DX400 Series
Commercial Grade Land Portables

- 🔊 **Advanced engineering for crystal clear audio**
- 💧 **Submersible IP68**
- 🔒 **Secure communication**
- ✴ **Ultra compact**

DMR
DIGITAL MOBILE RADIO ASSOCIATION

Digital CRYSTAL
CLEAR
AUDIO
**Migration
Simplified**

Actual size

SUBMERSIBLE

Ch:1
Security Department

MENU

Entel DX400 Series

Digital Portable Radios

Ultra compact, lightweight and dual-mode (Analogue and Digital), the rugged and fully-submersible DX400 Series radios deploy the latest DMR digital technology combined with Entel audio tailoring technology to ensure the best possible range and clarity.

Whether you need a basic entry level radio, advanced digital features, or something in between, the three DX400 Series models deliver smart solutions, helping you to increase productivity and to keep your business connected. Our digital radios are available in licensed and license free variants.

By combining innovative technology unique to Entel, with the globally accepted DMR standard and a robust IP68 submersible enclosure, Entel has produced the most exciting range of digital radios on the market today. Entel's DX400 Series radios deliver a best-in-class performance, range and clarity.

Why digital?

- **Better coverage**
- **Significantly louder and clearer audio**
- **Longer battery life, longer duty cycles**
- **Far superior privacy**

DMR is split into three types of service, from short-range license free to National / International connected networks:

Tier I - For commercial and leisure use with direct mode operation (no repeaters allowed). Fully approved for use within Europe and no license is required.

Tier II - For small to medium size licensed systems. Radios can be used in direct mode or with a repeater if significantly extended range is required. Tier 2 repeaters can be networked to increase the coverage area even further.

Tier III - For medium to large size licensed systems. 'Trunked' repeaters are used giving automatic access to multiple channels which may be extended and networked to support very large numbers of radios or coverage areas.

Double the Channels

Using two slot simplex, Entel DX400 radios split each channel in two, delivering double the number of digital channels <u>at no extra cost</u>. For example, if you are using a single analogue channel, the same channel in digital mode will yield two channels. Entel's Tier 1 (license free) DMR446 digital radios provide 16 digital and 8 analogue channels.

Entry Model

Mid-Tier Model

High-Tier Model

Simple to Sophisticated

Entry Model

Best for simple push-to-talk communications within small groups, such as calling a handful of individuals or initiating emergency calls.

Tier I, II & III

Mid-Tier Model

As per the entry model, plus a high contrast white on black OLED display, navigation button, menus and an extensive contact list. This allows a larger number of individual radio users and groups to be called, and even multiple groups at once. The mid-tier model is also capable of displaying emergency caller ID and free format text messages as well as sending pre-formatted text messages.

Tier I, II & III

High-Tier Model

All the features of the mid-tier model plus the benefits of a full keypad. Ideal for: sending free format text messages, ease of navigating channels, making contact lists, menus etc.

Tier II & III

Designed in the United Kingdom

Key Benefits

IP68 Submersible

The DX Series can withstand total immersion in water to a depth of 2 meters for 4 hours, more than a match for the hazards likely to be encountered in any field of operation.

High Contrast OLED

Entel's high contrast white on black OLED display provides exceptional readability at all angles both indoors and out.

Powerful Package

Compact, versatile and powerful, Entel's DX400 Series radios offer best-in-class performance, with an impressive 2 watts of natural-sounding digital audio, exceeding the output of radios almost twice their size. In addition, all of the DX Series' range of audio accessories benefit from Entel's unique speech optimisation technology.

Entel Sure Speech™

Entel intelligent speech tailoring technology optimises audio, delivering the very best clarity, volume and natural sound.

Migrate Your Way

Entel's DX400 radios offer both analogue and digital modes offering a migration path from existing analogue radio systems.

For advice specific to your needs, please contact your Entel Dealer.

> The DX400 Series has been future-proofed with new features supplied as free software upgrades.

Exceptionally Robust

Entel's development team recognise that durability and reliability go hand-in-hand. To meet the requirements of the most demanding users, the DX Series is tested to MIL-STD-810 C, D, E, F and G for temperature, thermal shock, pressure, vibration, impact shock, solar radiation and rain and dust ingress. Entel's rigorous life-cycle testing ensures users can expect many years of trouble-free use.

High-Grade Accessory Interface

The rugged, multi-pin interface and Micro-USB socket are both submersible and gold-plated to minimise any risk of damage or corrosion. All Entel's accessories incorporate a robust locking plug and high-grade cable.

Enhanced Privacy

Entel's digital speech is more difficult to monitor than analogue radio. To further secure your communications system, it is possible to use the DX400's built-in secure digital encryption feature.

Simple End-User Programmer App

With Entel's unique user-friendly app there is no longer any need for a dealer to visit on site (or have the radios returned) to re-program or update customers' radios. Using Entel's free PC app, anyone can simply transfer programming data, software updates or add new features to their DX radios:

Step 1. The dealer emails the app and a 'Fleet File' to his customer.

Step 2. The customer runs the app and then drags and drops the 'Fleet File' into the app.

Step 3. The customer connects the radios to the PC (via a standard Micro-USB lead) and the semi-automated wizard programmer app takes care of everything else.

Please ask your Entel Dealer for a free, no obligation trial.

