MICRONET

SmarTab-8
Datasheet

The next generation of rugged Tablet for Fleet and Mobile Workforce Management

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ANDROID

Introduction

Micronet SmarTab-8 is a next generation Android rugged tablet designed for both in-vehicle and out-of-vehicle use. Coupled with a vehicle-connected cradle, it allows for a seamless shift between in-cab Telematics and standalone field-service modes of operation. Micronet SmarTab-8 provides a versatile, advanced and affordable mobile computing platform for a variety of Fleet Management and Mobile Workforce Management solutions.

Extended pool of services:

With ability to run multiple applications simultaneously, Micronet SmarTab-8 allows Telematics Service Providers and System Integrators to extend their offering beyond their own applications, provide their customers with advanced third-party mobility and field-service applications.

In the vehicle:

Placed in its vehicle-connected cradle, Micronet SmarTab-8 functions as a high-end on-board Telematics computer. With integrated GPS, cellular communication, various sensors and support for a variety of vehicle-bus and peripheral interfaces, Micronet SmarTab-8 enables a host of Fleet Management and mobility solutions such as: ELD/HOS, fleet tracking, driver behavior, real-time driver coaching, real-time fuel management, remote diagnostics and much more.

With a 8" multi-touch hardened screen, Micronet SmarTab-8 supports navigation solutions, routing and dispatch applications, task management, DVIR, real-time feedback to the driver and communication with head office and customers. Micronet SmarTab-8 's two cameras, together with its powerful processor and extended memory, allow it to run the advanced algorithms required for applications like video analysis, driver fatigue recognition and ADAS.

With a rich set of wireless and wired interfaces – WiFi hotspot, BT tethering and BLE, Bluetooth Audio, NFC, WiFi direct, multiple CAN channels (including open/customizable CAN libraries) and multiple I/O – Micronet SmarTab-8 can function as an in-cab hub to which other devices, sensors and accessories easily connect.

In the field:

Once out of the vehicle, Micronet SmarTab-8 lets mobile workers remain effective and efficient with on-the-fly connectivity – anytime and anywhere – using cellular communication and WiFi. Its durable design withstands shocks, drops, water and dust (IP65) and a range of temperatures, allowing workers to operate freely in any environment. With a lightweight and pocket-sized form factor, Micronet SmarTab-8 is easy to carry and operate.

Ideal for signature capture, proof of delivery, field service applications, taking notes, managing tasks, taking high-quality photos, scanning barcodes, communicating with the back office and making video calls, Micronet SmarTab-8 is a superior and cost-effective solution for Mobile Workforce Management.

Micronet SmarTab-8 Device Cradle:

The Micronet SmarTab-8 Platform offers various types of vehicle Cradles allowing strong and protected Device mounting and electronic connection in the vehicle. Compatible with a standard "RAM" mounting arm, the Cradle supports easy solution installation and flexible Device position adjustment for convenience of use in nuanced vehicle cabin environment.

Two models of Micronet SmarTab-8 Cradles are available supporting various features and interfaces connection. The Standard Cradle model supports a basic set of the solution interface connectivity such as: Vehicle Power, Ignition switch signal and RS232 communication port. The Enhanced Cradle model supports a wide range of Serial communication ports, control I/O signals and various Vehicle BUS interfaces connection.

An user notification features – status LED and Buzzer are provided in addition for the Device connection control and Driver alerting purposes.

Device options:

Portable device: The unique "Detachment" mechanism of the SmarTab-8 Cradle allows strong Mounting and safe Device Removal options to support in-vehicle and out-of-cab Product operation. Cradle is available in two options: "Basic" – supporting only power / Ignition / RS-232 connectivity and "Enhanced" – adding also CANBUS, I/O, USB and LED/Buzzer interfaces.

