

ADMIRAL



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ADMIRAL

MOBILE OFFICE

[GSM - PMR communication]

GIS

car navigation

FLEET MANAGEMENT

GPS

When fleet control is strategic

Resource management, GIS, PMR & GSM communication, mobile office, car navigation

When fleet control is strategic



Admiral is a complete platform of communication and satellite asset management that helps businesses to improve the coordination and security needs of their organizations.

By locating and keeping in touch with personnel on the move as well as providing them with simple mobile informative tools, the Admiral system is able to simplify organization and assist in decision making.

Admiral – executive summary

Introduction and Benefits

- › who uses it
- › all in one solution:
 - **assets management,**
 - **PMR & GSM communications,**
 - **mobile office;**
- › quality standards and government references;
- › philosophy of operation and advantages;

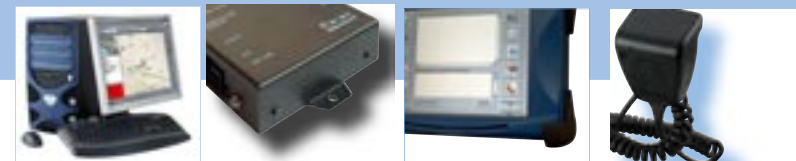
System architecture

- › basic control station: **BS9000 AVL;**
- › advanced control station: **BS9000 GIS;**
- › on-board tools: **BB4000, MDT4000**

Exclusive functions

- › advanced management of alarms
- › voice commands
- › customizations
- › raster and vector cartographies
- › GIS

Summarising



Who uses Admiral?

Companies sensitive of their need to improve

- › coordination within their organization
- › service levels
- › degree of security of their operators



Security and cash transport companies
Local and Provincial Police
Forces MultiUtilities

Emergency health services
Public order services
Taxi or public car services
Public transport companies

Admiral – all in one solution

› **GPS-asset tracking: fleet and field-based personnel management**

Allows real-time viewing of the position of vehicles and staff at virtually unlimited distances, with high precision: 5 m.

It works across European countries and more depending on chosen communication network.

› **PMR - GSM Communication networks.**

Guarantee communications between the base station, staff and vehicles via GSM and PMR communication network, **reliable even in the event of disasters** and in zones not covered by mobile telephony.

› **Mobile office**

Offers mobile office applications and data messaging on board vehicles.

› **Map management, reports statistics.**

Use of raster and vector maps integrated to the automatic creation of tailored statistics and daily service activities.



Derived from sophisticated Government applications:

Design

The hardware and firmware design is conducted by Cte international, which manages developments and dedicated applications.

Quality Standards

Cte International is **approved manufacturer by the Depart of Land-Based Transport and the IT and Statistics Systems of the Ministry of Transport** is a guarantee of our compliance with extremely strict European Vehicle standards, with reference to technology and quality developments.

Know how

Admiral draws on the plurennial experience of CTE INTERNATIONAL, in the design and supply of tracking systems dedicated to the special corps of the Government in their most delicate investigations.

How does it work?

The vehicle tracking units BB4000 are **installed quickly** inside the company cars while the portable devices MK25GPS, for field-based personnel, **are just plugged** to the portable radios.

The information is delivered to the control station either via **PMR or PMR+GSM** network and visualized on friendly professional mapping software integrated in a powerful AVL application adding **analysis tools and communication software**, where you can **simply and instantly** achieve a dynamic picture on the deployment of your assets as well as geographical information, or your **corporate facilities**.



Admiral operational efficiency.

The underlying idea of the platform is the ability to view dynamically, from the Control Centre, the position of many vehicles or pedestrian in a **virtually unlimited area**.

Automatic monitoring of a series of abnormalities, checks on vehicle efficiency, and the exchange of written and verbal information between the **base and people out in the world** are just some of the many functions available with this system.

Any type of organisation, according to its particular needs at any specific time, will benefit from a custom based version of the system **to make the best use** of its functions.



