**Specifications**

**Functional**
Compliant with ARINC standards 618, 619, 620, 622, 623, 724B and 758

**External Interfaces**
- ARINC 750 VHF Radio (UL-800 only)
- ARINC 741 SatCom (supports FANS 1/A+ remote oceanic)
- Iridium/Inmarsat SatCom Telephony
- ARINC 604 Central Maintenance Computer
- ARINC 740 / 744 / 744A Printer
- Serial Printer
- Universal Avionics Ethernet data loader
- SSDTU or DTU-100

**Hardware**
- Size: 1 MLC
- Height: 7.64 in.
- Width: 0.99 in.
- Depth: 15.23 in.
- Weight: UL-800: 3.10 lbs.
- UL-801: 4.54 lbs.
- Internal VHF Radio (UL-801 only): 20 watt; 118-137 MHz, 25 kHz spacing
- Antenna: 50 ohm passive VHF, 118-137 MHz
- Configuration Module
- Built in Test Equipment (BITE)

**Inputs/Outputs**
- ARINC 429: 16 input / 8 output
- RS-422/423: 6 input / 6 output
- RS-232: 6 input / 6 output
- Ethernet: 3 10/100 Base-T
- Discretes: 10 input / 14 output

**Power**
- 28 VDC nominal
- UL-800: 15 watts typical
- UL-801: 96 watts typical
- FAA TSO/ETSO
- C160 VDL Mode 2 Communications Equipment

**RTCA Documents**
- Hardware: DO-160F Environmental Categories
- Software: DO-178B Level C

**Features and capabilities are representative of systems at time of printing.**

**UniLink™ Communications Management Unit UL-800/801**
- Full ACARS/CMU Functionality
- ACARS VDL Mode 2 Capability
- FANS CPDLC and ADS-C
- European ATN B1 CPDLC (DLS IR)
- CPDLC Departure Clearance (DCL)

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Increasingly congested skies demand a data link system with optimum management of two-way air-to-ground communications. The Universal Avionics UniLink UL-800 and UL-801 Communications Management Unit (CMU) provides superior operations and control of digital communications between the pilot and Air Traffic Controller (ATC) in the exceedingly complex Communication, Navigation, Surveillance (CNS) Air Traffic Management (ATM) environment.

Combined with the Universal Avionics Satellite-Based Augmentation System (SBAS)–Flight Management Systems (FMS), the UniLink UL-800/801 CMU provides an opportunity to take full advantage of the safety and efficiency benefits that advanced data link capabilities offer.

A Platform for the Future CNS/ATM Environment

Equipping your aircraft with the UniLink UL-800/801 CMU provides compatibility with current and future capabilities of worldwide data link communications.

- **Future Air Navigation System (FANS)** 1/A+ and aeroneautical telecommunications networks
- **Universal Aeronautical Satellite-Based Augmentation System (SBAS)**
- **Future Air Navigation System (FANS)** 1/A+

North Atlantic Tracks

The UniLink UL-800/801 CMU is fully compatible with the FANS 1/A+ mandate affecting operators in the North Atlantic Track System (NATS) and some Pacific Ocean routes. With FANS 1/A+ capabilities, operators gain preferred routing and options for altitudes with more favorable winds when in the NATS. Preferred routing provides lower fuel burn and shorter station-to-station times, helping operators gain efficiencies that save fuel, time, and money.

European Airspace

Compatibility with the ATN internetwork architecture that is the future of data link communications is provided with the UniLink UL-800/801 CMU. This network allows ground / ground, air / ground, and avionic data sub-networks to interoperate by adopting common interface services and protocols based on the International Organization for Standardization (ISO) Open Systems Interconnection (OSI) Reference Model.

UniLink also provides the ATN B1 CPDLC functionality, outlined in the SESAR Data Link Services Implementing Rule (DSLR), which will be mandated in Europe. The DSLR, formally known as the Link 2000+ Programme, requires all existing aircraft operating above FL285 in European airspace to be retrofitted for ATN B1 CPDLC by February 2020 for both retrofit and forward fit installations, unless exempt from the requirement.

U.S. National Airspace System

The FAA’s DataComm is a term applicable to a growing set of digital communication elements and systems including CPDLC. The FANS capability embedded in the UniLink UL-800/801 CMU consists of both CPDLC and ADS-C functionality and provides a means for direct communication between the pilot and ATC through CPDLC technology.

Data Comm is in place and enabled today, continuing to expand across the U.S. as the FAA works toward its NextGen initiatives.

Data Comm also includes CPDLC DCL, which affords pilots the benefit of requesting digital departure clearances through the UniLink UL-800/801 CMU, as well as sending a digitally “texted” message over the VHF spectrum through a LOS VHF radio break to submit their request. Simply perform a digitally “texted” message over the VHF spectrum through a LOS VHF radio interfaced with the UniLink. The UniLink UL-800/801 model has an integral VHF Comm radio to provide the communication link.

