

RIOT BE2 - REMOTE I/O TERMINAL

Replaces Two SeaLevel I/O cards

Identical connectors and pinout allow use of stock BE breakout panels. Provides 30 inputs and 16 outputs.

No PC Slots Required

No more chasing after motherboards with lots of slots. No more worries about what kind of slots will be popular next year.

Future-proof Interface

RIOT interfaces to AudioVAULT hosts via Ethernet or USB. 10/100BaseT Ethernet uses standard TCP and UDP protocols. Microsoft Windows 2000 and above include native support for RIOT's USB port.

Simple Out-Of-The-Box Setup

Set RIOT's IP address through a web page or serial port and you are up and running. Default settings work right away with AudioVAULT.

RIOT features jumperless configuration. All configuration is handled through web pages. Customers never need to open the box.

Programmable Logic Controller

RIOT can perform simple to complex logic functions internally replacing external hardware such as the PR&E interface.

Field personnel can design custom logic solutions using simple zero-cost CAD tools.

Serial Port

Built-in serial port for control of third party equipment such as Broadcast Tools switchers and mixers.

Built In Web Server

Real-time monitoring of I/O pins, network setup and configuration via web pages.

On-Line Documentation

All documentation is available through RIOT's built in web server including Getting Started guide, Users Manual, and Connector Reference.



Fast

RIOT enables AudioVAULT to handle external events faster than in-machine SeaLevel cards. RIOT's low latency means more right-on-time starts.

Rugged and Versatile I/O

Inputs and outputs support logic voltages from 3 to 24 volts.

Advanced input de-glitching provides high noise immunity.

Improved output driver pulls outputs hard to ground providing more robust output signal to station equipment.

Easy Upgrades

All system software can be upgraded through RIOT's web interface.

Easy, Low Cost Expansion

Expansion units provide low cost ways to increase I/O count or add special purpose I/O. Up to two expansion units can be connected to a RIOT controller.

Expansion units include:

RXP4 - Four BEI Parallel I/O ports for 60 more inputs and 32 more outputs.

RXRY - Relays and opto isolators. 16 Relay outputs, 20 opto-isolated inputs.

RXAN - 20 Analog inputs, 8 Relay outputs, 10 opto-isolated inputs and one BEI standard I/O port (15 inputs, 8 outputs).

RIOT BE2 - REMOTE I/O TERMINAL

TECHNICAL SPECIFICATIONS

Network Interface

Hardware 10/100BaseT

Network Protocols

TCP/IP, UDP/IP Remote Control
HTTP Web Server
NTP Automatic time synchronization
Syslog Event logging

I/O

Two BE Standard DB25 Female parallel I/O connectors. Each connector provides 15 inputs, 8 outputs, and software selectable 5 or 12 volt power.

Inputs are provided with hardware glitch protection which automatically ignores input pulses of less than 100 μ S duration.

Inputs and outputs are provided with hardware pulse management which provides debouncing of switch and relay contacts and precision output pulse stretching for interfacing with picky equipment. Timing parameters allow automatic pulse creation from 1mS to 65 seconds with 1mS resolution.

Parallel Inputs

Inputs include pull up circuitry that takes non-driven inputs to approximately 3 volts.

Highest safe input voltage 30 Volts

Lowest safe input voltage -5 Volts

"Low" signal level Less than or equal to 0.8 Volts

"High" signal level Greater than or equal to 2.0 Volts

"Low" level input current less than 3mA

"High" level input current less than 100 μ A

Parallel Outputs

Outputs are open-drain MOSFET transistors protected by a parallel zener diode.

Highest safe output voltage 30 Volts

Lowest safe output voltage -0.3 Volts

"Low" signal level Less than 0.1 Volts

"Low" signal level drive current Maximum 250 mA

"High" signal level Maximum 30 Volts

Power

Each I/O connector is provided with a software selected power supply intended to power external indicators or relays. Each power supply is protected by a 750mA self-resetting circuit breaker.

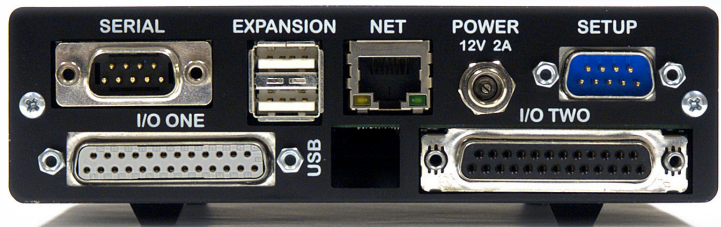
5V Supply voltage 5.0V +/- 5%

12V Supply voltage 12.0V +/- 10%

Current Limit 750mA

Serial Port

A standard 9 pin PC pinout serial port is provided for control



of third party equipment. The serial port supports hardware and software flow control at speeds from 300 to 115,200 baud.

Applications connect to the serial port through the network using TCP or UDP protocols.

Setup Port

A dedicated serial port is provided for initial system configuration. For initial configuration this port can be connected to a PC's serial port with the supplied cable. Initial setup can also be performed across the network using a web browser.

USB

A USB 2.0 full speed interface is provided for controlling RIOT in desktop applications or where a network interface is not desired.

Microsoft Windows 2000 and above include native support for RIOT's USB port. RIOT's USB interface appears to applications as a standard USB-to-Serial interface. Any application which speaks to a serial device can work with RIOT.

Expansion Ports

RIOT provides two USB 1.1 full speed host ports for connection to RIOT expansion modules.

In normal operation these ports are reserved for RIOT expansion modules, but custom applications may use these for general purpose USB expansion devices including serial ports, printers, disk drives, and memory card readers.

Programmable Logic Controller

RIOT features a built-in programmable logic controller (PLC). RIOT's PLC is programmed by uploading schematic diagrams produced by simple zero-cost CAD software.

Stand-alone Operation

Using the built-in PLC a RIOT or group of RIOTs can perform stand-alone control operations. RIOTs can directly interact with each other across the network providing wire replacement or distributed control.

Custom applications and web pages can be created to make RIOT a full-featured controller for specialized station equipment. RIOT software development is done using C, C++, PHP and Apache.

Power Requirements

RIOT's power supply is a universal input (90-250V 50/60Hz) regulated 12V, 2A plug-mounted AC adapter. RIOT's core logic only requires ~350 mA of 12 volts. The remainder of the power supply's current is reserved for powering external equipment.

RIOT's AC adapter is supplied with a locking power plug.