AT COMMUNICATION

INTER
NATIONAL

VEHICLE INTERCOM SYSTEM

MODULAR
SCALABLE
EASY TO USE
RE-CONFIGURABLE
TACTICAL RADIO INTERFACE

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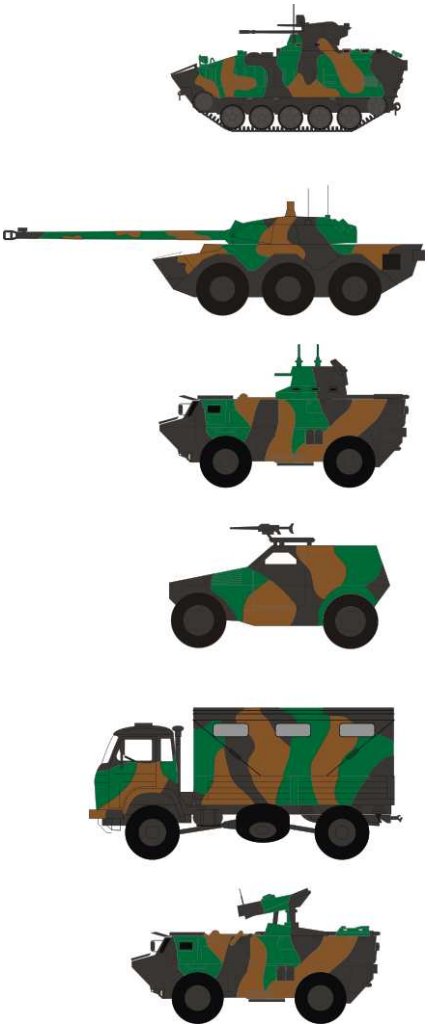
AT Vehicle Intercom System

In any sphere of operations, reliable communications are paramount. The AT Vehicle Intercom System (ATVIS) is a compact intercom/radio system designed for crew inter-communications and radio access (up to four) in military Command, Fighting and Support vehicles, tracked or wheeled, armoured or soft skinned. The modular architecture will enable compatibility to a wide variety of Military platforms and it can also be installed in vehicles used for close protection security scenarios

The ATVIS intercom system provides an easily and quickly installed alternative to traditional military intercoms. It is scalable to meet varying demands, easily installed and operated, and the ATVIS provides crisp, clear, full duplex intercom among crewmembers and access to installed radios whether military or PMR

The modular architecture also allows incremental growth to suit a wide range of requirements and a wide variety of functional capabilities to enable Users to choose their own configuration and has a simple infrastructure which can support installation in different platforms.

There are three main systems each capable of being augmented with either options or additional units to provide a capability applicable to User circumstances. They range from the basic wired system for minimum crewed platforms (“A” model), to a combination of wired and wireless system for multi crewed command and troop carrying platforms (“B” model), to the wired/wireless full functionality system generally utilised by front line armoured fighting platforms (“C” model). All the systems are audio for both intercom and radio, with control of radio functionality dependent on both User requirements and OEM disclosure; as an option, a data capability can be installed in both the “B” and “C” models.



Main System Modules	System A	System B	System C
Enhanced Master Control Unit (EMCU)			☑
Standard Master Control Unit (SMCU)	☑	☑	
Base Unit (BU)	☑	☑	☑
Radio Access Unit (RAU)		☑	
Intercom User Unit (IUU)		☑	
Drivers Unit (DU)			☑
Wireless belt Unit (WBU)		☑	☑
Power supply Unit (PSU)	☑	☑	☑

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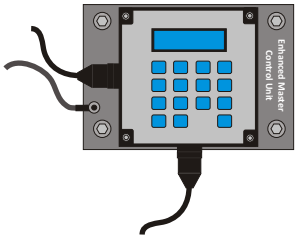
AT Vehicle Intercom System Modules

