



Sound Shower AA-160 RS-232 Operation and Specifications

Operation

Attach Sound Shower securely using suitable brackets. There is VESA-100 compatible bracket attachment and safety wire attachment on backside of the product. Connect and secure all cables before connecting the 24V PSU to mains. Aim Sound Shower front plane towards intended listening area.

After connecting PSU to mains the green Power LED is lit.
Audio media may be played and volume level increased or decreased to suitable level by Volume Control knob. Red Clip LED is indicating when maximum signal level is reached and amplifier is at the edge of clipping. It is not recommended to exceed this limit in continuous use.

Use volume control carefully and protect other persons comfort and hearing: because of high directivity there may be local high sound pressure levels in front of loudspeaker not heard from side areas or where remote control is operated!

Electrical specifications of AA-160 amplifier

Power In: +24VDC, use Panphonics approved PSU
Zero volume level current/RS-232 off: approx. 130 mA/20mA
Input type and impedance: balanced XLR type, 13kOhm
in case of unbalanced mono: Pin 1 Ground, Pin2 Signal, pin3 Ground
Rated output: performing 160 V rms against 135 nF capacitive load
Output Frequency Characteristic: Minimum 200 - 16kHz
S/N Ratio: 70 dB minimum
Total Harmonic Distortion: not over 0.05 % at any frequency at 75% rated output
Bias voltage output: 420VDC
Ambient Temperature Range: 0°C - 40°C
RS-232 remote features: OFF/ON, Volume level control, level and status monitoring

GENERAL INFORMATION

DC Power: The operating voltage is 24V DC with external (Panphonics specific) switching PSU included. Connector square tap is +24VDC.

Green power indication LED is lit when the amplifier is connected to DC power source and power is on.

Audio Input: 3-pin XLR type locking signal input connector. Balanced signal XLR pinout: Pin1 signal ground, Pin2 signal, Pin3 phased signal, Shield: Ground
Input can be connected to unbalanced signal.

Software: SSH160_v1_5_C0.hex/ UI_RS232_v1.1: input 1,4V p-p, Pin2 /Output 160V p-p

Volume Level Control

Power amplifier stage is always on full amplification. Level adjustment effects the audio signal level going into the power stage and output. Volume Level control is 0 - 100%. 0% being zero volume, 100% being full volume. Adjusted level is recorded in memory. Last adjusted recorded level is recalled after switching off electrical power or after power failures.

Red clip indication LED is lit when the amplifier is at the edge to be overdriven. This indicate user when reaching the maximum levels.



Troubleshooting:

In case of green Power indicating LED is not lit please check first that unit is not set off via RS-232. Check power connections and fuse (5*20mm, glass tube type, 3A medium-blow).

In case of sound is not heard, please check signal level and presence of signal.
Do not open the product back cover. No user serviceable parts inside.

Front canvas is changeable. It is attached by internal spring pressure under frame edges - by pressing the canvas and same time sliding the edges under the side aluminium profile edge it is possible to trim the canvas smooth after change.

RS-232 Control

Amplifier main operations are possible to control and monitor remotely with RS-232 protocol.

Connector type/pinout: DB9 female connector.

Pin2:TxD to computer, Pin3:RxD from computer, Pin5:Ground

Line parameters: 9600bps, 8N1, no handshaking, no flow control

Communication: Commands are sent with ending LFCR (ASCII 0x0a 0x0d). Commands with parameter expect the parameter immediately after the command string without any spaces. Numeric parameters must be sent with leading zeros according to examples.

Commands are case sensitive.

Power on: PWRON

Power off: PWROFF

Volume set: VOL<xx> (<xx>=00-37: 00 being zero volume, 37 being full volume)

Volume Read: VOLREAD

Heartbeat reply: STATUS

The device replies with a message containing string 'STATUSxx,ON' where xx is a number that is incremented on each status query. The status string may contain additional information separated with commas.

Device sends 'OVERCURRENT' in the status reply when the current protection has been activated.

