APOGEE LABS

AL4304
MULTIPLEXER/DEMULTIPLEXER

FEATURES

- Modular and scalable design with 14 module slots
- Composite data rates up to 155.52 Mbps
- Full duplex or simplex operation
- Channel interfaces for: PCM, analog, voice, time code, video, Ethernet, T1, asynchronous & others
- Supports wide range of transport mediums

- Bright, high contrast front panel display with easy to use controls
- 5.25" high rack mount chassis; sturdy construction
- Pluggable and hot swappable main and redundant power supplies
- Ethernet remote control with optional GUI

OVERVIEW

The AL4304 Multiplexer/Demultiplexer is a field configurable system for merging multiple data sources into a composite stream (multiplexing) for transmission over communication data paths and separating and reconstructing the composite stream back to the original data sources (demultiplexing). The unit is configurable to accommodate full duplex requirements (multiplexing and demultiplexing in one chassis) and also simplex requirements in which it will perform either the multiplexing or demultiplexing functions. The AL4304 can merge together virtually any signals that can be converted into a digital format, including serial digital (PCM Telemetry), analog, voice, time code, asynchronous, and video. The data are then transmitted at data rates of up to 155.52Mbps over a variety of transport mediums including T1, multiple T1 (inverse multiplexing), DS-3, and OC-3. Moreover, the multiplexing process implemented in the AL4304 is compliant with the NASA's CCSDS packetizing concept.

Modularity and scalability are integral elements of the AL4304 design, making the unit easy to use and expand. With up to 14 available module slots, the AL4304 can be configured to address specific application requirements and the plug-in modules are easily installed into the chassis, permitting ease of expansion or reconfiguration in the application. Each time a card is installed in the chassis, initial power-on tests are performed, the card slots are read to detect the presence of a card, and the installed cards automatically initialize and re-activate the last programmed settings. Additionally, since the required control and monitoring software is included on each module, once the user inserts the modules and restores power, the front panel and remote control functions become active. In conjunction with a high contrast LCD display, an easy to use GUI provides front panel control of the AL4304 or, alternatively, users can control and monitor the unit via a remote computer .

To address the needs of critical mission requirements, a hot-swappable, redundant power supply is available. In the unlikely event of a failure of one of the power supplies, users need only remove and replace the power supply with a spare power supply module. Installation is fast and easy.

www.apogeelabs.com
info@apogeelabs.com
Page 1 of 2
210 South Third Street, North Wales, PA 19454
(T) 215-699-2060
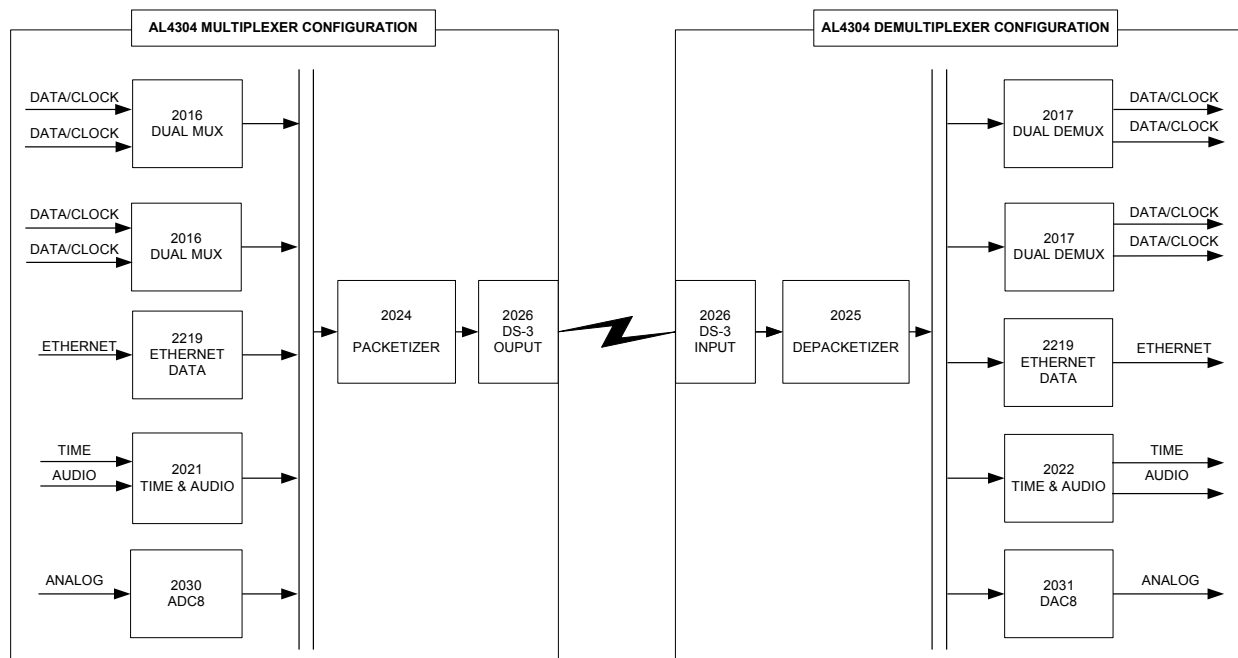
FUNCTIONAL BLOCK DIAGRAM

Figure 1: AL4304 in a data communication application (simplex configuration)

SPECIFICATIONS

CHASSIS DIMENSIONS

- 5.25" high x 19" wide x 14.5" deep
- Rack mount (standard EIA rack) or stand alone

WEIGHT

- 15 lbs without modules
- Approximately 8 oz per module

POWER

- Hot swappable redundant power supplies (Optional)
- 90 VAC to 240 VAC, single phase, auto select
- 47 Hz to 63 Hz
- Less than 150 watts

ENVIRONMENTAL

- 0°C to 40°C operating temperature
- -20°C to 70°C storage temperature
- 15% to 95% relative humidity; non-condensing
- 10,000 feet altitude

ETHERNET CONTROL

- RJ-45 connector
- 10 base-T connectivity
- TCP/IP; ARP

APPLICATION MODULES

- 3U x 220 mm Eurocard format

www.apogeelabs.com
info@apogeelabs.com
Page 2 of 2
210 South Third Street, North Wales, PA 19454
(T) 215-699-2060