

**Caltta** 

# DH590/DH500

DMR Portable Radio





## Feature



### Security Encryption Protection

All models support 40/128/256bit basic encryption to improve call security and avoid information leakage. Easy software settings ensure call is foolproof.



### Support Dispatching

The DH5 series supports multiple dispatching services such as registration, radio check, lone worker, remote stun/revive, and so on, to realize remote dispatch and meet daily work management needs.



### Reliable Quality

Compliant with IP67 protection level, suitable for outdoor work. Competent in various harsh working environments, such as shock, vibration, and solar radiation.



### Innovative Baseband/RF Design

The innovative ARM+DSP+ discrete RF design ensures that The platform is flexible and easy to expand. Meanwhile, the RF performance reach a high level, and the sensitivity and blocking meet the requirements of the complicated networking conditions.



### Loud and Clear Voice

Carefully optimized audio design, combined with an excellent audio encoder, ensure the loudness and maximize the fidelity of the voice. Even in a noisy environment, it can accurately identify the speaker and hear the content clearly.



### Large Capacity Battery, Long Battery Life

With 2500mAh large capacity battery, DH5 series can operate continuously for at least 20 hours in digital mode, meeting the needs of long work shift on the front line.

## Standard Accessories



Caltta's DH500/590 commercial digital radio adopts digital protocol, adopts innovative baseband and RF design, achieves excellent performance, long battery life, and is suitable for various industry scenarios, such as supermarket, security, property, education, etc.



### Rich Services

Based on an excellent platform, DH5 series can provide abundant services, such as real-time time display, VOX, roaming, and be connected to the dispatch console for remote management. According to industry requirements, advanced services such as call recording can also be provided.



## Optional Accessories



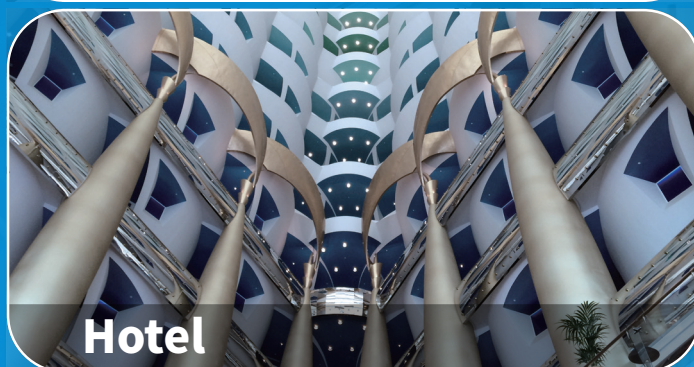
The radio supports standard narrowband baseband/RF design, lightweight body, long life, rich services, suitable for typical markets, logistics, hotels, catering, private communication, construction, and so on.



### Standard Narrowband Digital Conventional Compatible with Analog

DH500/590 support standard narrowband digital conventional mode, DMR/PDT, etc. Meet the DMO / repeater dual-slot call function in digital mode. Call capacity is doubled compared with analog. With digital-analog conventional compatibility, DH500/590 can quickly switch between digital/analog mode, to protect customer's historical investment.

## Application Scenarios



### Classic PTT layout, Easy To Operate

DH5 series are optimized in accordance with typical PTT scheme, using the super-sized PTT button and the double-knob design at the top, which makes the user's operation handy. 1.75-inch brilliant LCD, a full-digital keyboard, which can support multiple services such as voice, SMS, and short data for DH590, suitable for more complex application scenarios.

# Specification

Model	DH590		DH500	
General				
Digital Protocol	ETSI TS 102 361-1, -2, -3			
Frequency Range	UHF1: 400-470MHz			
Channel Capacity	512	32		
Zone Capacity	32	2		
Channel Spacing	12.5kHz/20KHz/25KHz			
Frequency Stability	±0.5ppm			
Operating Voltage	7.4V			
Battery Capacity	2500mAh (standard)			
Battery Life (5/5/90 Working Cycle High Power Transmission)	Analog: 16 Hours Digital: 20 Hours			
Size (H×W×D) (Without Antena)	116.4*54.5*35.5mm		116.4*54.5*36.5mm	
Weight (with Battery And Antenna)	285g		275g	
Screen	1.75 inch brilliant LCD, 160×128 4 lines text		N/A	
Vocoder	AMBE++			
Layout	Top volume/switch knob x1, channel knob x1 Side PTT key x1, programmable key x2, top SOS key x1 DH590 has a full numeric keypad			
External Interface	18pin waterproof interface, support audio/programming			
Recording	optional			
VOX	Support			
Real-time Clock	Support (DH590)			
Roaming	Support			
Encryption	40/128/256 bit basic encryption			
Environmental				
Operating Temperature	-30 °C ~ +60 °C			
Storage Temperature	-40 °C ~ +85 °C			
ESD	IEC 61000-4-2 (level 4) ±8kV (Contact) ±15kV(Air)			
Dust and Water Resistance	IP67			
Reliability	According to MIL-STD-810 G			

<b>Receiver</b>	
Analog Sensitivity ( Typical )	0.18 μV ( 12 dB SINAD )
Digital Sensitivity ( Typical )	0.18 μV ( 5% BER )
Adjacent Selectivity	60dB@12.5KHz/70dB@20/25KHz (TIA603A) -1T 45dB@12.5KHz/70dB@20/25KHz (TIA603D) -2T 60dB@12.5KHz/70dB@20/25KHz ( ETSI )
Inter-modulation	70 dB (TIA603D) 65 dB (ETSI)
Spurious Response Rejection	70dB ( TIA603D ) 70dB ( ETSI )
Blocking	80dB ( TIA603D) 84dB ( ETSI )
Co-Channel Rejection	-12~0 dB @12.5KHz/-8~0 dB @20/25KHz
Hum & Noise	-40dB@12.5KHz/-43dB@20KHz/-45dB@25KHz
Rated Audio Power	0.5W
Max Audio Power	2.0W
Rated Audio Distortion	≤3%(Typical Value)
Audio Response	+1 ~ -3dB (TIA603D)
Conducted Spurious Emission	-57 dBm (TIA603D)

<b>Transmitter</b>	
RF Power Output (Low)	1W
RF Power Output (High)	4W
FM Modulation	12.5KHz: 11K0F3E 20KHz: 14K0F3E 25KHz: 16K0F3E
4FSK Digital Modulation	12.5KHz Data Only: 7K60F1D&7K60FXD 12.5KHz Voice Only: 7K60F1E&7K60FXE 12.5KHz Voice And Data: 7K60F1W
Conducted Radiated Emission	-36dBm ≤1GHz ; -30dBm >1GHz
Modulation Limiting	±2.5KHz@12.5KHz/±4KHz@20KHz/±5.0KHz@25KHz
FM Hum & Noise	-40 dB@12.5KHz /-43dB@20KHz /-45 dB@25KHz
Adjacent Channel Power	60 dB@12.5KHz /70 dB @20/25KHz
Audio Distortion	≤3% (Typical Value)
Audio Response	+1 ~ -3dB(TIA603D)



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General Disclaimer:  
The specifications in this document are in accordance with the applicable standard test. Due to the continuous technology development, Caltta may change the specifications without notice.

