# APOGEE LABS

# AL4302

## MULTIPLEXER/DEMULTIPLEXER


## FEATURES

- Modular and scalable design with 17 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 including Gigabit Ethernet and Fiber Optic
- Secure Ethernet remote control with Https (secure web server); SSH; SNMP v 2c / 3
- Bright, high contrast, LCD 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

## OVERVIEW

The AL4302 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 AL4302 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 Gigabit Ethernet, T1, multiple T1 (inverse multiplexing), DS-3, and OC-3. Moreover, the multiplexing process implemented in the AL4302 is compliant with the NASA's CCSDS packetizing concept.

Modularity and scalability are integral elements of the AL4302 design, making the unit easy to use and expand. With up to 17 available module slots, the AL4302 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 secure web interface provides for control remotely.

## FUNCTIONAL BLOCK DIAGRAM

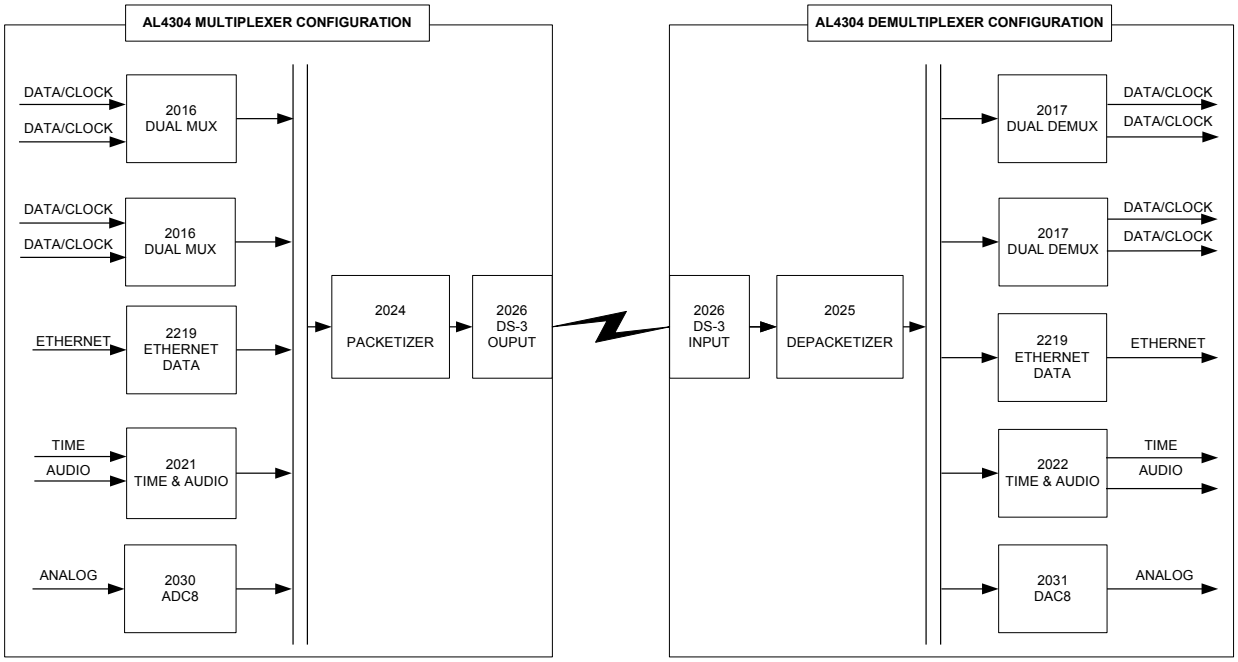


**Figure 1: AL4302 in a data communication application (simplex configuration)**

## 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*

- 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 / 100 / 1000 connectivity
- SSH; SSL; SNMP v 2c / 3; TCP/IP; Radius; NTP; ARP

### *APPLICATION MODULES*

- 3U x 220 mm Eurocard format