



Yorkville SA115S Synergy Array Series Powered Subwoofer Owner's Manual

[Home](#) » [Yorkville](#) » Yorkville SA115S Synergy Array Series Powered Subwoofer Owner's Manual 

Contents

- [1 Yorkville SA115S Synergy Array Series Powered Subwoofer](#)
- [2 IMPORTANT SAFETY INSTRUCTIONS](#)
- [3 Power Sources](#)
- [4 Hazards](#)
- [5 Power Cord](#)
- [6 Service](#)
- [7 Synergy SA115S Powered Speaker](#)
- [8 Specifications](#)
- [9 Yorkville Synergy Convenience Receptacle Installation \(Cascade Installation\)](#)
- [10 Two & Ten Year Warranty](#)
- [11 Documents / Resources](#)
- [12 Related Posts](#)

Yorkville

Yorkville SA115S Synergy Array Series Powered Subwoofer



IMPORTANT SAFETY INSTRUCTIONS

- This lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.
- The DO NOT STACK symbol is intended to alert the user that the product shall not be vertically stacked because of the nature of the product.
- DO NOT PUSH OR PULL
- NOT TO BE SERVICED BY USERS
- CAUTION: HOT SURFACE ATTENTION: SURFACE CHAUDE
- The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.
- CAUTION: OVERHEAD LOAD

FOLLOW ALL INSTRUCTIONS

Instructions pertaining to a risk of fire, electric shock, or injury to a person

- **CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL. THIS DEVICE IS FOR INDOOR USE ONLY!**
- **INSTALLED BATTERY PACKS SHALL NOT BE EXPOSED TO EXCESSIVE HEAT SUCH AS SUNSHINE, FIRE OR THE LIKE.**
- **Read Instructions:** The Owner’s Manual should be read and understood before operation of your unit. Please, save these instructions for future reference and heed all warnings.
- **Cleaning:** Clean only with dry cloth.
- **Packaging:** Keep the box and packaging materials, in case the unit needs to be returned for service.
- **Warning:** To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture. Do not

use this apparatus near water!Warning: When using electric products, basic precautions should always be followed, including the following:

Power Sources

Your unit should be connected to a power source only of the voltage specified in the owners manual or as marked on the unit. This unit has a polarized plug. Do not use with an extension cord or receptacle unless the plug can be fully inserted. Precautions should be taken so that the grounding scheme on the unit is not defeated. An apparatus with CLASS I construction shall be connected to a Mains socket outlet with a protective earthing connection. Where the MAINS plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.

Hazards

Do not place this product on an unstable cart, stand, tripod, bracket or table. The product may fall, causing serious personal injury and serious damage to the product. Use only with cart, stand, tripod, bracket, or table recommended by the manufacturer or sold with the product. Follow the manufacturer's instructions when installing the product and use mounting accessories recommended by the manufacturer. Only use attachments/accessories specified by the manufacturer.

- Equipment that is suspended overhead must use a secondary safeguard to prevent personal injury in the event the primary mounting mechanism fails. Safety eyebolts attached to the equipment and galvanized steel wire can be used together to implement a failsafe mounting thus ensuring the safety of the equipment and anyone positioned below the equipment.
- Improper installation can result in bodily injury or death. If you are not qualified to attempt the installation get help from a professional structural rigger.

Note: Prolonged use of headphones at a high volume may cause health damage to your ears.

- The apparatus should not be exposed to dripping or splashing water; no objects filled with liquids should be placed on the apparatus.
- Terminals marked with the "lightning bolt" are hazardous live; the external wiring connected to these terminals require installation by an instructed person or the use of ready made leads or cords.
- Ensure that proper ventilation is provided around the appliance. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

No naked flame sources, such as lighted candles, should be placed on the apparatus.

Power Cord

Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet. The AC supply cord should be routed so that it is unlikely that it will be damaged. Protect the power cord from being walked on or pinched particularly at plugs. If the AC supply cord is damaged DO NOT OPERATE THE UNIT. To completely disconnect this apparatus from the AC Mains, disconnect the power supply cord plug from the AC receptacle. The mains plug of the power supply cord shall remain readily operable.

Unplug this apparatus during lightning storms or when unused for long periods of time.

Service

The unit should be serviced only by qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, requires battery pack replacement or has been dropped. Disconnect power before servicing!

