What is D-STAR?

D-STAR (Digital Smart Technology for Amateur Radio) is a digital radio protocol developed by JARL (Japan Amateur Radio League). D-STAR is a new ham radio system which offers digital voice and data communication. It connects repeater sites over the Internet and forms a wide area ham radio network. The D-STAR system provides a new capability and functionality to the ham radio world and increases the efficiency of emergency communications.

What can the ID-1 do with or without D-STAR repeater?

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<tr>
<th>DV mode and DD mode communication</th>
<th>DD</th>
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<td>The ID-1 provides not only 4.8kbps digital voice (DV mode) communication but also 128kbps data transmission (DD mode). These modes are available without requiring the use of a repeater.</td>
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<tr>
<th>Long distance communication over the Internet connection*</th>
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<td>Multiple repeater sites can be connected over the Internet and provide long distance communication to virtually anywhere. Your voice and data can reach further than ever.</td>
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<th>Digitally modulated/demodulated clear voice</th>
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<td>Analog audio is modulated to a digital signal and transmitted in the digital voice mode signal by the D-STAR radio. By using digital mode, voice is crisp and clear.</td>
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<th>Cross band repeater operation</th>
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<td>With a combination of DV mode RF modules, cross band operation with 144/430(440)/1200MHz band is available. You can communicate with 144/430(440)MHz handheld or mobile stations in DV mode.</td>
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<th>Voice and data simultaneous communication</th>
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<td>In the DV mode communication, the D-STAR radio can send call-sign, short data message and/or GPS position information to another station simultaneous with voice transmission.</td>
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<th>High speed data communication</th>
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<td>By connecting a PC to the ID-1, 128kbps data communication can be made and you can create &quot;wireless LAN network&quot; between the ID-1 radios allowing you to exchange various data files and graphics as well as real-time images like an IP camera.</td>
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<th>Internet access*</th>
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<td>By accessing the Internet through the D-STAR Internet gateway, you can browse web sites, check e-mail and use other Internet applications, no matter where you are within the D-STAR network.</td>
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<th>Increase efficiency of emergency communications</th>
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<td>Out in the field, fast emergency information is the key. Send pictures and weather charts to or from a remote location with the ID-1. &quot;A picture is worth a thousand words&quot;, and efficient send/receive opens up your repeater for other emergency communications.</td>
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<th>D-STAR’s unlimited possibility</th>
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<td>The digital mode is compatible with the TCP/IP protocol. Amateur radio operators can develop their own applications and will further enhance the enjoyment of this system. For example, position reporting systems using Google Earth or chat rooms over the D-STAR network are some of the potential ideas that can be put into reality.</td>
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* Some restrictions may apply depending on specific countries’ regulations.
Useful callsign functions

The ID-1 embeds your own and the called station’s callsign in your transmission. When you input “CQCQCQ” as the intended station, you can make a CQ call in the area. The calling station’s ID is displayed on the received station and a newly received callsign can be automatically stored in the memory.

Digital callsign squelch (DSQL) & Digital code squelch (CSQL)

The DSQL opens the squelch, only when your callsign is received. When you share a single callsign with a club or group members, the CSQL function allows you to set a CSQL code from 00 to 99 and provides quiet stand-by while other members are talking.

EMR mode operation

When you require the attention of all stations in the area, the Enhanced Monitor Request (EMR) mode operation allows the caller to bypass the CSQL and DSQL setting of the receivers station. During EMR mode operation, all receiving stations will hear your audio, even though they may be muted.

Short message in DV mode

Short messages of 20 characters max. can be sent in DV mode operation.

Analog FM mode operation

The ID-1 also operates in analog FM mode, allowing you to communicate with an analog FM transceiver. In FM mode operation, the ID-1 has CTCSS tone squelch and pocket beep functions for quiet stand-by.

Other features

- 950bps (approx.) data communication capability in DV mode
- AFC (Automatic Frequency Control) function*  
- S-meter squelch
- Break-in communication
- Programmed, memory and select mode scan
- Stand-by beep
* FM and digital voice only.

PC remote controller supplied

The controller software is supplied with the ID-1. When the ID-1 is connected to a PC via a USB cable, most functions of the ID-1 can be controlled from the PC. In DD mode operation*, you can browse web sites and send and receive e-mail as if the ID-1 is a 10W wireless network adapter. * Ethernet port is required for DD mode operation.

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Rear View

Your callsign is received. When you share a single callsign with a club or group members, the CSQL function allows you to set a CSQL code from 00 to 99 and provides quiet stand-by while other members are talking.

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1200MHz DIGITAL TRANSCEIVER

ID-1

Digital Voice Digital Data
### SPECIFICATIONS

#### GENERAL
- **Frequency coverage**: 1240–1300MHz
- **Type of emission**: FM, GMSK (Digital)
- **Transmission speed (theoretical value)**: 128kbps
- **Data**: Digital voice 4.8kbps
- **Codec**: AMBE (2.4kbps)
- **No of memory channels**: 100 fixed 3 call and 2 scan edges
- **Frequency resolution**: 5, 6.25, 10, 12.5, 20, 25, 50, 100kHz
- **Operating temp. range**: –10°C to +60°C, +14°F to +140°F
- **Frequency stability**: ±2.5ppm (–10°C to +60°C)
- **Power supply requirement**: 13.8V DC ±15%
- **Dimensions (Projections not included; W × H × D)**: 141 × 40 × 165.8 mm; 5½ x 1⅞ x 6⅞ in
- **Weight (approx.)**: Main unit 1.2kg; 2.6lb; Remote controller 220g; 7.7oz

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

#### TRANSMITTER
- **Modulation system**: FM
- **Variable reactance modulation**: Digital  Quadrature modulation
- **Output power**: 10W/1W (selectable)
- **Max. frequency deviation**: ±5.0kHz (FM)
- **Spurious emissions**: Less than –50dB
- **Microphone connector**: 8-pin modular jack (600Ω)
- **Spurious and image rejection**: More than 50dB
- **Audio output power**: More than 2.0W at 10% distortion (at 13.8V DC) with 8Ω load
- **Ext. speaker connector**: 2-conductor 5 (3.5 mm (¼")/8)

#### RECEIVER
- **Intermediate frequency**: FM, Digital voice 243.95MHz/31.05MHz/450kHz
- **Satellite**: 1st/2nd/3rd
- **Sensitivity (FM: at 12dB SINAD, Digital: at BER 1 x 10⁻³)**: FM Less than 0.18μV
- **Digital Voice**: Less than 0.35μV
- **Squelch sensitivity**: FM, Digital voice Less than 0.18μV (FM, threshold)
- **Selectivity**: (typical) FM, Digital voice More than 12kHz/6dB
- **Spurious emissions**: Less than –50dB
- **Frequency stability**: ±2.5ppm (–10°C to +60°C)
- **Power supply requirement**: 13.8V DC ±15%
- **Dimensions (Projections not included; W × H × D)**: 141 × 40 × 165.8 mm; 5½ x 1⅞ x 6⅞ in
- **Weight (approx.)**: Main unit 1.2kg; 2.6lb
- **Remote controller**: 220g; 7.7oz

#### SYSTEM OVERVIEW
- **System**: D-Star repeater
- **Connect to**: ID-RP2V, ID-RP2D, ID-RP2000V, ID-104000V
- **Gateway PC**: Internet
- **Duplexer**: ID-RP2D
- **Duplexer**: ID-RP2C
- **Duplexer**: ID-RP2V
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