

SAFETY INFORMATION

Before you use this TW AUDIO product, read S33 manual carefully.

Loudspeakers can be checked and stamped according to BGV C1 by official departments. For more information contact TW AUDIO at info@twaudio.com or +49 (0) 71 41 - 48 89 89 0

GENERAL

VERA S33 is flyable active bass-reflex designed low-frequency loudspeaker, equipped with one 18" LF driver at the the front and one 15" LF driver facing back.

VERA S33 requires 4 wires speaker cables, where PIN1 is connected to 15" back driver and PIN2 to 18" front driver (Fig 3.) Use only 4 wired loudspeaker cables.

VERA S33 as default is available in black colour and polyurea coating. Any different RAL color is possible only with warnex structure paint.

Due to different DSP preset settings VERA S33 could work in modes:

- cardioid - full cancellation at the back, where frequency depended addition at front, (>20 dB front/back ratio, average)
- endfired - wide range addition at front when frequency depended cancellation at the back (>10 dB front/back ratio, 2-3 dB more frontal summation)
- figure8 response (special application, contact support@twaudio.de)

In cardio preset increasing the delay of front driver it is possible to get hypercardio response. Hypercardio setup might be used when only left and right subwoofer stacks are possible (less cancelation at the back, more narrow coverage on sides)

VERA S33 is designed to be powered by DSP equipped amplifier. TW AUDIO recommends the Powersoft K3DSP AESOP or LAB PLM as system amplifiers. As an external controller for other amps it's recommended to use the LAKE LM26 or LM44.

VERA S33 always requires a dedicated preset loaded on the amplifier/controller. Never use the loudspeaker without the preset. Always be aware to have the correct preset loaded on your system amplifier before connecting the loudspeaker. Be sure that the internal connections in the amplifier rack are identical to shown on Fig 2.

For best performance, sound reinforcement systems require proper optimization depending on their size, setup, location and the room acoustics. For system optimization TW AUDIO recommends professional dual FFT measuring systems with phase and magnitude response.

COMBINATION WITH OTHER PRODUCTS

VERA S33 can be combined with any TW AUDIO full-range products. Be sure about proper time alignment.

For different product combinations visit www.twaudio.com.

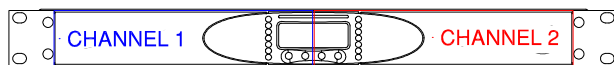
If you have any questions about your product don't hesitate to contact TW AUDIO on support@twaudio.com or by phone +49 (0) 71 41 - 48 89 89 56

S33	TECHNICAL DATA	
Frequency range	[Hz]	33 - 120
Power pgm/peak	[W]	18: 2400/4800, 15: 2000/4000
Impedance	[Ohm]	18: 8, 15: 8
Dispersion		cardioid, hypercardioid, figure-8
Sensitivity	[dB]	99
max SPL	[dB]	134
Dimensions	[mm]	606 x 700 x 800
Weight	[kg]	66

FIG 1. PRESETS / REFERED TO PRESETLIST A03

preset list version
 driver: front ch1, rear ch2
 operation mode: cardio, endfire
 speaker model

VS33-CARDIO-front__VS33-CARDIO-rear__A03



PRESET NAME	
CHANNEL 1	CHANNEL 2
S33	
VS33-CARDIO-front	VS33-CARDIO-rear_A03
VS33-ENDFIRE-front	VS33-ENDFIR-rear_A03

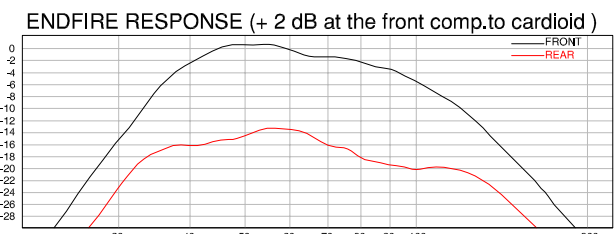
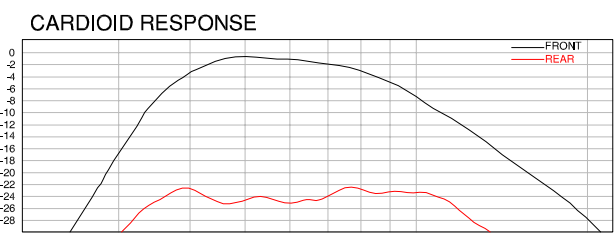


