TGR990 TETRA MOBILE RADIO, GATEWAY AND REPEATER
Extend your reach

The TGR990 is an advanced and versatile TETRA mobile radio for voice and data communication in demanding working environments of public safety and emergency services. Its large color display, clear menu and shortcut keys ensure smooth radio operation while on the move. The integrated GPS receiver helps to locate resources, enhancing operational efficiency and user safety.

The 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.

DMO Gateway connects users in trunked mode to those using direct mode. Gateway extends the operational range 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, smoke divers using DMO inside a building can communicate with their colleagues in 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.

The TGR990 combines a radio and a control unit into a compact device to fit into a vehicle's DIN slot. It adapts in different vehicles because of several installation options. The control unit can be mounted on the dashboard while the radio elsewhere, like under the driver's seat .

A parallel second control unit can be connected to the radio. In a fire engine, for instance the TGR990 with an 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.

AIRBUS
DEFENCE & SPACE

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 Band
• 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: 250 g
• 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