A-307

Mobile Data Terminal

Android OS Platform

Datasheet

Revision 1.2

March, 2014

Introduction

A-307 Platform Overview

The A-307 provides Original Equipment Manufacturers (OEMs) and Telematics Service Providers (TSP's) with a rugged and versatile vehicle-centric mobile-computing platform for a variety of Mobile Resource Management (MRM) applications.

The A-307 platform supports the Google Android 4 operating systems

The A-307 offers a comprehensive development environment for independent application programming and system integration.

The A-307 device architecture provides a solid and cost-effective design by simplifying maintenance tasks, significantly extending product life expectancy, and lowering the total cost of ownership (TCO).

The A-307's Base Model configuration contains the standard set of features and functions of the MDT (Mobile Data Terminal). There is a range of optional extensions, add-ons and accessories to enhance the A-307's capabilities, serving advanced fleet management solutions.

The A-307's ruggedness is able to withstand the rough commercial automotive environment, including operation in a wide temperature range, vibrations, and shock.

Using the external vehicle diagnostic and cellular communication accessory devices, the A-307 platform supports a fully integrated and standalone fleet management solution functionality.

A-307 Device Models

Micronet implemented the A-307 platform in two product models:

- **Base device model** which supports the key feature set described below
- **Full device model** which provides additional wireless interfaces.

Physical Interfaces

The A-307 provides the following physical interfaces:

- USB
- Serial RS232/RS422 ports
- Analog and digital control I/O signals
- Interfaces for vehicle and peripheral device connectivity

Optional Wireless Module

The Full device model supports a combined Wi-Fi/Bluetooth wireless module.

The Wi-Fi/Bluetooth module comes with an internal antenna.

Special protection of Application Data feature

Designed to perform in the harsh vehicle operational environment, the A-307 platform incorporates especially robust hardware and software system, to protect Application data storage from corruption caused by unstable vehicle power behavior. Using super capacitors power backup, the system prevents instantaneously any uncontrolled access to the device storage, when a signal drop is recognized on the main device power line.

A-307 Development Tool Kit

Micronet's A-307 Development Package provides all the tools required for product evaluation, application development, and product testing. The Developers Package includes 20 hours of technical support and contains all essential hardware and software components as described in the following sections.

Hardware

- Power supply adaptors
- Accessory cables
- Mounting accessories and tools
- Mechanical and interface connection accessories

Software

- Software Development Kit (SDK) providing a set of software tools, API, and documentation for application software development
- Application samples, device programming and configuration software tools

Documentation

- Hardware and software guides

- Getting Started guide

- Certification approvals and declarations

Useful Links

Micronet web site: http://www.micronet.co.il/

A-307 Platform Key Feature Specifications

Base Model Configuration

Base Configuration Features	Details
Platform Core	
Operating System	Google Android 4
Application development environment	Google Android ADT
Processor	- ARM Cortex™ - A8 Core - TI Omap 3715 800Mhz - Graphics Processing Unit (GPU)
RAM	256MB
Flash	512MB
Memory Card Support	- SD / MMC (SDHC support) card slot x133, up to 32GB - SDIO interface
Audio CODEC	- Multi-channel - System audio support
Real Time Clock	- HW based - Device Wakeup alarm configuration capability
Watchdog	- SW based for application recovery - HW based for system recovery
User Interface	
Display	7" Color TFT LCD, WVGA (800 X 480)
Display Backlight	Multi-level backlight (white LED)
Touch Screen	Analog Resistive, 4 wire
Light Sensor	Configurable for device backlight adjustment
Keypad	Rubber tactile, multi-level backlight
Internal Microphone	- High sensitivity - Noise filtered
Internal Speakers	- Mono, 2 X 1W, 90 dB nominal @ 0.1m - Multi-level volume control
Communication Interfaces	
Rs232 Ports	- 1 X 5 Wire (TX, RX, RTS, CTS, GND) - 1 X 3 Wire (TX, RX, GND) - 300 - 115200 bps
USB OTG Port	- USB 2.0 - low, full and high speed

Base Configuration Features	Details
USB Host Port1	- USB 2.0 - low, full and high speed - 500mA maximum - Connected to the Main device connector
USB Host Port2 On the Device Panel	- USB 2.0 - low, full and high speed - 500mA maximum - Connected to the Panel USB connector
Peripherals Control	
Digital Input	1 X automotive input (for ignition switch control)
Power	
Input power	- Direct vehicle battery connection (12V / 24V) - ISO 7637 compliant
Super Capacitors	Protects data storage from abrupt power cut-offs
Mechanical	
Vibration	According to J1455
Mechanical Shock	According to J1455
Device Mounting	RAM® Mount mounting arm compatible
Environmental	
Temperature Range	- Operating: -4 °F to +158 °F (-20 °C to +70 °C) - Storage: -22 °F to +176 °F (-30 °C to +80 °C)
Humidity	95% ±5%RH, +40°C, non-condensing
IP	IP54
RoHS	Compliant
Certifications	
Standards Compliance	FCC, CE

Full Model Configuration

Supports all Base Model Features Plus the following -	Details
Wireless Communication	
Wireless LAN	- 802.11 b/g/n - Including an internal on-board antenna
Bluetooth (combined with Wireless LAN option above)	- Class 2 - Data transport support only - Including an internal on-board antenna

Platform Accessories

Features	Details
Peripheral Cables	
Main Interface Cable	Providing power, USB, RS232, and I/O connectors
Mechanical Accessories	
Mounting Arm	Optional RAM® Mount, flexible, multi-directional mounting

Features	Details
SD Card Protective Cover	SD card removal protection
Front Panel Label	Customizable "logo" printout
GPS and Cellular Communication	
3.5G GSM	3rd Party
3.5G EVDO	3rd Party
GPS	3rd Party
Vehicle Diagnostic	
CAN/J1708/OBD II	3rd Party
Power Supply	
Wall Power Adaptor	110V / 220V AC to 12V DC
Cigarette Lighter Power Adaptor	12V /24V DC

Physical Characteristics

Features	Details	
Dimensions & Weight		
Width	8.80 inch	225 mm
Height	6.40 inch	162 mm
Depth	2.10 inch	53 mm
Weight	24.70 oz.	700 Gram

Additional OEM Optional Customizable Key Features*

Features	Details
Interface Connections	
RS422 Port (replacing RS232 Com Port 1)	EIA RS422
Ethernet LAN Port	LAN 10/100 Mbit/sec
Peripherals Control	
Digital Output	Open Collector
Analog Input	0V – 30V
Audio	
External Speaker Connection	Mono
External Microphone Connection	Mono
Wireless Communication + Audio	
Bluetooth Voice Support (combined with Wireless LAN option)	- Class 2 - Data and voice support - Including an internal on-board antenna

* Requires a Minimum Order Quantity (MOQ)