M500 in car video system

Evidence at your fingertips

Complete protection, comprehensive evidence — rely on the M500 in car video system to capture, stream, and secure your evidence. Whether you need expansive storage and multiple camera support, or a compact, simplified solution, we provide forces the power of choice with reliable and intuitive systems tailored to your specific needs.

Proactively safeguard your police force with advanced tools that capture a complete and accurate record of events. Built to withstand demanding conditions and operate intuitively, the M500 in car video system is engineered for superior reliability and intuitive control in any environment, ensuring consistent performance.

The M500 boasts expansive storage capabilities, a seamlessly blended touchscreen control panel, and supports up to 5 cameras, while the M500E offers a compact and tactile control head, built-in Wi-Fi for simplified installation, and the new SmartControl app for on-the-go flexibility.

Designed to simplify your user experience, the in car video system effortlessly integrates with our expansive ecosystem, connecting body cameras, two-way radios, and device and evidence management software for a comprehensive, unified solution.

The M500 System offers you the power of choice, allowing forces worldwide to tailor their in car systems with flexibility and peace of mind. In critical situations, quality evidence is non-negotiable. Rely on the M500 System to deliver complete protection, enhanced situational awareness, and seamless real-time evidence capture in the moments that matter.
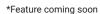
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Key features of the M500 in car video system

HARDWARE FEATURES	DESCRIPTION	M500	M500E
Front camera recording	4K sensor, interior-rated	✓	✓
Cabin camera recording	1080p sensor, infrared, built-in audio, interior-rated	✓	✓
Rear camera recording	1080p sensor, adjusted for tinted windows, interior-rated	✓	✓
Exterior camera recording	1080p sensor, IP67, outdoor	✓	✓
Evidence backup	Removable storage for manual evidence offload	✓	✓
Auto-record triggers	External inputs (ignition, siren, light, brake, etc.) at 12V	✓	✓
Auto-stop record	Configurable maximum length of video recordings	✓	✓
Group recordings	System can initiate group recordings with body cameras	✓	✓*
GPS support	Support for GPS location information and timing reference	✓	✓
Officer settings	Customised officer preferences (brightness, volume level, etc.)	✓	✓
Event playback	Local event playback in vehicle	✓	✓
Record-After-the-Fact™	Events can be recovered from the system even if no recording was initiated	✓	✓
Dual-stream recording	System can record 2 streams simultaneously and select upload resolution based on event tagging	✓	✗
Covert mode	System can be configured to record with no visual or audio indicators	✓	✓
Dark mode	System can be configured to turn off screen and button backlights	✓	✓
State capture	System can log key parameters for debug purposes	✓	✓
Impact detection	System can recognise vehicle impact and automatically start recording	✓	✓
Internal UPS	System can self-power for several seconds in case of vehicle collision / power failure	✓	✓
Wide and cropped front camera views	System will capture panoramic and detailed views (at 2 resolutions each)	✓	✗

	DESCRIPTION	M500	M500E
Synchronised playback	Synchronised playback in VideoManager	✓	✓
HiFi microphone support	System supports up to 2x portable wireless microphones	✓	✗
Control panel	Main user interface to the system	✓	✓
Internal storage	Internal storage for evidence, not removable	✓	✓
RFID support	Supports configuration and firmware update and RFID reader	✓	✓
Large touchscreen	User friendly touchscreen	✓	✗
Support 5 cameras	Compatible with up to 5 cameras for 360° view and footage capture	✓	✗

SOFTWARE FEATURES	DESCRIPTION	M500	M500E
Smart power switch (SPS)	Allow other network device connections	✓	✗
Wi-Fi event upload	Wireless Wi-Fi upload to VideoManager	✓	✓
LTE/Wi-Fi router upload	Wireless upload to VideoManager via external modem/router	✓	✓
Encryption	Video evidence is encrypted at rest and in transit	✓	✓
Remote upgrade	System firmware can be upgraded over a wireless link	✓	✓
Automatic number plate recognition	System can read number plates and interface with VehicleManager	✓	✓*
Human presence detection sensor	Cabin camera will automatically record when a human is detected in back seat	✓	✓*
Live-streaming	Video and audio live streaming	✓	✓
VideoManager support	Configuration and evidence management from VideoManager	✓	✓
Mobile app support	Mobile app integration for configuration, live view and playback	✗	✓