Main advantages

Customization

- › Designed to allow adaptation to highly diversified needs, Admiral assures **customization of software and hardware**;

Ease of Use

- › Admiral interface may repeat the one already employed by various organization (using same symbols, icons, text) ensuring straightforward learning of commands.

Implementation

- › Admiral is conceived to foresee gradual **implementation** of system components in view of future requirements;

Safe and cost effective communications

- › **Immediate communications** even in critical situations, thanks to the coexistence of PMR and GMS networks (employing SMS, data and voice channels);
Each organization using a radio communications network benefits from exceptional **low operational expenses**.

Main advantages

Security

- › In the event of lack of coverage, no information is lost.
The security of staff is protected even for high-risk missions.

Interoperability



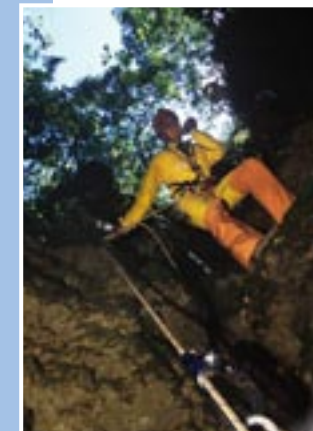
ALAN[®]

- › Admiral is compatible with main PMR terminal (Alan, Motorola, Kenwood, Icom and other upon request); allowing an **excellent integration within pre existing PMR network as well as for new systems**



MOTOROLA

ICOM



Main advantages

Efficiency

- › **The proprietary communication protocol** compresses data to increase speed in data transfer thus allowing control of a **virtually unlimited number of resources**. **You can handle any number of asset**, in real time or not, receive automatic alarms and create reports and statistics automatically

