The 6416dio Digital I/O Module provides sixteen channels of digital inputs and outputs to and from a Pro64™ A-Net® audio network in a single 2U package, using the AES3 format. With exceptional clock performance, the 6416dio meets the needs of digital console and workstation users in a range of applications.

The input and output sections of the 6416dio module can be independently configured to operate within a specified A-Net Slot range for maximum versatility. Input and output port assignments for Manual Mode are also independently configurable. Each channel of a 6416dio can be made active on the audio network as needed.

The 6416dio supports all valid Pro64 sample rates, from 44.1/48kHz± to 192kHz±. Regardless of the sample rate of incoming audio, no sample rate converters are used, guaranteeing pristine distribution of the digital signal. The 6416dio can clock to the module's internal clock, the distributed network clock, an AES digital input, or an external word

clock. Any incoming clock source can be output locally, as well as distributed throughout the Pro64 network over A-Net, using Aviom's revolutionary de-jitter algorithms.

The 6416dio comes standard with DB25 multipin connectors for audio I/O and is also available with BNC connectors for seamless integration in a broadcast environment. DB25 connectors for both the Yamaha® and Digidesign®/Tascam® pinouts are provided.

The 6416dio also includes I/O for Aviom's innovative Virtual Data Cables™. The VDCs can be used for simultaneously distributing up to 14 channels of non-audio control data to any device on the Pro64 network. The 6416dio provides VDC connectors for RS-232 or RS-422, as well as GPIO.

The versatile 6416dio is compatible with all Pro64 Series products, allowing sophisticated audio networking systems to be designed, scaled, and expanded as needed.

PRODUCT HIGHLIGHTS

- 16 AES3 digital inputs

- 16 AES3 digital outputs

- DB25 or BNC I/O connectors

- Individual channel activation switches

- Variable sample rates without converters: 48kHz±, 96kHz±, 192kHz±

- External clock via AES3 input or Word Clock

- Virtual Data Cable connectivity for GPIO and RS-232/RS-422

TECHNICAL SPECIFICATIONS

Channels	16 inputs, 16 outputs	AES3
Digital Audio I/O	DB25 multipin (x2); Yamaha and Digidesign/Tascam pinouts	
Clock	Internal or external (via AES or word clock)	
	External word clock I/O: BNC (x2)	
Sample Rates	1x: 39.7–52kHz; 2x: 79.4–104kHz; 4x: 158.8–208kHz	24-bit resolution
Virtual Data Cables	RS-232/RS-422 DB9 connector; DIP switch configuration	
	GPIO In (x4), Out (x4); terminal block connectors; DIP switch configuration; TTL or isolated	

A-Net	2 EtherCon® RJ45 connectors	
A-Net Cable Length	400 feet (120 meters) between devices	
Latency	Digital input to digital output: <460 µs	
Power Supply	100–240VAC	50–60Hz, 24W
	Internal switching type; IEC connector	
Dimensions	2U; 19"w x 8"d x 3.5"h (482.6 x 203 x 88 mm)	
Weight	9 pounds (4.1 kilos)	

*All Aviom products are designed and manufactured in the U.S.A.*
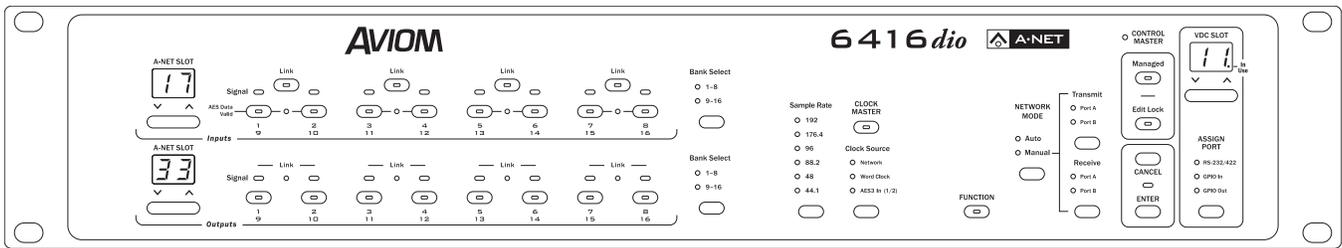
▲ FRONT PANEL FEATURES

- Signal Present and Data Valid LEDs
- Channel activation buttons with LEDs
- A-Net Slot and mode select
- Sample rate and clock source select
- VDC port assign
- Edit LockEdit Lock

