



ACE Communications Unit (ACU)

ACUs provide remote audio input and output interfaces to peripherals over ASTi's Ethernet-based ACENet architecture. Audio and I/O are digitally distributed between ACUs and Target modeling platforms for maximum noise rejection and reliability. The ACU is desirable in situations that require enhanced control interfaces (discrete analog and digital interfaces), sensing dual press-to-talk (PTT) inputs (radio and intercom), or where the operator interface is the ASTi 4-channel selector PTT.

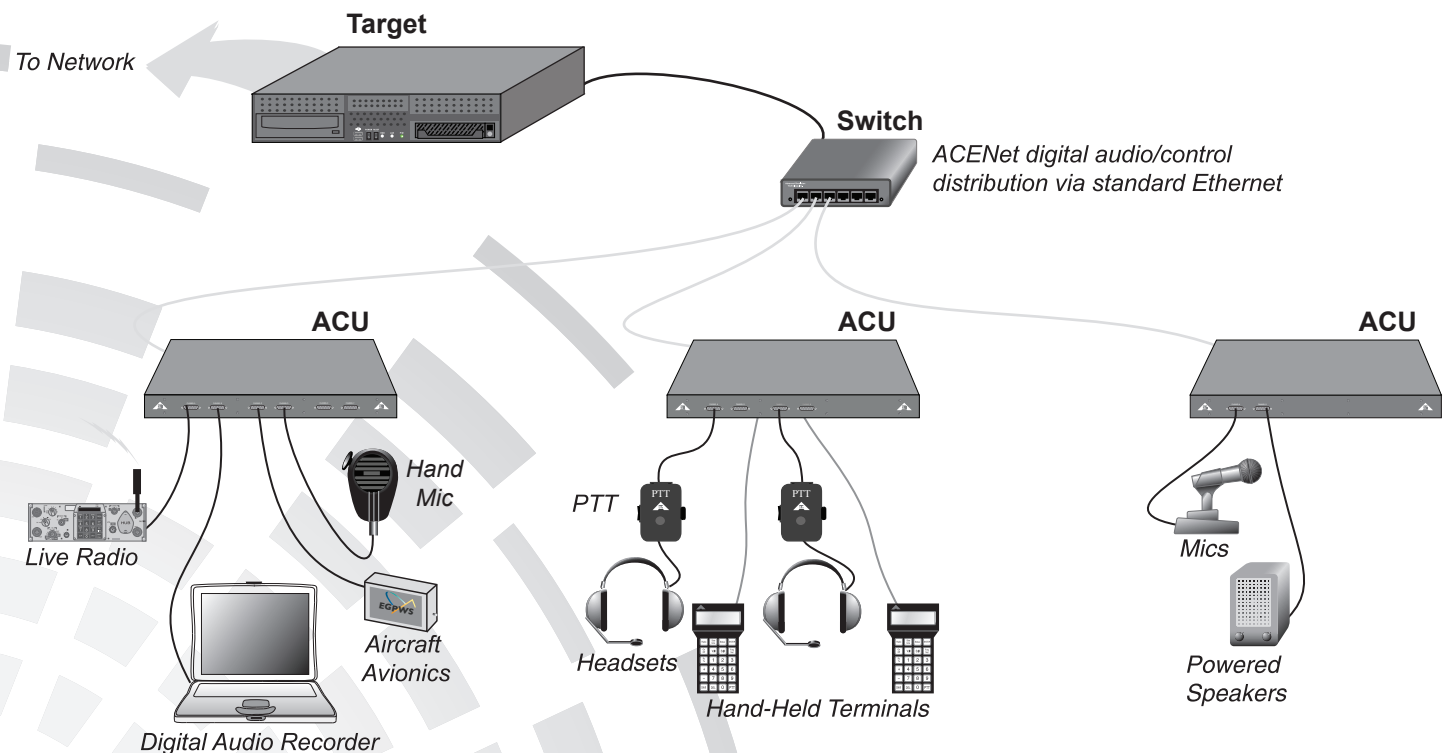
High Fidelity Audio: 48kHz digital audio distribution and balanced pro-audio interfaces.

Software Configurable: Adjustable amp/preamp gains and mic power selection to accommodate a wide range of audio peripherals such as: military and commercial headsets, audio amps, speakers, mics, recording equipment, and real radio/communications equipment

Serial Data Ports: Plug-and-play control interface for simulated communications panels, hand-held terminals and live radio control into the communications environment

Integrated Discrete Control Interfaces: Configurable digital/analog I/O provides direct integration of PTT units and volume controls. Analog inputs may operate in digital mode (contact closure sensing), or as a conventional 8-bit analog input.

Rugged Packaging: Available in 2, 4, and 6 channel; 1U high; 19-inch rackmount configurations.



ACU Features

Audio I/O

- 2, 4, or 6 software-configurable audio inputs/ outputs provide support for multiple operators and audio equipment
- Balanced inputs for increased noise immunity and ease of interfacing
- 16-bit delta/sigma converters for superior sound quality
- Ability to drive military headsets directly
- Software configurable input and output gains
- Ideal for dual sensing PTT inputs & ASTi 4 Channel PTT
- Software selectable microphone power

Digital I/O

- Three digital inputs supplied with each audio channel for direct connection of PTT, reducing delays and voice cutoff; may be used in digital (on/off) or analog (8-bit) operating modes
- Opto-isolated digital output supplied with each audio channel for sending PTT signals to real radio or comms equipment, or driving LEDs

Serial I/O

- One serial port per channel for interfacing to simulated communications panels, ASTi hand-held terminals, and general-purpose I/O modules

ACENet / ACU Architecture

- Provides multiple user interfaces and a highly-scalable architecture
- ACENet allows ACU2 installation close to operators and equipment, thousands of feet from Target using fiber optic media.
- The ACU and ACENet architecture reduces cabling requirements and noise susceptibility.

Packaging

- 1U, 19-inch rackmount unit

General

- In the Telestra 4 product suite, the ACE-RIU (Remote Interface Unit) and ACU2 also provide remote audio distribution through the ACENet architecture. Contact ASTi for more information on which audio module best meets your requirements.

ACU Specifications

Audio Inputs (per channel)

- Input Impedance: 32 k Ω line mode, 1.5 k Ω mic mode
- Input Level: ± 2.25 V peak max
- Input Gain: -10 to +50 dB s/w configurable

Audio Outputs (per channel)

- Output Impedance: 12 Ω
- Output Level: 1.7 V_{pp} RMS into 8 Ω
- Output Power: 0.5 W max.

Control Inputs

- Quantity: 3 per audio channel (use as digital or analog input)
- Configuration: 6 pins per audio connector

Digital Outputs

- Quantity: One per audio channel
- Configuration: Opto-isolated, 120 mA
2 pins on each audio connector

Serial Ports

- Quantity: 2, 4, or 6 ports
- Type: RS-422
- Connection: Standard RJ-12 jack (6 pin)

ACENet Connectors

- Connection: Two ACENet ports
RJ-45 Female connection

Mechanical

- Approximate Size: 1.7" high x 16.9" wide x 12" deep
- Mounting: 1U, 19" rackmount

General

- Power: +15 VDC, 3 A, (plug-in AC/ DC converter supplied with each unit)
- Audio Connection: 15-pin, female sub-min "D" (1 audio input/output and 1 digital input/output per connector)
- ACENet Cabling: Category 5e cable or better