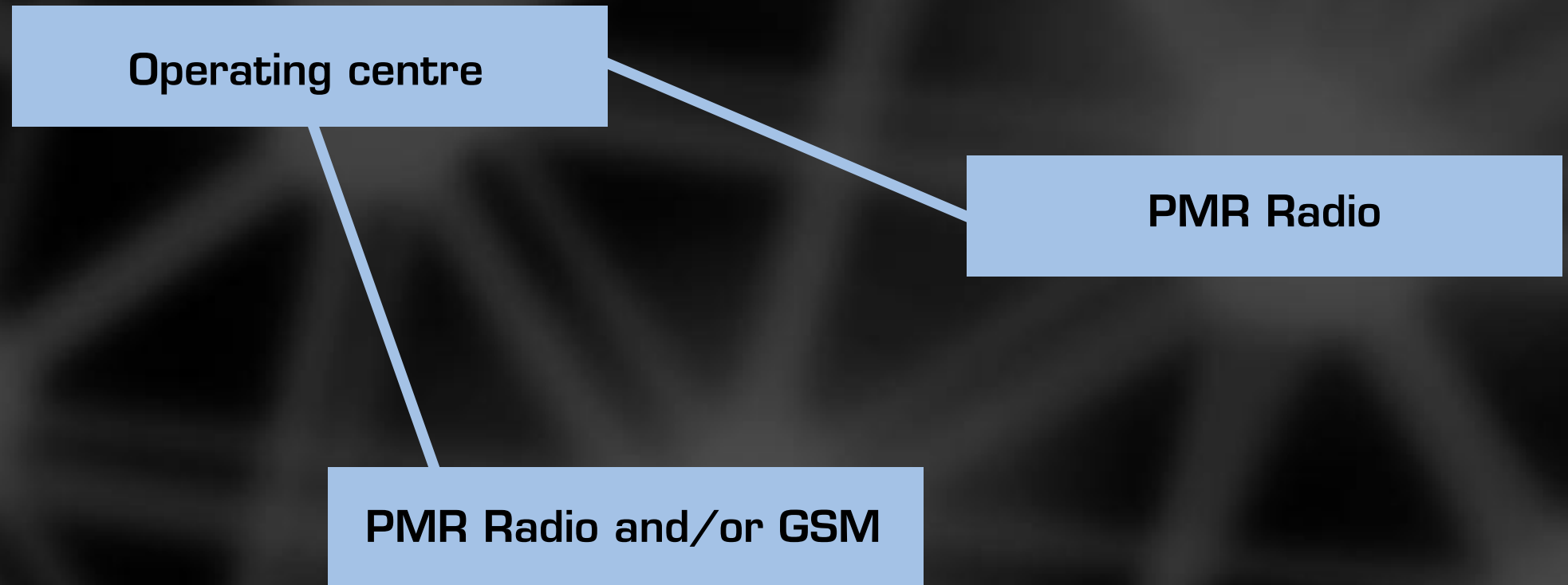
Alarms and Controls

- › The control station BS9000 provides a picture of resources (position, tracks, alarm status), according to data provided which may concern both the expected and planned behaviour as well as a wide variety of **alarms and emergencies**.

Custom made mapping

- › Admiral allows you to to acquire **your own maps** for your area of interest, from scanned paper maps or other digital sources.

2 different types of connection between base station and mobile



The coexistence of PMR and GSM ensures communications even when there is no coverage, of one of the 2 carriers: Admiral automatically selects the network.

Operating scenarios and main functions

Tele-management of events, alarms or special controls.

The on-board terminals BB4000 allow a high number of “events” or alarms to be sent automatically to the control centre when certain conditions arise:



Alerting of anomalous situations, such as the unexpected opening of the loading door, vehicle break-ins, increase in temperature.

Confirmation of planned or expected events, which bear witness to the correct progress of the service.

Operating scenarios and main functions

Tele-control of devices inside the vehicles, wired to the peripheral outputs.

Update of trips or routes by means of remote reprogramming of portable and on-board terminals.

Geographical/local-type information: car-navigation function, position of objectives on a route;

Custom and multi-symbol pushpins. Users can create their own pushpin icons

Download of records (historical files) for vehicles and resources, even in the absence of coverage.



Operating scenarios and main functions

Automatic polling data can be sent periodically to the control centre;

Automatic sending of reports and statistics; daily trips, average trip times, petrol consumption tables, fluctuations in day-to-day plans

Mobile office on Windows CE net or NT embedded operating system

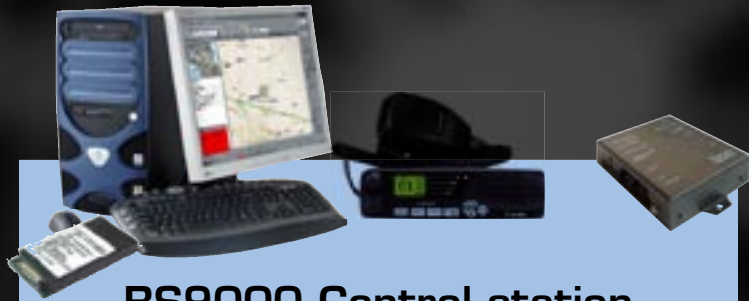
– allowing use of standard and non-standard software applications:

- › Real-time delivery of service forms;
- › Integration of management software on board vehicles;



MDT 4000 allows you to manage mobile office applications in a Windows Ce.Net environment

System Architecture



BS9000 Control station

PC + AVL and map applications
BB4000 BS PMR concentrator
PCMCA GSM modem (opt.)



On board Devices

PMR mobile radio + (GSM optional)
on-board location devices:
(BB4000) or (MDT4000)



Portable Units

PMR radio with MK25GPS location
device

Control centre: BS9000 AVL

Consist of:

- › PC with dedicated cartographic and AVL software
- › concentrator handling PMR communications (BB4000BS)
- › mobile/base transceiver approved for data transmissions (in conformity with ETS 300-113 standards)
- › GSM PCMCA modem

BS9000, in the entry-level AVL model, supports vector cartography maps, based on Microsoft MapPoint and raster-type cartographies on a dedicated external software (namely RASTER-15 OR RASTER-UN).

