Hytera
Respond & Achieve

MD655 / MD655G

DMR mobile radios

No matter for which application, the DMR mobile radios MD655/MD655G are compact and user-friendly and, as a result, your reliable companion for secure communication. Besides their outstanding voice quality and reliability, they excel through their simple operation via the handheld microphone.

DMR
DIGITAL MOBILE RADIO ASSOCIATION

www.hytera-mobilfunk.com

Radio

MD655
MD655G

DMR mobile radios

Highlights

Intuitive operation
The MD655/MD655G is operated completely via the handheld microphone, which contains all necessary buttons and also an LC display. On top of that, two buttons can be freely programmed to assign important functions. For different installation options the handheld microphone is optionally available in 2.2 m or 6 m cable length.

Compact design
The MD655/MD655G excels through its stylish and particularly compact design. With its dimensions (165 × 46 × 140 mm) and a weight of only 1050 g, the mobile radio can be used in a multitude of ways.

Various installation options
With its operation via handheld microphone, the MD655/MD655G can be installed at any suitable location in the vehicle. Whether under the seat or in the trunk, thanks to the different cable lenghts for the handheld microphone everything is possible.

Adaptable transmitting power
Programming the MD655/MD655G allows adapting the transmitting power from 1 W up to 25 W.

Analog and digital mobile radio (dual mode)
In the MD655/MD655G, it is possible to configure analog as well as digital channels. With the channel selection, this enables easily switching between analog and digital.

Improved utilization of the frequency spectrum
Thanks to Pseudo Trunking and the TDMA procedure, the MD655/MD655G allows assigning the available bandwidth with twice the number of channels. This has a clear mitigating effect on increasing spectrum scarcity.

Expansion interface
Thanks to the expansion interface, the range of functions offered by the MD655/MD655G can be expanded by significant functions. Accessories and applications developed by partners can be connected to this interface.

Functions (excerpt)

- Optional analog or digital operation
- Versatile voice calls:
  Individual call, group call, broadcast call, emergency call, data call
- GPS functions (MD655G only)
  - Send GPS text messages
- Data services
  - Text messages
  - Group text messages
  - Control of the radio via API
- Different types of analog signaling: HDC1200, 2-tone and 5-tone dialing
- Priority Interrupt (optional)
- Automatic cell re-selection (roaming) in IP multi-site systems
- Analog scrambling
- Secure encryption with encryption algorithm ARC4 (40 bit) in accordance with DMRA or with optional algorithms AES128 and AES256 (128 and 256 bit)
- Upgradeable software

Standard scope of delivery


Installation kit with installation clip BRK08


Battery connecting cable PWC10 (3 m), PWC12 (5 m)


Fuse POA33

Optional accessories (selection)


Wireless speaker microphone SM27W1


Speaker microfon with LC display SM25A1 (2,2 m) SM25A2 (6 m)


Back-to-Back- data cable PC49


Programming cable (USB) PC47


Power supply unit (300 W) PS22002


External speaker SM09D1


GPS antenna GPS04

The illustrations are for reference purposes only. The products might differ from these illustrations.

Technical Data

General data	
Frequency range	VHF: 136 - 174 MHz UHF: 400 - 470 MHz
Supported operating modes	• DMR Tier II in acc. with ETSI TS 102 361-1/2/3 • Simulcast • XPT Digital Trunking • Analog
Channel capacity	1024
Zone capacity	64 (with max. 16 channels each)
Channel spacing	12.5 / 20 / 25 kHz (analog) 12.5 kHz (digital)
Operating voltage	13.6 ± 15% V_{DC}
Max. power consumption (in stand by)	≤ 0.6 A
Max. power consumption (during reception)	≤ 2.0 A
Max. power consumption (during transmission)	1 W: < 3 A 25 W: < 8 A
Frequency stability	± 0.5 ppm
Antenna impedance	50 Ω
Dimensions (W × H × L)	165 × 46 × 140 mm
Weight	1050 g

Ambient data	
Operating temperature range	- 30 °C to + 60 °C
Storage temperature range	- 40 °C to + 85 °C
ESD	IEC 61000-4-2 (Level 4), ± 8 kV (contact) ± 15 kV (air)
Dust and water protection	IP54
Shock and vibration resistance	MIL-STD-810 C/D/E/F/G
Relative humidity	MIL-STD-810 C/D/E/F/G

GPS (MD655G)	
Time to first position recognition (TTFF) cold start	< 1 minute
Time to first position recognition (TTFF) warm start	< 10 seconds
Horizontal accuracy	< 10 meter

Transmitter	
Transmitting power	1 - 25 W (adjustable)
Modulation	11 K0F3E at 12.5 kHz 14 K0F3E at 20 kHz 16 K0F3E at 25 kHz
4FSK digital modulation	12.5 kHz (data only): 7K60FXD 12.5 kHz (data and voice): 7K60FXW
Interfering signals and harmonics	- 36 dBm (< 1 GHz) - 30 dBm (> 1 GHz)
Modulation limiting	± 2.5 kHz at 12.5 kHz ± 4.0 kHz at 20 kHz ± 5.0 kHz at 25 kHz
Hum and noise	40 dB at 12.5 kHz 43 dB at 20 kHz 45 dB at 25 kHz
Adjacent channel selectivity	60 dB at 12.5 kHz 70 dB at 20 / 25 kHz
Audio sensitivity	+ 1 to - 3 dB
Nominal audio distortion	≤ 3 %
Digital vocoder type	AMBE +2™

Receiver	
Sensitivity (analog)	0.3 µV (12 dB SINAD) 0.22 µV (typical) (12 dB SINAD) 0.4 µV (20 dB SINAD)
Sensitivity (digital)	0.3 µV / BER 5 %
Adjacent channel selectivity TIA-603 ETSI	 65 dB at 12.5 kHz / 75 dB at 20 / 25 kHz 60 dB at 12.5 kHz / 70 dB at 20 / 25 kHz
Intermodulation TIA-603 ETSI	 70 dB at 12.5 / 20 / 25 kHz 65 dB at 12.5 / 20 / 25 kHz
Spurious response rejection TIA-603 ETSI	 75 dB at 12.5 / 20 / 25 kHz 75 dB at 12.5 / 20 / 25 kHz
Signal-to-noise ratio (S/N)	40 dB at 12.5 kHz 43 dB at 20 kHz 45 dB at 25 kHz
Nominal audio power output	Internal 3 W at 20 Ω, external 7.5 W at 8 Ω
Nominal audio distortion	≤ 3 %
Audio sensitivity	+ 1 to - 3 dB
Conducted spurious emission	- 57 dBm

All technical specifications were tested according to the relevant standards.
Subject to change on the basis of continuous development.

Your Hytera partner:

Further information can be found at:
www.hytera-mobilfunk.com

Contact us if you are interested in sales, distribution or application partnership:
info@hytera.de

SGS certificate DE11/81829313

Hytera
Respond & Achieve

Hytera Mobilfunk GmbH

Address: Fritz-Hahne-Straße 7, 31848 Bad Münder, Germany
Tel.: + 49 (0)5042 / 998-0 **Fax:** + 49 (0)5042 / 998-105 **E-mail:** info@hytera.de
www.hytera-mobilfunk.com

Ref. No.: 90MD655_MD655G_Fly_ENG_v03