The remote-controllable 6416m Mic Input Module provides 16 high fidelity mic-level inputs to a Pro64® system. With a switchable pad per channel, the 6416m also accepts balanced line-level inputs. Each channel features continuous gain control, +48V phantom power, low cut filter, phase invert, mute, and a network activation button.

Audio settings for each channel, as well as device presets, can be configured from the front panel or controlled remotely from any point in the network, using the optional RCI Remote Control Interface combined with the MCS Mic Control Surface. A single MCS can be used to control all 6416m Mic Input Modules in a network or only those assigned to a particular Control Group.

Aviom's m-control™ firmware for the Pro64 network also allows 6416m mic preamp settings to be controlled directly from a Yamaha® digital console equipped with one or more 6416Y2 A-Net cards.

On the rear panel, the 6416m features both XLR jacks and DB25 multipin connectors for inputs and passive splits. Pro64 A-Net supports three ranges of variable sample rates: 44.1/48kHz±, 96kHz±, and 192kHz±. No matter the sample rate, all 16 input channels on the 6416m are available for use. All audio is streamed at 24-bit resolution, with no data compression at any time.

The 6416m also includes I/O for Aviom's 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 6416m provides VDC connectors for MIDI In, MIDI Out, RS-232, and GPIO.

PRODUCT HIGHLIGHTS

- 16 mic- or line-level inputs (balanced)
- Remote controllable using RCI/MCS or from Yamaha digital consoles
- DB25 passive splits/alt. inputs
- Continuously variable gain control in 1dB steps
- Phase invert, low cut filter, mute, +48V phantom power, and pad per channel
- 16 customizable presets of all audio channel settings
- Variable sample rates: 48kHz±, 96kHz±, 192kHz±
- Virtual Data Cable connectivity for GPIO, MIDI, and RS-232

TECHNICAL SPECIFICATIONS

Channels	16 inputs	Mic or line level
XLR Inputs	Pin 1: Shield; Pin 2: Hot; Pin 3: Cold	
Passive Split / Alternate Inputs	DB25 multipin; Tascam® audio pinout	
Input Impedance	3.6k ohms	
Input Gain Range	0–55dB, variable, in 1dB increments	
Maximum Input Level	0dB gain, Pad on = +24dBu 0dB gain, Pad off = 0dBu 55dB gain, Pad on = -31dBu 55dB gain, Pad off = -55dBu	
Pad	-24dB, switchable per channel	
Low Cut Filter	85Hz cutoff at 18dB per octave; per channel	
Phantom Power	+48V, individually selectable per channel	
Sample Rates	1x: 39.7–52kHz; 2x: 79.4–104kHz; 4x: 158.8–208kHz	24-bit resolution
Remote Control	Via Pro64 network using RCI and MCS, or from Yamaha consoles using 6416Y2 A-Net card	
Frequency Response	+/-0.3dB 20-23kHz at 48kHz 20-45kHz at 96kHz 20-53kHz at 192kHz -3dB @ 2Hz (all sample rates)	
THD +N	0.0015% @ 1.0kHz, -10dBFS 0.007% @ 1.0kHz, -1dBFS	

Signal to Noise	A/D: -112dB (unweighted)	
Crosstalk	-110dB @ 1kHz, 35dB gain	
Equivalent Input Noise (EIN)	-127dBu	
CMRR (common mode rejection ratio)	78dB @ 1.kHz / 75dB @ 10kHz, typical	
Max. Ambient Temp.	50°C	
Virtual Data Cables	MIDI In, MIDI Out; 5-pin DIN	
	RS-232 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 (Cat-5e)	
Latency	Analog input to analog output: <800µs	
Power Supply	100–240VAC	50–60Hz, 55W
	Internal switching type; IEC connector	
Backup Power	4-pin XLR; 24 Volt DC Pin 1 = Ground; Pin 2/3 no connect; Pin 4 24VDC	
Dimensions	3U; 19"w x 12"d x 5.25"h (482.6 x 304.8 x 133 .3 mm)	
Weight	15 pounds (6.80 kg)	