Thanks to this application, maps can be acquired from hard-copy or digital format and implemented in the system.

BS9000 can track several resources at the same time (multiple assets tracking)



Control centre: BS9000 AVL

Communication programs

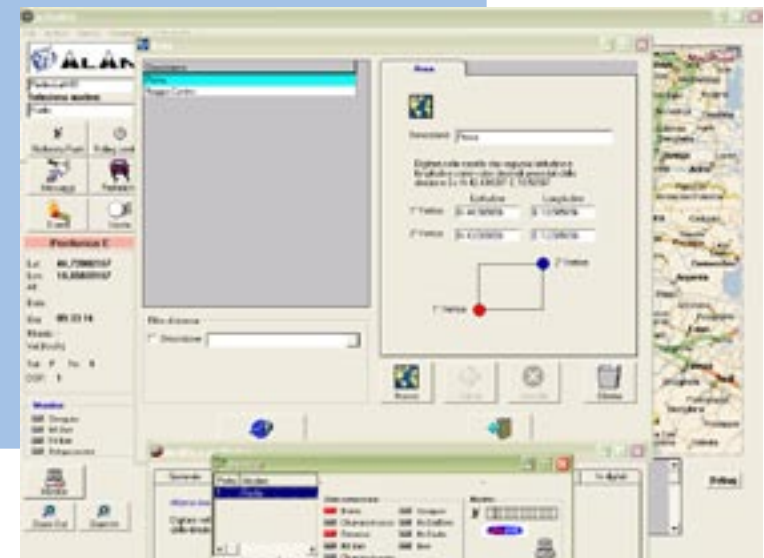
The control station manages communications arriving from mobile workstations using the BB4000 BS concentrator and allows:

- › simultaneous **location** on dedicated vector maps of an **unlimited number of terminals**.
- › **management** of a series of **automatic alarms** set by the operator, such as entrance and exit from a predefined trip, service start and many more;
- › **PMR communications** (including selective digital traffic management), **GSM** or both.
- › exchange of **text and voice messages**
- › **reprogramming** of remote **terminal settings**
- › **download of historical files** from the memories of remote terminals. Especially useful when there is no coverage, sending (also deferred) to the base station of the driver's position data, displayed as a "route"
- › **management of historical data archives**, routes and relevant events for optimal programming of activities

BS9000 AVL

The BS9000 AVL software archives in its database all data sent from the terminals:

- › **position, voice calls, events** alerted by the terminal, data downloaded from the memory (historical files) etc.
- › the databases allow data to be analyzed and organized in “**missions**” defined by the user and partially or totally archived.
- › the **play-back** function allows you to select a series of data and re-implement them. For example, it is possible to search for the route data of a vehicle to view its route records.
- › it is also possible to create **groups** of users.

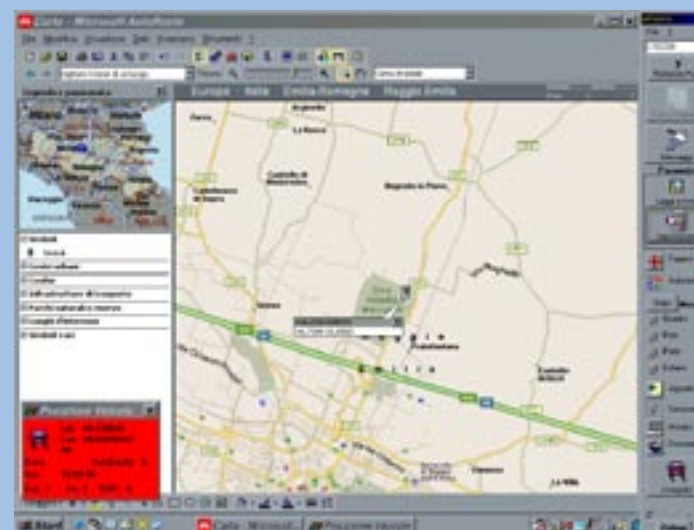


BS9000 AVL

Example of messages and alarms received



- › Example of alarm messages received from on-board terminals



- › The base station displays a **pop-up containing the alarm message**
- › Simultaneously, the map section underneath is updated with the vehicle's position

Advanced control centre: BS9000 GIS

The BS9000 GIS **advanced version** integrates a web-oriented **GIS application** developed under the Autodesk environment, which **gathers and processes detailed geographical, local, traffic and supply information**.



