# NITRO +

## Rugged Tablet PC

Windows 7 Embedded Standard

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# The Power is in your Hands

- Main CPU: Core 2 Duo 1.06 Ghz
- x86 Architecture
- OS Support: Windows Embedded Standard
- Secondary CPU for Automotive Intensive Tasks

Digitax AUTOMOTIVE ELECTRONICS

# NITRO +



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## DUAL CPU

The Intel Core 2 Duo 1.06GHz CPU of the Nitro+ Tablet PC allows this Mobile Computer to supply a remarkable flexibility and extreme efficiency in computing power.
The Secondary AITP (Automotive Intensive Task Processor) CPU inside to the Docking Station supplies the necessary functionalities in the automotive field, like power management, Safe Shutdown, Wheel Pulses Odometer, Distance and Speed calculation, Wake-Up On Ring, Over-the-Air services for software and firmware updates.
The AITP is OTA programmable for remote automatic firmware upgrade and can be always powered ON; it can turn ON and OFF the Device and all its peripherals.

## THE HIGH FLEXIBILITY OF MICROSOFT WINDOWS EMBEDDED STANDARD COMBINED WITH VERY HIGH PERFORMANCE VIDEOGRABBER

The Nitro+ provides DVR functionalities (Digital Video Recorder) through the 3 Independent Channel Video Grabber able to perform MPEG4 and H264 compression in PAL/NTSC format up to 25 fps refresh rate.
The power of the three ARM CPUs for the video coding and compression with the flexibility of Windows Embedded Standard Operative System, allows to use this Device to performs any video surveillance and accident data recorder requests (such as cyclic recording, recording on alarm event, remote transfer of real-time video and historical videos).
In fact the advanced Microsoft Windows Operative System and the Digitax libraries allow to develop simple and fast applications in the most popular programming languages (such as Java, qT, C/C++, C# .NET, VB .NET) capable of handling Over-IP video streams.

## IDEAL FOR FLEET MANAGEMENT AND JOB DISPATCHING

The System represents the state-of-the-art device for on-site operation, job dispatching and fleets management thanks to the Nitro+ Tablet PC combined with the Docking Station.
The two HSUPA modems inside of the Tablet PC and inside of the Docking Station allow very reliable and high speed communications with operating headquarters for device tracking and remote real-time video viewing/storing. The vehicle is located by the high performance U-Blox 6 GPS receiver inside of the Docking Station with 50 channels, over 2 million of correlators and compatible with the new European positioning system GALILEO.
The Rugged Nitro+ Tablet PC with IP54 protection level is able to perform georeferenced videos and photos through the High Resolution WebCam and the U-Blox 6 GPS Receiver embedded. The privacy policies are guaranteed by the Finger Print Biometric access control.
All the vehicle communication and autonomous tracking features are assured by the AITP processor even when the Nitro+ Tablet PC is outside of the Docking Station: the GPS and Modem modules inside of the Docking Station are managed by the AITP both for power supply and for communication.

## INPUTS AND OUTPUTS

The Device supplies a wide range of communication channels with the external environment. The three RS232 / RS422 / RS485 ports and the three power outputs allow the device to manage the power and control the Pan, Tilt and Zoom (PTZ) of the cameras.
The others special programmable digital inputs and outputs allow to control devices and read signals coming from generic external equipments.

## DUAL BOOT FEATURE

Through this powerful functionality is possible to restore and to update the entire system anytime, starting from user application up to the complete operating system and all the CPU firmwares.
The system is able to boot from two different disks:
- SSD Disk, used for operative system, applications and data;
- Compact Flash card for large data storage (large maps, images, movies, logs) and for service (system initialization or Full System restore).

## STEALTH MODE

Stealth mode is a special operating mode in which the system is working but the display is OFF. This feature can be useful in several situations:
- Driver Control: System has also the wake up on ring feature, so at the central it is possible to remotely turn ON the device (also in stealth mode so nobody can see that it is starting) in order to check vehicle position, internal audio listening and other data.
- Ghost Mode: It is possible to set the device so that after pressing the shutdown button the system goes on stealth mode instead of turning OFF. This feature is useful if you want the device to remain always ON (it turns OFF only the display, reducing power consumption) or in an alarm situation.
- Alarm managing: If system is OFF and alarm button is pressed the system can be started in stealth mode, so nobody can see that the system starts. On this special start the system can be programmed for example to send an alarm message to the central, GPS position or also screenshots or audio.

