

# M500 in car video system

## Evidence at your fingertips

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



Proactively safeguard your police agency with advanced tools that capture a complete and accurate record of events. Built to withstand demanding conditions and operate intuitively, the M500 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 support for 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 experience, our 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 agencies 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 effortless real-time evidence capture in the moments that matter.

# 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	Customized 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 recognize 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)	✓	✗
Synchronized playback	Synchronized 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	Simplified officer login through badge scanning	✓	✓
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)	Allows 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	Seamlessly upgrade firmware and configuration over a wireless link	✓	✓
License plate recognition	System can read license 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)	7.0 x 1.9 x 7.7 in (180 x 49 x 171 mm)	7.4 x 1.9 x 6.6 in (187 x 48 x 167 mm)
Weight	3 lbs (1.4 kg)	2.4 lbs (1.1 kg)
Operating temperature	-22°F to +149°F (-30°C to +65°C)	-22°F to +149°F (-30°C to +65°C)
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 inputs), wireless microphone (x2), powered ethernet (x4)	USB, Ethernet (x2), wired microphone, trigger interface (7 inputs, 3 outputs)
Video transfer methods	Wireless 802.11 router, optional Wi-Fi or all-in-one LTE/Wi-Fi Router, Ethernet, USB	Wireless 802.11 ac, optional all-in-one, LTE/Wi-Fi router, Ethernet, SD
Max camera capacity	Up to 5 cameras	Up to 2 cameras
Resolutions	1920 x 1080p, 1280 x 720p, 864 x 480p (dual stream, configurable), with configurable high/medium/low bitrate	1920 x 1080p, 1280 x 720p, 864 x 480p 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, or 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	1.7 x 1.6 x 2.7 in (43 x 40 x 69 mm)
Weight	2.68 oz (85.4 g)
Operating temperature	-22°F to +149°F (-30°C to +65°C)
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	1 x 1.7 in (25 x 43 mm)
Mounting	Windshield puck or ball mount

## Features currently only available for the M500

Simultaneous stream	Wide and cropped
LPR accuracy	Greater than 90%
LPR range	40 ft (12 m)





# Cabin camera



## M5P CABIN CAMERA KEY FEATURES

Dimensions (H x W x D)	4.5 x 1.9 x 1.5 in (113 x 48 x 39 mm)
Weight	5.3 oz (150 g)
Operating temperature	-22°F to +149°F (-30°C to +65°C)
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)	2.75 x 2.56 x 1.61 in (70 x 65 x 41 mm)
Weight	4.8 oz (135 g)
Operating temperature	-22°F to +149°F (-30°C to + 65°C)
Connection	Single HD-BNC connection for power and data
Resolution	1920 x 1080 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)	2.0 x 3.2 x 2.3 in (51 x 81 x 58 mm)
Weight	7.37 oz (208 g)
Operating temperature	-22°F to +149°F (-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	1.9 x 2.8 x 0.7 in (48.5 x 70.9 x 18.8 mm)
Weight	1.4 oz (42 g)
Operating temperature	-22°F to +149°F (-30°C to +65°C)
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)	4.3 x 5.7 x 1.4 in (110 x 144 x 36 mm)
Weight	0.1 lbs (0.3 kg)
Operating temperature	-22°F to +149°F (-30°C to +65°C)
Connection	Single HD-BNC connection for power and data
Screen size	5 in (127 mm) diagonal
Screen resolution	1920 x 1080
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](http://www.motorolasolutions.com/M500-system)



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