
Product description HYTERA AR685



Small, lightweight and narrow

The AR685 is only 27 mm deep, making them particularly compact. The housings are trimmed in a high-quality aluminum frame and are comfortable to carry for long periods with a weight of only 310 g.

Long battery service life

With the supplied 1500 mAh lithium-ion battery, the handheld radio PD685 has an operating period of at least 16 hours in digital mode. With the optionally available 2000-mAh battery, it will even be 20 hours.

Frequency Range

UHF frequency range from 430 MHz to 462 MHz.

Support of analog and digital mobile radio

The AR685 was developed in compliance with the ETSI Digital Mobile Radio (DMR) standard. The handheld radio supports the conventional DMR and FM operation. It allows operation over all Amateur Radio DMR-Networks and over FM-Relais. AR685 is the ideal companion for the move to digital radio.

GPS-Function

AR685 is serially equipped with GPS. This makes it possible to transmit your GPS position manual or automatically, if the network supports it.

Technical Data

General Data

Frequency Range	UHF: 430 - 462 MHz <ul style="list-style-type: none">DMR Tier II (conventional DMR)
Supported operating modes	DMR Tier II in accordance with ETSI TS 102 361-1/2/3
Number of Channels	1024
Number of Zones	64
Channel spacing	12,5 / 20 / 25 kHz (analog) 12,5 kHz (digital)
Operating voltage	7,4 V (nominal)
Battery	1500 mAh (Lithium-Ionen-Akku)
Battery service life (5/5/90)	approx. 11 hours (analog) approx. 16 hours (digital)
Frequency stability	±0,5 ppm
Antenna impedance	50 Ω
Dimensions (H×W×D) (mit standard battery, without antenna)	119 x 54 x 27 mm
Weight	approx. 310 g
Programmable keys	3
LCD-Display	160 × 128 Pixel, 65.536 colours, 1,8 inch, 4 lines

Transmitter

Transmitting power	UHF: 1 / 4 W
Modulation	11 K0F3E bei 12,5 kHz 14 K0F3E bei 20 kHz 16 K0F3E bei 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 dB to -3 dB
Audio distortion	≤ 3%
Digital vocoder type	AMBE+2™

Receiver

Sensitivity (analog)	0,22 μ V (12 dB SINAD) 0,22 μ V (typical) (12 dB SINAD) 0,4 μ V (20 dB SINAD)
Sensitivity (digital)	0,22 μ V / BER 5%
Adjacent channel selectivity	60 dB at 12,5 kHz / 70 dB at 20 and 25 kHz 60 dB at 12,5 kHz / 70 dB at 20 and 25 kHz
Intermodulation	
TIA-603	70 dB at 12,5/20/25 kHz
ETSI	70 dB at 12,5/20/25 kHz
Spurious response rejection	
TIA-603	70 dB at 12,5/20/25 kHz
ETSI	70 dB at 12,5/20/25 kHz
Signal-noise ratio (S/N)	40 dB at 12,5 kHz 43 dB at 20 kHz 45 dB at 25 kHz
Nominal audio power output	0,5 W
Audio distortion	\leq 3 %
Audio sensitivity	+1 dB to -3 dB
Conducted spurious emission	< -57 dBm

Environmental conditions

Operating temperature range	-30 °C to +60 °C
Storage temperature range	-40 °C to +85 °C
ESD	IEC 61000-4-2 (level 4) \pm 8 kV (contact) \pm 15 kV (air)
Protection against dust and moisture	IP67
Shock and vibration resistance	MIL-STD-810 C/D/E/F/G
Relative humidity	MIL-STD-810 C/D/E/F/G

GPS

Time to first fix (TTFF) cold start	< 1 minute
Time to first fix (TTFF) warm start	< 10 seconds
Horizontal accuracy	< 10 meter

All technical data were tested according to the respective standards. Due to continuing development, technical changes are reserved.

Scope of delivery

- Handheld radio AR685
- Lithium-Ion battery (1500 mAh)
- Power supply unit for charging cradle
- Charger, 100 - 240 VAC – 12 VDC / 1 A
- Standard antenna
- Hand strap
- Belt clip
- Manual