*All Aviom products are designed and manufactured in the USA.*
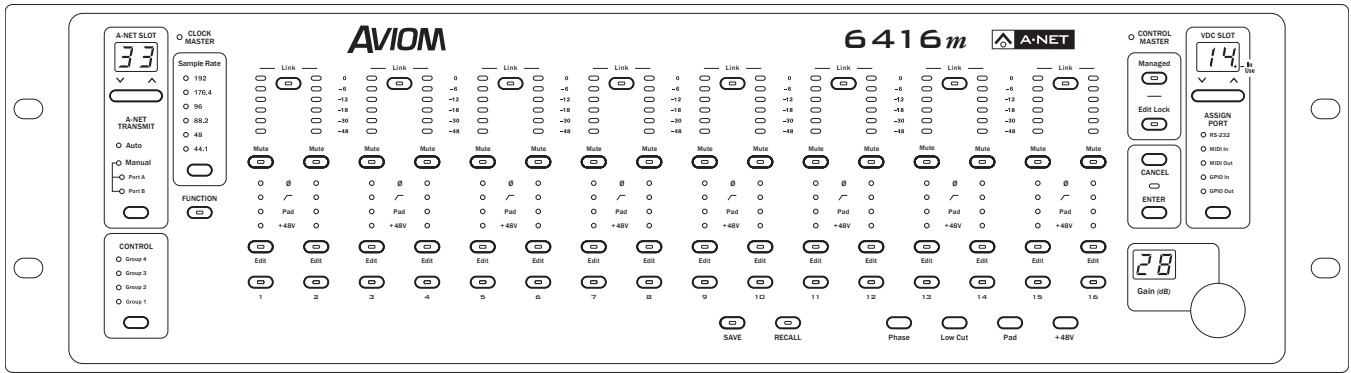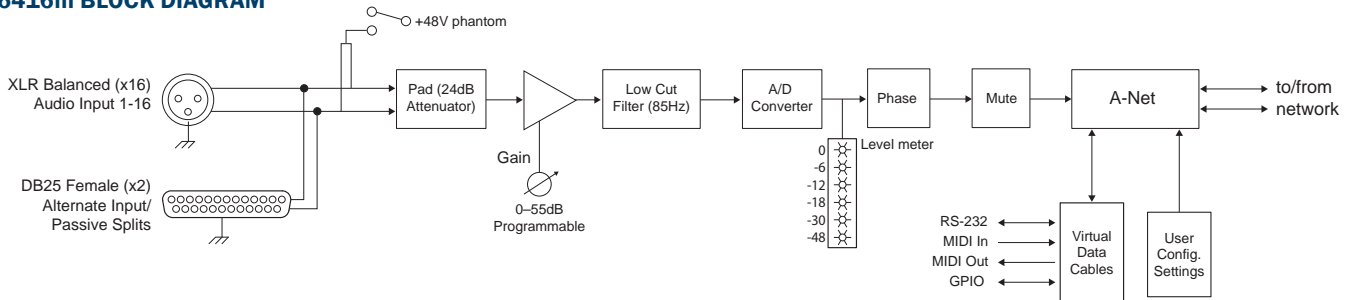
▲ FRONT PANEL FEATURES

- Continually variable gain adjustment
- Six-segment level meter per channel, with peak hold
- Low-cut filter, phase invert, pad, phantom power, mute
- 16 customizable presets of all channel audio settings

▼ REAR PANEL FEATURES

- XLR balanced mic inputs
- DB25 passive splits/alt. inputs
- Dual A-Net ports
- VDC I/O for MIDI, RS-232, and GPIO
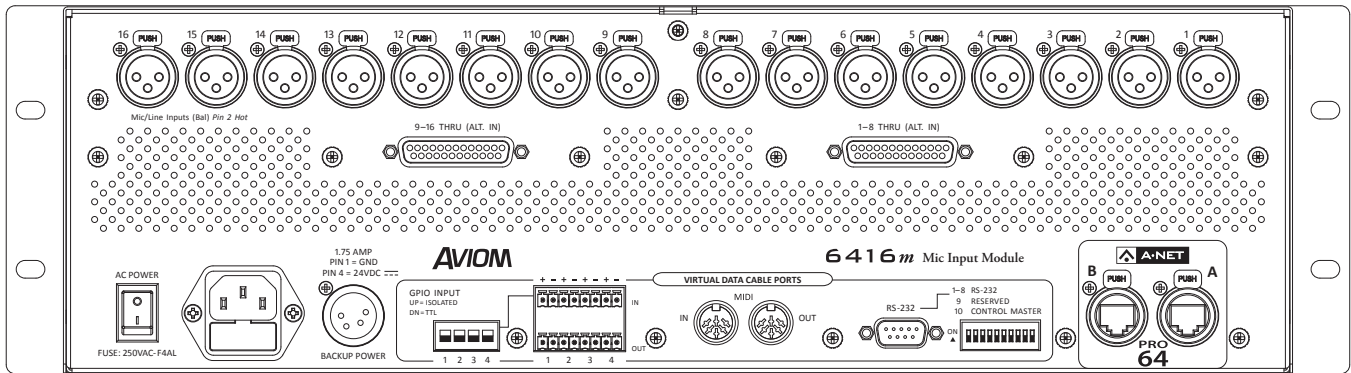
6416m BLOCK DIAGRAM

ARCHITECTURAL SPECIFICATION

The Aviom 6416m Mic Input Module shall provide sixteen channels of balanced mic- or line-level audio A/D conversion transmitted digitally onto a Pro64® A-Net® network. It shall employ 24-bit A/D converters with sample rates from 39.7kHz to 52kHz, 79.4kHz to 104kHz, and 158.8kHz to 208 kHz. No audio data compression shall be used at any time.

It shall have a frequency response from 3Hz to 23kHz, +0/-0.3dB or better, with total harmonic distortion no more than 0.0015% at 1kHz with a -10dBFS input signal. Maximum input level without clipping shall be +24dBu. Input gain shall be variable from 0dB to +55dB, in 1dB increments via a rotary digital encoder. Input impedance shall be 3.6k ohms.

Per-channel features shall include a network activation button with LED indicator, six-LED peak-reading level meter, low-cut filter, phase invert, pad, mute, and +48V phantom power.

It shall employ XLR jacks for the sixteen mic-level inputs. Two DB25 jacks, wired per analog audio standards, shall be provided for passive splits or alternate input connections. It shall employ Aviom's Virtual Data Cable™ technology with GPIO (terminal blocks x4) with isolated or TTL operation selectable via rear-panel DIP switch, MIDI In and Out jacks, and RS-232 (DB9 connector) configured via rear-panel DIP switches.

The unit shall be powered by an internal universal power supply (110 to 240VAC) with an AC power receptacle with fuse; it shall have a 4-pin XLR interface to support 24V DC backup power. 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, 12 inches deep, and 3U (5.25") high. Its net weight shall be 15 pounds, and its front panel shall be finished in blue. The unit shall be Aviom Incorporated model 6416m.