Telephonics' Secure Digital Intercommunications (SDI) system provides our global customers with a state-of-the-art, lightweight, low-power and open-architecture solution. A robust backup system and redundant interface architecture provides platform controllers, fixed- and rotary-wing aircraft and ground control shelters with battle-proven reliability, even in the most challenging of environments.

SDI Capabilities

Telephonics' SDI provides advanced inter-communications capabilities to over 50 platforms and programs worldwide. By interfacing with platform computers and acting as a traditional radio control and intercom, SDI acts as a gateway to advanced networked communication systems. SDI is scalable to fit into various sized platforms, including small aircraft to large command and control platforms.

System Configuration

SDI consists of two major Line Replaceable Units (LRUs), the Control Audio Panel (CAP) and the Interface Control Unit (ICU). The CAP provides the basic operator interface for all crew members with assignable menu-driven controls and indicators that are available in several sizes and configurations. The ICU provides system-wide digital audio integration and a distribution matrix for all platform communication assets. All radios, audio inputs, warnings and aircraft interfaces are connected to the ICU. Digital audio interface selector panels are also available.

All routing and distribution is accomplished by means of a digital switching matrix contained within the ICU, enabling channels required for emergency operation. The system includes MIL-STD-1553, Ethernet, audible Caution and Warning System (CAWS) generation, Adaptive Noise Cancellation (ANC) and Voice over Internet Protocol (VoIP).
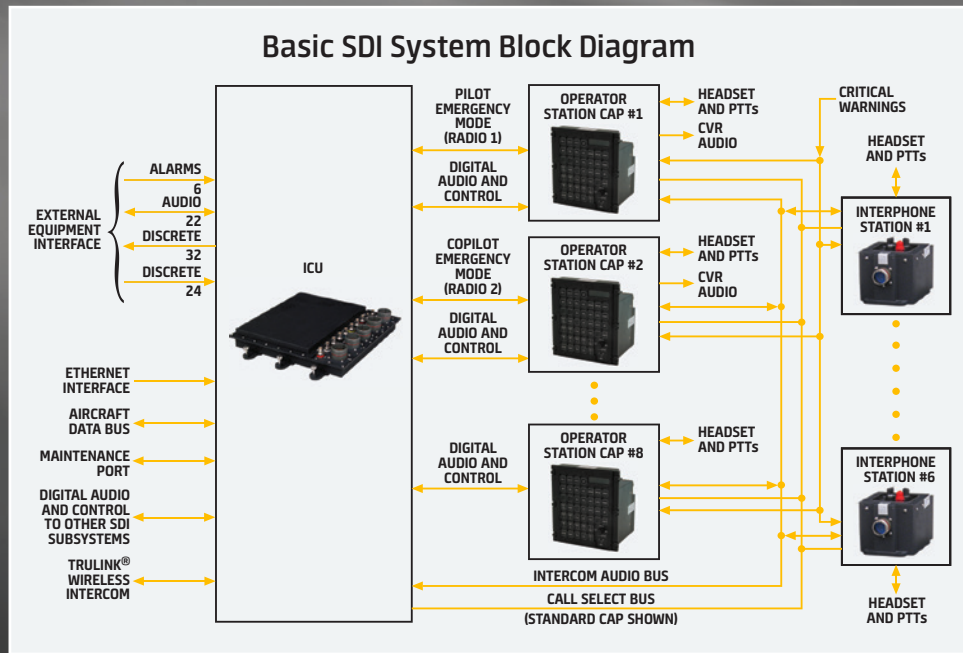
Key Features

- Digital audio and control minimizes wiring, enhances immunity to electromagnetic interface and provides increased functional capabilities
- Fully qualified to DO-160D, MIL-STD-810 and MIL-STD-461/462
- NSTISSAM 1-92 Level 2 and 2-95
- FAA certification solutions available
- Three level Built-In-Test (BIT)
- Interfaces for digital, radio and voice on network interfaces

Secure Digital Intercommunications

Interface Control Unit (ICU)

Extended Control Audio Panel (EXCAP)

Low Profile Control Audio Panel (LPCAP)

Medium Control Audio Panel (MCAP)

Interphone Station

LRU	Dimensions in. (mm), H x W x D			Weight, lb. (Kg)	Power, Watts +28 Vdc	MTBF, Hours (AIC)	MTBF, Hours (RW)
ICU	3.00 (76.2)	12.00 (304.8)	12.00 (304.8)	9.0 (4.1)	28.0	>33K	>11K
EXCAP	6.38 (123.8)	5.75 (146.0)	5.50 (139.7)	5.3 (2.4)	18.0	>54K	>16K
LPCAP	2.65 (67.3)	5.75 (146.0)	6.50 (165.1)	2.5 (1.1)	12.0	>61K	>17K
MCAP	3.00 (76.2)	5.75 (146.0)	6.50 (165.1)	2.5 (1.0)	15.5	>55K	>16K
Interphone Station	3.91 (99.3)	4.27 (108.5)	5.13 (130.3)	3.0 (1.3)	9.0	>82K	>25K

Basic SDI System Block Diagram

Key Features

- Common hardware, low life-cycle cost
- Modules support growth of up to 32 crew stations and 88 audio channels with no degradation in performance
- Open system architecture network structure based on accepted industry standards
- Full system redundancy for mission-critical crew stations

- Ethernet interface
- Low Size, Weight and Power-Cost (SWaP-C)
- Meets red/black isolation requirements
- Accommodates simulcast and radio relay operations
- Backup mode for emergency operation
- Accommodates wireless crew members (TruLink®)

For additional information, contact Telephonics at 631.755.7000 or visit www.telephonics.com.

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