# VIDA-16Q

## AMPLIFIERS

*Digital Amplifiers*

## PRODUCT OVERVIEW

**VIDA-16Q** is a 1600W digital amplifier, with 4 amplified outputs that can be independently configured in high (100/70V) or low (8/4/2ohm) impedance. The VersaPower technology, developed by Ecler, allows an asymmetrical power distribution, and thanks to the Smart VersaPower tool it helps installers by facilitating a smart and fast configuration. In addition, the Class D amplification technology as well as the configurable 4-outputs auto standby and sleep mode functions, both configurable, further improve energy efficiency.

This device offers a wide range of possibilities thanks to its 4 analogue and 4 Dante™/ AES67 digital inputs, audio player - with microSD slot for local audio files – as well as signal generator, plus 2 auxiliary line outputs and 4 Dante™/ AES67 digital outputs.

All these features are managed from its intuitive web application which, among other functionalities, allows signal routing - matrix -, audio signal processing - such as equalisation or limiters -, priority management, GPIO configuration through events, as well as calendar events, playlist management and SD card content, thus facilitating the start-up of the audio-visual installation, its maintenance and customisation.

Thanks to the Android/iOS/Web application available to the end user, the audio installation can be managed by them in an easy, intuitive, and customised way.

## KEY FEATURES

- 4 amplified outputs VersaPower 1600W.
- 4 Dante™/ AES67 outputs and 4 Dante™/ AES67 inputs.
- 2 auxiliary outputs.
- 4 analogue inputs.
- Audio player. MicroSD card slot.
- Internal matrix and signal processing.
- Web application for device configuration.
- Smart power management Smart VersaPower.
- Control and scheduled events for automation.
- Customize user panels.
- Remote control user application for iOS/Android/Web.
- Ultra-low power consumption mode

## APPLICATIONS

- Leisure
- Hospitality
- Education
- Corporate
- Sports & Wellness

## TECHNICAL SPECIFICATIONS

### VIDA-16Q

| INPUTS | |
| --- | --- |
| Number of Inputs | 4 analogue input channels |
| | 4 DANTE™/ AES67 Network Rx channels |
| | 1 embedded player, 1 embedded signal generator |
| Analogue input connection type | IN1-4: 3-pin Euroblock, balanced, pitch 3,5 mm. |
| Digital input connection type | Ethernet, managed via Dante™/ AES67 Controller |
| Input configuration | Digital matrix 4 in x 6 out (Settings by embedded web application) |

| AMPLIFIED OUTPUTS | |
| --- | --- |
| Number of amplified outputs | 4 |
| Amplified output connection type | 2-pin Euroblock.  Pitch: 7,62 mm |
| | Ref: DEGSON 5EDGRC-7.62 |
| Output configuration | Lo-Z/Hi-Z, 70V/100V, 4Ω/8Ω/2Ω |
| | Output mode selection per channel |
| | Rear panel DIP SWITCH selectors |

| VERSAPOWER | |
| --- | --- |
| SYMMETRICAL - All channels driven @1kHz @CF9dB @ 1%THD | |
| Max output power @ 8Ω | 400W |
| Max output power @ 4Ω | 400W |
| Max output power @ 2Ω | 400W |
| Max output power @ 100V | 400W |
| Max output power @ 70V | 400W |
| ASYMMETRICAL - Single channel driven @1kHz @CF9dB @ 1%THD | |
| Max output power @ 8Ω | 1400W |
| Max output power @ 4Ω | 1600W |
| Max output power @ 2Ω | 1600W |
| Max output power @ 100V | 1600W |
| Max output power @ 70V | 1600W |

| AUXILIAR OUTPUTS | |
| --- | --- |
| Number of auxiliar outputs | 2 |
| Auxiliar output connection type | AUX1-2: 3-pin Euroblock, balanced (Euroblock pitch 3,5 mm. Settings by embedded web application) |

| DIGITAL OUTPUTS | |
| --- | --- |
| Number of digital outputs | 4 |
| Digital output connection type | Ethernet, managed via Dante™/ AES67 Controller |

