



HARRIS UNIFIED VEHICLE NETWORK COMPUTING PLATFORM

SUPERCHARGED CONNECTIVITY AND COMPUTING POWER

KEY BENEFITS

Adds intelligent capabilities to new and existing TM9300 and TM9400 mobiles

Increases user productivity through flexible application support

Creates a network of networks through LMR, Wi-Fi, Bluetooth and Broadband (LTE) connectivity

Enhances worker safety by expanding vehicular communications

Harris Unified Vehicle, powered by Tait, adds computing and network capabilities to new and existing TM9300 DMR and TM9400 P25 mobiles. This intelligent module creates a vehicle-area-network, providing connectivity through Land Mobile Radios (LMR), Wi-Fi®, Bluetooth®, 3G and Broadband (LTE).

Harris Unified Vehicle delivers intelligent mobile hot spot capabilities that allow you to stay connected through an LMR or LTE network. Public Safety and utility workers can effectively communicate business-critical information through the device of their choice—radio, smartphone or tablet.

This Network Computing Platform runs on a Linux® operating system, and will include application support through Application Programming

Interfaces (APIs) and Software Development Kits (SDKs). Users can quickly integrate Push-To-Talk Android™ and iOS® apps into their mobile, or create new ones to meet specific needs.

Harris Unified Vehicle enhances worker safety and security by storing time-stamped records of all communications for playback and review. The module also works with Harris EnableFleet and Wi-Fi connections to more efficiently update radio configurations and firmware through Over-the-Air-Programming (OTAP).

FEATURES AND BENEFITS

UNIFYING CRITICAL COMMUNICATIONS

Harris Unified Vehicle brings a whole new level of networking power to both new and existing Harris radios, including the TM9300 and TM9400. As technologies converge user capabilities grow, increasing complexities and demands on critical systems. Harris Unified Vehicle simplifies connectivity, supporting communication for users on the move where and when they need it most.

GREATER EFFICIENCIES AND EXPANDED COVERAGE

Harris Unified Vehicle connects voice and data networks, increasing efficiencies by getting the right information to the right people via the fastest and most reliable methods available. This powerful application also expands

existing mobile communication coverage areas and capabilities through access to long-range 3G and 4G LTE and shorter-range high-bandwidth Bluetooth and Wi-Fi.

VoIP READY

Harris Unified Vehicle's platform allows a number of audio paths to be accessed and converted into VoIP. These streams can be used to deliver services over broadband and Ethernet ports.

POWERFUL APPLICATION SUPPORT

This network computing platform features a Linux operating system with sufficient memory and operating speed to run several applications at the same time. Designed for ease of use, Harris Unified Vehicle has direct local connectivity with LMR processing platforms allowing many features to be accessed and tailored for specific communication needs.

ENHANCED FLEET AND ASSET AUDITING

Security and safety of workers and vehicles are enhanced with abilities to log, record and play back time-stamped voice communications.

APPBUILDER

This application provides a more user-friendly way of creating customized communications solutions. Behavior-based and graphical programming formats can be used.

HARRIS ENABLE-READY

When combined with Harris Enable Suite, the TM9300 and TM9400 can be updated through multiple communications paths, including over Wi-Fi, for improved connectivity and speed for programming updates.

SUPPORTED NETWORKS AND FEATURES

	DMR Trunked Tier 3	DMR Conventional Tier 2	MPT	P25 Trunked	P25 Conventional	Analog Conventional
Remote Application	•	•		•	•	
Wi-Fi OTAP	•	•	•	•	•	•
Voice Recording	•	•	•	•	•	Future
AppBuilder	•	•	•	•	•	•