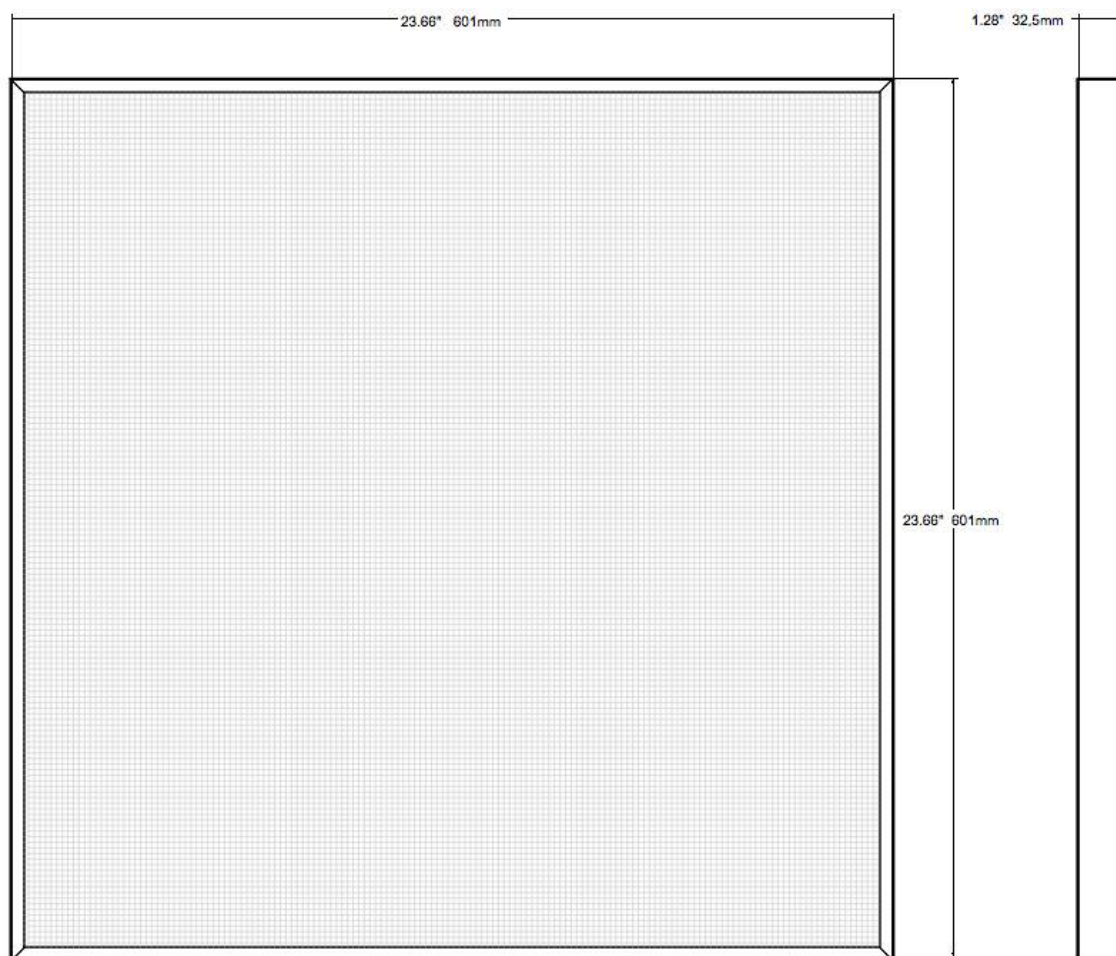
Command examples:

">" commands from PC	"<" replies from RS-232	Action
>PWROFF	<STATUS01,OFF	Amplifier OFF, RS-standby
>VOL00	<ERROR	(Amplifier is OFF)
>PWRON	<STATUS02,ON	Amplifier ON (green LED is lit)
>VOL00	<STATUS03,ON	Amplifier volume set to zero
>VOLREAD	<VOL=00	Monitor volume status
>VOL37	<STATUS04,ON	Full volume
>VOLREAD	<VOL=37	Monitor volume status
>STATUS	<STATUS05,ON,I0150,V2405	Monitor status

Software versions: Amplifier SW: "SSH160_v1_5_C0.hex"/ RS-232 SW: "UI_RS232_v1.1"

After sending VOL<xx> command or after manual volume adjustment there is time delay approx. 25 seconds for the new volume setting is stored into amplifier memory as new valid preset.

Amplifier can only be activated trough RS-232 with PWRON-command, if it is once set to OFF state with PWROFF-command.



Front and side view

Size: 601mm x 601mm x 32.5mm, +/- 1mm
22.66" x 22.66" x 1.28"
Product height on electronics interface 55mm.

Weight: 3,4 kg, excluding PSU
7.5 lbs

Colour: White

Electrical connections and controls, fuse, indicator LED's and attachments are located on the back side of product.

Packing:

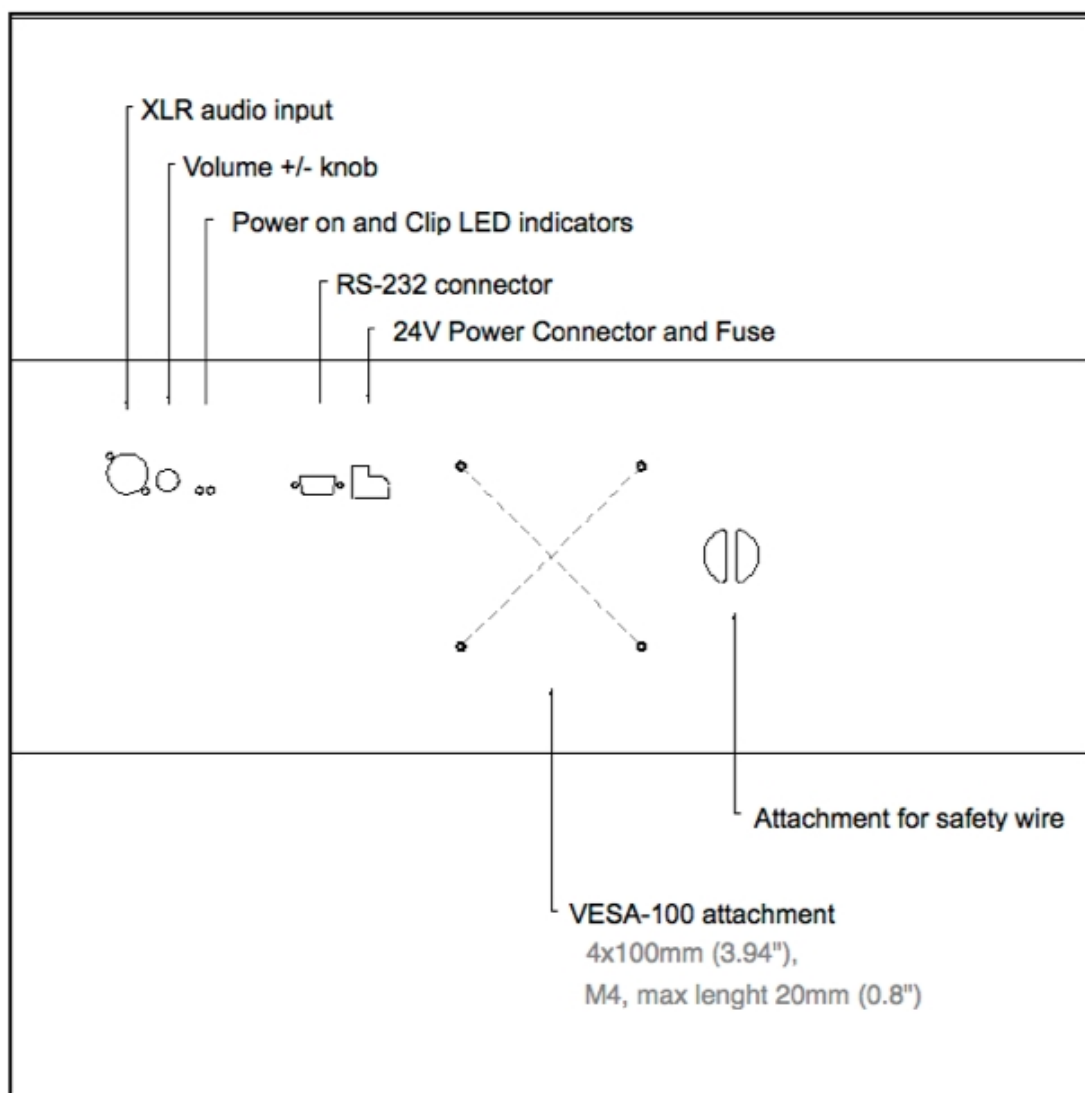
Single product packing on protective films and cardboard box, PSU included.

Packing dimensions: 730mm x 620mm x 60mm/ 4,5 kg
28.7" x 24.4" x 2.4" /9.9lbs

Volume packing:

60 products: single product boxes on EU pallet size (80cmx120cm) hard cover plywood box, height 225cm/ 300kg (660lbs)

1000 products: 17 pallet boxes (with humidity control) in 40 feet container



Back side view

Directives and regulations involved:

2002/96/EC (WEEE), 2002/95/EC (RoHS), 2006/95/EC (Low Voltage Directive), 2004/108/EC (Electromagnetic compatibility), designed and tested according IEC/EN 60065 (Audio, video and similar apparatus - Safety requirement)

Declaration of conformity according Directive

2006/95/EC, CE-marking is based on :

- 1) Radiated emissions and immunity tests according to EN 55103-1, EN 55103-2
- 2) Safety tests according to IEC 60065, Test facility: Nemko Oy (www.nemko.com)

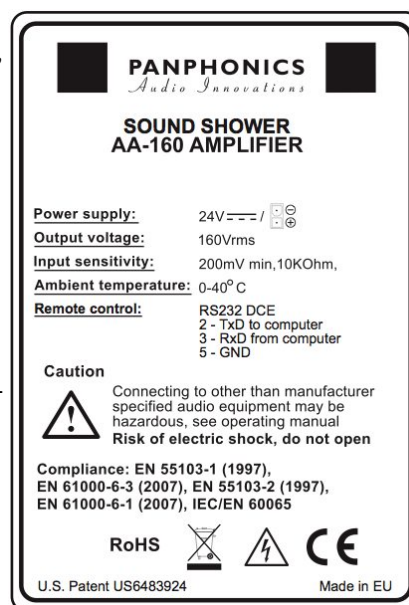
2002/96/EC (WEEE):

Panphonics Oy, a registered member (10937) of SELT ry (PIR-2005-Y-354-114)/ Elker Oy that is a member of non-profit organization "Waste of Electrical & Electronical Equipment Forum," abbreviated as "WEEE Forum," having its registered office at the Diamant Building, 80 Boulevard August Reyers, Schaerbeek (B-1030 Brussels). WEEE-marking is attached on name plate.

2002/95/EC (RoHS):

Parts are defined and manufactured to meet RoHS-compliance.

Product Customs Code: hs-code 851821, cn-code 8518.21.00



Name plate