▼ REAR PANEL FEATURES

- DB25 AES3 connectors (8 in, 8 out)
- Word Clock in and out
- Dual A-Net ports
- VDC I/O for RS-232/RS-422 and GPIO
- VDC port configuration switches
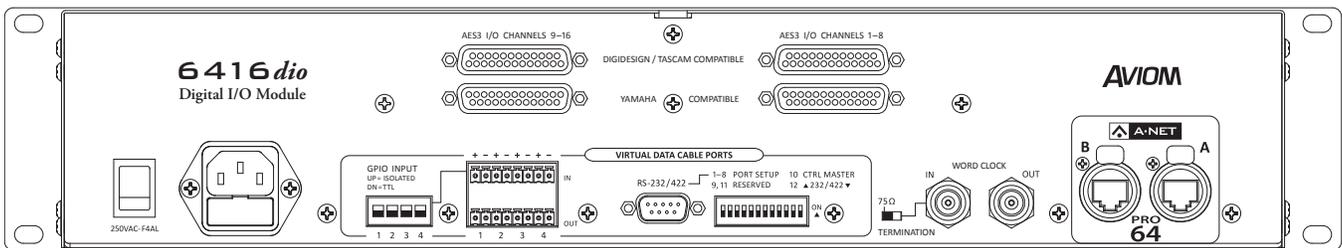
6416dio BLOCK DIAGRAM
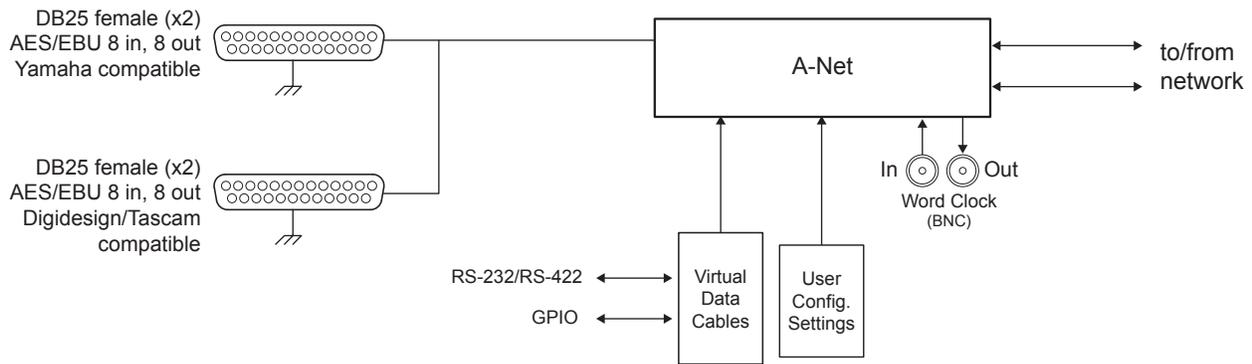
ARCHITECTURAL SPECIFICATION

The Aviom 6416dio Digital I/O Module shall provide sixteen channels of AES3 digital audio inputs and outputs. It shall provide full-bandwidth audio by employing the Aviom A-Net® audio transmission protocol. It shall operate in sample rates from 39.7kHz to 52kHz, 79.4kHz to 104kHz, and 158.8kHz to 208 kHz.

Input channel features shall include a channel activation button with LED indicator and an AES Data Valid LED. Each pair of channels shall have a lighted stereo link button. Output channel features shall include a channel on/off button with LED indicator. Each pair of channels shall have a stereo link LED indicator.

Network interface controls shall include A-Net transmit/receive mode, A-Net Slot assign, Sample Rate selection, Managed Mode, VDC I/O interface, and Cancel and Enter buttons.

The device shall be able to provide Master Clock or to derive its clock source from the A-Net network, external Word Clock, or selected AES3 input. BNC connectors shall be supplied on the rear panel for Word Clock Input and Word Clock Output. The device shall supply Word Clock at its Word Clock output.

It shall employ DB25 connectors for digital AES3 I/O connections. It shall employ Aviom's Virtual Data Cable™ technology with GPIO (terminal blocks x4) with isolated or TTL operation selectable via DIP switch, and RS-232/RS-422 (DB9 connector) configured via DIP switch.

The unit shall be powered from an internal universal power supply (110 to 240VAC) with an AC power receptacle with fuse, and be supplied with a detachable AC cable. It shall be UL and CE listed. The unit shall have EtherCon® RJ45 connectors for the A-Net digital signal connections.

Its dimensions shall be 19 inches wide, 8 inches deep, and 2U (3.5") high. Its net weight shall be 9 pounds, and its front panel shall be finished in blue. The unit shall be Aviom Incorporated model 6416dio.