

# LightSpeed™ V10

## Vehicular Communication System



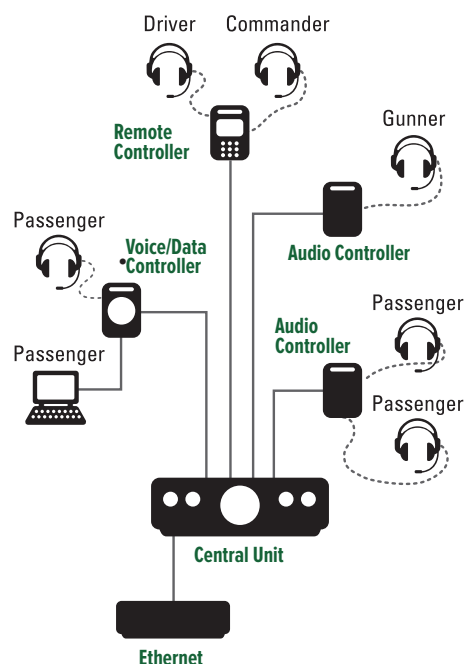
Vehicle mounted components

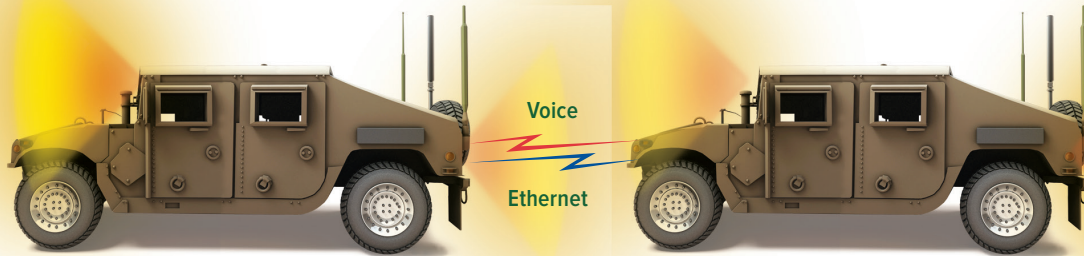
An electro-optical communications system is used as an extension to a vehicular intercom system to provide 2-way voice and data communications throughout a convoy. This system benefits counter IED operations under the prevention tenet lane in that the system may be used to maintain networked communications throughout the convoy while operating under radio silent or RF (Radio Frequency) denied (jammed) environments. The optical system operates in the infrared range, compatible with night vision systems, and uses LED (not laser) based emitters in eye-safe wavelengths. Optical signals are relayed between vehicles, the system works on the move or while halted (eliminating the need for field wire intercom connections).

This novel optical communications technology is differentiated from traditional Free Space Optics (FSO) on several fronts:

- Throughput optimized for tactical communications
- Low Size, Weight, and Power (SWaP)
- System compatible with other LightSpeed™ equipment, such as R10, B20, G10, etc.

- Anti-glint/Anti-glare optimization
- Secure communication between vehicles at up to 1 mile with 1-2 Mbps speed





The V10 extension to a vehicular intercom system is designed to work in the following scenarios.

- Close column convoys, mostly in urban areas, the vehicle intervals will be 20 to 50 meters apart at an average speed of 25 mph.
- For open column convoys, on “hardball” (improved) roads, the vehicle intervals will be 100 to 200 meters apart at speed of 25 mph and greater (40-55 more typical).
- Convoys range from 3-6 for tactical convoys out scouting to 15-30+ vehicles for a logistics convoy. In the case of the longer logistics convoy, the security vehicles, i.e. the MRAPS / M-ATVs, are typically interlaced within the other supply and maintenance vehicles. Either all or some of the vehicles will have the high speed “permanent mounted” IR or other medium type communications. V10 will interface with other communication systems including RF and SATCOM.
- An additional design consideration would support both a permanent and temporary application to provide communications throughout a long convoy chain. Components of V10 system can be clipped on behind the front windshield and/or temporarily attached.
- LightSpeed™ technology tested through a complete cycle of environmental conditions including fog and smoke. Even in 50-100 feet visibility heavy fog, system shows perfect performance at distances up to 5-6 times the visibility range



Fog and environmental testing

