

The **MESHnet Audio Interface Unit (AIU)** provides a remote extension of a MESHnet User Control Device (UCD) audio port, allowing for audio services to be extended across a vehicle slip-ring or rotary base junction, such as between a vehicle commander in a turret and a driver in the hull of an armoured vehicle.

The AIU to UCD connection maintains an analogue audio link between the UCD and AIU users in the event of MESHnet Local Area Network (LAN) failures, provided that power is available to the UCD. In addition to the headset and UCD Interfaces, the AIU provides connection to external audio sources, such as Two-Wire Intercom Network (TWIN) and vehicle audio alarm generators. The AIU also provides contact closures that can trigger the generation of a vehicle-wide audio alarm.

A rotary control enables the user to select between intercom, TWIN, radio nets and override as the active service. Intercom is selectable as live microphone or pressel-activated. Radio and intercom audio services are monitored even when they are not active. The active radio is always switched to the left channel/ear to maintain port compatibility with single-eared audio ancillaries such as a handset or a loudspeaker. The intercom channel is played in both ears.

The TWIN enables the Intercom to be linked to other vehicles or remote users via 2-wire D10 field cable. Up to 20 vehicles, separated by up to 400 m, can be connected together via the TWIN using a MESHnet TWIN Distribution Box (TDB). A single remote user can be separated up to 2 km using a TWIN Ancillary. A spring-return TWIN CALL function on the AIU allows the operator to issue a tone over the crew intercom to call other TWIN-connected vehicles or remote users.



Features:

- Separate controls to independently adjust volume of left and right audio channels
- Vehicle-based intercom circuits
- Radio access (2 radio nets)
- Inter-vehicle intercom circuits via TWIN
- Override to enable operator control over other vehicle communications
- Platform audio alarms (3) mixed into the intercom channel and distributed to all connected users. Audio alarms can be sourced from an external audio source or locally generated by a contact closure.

Technical Specifications:

Interfaces:

- External Audio Input/Output port – for TWIN and external alarm connections
- Headset port (compatible with passive and active headsets)
- UCD Interface port – provides radio and intercom access over the LAN, as well as power for the AIU and connected active ancillaries

Physical Characteristics:

- Height 142 mm (5.59 inches)
- Width 152 mm (5.97 inches)
- Depth 89 mm (3.50 inches)
- Weight 1.06 kg (less than 2.35 pounds)

Input Power Requirements :

- 24 VDC (regulated power from UCD)
- 2.4 Watts (excluding audio ancillaries)

Audio:

- Input-to-output frequency response is from 300 to 3400 Hz
- Input-to-output Signal-to-Noise performance of greater than 48 dB
- Input-to-output harmonic distortion of less than 1%

Reliability:

- Mean Time Between Failure (MTBF): Greater than 15,000 hours
- Mean Time To Repair (MTTR): Less than 30 minutes

Environmental Characteristics (MIL-STD 810D):

- -40°C to +63°C - (40°F to +145°F) operating
- -51°C to +71°C (-60°F to +160°F) storage
- Vibration, transit drop, salt fog, sand and dust, rain, fluid contamination, immersion, NBC decontamination, fungus, altitude

Electromagnetic Effects:

MIL-STD 461E, ESD, TREE, TEMPEST

Related Products:

- MESHnet UCD for user access to audio services
- Audio Ancillaries
- MESHnet TWIN Distribution Box
- TWIN Handset

For more information, please contact:
Communications, Command, Control &
Integrated Sensor Systems

Business Development
Tel: 403-295-5414
Fax: 403-730-1096
E-mail: busdev.calgary@gdcanada.com
Website: www.gdcanada.com