*Feature coming soon

Core processors

FEATURES	M500	M500E
Form factor	Single DIN	Single DIN
Dimensions (H x W x D)	180 x 49 x 171 mm (7.0 x 1.9 x 7.7 in)	187 x 48 x 167 mm (7.4 x 1.9 x 6.6 in)
Weight	1.4 kg (3 lbs)	1.1 kg (2.4 lbs)
Operating temperature	-30°C to +65°C (-22°F to +149°F)	-30°C to +65°C (-22°F to +149°F)
Mounting option	Overhead (vehicle-specific brackets) or universal mount	Console bracket or universal mount
Recording media (internal)	1 TB automotive-grade solid state drive	256 GB Industrial Temp Micro SD
Recording media (removable)	128 GB USB drive	256 GB Industrial Temp Micro SD
GPS	Integrated	Integrated
Crash detection	3 axis sensor	3 axis sensor
Additional inputs/outputs	USB, Ethernet, wired microphone (x2), trigger interface (6 AUX inputs), wireless microphone (x2), powered ethernet (x4)	USB, Ethernet (x2), wired microphone, trigger interface (7 AUX inputs, 3 AUX outputs)
Video transfer methods	Wireless 802.11 router, optional Wi-Fi or all-in-one LTE/Wi-Fi Router, Ethernet, USB	Wireless 802.11ac, optional all-in-one, LTE/Wi-Fi router, Ethernet, SD
Max camera capacity	Up to 5 cameras	Up to 2 cameras
Resolutions	1920x1080p, 1280x720p, 864x480p (dual stream, configurable), with configurable high/medium/low bitrate	1920x1080p, 1280x720p, 864x480p with configurable high/medium/low bitrate
Frame rate	30, 15, 10, & 5 fps (configurable)	30, 15, 10, & 5 fps (configurable)
Multiple resolution encoding	Records two resolutions simultaneously (patented): 1080p/720p, 1080p/4080p, or 720p/480p	Records one resolution: 1080p/720p, 1080p/4080p, or 720p/480p
Recording triggers	Lights, siren, AUX triggers (x2), impact/crash, speed	Lights, siren, AUX triggers (x3), impact/crash, speed
Storage	Dual drive architecture	Dual drive architecture
Pre-Event recording	None, 15 sec, 30 sec, 45 sec, 90 sec, 1 min, 2 min, 3 min, 5 min, or 10 min	None, 15 sec, 30 sec, 45 sec, 90 sec, 1 min, 2 min, 3 min, 5 min, or 10 min
Redundancy	Record-After-the-Fact (patented, configurable)	Record-After-the-Fact (patented, configurable)
Recording capacity	Dependent on recording resolution, frame rate and cameras connected. Video: 1080p@30fps High Quality = 4.5GB per hour per stream, 720p@30fps High Quality = 2.25GB per hour per stream, 480p@30fps High Quality = 1GB per hour per stream, Audio: 23.4MB per hour per stream	Dependent on recording resolution, frame rate and cameras connected. Video: 1080p@30fps High Quality = 4.5GB per hour per stream, 720p@30fps High Quality = 2.25GB per hour per stream, 480p@30fps High Quality = 1GB per hour per stream, Audio: 23.4MB per hour per stream
External connectivity	Wi-Fi/LTE/Routers	Internal Wi-Fi / Bluetooth Module
Cabin camera audio	Integrated MEMS microphone (digital audio over coax)	Integrated MEMS microphone (digital audio over coax)
Security	FIPS-140-2 compliant encryption	FIPS-140-2 compliant encryption

