



## GSM-XPZ Family

Technical Specifications

## Overview



### GSM-XPZ

Designed as a tactical tool for law enforcement, Government agencies and the Military, the GSM-XP family of GSM active interception solutions have proven to be a global hit with proven success in the field.

MMI is proud now to provide preliminary specifications for its next generation solution. Based on commercial base-station technology this offers a quantum leap in mobile acquisition rate, higher transmit power, operational ranges and for the first time simultaneous operation on multiple networks and simultaneous servicing of multiple targets.

A range of products will be available targeted to provide an optimal solution for different mission scenarios. Key features include:

- Up to 50 Watts output power on 2 simultaneous channels
- Up to 4 simultaneous channels, allowing emulation of
  - 4 broadcast channels on one network
  - 4 broadcast channels on four different networks
- Dual band solutions covering 900/1800 or 850/1900 MHz and for the first time
- a world box providing 850/900/1800/1900MHz capability
- Real time monitoring and intercept of up to 4 simultaneous calls
- Integrated antenna switch on the vehicle models
- Capability to service multiple targets – up to 7 targets per carrier
- Ruggedised carry-case
- Multiple form factors to cover different operational scenarios

## Model Variants

Three variants will be available:

- GSM-XPZ-PV (Vehicle model )
- GSM-XPZ-HP (Highly Portable model)

**GSM-XPZ-PV:** The vehicle model is designed for customers with an 'in-country' requirement, i.e. operation within their own borders. The system may require a vehicle installation which will be performed in-country by qualified MMI representatives.

The nature of the installation allows the system to transmit up to 50 Watts which when added to the improved receive sensitivity and channel equalisation dramatically extends the range. In addition the system will support multiple channels simultaneously to a maximum of 4 channels within the unit. The PV system is supplied with a bench top power supply to allow normal use when not installed into a vehicle.

**GSM-XPZ-HP:** A new model variant this is designed for customers who wish to operate discretely close to the target. Packaged into a small case, such as a briefcase, the system can be easily used in public places without alerting targets.

In addition the system will support multiple channels simultaneously to a maximum of 2 channels within the unit. The highly portable variant will be able to transmit up to 250mW in 2 channels configured either as 900/1800 or 850/1900 variants. The antennas will be integrated with there an option to add an external Power Pack to increase transmitted RF power.

## Features

### Generic Features for GSM-XPZ-PV systems

- Ability to adjust BTS power to a maximum 50W
- Ability to transmit 4 GSM broadcast channels simultaneously
- Enhanced IMSI acquisition rate (theoretically to 60 registrations per BTS per second)
- Intercept of 4 outgoing target calls simultaneously.
- Perform a Blind Call per GSM timeslot = 7 blind calls simultaneously per channel
- Upto 28 Simultaneous Blind Calls whilst IMSI Grabbing
- Advanced manipulation of BCH data to ensure better phone retention (once locked)
- Ability to survey spectrum using custom phone modules
- Display of SERVER & 6 neighbouring cell information to enable simple cell emulation
- Ability to adjust target mobile power once in a call to maximum 2W transmission
- Visual indication of RX power lev (mobile reporting BTS received signal strength)
- Advanced configuration of BTS for emulation of any network type
- Off-line mode for mission file viewing
- Powerful database search facility for quick target identification
- Multiple antenna management using In-built antenna switching circuitry
- Remote system operation via wireless link

### Control Options

To provide users with maximum flexibility a range of control options is available; direct Ethernet connection to the controlling laptop; wireless connection using a suitably enabled device e.g. PDA, Laptop etc. In this mode multiple users will be able to connect and view the following information over a secure connection:

- Target Identification – included as standard
- Voice Intercept (only available on PV variant)
- SMS Intercept
- Direction Finding support
- Service Denial
- Bubble mode

The operator will be able to adapt the Graphical User Interface (GUI) to display the key information. The GUI will build on the familiarity of the existing GSM-XP to allow both novice and experienced users the control to easily simultaneously operate 4 basestations.

