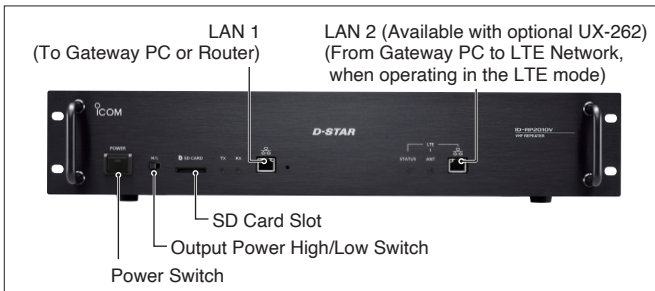
Other Features

- 19-inch rack mount 2U height low profile
- CW ID/Voice ID transmitter
- SD card slot for firmware update, saving setting data and FM mode Voice ID audio
- 10 MHz reference signal input

D-STAR System Overview

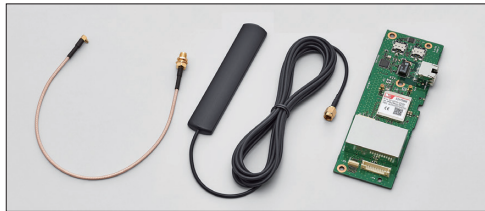


FRONT PANEL VIEW (Photo shows ID-RP2010V)

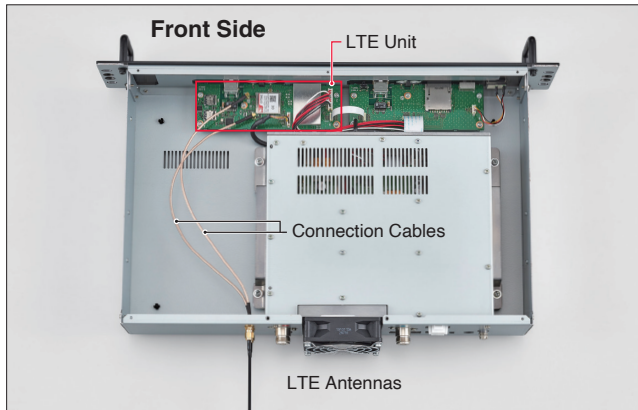
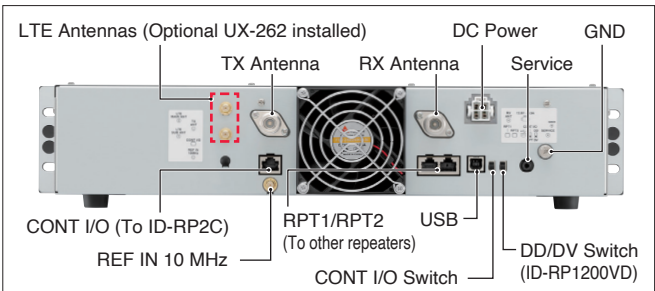


OPTIONAL UNIT

UX-262: LTE unit (including two connection cables and LTE antennas) An Internet SIM card must be prepared separately.



REAR PANEL VIEW (Photo shows ID-RP2010V)



