

PM790

PROFESSIONAL DIGITAL MOBILE RADIO



MODEL PM790 

www.caltta.com

HIGHLIGHTS

Operates in Analog and Digital Mode, Versatile Functionality



PM790 supports DMR conventional/trunking, as well as analog conventional and MPT trunking. It provides double channel capacity with DMO true 2-slot, and supports ECS (Enhanced Conventional System), which can be used in a wide variety of industries and scenarios.

Optimized Vehicle Mounted Design, Excellent User Interface



With standard 1DIN size, PM790 can be installed in the center console. The ignition power cord of PM790 can be easily connected to the vehicle start circuit to protect the vehicle power supply. The 2.0-inch large screen and full keypad hand microphone allow users to operate comfortably and communicate freely.

Loud and Clear Sound



With 6W built-in front speaker, excellent audio design and optimized noise-reduction technology, PM790 provides loud and clear sound to help you hear and speak clearly in noisy environment. The user can also connect external speaker with higher power through the DB26 interface.

Various External Interfaces



The user can expand various functions using external interfaces, including audio port, serial port, USB port, GPIO control interface and so on. With a complete set of AT commands, The user can control and integrate the mobile radio by developing customized applications.

Rich Services



In addition to standard voice and data services, PM790 offers plenty of supplementary services to improve the usability of the radio and help users to work more efficiently. The software/hardware encryption functions allow users to transmit information securely and reliably.

Abundant Peripherals



With built-in Bluetooth module, PM790 can be connected to Bluetooth audio/PTT peripherals. It supports GPS/Beidou module to enable precise location tracking, and can report the location information as needed. It supports local voice recording up to 250 hours.

Flexible Installation Method



PM790 all-in-one mobile radio can be installed inside the vehicle, you can also use the split kit to fit in special vehicles such as fire trucks or motorcycles. Moreover, PM790 can be equipped with power supply to connect with AC power, and can be used as the fixed base station on the desktop.

Reliable Quality



PM790 is MIL-STD-810 C/D/E/F/G compliant and complies with IP54. It is built for harsh vehicle mounted work environments with shock and vibration, and its rugged design keeps you connected anytime anywhere.



OVERVIEW

As a DMR standard compliant radio, PM790 is compact and easy to install and operate. It has good sensitivity and high transmit power, and the sound is loud and clear. With different accessory kits, it can be adapted to the split mobile radio and fixed base station radio to suit different scenarios.

