

# DR482

Commercial Grade UHF Repeater



DMR Digital & Analogue Modes



100% Duty Cycle at Full Power



Desk, Wall & Rack Mountable



Integrated Battery Charger



Internal PSU & Duplexer



Tough | FUTURE  
Versatile PROOF  
Dependable

# DR482

## Commercial Grade DMR / Analogue UHF Repeater

DR482 is a compact, tough and versatile UHF repeater that delivers a 100% transmit duty-cycle for both Land and Maritime applications.

Entel's simple, yet robust and powerful DR482 repeater, is ideal for demanding applications both on land or at sea.

## Key Benefits

### Exceptionally Robust

Entel's development team recognises that durability and reliability go hand-in-hand. Housed in an ultra-compact enclosure with a low thermal footprint, the DR482 is built to perform in the toughest environments. It has been tested for thermal shock, vibration, impact shock, solar radiation, and ingress. Combined with Entel's rigorous life-cycle testing programme, users can expect many years of trouble-free operation, even under the most demanding conditions.

### Built in Power Supply

The repeater is supplied with a built in AC Mains power supply capable of charging a backup battery.

### Built in Protection

The DR482 is protected against antenna faults, over temperature, interfering signal, AC mains and DC supply voltage fluctuations.

### Three Mounting Options

DR482 can be desk, 19" rack (two repeaters fit side-by-side on a 3U rack tray) or wall mounted (using the optional wall mounting kit).

### Simple End-User Programming

Our unique and simple-to-use Windows® app means there is no longer any need to return a repeater to your dealer to reprogram or update it. With the user-friendly app, you can simply transfer the programming data sent to you by your Entel dealer, apply software updates or add new features to your Entel DR482 repeater yourself.

### Three Power Supply Modes

The DR482 repeater can be powered in three different modes:

- AC Mains only
- 12V DC only
- AC Mains with Battery Backup

### Optional Internal Duplexer

The DR482 repeater can be supplied either with separate Tx and Rx connectors for 2-antenna working or an external duplexer, or with an internal duplexer for single antenna working.

### Mixed Mode Operation

To support legacy analogue radios, the repeater can be configured to automatically switch between DMR Digital and Analogue modes.



## Key Features

- ✓ Digital, Analogue & Mixed modes
- ✓ Simple end-user programmer app
- ✓ Built-in mains power supply
- ✓ Built-in mains-fail battery charger
- ✓ Software upgradable for extra features/updates
- ✓ 100% Transmit duty cycle at 25 Watts
- ✓ Optional built-in duplexer
- ✓ Versatile mounting options

# Technical Specifications

| Physical            |                         |                                                                              |
|---------------------|-------------------------|------------------------------------------------------------------------------|
| Size (H x W x D):   |                         | 95 x 220 x 375 mm (main body only)                                           |
| Weight:             |                         | 3.8 kg                                                                       |
| Temperature Range:  | Operational:            | -30°C to +60°C (fan unrestricted)<br>-30°C to +55°C (fan dust filter fitted) |
|                     | Storage:                | -40°C to +70°C                                                               |
| Relative Humidity:  |                         | Up to 95% (non-condensing) at 50°C                                           |
| Antenna Connectors: | Two Antenna Working:    | Tx: N-Type female Rx: BNC female                                             |
|                     | With Optional Duplexer: | Tx/Rx: N-Type female                                                         |
| Power Connectors:   | AC:                     | Fused IEC C14 (fits IEC C13 cable)                                           |
|                     | DC:                     | Molex Mini-Fit Sr. 2-Circuit Plug                                            |

| RF General                                                     |                                   |
|----------------------------------------------------------------|-----------------------------------|
| Mode of Operation:                                             | Full-Duplex Repeater              |
| Number of Channels:                                            | 1                                 |
| Frequency Range:                                               | 400-470 MHz                       |
| Channel Bandwidth:                                             | 12.5 kHz or 25 kHz                |
| Supported Modes of Operation:<br>(Auto-switches between modes) | Analogue FM Conventional          |
|                                                                | DMR Tier II (TS 102 361-1 and -2) |

| Transmitter                                                   |            |                    |
|---------------------------------------------------------------|------------|--------------------|
| Rated Output Power:                                           |            | 1–25W (adjustable) |
| Transmitter Duty Cycle:                                       |            | Continuous Duty    |
| Frequency Stability:                                          |            | <0.5 ppm           |
| Intermodulation Attenuation:                                  |            | >40 dB             |
| Adjacent Channel Power:<br>(ETSI & TIA603E)                   | 12.5kHz    | >60 dB             |
|                                                               | 25kHz      | >70 dB             |
| FSK Modulation Fidelity<br>(DMR):                             | Frequency: | <3%                |
|                                                               | Magnitude: | <1%                |
| Max Freq Deviation /<br>Modulation Limiting:<br>(Analogue FM) | 12.5kHz    | ±2.5 kHz           |
|                                                               | 25kHz      | ±5.0 kHz           |
| Spurs & Harmonics<br>(Conducted and Radiated):                | <1GHz      | <-36 dBm           |
|                                                               | >1GHz      | <-30 dBm           |
| FM Hum & Noise:                                               | 12.5kHz    | <-45 dB            |
|                                                               | 25kHz      | <-50 dB            |

