

# TGR990 TETRA mobile radio, gateway and repeater

*Extend your reach*



## TGR990 TETRA mobile radio, gateway and repeater

- **Mobile radio with 3 modes: TETRA radio, DMO Gateway, DMO Repeater**
- **High-resolution TFT colour display, 212 x 140 pixels**
- **Easy-to-use graphical user interface**
- **Integrated GPS receiver**
- **Versatile installation options for diverse range of vehicles**
- **Advanced interfaces for external devices and applications**
- **Output power up to 5 W, adjustable for each operational mode**
- **Compatible with the Taqto® smart terminal management tool**

The TGR990 is an advanced and versatile TETRA mobile radio for reliable voice and data communication in the demanding working environments of public safety and emergency services. Its large colour display, clear menu and shortcut keys ensure smooth operation of the radio while on the move. The TGR990's graphical user interface has adapted style elements from other EADS TETRA radios, bringing the benefit of familiarity to users. The integrated GPS receiver helps to locate resources, enhancing operational efficiency and user safety.

The new TGR990 can operate in three modes: as a normal TETRA radio, as a gateway between Trunked Mode Operation (TMO) and Direct Mode Operation (DMO) or as a DMO repeater. User can easily change the mode by a one-touch shortcut key. The current mode is clearly visible on the radio display.

### **Communications in hard-to-reach places**

DMO Gateway is used to connect users operating in trunked mode within TETRA coverage and those operating in direct mode. Gateway extends the effective operational range of communication from the TETRA network (TMO) to direct mode (DMO) and vice versa. This functionality can enhance communication in buildings and at the edges of the TETRA network. For example, with help of a DMO Gateway, smoke divers operating in DMO inside a building can communicate with their colleagues using TMO outside.

When used as DMO Repeater, the TGR990 can increase the communication range and sustain contact by acting as a relay between users operating in direct mode outside the radio coverage area or inside buildings, tunnels and basements, for example.



## Flexibility in fitting

The TGR990 combines a radio transceiver and control unit into a compact device that fits into a vehicle's DIN slot. It adapts easily to different types of vehicles with different installation requirements, thanks to the availability of alternative mounting kits. When space in a vehicle is limited, the control unit can be mounted within easy reach on the dashboard while the radio unit can be placed wherever it fits best in the vehicle, such as under the driver's seat or in a trunk. When the radio needs to be operated from two separate places, a parallel second control unit can be connected to the radio. In a fire engine, for example, the TGR990 with the external control unit allows the radio to be used both from the driver's cabin and from the rear of the vehicle. An additional desktop console with integrated loudspeaker is also available for office use.

The following accessories are available for the TGR990 radio:

### Installation

- Dashboard mounting kit
- DIN mounting kit
- Installation kit for remote mounting
- Mounting kit for 2 parallel control units
- Desktop kit for office incl. power supply and desktop tray with speaker
- Data junction box with remote interfaces
- Connection cable for junction box

### Audio accessories

- External speaker 5W and 13W
- Speaker extension cable
- Telephone style handset
- Speaker microphone
- Desktop microphone, hands-free

### Cables

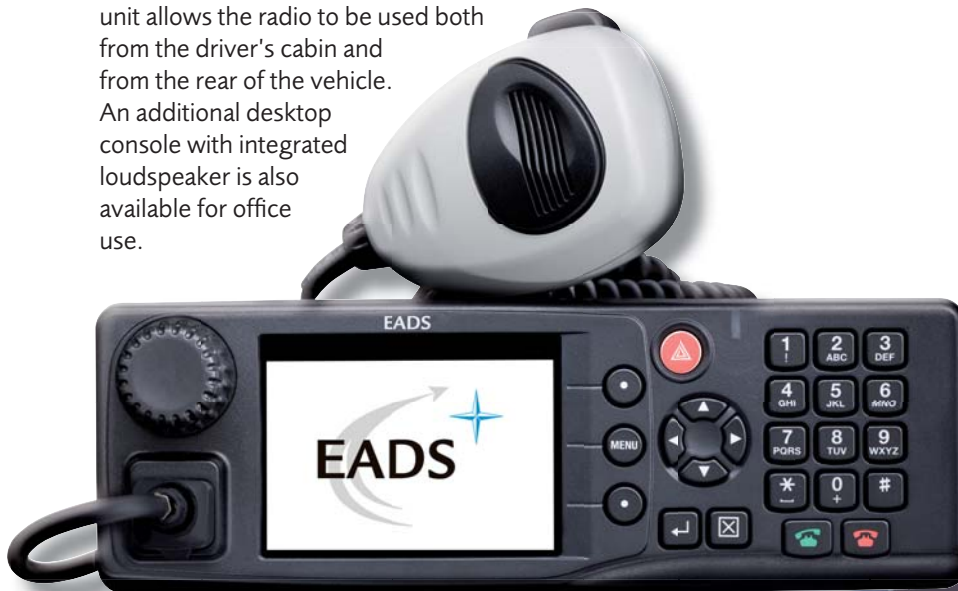
- Power cable to vehicle battery, 3m and 6m
- Ignition sense cable
- Relay and cable for external alarm
- Accessory connector kit