Possible set-up configurations include **stand-alone** or on a **dedicated LAN**. The master and clients used are based on an Intel® Pentium® processor, the OS on Windows XP®, and environmental and network software are de facto standards developed with Visual Basic.



Control Station: BS9000 GIS

The BS9000 GIS operating centre allows an integrated GIS/administrative management via integration of a Geographical Information System platform based on Autodesk packages.

Autodesk

The G.I.S. application is a **web-oriented** solution (accessible from any internet/intranet workstation), which:

- › **computerizes hard-copy maps**
- › updates them with all relevant GIS information available.

Dedicated G.I.S. Map System

- › Information on road circulation;
- › Road works and interruptions to ordinary traffic;
- › Mapping of communal buildings, traffic light systems;
- › Useful security information (cadastral mapping of buildings)
- › Other relevant logistical information, **on separate layers**, retrievable selectively and updateable in real time, directly from the competent office.

TRAFFIC OFF.

TECHNICAL
URBANISATION OFF.

LOCAL POLICE
Residence Control

Architecture of the operating station BS9000 GIS

BS 9000 GIS provides for a Server/Client architecture, which offers the following benefits:

- › Sharing of information on the network, even among several operator centres
- › Central server with databases of system information (all data exchanged between the centre and remote terminals)
- › Search function in the historical database, with multiple search keys in order to create dedicated, customizable reports.



MK25 GPS - Portable unit to track field-based personnel

The special MK25GPS terminals, as well as conserving the speaker microphone for PMR transreceivers, adds on the tracking facility on new or pre-existing PMR networks.

Integrating GPS modem receiver and antenna, it is a plug-and-play device for new or pre-existing PMR network connectivity:

- › **Small size:** GPS receiver, antenna and modem are integrated;
- › **Plug&play:** just connect MK25GPS to the portable radio to implement the satellite radiolocation functions within your organization;
- › **Reduced consumption:** Minimum 8 hour autonomy
- › **Out of range function:** if there is no coverage, the incorporated flash memory allows you to save up to 8 hours of positioning data (if saving 1 point per minute).



MK25 GPS
speakermike with
incorporated GPS
receiver, antenna
and modem

MK25 GPS sending data

The position data can be sent in various ways:

- › cyclically, according to an interval programmable from the base station;
- › on pressing or releasing the PTT;
- › by polling at the base station.



MK25GPS compatibility

Alan MK25GPS is **compatible with all professional portable transceivers** available on the market: Alan, Motorola Icom, Kenwood.

MK25GPS is **powered by an internal battery**, or directly from the radio, depending on the version:

- › MK25 GPS DJ for Alan HPO6 and HP35 series
(comes with internal lithium battery and charger)
- › MK25 GPS PJ for Alan Hp35 series powered by the radio
- › MK25 GPS MOTO for Motorola series GP3xx Motorola
(comes with internal lithium battery and charger)

Other versions available on request.



BB 4000 the brain of on-board units

The brains of on-board instrumentation, BB4000 was designed with scalability and flexibility in mind.

- › independent use
 - tracking
 - communication and management of alarms/status
- › with accessories connected to the serial port (printers, MDT4000, keyboards, swipe card readers, handsets).

