



# TR-810

MULTI PURPOSE VHF/AM TRANSCEIVER



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# TR-810

- ETSI and FCC approvals
- 10W output when used as vehicle installation or desktop mount
- Wide DC input voltage (10 to 28V)
- Fast recall of 3 preset channels
- A visually pleasing OLED display
- Detachable front panel
- Built-in loudspeaker (optional external loudspeaker)
- Multiple microphone input connections
- Voice recorder output
- External battery unit with battery indicator
- Several mounting options
- 25kHz/8.33kHz channel separation



## TR-810 VHF AM MULTI PURPOSE RADIO

The TR-810 is a lightweight, rugged and flexible radio.

There are several applications of the TR-810; desktop radio (TR-810DE), vehicle radio (TR-810VE), man portable radio (TR-810MP), last resort radio (TR-810LR) or a 19"/2U enclosure suitable for rack mounting.

Detachable Operator Control Panel (OCP) offers flexible installation. Communication between the two units occurs via a CAT5 cable.

### TR-810VE Transceiver Vehicle version

Any vehicle with 12 or 24VDC supply can accommodate the TR-810. The following items are included; microphone, interconnection cables, external loudspeaker, vehicle antenna and a 5 meter long extension cable (between radio and OCP, to separate the radio and OCP if mounting elsewhere in the vehicle).

### TR-810DE Transceiver Desktop version

A desktop version is supplied with an external AC/DC adaptor. The AC/DC adaptor covers 100 to 240VAC. The following items are included; microphone, bracket for console mounting and an antenna cable connector.

### TR-810LR Transceiver Last Resort version

A last resort radio is similar to a desktop radio,

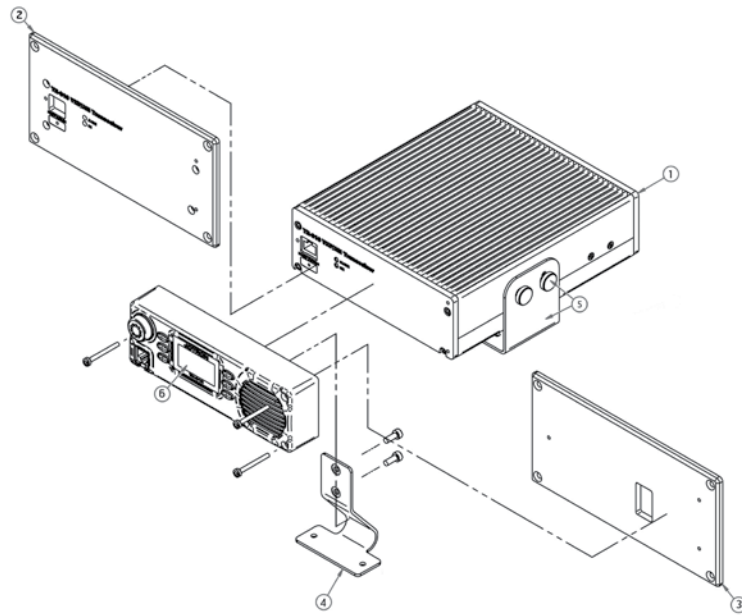
but contains a Lithium Ion battery pack supplying the radio with DC voltage if AC power fails. The battery status is monitored on the battery pack or on the TR-810 display. Battery capacity is 72Wh therefore, this radio will last 7.5 hours in 10% Tx/ 30% Rx/ and 60% idling duty cycle at 10W output power. Up to 9.5 hours can be achieved if output power is reduced to 2.5W.

### TR-810MP Transceiver Man Portable version

This is a portable version of the TR-810, where the radio with an antenna bracket is fitted into a carrying bag. The carrying bag has 2 pockets; one containing a charger and cable and the other a microphone. The battery capacity is the same as the TR-810LR.

Easy to install:

- 1. 82769 - Transceiver module
- 2. 84082 - Front cover plate w/flange
- 3. 84416 - Console mounting plate front module
- 4. 84391 - Front bracket module w/screws
- 5. 84084 - Console bracket
- 84086 - Lock screws
- 6. 82768 - Front module (OCP)



TR-810DE Transceiver Desktop version



TR-810MP Transceiver Man Portable version



TR-810VE Transceiver Vehicle version



TR-810LR Transceiver Last Resort version







# ▶ TR-810

## MULTI PURPOSE VHF/AM TRANSCEIVER

### APPROVED TO THE FOLLOWING STANDARDS:

#### Radio performance:

- EN 300 676 V1.3.1:

#### EMC:

- EN 301 489-1 V 1.5.1 : EMC for radio equipment

- EN 301 489-22 V 1.3.1 : Specific conditions VHF aeronautical equipment

- IEC 60945: Maritime navigation and radio communication equipment.

