

The DRG-100 digital radio gateway operates as an interface between the DX-Altus Digital Radio Management System and a digital radio such as a MotoTRBO mobile or a P25 base. Whether your organisation is running different digital radio systems (including DMR, P25, Tetra etc) or a combination of them, it doesn't matter. The DRG-100 translates voice and data into the same digital protocol, meaning differing radios and protocols will all be able to connect to the one network. Users are no longer restricted in their choice of protocol nor need to convert their entire network in one swoop. True interoperability is now within reach.



This provides organisations with a number of benefits:

- Phased Network Upgrades
- Ability to choose the protocol most appropriate for each region or function
- Flexibility

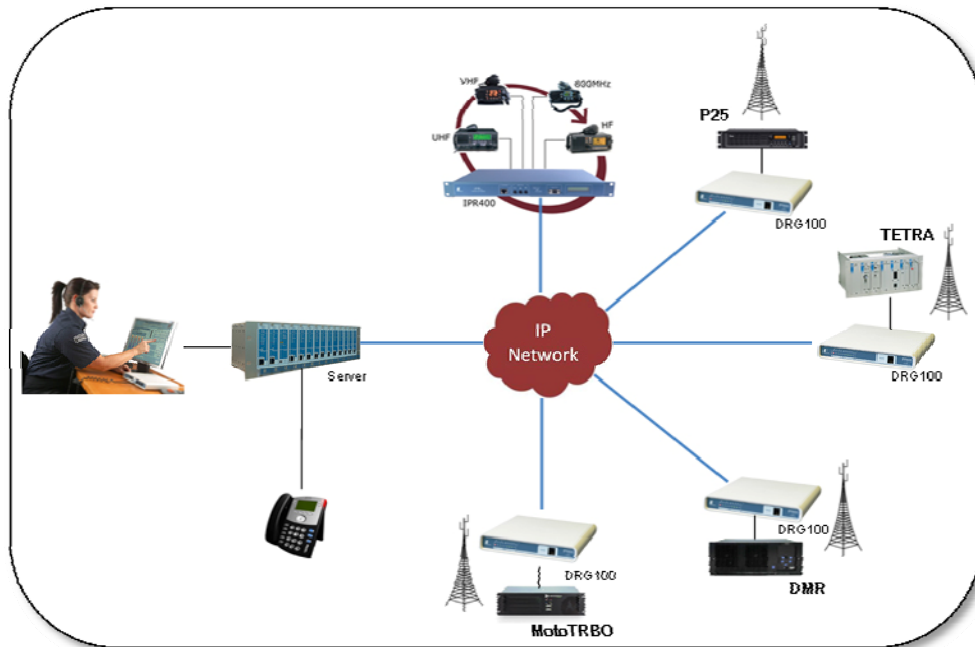


Figure 1: Multiple Protocols are able to connect to the one network

The DRG-100 allows digital radios to be remotely controlled over any IP network. The DRG-100 is a single-channel device with a local handset port with the ability to:

- Create back-to-back IP links between several radios using point-to-point or point-to-multipoint communications
- Provide remote access to a single radio from an operator's handset using the handset port on the front panel
- Connect a radio channel to a VoIP-based radio-dispatch system such as the Omnitronics DX-Altus

Features

- ✓ Powered from a 12 volt DC plug pack
- ✓ Connection to both transceivers and operator handsets
- ✓ Multicast addressing support
- ✓ VoIP technology and multi-drop capability for operator handsets
- ✓ Multiple voice codecs for compression
- ✓ 10/100-BaseT Ethernet port via RJ-45 connector
- ✓ 4-wire plus E&M signals on Transceiver port compatible with Omnitronics 619 Audio Bridges
- ✓ Isolated PTT control using relay contacts and isolated COS input using an opto-coupler
- ✓ Voice Activity Detection (VAD) with silence suppression for bandwidth efficiency
- ✓ Software attenuation of Radio port levels
- ✓ Compatibility of handset port with Omnitronics 960 Handsets
- ✓ Status and diagnostic LED indicators on front panel
- ✓ Software configurable and firmware upgradeable via web interface
- ✓ Static or dynamic IP address configuration
- ✓ Optional voice encryption with user configurable key
- ✓ Supports incoming SIP connections from Omnitronics equipment and software
- ✓ Interfaces to radios that do not provide a COS output
- ✓ Secure communications using AES encryption (Australia model only).

Supported Protocols*

- ✓ MotoTRBO
- ✓ P25
- ✓ DMR**
- ✓ dPMR
- ✓ IDAS (NXDN)
- ✓ NEXEDGE (NXDN)
- ✓ Tetra
- ✓ PMR

* The list of compatible protocols is changing all the time. Contact a Sales Representative for the list of currently supported protocols

** Once Available

Specifications

Power

Operating Supply Voltage	12VDC nominal (11.5VDC to 13.8VDC)
Operating Current (12V)	300mA (regulated) if no current is drawn from the external USB connector 700 mA (regulated) if current is drawn from the external USB connector

Radio Ports

Connector	8-way US modular
Configuration	4-wire transformer coupled
Input Impedance	600Ω / 10 k Ω (software selectable)
Output Impedance	600Ω
Input Levels	-30dBm to +10dBm (-10dBm nominal).
Output Levels	-30dBm to +10dBm (-10dBm nominal)
Audio Level Adjustment (software configurable)	-10dB to +10dB
Frequency Response	50Hz to 3000Hz
E-Input Lead Input DC Voltage	Opto-coupled @ 3.3Vdc to 30Vdc. Software configurable for voltage, contact, switched ground or switched power.
M-Output Lead Contact Power Limit	Relay contacts limited to 30W (30Vdc @ 100mA). Software configurable for voltage, contact, switched ground or switched power.

Handset Port

Connector	6-way US Modular
Configuration	2-wire, balanced half-duplex, 50 Hz to 3000 Hz
Impedance	Input: 50 k Ω, Output: 600 Ω
PTT and COS (Busy)levels	PTT input: contact to 0Vdc, Busy Output: +12Vdc

Network Interface

Connector	8-way US Modular (RJ45)
Interface	100BASE-TX Ethernet with auto detect (also supports 10 BASE-T)
Protocol	RTP, Google Protocol Buffers and Omnitronics's CCP digital dispatch protocol.
Radio Codec	AMBE+2
Radio over IP Codec	G.711, G.726 ADPCM, GSM (13kbps)

Front Panel Indicators

System	Power OK
RS-232	Activity
Radio Port	PTT output active, COS (Busy) input active
Ethernet	Link and Activity

Physical, Environmental, Reliability

Dimensions	220mm (W) x 35mm (H) x 230mm (D).
Weight	0.7kg
Interfaces	10/100Mbit Ethernet; USB Host; 4WE&M analog audio; Handset; Serial RS232
Operating Temperature	0 to 60°C (32 to 140°F)
MTBF (Mean time between failure)	15.6 years