| Power Supply                                                                                 |                       |                                            |                        |
|----------------------------------------------------------------------------------------------|-----------------------|--------------------------------------------|------------------------|
| Power Supply Type:                                                                           |                       | Switching                                  |                        |
| Input Power Modes:                                                                           |                       | AC only                                    |                        |
|                                                                                              |                       | AC with DC-revert upon AC-failure          |                        |
|                                                                                              |                       | DC only                                    |                        |
| Input Voltage:                                                                               | AC:                   | UK/Euro:                                   | 230 VAC ±10%, 47-53 Hz |
|                                                                                              |                       | Americas:                                  | 110 VAC ±10%, 57-63 Hz |
|                                                                                              | DC:                   | 12.0-15.0 VDC                              |                        |
| Typical Input Power:<br>(25°C, VSWR<1.5<br>and backup battery<br>fully charged or<br>absent) | AC:                   | Standby:                                   | 18 VA                  |
|                                                                                              |                       | 25W Tx:                                    | 130 VA                 |
|                                                                                              |                       | 1W Tx:                                     | 40 VA                  |
|                                                                                              | DC:                   | Standby:                                   | 3 W                    |
|                                                                                              |                       | 25W Tx:                                    | 70 W                   |
|                                                                                              |                       | 1W Tx:                                     | 20 W                   |
| Backup Battery<br>Compatibility:                                                             | Charge<br>Scheduling: | Batt Charging during Standby               |                        |
|                                                                                              |                       | Charging suspended during Tx               |                        |
|                                                                                              | Charge<br>Current:    | 1A @ V <sub>batt</sub> < 11.5VDC           |                        |
|                                                                                              |                       | 3A @ 11.5VDC < V <sub>batt</sub> < 13.8VDC |                        |
| Up to 3A @ V <sub>batt</sub> = 13.8VDC                                                       |                       |                                            |                        |

| Receiver                                        |          |            |          |
|-------------------------------------------------|----------|------------|----------|
| Frequency Stability:                            |          | <0.5 ppm   |          |
| Sensitivity:                                    | Analogue | 12dB SINAD | <0.2 µV  |
|                                                 | DMR      | 5% BER     | <0.2 µV  |
| Adjacent Channel<br>Selectivity:                | ETSI     | 12.5kHz    | >60 dB   |
|                                                 |          | 25kHz      | >70 dB   |
|                                                 | TIA603E  | 12.5kHz    | >65 dB   |
|                                                 |          | 25kHz      | >75 dB   |
| Blocking / Desensitisation:                     | ETSI     |            | >84 dB   |
|                                                 | TIA603E  |            | >84 dB   |
| Intermodulation Response<br>Rejection:          | ETSI     |            | >70 dB   |
|                                                 | TIA603E  |            | >75 dB   |
| Spurious Response Rejection:                    | ETSI     |            | >70 dB   |
|                                                 | TIA603E  |            | >75 dB   |
| Spurious Emissions<br>(Conducted and Radiated): | <1GHz    |            | <-57 dBm |
|                                                 | >1GHz    |            | <-47 dBm |

| Conformance |                          |                      |                       |                       |                     |
|-------------|--------------------------|----------------------|-----------------------|-----------------------|---------------------|
|             | UK & Europe (Land)       | UK & Europe (Marine) | USA (Land)*           | USA (Maritime)*       | Canada*             |
| Radio:      | EN 300 086<br>EN 300 113 | EN 300 720           | CFR Title 47 Part 90* | CFR Title 47 Part 80* | RSS-119*            |
| Safety:     | EN 62368-1               |                      |                       |                       |                     |
| EMC:        | EN 301 489-1 and -5      | EN 60945             | CFR Title 47 Part 15* |                       | ICES-003*           |
| Labelling:  | UKCA marked<br>CE marked |                      | FCC ID: TBA*          |                       | ISED IC ID:<br>TBA* |

\* Regulatory Submission under review

| Emission Designators |              |                     |                     |                       |
|----------------------|--------------|---------------------|---------------------|-----------------------|
| Bandwidth            | Modulation   | Channelisation      | Information Carried | Applicable Designator |
| 12.5 kHz             | Analogue FM  | 1x Analogue Channel | Voice               | 11K0F3E               |
| 25 kHz               | Analogue FM  | 1x Analogue Channel | Voice               | 16K0F3E               |
| 12.5 kHz             | Digital 4FSK | DMR 2-Timeslot TDMA | Data                | 7K60F7D               |
| 12.5 kHz             | Digital 4FSK | DMR 2-Timeslot TDMA | Voice               | 7K60F7E               |
| 12.5 kHz             | Digital 4FSK | DMR 2-Timeslot TDMA | Voice & Data        | 7K60F7W               |

All specifications shown are typical unless otherwise stated and are subject to change without notice to improve reliability, function, or design.

## Image gallery



Rear view  
(with optional dust cover fitted)



Front view



Front handles



Rear bumpers

## Accessories

Supplied package include: AC Mains lead (Available plug options: UK, EURO or US), USB lead, Front Handles, Rear Bumpers and User Guide.



**DR/DCL**  
DC lead



**DR/DUP70/5-7** (5-7MHz Tx/Rx Separation)  
**DR/DUP70/7-9** (7-9MHz Tx/Rx Separation)  
**DR/DUP70/9-13** (9-13MHz Tx/Rx Separation)  
**DR/DUP70/13-16** (13-16MHz Tx/Rx Separation)  
Internal duplexer kit



**DR/WMK**  
Wall mount kit



**DR/DF**  
Dust Filter

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## Contact

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