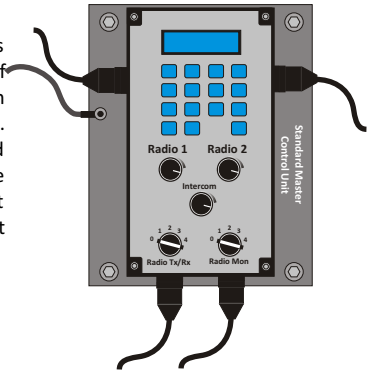
Enhanced Master Control Unit (EMCU)

This is used in the “C” model and provides control and customisation of the Intercom system (e.g. live or PTT, privacy, interrupt and broadcast capabilities), access to installed radios (e.g. PTT, channel select, live and monitor radio configuration), individual volume controls for radios and intercom with display and system check facility. Other functions can be programmed into the EMCU commensurate with customer requirements. Increased radio control can be achieved if the OEM provides the necessary protocols. The unit can accept up to two headsets.



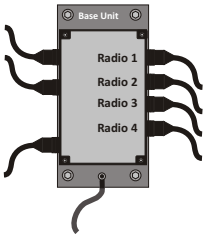
Standard Master Control Unit (SMCU)

This is used in both the “A” and “B” models and provides control and customisation of the intercom system (e. g. live or PTT, system volume) and access to installed radios (e.g. PTT, channel select, radio select for live and monitor working). Some functions are controlled via a keypad and display whilst others are by switches. The unit can accept up to two headsets.



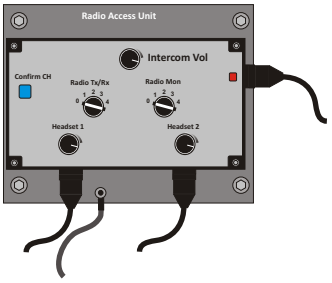
Base Unit (BU)

This is used in all models and provides the interface to the installed radios (up to four), and has the wireless control units installed. In addition, it is connected to the PSU and distributes power through the main interconnect cables to other installed units



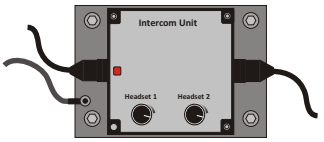
Radio Access Unit (RAU)

This is used in the “B” model and primarily in a Command platform where Staff Officers are located. Normally the RAU is located adjacent to the platform Commander and Driver who are connected into it. The platform Commander has access to both intercom and radio and through the front panel switches can select live or monitor facilities and control volume on those radios. The Driver has only an intercom capability and can be live to reduce workload. A standard or enhanced MCU can be located in the rear compartment of the Command platform to permit staff officers to control and access the radios



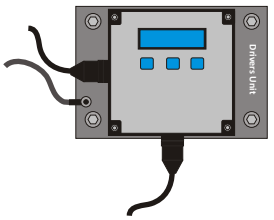
Intercom User unit (IUU)

This is used in the “B” model where it is installed in a troop carrying platform. It allows access to the platform intercom system for embarked troops whereby two of them can listen to the intercom audio and if necessary, can also listen to the incoming radio transmissions.



Drivers Unit (DU)

This is used in the “C” model in front line fighting platforms. It is a wireless system that connects directly to the Base Unit for intercom access only. As the majority of these platforms have a Rotary Based Joint (RBJ) for connectivity between turreted and non-turreted crew members this unit allows the RBJ to be bypassed.



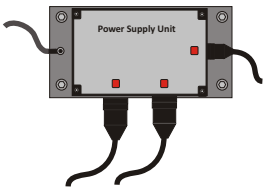
Wireless Belt Unit (WBU)

This is provided in “B” models normally for APC's that have a gun position in the rear compartment and “C” models for the Driver. The WBU is installed on the designated person and is connected to a headset. This allows communication to be achieved in wireless format to the rest of the crew through the platform intercom system.

Power Supply Unit (PSU)

This is used in all models and provides the interface between the platform supply and the audio system.