Features

- Provides reliable digital communication between the aircraft and the ground (to air and air to ground text messaging)
- Meets the FANS 1/A+ and European ATN B1 mandates
- ACARS functions including Out–Off–On–In (OOOI) and, Airline Operational Control (AOC)
- Auto aircraft position reporting and aircraft tracking
- Updated weather information including text
- AOC messaging, FANS, and ATN B1 message handling and upload/downlink messages from peripheral systems
- FMS Flight Plan upload from service provider
- Upload forecast winds

Pilots can take advantage of CPDLC DCL technology to put them in the front of the line, eliminating the need to wait for radio breaks to submit their request. Simply perform a digitally “texted” message over the VHF spectrum through a LOS VHF radio interfaced with the UniLink. The UniLink UL-800/801 model has an integral VHF Comm radio to provide the communication link.

Flight Information Services

Flight Information Services are available through the VHF radio or a capable approved Inmarsat Packet Mode Data or Iridium Short Burst Data (SBDS) SATCOM system.

- Pre-departure clearance
- Oceanic clearance
- D-ATIS
- TPIP
- Pushback clearance
- Expected taxi clearance
- CPDLC DCL

Data Link

UniLink’s independent menu format software integrates seamlessly with the FMSs and provides easy access for sending and receiving data. UniLink affords data link opportunities for:

- Air to ground text messaging via service provider, accessed via internet, fax or email
- Ground to air text messaging via service provider, accessed via internet
- Automatic position reporting (aircraft tracking via service provider)
- ETA updates
- Text weather information including TAF, METAR, SIGMETS, and winds aloft

Routing

The UniLink UL-800/801 supports Air Traffic Services (ATS) Facilities Notification (AFN), allowing the aircraft and the ATS provider to exchange addresses as well as information about the FANS application supported. Communications may be routed using compatible Inmarsat or Iridium satellite systems and via the ACRS high-speed VHF Data Link (VDL) Mode 2 network when within range of these facilities. For increased installation flexibility, the UniLink UL-800/801 model features an internal VHF Data Radio (VDR) that saves weight and space. The UL-800 supports interface to an external VDL Mode 2 compliant VOR.

Airline Operations

The UniLink can downlink aircraft acquired data for maintenance and operational analysis including engine data from a Central Maintenance Computer. Meteorological data collection and reporting is supported, as well as UniLink’s database-driven user interface and message set is easily customized to match airline operational requirements and is uploaded into UniLink without affecting product software or certification status.

Interfases

The UniLink UL-800/801 supports Universal Avionics FMS installations, Multi-Function Control Display Unit (MCDU), and ARINC 702 communication protocol. Support for ARINC 759 interface for use with other capable MCDU display units is standard on UniLink.

In installations where FANS approval is sought, a Cockpit Voice Recorder (CVR) capable of recording data link messages is required as part of the system installation. The UniLink UL-800/801 supports transmission of AOC, CPDLC, and FANS data link recording, interfacing with the Universal Avionics CVR or Cockpit Voice and Flight Data Recorder (CVFDR) or other capable systems, via an ARINC 429 data bus.

Field-Loadable Databases

The customer database-driven interface and message set can be customized to match airline or business operational requirements. UniLink uses three databases: customer (which includes the Aeronautical Operational Control (AOC) database), geographic and ATC. Databases are installed by Universal Avionics and also in the field by customers using a Universal Avionics data loading DTU-100 or Solid State Data Transfer Unit (SSDTU). UniLink enables application software to be loaded in the field without removal of the equipment from the aircraft installation.
Specifications

Functional
Compliant with ARINC standards 618, 619, 620, 622, 623, 724B and 758
External Interfaces
ARINC 750 VHF Radio (UL-800 only)
ARINC 741 SatCom (supports FANS 1/A+ remote oceanic)
Iridium/Inmarsat SatCom Telephony
ARINC 604 Central Maintenance Computer
ARINC 740 / 744 / 744A Printer
Serial Printer
Universal Avionics Ethernet dataloader
Hardware
Size: 1 MCU
Height: 7.64 in.
Width: 0.99 in.
Depth: 15.23 in.
Weight: UL-800: 3.10 lbs.
UL-801: 4.54 lbs.
Internal VDR Radio (UL-801 only): 20 watt; 118-137 MHz, 25 kHz spacing
Antenna: 30 Ohm passive VHF, 118-137 MHz
Configuration Module
Built-in Test Equipment (BITE)
Inputs/Outputs
ARINC 429: 16 input / 8-output
RS-422/322: 6 input / 6-output
RS-232 Diagnostics Port: 1 input / 1-output
Ethernet: 3 10/100 Base-T
Discretes: 10 input / 14-output
Power
28 VDC nominal
UL-800: 15 watts typical
UL-801: 96 watts typical
FAA TSO/ETSO
C160 VDL Mode 2 Communications Equipment
RTCA Documents
Hardware: DO-160F Environmental Categories
Software: DO-178B Level C
Features and capabilities are representative of systems at time of printing.
Please contact your Universal Avionics sales representative for the latest system enhancements.
Specifications contained herein are subject to change without notice.