



OVERVIEW

The IPM-ASCB-MRT provides four transceivers capable of supporting Avionics Standard Communication Bus (ASCB) versions A, B, C1, and C2 bus requirements.

Available as a 16-bit 32MHz single-size Industry Pack (IPack) module, the IPM-ASCB-MRT offers message scheduling and 32-bit time-tagging with a precision of one microsecond. An on-board 8MB SDRAM provides large buffering capabilities. Data transfer is controlled by polling or interrupt-driven software strategies to ensure optimal real-time performance.

The IPM-ASCB-MRT contains on-board coupling transformers for direct connection to the ASCB bus. The module supports three modes: a Bus Controller (BC), 4 Bus Monitor (BM) and up to 128 users, and the user addresses are software programmable. As an added convenience, the IPM-ASCB-MRT comes with 16 general-purpose DIO ports, which can be individually programmed as inputs or outputs.

CARRIER BOARD SUPPORT

The functionality of the IPM-ASCB is further enhanced by the power of MAX Technologies' line of intelligent multi- platform (PCI, CPCI and PXI) carrier boards. All modules and carrier boards are synchronized and time correlated to 32-bit microsecond-resolution.

SOFTWARE SUPPORT

The MX-Foundation library provides high-level abstraction of hardware and allows to easily control mixed protocols and I/O modules on one or multiple carrier boards.

FEATURES

- ▶ Avionics Standard Communication Bus (ASCB) protocol support 4 HDLC transceivers
- ▶ Provides simultaneous support of 128 users, a BC, as well as 4 Bus Monitors (BM)
- ▶ Up to 4 IPack modules on a single carrier board provides up to 512 users, 4 BC and 16 BM per carrier board
- ▶ Microsecond precise Tx and Rx timetags
- ▶ Error injection and detection (CRC, Manchester, Parity)
- ▶ 16 Discrete I/O lines (DIO) independently selectable to input/output
- ▶ Conforms to the ASCB electrical requirements
- ▶ Available in extended temperature
- ▶ Simulates the maximum number of users allowable on an ASCB databus while simultaneously providing BC and BM capabilities
- ▶ IRIG-B input

SOFTWARE

- ▶ MX-Foundation multi-protocol software API available for Windows, Linux and Mac OS X
- ▶ MAXIM Windows GUI



IPM-ASCB

ASCB IPACK Module

SPECIFICATIONS

Simultaneous operating modes

- BC (Bus Controller)
- 4 BM (Bus Monitor)
- 128 users

Discrete Input/Output (DIO)

- 16 independently configurable to Input or Output
- Transition detection on discrete Inputs (DIO)

Channel speed

- Transmit/Receive Speed: 2/3 Mbps

Time Synchronization

- 32-bit Timetag, Resolution: 1 microsecond, Accuracy: 1 microsecond
- IRIG-B AM, Digital and 1-PPS inputs

IPACK Module bus clock

- 32 MHz

Physical dimensions

- IPack Standard Double Size
- 3.9" x 3.6" (9.906 cm x 9.144 cm)

Environmental

- Standard Operating Temperature: 0°C to 70°C
- Relative Humidity for operation: 0 to 95% (non-condensing)

Maximum power consumption

- + 5V @ 800 mA

Additional features

- Frame auto-repeat
- Programmable frame duration time from 1ms to 500 ms
- User addresses are software selectable
- Bus monitoring allows choice of all or selective address monitoring
- Simulates a bus user or a bus controller in standby or active state
- Error injection and detection (CRC, Manchester, and parity)

Supported IndustryPACK Carrier Boards

The IPM-ASCB is a standard IndustryPack (IPack) module that can be used with MAX Technologies' PCI, CPCI and PXI intelligent carrier boards.

Software

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|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MAXIM | MAXIM is a powerful and easy-to-use test & measurement GUI application for Windows XP |
| MX Foundation | MX-Foundation is a multi-protocol high-level API that takes full advantage of the MAX Technologies' intelligent carrier boards. MX-Foundation is available for Windows, Linux and Mac OS X. |

Ordering Information

| Part Number | Description |
|----------------------|----------------------------------------------------------------------------------------------|
| MAX-IP-200118 | IPM-ASCB IndustryPACK module supporting ASCB communication protocol versions A, B, C1 and C2 |