Key Features

- ✓ Compact, rugged
- ✓ IP68 submersible
- ✓ Digital and analogue modes
- ✓ Superior battery endurance
- ✓ 2 watts of audio, loudest in class
- ✓ Intelligent audio technology
- ✓ Audio accessory optimisation
- ✓ Extensive contact list (display models)

- ✓ Bluetooth V4.0, Class 2 (optional)
- ✓ Enhanced privacy as standard
- ✓ Simple end-user programmer app
- ✓ Outstanding range performance
- ✓ High contrast white on black OLED display
- ✓ Two-slot simplex operation
- ✓ Software upgradable for extra features / updates
- ✓ Greater data capability

Technical Specification

Specification	
Channel Capacity	DX4x2/DX446E – 16 channels DX4x5/x6/DX446L – 256 channels / 8 zones
Analogue Channel Spacing	25KHz/12.5KHz
Digital Channel Spacing	12.5KHz
Vocoder	AMBE+2
Operating Voltage	7.6V
Battery	CNB420E 1350mAh Lithium-Ion CNB450E 2000mAh Lithium-Ion
Weight (with battery)	243g with CNB420E 267g with CNB450E
Overall Dimensions (HxWxD)	97mm x 59.5mm x 33mm (with CNB420E) 97mm x 59.5mm x 37mm (with CNB450E)
Frequency Stability	1.5ppm
Antenna Impedance	50 ohm
Operating Temperature	-20 to +55°C
Dust and Liquid Intrusion	IP68 2 metres for 4 hours
Drop Test	MIL-STD 810 C/D/E/F/G Standard
Packing Test	MIL-STD 810 C/D/E/F/G Standard
Vibration and Shock	MIL-STD 810 C/D/E/F/G Standard
Approvals	Analogue mode RF EN 300 086 v2.1.2 Digital mode RF 300 113 v2.2.1 EMC EN 301 489-1 v2.2.0 & EN301 489-5 v2.2.0 Safety (LVD) EN 60950:2006, A1, A11, A12 & A2 SAR EN 50566:2017, EN 62311:2008 & EN 62209-2:2010
Air Interface (DMR)	ETSI TS 102 361

Frequency Band	Entry	Mid	High
66-88MHz	DX412	DX415	DX416
136-174MHz	DX422	DX425	DX426
330-400MHz	DX472	DX475	—
400-470MHz	DX482	DX485	DX486
450-520MHz	DX482U	DX485U	DX486U
PMR446/DMR446	DX446E	DX446L	—

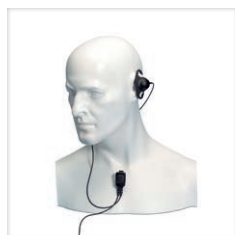| Transmitter	
Power Output VHF (HI/LOW)	5W/1W
Power Output UHF (HI/LOW)	4W/1W
Power Output PMR446/DMR446	0.5W
Modulation Type	7K60FXE / 7K60FXD, 8K0F3E, 16K0F3E
Distortion	2%/5% digital/analogue
Unwanted Emission	0.25uW/1.0uW <1GHz/>1GHz
Adjacent Channel Power	-60dBc

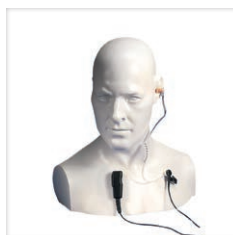| Receiver	
Digital Sensitivity	Typically -121dBm (0.2uV) for 5% BER
Analogue Sensitivity	Typically -121dBm (0.2uV) for 12dB Sinad
Rated Audio Output	2 watts
Intermodulation	-42dBm
Adjacent Channel Selectivity	60dB (Digital) 60/70 (Analogue 12.5/25KHz)
Spurious Response Rejection	-37dBm
Spurious Radiations	2.0nW/20nW <1GHz/>1GHz

Accessories

Supplied package includes: Li-Ion battery pack, rapid drop-in charger, belt clip, high-efficiency antenna and quick-start user guide.
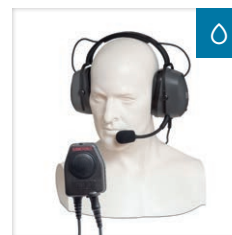

CSBHX
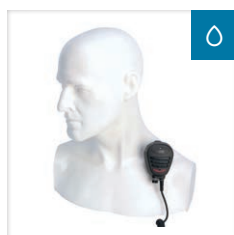Six-way charger

EA12/DX
Earpiece microphone

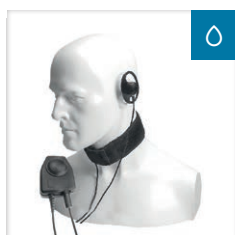**EA15/DX**
Covert earpiece microphone

CHP450HS/DX*
Hard hat ear defender submersible PTT

CHP450D/DX*
Headband ear defender submersible PTT

CMP/DX
Submersible heavy-duty speaker microphone

CXR16/DX*
Bone conductive throat mic, submersible PTT

CXE19/DX
Submersible bone Conductive skull mic

Submersible products are represented with a water droplet.

For the complete range of accessories please visit our website. All specifications are subject to change without notice.

* Submersible - PTT only

Contact

For more information about our products, please contact us:
Entel UK, 320 Centennial Avenue Centennial Park, Elstree, Borehamwood, Hertfordshire WD6 3TJ, United Kingdom

+44 (0)20 8236 0032   info@entel.co.uk   entel.co.uk

Entel