### SIGNAL

| | |
|---|---|
| Voltage gain | 28 to 40 dBV |
| | 30,2 to 42,2 dBu |
| Input sensitivity | -6 to +6 dBV |
| | -3,78 to 8,2 dBu |
| | 0,5 to 2 Vrms |
| | (adjusted by means of Smart Versa Power utility) |
| Input impedance | >24k (balanced) |
| Max input level | +18 dBV |
| | +20,2 dBu |
| | (@ Gain 34 dBV) |
| Frequency response | 15Hz-25kHz (-3dB, 1W any load) |
| THD + Noise | < 0,1 % |
| | 0,015 Typ |
| | (@ 1kHz, from 0,1W to Full Power) |
| SNR | 95 dBA (40dB Gain, from 20Hz - 20kHz) |
| Crosstalk | >80dB (@ 1kHz) |
| CMRR | > 65 Typ (from 20Hz-20kHz) |
| Damping factor | >500 (@ 8Ω, from 20Hz to 1kHz) |

### ELECTRICAL

| | |
|---|---|
| Power supply | Universal, regulated SMPS with PFC |
| AC mains requirement | 100-240 V @ 50-60Hz ((±10%) |
| Power factor correction | > 0,96 (Output Power > 500W) |
| AC mains connector | IEC C14 inlet (10Amax) |

### POWER & HEAT @230VAC

#### 1/4 POWER, @ 4Ω (all channels driven)

| | |
|---|---|
| Power | 607 W | 640 VA |
| Current Draw | 3,8 Arms |
| Thermal Loss | 178,0kcal/h | 706,5BTU/h |

#### 1/8 POWER, @ 4Ω (all channels driven)

| | |
|---|---|
| Power | 362 W | 414 VA |
| Current Draw | 1,8 Arms |
| Thermal Loss | 139,3kcal/h | 552,9BTU/h |

#### IDLE (all channels driven)

| | |
|---|---|
| Power | 72 W | 122 VA |
| Current Draw | 0,52 Arms |
| Thermal Loss | 61,9kcal/h | 245,7BTU/h |

#### SLEEP MODE (all channels driven)

| | |
|---|---|
| Power | 4,1 W | 23,8 VA |
| Current Draw | 0,1 Arms |
| Thermal Loss | 3,5kcal/h | 14BTU/h |

## POWER & HEAT @120VAC

### 1/4 POWER, @ 4Ω  (all channels driven)

| | |
|---|---|
| Power | 604 W | 611 VA |
| Current Draw | 5,17 Arms |
| Thermal Loss | 175,4kcal/h | 696,3BTU/h |

### 1/8 POWER, @ 4Ω  (all channels driven)

| | |
|---|---|
| Power | 354 W | 362 VA |
| Current Draw | 3,04 Arms |
| Thermal Loss | 132,4kcal/h | 525,6BTU/h |

### IDLE  (all channels driven)

| | |
|---|---|
| Power | 68 W | 89 VA |
| Current Draw | 0,75 Arms |
| Thermal Loss | 58,5kcal/h | 232,1BTU/h |

### SLEEP MODE  (all channels driven)

| | |
|---|---|
| Power | 3,6 W | 10,2 VA |
| Current Draw | 0,09 Arms |
| Thermal Loss | 3,1kcal/h | 12,3BTU/h |

## TECHNOLOGIES

| | |
|---|---|
| Amplification technology | Class D |
| Energy saving | Auto standby function programmable per channel |
| | Sleep Mode function selectable |
| Efficiency | 68% (1/4 POWER, @ 4Ω) |
| Cooling | Fan (forced air, front to back airflow. Temperature controlled continuously variable speed) |
| Maximum fan noise | 45dB (maximum acoustical noise @1m) |

## PROTECTIONS

| | |
|---|---|
| DC protection | Yes (protects loudspeaker and installation against DC and infrasonic signals at the outputs) |
| HF protection | Yes (protects the loudspeakers against non-audible, strong, non-musical high frequency signals) |
| Short-circuit protection | Yes (protects the amplifier from overcurrent, short circuit or other stressful events for the output stages with output reduction or MUTE (automatic protection reset) |
| Clip limiter | Yes (prevents severely clipped waveforms from reaching loudspeakers, while still maintaining full peak power output). |
| Long term limiter | Yes (protects the loudspeaker and amplifier against steady long term rms signals (sine wave, non-music) reducing maximum output) |
| Thermal protection | Yes (output power reduction when output stages operating temperature up to 90 °C (194 °F). Mute when output stages operating temperature up to 100 °C (212 °F) |