Front camera

M500 SYSTEM FRONT CAMERA KEY FEATURES	
Dimensions (H x W x D) including bracket	43 x 40 x 69 mm (1.7 x 1.6 x 2.7 in)
Weight	85.4 g (2.68 oz)
Operating temperature	-30°C to +65°C (-22°F to +149°F)
Connection	Bayonet-locking HDBNC for power and data
Aspect ratio	Electronic panoramic view
Horizontal field of view	Wide panoramic stream: 102/119° with/without dewarp Cropped stream: 51/59.5° with/without dewarp
Low light performance	Below 0.1 lux
Sensor resolution	3840 x 1920 pixels
Sensor technology and area	25 x 43 mm (1 x 1.7 in)
Mounting	Windshield puck or ball mount
Features currently only available for the M500	
Simultaneous steam	Wide and cropped
ANPR accuracy	Greater than 90%
ANPR range	12 m (40 ft)

Cabin camera

M5P CABIN CAMERA KEY FEATURES	
Dimensions (H x W x D)	113 x 48 x 39 mm (4.5 x 1.9 x 1.5 in)
Weight	150 g (5.3 oz)
Operating temperature	-30°C to +65°C (-22°F to +149°F)
Connection	Single HD-BNC connection for power and data
Resolution	1920 x 1080
Viewing angle	108° (horizontal)
Low light performance	0 lux (infrared illumination)
Infrared illumination	940 nm, not visible
Audio	Integrated MEMs microphone (digital audio over coax)
Mounting	Tamperproof screws or zip ties

Rear camera

M5R REAR CAMERA KEY FEATURES	
Dimensions (H x W x D)	70 x 65 x 41 mm (2.75 x 2.56 x 1.61 in)
Weight	135 g (4.8 oz)
Operating temperature	-30°C to + 65°C (-22°F to +149°F)
Connection	Single HD-BNC connection for power and data
Resolution	1920x1080 at 30 fps
Viewing angle	108° (wide view)
Low light performance	0.2 lux
Sensor technology	CMOS
Mounting	Variable adjustment mount (ball and socket)

Exterior camera

M5E EXTERIOR CAMERA KEY FEATURES	
Dimensions (H x W x D)	51 x 81 x 58 mm (2.0 x 3.2 x 2.3 in)
Weight	208 g (7.37 oz)
Operating temperature	-30°C to +65°C
Connection	Single HD-BNC connection for power and data
Resolution	1920 x 1080, 1280 x 720, 864 x 480
Viewing angle	108° (wide view)
Low light performance	0.3 lux
Mounting	Variety of mounting options

M500E M5CH control head

M5CH CONTROL HEAD KEY FEATURES	
Dimensions	48.5 x 70.9 x 18.8 mm (1.9 x 2.8 x .7 in)
Weight	42 g (1.4 oz)
Operating temperature	-30°C to +65°C (-22°F to +149°F)
Connection	USB Type C, with custom cable and cable retention feature
Buttons and controls	Power, Bluetooth pair, left, right, record
Screen brightness	1.2" LCD Display Top Display, Monochrome LCD
Mounting	Two mounting options: RAM A size ball adapter, flushmount with PSA tape

M500 M5D touchscreen control head

M5D CONTROL PANEL KEY FEATURES	
Dimensions (H x W x D)	110 x 144 x 36 mm (4.3 x 5.7 x 1.4 in)
Weight	0.3 kgs (0.1 lbs)
Operating temperature	-30°C to +65°C (-22°F to +149°F)
Connection	Single HD-BNC connection for power and data
Screen size	127 mm (5 in) diagonal
Screen resolution	1920x1080
Screen brightness	600 nits
Touchscreen technology	Capacitive multi-touch
Dedicated controls	Power, home, record, stop, cameras, display
Mounting	B-size RAM mount
Other	Silicone overmold for secure grip

Support and services

- Comprehensive 12-month warranty included.

- Services optionally available at 3 or 5 years at an additional cost.

To learn more, visit:
www.motorolasolutions.com/M500-system

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