



## OVERVIEW

The IPM-629-MRT provides a powerful and complete modular solution to your ARINC 629 databus requirements. The IPM-629-MRT supports all standard DATAC features as well as enhanced features in the emulation of up to 120 Remote Terminals (RT) and full error injection/detection capability. The TI, TG and SG gaps are programmable, and the CID is programmable on a per-RT as well as on a per-message basis. In addition, the IPM-629-MRT has 16 MB of on-board shared memory, composed of 1 MB for XPP configuration and 15 MB for data. Received and transmitted messages are time tagged with 1-microsecond precision.

The IPM-629-MRT supports normal, periodic, aperiodic, C, block, independent and alternate modes in transmission as well as in reception. Thus, with its 32KB-wide FIFO, the IPM-629-MRT offers a powerful and precise bus-monitoring engine.

## CARRIER BOARD SUPPORT

The functionality of the IPM-629-MRT 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

- ▶ Can emulate up to 120 Remote Terminals (RT) with programmable CID per RT and on a per-message basis.
- ▶ Extensive error injection/detection capability (parity error, sync, bit, word and gap length,etc.)
- ▶ Supports all normal modes in transmission and reception (periodic, aperiodic, C, block, independent, alternate)
- ▶ 16 MB of shared memory
- ▶ 1 MB for XPP configuration (8K/RT) and 15 MB for data (64K word/RT).
- ▶ 32-bit bus time-stamp on transmitted and received words
- ▶ Full bus monitoring with 32 KB of FIFO (per word or message time-tag)
- ▶ programmable TI, TG and SG
- ▶ Transmit/Receive Speed: 2 Mbps
- ▶ IRIG-B input

## SOFTWARE

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



# IPM-629-MRT

ARINC-629 IPACK Module

## SPECIFICATIONS

### Number of channels

- One channel - Transmit/Receive

### Discrete Input/Output (DIO)

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

### Channel speed

- Transmit/Receive Speed: 2Mbps

### Error Injection and Detection

- Error injection and detection (sync, Manchester, and parity)

### Time Synchronization

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

### Programmable Timers and Terminal ID

- TI, TG and SG gaps
- CID programmable per RT (120) and on a per-message basis

### 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 and requirements

- SIM operation (with on-board 15V DC-DC converter)
- 5V @ 2.2 A per Ipack Module
- SIM operation (with external 15V power supply)
- 5V @ 580 mA per Ipack Module
- +15V @ 335 mA
- -15V @ 335 mA

### Additional features

- 32KB FIFO for ARINC-629 BUS monitoring (1 microsecond per word or wordstring timetag)
- Optional Current Mode Coupler (CMC) connectors and cables

## Supported IndustryPACK Carrier Boards

The IPM-629-MRT is a standard IndustryPack (IPack) module that can be used with MAX Technologies' **PCI, CPCI and PXI** intelligent carrier boards.

## Software

<b>MAXIM</b>	MAXIM is a powerful and easy-to-use test & measurement GUI application for Windows XP
<b>MX Foundation</b>	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
<b>MAX-IP-200161</b>	IPM-629-MRT, 120 Terminals, 8 DISCRETE I/O, ERR INJ, IRIG-B
<b>-A OPTION</b>	SERIAL INTERFACE MODULE (SIM)
<b>-B OPTION</b>	ON-BOARD DC-DC ± 15V