#### FCC:

- Part 87 and RSS 141

#### Safety:

- According to EN/IEC 60950

#### Vibration and shock:

- EN 300-019-2-2 : Transportation

- EN 300-019-2-5 : for ground Vehicle installations,

- EN 300-019-2-7 : for Portable and non-stationary use



Agent/Distributor:

Jotron AS reserves the right to change the design and/or specifications at any time without prior notice. Reservations are also taken towards any general errors that may occur.

v.6

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### SPECIFICATIONS

Frequency range:	118-137 MHz
Channel separation:	25 kHz / 8.33 kHz (selectable)
Frequency stability:	± 1.0ppm
Frequency selection:	25/8.33 kHz steps
Preset channels:	63
Type of modulation:	AM (A3E)
Audio response:	25kHz: +1/-3 dB rel.to 1 kHz, 300-3400 Hz 8.33kHz +1/-3 dB rel.to 1 kHz, 300-2500 Hz
Audio output:	Built in speaker: > 4W
Headphone:	8 - 32 Ω > 100mW
External speaker:	> 4W @ 4 Ω, adjustable from front panel
Mic input:	Dynamic/Electret. Sensitivity 1.9mV
Monitor:	Unbalanced 600 Ω. -7dBm @ 70% modulation
Antenna connector:	50 Ω, BNC-connector
Operating temperature:	-20 to +55°C
Storage temperature:	-40 to +70°C
Operating voltage:	12 - 28VDC ±10%
Power consumption:	10W, 80% modulation: < 60 W

<b>Receiver section</b>	
Sensitivity:	10 dB SINAD at 1 μV pd, 30% modulation
Squelch:	Adjustable from min.1 μV pd, to 25 μV pd., Opening/closing: <50 ms
THD:	<5%, 90% mod, 100 μV, 1kHz
S/N ratio:	>45dB, 100 μV, 30%, 1kHz
Adjacent channel rejection:	>80dB, 25kHz/ >65dB, 8.33 kHz
Cross modulation:	>90dB @ 1MHz offset
Blocking:	>95dB @ 1MHz offset
Spurious response rejection:	>80dB
Intermodulation immunity:	>80 dB
Image frequency rejection:	>100dB
If rejection:	>100dB
Permissible input level:	5V EMF
AF AGC:	<3dB change in output level for modulation 30% - 90%
Conducted spurious emissions:	<-70 dBm
Effective Acceptance Bandwidth:	<6dB @ ± 8.5 kHz, 25 kHz , <6dB @ ± 4 kHz, 8.33 kHz channels

<b>Transmitter section</b>	
Modulation:	AM up to 90%. Modulation depth adjustable from front panel
Standing wave ratio:	1 : infinity
Output power:	10W ± 1 dB . Adjustable. (40WPEP) Output is reduced automatically when the VSWR reaches approx 3:1
Keying time:	<20 msec
Release time:	<10 msec
Keying:	Mic connector s
LF compression (VOGAD):	30dB with less than 10% change in modulation
Limiter:	Limiting amplifier prevents over modulation
Distortion:	Less than 5% at 90% modulation
Hum and noise level:	Better than 40dB below at 90% modulation.
Duty cycle:	30% continuous operation at ambient temperature below 55°C
Intermodulation attenuation:	>40 dB with a frequency offset of ± 150 kHz

<b>Battery backup</b>	
Operating temperature:	-20 to +55°C
Storage temperature:	-40 to +70°C
Operating voltage:	12 - 28VDC ± 10%
Battery type:	Lithium-ion (SAFT)
Battery capacity:	72Wh - Approx 11 hours operation (10/90 duty cycle)
Operating time @10W:	Approx 7.5 hour. (10/30/60 duty cycle)
Operating time @ 5W:	Approx 8.5 hour. (10/30/60 duty cycle)
Operating time @ 2.5W:	Approx 9.5 hour. (10/30/60 duty cycle)
Power consumption	
- Charging:	< 80W
- Charging + transmit:	<140W

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