## REMOTE CONTROL CONNECTIONS

| | |
|---|---|
| ON / OFF | No |
| GPIs | x4 GPIs (0-10V) |
| | Function and settings by embedded web application |
| | 5-pin Euroblock connector, rear panel. Euroblock pitch 3,5 mm |
| GPOs | x4 NC / NO contacts |
| | 4x 3pins Euroblock connector, rear panel |
| | Euroblock pitch 3,5 mm |
| External MUTE | Yes, contact (2 pins Euroblock connector, rear panel, Euroblock pitch 3,5 mm) |

## LOCAL CONTROL

| | |
|---|---|
| Attenuators | Programmable Front panel knobs (defaults: Amplified OUTs attenuators) |
| Output mode settings | Lo-Z/Hi-Z, 70V/100V, 4Ω/8Ω/2Ω |
| | Output mode selection per channel |
| | (Rear panel DIP SWITCH selectors) |
| RUN/SLEEP mode | Yes, front panel push-button (operate when pressed more than 0,5 seconds) |
| Power ON/OFF | Yes, back panel switch (red LED indicator) |

## CONNECTIVITY

| | |
|---|---|
| Ethernet | Ethernet Base-Tx 10/100/1000Mb Auto X-Over |
| | (CAT5 up to 100m. Settings by embedded web application) |
| DANTE™/ AES67 Protocol | Dante™/ AES67 4x Tx / 4x Rx channels |
| | Primary and secondary capability. RJ-45 ports |
| | (Settings by embedded web application) |
| Programming and control | Embedded web application |

## MONITORING

| | |
|---|---|
| Signal Present | SP LED (White) per channel (trigger @- 40 dBV) |
| Clipping | CLIP LED (Red) per channel (Clip, Versa power limiter, Peak power, Power supply overload) |
| Protect | PROT LED (Red) per channel (Current overload, Output short circuit, Under voltage, Over Voltage, DC OUT (slow blink), HF protect (fast blink) |
| Standby / Mute | STBY/MUTE LED (White) per channel (ON when STBY, BLINK when MUTE) |
| Limit | LIMIT LED (Red) per unit (Power (power supply) overload) |
| Thermal | THERMAL LED (Red) per unit (Temperature limiter) |
| Dante™/ AES67 | DANTE™/ AES67 LED (White) per unit (OFF NO WIRE, ON when MASTER, BLINK when SLAVE) |
| Data | DATA LED (White) per unit (ON when DATA) |
| On | ON LED (White) per unit (ON when RUN, SLOW BLINK when SLEEP by BUTTON, FAST BLINK when SLEEP by AUTOSTBY, VERY FAST BLINK when HW Fault) |

| DIGITAL ENGINE | |
|---|---|
| Processor | Quad core 64bits 1,5GHz |

| AUDIO CONVERTERS | |
|---|---|
| Sampling rate | 48 kHz |
| Resolution | 24 bit |
| Dynamic range | 114dB |

| PROCESSING | |
|---|---|
| Digital processing | 32/64 bit |
| Latency | 2,8 ms (Analog IN to analog OUT) |
| Inputs processing | Noise gate, HPF, Freq. Shifter, compressor/limiter |
| Outputs processing | Delay, Parametric EQ, Graphic EQ independent for every amp out and aux out. |
| | Limiters independent for every amp out |
| | Smart VersaPower management |
| | (Settings by embedded web application) |
| Others | Preset management, Internal matrix, priority & backup signals management, local & network groups, events management incl. calendar (Settings by embedded web application) |

| REAL-TIME CLOCK | |
|---|---|
| Retention time | > 5 years |
| Accuracy | ±1 minute / month |
| Battery | VARTA CR2032 3V, 230mAh |

