

Business
Critical
Communications

Entel

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. Its available DMR / Analogue / Mixed Mode (DR482) or Analogue only (DR482/A).

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) -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: (Auto-switches between modes)	Analogue FM Conventional (DR482 & DR482/A)
	DMR Tier II (TS 102 361-1 and -2) (DR482/A only)

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

Conformance					
	UK & Europe (Land)	UK & Europe (Marine)	USA (Land)*	USA (Maritime)*	Canada*
Radio:	EN 300 086 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 CE marked		FCC ID: TBA*		ISED IC ID: TBA*

* Regulatory Submission under review

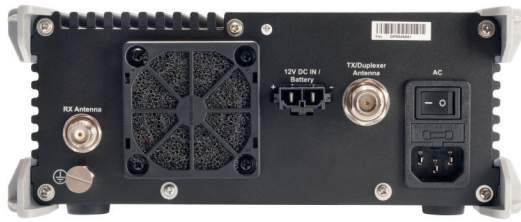
Emission Designators				
Bandwidth	Modulation	Channelisation	Information Carried	Applicable Designator
12.5 kHz	Analogue FM	1x Analogue Channel	Voice	11K0F3E
25 kHz	Analogue FM	1x Analogue Channel	Voice	16K0F3E
12.5 kHz	Digital 4FSK	DMR 2-Timeslot TDMA	Data	7K60F7D
12.5 kHz	Digital 4FSK	DMR 2-Timeslot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

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: (25°C, VSWR<1.5 and backup battery fully charged or 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 Compatibility:	Charge Scheduling:	Batt Charging during Standby	
		Charging suspended during Tx	
	Charge Current:	1A @ V _{batt} < 11.5VDC	
		3A @ 11.5VDC < V _{batt} < 13.8VDC	
Up to 3A @ V _{batt} = 13.8VDC			

Receiver			
Frequency Stability:		<0.5 ppm	
Sensitivity:	Analogue	12dB SINAD	<0.2 µV
	DMR	5% BER	<0.2 µV
Adjacent Channel 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 Rejection:	ETSI	>70 dB	
	TIA603E	>75 dB	
Spurious Response Rejection:	ETSI	>70 dB	
	TIA603E	>75 dB	
Spurious Emissions (Conducted and Radiated):	<1GHz	<-57 dBm	
	>1GHz	<-47 dBm	

Image gallery



Rear view
(with optional dust cover fitted)



Front view



Front handles



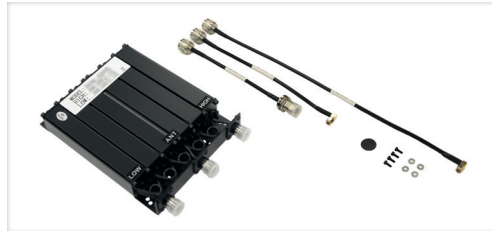
Rear bumpers

Accessories

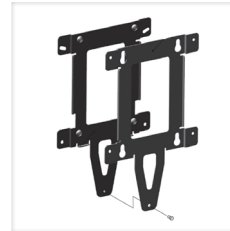
Supplied package include: AC Mains lead (Available plug options: UK, EURO or US), USB lead and User Guide.



DR/DCL
DC lead



DR/DUP/380-450MHz/5-7MHz
(380-450MHz, 5-7MHz Tx/Rx Separation)
DR/DUP/380-450MHz/7-12MHz
(380-450MHz, 7-12MHz Tx/Rx Separation)
DR/DUP/380-450MHz/12-20MHz
(380-450MHz, 12-20MHz Tx/Rx Separation)
DR/DUP/450-520MHz/5-7MHz
(450-520MHz, 5-7MHz Tx/Rx Separation)
DR/DUP/450-520MHz/7-12MHz
(450-520MHz, 7-12MHz Tx/Rx Separation)
DR/DUP/450-520MHz/12-20MHz
(450-520MHz, 12-20MHz Tx/Rx Separation)
Internal duplexer kit



DR/WMK
Wall mount kit



DR/DF
Dust Filter

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Contact

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