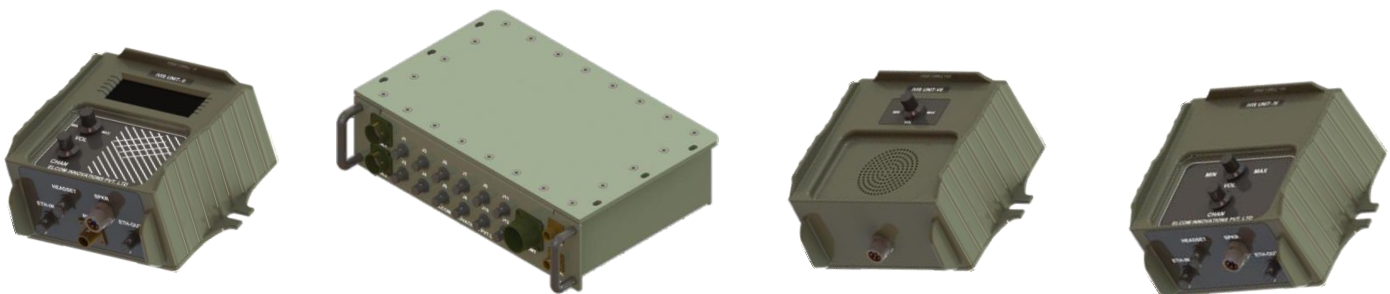


# iVIVS

## Intelligent Vehicle Intercom System



The iVIVS represents a family of next generation intercom systems and components for use in Military Tactical Vehicles.



# iVIS

## Intelligent Vehicle Intercom System

The iVIS (Intelligent Vehicle Intercom System) represents a family of next generation intercom systems and components for use in Military Tactical Vehicles (both Wheeled and Tracked). The system provides intercom services between commander, crew members and vehicle radio systems. The iVIS is a comprehensive solution for in-vehicle voice and data communication, tactical network connectivity and battle management system interoperability.

Designed and tested to MIL Standard specifications, the rugged iVIS interoperates with tactical as well as commercial radios. This allows crew members to communicate with dismounted personnel and other vehicles or command centers through HF, VHF, UHF, IP Radios and satellite communications technology.



As the iVIS is used in high noise environments, it supports Active Noise Reduction (ANR) headsets and other noise-reduction technologies and algorithms which ensure clear voice and acoustic protection. It is extremely robust, ruggedized, stand-alone system that can operate under severe environmental conditions and provides high reliability.

### Application

- iVIS is designed to meet modern communication needs of combat vehicle crew.
- It is best suited for communication needs of all types of light and heavy combat vehicles like Armored Personnel Carriers (APC) and Main Battle Tanks (MBT).

### Functionality and features

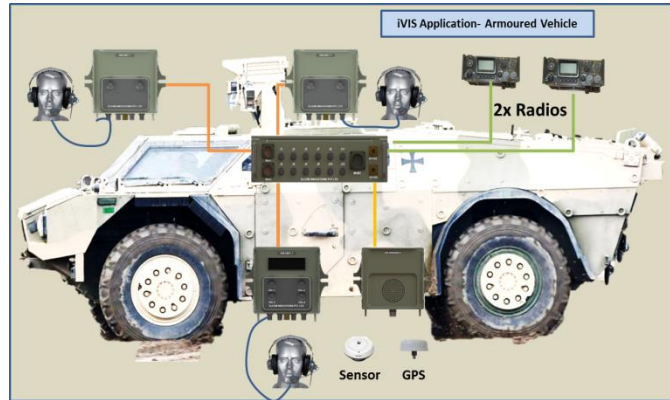
- Cost effective modular design with scalability.
- IP based broadband communication and networking.
- Supports one Commander and two Crew members and connectivity for 2 Combat Net Radios (CNR) in it's basic configuration.
- Expandability up to 12 crew members and 6 Combat Net Radios.
- Scalable from voice intercom to large Command Post Networking solutions
- Wideband digital communication for clear and noise free speech.
- Central power supply feed to all units.
- Built-in user friendly Graphical User Interface (GUI) for programming of various parameters (Optional).
- Monaural and binaural headsets compatibility.
- Integrated intercom and communication between vehicles.
- Seamless networking of all data devices inside vehicle and battle field formations.
- Use of state of art, ANR headsets and regular passive headsets for tactical wheeled and tracked vehicles.
- All radio ports with RS232 interface for command and control.
- Independent selection and control of radio by each crew member.
- Option of Rebroadcasting of radios in use.
- Individual volume control for crew members.
- Wireless/wired inter-connection between vehicles.
- Low power consumption by use of high efficiency power circuit and control circuits.
- Tailored system configuration to fit to mission scalability.
- Compact, light weight and rugged design to suit mission critical requirements.
- Option of connecting field telephone.
- Independent operation of all units. There is no master and no slave.
- Power on self test (POST) and built-in test equipment (BITE).
- Option of interface for vehicle alarms and speakers for voice broadcast

