

**MOTOROLA
MTM5000 TETRA
MOBILE RADIOS
OPTIONS FOR
FITTING IN COVERT
ENFORCEMENT
VEHICLES**

WHITE PAPER

MOTOROLA MTM5000 TETRA MOBILE RADIOS
OPTIONS FOR FITTING IN COVERT ENFORCEMENT VEHICLES

EXECUTIVE SUMMARY

There are many examples of where a covert installation of a TETRA radio is required on an enforcement vehicle, either a car or van, or a motorcycle. Such vehicles include unmarked police cars and motorcycles used for fast road patrol. Unmarked vehicles for undercover surveillance and anti-terrorist duties. Unmarked cars may also be used as escort vehicles for VIPs or for escorting very high value cargo.

Covert in this context means that the radio unit cannot be seen from someone walking past the stationary vehicle or passing whilst in motion on a multi-lane road. In addition the officers themselves do not reveal that they are using the radio by operating controls which are easily seen.

RADIO AND CONTROL INSTALLATION

The modular design of the MTM5000 series permits easy installation of the radio separately from the control head. On the MTM5200 and 5400 these units can be separated by up to 10m and different lengths of connecting cable are available. A typical location for the radio would be under the dash or seat, or in the luggage compartment. In an estate car the unit could be mounted in the spare wheel compartment. The control head can similarly be hidden in a location such as the glove box so that it can be accessed when needed but is otherwise concealed. In addition a simplified control unit is available if a full control head is not required, this is commonly referred to as a remote control unit (RCM).

The availability of the Telephone Style Control Head for the MTM5500 gives an additional option whereby the radio could be controlled by the passenger using the TSCH below the sight-line of other vehicles, and stored on a bracket under the dash when not in use.

MICROPHONES, SPEAKERS, AND PTT BUTTONS

Microphones can be concealed in the area of the sun visor to make them difficult to see, or hidden behind a vent. A number of microphone types are available for this purpose. Speakers are ideally concealed below the dash or where the vehicles audio system speakers are located. Depending upon the maximum volume, several speaker types are available, together with inductive loops and wire-free earpieces. Push to talk (PTT) buttons need to be ready to hand but unobtrusive. Small buttons on a connecting cable can be partly concealed beside the driver and passenger in the centre of the car.

ANTENNAS

Options for covert antennas include visor antennas which would be fitted to the top part of the windscreen where there is often an opaque area. In addition many cars are now fitted with a "fin" where a GPS antenna is fitted, a small TETRA antenna could be added to this. Other options include under a parcel shelf, and an antenna for fitting under the plastic bumper is also available.



TELEPHONE STYLE CONTROL HEAD (TSCH)

Combining class leading robustness with a sleek ergonomic design, the discreet **TSCH** provides flexibility and ease of operation, making it well suited for in-vehicle applications.

Fully compatible with **MTM5400** radios, the design attributes of the **TSCH** ensure uncompromising performance for mission-critical operations.

BY PROVIDING A WIDE RANGE OF RADIO, CONTROL, AUDIO AND ANTENNA OPTIONS MOTOROLA IS MAKING IT POSSIBLE TO INSTALL COVERT RADIO SOLUTIONS IN A WIDE RANGE OF VEHICLES TO MEET THE SPECIFIC NEEDS OF COVERT OPERATIONS

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01. Radio in boot



02. GPS Antenna under parcel shelf



03. Inductive Loop

04. PTT / Tone Button between seats



05. Hidden Mic (Visor)



06. PTT (Gooseneck) beside or between seats



07. RF Antenna windscreen mount



08. Loudspeaker switching between loops



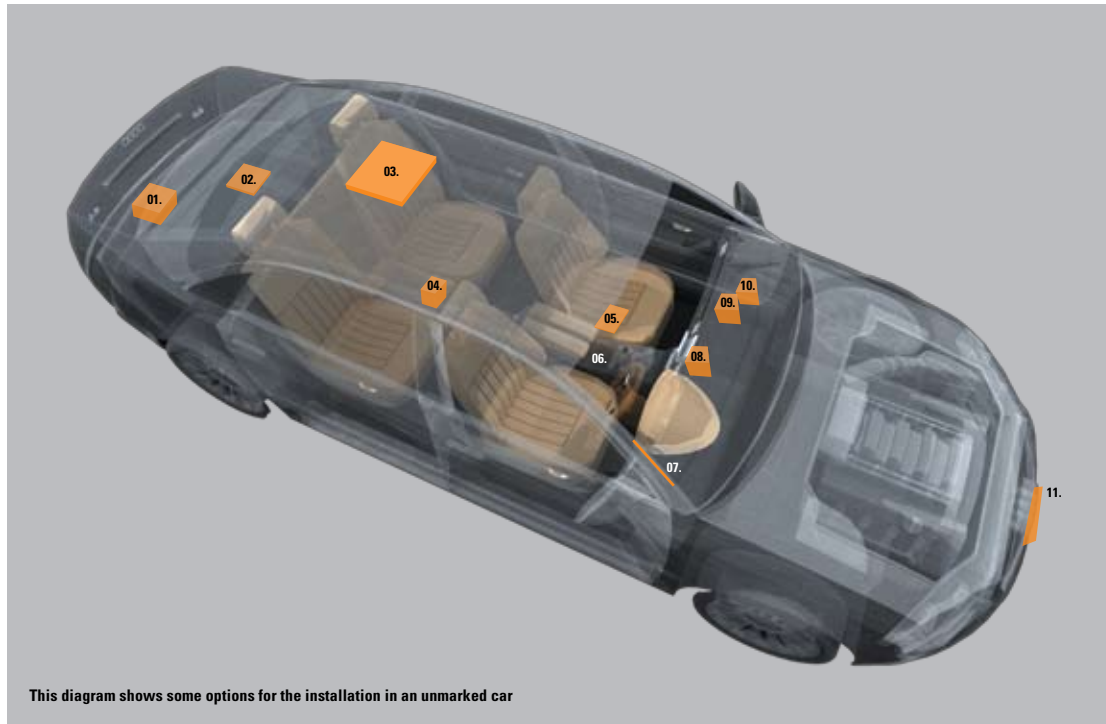
09. RCU glove box or between front seats



