FALCOM

FALCOM, a storied M2M and IoT specialist from Germany, designs, manufactures and sells world-wide state-of-the-art devices, services and solutions ideally suited to numerous applications: fleet management, car sharing, usage-based insurance pricing, asset and workforce tracking and security, precision farming.

MAMBO2-B6

NEXT GENERATION PERSONAL TRACKER

PRODUCT OVERVIEW

MAMBO2-B6 is an advanced and a free configurable personal tracker with integrated quad-band GSM/GPRS phone for two way communication and 50-channel low-power GPS receiver for positioning. At first glance, MAMBO2-B6 looks like a conventional mobile phone. In the MAMBO2-B6 there are many functions designed specifically for use in logistics providers, cab company, security and fire services, police or technical emergency service.

MAMBO2-B6 can be used as a cell phone with the standard features, voice calls, SMS all through a simple menu-guided operation. This small robust device can be carried along in a pocket or fixed in a vehicle. It is a true mobile all-rounder both for commercial and private uses.

MAMBO2-B6 also supports a series of functions for GPS navigation and tracking via SMS, CSD and GPRS/TCP.

The all-rounders true strength lies in the multitude of its configuration options: Rolling GPS display, geo-fencing capability with alarm and an ultra-precise movement detector are just some of the MAMBO2-B6's core functions. This first-of-its-kind solution with a sophisticated software offers system integrators and developers the possibility to develop their own cost efficient and flexible solution.

MAMBO2-B6 BLOCK DIAGRAM

Available Colours

GSM antenna

| Quad band GSM / GPRS engine | Internal SIM Card |

Power supply — Mini-USB

| ARM 7 TDMI Processor | 3-Axis motion sensor |

GSM
GPS
ARM7

Power Management

OLED Display 128 x 128px

50 channel GPS receiver

GPS antenna

Rechargable battery (1650 mAh)

PRODUCT HIGHLIGHTS

- Quad-Band GSM/GPRS technology for 2-way communication
- Latest GPS technology for precise positioning
- Embedded TCP/IP stack for client-server application
- Full colour OLED display with simple menu-guided operation
- Wide variety of events and states for sending reports
- Different GPS tracking modes: on time and distance, heading change
- Built-in Flash memory for storing 400,000+ GPS positions
- Internal rechargeable 1650 mAh Li-Polymer battery
- Long battery life thanks to very-efficient power saving modes
- Compact size, lightweight, durable housing and shockproof capability
- Integrated speaker and microphone for handsfree conversation
- Configurable Graphical User Interface
- Customized firmware configuration and protocols
- Different communication channels, SMS, CSD, TCP and USB
- Remote activation, configuration and administration
- Unique geo-fence features
- Built-in 3D motion sensor with advanced man-down detection
- Improved GSM antenna and GPS features compared to prior MAMBO2
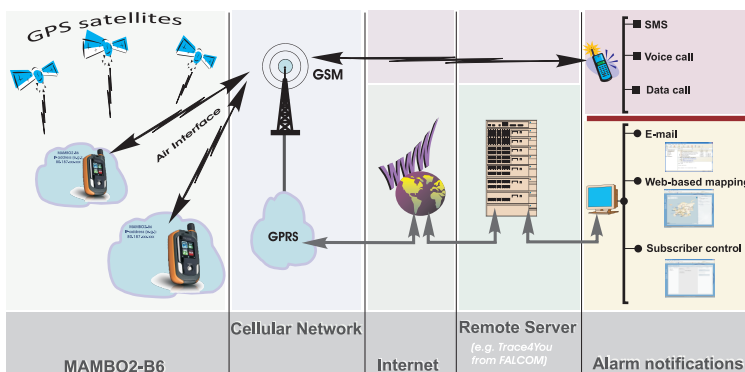
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FIRMWARE FEATURES