# Typical Applications

## Light Armoured Vehicle

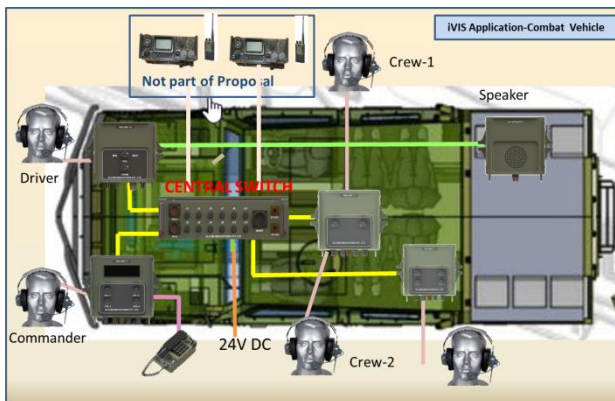
iVIS is originally designed as an intercom system, easy to operate, providing crystal clear voice communications inside the vehicle and over the radios by using Active Noise Reduction headsets. It is a high performance multimedia networking system that switches voice and data. The iVIS systems provides voice, data communications along with command and control of radios, integrated alarms and sensors, GPS and computer terminals.

- iVIS for a typical light armoured vehicle configuration consists of one Commander, two Crew members (driver and gunner) along with two Combat Net Radios (CNR).
- The main unit (Commander Unit) is connected to the power system of vehicle and distributes power to all other connected units.
- All units have independent and full control of CNR connected to the system, including re-broadcast.
- Each crew unit has independent volume control and optional display for desired information like alarms, channel number, frequency of operation etc.
- Choice of multiple modes of operations (Programs) along with CNR's channel selection



## Combat Vehicle

With the use of IP/Ethernet interfaces, iVIS enables users to inter-work with the tactical internet using standard IP-based applications. This means that users from one platform can gain access to other platforms by use of networking radios. iVIS has option of connecting multiport Ethernet switch, eliminating the need for any additional box.

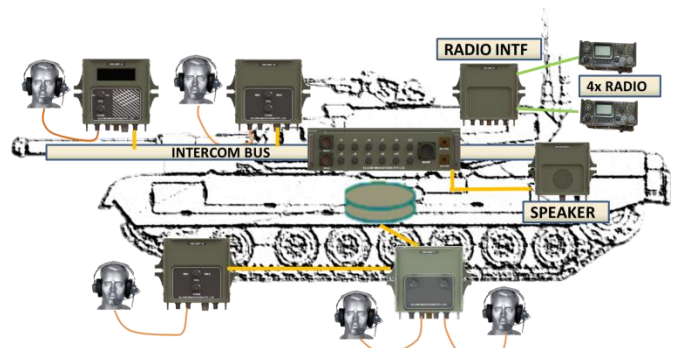


- iVIS for a typical Combat Vehicle configuration consists of two Commanders and up to 10 Crew members along with up to 6 CNRs.
- The central unit is typically a tactical Ethernet switch supporting Power over Ethernet, which is connected to the power system of vehicle and distributes power to all other connected units.
- Each Commander and Crew unit can drive external speaker and supports interface for vehicular alarms.
- Each crew unit has independent volume control and optional display for desired information like alarms, channel number, frequency of operation etc.