# Technical Specifications

## On Board Unit

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| **The On Board Unit is a Rugged Tablet PC with the following features** |
| Touch Screen 8.4” TFT Display |
| CPU Core 2 Duo 1.06 Ghz |
| 1GB RAM Memory |
| Solid State Disk (SSD) 8GB capacity primary disk for Operating System and user applications |
| Compact Flash Card Slot with 16GB Compact Flash Card industrial range included for video recordings to be saved on the Tablet (the Compact Flash can be easily removed from the Tablet) |
| Windows Embedded Standard Operative System |
| 6 hardware keys for general purposes |
| Color Camera High Definition 1.3 Megapixel Embedded |
| Fingerprint Biometric Reader (with provided API for user applications) |
| 2x USB 2.0 ports |
| Rechargeable battery, 3 h. |
| Weight 2.5 Kg, battery inclusive |
| IP54 Protection Level |
| Operating Temperature: -20°C to +60°C |
| Tablet Dimension: 224 mm x 267 mm x 51 mm (H x W x D) (data prone to change) |
| BIOS with the following features:<br>• Customized Boot Up Logo<br>• Automatic Power-On on POWER SUPPLY (programmable function)<br>• Automatic Power-On on ENGINE ON (programmable function)<br>• Automatic Power-On on GSM SMS (programmable function)<br>• GPRS Module Power Management (programmable function);<br>• GPS Module Power Management (programmable function). |
| On Board Unit is CE Marks in agreement with the following laws: |
| 2006/95/EC Directive Low Voltage; |
| 2004/108/EC Directive EMC; |
| 2006/28/EC E-Mark; |
| 99/05/EC R&TTE; |
| IEC 60950-1 Equipment Security IT. |
| **Communication** |
| HSUPA/HSDPA/UMTS/EDGE/GPRS/GSM Module embedded, HSUPA 5.76 Mbps uplink, HSDPA 7.2 Mbps downlink (option) |
| Double SIM, switchable through programmable selection circuit by user application (option) |
| GPS U-Blox Receiver with 50 channels, Galileo System compatible (option) |
| **Battery** |
| Rechargable Battery Package, 3 hours (18W) |
| **Dimension** |
| 224 mm x 267 mm x 51 mm (W x H x D) |