| LOCAL STORAGE | |
|---|---|
| Micro SD | SDXC |
| Capacity | Up to 2TB |
| File system | FAT16, FAT 32, VFAT (read/write) |
| | NTFS (read) |
| | Multi-partition up to 1 |
| Playable audio files | mp3, ogg, WAV, FLAC, AIFF |
| Files analysis | 65354 playable folders |
| | 65354 playable folders within each folder |
| | 65354 playable files within each folder |
| Folder hierarchy | Up to 8 containing the root directory |
| Sorting | UNICODE, in alphabetical order |
| | Up to 100 folders / files by folder |
| | Folders/files over 100 sorted in the FAT order |

| PHYSICAL | |
|---|---|
| Operating temperature | -10° to 50° C |
| | 14° to 122° F |
| | (performance may be reduced above 40 °C) |
| Operating humidity | 5 - 85% RH, non-condensing |
| Storage temperature | -10° to 50° C |
| | 14° to 122° F |

| | |
|---|---|
| Storage humidity | 5 - 85% RH, non-condensing |
| Installation options | Rack 19" installation & desktop |
| Included accessories | Universal Main cords, Euroblock Connectors (inputs /outputs), Desktop feet, rack 19" installation hardware |
| Optional accessories | - |
| Dimensions (WxHxD) | 482.6 x 88 x 410 mm.  /  19 x 3.46 x 16.14 inches |
| Weight | 9.3 kg / 20.5 lb |
| Shipping dimensions (WxHxD) | 650 x 125 x 600 mm.  / 25.59 x 4.92 x 23.62 inches |
| Shipping weight | 12.3 kg / 27.1 lb |

## MECHANICAL DIAGRAM



Ecler VIDA-16Q Mechanical Diagram

All the measurments are in mm

61-1108-0100
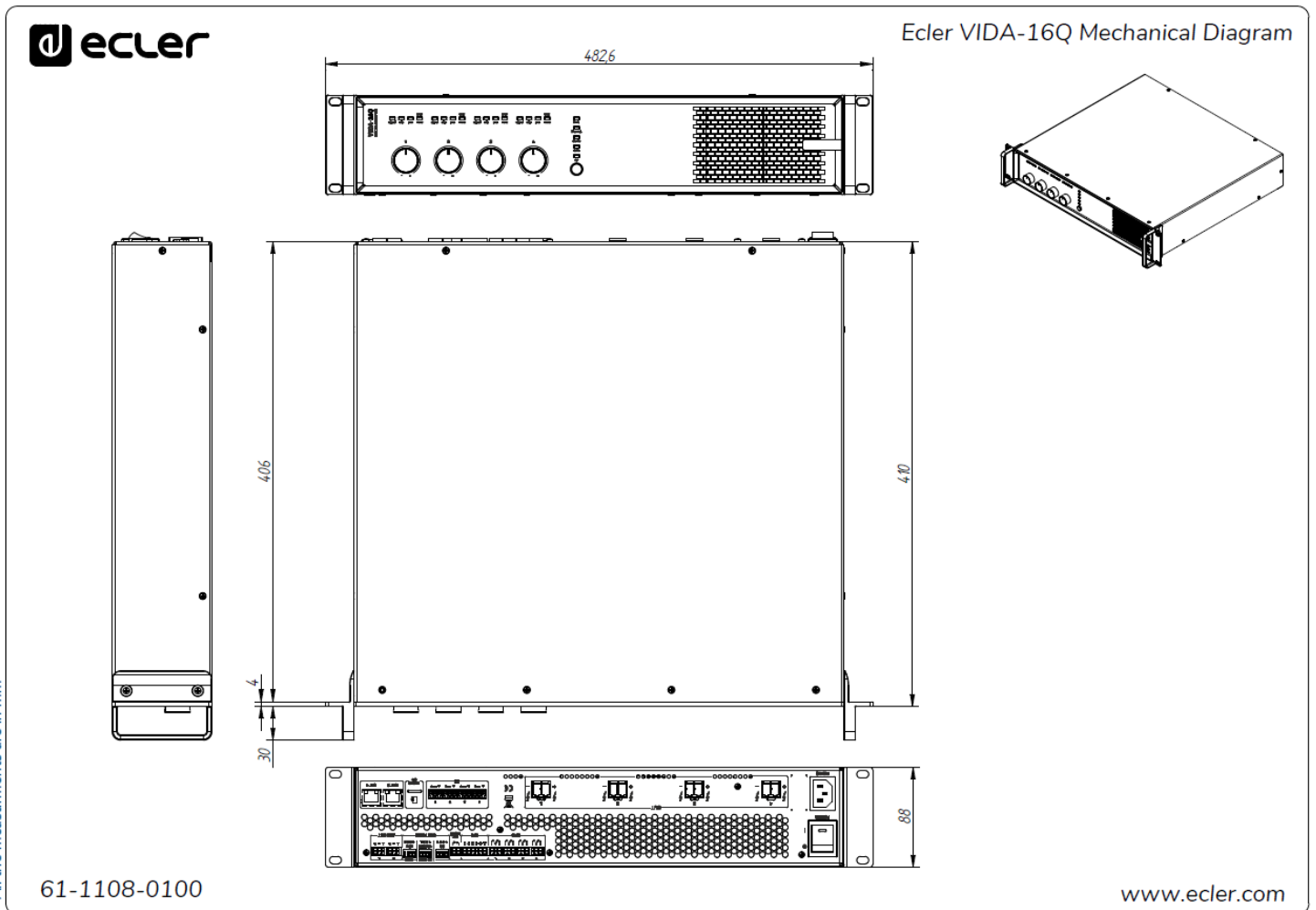
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## A & E SPECIFICATIONS