FIG 2. APL4-K AMPLIFIER RACK

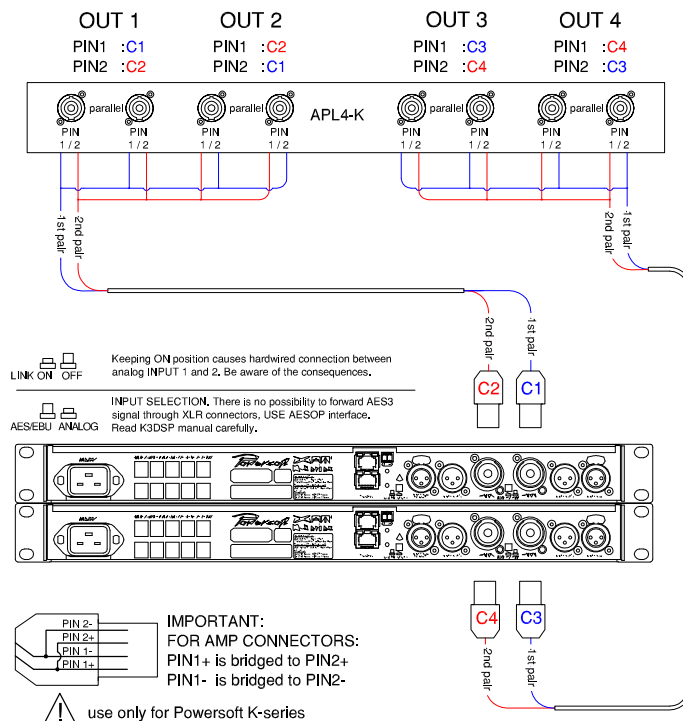
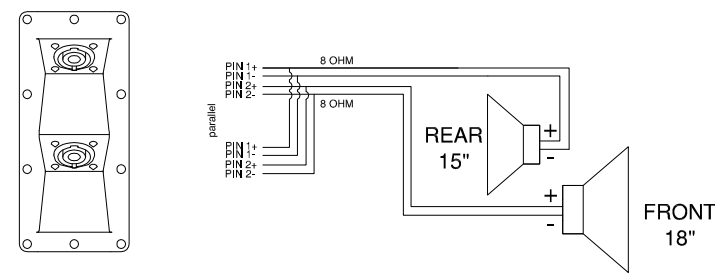
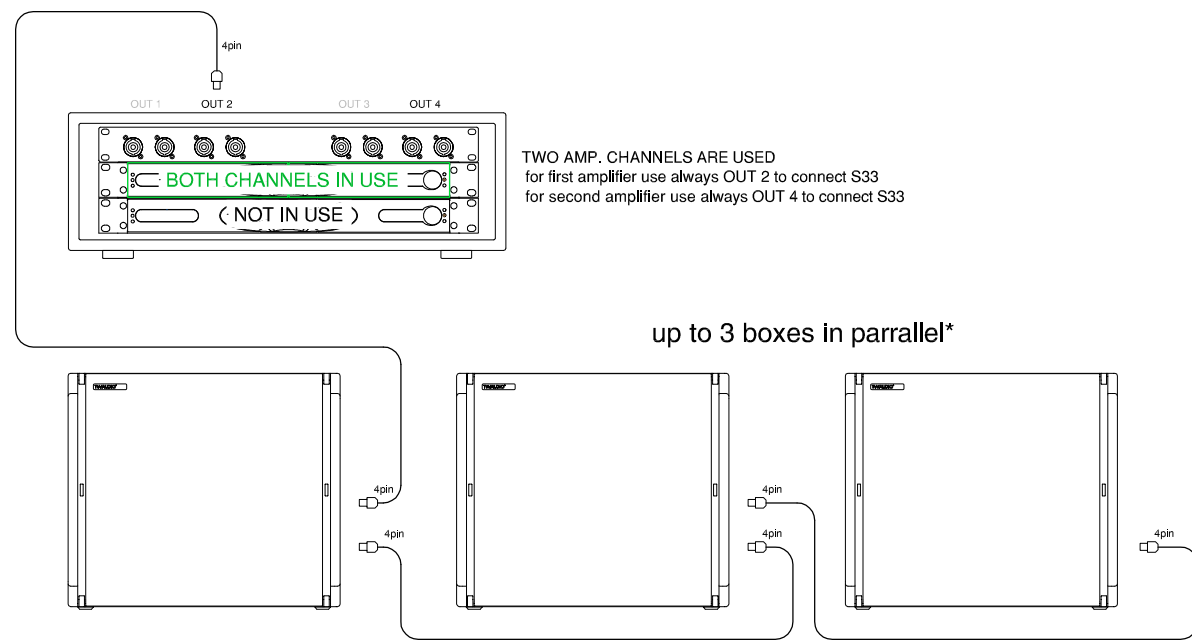


