APOGEE LABS

IOCASI ASYNCHRONOUS INPUT CONVERTER MODULE

Sample Picture

FEATURES

- RS-232 Frame Asynchronous Input: COM PORT
- Four independent channels
- User configurable BAUD rate
- Even or Odd Parity
- 7 or 8 bits
- Super commutation supported
- Sub commutation supported
- Active/Stale Bit supported
- Overflow bit
- RS-232 input Levels
- Programmable features:
  - ◊ Baud Rate
  - ◊ Word Length including Parity bit: 7/P, 7/N, 8/P, 8/N
  - ◊ Word location
  - ◊ Word Interval (super commutation)
  - ◊ Frame Interval (sub commutation)
  - ◊ Test Mode

OVERVIEW

The IOCASI is a 4 channel asynchronous RS-232 input module that supports connections to standard COM ports. It is configured to receive data from a COM port and insert data into a IRIG106 PCM stream that is generated by an IOCPCM2 module in the AL2873 chassis. In addition to the user data, an ACTIVE/STALE bit is added in addition to an OVERFLOW bit (input rate exceeds expected rate). User setup is provided that allows complete control of each of the 4 channels input baud rate, word length, and location of data in the PCM stream.

Several IOCASI modules can be configured in a single AL2873 chassis providing numerous RS-232 inputs.

Control of the IOCASI is via the front panel keypad and 3" x 2" LCD or Ethernet and the APEX software package. When configured the current setup is retained in non-volatile memory and is automatically restored on power up with a recovery time of less than 20 seconds.
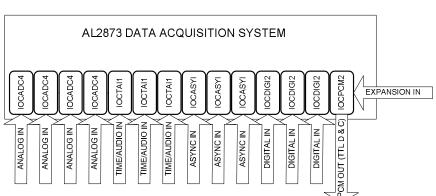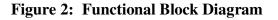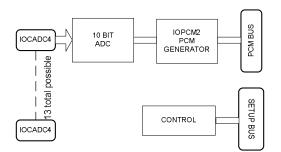
APPLICATION NOTES

The IOCASI is an RS-232 asynchronous input module capable of receiving COM port data and inserting it into an IRIG106 data stream using an IOCPCM2 module in an AL2873 system. This module is used in conjunction with the suite of data acquisition boards that plug into the AL2873 chassis to multiplex various signals into an IRIG 106 PCM data stream. An AL2873 data acquisition system is capable of encoding analog, digital, PC Com ports, audio, and IRIG timing. Typical signals (but not limited to) are receiver AGC levels, Bit Sync and Frame Sync lock status, station timing, station voice, GPS RS-232 outputs and serial data streams from antenna position encoders.

System block diagrams are shown below.

Figure 1: Fully Populated Chassis

Figure 2: Functional Block Diagram

SPECIFICATIONS

GENERAL

- Single slot module (3" x 6" x 0.9")
- Up to 13 modules per chassis

INPUT

- RS-232 Data: COM PORTS
- 4 individual channels
- BNC Connectors
- User configured BAUD
- User selected Data length: 7/P, 7/N, 8/P, 8/N
- Super commutation supported
- User selectable word location in PCM frame

OUTPUT

- Binary coded data on internal AL2873 PCM bus
- 8 to 16 bits
- Control Bit added: ACTIVE / STALE
- Overflow Bit Added

ENVIRONMENTAL

- Operating temperature: 0° to 50° C
- Relative humidity: 15% to 95%; non-condensing
- Altitude: Sea level to 10,000 feet

POWER

- +5V from AL2873 chassis backplane

MEAN TIME BETWEEN FAILURES

- ~ 100,000 hours