- The Lightning Flash with arrowhead symbol within an equilateral triangle, is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product enclosure that may be of sufficient magnitude to constitute a risk of shock to persons
- The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prongs are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

WARNING

- To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture and objects filled with liquids, such as vases, should not be placed on this apparatus.
- To completely disconnect this apparatus from the ac mains, disconnect the power supply cord plug from the ac receptacle.
- The mains plug of the power supply cord or appliance coupler shall remain readily accessible.

CAUTION

TO PREVENT ELECTRIC SHOCK HAZARD, DO NOT CONNECT TO MAINS POWER SUPPLY WHILE

GRILLE IS REMOVED.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.



Synergy SA115S Powered Speaker

Thank you for choosing Yorkville's Synergy SA115S subwoofer, the companion subwoofer to the SA153. The SA series excels in sound reinforcement applications where a line array is desired but can-not be easily accommodated.

Cabinet Features

The SA115S is constructed of high strength multiply birch plywood for ultimate durability. The SA115S uses a single 15-inch long-throw woofer.

Electronic Features

A Yorkville proprietary DSP platform provides processing to prevent over-excursion (X-Max), voice coil overheating (VC thermal) and clipping. The DSP uses IIR filters for crossover and equalization and there is a small delay added to time align with the SA153 top box. The X-Max limiter and the VC thermal limiter are both frequency sensitive and calibrated to match the characteristics of the driver and cabinet system. The VC-thermal limiter can be advanced to limit the power draw in cases where there is less than ample power available. The X-Max limiter is faster, pretty much instantaneous. The VC-thermal limiter is slower reacting, typically operating near the end of a bass beat at 120 bpm. The amplifier is a high headroom Class-D design. There is a large capacitor bank so that bass transients are less dependent on the quality of the power line.

The limiter indicators indicate when the X-max or VC thermal limiters are active. Typically, the X-max limiter is more active but this is content dependent. The effect of the line power advance can be observed by carefully watching these limit lights as the control is changed while operating in limit. The VC-therm indicator will come on sooner as the Average Power limiter is advanced. With many types of music, the effect of the VC-therm limiter will be minimal.

1. Power Switch and Indicator

The green power LED illuminates when the power switch is turned to the On position and AC voltage is supplied. When the power is removed or the power switch is moved to the off position the green power indicator will blink while the power supply is discharging. The processing circuitry will not reboot unless the power supply is fully discharged before being turned back on. It is not necessary to reboot however. Turning the power back

on before the power supply is discharged will simply resume normal operation.

2. **PowerCON TRUE AC Loop Thru**

As a standard, the AC inlet on the SA115S accepts locking PowerCON TRUE power cords. There is also an AC outlet that can be used to loop power through to other cabinets in your array using a male to female PowerCON TRUE looping power cord. Check with your local Yorkville dealer for availability of these accessory cords.

IMPORTANT: DO NOT EXCEED THE CURRENT RATING OF THE POWER and ACCESSORY CORDS.

PLEASE READ THE SECTION OF THIS MANUAL CALLED CASCADE INSTALLATION

3. **Input Jack**

This female-XLR accepts line level XLR microphone cables. For best noise reduction use balanced sources.

4. **Dual Link Outputs**

These XLR male connectors can be used with a standard XLR cable to daisy-chain up to 20 SA115S cabinets without signal degradation. Simply loop from one cabinet's Link jack to the next cabinets Input jack. In many cases this limit of 20 cabinets can be exceeded, consult Yorkville Sound for more details.

5. **SA115S Level Control**

This control adjusts the volume level of the SA115S relative to the input signal level. Mixers and other audio sources connected to the SA115S tend to have different output voltages, which mean the level control on the SA115S is used to fine tune the cabinet's volume relative to the mixer settings. It is perfectly acceptable to set the SA115S Level above or below the center 0 dB setting.

6. **Clip, X-Max, VC-Therm, Activity Indicators**

The Clip and Limit LED indicators illuminate to guide the user to proper operating levels.

Illumination either of the yellow Limit LEDs indicates that a level has been reached where the SA115S limiters are reducing the signal internally to prevent damage or distortion. It also indicates that further increases in input level or increasing the SA115S Level control position will not appreciably increase acoustic output.

The red Clip LED indicates that the input level is excessive and further increases in level will cause severe distortion. The input signal should be reduced at the source until Clip activity ceases. The clip indicator comes on at 12 Vrms, 16 volts peak. The input clips at 17 Vrms, 24 volts peak.

The activity Indicator comes on at 5 mVrms or -45 dBV.