10. First Mic under dash



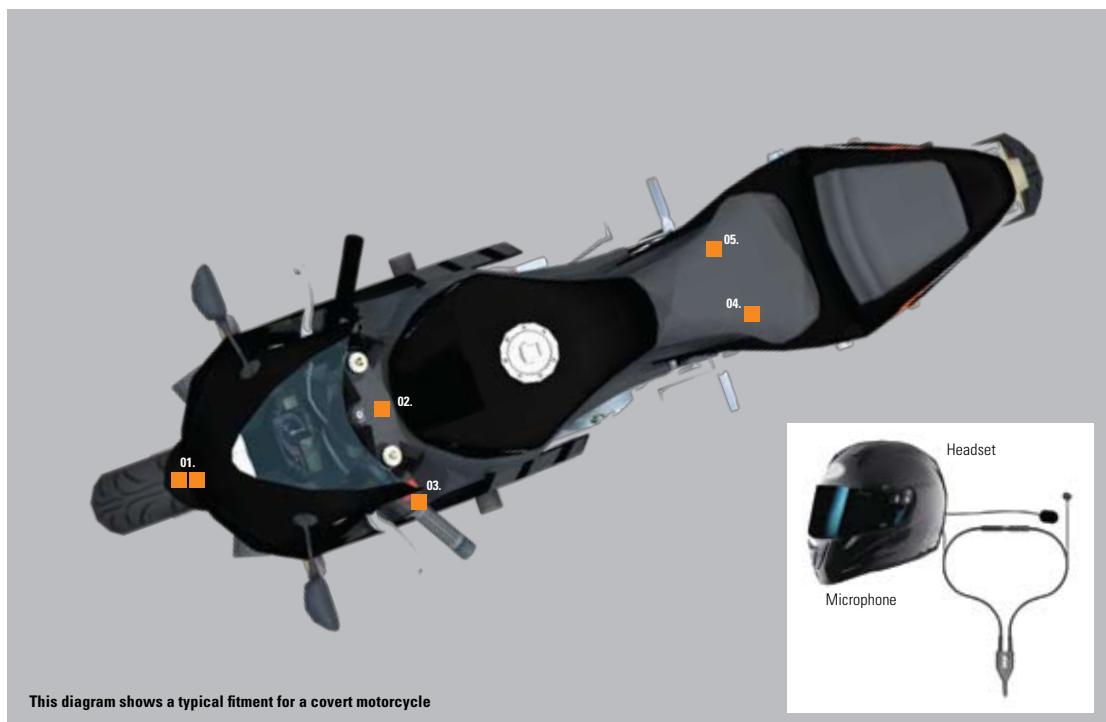
11. RF Antenna under bumper



This diagram shows some options for the installation in an unmarked car

MOTORCYCLE INSTALLATIONS

In the case of non-covert or marked motorcycle installations the use of the IP67 Control Head is recommended, in which case the MTM5200 or MTM5400 radios are required. However for a covert installation any of the MTM5000 series of radios can be selected as the Control Head will be concealed or replaced.



This diagram shows a typical fitment for a covert motorcycle

01. Antennas under mudguard



02. RCU hidden under fairing



03. PTT



04. Headset Interface hidden



05. Radio under saddle



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A range of specialised headsets are available with quick disconnect capabilities including Dual Fit roles. For example switching from Mobile to concealed Portable. This is the case when an officer uses a very light weight or overt headset connected to a covert Mobile fit, and then when he disconnects to follow on foot, that disconnection switches the Audio path to the portable radio such as a TCR1000 or MTP850.

Control of the mobile radio is provided by a modified switch on the handlebar which is indistinguishable from a normal light and indicator switch. The radio itself is concealed under or even in the seat, and the antenna hidden under a mudguard. The simplified radio control unit is hidden under the faring of the motorcycle, or in a bag on the tank.

CONCLUSION

By providing a wide range of radio, control, audio and antenna options Motorola is making it possible to install covert radio solutions in a wide range of vehicles to meet the specific needs of covert operations. The following section lists the specific parts and kits for covert installations. For full details and assistance please contact your local Motorola Solutions Representative.

ACCESSORY LISTING

Car covert Kit

Motorola Part Nos, MTM5200/5400 - GMLN5263

Covert Motorcycle solution

Motorola Part Nos. MTM5400 - GMLN5264A

For more information on the full range of our solutions, please visit us on the web at:

www.motorolasolutions.com/MTM5000

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J1336_MTM5000_Covert_WHITE_PAPER_(12/12)