Available in 3 versions:

- › BB4000 PMR
for connections to the PMR network
- › BB4000 PMR VOICE
for PMR connections, with vocal commands and synthesis
- › BB4000 PMR&GSM
for PMR and GSM connections, with data channel, voice and text message management



Printer

MDT4000

Button boards,
readers,
badges

keypads

Receivers

BB4000 features and benefits

Automatic management of alarms and events

BB4000 allows you to **control in real-time**, from the base station, a series of **programmed events or alarms** within the vehicle:

- › break-ins (including the loading gate on special vehicles);
- › checking in-car temperature,
- › checking vehicle efficiency,
- › checking fuel consumption,
- › alerting of programmed events:
 - arrival at destination
 - load check
 - load completed
 - automatic stamping and others



BB4000 features and benefits

- › **13 automatic alarms:**
shock sensor, ignition, vox, 10 target areas, power relay
- › **8 digital inputs**
- › **3 analog inputs**
- › **1 odometer input**
- › **8 digital outputs**
- › **4 power relay outputs**
- › **1 relay output with 2 contacts**
- › **3 outputs**
- › **3 serial ports**



BB4000 unique functions



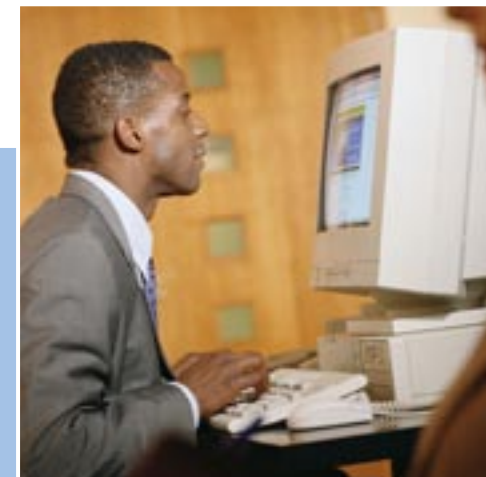
Voice Commands.

Voice recognition and synthesis allow the user to **receive from the base station** a series of **preset voice messages using 80 key words**.

In turn, **from the vehicle**, the operator **can send 10 preset voice commands** linked to a key word; this is particularly useful in the event of emergency.



If the operator is not in the vehicle, **BB400** signals the presence of **vocal messages** that can be replayed and deleted using the supplied remote control.



BB 40000 functionalities and specifications

- › **Event storing:** with FLASH memory, it can save a large quantity of information (24 hours considering 1p/min);
- › **Long autonomy:** the integrated GPS comes with “auto power save” function;
- › **Tele Control:** many parameters can be reset remotely, from the base station: assignment, modification of the preset route, and others on request.
- › **Telephony:** using 8 stored numbers. It is necessary to be connected to an external keypad or to the data terminal MDT 4000.

Technical features

- › Power supply voltage typ 13.8 Vdc
- › Power supply voltage typ 13.8 Vdc
- › Data transmission speed 19200 Bps RS23
1200 Bps FSK
- › Connectors Power supply / inputs Tyco 12 pins
PMR/LMR Transceiver RJ45 8 pins
Serial Port RS232(MDT/PRN)Molex 8 pin
- › Size 126x100x35 mm

BB 4000 PMR

- › Analogue inputs N 3 0 – 28 Vdc
- › Analogue internal sensors 4 : Battery level – Shock sensor – Vox sensor - Odometer sensor
- › Digital inputs 8 0 – 28 Vdc
- › Digital output 8 0 – 13.8 Vdc (5 power relay + 3 cmos type)
- › Serial ports external 1 RS 232 (+ Vcc) 1 TTL level
- › Data storage Internal 16 MB flash memory 1024 positions (PMR/LMR)
- › External unlimited (navigation logger on MDT)

Smart on-board terminals: MDT 4000

- › **Mobile office on board vehicles**

The evolved MDT 4000* terminal is an industrial PC equivalent to Pentium III 104 which, in addition to the dedicated software, supports mobile office applications in Windows NT embedded or Windows CE.net environments

- › **Standard and non-standard applications**

Allows you to use standard Office programs, or those already in use by staff

- › **The user interface** is particularly evolved, but is very easy to use

- › **Facilitated learning**

The interface can even replicate that of the base station, thereby guaranteeing immediate use and reducing overall operational cost and complexity.