Fixed device: A Fixed SmarTab-8 Device option is available, supporting both "Basic" and "Enhanced" connectivity models allowing "Fixed-mounting" solution in use cases which do not require or do not allow removal of the tablet from the vehicle cabin

SmarTab-8 Model	Mount	Power	Ignition	RS232	I\O	CAN	USB	MMI
Fixed Basic	Fixed	√	√	√				
Fixed Enhanced	Fixed	√	√	√	√	√	√	√
Portable Basic	Portable	√	√	√				
Portable Enhanced	Portable	√	√	√	√	√	√	√

Compatibility with Micronet SmartHub:

The Micronet SmarTab-8 is based on the same hardware and software platform as the Micronet SmartHub, the Micronet's next generation Android On-Board-Computer. Telematics Service Providers who develop applications for Micronet SmartHub can easily adjust and run them also on Micronet SmarTab-8 for fleet customers who need tablets as part of their solution.

Shorter development cycles:

Powered by Android open platform, Micronet SmarTab-8 platform offers a comprehensive development environment for independent application programming and system integration. With a huge ecosystem of Android development tools and software frameworks – and with a flourishing community of developers – working with Android devices leads to rapid development and integration cycles.

Lower Total Cost of Ownership:

Designed to operate in harsh automotive and field environments, withstand shocks and vibrations and function reliably in broad-ranging temperatures, Micronet SmarTab-8 lowers the Total Cost of Ownership.

SmarTab-8 Platform Key Features

Device Key Features	Details
Platform Core	
Operating System	Google Android™ 9.0
Google Certification	Google Play Services support
Application Development Environment	Google Android™ ADT
Processor	Qualcomm, SDM450 – 2 GHz (8 x ARM® Cortex™ A53)
RAM	3 GB
ROM	32 GB
Memory Card Support	Micro SD card slot - up to 128 GB (internal)
Watchdog	- SW based for application recovery - HW based for system recovery
User Interface	
Display	8" Color TFT LCD, HD (1280 X 800)
Backlight	LED, 500 nits
Touch Screen	CTP - Capacitive Multi-touch panel (5 points)
Glass Hardness	Gorilla Glass 4
HW Keys	1 X Power On/Off, 2 X Volume Up, Down
SW Keys (Touch panel based)	3 X Home, Back, Menu, 2 X SW configurable, multifunction
Light Sensor	Configurable for device backlight adjustment
Internal Microphone	High sensitive
Internal Speaker	1 X 1W
External Audio jack	OMTP
USB	Type-C, USB 3.0
Wireless Communication (with Integrated, Onboard internal antennas)	
Cellular (LTE)	- FDD 1/2/3/4/5/7/8/12/13/17/20/28 - GSM 850/900/1800/1900 - WCDMA 1/2/4/5/8 (DC-HSPA+) - 3FF, Micro SIM (Internal)
GPS	- 50 Channel, NMEA 0183, AGPS. - Satellite Systems Support: GPS, GLONASS, Beidou, Galileo
Wireless LAN	- WiFi - 802.11 b/g/n/ac, 2.4/5 GHz - Dual mode, WiFi Direct, HotSpot - up to 10 users
Bluetooth	V4.1 (Voice and Data) / BLE
Near Field Communication	NXP, PN547, 13.56MHz, IS15693 and IS18000-3
Motion Control	
Motion Sensors	- Compass - Gyroscope

Device Key Features	Details
	- Accelerometer
Integrated Cameras	
Rear Facing	13 MP + Flash
Front Facing	5 MP
Power	
Internal Battery	Li-Ion 6,000mA, Fast charge support
Mechanical	
Vibration	SAE J1455 Compliant
Mechanical Shock	SAE J1455 Compliant
Environmental	
Temperature Range	- Operating: -4 °F to +158 °F (-20 °C to +60 °C) - Storage: -22 °F to +176 °F (-30 °C to +80 °C)
Humidity	95% ±5%RH, +40°C, non-condensing
IP	IP65
Drop	MIL-STD-810G Compliant
RoHS	RoHS II Compliant
Certifications	
Standards Compliance	FCC, PTCRB, IC, CE, E-Mark