SPECIFICATIONS FOR: HARRIS UNIFIED VEHICLE NETWORK COMPUTING PLATFORM

GENERAL

Supported Devices	TM9300, TM9400 (in handheld control head or remote head configuration only)
LAN (Ethernet)	mDNS, DNSProxy DHCP Server DHCP Client 10/100Mbps
WLAN	2.4 GHz IEEE802.11 b/g/n SISO 20 MHz 5 GHz IEEE 802.11 a/n SISO 20/40 MHz Access point/ station/ direct (simultaneous or independent use), supports up to 5 clients
Client Security Modes	Open WEP-40/128 PSK 802.11i Draft/ RSN/ Mixed PSK with CCMP/ TKIP/ CCMP+TKIP cipher 802.11i Enterprise TTLS/ PEAP with CCMP/ TKIP/ CCMP+TKIP cipher
AP Security Mode	802.11i Mixed PSK with CCMP cipher
Host Interfaces	10/100 Base-T RJ45 Ethernet port Serial Port on DB-15 connector (on radio unit) RS-232 optional (on radio unit) 4 SMA antenna connectors (primary, secondary/ diversity [cellular], Wi-Fi, future active GPS antenna support)
Serial Port	Optional TTL level with up to 115200 baud (serial input will support RS-232 levels)
Input/Output (GPIOs)	Up to 3 configurable GPIOs and 4 GPIOs on DB15 connector (on radio unit) Up to 7 additional configurable GPIOs on optional interface board (on radio unit)
Power	Ignition Sense and Power Management Low-power mode triggered on timer delay (ignition sense), or periodic timer Supply voltage (via LMR terminal) 10.7 – 16.0 VDC additional power consumption compared to LMR radio 300 mA Note: the LMR radio can consume 100 mA on standby to receive, 1 amp on receive at full volume and 6.5 A transmit (25W 470 MHz)
Input Voltage	10.7 to 16.0 VDC (via LMR terminal)
Audio Codec Support	
Input	Radio microphone and LMR radio (mono)
Output	Radio speaker and LMR radio (mono)
Dimensions and Environmental Ratings	Refer to TM9300 and TM9400 specifications

CELLULAR WAN

Uplink	Max 5Mbps
Downlink	Max 10Mbps
Support	MISO

REGION Industry Approvals Supported Frequency Bands (in progress)

North America & Canada	PTCRB, FCC, IC	4G/LTE: 1900(B2), AWS1700 (B4), 850(B5), 700(B12/13) 3G: 1900(B2), 850(B5)
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COMPUTING PLATFORM

Hardware Processor	AM3352 Sitara, ARM Cortex A8 32 bit 600MHz
Memory	RAM 512 MB DDR3 plus SD card slot fitted with 16GB, max capacity of 64GB
Storage	1 GB of SLC NAND Flash
Operating System	Linux (OpenEmbedded LTS)

EVENTS ENGINE

General	Custom event triggers and reports Configurable interface, no programming User notifications
Event/Action Types	GPIO, LMR messages, timer, modbus, SMS, email, TCP/ UDP (Binary, XML, CSV), serial port, HTTP/ HTTPS, security alarms, GPS location, Cloud integration, MQTT client , status messages

APPLICATIONS

Remote App	On connected smartphone (Android)
Harris Unified Vehicle AppBuilder	With visual and script capability
Customization	Ability to load new applications locally

MANAGEMENT INTERFACES

Web-Based User Interface	Network configuration User access configuration Firmware updates Application installation Voice recording configuration
Extendible Web-Based User Interface	For applications. SFTP for audit log access and audio files, device configuration templates, over-the-air software and radio module firmware updates. Optional SSH access

NETWORK AND ROUTING

General	Network Address Translation (NAT) Port forwarding NTP
IP Routing	Wi-Fi-to-Cellular, Ethernet-to-Cellular, Ethernet-to-Wi-Fi

SECURITY

Firewall	Inbound and outbound port filtering
Client Security Modes	Open WEP-40/128 PSK 802.11i Draft/ RSN/ Mixed PSK with CCMP/ TKIP/ CCMP+TKIP cipher 802.11i Enterprise TTLS/ PEAP with CCMP/ TKIP/ CCMP+TKIP cipher
AP Mode	802.11i Mixed PSK with CCMP cipher
Web User Interface	HTTPS

INDUSTRY CERTIFICATIONS

Safety	IECEE Certification Bodies Scheme (CB Scheme) UL 60950
Vehicle Usage	E-Mark (2009/19/EC), ISO7637-2
Hazardous Environments	Class 1 Div 2
Environmental	RoHS, WEEE, IP54

About Harris Corporation:

Harris Corporation is a leading technology innovator, solving customers' toughest mission-critical challenges by providing solutions that connect, inform and protect. Harris supports government and commercial customers around the world.

Learn more at harris.com

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