APPLICATION SCENARIO



Vehicle



Police Motorcycle



Ship Cabin



Fire Truck



Emergency Command Vehicle



Command Center

ACCESSORIES



Full Keypad Microphone



Mounting Bracket



Power Cable



GPS Antenna



3.5dBi Antenna



5.5dBi Antenna



M90 Magnetic Antenna Base



M110 Magnetic Antenna Base



Base Station Radio Power Supply



Programming Cable



Split Kit

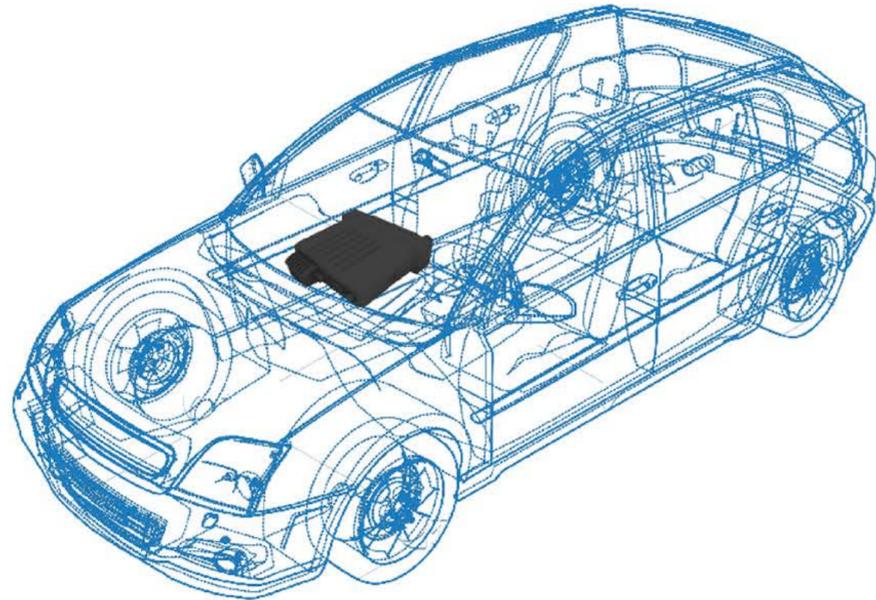
Flexible Installation

PM790 mobile radio offers you various methods of installation, including dashboard, split mount and fixed station mount.



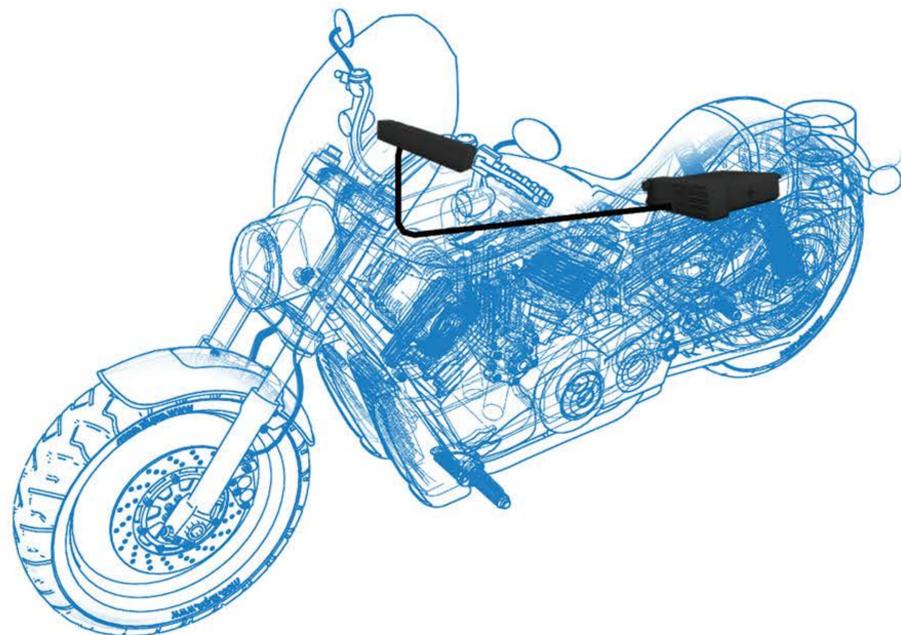
Dashboard

PM790 can be installed on the dashboard or central console, with handheld microphone connected to keep in touch with your workgroup.