Basic Cradle Key Features

Communication Interfaces	
RS232 Ports	1 X 3 Wire (TX, RX, GND) 300 - 115200 bps
Input Power and IGN sense	
Input Power	- Direct vehicle battery connection (8-32V) - ISO 7637 Compliant
Digital Input	1 x Automotive Digital input (Ignition switch status control)
Mechanical	
Vibration	J1455 Compliant
Mechanical Shock	J1455 Compliant
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	IP45
RoHS	RoHS II Compliant
Certifications	
Standards Compliance	FCC, IC, CE

Enhanced Cradle Key Features

Communication Interfaces	
RS-232	- 1 X EIA-232 5 Wires (Tx, Rx. RTS, CTS, GND) - 3 x EIA-232 3 Wires (Rx, Tx, GND)
USB	1 X USB 2.0 Host Port (LS/FS/HS)
Peripherals Control	
Inputs	- 7 X inputs (0 – 32V) - Configurable Analog/Digital functionality
Outputs	4 x Open Collector Outputs
Status indication	
LED	1 X Status LED
Buzzer	1 X Notification Buzzer
Audio	
External Audio *interfaces*	- 1 X external Microphone connection - 1 X external Speaker connection
Video – TBD	
External Video interfaces	4 X external Cameras connection
Vehicle Diagnostic	
CAN BUS	2 X CAN channels
J1708	1 X SAE-J1708
Power	
Input Power	- Direct vehicle battery connection (8-32V) - ISO 7637 Compliant
Mechanical	
Vibration	J1455 Compliant
Mechanical Shock	J1455 Compliant
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	IP45
RoHS	RoHS II Compliant
Certifications	
Standards Compliance	FCC, CE, IC

Fixed Basic model

Fixed Enhanced model

Portable Tablet

![MICRONET logo]

Portable Tablet in Cradle

Portable Basic model

Portable Enhanced model

Basic model – pinout

GCAB577 \ GCAB596

SIGNAL	J1	P1	P2	P3	AWG	COLOR
IGNITION	3	1			24	RED/WHITE
POWER_INPUT	1	4			24	RED
PWR_GND	2	3			24	RED/BLACK
GP_IN1	14		1		24	YELLOW
GP_OUT1	9		2		24	PURPLE
UART_TX	8		5		24	TAN
UART_RX	12		4		24	BLACK
GND	13		6	8	24	RED/BLUE
				3		
OTG_USB_VBUS	6			5	24	ORANGE/BLACK
OTG_USB_DN	4			6	24	WHITE
OTG_USB_DP	5			7	24	GREEN
USB_GND	7			4	24	WHITE/BLACK
DBG_TX	10			1	24	BLUE
DBG_RX	11			2	24	ORANGE/GREEN

 v1.0

Enhanced model – pinout

GCAB577 \ GCAB596

SIGNAL	J1	P1	P2	P3	AWG	COLOR
IGNITION	3	1			24	RED/WHITE
POWER_INPUT	1	4			24	RED
PWR_GND	2	3			24	RED/BLACK
GP_IN1	14		1		24	YELLOW
GP_OUT1	9		2		24	PURPLE
UART_TX	8		5		24	TAN
UART_RX	12		4		24	BLACK
GND	13		6	8	24	RED/BLUE
				3		
OTG_USB_VBUS	6			5	24	ORANGE/BLACK
OTG_USB_DN	4			6	24	WHITE
OTG_USB_DP	5			7	24	GREEN
USB_GND	7			4	24	WHITE/BLACK
DBG_TX	10			1	24	BLUE
DBG_RX	11			2	24	ORANGE/GREEN