FIG 3. INTERNAL WIRING DIAGRAM



NOTE: 15" LF driver polarity is already reversed by enclosure internal connection

FIG 4. VERA S33 - CONNECTION TO THE AMPLIFER



- for long term high SPL requirements drive only 2 units on one POWERSOFT K3DSP (4 OHM operation)
- for lower SPL requirements, it is possible to drive 4 boxes on POWERSOFT K3DSP(2 OHM operation)

for different products combination go to the system example diagrams

FIG 5. DISTANCE FROM SURFACES

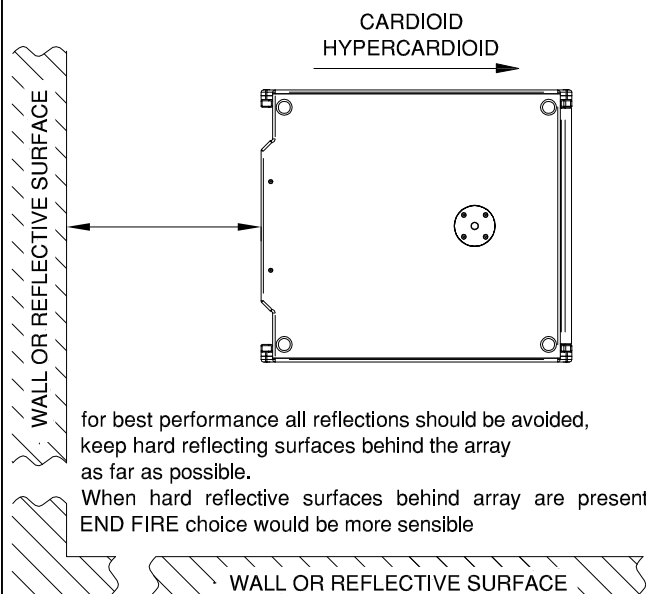
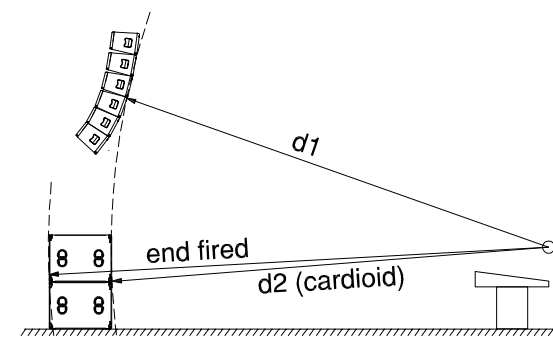


FIG 6. TIME ALIGNMENT

according to ENDFIRE principles ENDFIRE preset contains additional 2,5 ms delay to front firing 18' driver (rear side of enclosure where 15' driver is located is found as first active sound source with 0 time)



- when physical distance measured to top source and S33 front grill is equal:
- CARDIOID preset: d2 = d1 (no delay)
 - END FIRE preset: additional 2,5 ms delay to top is required.