



IPM-ASYNC

ASYNC IPack Module with RS-422 Tx/Rx lines

OVERVIEW

The IPM-ASYNC provides a high-channel-density solution to your ASYNC RS422/485 and CSDB Avionics Protocol requirements. Available as an 8MHz single-size Industry Pack (IPack) module, the

IPM-ASYNC offers message scheduling and time-tagging with a precision of one microsecond. On-board transmit/receive buffers have programmable almost-full/almost-empty thresholds, which fully support both polling and interrupt-driven software strategies to ensure optimal real-time performance.

The IPM-ASYNC transmitters are short-circuit protected and offer programmable parity bit, stop bit, word length, and bit-rates up to 1 Mbps. Receivers can detect parity, framing errors and can be configured for internal loopback. As an added convenience, the IPM-ASYNC comes with 8 general-purpose discrete differential I/O lines, four of which can be programmed to toggle during the transmission of individual message words.

Carrier Board Support

The functionality of the IPM-ASYNC 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

- ▶ Up to 8-TX and 8-RX ASYNC RS422/485 channels on a single size IPack Module
- ▶ Up to 32-TX and 32-RX ASYNC RS422/485 or CSDB channels on one single MAX Technologies carrier board
- ▶ Configurable data rate per channel between 305 bps and 4 Mbps
- ▶ 512 ASYNC word FIFO per channel
- ▶ Precision of one microsecond
- ▶ Complete independent channel configuration and operation
- ▶ Parity Error detection, configurable number of stop bits
- ▶ 8 discrete differential lines independently configurable to input or output
- ▶ IRIG-B signal input
- ▶ Available in extended temperature

SOFTWARE

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



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SPECIFICATIONS

Number of channels

- Transmit: 8
- Receive: 8

Buffer size per channel

- 512 word FIFO buffer for each channel

Discrete Input/Output (DIO)

- 8 independently configurable to Input or Output
- Differential RS-422
- Transition detection on discrete Inputs (DIO)

Channel speed

- Fully configurable per channel
- Transmit Speed Range: 305 bps to 4 Mbps
- Receive Speed Range: 305 bps to 4 Mbps

Error Injection and Detection

- Parity, +/- 1-bit gap length

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 Single Size
- 3.9" x 1.8" (9.906 cm x 4.572 cm)

Reliability MTBF (MIL-HDBK-217 FN2, 30 °C)

- 1 254 404 hours

Environmental

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

Power consumption

- 5V @ 500 mA - all TX port transmitting with maximum load

Electrical

Standard RS-422 Voltage Levels

Supported IndustryPACK Carrier Boards

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

Software

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-200126	IPM-ASYNC RS-422, 8TX+8RX, 8 DIO DIFF, IRIG-B