The amplifier must be an energy efficient four outputs Class-D power digital amplifier, containing 4 amplified outputs that can be independently configured in high (100/70V) or low (8/4/2ohm) impedance with a total output power of 1600 Watt. The power distribution shall be asymmetrical using VersaPower technology. It shall support 4 analogue inputs, 4 digital Dante™ / AES67 inputs and 4 digital Dante™/ AES67 outputs formatted networked audio, as well as an audio player - with microSD slot for local audio files playback, a signal generator, plus 2 auxiliary line outputs.

The amp stage construction must be transformerless using Class-D amplifier technology and powered by a switching power supply. Each amplified output shall have integrated circuitry to protect against short-circuits or mismatched loads and over-heating. The amplifier must be Forced air cooled, front to back airflow, so that maintenance can be kept to a strict minimum. An automatic signal detection circuit shall be implemented, switching the amplifier to standby or sleep mode function when no audio input signal is detected. The sleep mode mains consumption shall be less than 4.2 Watt.

The amplifier should be managed from its web application, allowing signal routing and mixing - matrix -, audio signal processing - such as equalisation and limiters -, priority management, GPIO configuration through events, as well as calendar events, playlist management and SD card contents, thus facilitating the start-up of the audio-visual installation, its maintenance and customisation. The amplifier should be remotely controlled by the users, with a mobile application, compatible with Android and iOS.

The front panel shall contain an ON switch accompanied by a white power LED indicator, white DATA LED indicator, white DANTE™ LED indicator and a red THERMAL LED indicator. A white signal LED, per channel, indicates the presence of an input signal, a red clip LED indicating the output operation at maximum level and a protection LED indicating any fault detected shall be provided for each channel. The level controls shall be located on the front panel.

All connections shall be made on the rear panel of the unit. The audio signal input connections shall be balanced and performed using euroblock connectors. The amplified audio output connections must be fitted with terminal block connectors. The amplifier must have 4 GPI and 4 GPO general purpose controls (euroblock connector).

The amplifier shall operate on a 100-240V AC - 50/60 Hz mains network and shall be equipped with a removable power cord having a standard shuko (CEE 7/7) AC plug. The connector on the amplifier chassis shall be a fused IEC C14 type. The amplifier chassis shall be a 2UR steel constructed 19'' housing. Depth from mounting surface to rear supports shall be 410 mm and the weight shall not exceed 9.3 Kg.

The amplifier shall be the ECLER VIDA-16Q.