




*Doc No: AES/OFC/Spec/01.*

# **Specification for**

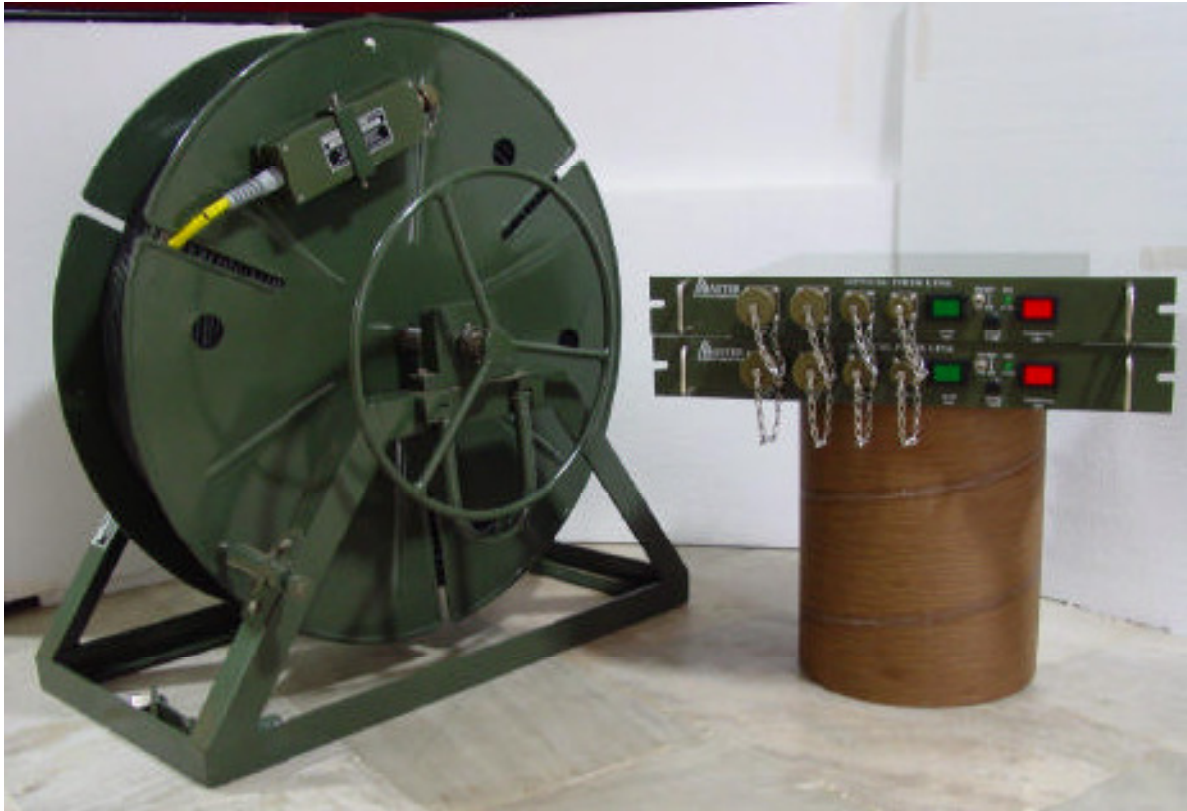
## **Fibre Optic Voice Data Link (OFC Link)**

**Areca Embedded systems pvt Ltd**  
*(An ISO9001:2000 certified company)*

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## Fibre Optic Voice Data Link (OFC Link)



Fiber optic voice data link is specifically designed for use in harsh environments and battlefield applications. The system consists of two units and a two core fiber optic cable rated for battlefield applications. Both the units are identical. This equipment was designed for use in Prithvi missile system. It can be used in suitable application. The cable winch can also be designed to the requirement.



## Specifications:

### General:

- High speed 8bit Micro -controller based.
- Voice companding
- High-speed serial controllers at the input.
- Fail proof circuitry for high voltage inputs.

### Communication channels

- 4 Nos. RS422 compatible serial channels at 9.6k or 19.2k baud switch selectable (full duplex)
- 1 No. Voice channel
- 16 digital signals (bi-directional)
  - 8 with 28VDC/Open level converters (one used as interlock)
  - 8 with differential TTL inputs.

### Input Characteristics (Electrical I/F)

#### Voice:

600Ω (transformer coupled) 2 Wire input

#### Serial inputs:

- Optically isolated
- Load resistance equivalent to 220 ohms in series with a LED.

#### Digital inputs:

- Optically isolated
- Load resistance equivalent to 220 ohms in series with a LED for differential inputs.
- Load resistance equivalent to 2.7K in series with a LED for 28V inputs.



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**Output characteristics (Electrical I/F)**

Voice:

- 2 wire Output
- 600Ω output impedance (transformer coupled)

Serial outputs:

- Standard RS422 transmitters. (26C31)
- Maximum load current 20mA
- Short circuit protected

Digital outputs:

- Differential Outputs:
  - 26C31 line driver output(Max. load current 20mA)
- 28V outputs:
  - NO contacts with 28V to one end
  - Separate switch to control 28V feed

**Multiplexing**

- Method Time Division Multiplexing
- Frame size 48 bits including sync.
- Frame rate 8000 frames/sec
- Sampling rate
  - Voice : 8kHz
  - Serial channels : 2000 bytes/sec/channel
  - Digital inputs : 360 bytes/sec

**Power Supply**

28 ± 4V DC. The internal circuits are isolated from this power supply.

**Fiber optic Interface**

- 850nm transmitter and receiver pair for each fiber link.

- 2 core multimode battlefield rated cable on winch
- Transmitter/Receiver with the fiber optic end connections are mounted in a separate enclosure.
- Interconnection between the multiplexer and the transmitter/receiver is electrical.

**Environmental**

Temperature

Operating : -20 to +55°C  
Storage : -30 to +65°C

Humidity

95% non-condensing

Damp Heat:

45°C at max. humidity

EMI/EMC:

Meets RS-03, CS-02, CS-06, ESD per MIL-STD-461C


Vibration:

Sine  
5 –500 Hz, 1 oct/min  
30 min/axis, 3 axes, 1.5g/6mm

**Enclosure:**

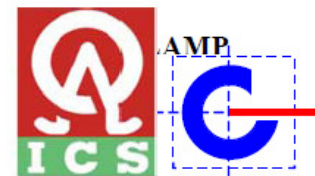
Aluminium casting

Qualified for Salt spray and contamination tests

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**Other related Products:**

- PCI bus based GPS time synchronizer
- IRIG time code generator/reader
- PCI bus based IRIG time reader
- Redundant Voice-data link with hot standby
- Fibre Optic OLTE for telemetry systems up to 5 MBPS
- Universal Fibre Optic multiplexer (User configurable inputs and outputs)



ISO 9001 : 2000  
Reg.No:RQ91/1725

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