AL1110 SERIAL PCM INPUT NODE (SPIN)
AL1111 SERIAL PCM OUTPUT NODE (SPON)

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FEATURES

- 10 / 100 / 1000 Mbps Ethernet connectivity
- TCP / IP, UDP / IP (Unicast, Multicast, and Broadcast), TMoIP, ICMP, IGMPv2, SNMPv2, DHCP, ARP, and Telnet protocols
- Serial PCM channel (TTL and RS-422) up to 35 Mbps
- Time code input (IRIG A/B/G) with auto recognition and flywheel capability
- Data packet structure
  - ◊ Raw data IP packets
  - ◊ PCM frame aligned IP packets
- OS independent remote control

OVERVIEW

The AL1110 SPIN and AL1111 SPON are part of a series of Apogee Labs Data Network Appliances (DNA) that provide a flexible, scalable and cost effective Ethernet transport for serial PCM data, audio, and video (NTSC and PAL). The SPIN and SPON enable PCM data and clock with serial rates up to 35 Mbps to be sent across LAN's and WAN's at network speeds of 10/100/1000 Mbps with minimal overhead. The DNA series is built on a core technology that supports transport speeds in excess of 500 Mbps thus allowing for future expansion to utilize the capabilities of higher bandwidth network designs.

The SPIN and SPON were developed with both the novice and experienced network integrator in mind. Novice users need only modify a minimal number of settings to begin transmitting data over the network; whereas advanced users may modify packet sizes, port numbers, protocols, MTU sizes, and other lower level settings.

The DNA series was designed to minimize latency as well as time-stamp data packets for time correlation on mission critical events. Time stamps may be generated by use of the SPIN's internal clock or a user supplied IRIG A, B or G time reference.

Another advantage is the plug-n-play interconnectivity of these modules with existing standards and legacy equipment. The packetized data stream may be sent directly to systems on your network or anywhere on the world-wide web such as remote monitoring or display stations, data processors or mass storage devices.

SPECIFICATIONS

INPUTS:

IRIG A/B/G
Input signal level: 0.2Vp-p min / 8.5Vp-p max
Input impedance: 600Ω +/- 5% AC-coupled
Maximum input without damage: +/- 15V

TTL DATA/CLOCK
TTL level signals
Input impedance: 75Ω or 50Ω +/- 5% user selectable
Input capacitance: <25pF at 1Mbps
User programmable data rate: 1000bps – 35Mbps
NRZ-L Data with selectable 0 or 180°
Automatic frequency tracking
User Programmable polarities for data/clock

RS-422 DATA/CLOCK
Signal levels in accordance with TIA/EIA-422-B
Input impedance 110Ω line to line
Input capacitance in accordance with TIA/EIA-422-B
User programmable data rate: 1000bps – 35Mbps
NRZ-L Data with 0° clock
Automatic frequency tracking
User programmable polarities for data/clock

ETHERNET
Data Rate: 10/100/1000 Mbps

GENERAL:

Packet/Data overhead <0.1% when optimally configured
System latency <10ms when optimally configured
Factory default reset button

USER INTERFACES:

HTTP web server, compatible web browsers Firefox 1.5+ / Windows Explorer 6+ compatible
APEX
NNAT
SNMPv2
Telnet – Windows/Linux/Unix

SUPPORTED OPERATING SYSTEMS:

Windows XP SP2+
Linux FC2+, RHEL 3+

SECURITY:

User level password

OUTPUTS:

IRIG A/B/G
Output Impedance: 50Ω, drives 600Ω
Output Signal Level:
1 Vp-p – 3.3 Vp-p
Modulation Ratio: 3.3:1

TTL DATA/CLOCK
TTL level signals
Data rate: 1000bps – 35Mbps
NRZ-L Data with 0° clock or programmable polarities

RS-422 DATA/CLOCK
Signal levels in accordance with TIA/EIA-422-B
Data rate: 1000bps – 35Mbps
NRZ-L Data with 0° clock or programmable polarities

ETHERNET
Data Rate: 10/100/1000 Mbps

STATUS INDICATORS

10 Mbps Ethernet link
100 Mbps Ethernet link
1000 Mbps link, if both 10 and 100 Mbps lit
Ethernet link FD
Ethernet activity
PCM Data and clock present
Power

POWER:

2.5 mm Circular DC Jack
Center Post is (+)
Supply Voltage: 7.5 VDC to 28 VDC

ENVIRONMENTAL:

Operating temperature - 0°C to 55°C
Storage Temperature - -40°C to 70°C
Altitude – 10,000 ft ASL operating; 40,000 ft ASL non-operating
Humidity – up to 95% non-condensing

INTERFACE CONNECTORS:

RJ45 - Ethernet Data and Control
BNC Female - IRIG Inputs & Outputs
BNC Female – TTL Data & clock Inputs & Outputs
TRIAX Female – RS-422 Data & clock Inputs & Outputs

APPLICATION NOTE