To enhance security, mission data is stored on an external memory device. This can be easily switched between multiple systems, or used to examine mission data offline on a separate PC or on the GSM-XPZ itself. This also allows for protection of mission data, should the system have to be loaned to other organisations or returned to MMI. All events as per current GSM-XP operation will be time stamped and logged in a mission file along with intercepted Voice/SMS data. To maintain the integrity of the data the mission files cannot be edited or recorded voice replayed without using MMI software.

### **Operational Modes**

Research & Release	Allows phones from up to 4 networks to simultaneously attach to the GSM-XPZ enabling their IMSI / IMEI to be logged. Once logged, they are released back to the real network - the most covert operational mode.
Research & Lock	Locks selected target phones to the GSM-XP BTS Ping Mode Clones the selected BTS exactly including LAC. A much quicker and more efficient way of capturing mobiles as it removes the overheads associated with a location update – the least covert operational mode.
Bubble Mode	Unless otherwise specified all phones registering to the system will be locked to the system thus creating a bubble of phones restricted from accessing the real networks.
Service Denial to all Hostiles	Sends a service denial message to all phones, potential hostiles, that prevents them from rejoining a real network.
Exclusive Network	Allows friendly phones to use the XPZ as a means to covertly contact other operatives. Calls made in this way do not use the real network and are therefore secure.

### **Target Mobile Actions**

Overt Call	Allows operator to call a target phone and optionally converse.
Blind Call	Covert (silent) call to a target phone. Used in conjunction with directional finding equipment.
Send SMS	Allows operator to send SMS to a target phone.
SIM Swap Indication	Shows indication of SIM swap.
Make Target	Allows operator to make a phone a target.
Invalidate Target	Allows operator to deny service to a selected target.
Make Reject	Allows operator to reject selected phones from the GSM-XP to prevent any interference by the system.
Show Target	History Shows all recorded activity by the target phone.

## Technical Specifications

The specification will vary depending upon the model purchased however the key specifications are presented below:

### Radio Interface

Transmit/Receive Frequencies:	Euro Variant: E-GSM, GSM, DCS US Variant: 850 , PCS Quad Variant: 850, E-GSM, GSM, DCS, PCS
Channel Frequency:	200 KHz
Output Power:	PV up to 50W per band HP up to 250mW per band
Receive Sensitivity:	>-95dBm (RAKE receiver).

### GSM/GPRS Functionality

Channel Capability:	FCCH, SCH, BCCH, CCCH, SDCCH/4, SACCH/C4
TS0	TCH/F+FCCH/F+SACCH/TF
TS1-7	SDCCH/8, SACCH/C8 TCH/F+FCCH/F+SACCH/TF
Call Control Capabilities:	BS Originated Call (Covert or Alerting), MS Originated Call (BS Terminated or BS Extended onto real Network), MS Camp on, MS Camp off, BS Call Disconnect, MS Call Disconnect
Hopping:	No
Electrical MMI:	Ethernet
Speech Encoding/Decoding:	Full Rate speech (FR) GSM06.10
MS Power Level Control:	GSM900; 5 to 19, GSM1800; 0 to 13.
SACCH MEAS Results:	RXLEV, Timing Advance.
SMS Point-to-Point:	Mobile Originated, BTS Originated

### General Specifications

<b>Size:</b>	
PV -	200mm (H) x 500mm (W) x 580mm (D)
HP -	70mm (H) x 280mm (W) x 290mm (D)
Weight:	PV < 28 Kg (55lbs) HP < 4.5 Kg (10bs)
Operating Temperature:	-5° C to +45°C (23°F to 113°F)
Storage Temperature:	-10° C to +70° C (14°F to 158°F)

### Power Consumption

GSM-XPZ-PV	600W
GSM-XPZ -HP	40W

### Power Supply

GSM-XPZ-PV	24 Vdc
GSM-XPZ -HP	2 x Li-Ion Batteries (300Wh approx 8 hrs) or 12 Vdc input

**Interface Connectors:**

GSM-XPZ-PV

Antennas via N-Type connectors: 2 x 900MHz, 2 x 1800MHz, 2 x combined 900/1800MHz connectors for Omni-directional antennas.

Data/Audio Interface via Ethernet

Secure Wireless WPA (Optional)

GSM-XPZ-HP

In-built 900/1800MHz Omni-directional antennas.

Data Interface via Ethernet

Secure Wireless WPA



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