The ATVIS is compatible with most military and commercial radios. Radios transmit levels, receive levels and PTT keying schemes can be adjusted to suit host nation requirements. In the “B” model with MCU located in the rear compartment (Command platform), the radios can be configured for live and monitor to suit circumstances. In the “C” model radio access can also be configured separately for each crewmember dynamically to enable or disable transmit and receive capabilities for installed radios.



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AT Vehicle Intercom System A - Wired Basic Crew Platform

Functional Characteristics

The System "A" model is the basic Intercom/Radio system which comprises three units;
- Standard (SMCU) or Enhanced (EMCU) Master Control Unit
- Base Unit (BU)
- Power Supply Unit (PSU)

The System A is a wired intercom system normally for two crew members (Commander and Driver) who are directly connected to the MCU which in turn connects to the BU. The Driver is afforded Intercom only and the Commander has both Intercom and access to each of the installed radios (maximum of 4). The MCU provides control of the system plus control of the installed radios.

The MCU, at a minimum, can provide channel selection, volume control and PTT functions. Inputting of frequencies and mode changes can be controlled depending on the access to protocols.

Intercom functions as follows:
- Mic mute (through keypad on SMCU)
- Live mic (through keypad on SMCU)
- Volume switch on front panel
- Intercom interupt for master position
- Intercom privacy

Radio functionality as follows:
- Radio PTT (through pressel on helmet assembly)
- Live radio select switch on front panel
- Monitor radio select switch on front panel
- Individual radio volume switches on front panel
- Channel select (through keypad on SMCU)
- Mode select (through keypad onS MCU)
- Radio precedence (through keypad on SMCU)
- Radio privacy
- Radio precedence
- Emergency Interrupt
- Other functions can be programmed in to suit User requirements provided sufficient data on selected radio can be made available

General Features:
- Supports up to two crew members
- It can interface to most types of military, commercial and PMR radios.
- Data capability is an option
- Compact installation (three boxes) into a wide variety of platforms
- Simple to use, easy to maintain
- Crisp and clear audio full duplex on Intercom standard half duplex for radio
- Supports two users and can be set for priority usage by one User
- Can be fitted with anti vibration mounts for all terrain modes of operation
- Wide temperature capability -20°C to +75°C
- Accepts wide range of connectors from 38999 to standard commercial
- RFI and ESD suppression
- Low power consumption from 10 watts to 25 watts ("A" to "C" models)
- Input voltage range 16 volts dc to 34 volts dc
- Power routed via interconnecting cables
- Electret or condensing microphones can be used and wide impedance range for earpieces providing capability of accepting most helmet headset combinations
- Pressel assembly can provide mic conditioning and compression, amplification and power for ANR conditions
- All headset connections and pressel connections are fitted with snatch connectors
- Additional Master Control units can be fitted
- Additional Intercom User units can be fitted
- Simultaneous radio usage

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AT Vehicle Intercom System

Technical Specifications

Parameter	Value
Mounting Hardware	Available for tracked and wheeled platforms
Weight of complete system (4 boxes plus cables)	=4 kg
Input Voltage	19 - 36 VDC
Temperature range	-20 to 75 ºC
Environmental	- thermal shock - humidity from 0% to 95% - salt fog - vibration - physical shock - sand & dust - electromagnetic interference (EMI) - radio frequency interference (RFI)
Power Consumption	“A” model - =10W “B” model =12W “C” model =30W
Audio Distortion	Less than 3%
Radio Interface	PMR, Commercial and Military (selected radio to be detailed by customer)
Mic Response	300 - 3000 Hz (-3 dB)
Mic compatibility	Electret and condensing
Headset Interface	Interface able to a range of Headsets
Headphone Interface	Interface design allows for connection to low impedance sets
Pressel	Pressel Provides PTT and mic conditioning (limiting and compression) if required
Connectors	Mil Std 3899 and snatch connectors for Pressel and Headsets
ANR capability	DC power is routed through the interconnection cables to enable the use of Active Noise Reduction (ANR) equipped headgear
Colour Options	White, Desert Sand, Olive Drab, Black

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