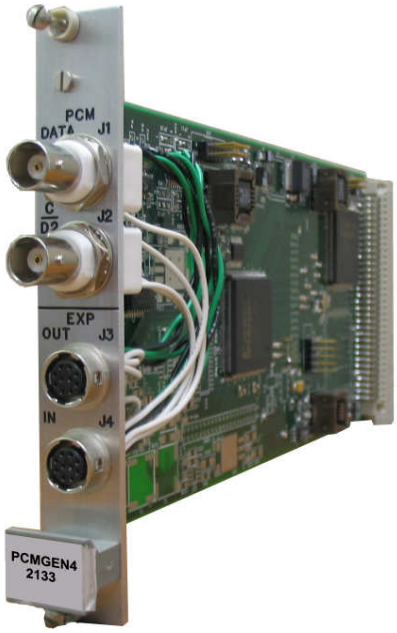
APOGEE LABS

MODEL 2133

PCMGEN4
PCM Generator Module



1. FEATURES

- **PCM Data Output**
- **Programmable TDM Format Parameters**
- **Supports Multi-Unit Expansion**
- **Up to 20 Mbps Serial Output**
- **Includes Frame Counter and 256 Unique Value Facilities**
- **Short Circuit Protection**

2. OVERVIEW

This module generates the PCM output bit rate and sample intervals for all the data acquisition modules installed in the AL8400. It also provides the setup / configuration data path between the front panel (and remote control link) and the modules. It places the frame and word marker signals on the backplane, which each card then uses to determine the PCM word number to be collected. When a module matches the current number, its data is placed on the data bus and the PCMGEN captures this data and inserts it into the PCM output stream. The output can be coded as NRZ-L or BIØ-L.

When more channels are required than can be accommodated in one AL8400 chassis, an optional expansion port is made available on the PCMGEN4 module to link as many as eight chassis together. Each PCMGEN4 automatically detects its position in the daisy-chained expansion connections and functions accordingly. The user simply specifies for each PCM word position the source of data as channel “n” from the card in slot “s” which is located in chassis “c”.

All AL8400 control and setup information passes through the micro-processor located on the PCMGEN. In order to keep the front panel menu driven display simple, the software is configured according to the data acquisition modules to be installed.

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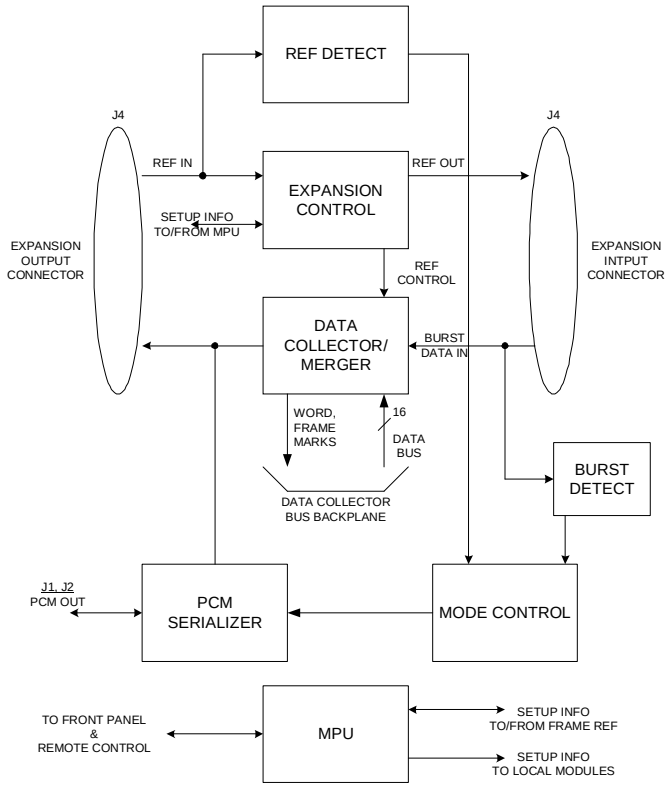

Figure 1: Model 2133 PCMGEN4 Functional Block Diagram

3. SPECIFICATIONS

GENERAL

Single Slot Module (3” x 6” x 0.9”)

Operating Temperatures

Ambient Temperature range of 58° to 82° F
(14° C to 28° C)

Operating Humidity

80% relative humidity (rh) maximum,
15% rh, minimum

Power Consumption

4.3 W

INPUT

Optional circular, 10-pin connector provides a daisy-chain used to expand the number of chassis

OUTPUT

2 Serial Data outputs:
2 BNC connectors – Data and Clock
Optional circular, 10-pin connector for daisy-chain

Output Bit Code

Each output provides a serial PCM stream as either non-return-to-zero-level (NRZ-L) or bi-phase-level (BiØ-L) format

PCM Output

3.00V +1.00V, -0.50V = logic one (75Ω load)
0.0V ±0.5 V = logic zero

TDM OUTPUT FORMAT

Bits per Word – 8 to 16
Words per Frame – 28 to 1024
Bit Rate – 1k bps to 20M bps (100 ppm accuracy)
Sync Pattern – 8 to 32 bits
Unique Last Word Length – 8 to 16 bits
Fixed Pattern Fillers – 256 Unique User Definitions
Frame Counter – Up to 16 bits