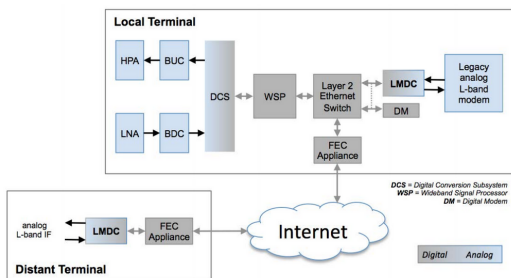


Legacy Modem Data Converter (LMDC)

Interface Analog L-band Modems with Digital IF SATCOM Terminals

The Legacy Modem Data Converter (LMDC) provides a bridge between analog IF and Digital IF signal domains. The LMDC is compliant with the ANSI/TIA 5041 Future Advanced SATCOM Technologies (FAST) Open Standard Digital IF Interface (OSDI). The LMDC allows legacy modems to transport signal over a Digital IF network, either within a local SATCOM terminal or to a distant terminal over fiber. When the LMDC is coupled with a FAST OSDI-compliant Forward Erasure Correction appliance, Digital IF may also be streamed over the open internet. An example application is illustrated below with the LMDC units providing support for both a local FAST terminal and a distant legacy terminal.



Features & Benefits

- Conversion between Digital IF and analog signal domains
- Enables dynamic allocation and switching of individual carriers among various antennas/feeds
- Compliant with the TIA/ANSI 5041 FAST Open Standard Digital IF Interface (OSDI)
- Improved signal switching and routing to multiple antennas/feeds
- Enables traffic distribution over multiple terminals, both local and remote
- Sampled bandwidth covers full 5041 specification from 150 Msps down to 9.2 Ksps
- Retains investment in analog modem inventory
- Transports carriers terrestrially over long distances without loss of fidelity
- Compatible with both legacy analog L-band IF terminals and Digital IF terminals
- Compatible with FAST OSDI compliant Forward Error Correction (FEC) appliances for transport over lossy network connections
- Enables spatial diversity for contested environments and fading mitigation

LMDC Applications

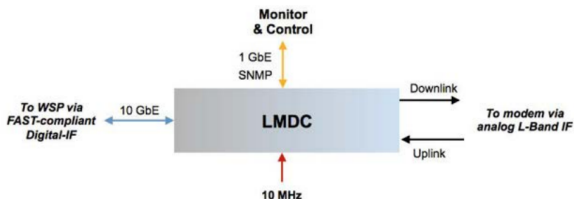
- Allows special users to maintain autonomy and control over their modems at a remote location
- Allows use of the DODIN or commercial transport networks
- Leverages commercial SATCOM gateways that cannot support DoD TRANSEC requirements
- Operational flexibility for satisfying any SATCOM mission from any satellite terminal at any site
- Diversity and continuity of operations (COOP)

LMDC Capabilities

| | |
|--|--|
| Analog Signal Interfaces | Tunable from 950MHz to 2150MHz (L-band) Tunable from 2GHz to 2.85GHz (S-band) 70MHz IF |
| Digital IF Signal Interface | 10 GbE (TIA/ANSI 504I Compliant) |
| Carrier Capacity | Supports single carrier or composite signals |
| Analog Clock Interface | 10 MHz IN |
| Instantaneous Bandwidth | 125MHz (L-band and S-band) |
| Monitor & Control Interface | 1 GbE SNMP |
| Total Signal Power | Receive: -5 dBm Max Transmit: -40 to 0 dBm |
| Chassis | Half rack-mount, 1 RU (8.2"x16"x1.7") Tunable from 950MHz to 2150MHz (L-band) < 10 lbs |

Interfaces

The LMDC interfaces with the WSP via an Ethernet Switch and a 10 GbE connection. This Ethernet connection provides sufficient bandwidth for 125MHz of analog bandwidth with as many carriers as are contained within that analog bandwidth. Monitor and control is provided with SNMP over a 1 GbE connection. Two analog L-band and S-band interfaces are provided. 70MHz interface is also available. A 10 MHz reference is used to synchronize the LMDC with the terminal equipment.



For further information on our products,
 contact us at info@welkinsciences.com.