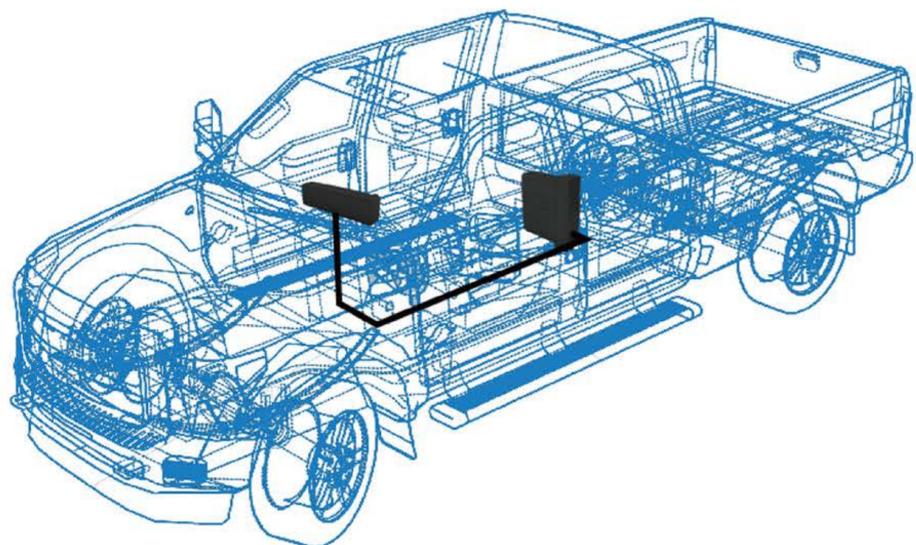
Split(remote) Mount

The control head and the transceiver can be installed separately in the vehicle, the control head mounted near the operator is connected to the transceiver mounted under the seat or in the car back through remote mount cable.



Fixed Station Mount

With AM900 desktop power supply, PM790 can be installed inside AM900 cabinet and operated as fixed station radio. It is suitable for dispatching task, SFR radio to connect multiple radios, or access point of wireless data transmission.



SPECIAL APPLICATIONS

SFR (Single Frequency Repeater)

PM790 mobile radio can support SFR in digital mode using two time slots, when one slot receives the signal, the other slot transmits it, therefore PM790 SFR extends the communication distance for DMO radios.



Audio Back to Back Connection

With accessory interface for audio and GPIO, two PM790 mobile radios can be connected back to back through GPIO pin cable to realize cross band/standard communication.



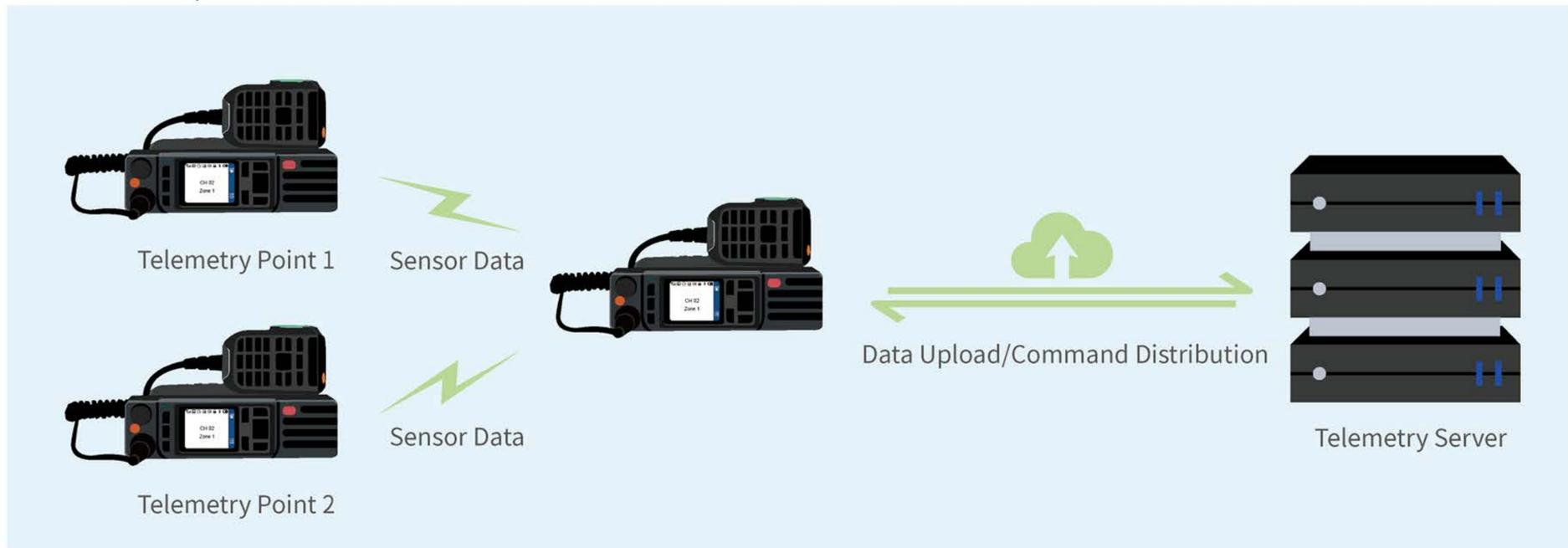
Patrol Access Point

PM790 mobile radio can be used as the access point to receive and process patrol data from patrol radios, and report to dispatch server through the serial port.