SPECIFICATIONS

ID-RP2010V · ID-RP4010V · ID-RP1200VD

		ID-RP2010V	ID-RP4010V	ID-RP1200VD
GENERAL				
Frequency range	USA	TX/RX: 144–148 MHz	TX/RX: 440–450 MHz	TX/RX: 1240–1300 MHz
Type of emission		F3E, F7W, F2A (ID transmission)	F3E, F7W, F2A (ID transmission)	F3E, F1D, F7W, F2A (ID transmission)
Frequency stability		±0.5 ppm or less (–10 °C to +50 °C)	±0.5 ppm or less (–10 °C to +50 °C)	±0.5 ppm or less (–10 °C to +50 °C)
Transfer rate		DV: 4.8 kbps	DV: 4.8 kbps	DV: 4.8 kbps, DD: 128 kbps
Antenna impedance		50 Ω	50 Ω	50 Ω
Power supply requirement		13.8 V DC ±15 %	13.8 V DC ±15 %	13.8 V DC ±15 %
Current drain (approximate)	TX	Less than 9.0 A (High), 4.0 A (Low)	Less than 7.0 A (High), 3.0 A (Low)	Less than 5.0 A (High), 3.0 A (Low)
	RX (Max. AF power)	Less than 1.8 A	Less than 1.8 A	Less than 1.8 A
Operating temperature range		–10 °C to +50 °C, –14 °F to +122 °F	–10 °C to +50 °C, –14 °F to +122 °F	–10 °C to +50 °C, –14 °F to +122 °F
Dimensions (Projections not included, W × H × D)		482 × 88 × 275 mm, 19.0 × 3.5 × 10.8 in	482 × 88 × 275 mm, 19.0 × 3.5 × 10.8 in	482 × 88 × 275 mm, 19.0 × 3.5 × 10.8 in
Weight (approximate)		6 kg, 13.2 lb	6 kg, 13.2 lb	6 kg, 13.2 lb
TRANSMITTER				
Output power (High, Low)		25 W, 2.5 W	25 W, 2.5 W	10 W, 1 W
Modulation system	DV/DD	Digital GMSK modulation (DV only)	Digital GMSK modulation (DV only)	Digital GMSK modulation
	FM	Digital Reactance modulation	Digital Reactance modulation	Digital Reactance modulation
Occupied bandwidth	DV	Less than 6 kHz	Less than 6 kHz	Less than 6 kHz
	DD	–	–	Less than 150 kHz
Maximum frequency deviation		±5.0 kHz/±2.5 kHz (FM, Wide/Narrow)	±5.0 kHz/±2.5 kHz (FM, Wide/Narrow)	±5.0 kHz/±2.5 kHz (FM, Wide/Narrow)
Spurious emissions		Less than –63 dB	Less than –61.8 dB	Less than –53 dB
Unwanted emissions		Less than –60 dB	Less than –60 dB	Less than –50 dB
RECEIVER				
Receiver system		RF Direct Sampling	RF Direct Sampling	Down Conversion IF Sampling
Intermediate frequencies		–	–	311 – 371 MHz
Sensitivity	DV (1% BER, PN9)	Less than –13 dBμV (0.22 μV)	Less than –13 dBμV (0.22 μV)	Less than –13 dBμV (0.22 μV)
	DD (1% BER, PN9)	–	–	Less than 4 dBμV (1.59 μV)
	FM (12 dB SINAD)	Less than –15 dBμV (0.18 μV)	Less than –15 dBμV (0.18 μV)	Less than –15 dBμV (0.18 μV)
Selectivity	DV (12.5 kHz spacing)	Less than –50 dB	Less than –50 dB	Less than –40 dB
	DD (300 kHz spacing)	–	–	Less than –40 dB
	FM (15 kHz bandwidth)	More than 12 kHz/–6 dB Less than 20 kHz/–60 dB	More than 12 kHz/–6 dB Less than 20 kHz/–60 dB	More than 12 kHz/–6 dB Less than 20 kHz/–60 dB
Intermodulation rejection	DV (20 kHz spacing)	Less than –60 dB	Less than –60 dB	Less than –50 dB
	DD (300 kHz spacing)	–	–	Less than –50 dB
	FM	Less than –60 dB	Less than –60 dB	Less than –50 dB
Receive spurious		Less than 2 nW (–57 dBm)	Less than 2 nW (–57 dBm)	Less than 2 nW (–57 dBm)
Spurious and image rejection		More than 55 dB	More than 55 dB	More than 50 dB
Audio output power		More than 2.0 W (at 10% distortion with 8 Ω load)	More than 2.0 W (at 10% distortion with 8 Ω load)	More than 2.0 W (at 10% distortion with 8 Ω load)

All stated specifications are subject to change without notice or obligation.

Supplied accessories:

- DC power cable (3 m, 9.8 ft)
- Ethernet cable (0.6 m, 2.0 ft)
- USB cable (1 m, 3.2 ft)
- Fuses
- Rubber stands
- Allen wrench

Repeater Compatibility with Icom D-STAR Transceivers

	IC-9700	IC-705	IC-7100	ID-51A	ID-5100A	ID-4100A
ID-RP2010V	✓	✓	✓	✓	✓	✓
ID-RP4010V	✓	✓	✓	✓	✓	✓
ID-RP1200VD	✓ (DV/DD)	–	–	–	–	–

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Icom Inc.

1-1-32, Kamiminami, Hirano-Ku, Osaka 547-0003, Japan Phone: +81 (06) 6793 5302 Fax: +81 (06) 6793 0013

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