## Docking Station

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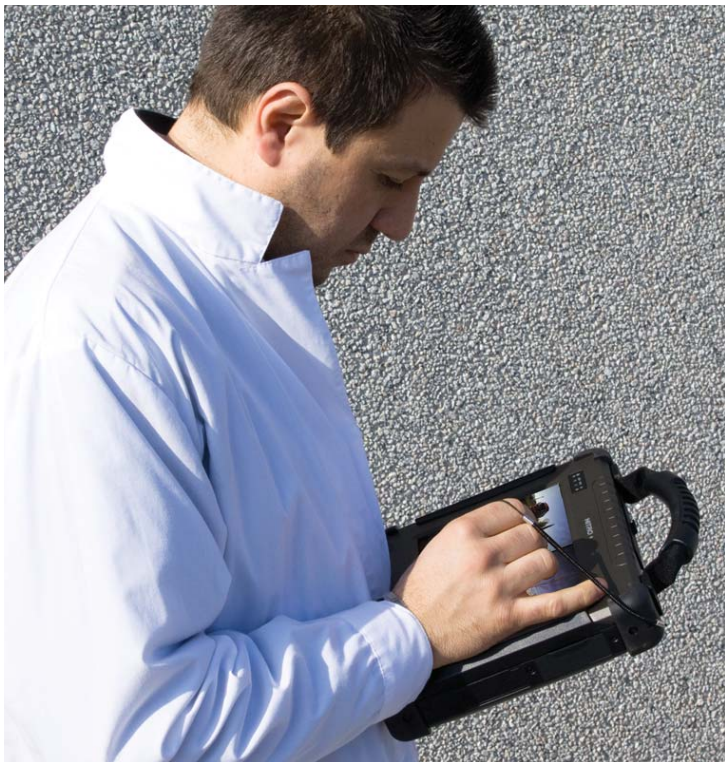
|---|
| **The Automotive Docking Station includes the following features** |
| Double fitting (vertical and side) |
| Power Supply: 8V-32V |
| 2x USB 2.0 ports |
| LAN Connector |
| Fixed Cables on the connectors with anti-rip retention and lock sealed screws |
| VGA Output |
| Audio Output (Line level) and Mic input |
| Audio Power Output (1W) to connect an external speaker |
| 3 Video Inputs with high performance Videograbber (3 Independent Channels), MPEG-4 and H264 compressions up to 25fps |
| 3 Power output for cameras management, with power relays and replaceable / independent fuses |
| 3 Serial Ports (independent set-up as RS232, RS422 or RS485) for cameras management |
| 1 Power Output to manage VGA Display, with replaceable power relay and fuse |
| 1 Serial Port RS232 for Digitax M2 VGA Display communication |
| 1 External Serial Port (set-up as RS232, RS422 or RS485) available |
| 1 Auxiliary Supply Output Connector, it provides stabilized power supply to connect external devices and sensors |
| Low consumption power management with start-up / shut-down Tablet PC control and car battery disconnection (only standby circuit is active) |
| Inside the Docking Station there is the AITP (Automotive Integrated Task Processor) board that allows to keep alive the following interfaces with Tablet Unit power down: |
| Dedicated ENGINE Input (engine key) |
| Dedicated PANIC Input (Panic button to notify an emergency status) |
| 8 Analog inputs |
| Odometer Input |
| Input Forward signal |
| 4 Digital Inputs/Outputs |
| 4 Power Outputs |
| Connection with 1-Wire protocol line |
| **Communication** |
| HSUPA/HSDPA/UMTS/EDGE/GPRS/GSM Module embedded, HSUPA 5.76 Mbps uplink, HSDPA 7.2 Mbps downlink (option) |
| Double SIM, switchable through programmable selection circuit by user application (option) |
| GPS U-Blox Receiver with 50 channels, Galileo System compatible (option) |
| Wi-Fi Module (Option) |
| **Power Consumption** |
| OS: 400mA on 12V (4.8W) |
| The power consumption switch to 50W when the tablet is in fast charge |
| **Dimension** |
| 400 mm x 320 mm x 170 mm (W x H x D) |



## Portable Nitro+ Rugged Tablet PC

**IP54 Protection Level**

## M2 On Dash remote display

**for Nitro+ Tablet PC screen**

## NITRO+ Tablet PC

**with embedded 1.3Mp camera, HSUPA modem, GPS receiver with antennas,allowing outdoor live geo-referenced video/picture streaming**

## Rugged smart docking station

**with embedded HSUPA modem, GPS receiver, WiFi with threemodale antennas and several I/O allowing the vehicle tracking even when the tablet PC is not present.**