7. **Line Current Limit Control**

The Line Current Limit control allows the power to be reduced to allow operation on limited power availability. Full power transients will be allowed through but if the average power is excessive then the power will be limited. This control works by advancing the limiter that limits the voice coil temperature and by monitoring the current draw. In the 5 amp (2.5 amp CE) position the average power is limited only by the voice coil temperature. In the 4 amp (2 amp CE) position with most music, the limiter will be only active occasionally depending on the music content. In the 3 amp (1.5 amp CE) position certain types of music will not be limited, primarily music without deep bass or where the bass is unprocessed. The 2 amp (1 amp CE) position will significantly reduce the output when the music content has continuous bass content below 45 Hz. The green power on indicator will dim to indicate when the line current limiter is active. A small amount of dimming indicates that the advanced thermal limiter is active while significant dimming indicates that the line current monitoring system has detected excessive line current. Low line voltage typically due to long power supply cables may cause excessive line current, the line current monitoring system will prevent this from tripping the power source circuit breakers.

Specifications

- **System Type** Active Subwoofer
- **Active or Passive** Active
- **Program Power (watts)** 4500 watts Program (9000 watts peak)
- **Measured Max SPL (C-Weighted, Max Hold)** 129dB Cont. 135 dB Peak
- **Frequency Response (Hz +/- 3dB)** 31 Hz – 100 Hz
- **Crossover Frequency (Hz)** 100 Hz lowpass
- **Cabinet Configuration** Tapped Horn
- **Driver Configuration** 1×15-inch LF woofer
- **LF Driver(s)** 15-inch Neodymium with 4.5-inch Voice Coil
- **LF Program Power (watts)** 4500 watts program (9000 watts peak)
- **LF Impedance (ohms)** 4 ohm Load
- **LF Protection** Excursion, Voice Coil Thermal (RMS)
- **LF Amplifier Type** Class D
- **Cooling Scheme** Convection
- **Power Cable** Removable Locking Powercon True Input and Loop Thru Output
- **Power Switch** Yes
- **Inputs** 1 XLR with 2x XLR Parallel out, Impedance 35k ohms
- **Input Sensitivity (Vrms Sine)** Line in 1.4 at center, 0.56 at max
- **Level Controls** Volume, -∞,0dB,8dB (Min, Top, Max)
- **EQ Controls** Thermal Limiter Advance for power consumption management
- **Limiter** Excursion, Thermal (RMS), Clipping
- **LED Indicators** Power, Excursion Limit, Thermal (RMS) Limit, Input Clip, Activity
- **Enclosure Materials** Multiply 15mm Birch Plywood
- **Stacking Feature** Interlocking Rubber Feet (Sides)
- **Covering / Finish** Paint
- **Dimensions (DWH xbackW, inches)** 36.625 (including Casters) x 17.750 x 35.250
- **Dimensions (DWH xbackW, cm)** 93 x 45 x 82
- **Weight (lbs/kg)** 165/74.9

Yorkville Synergy Convenience Receptacle Installation (Cascade Installation)

RATED CURRENT

Table 1 – SYNERGY RATED CURRENT

MAINS VOLTAGE	MODEL	RATED CURRENT T (Arms)	LINE CURRENT ^a LIMIT SWITCH (Arms)		
			MAX	80%	60%
120V 60 Hz (NORTH AMERICA)	SA102	1.0			
	SA153	2.5			
	SA115S	3.0			
	SA221S	11.0	11.0	8.0	6.0
	SA315S	10.2	10.2	10.2	8.1
230V 50 Hz (EUROPE)	SA102	0.5			
	SA153	1.5			
	SA221SCE	6.3	6.3	4.0	3.0

