Nutaq
Mestor

AMC debugging solutions

PRODUCT SHEET

RoHS

Nutaq® Scientific

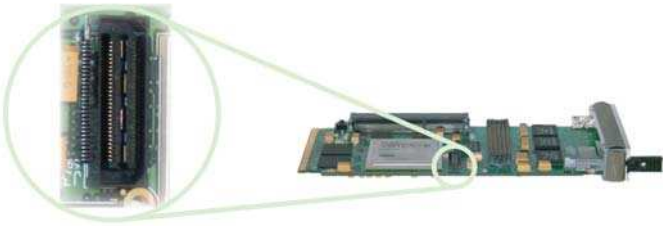
QUEBEC | MONTREAL | NEW YORK | nutaq.com

Nutaq **Mestor**

- **Ergonomic debugging solutions for Nutaq FPGA-based AMCs**
- **Front-panel access to debugging interfaces**
- **LVDS user I/Os**
- **Gain access to even more I/Os through Mestor breakout boxes**

The Mestor interface is Nutaq's own debugging connection for FPGA-based AMCs. It is a unique, onboard interface that regroups standard debugging ports and other interfaces. The Mestor interface offers access to:

- FPGA JTAG
- IPMI JTAG (typically used to debug the Atmel AVR MCU)
- FPGA UART (serial TX and RX)
- User LVDS I/Os : (data Ð 14, clock Ð 1)
- Power (used to supply Mestor breakout boxes)



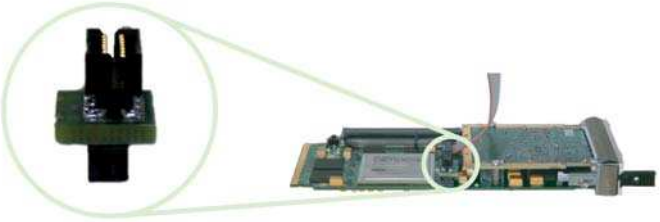
Nutaq AMCs that support the Mestor come with a fully tested IPMI embedded stack; therefore, users do not normally need to use the IMPI JTAG (the IPMI source code is not supplied). For details, contact info@nutaq.com.

INTERFACE OPTIONS

Users can interface directly with the onboard Mestor (as it is based on a Samtec QTH-30 connector; contact info@nutaq.com for details), but for added practicality Nutaq also offers two ways of interfacing with the AMC's Mestor interface.

Mestor-to-FPGA JTAG and IPMI JTAG adaptors

Connected to a Xilinx JTAG pod, you can easily troubleshoot your software through USB and using a JTAG pod for Atmel AVR MCUs, you can as easily troubleshoot the IPMI stack through USB.



Front panel debugging

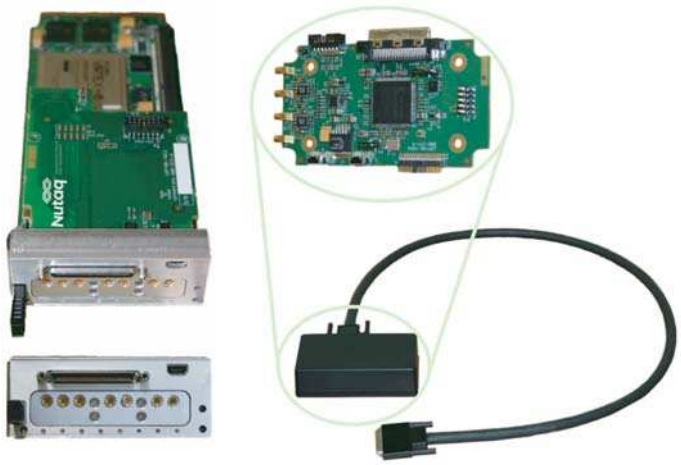
Users may want a more ergonomic debugging facility. In this case, the Mestor expansion kit is perfect—users don't need to interface to a JSM, free QTCA slots, or open the chassis' shelf to access debugging interfaces. The Mestor expansion kit includes a Mestor expander and the necessary front panel cables.

Important — Using the Mestor expander forces a full-size AMC form factor.

The Mestor expander offers two front panel connections:

- FGPA UART (USB mini-AB)
- Mestor debugging I/Os (VHDCI connector), regrouping IPMI and FPGA JTAGs, user LVDS I/Os and power

To access each individual port of the Mestor's debugging I/Os, Nutaq offers Mestor breakout boxes interfacing directly with the I/Os through selfpowered VHDCI cables.



The I/Os below are available on the first Nutaq Mestor breakout box:

- Xilinx FPGA JTAG connector
- Atmel AVR MCU IPMI JTAG connector
- Nutaq GPIO-32 interface (for LVCMOS user I/Os or to interface with external Nutaq RF front ends)
- Four-channel mux A/Ds (1 MSPS, 12 bits; 250 KSPS per channel, if using four ADCs)

Mestor expander flex

For those concerned with space, Nutaq also has the Mestor expander flex. It gives access to all the Mestor debugging features without have to go full size AMC. The Mestor expander flex also allows having access to convenient front-panel debugging features when using a double-deck FMC (such as the Radio420M), which prevents the use of the Mestor expander.

MESTOR KITS

Mestor-to-JTAG adapters — LSP158-901

Includes:

- Mestor-to-FPGA JTAG adapter
- Mestor-to-IPMI JTAG adapter

Mestor expansion kit — LSP158-501

Includes:

- Mestor expander
  - Front panel I/O / Debugging interface (VHDCI)
  - USB UART interface
- Full-size faceplate kit for the Perseus 601X
- VHDCI cable
- USB cable (A to mini-B)

Mestor breakout box 1 — LSP158-502

Necessitates the Mestor expansion kit. Includes:

- Box
  - VHDCI I/O / Debugging interface
  - FPGA JTAG / FPGA IPMI
  - GPIO-32
  - Four-channel mux ADC (1 MSPS, 12-bit interfaces)
  - Powered through the VHDCI cable (when connected to the Mestor expander)

Flex Mestor expansion kit — LSP158-503

Includes:

- Mestor expander flex
  - FPGA JTAG interface
  - FPGA IPMI interface
  - USB UART interface
- USB cable (A to mini-B)

Nutaq products are constantly being improved; therefore, Nutaq reserves itself the right to modify the information herein at any time and without notice.

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