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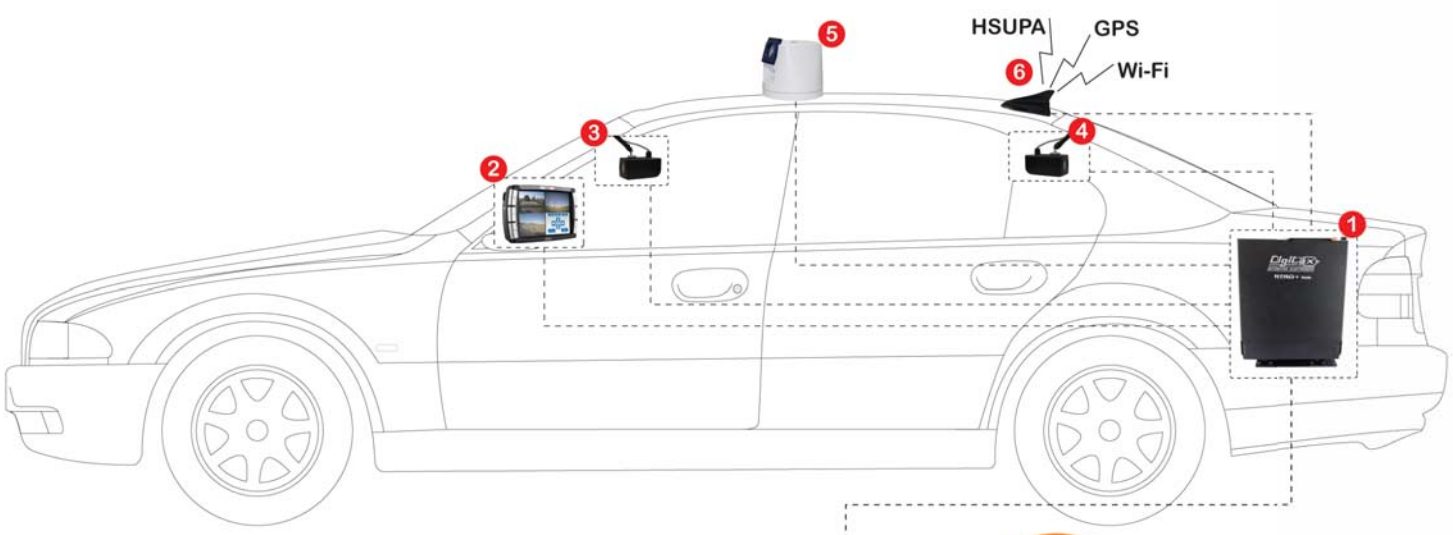


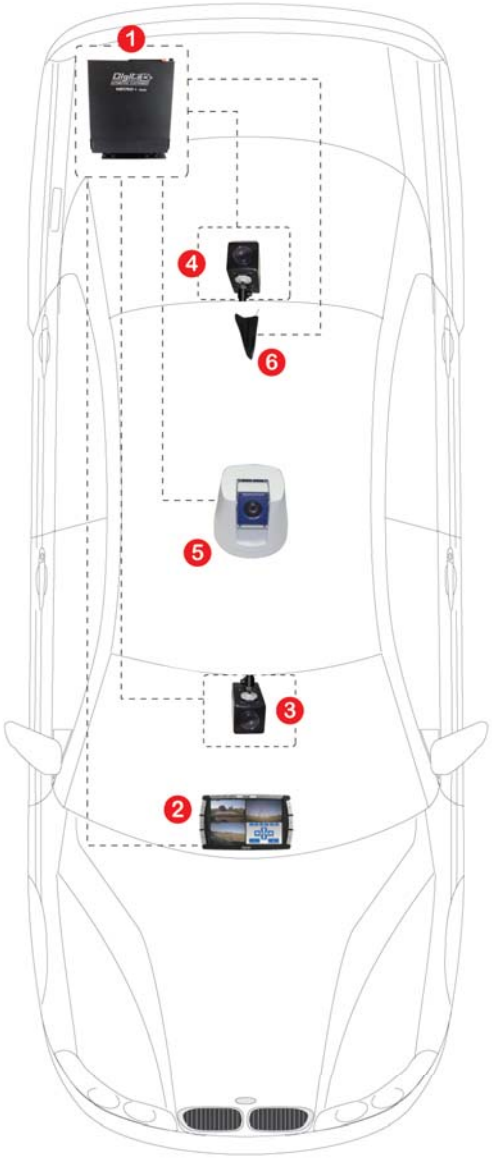




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1 **NITRO +** Tablet PC and Docking Station

2 M2 Display

3 Front Cam (Option)

4 Rear Cam (Option)

5 PTZ Cam (Option)

6 TRIMODAL GPS / HUSPA / Wi-Fi Antenna

## NITRO+ Tablet PC Bottom View


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## NITRO+ Docking Station Connectors Panel

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