MDT 4000 on-board terminals

The advanced terminal **MDT 4000** is a full industrial PC with **VGA 640x480 of 6"**, available also in the **15" 1024X768** version.

Standard configuration has 10 customizable icons/keys as standard, **99 preset messages**, alphanumeric keypad for text messages.
The functions can be customized at will and can be increased on request.



* Must be connected to BB4000

Technical features

- › Power Supply voltage typ 13,8 Vdc
- › Touch screen resistive
- › Connections:
 - 2 USB ports
 - 1 RS232 DB9
 - 1 Lan port (RJ45)
 - 1 DB15 port (for external monitor)
 - 1 compact flash port
 - 1 PS2 port for mouse and keyboard
- › Standard 20 Gbyte HD min. (opt. HD at solid status of 256 Mbytes)
- › **Linux, Windows CE.NET, Win XP, Win98SE embedded operating systems (on request)**
- › Standard application for messaging (send and receive encrypted or free)
- › Including buttons for at least 10 statuses ;
- › Internal numeric keypad
- › Keys and interface customizable with possibility of replicating icons of the operating centre
- › Size 190 x 150 x 60 mm (W x H x D)
- › Case in ABS + rubber protection (inner metallic case)

MDT4000 on-board terminals: main functions

- › Receive and view images
- › Implement navigation functions: (search streets, destination points, routes)
- › Destination target with display of the driver's position and the destination point (viewed as a graphic or text string),
- › Files transmission. Compatibly with the transmission method most suitable for the file size.



MDT on-board terminals: exclusive functions

- › Manifold customizations on customer request:
As it is an industrial PC, virtually any number of customizations can be configured on request



Summary – unique functions of the platform

- › Real-time control of the position of vehicles and staff on the field over a virtually unlimited area (regional, national or international); No numeric or territorial limitation: Admiral manages an unlimited number of resources, uses vector and raster maps, or acquires hard-copy maps.
- › Guaranteed communications, even in difficult to reach areas, thanks to the use of both network: PMR and GSM.
- › Compatibility guaranteed with most pre existing or new PMR networks: Alan but also Motorola, Icom, Kenwood and others on request.
- › Scalar and flexible: sizable and adaptable to special requirements:
- › Fleet management using automatic vehicle check up; Automatic control and management, from the base station, of operating processes (loading and unloading, service start and end, emergency alert); Sending of automatic alarms (off-route, break-in alarm etc); Remote reprogramming of activities and trips.
- › Mobile office on operating system Windows CE net or NT embedded – allow on-board use of standard software applications, (such as Word, Excel, Outlook, car-navigation software) or in-house applications, also allows real-time transmission of service reports;

Summary – unique functions of the platform

- › Advanced map management via a GIS geographical informational system.
Even in the entry level system, offered at competitive prices, it manages vector and raster-type cartographies acquired from hard-copy maps, internet files or other supports.
- › Multiple asset tracking – several resources can be controlled intuitively;
- › Automatic sending of “events” or alarms to the control centre (when certain conditions arise); automatic management of emergency situations and alarms;
- › Automatic polling data can be sent periodically to the control centre;
- › Geographical/local-type information (car navigation function) allows a device to be pinpointed on a map;
- › Remote-mode updating of routes;
- › Automatic sending of reports and statistics (daily trips, average trip times, petrol consumption tables, fluctuations in day-to-day plans); › Remote and real-time control of the position of vehicles and pedestrian staff over a virtually unlimited area (regional, national or international);

All products described in this presentation are
subject to
improvements and updates.
The technical functions shown here for information
purposes may therefore
change without notice.



Cte international

The World in Communication

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lfabbi@cte.it - www.cte.it