### Antennas

- Panel mount antenna for vehicle
- Magnet antenna for vehicle
- Combined TETRA/GPS antenna
- Wall mount antenna for office

### Data and programming

- RS232 cable (7 way)
- RS232 cable (20 way)



# TGR990 TETRA mobile radio, gateway and repeater

TGR990 radio fulfils the following specifications for TETRA radio equipment in the temperature range of -20 °C to +60 °C:

EN 300 392 V+D Air Interface

EN 300 394 V+D Conformance testing

## Frequency Bands

- 380-430 MHz

## Power Class

- EN300392-2 compliant, power class 3
- Receiver class A
- RF power control, 4 steps of 5dB

## Size

Radio unit:

- Weight: 1500 g
- Dimensions: 44 x 168 x 163 mm (H x W x D)

Control unit:

- Weight: 250g
- Dimensions: 65 x 190 x 30 mm (H x W x D)

## Durability

- Water and dust resistant according to IP54

## Display

- High-resolution, graphic TFT color display 2.8"
- 212 x 140 pixels, 65,536 colors
- 2 text sizes

## Keypad/Controls

- Alphanumeric keypad
- Call and end call keys
- 4 navigation keys, menu and soft keys
- Power-on/Volume adjustment/ Group selection key
- Emergency key

## GPS receiver

- Sensitivity -152 dBm
- Accuracy \*
  - 5 meters (50% confidence level)
  - 10 meters (95% confidence level)
- Support for ETSI location information protocol for TETRA
- NMEA format using SDS-TL

\* measured at -137 dBm

## Call Types

- Phone calls in TETRA network
- Phone calls in public network
- Express and group calls in TETRA network
- TETRA emergency calls
- Hidden TETRA emergency calls
- Public emergency calls (e.g. 112 calls)

## Group Communication

- Up to 2048 talk groups
- Up to 256 talk group folders
- Dynamic Group Number Assignment, (up to 2047 DGNA groups)
- Up to 10 background groups
- Configurable priority scanning
- 20 scanning lists with up to 20 talk groups
- Voice override in group calls (pre-emption)
- Late entry

## Direct Mode Features

- Up to 1024 DMO groups
- Scanning
- Red key call to DMO group
- Red key call to TMO within TETRA network coverage
- Public emergency call within TETRA network coverage
- DMO SCK encryption
- Status messages
- Position sending during emergency call

## TMO/DMO Gateway

- ETSI TETRA Gateway operation
- Group and emergency group calls from TMO to DMO/DMO to TMO
- Call pre-emption

## DMO Repeater

- ETSI TETRA type 1A and 1B DMO repeater

## Security

- Authentication
- Mutual authentication
- Air interface encryption, security classes:
  - Class 1: Clear
  - Class 2: SCK
  - Class 3: DCK/CCK
- PIN and PUK code
- Temporary disable/enable (stun)
- Permanent disable (kill)
- Alert for out of network coverage

## Wireless Data

- IP Packet Data
- Multi-slot packet data (option)

## Other Features

- Status and text messages
- TX inhibit
- Speed dialing (one touch dialing, locations 2-9)
- Functional number keys
- DTMF tone dialing
- Anykey answer
- Duplex call barring
- Multiple network support

## Interfaces

- Remote control unit
- Accessory connector
- Multiple audio devices
- RS232 data cable
- External power on/off
- External PTT
- External emergency activation
- Ignition sense
- External smart card reader (BSI)
- Active GPS antenna
- TETRA antenna
- Service connector for programming

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