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## Mobexcom - Vehicular Repeater System



- Rugged, self contained package.
- Trunk mount (transportable package available).
- All filters and electronics included.
- All connectors fully protected with quick, no tools access.
- Water jet proof.
- Optional stand with a mobile radio compartment.
- Quick-lock, slide in mounting arrangement.
- Ideal for police cruisers, ambulances or fire trucks.

## Modes of operation



In the **MOBILE MODE** of operation the vehicular repeater is completely disabled and the mobile radio system operates as if the repeater was not present. All normal mobile radio operational features remain.

In the **LOCAL MODE** of operation full communications among nearby portable users and the mobile radio operator is achieved. The mobile radio does not retransmit the repeater signals, thus not disturbing any communications that may be on the mobile channel. Signals passing through the vehicular repeater receiver are heard in the mobile speaker and are also retransmitted by the vehicular repeater transmitter. Incoming signals to the mobile receiver are also heard in the mobile speaker and may be retransmitted by the vehicular repeater, if such an option is selected. When the mobile operator presses the microphone Push-to-Talk, only the vehicular repeater transmitter is keyed.

In the **SYSTEM MODE** full communications exchange among all radio parties is achieved. In this mode both the mobile radio and the vehicular repeater are enabled, permitting communications among portable radio users, the mobile operator and the dispatcher, as well as any other users on the mobile radio channel. The mobile user simultaneously keys both the mobile radio and vehicular repeater transmitters when using the microphone Push-to-Talk.

## Mobexcom Technical Highlights



- Supports VHF/UHF/700/800 MHz bands (25 or 12.5 kHz).
- Ready for In-Band or Cross-Band applications.
- Full duplex, half duplex or simplex operation.
- Fully synthesized and field programmable.
- Supports Smart Zone/Smart Net and Conventional Systems.
- Field (flash) upgradeable.
- Application specific customization available.
- Seamless interface to a mobile radio through the control head bus.
- Mobile, System, and Local modes of operation.
- Locally controlled from a mobile radio control head.
- Remotely controlled by a dispatcher.
- Remotely controlled by a portable user.

	In-Band	Cross-Band
Use of the host system portables	Yes	No
Bandwidth limitations	Yes	No
Duplexer needed	Yes	Yes
Custom filter needed	Yes	No
	Full Duplex	Half Duplex/Simplex
Duplexer needed	Yes	No
Mobile mode available	Yes	Yes
Local mode available	Yes	Yes <sup>1</sup>
System mode available	Yes	Yes <sup>1</sup>
	Conventional	Trunking
Group call	Yes	Yes
Selective call	No	Yes <sup>2</sup>
Call alert	No	No
Emergency call/alert	Yes	Yes
Telephone interconnect	No	No
Talk permit tone	No	Yes
System busy tone	No	Yes
MDC signaling	Yes	Yes
Fail soft mode	No	Yes
Remote mode switching	Yes	Yes
Mode switching notification	Yes	Yes
Simulcast prevention	Yes	Yes

<sup>1</sup>No local repeat.

<sup>2</sup>With the mobile radio ID.

## General Specifications

Dimensions	Height/Width/Depth	113 mm (4.45") / 190 mm (7.49") / 315 mm (12.41")
	Weight	5.9 kg (13 lb)
	Channel Spacing	12.5 or 25 kHz
	Number of Channels	64
	CTCSS Operation	Programmable per channel
	Power Supply	13.8 VDC +/- 20%
DC Current Drain	RPTR off	Max. 0.01 A
	Standby/Receive	Max. 0.8 A
	Transmit	Max. 4.5 A
	Operating Temperature	-30°C to +60°C
	Protection Against Liquids	IP6 (water jet proof)
	Antenna Impedance	50 ohms
	Duty Cycle	Continuous
External Connectors	Antenna	TNC Female
	Control Head Interface	DB-25
	Mobile Interface	DB-25
	Computer Interface	DB-9 Female

## Transmitter Specifications

	VHF	UHF	700/800 MHz
Power Output @ Tx Port	10W (programmable per channel from 0.1W to 10W)		
TOT Option	15 sec. to 15 min. or disabled		
Max Spurious outputs	-60 dBc		
Frequency Stability	+/-2.5 ppm		+/-1.5 ppm
Frequency Band <sup>3</sup>	136 - 174 MHz	403 - 430 MHz 450 - 470 MHz 470 - 512 MHz	764 - 767 MHz 773 - 776 MHz 851 - 870 MHz
FM Hum and Noise	12.5 / 25 kHz	37 dB / 43 dB	37 dB / 43 dB
Audio Sensitivity (Mic Input)	80 mV RMS typ.		
Audio Sensitivity (Mob. Det. Audio)	600 mV RMS typ.		
Audio Response	+1, -3dB of 6 dB/octave pre-emphasis characteristic over 300 Hz - 3 kHz		
Audio Distortion	<2%		

## Receiver Specifications

	VHF	UHF	700/800 MHz
Receiver Sensitivity, Max.	-118 dBm (.32 µV)	-118 dBm (.32 µV)	-118 dBm (.32 µV)
Frequency Stability	+/-2.5 ppm		+/-1.5 ppm
Frequency Band <sup>3</sup>	136 - 174 MHz	403 - 430 MHz 450 - 470 MHz 470 - 512 MHz	794 - 797 MHz 803 - 806 MHz 806 - 825 MHz
Selectivity	12.5 / 25 kHz	70 dB / 80 dB	70 dB / 80 dB
Spurious Response	>70 dB	>70 dB	>70 dB
Intermodulation	75 dB	75 dB	75 dB
Deviation	12.5 / 25 kHz	+/-2.5 kHz / +/-5 kHz	
FM Hum and Noise	12.5 / 25 kHz	37 dB / 43 dB	
Audio Output (Repeater Detect Audio)	600 mV RMS nominal, flat response		
Audio Response	+1, -3dB of -6 dB/octave de-emphasis characteristic over 300 Hz - 3 kHz		
Audio Distortion	<2%		

<sup>3</sup>Limited by a duplexer bandwidth.