## Main Battle Tanks

iVIS design is based upon a clear understanding of customer needs and requirements. It can be tailored to fit specific platform configurations. With a high degree of interoperability between CNRs and other units, the family concept of design allows 'fit to mission' to provide cost effective solutions to meet current and future operational requirements. The family concept, adopted is scalable from light armoured vehicle to large combat vehicles. It is a true modular system and designed around 10/100Mb Ethernet ring.

- iVIS in a typical battle tank consists of two Commanders and four Crew members (Driver, Gunner, Monitor etc.) along with four CNRs.
- Vehicle power can be fed to any of units connected in the ring architecture, which in turn feeds power supply to other units.
- Advanced star and daisy chain architecture with no single point of failure.
- No master and no slave.
- Broadband IP connectivity to all nodes.
- Command and control of connected radios.
- Night parking mode of operation.



# Specifications

## System and Maintenance

- Field scalable by use of add on units
- Built In Test Equipment (BITE)
- Built-in protections and filters
- User friendly GUI for programming and maintenance

## Commander Unit

- 4x20 day visible OLED display
- User friendly GUI for programming and monitoring
- Direct selection of 4 nos. of pre-programmed mission critical Programs
- Option 12 position channels selector for accessing Intercom and Radio's
- Rotary volume control for connected headset
- Remote powered over (PoE) and provision for connecting vehicle power
- Optional provision for connection to loudspeaker or external alarms or additional headset
- Binaural headset compatibility

## Crew Unit

- Optional 4x20 OLED character display for monitoring
- Direct connection to one or two crew headset with independent volume control
- Option of channel selection knob upto 12 positions for channel and Radio channels selection
- Remote powered (PoE) and provision for connecting vehicle power
- Optional interface for vehicle Alarms and Speaker

## Radio Interface Unit

- 2 interfaces supported
- Remote powered (PoE) and provision for connecting vehicle power
- RS232/485 interface to Radios for command and control

## Speaker Accessory Unit

- Option of 2W/4W Speaker
- Volume control for speaker volume

## Central Switch Unit

- Tactical Ethernet switch with 4/8/12 Ethernet interfaces and WAN port.
- Powered using vehicle power
- Built-in protections and filters
- Can provide power and Ethernet to all units for operation and data transfer.
- Optional 4 no's of Power over Ethernet ports, 802.3at
- Option of 2 no's Radios connectivity Or 2 no Speakers connectivity Or 1 no of Radio and 1 no of speaker connectivity
- Option to connect alarm sensors

## Tactical ANR Headset

- Mono/Stereo variants with bail out
- 3 Position PTT (On/Off/Momentary)
- Operating noise environment up to 95dBA

## Field Telephone (AFT1001)

- CB/LB/Radio/Auto answer modes
- Access to CNRs and Crew members
- MIL grade and easy to carry

## Power Supply/vehicle power

DC in (nominal)	24V DC
Standard	MIL-STD-1275
PoE	PoE 802-3AT

## Optional Items

- Tactical ANR Headset (BOSE PICVC)
- Radio Adaptor Unit(RAU)
- Analog Field Phone (AFT1001)

## Environmental Compliance

Operating Temp.	-30°C to +60°C
Relative humidity	0 - 95 %
EMI/EMC	MIL-STD-461E
Ruggedization	MIL-STD-810G

## Dimension (LxBxH)

Commander, Crew, Radio, Speaker units	147x156x84 mm 180x156x84 mm with mounting
Central Switch	310x196x86 mm



Bose Headset (PICVC)



Passive Noise cancelling Headset



Field Telephone (AFT1001)



IP Field Telephone (IPT1001)



Configuration and Management PC/Laptop

This publication is not to be regarded as a complete system specification, or to be used as a contract document. We reserve the right to change the design or specifications without prior notice.