GCAB597 \ GCAB579

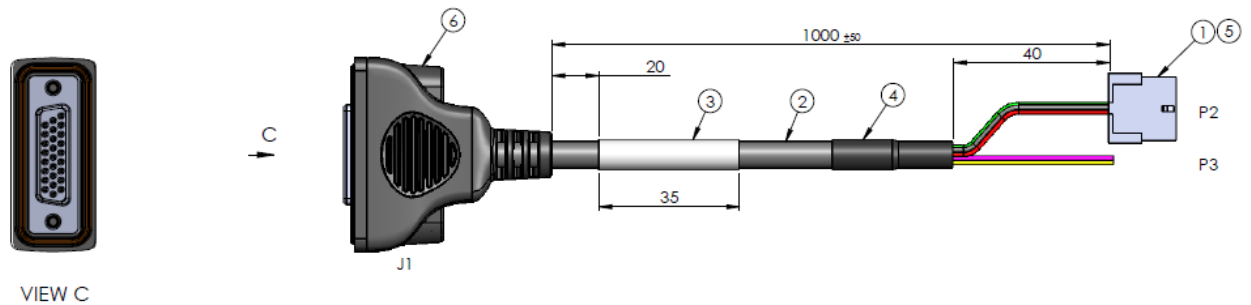| SIGNAL	J1	P2	P3	AWG	COLOR
CAN1_P	5	1		26	RED
CAN1_N	15	2		26	WHITE
CAN2_P	22	3		26	GREEN
CAN2_N	23	4		26	YELLOW
J1708_P	24	5		26	BLUE
J1708_N	25	6		26	PINK
GND	9	7		26	BLACK
SWC	26	9		26	BROWN
GP_IN2	4		1	26	ORANGE
GP_OUT2	6		2	26	PURPLE

Cables

Standard cables for production units:
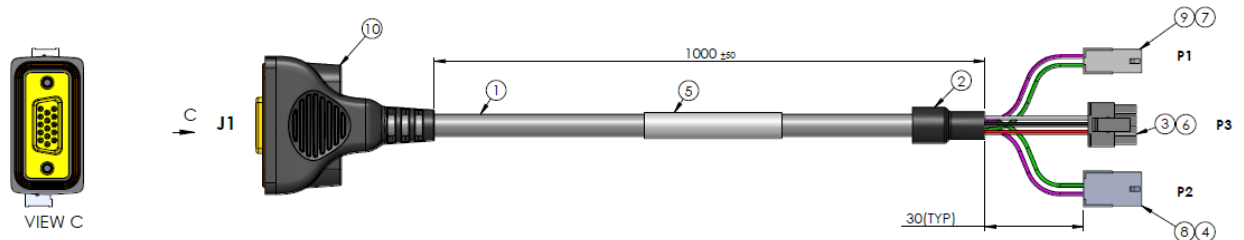
GCAB577 (Basic)
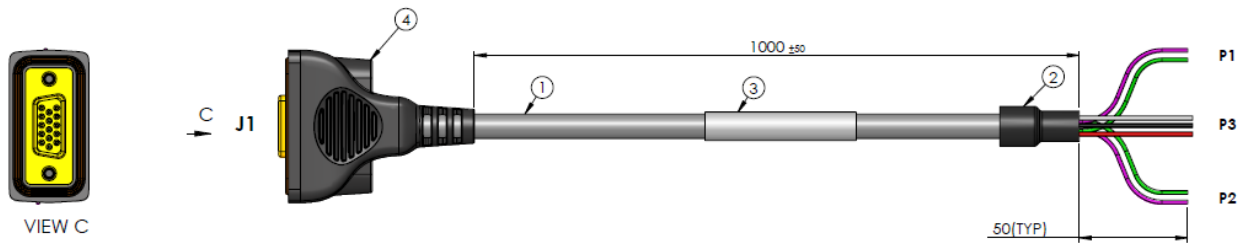
GCAB597 (Enhanced)

Development Kit (DTK) cables:

GCAB596 (Basic)

GCAB579 (Enhanced)