- Embedded TCP/IP stack for client-server application
- FALCOM protocols: IOP, GSM, AREA, 3DP, BIN
- Supporting SMS, CSD, Voice call
- Local and over-the-air firmware update
- Multi power-saving modes and wake up conditions
- 20 programmable Timers, Triggers, Counters
- 100 programmable Geofences and 32 Areas
- Wide variety of events and states for sending reports
- Progammable Geo-fencing and Parking alerts
- Follow waypoints forward or backward
- Trace the route of another MAMBO2-B6
- SOS panic button and spy call function
- Handling of fall, tilt and motion events
- Forwarding messages from one channel to another
- Customized reports, sending intervals
- Report by distance, time, bearing and on demand
- Local/Remote access via PFAL commands
- Device configuration USB, TCP and SMS
- Intelligent and fexible configuration alarms

APPLICATIONS

- Personal security and recovery/emergency services
- Fleet tracking management
- Real-time positioning
- Theft protection
- Territory monitoring
- GPS Data Collection
- Distance calculations
- Point-to-Point navigation
- Outdoor sports and activities
- Trip management and many others
- Compatible with FALCOM trace4you server application (also configurable for most of TCP/IP server-based tracking applications)

TECHNICAL SPECIFICATION

General

Quad-Band GSM/GPRS engine	
GSM frequency bands : 850/900/1800/1900 MHz	
GPRS class 10, Class B	
Internet (TCP/IP/UDP/SMTP)	
50 channel GPS receiver	
GPS frequency:	L1 1575.42 MHz
Protocols:	NMEA, FALCOM (binary)
AGPS Offline / Autonomous	

Accuracy:	Position:	2.5 m
	SBAS:	2 m
Acquisition:	Cold starts:	26 sec.
Sensitivity:	Tracking:	-162 dBm
	Cold starts:	-148 dBm
GPS Operational limits:		
	Velocity:	500 m/s (972 knots)
	Altitude:	50.000 m
	Update rate:	1 Hz

Environmental data

Operating temp.:	-20 °C to +60 °C
Storage temp.:	-20 °C to +60 °C
Charging temp.:	0 °C to +45 °C

Electrical characteristics

Charging Voltage 5V DC ±10%/500mA(Mini USB port)
Alternative quick charge max. +12 VDC Mini USB port
Rechargeable Li-Polymer battery (1650 mAh)

*   *Optional*
**   *Depending on the screensaver mode*

Average Power Consumption

Normal operation: ca.132 mA @ 4 VDC**
Power saving (IGN): ca. 1mA @ 4 VDC

Physical characteristics

Dimensions (HxWxL): 86/103mm x 54mm x 26mm
Weight: ca. 108 g

Air humidity

5% up to 95% non-condensing

Interfaces

OLED display, 128 x 128 Px, Full colour
10pin Mini-USB (battery charging, data transfer)
Integrated Speaker/Microphone/Handsfree
1 x Navigation key (software-controlled features)
2 x Soft keys (software-controlled features)
1 x LED free programmable
Inside SIM card holder for 1,8/3 V SIM cards

Housing

Plastic housing available in different colours.

Serial Data Rates

4800 bps ... 115200 bps

GSM and GPS Antennas

Internal

Motion sensor

3-axis motion sensor (software-controlled features)

Processor core

ARM7/TDMI
8 MB Flash (History / Firmware / Configuration)

MAMBO2-B6 EVALKIT CONTENTS

EVALKIT offered by FALCOM provides all the necessary hardware, software, and documentation to effectively operate and evaluate the performance and suitability of the MAMBO2-B6. The EVALKIT is shipped pre-configured allowing system integrators and developers to test the device and see how it works. The KIT contains:

1 - MAMBO2-B6	6 - USB-A-to-Mini-USB-1M USB2.0
2 - Leather belt pouch	7 - Docking station
3 - AC/DC Power adapter 12V-1A	8 - Info-sheet
4 - UK/US Plug travel adaptor	9 - Pre-paid SIM card
5 - USB Car Charger DC5V 1A	10 - Documentation

Applications - Graphical overview

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