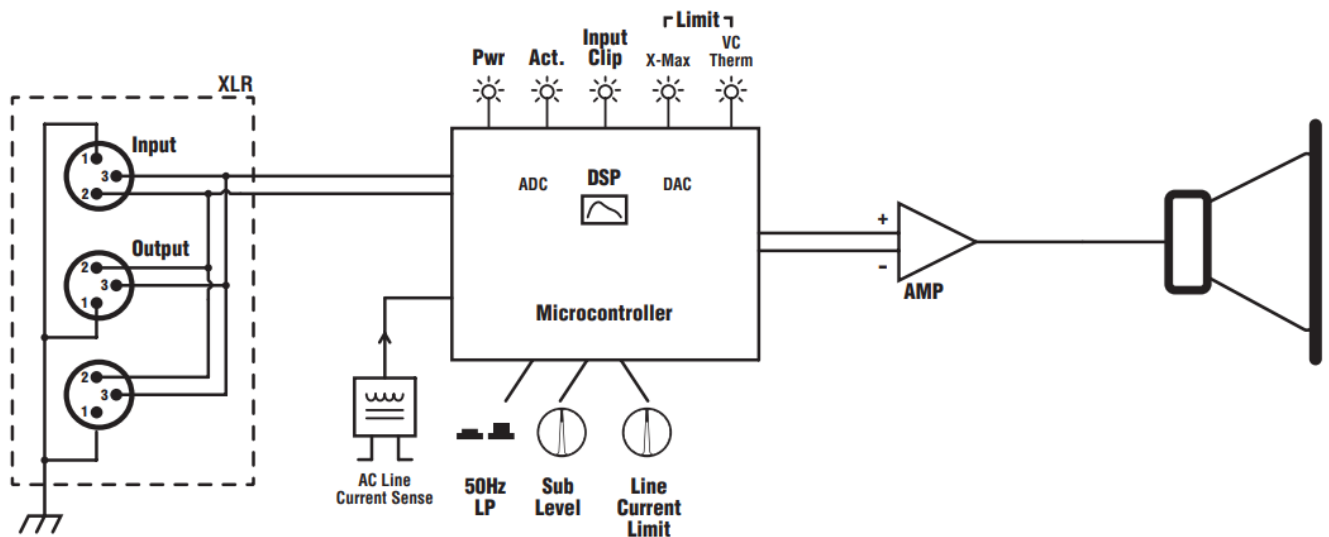
^a The LINE CURRENT LIMIT SWITCH allows the user to limit the maximum continuous current consumption to reduced values as shown.

Tech Support: If you have any questions concerning your SYNERGY equipment don't hesitate to contact synergy@yorkville.com

ELECTRICAL SAFETY

It is always important to connect all sound reinforcement equipment to ac mains supply circuits that have proper electrical safety grounds. Never break off the Earth Ground pin from a 3-prong plug. This pin provides personal protection from electrical shock and protection of the equipment from lightning strikes and electrostatic buildup. It is also required for EMC shielding. Replace the plug if the Earth Ground pin is missing.

1. Always connect the equipment to a circuit with a suitable electrical ground.
2. Do not overload the power cords and convenience outlets.
3. Always inspect the cords and plugs before use. Do not use outlets or cords that have exposed conductors, are worn or damaged. Replace electrical cords that have worn or damaged insulation and remember to pull the plug not the cord to prevent damage to the cord. Only replace with the equivalent heavy-duty cord supplied by the manufacturer.
4. The AC supply cord should be routed so that it is unlikely that it will be damaged. Protect the power cord from being walked on or pinched. If the AC supply cord is damaged DO NOT OPERATE THE UNIT. To completely disconnect this apparatus from the AC Mains, disconnect the power supply cord plug from the AC receptacle. The mains plug of the power supply cord shall remain readily accessible. Unplug the apparatus during lightning storms or when unused for long periods of time. Route cords away from traffic to avoid tripping hazards and unnecessary wear on the power cord.
5. Never Break Off the Third Prong on a Plug. Replace broken 3-prong plugs and make sure the third prong is properly grounded.
6. Keep line cords away from heat, water and oil. They can damage the insulation and create a shock hazard.
7. Do not tie cords in tight knots. Knots can cause short circuits and shocks. Loop the cords or use a twist lock plug.



Two & Ten Year Warranty

Unlimited Warranty

Yorkville's two and ten-year unlimited warranty on this product is transferable and does not require registration with Yorkville Sound or your dealer. If this product should fail for any reason within two years of the original purchase date (ten years for the wooden enclosure), simply return it to your Yorkville dealer with original proof of purchase and it will be repaired free of charge. This includes all Yorkville products, except for the YSM Series studio monitors, Coliseum Mini Series and TX Series Loudspeakers.

Freight charges, consequential damages, weather damage, damage as a result of improper installation, damages due to exposure to extreme humidity, accident or natural disaster are excluded under the terms of this warranty. Warranty does not cover consumables such as vacuum tubes or par bulbs. See your Yorkville dealer for more details. Warranty valid only in Canada and the United States.

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WORLD HEADQUARTERS CANADA

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Documents / Resources

<div><div>OWNER'S MANUAL MANUEL DE L'UTILISATEUR</div><div> synergy SA115S</div></div>	<p>Yorkville SA115S Synergy Array Series Powered Subwoofer [pdf] Owner's Manual SA115S Synergy Array Series Powered Subwoofer, SA115S, Synergy Array Series Powered S ubwoofer, Array Series Powered Subwoofer, Powered Subwoofer, Subwoofer</p>
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