Telemetry

PM790 mobile radio can support telemetry through GPIO interface, collect data from sensors connected to it, and send data to other PM790 connected to the server. Meanwhile, the backend server can also send commands to sensors through the data channel of PM790 to perform remote control operations.



SPECIFICATION

General

Frequency	UHF1: 400-470MHz UHF3: 350-400MHz VHF: 136-174MHz
Channel Capacity	1024
Zone Capacity	64 (Maximum 32 CHs in a zone)
Channel Spacing	12.5kHz/20kHz/25kHz
Frequency Stability	±0.5ppm
Operating Voltage	DC 13.6V ± 15%
Size (H*W*D)	49*178*156mm
Weight	About 1.3Kg
Screen	2.0" TFT LCD, 220*176, 4 Lines
Vocoder	AMBE++
Real-time Clock	Support
Recording	Support (Optional, up to 250 hours)
Bluetooth	Built-in BT4.0 Chip Supports BT Audio/PTT/Positioning Device
Positioning	Support GPS/Beidou
Encryption	Support SW and HW Encryption (Optional)
Ignition	Independent Ignition Cable

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 Proof	IP54
Reliability	MIL-STD-810 C/D/E/F/G

GPS/Beidou

Accuracy specs are for long-term tracking (95th percentile values > 5 satellites visible at nominal -130 dBm signal strength)	
TTF (Time To First Fix) - Cold Start	<60s
TTF (Time To First Fix) - Hot Start	<10s
Horizontal Accuracy	<10m

Receiver

Sensitivity (Analog Typical)	0.20uV(12dB SINAD)
Sensitivity (Digital Typical)	0.20uV (5% BER)
Adjacent Channel Selectivity	60 dB@12.5kHz / 70 dB@20/25kHz (TIA603A) -1T
	50dB@12.5kHz // 75 dB@20/25kHz (TIA603D) -2T
	60dB@12.5kHz / 70 dB@20/25kHz (ETSI)
Intermodulation	75 dB (TIA603D)
	70 dB (ETSI)
Spurious Rejection	75 dB (TIA603D)
	70 dB (ETSI)
Blocking or Desensitization	97dB(TIA603D)
	95dB(ETSI)
Co-channel Rejection	-12~0 dB @12.5kHz / -8~0 dB @20/25kHz
Hum and Noise	-40 dB@12.5kHz / -43dB@20kHz / -45 dB@25kHz
Rated Audio Power	3W (Build-in)
Max Audio Power	6W (Build-in)
Audio Distortion @ Rated Audio	≤3% (Typical)
Audio Response	+1~-3dB(TIA603D)
Conducted Spurious Emission	-57 dBm (TIA603D)

Transmitter

Low Power Output	1W-25W(UHF3) / 5-25W(UHF1/VHF)
High Power Output	5-45W(UHF1 / UHF3) / 5-50W(VHF)
FM Modulation	12.5kHz: 11K0F3E / 20kHz: 14K0F3E / 25kHz: 16K0F3E
	12.5kHz Data Only: 7K60F1D&7K60FXD
	12.5kHz Voice Only: 7K60F1E&7K60FXE
4FSK Digital Modulation	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 and Noise	-40 dB@12.5kHz / -43dB@20kHz / -45 dB@25kHz
Adjacent Channel Power	60 dB@12.5kHz / 70 dB @20/25kHz
Audio Distortion @ Rated Audio	≤3% (Typical)
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.