

JBL SR-X User's Guide



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Part # 981-00052-02



Welcome

Welcome to the family of discerning sound equipment users who have selected JBL Professional loudspeakers. This User's Guide contains important information that will help you get the most from your JBL speakers so please take a few moments to read it and be sure to keep it in a safe place for future reference.

Thanks from all of us at JBL Professional.

Model: SR47 -X **Serial Number:** _____

Purchased from (dealer): _____

Purchase date: _____

JBL Professional Contact Information



H A Harman International Company

JBL Professional
8500 Balboa Blvd.
Northridge, CA 91329

www.jblpro.com



Before You Begin

JBL

PROFESSIONAL

Important information

Before using your SR-X Series speaker system, please review the following for important information on safety and protection of your investment in quality loudspeakers.

Rigging / suspending SR-X products

SR-X Series speakers are designed for portable applications in which the speakers will be stacked directly on the floor, stage, speaker stands (SR4702X, SR4722X only), other speakers, or a solid, stable platform.

SR-X Series speakers have no provisions for hanging, rigging or suspension.

SR-X/F Series speakers are similar to SR-X and in addition have provisions for flying. SR-X/F versions should always be substituted for SR-X if flying or suspending the speaker system is required.

ONLY SPEAKERS SPECIFICALLY DESIGNED FOR FLYING / RIGGING SHOULD BE SUSPENDED.

For further information on suspending speakers contact JBL and request Technical Note Volume 1, Number 14 – “Basic Principles for Suspending Loudspeaker Systems”.

Stand mounting

Some SR-X models (SR4702X, SR4722X) include a receptacle cup to facilitate mounting on tripod stands. When using these stands, be sure to observe the following precautions:

- Check the stand specification to be certain it is designed to support the weight of the speaker. Observe all safety precautions specified by the stand manufacturer.
- Always verify that the stand is placed on a flat, level, and stable surface.
- Route cables so that performers, crew, and audience will not trip over them and pull the speaker over.
- Be sure to fully extend the legs of tripod type stands.
- Position the stand so that the legs do not present a trip hazard.
- Do not attempt to place more than one speaker on a stand.
- Always be cautious in windy, outdoor conditions. It may be necessary to place additional weight (i.e. sandbags) on the base of the stand to improve stability.

Stacking speakers

Safety precautions should be observed when stacking SR-X speakers.

- Verify that the floor or stage on which the speakers will be stacked is flat, level and solid.
- When used outdoors, be aware of winds that could tip a tall speaker stack over.
- Position the speakers to minimize the possibility that performers, crew, or audience will bump into them.
- Under extreme, high-SPL conditions it's possible that speakers on a highly polished surface can “creep.” (i.e. move due to the power of the acoustic energy) Precautions should be taken so that such creeping will not result in toppling of the speaker stack.

Hearing damage, prolonged exposure to excessive SPL

SR-X series loudspeakers are easily capable of generating sound pressure levels (SPL) sufficient to cause permanent hearing damage to performers, production crew and audience members. Proper precautions should be taken to avoid prolonged exposure to SPL in excess of 85dB.

Exposure to moisture, outdoor applications

While SR-X Series loudspeakers will work great for outdoor sound reinforcement, they are not “weather-proof” and are not intended for continuous exposure to extremes of humidity, temperature, salt air, or UV rays. Exposure to outdoor environmental conditions may result in premature failure of components as well as degradation to appearance.

Product Range

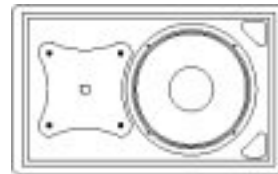
The SR-X Series consists of 11 popular configurations including subwoofers, front-of-house systems, and stage monitors. SR-X models include these features:

- Metalized polyester capacitors are used throughout (instead of cheaper electrolytics) for higher power handling and lower distortion.
- “Dual-mode” crossovers can be easily switched from full-range to bi-amplified operation. A tamper-resistant, internal mode selector provides a visible, external indication of the selected mode.
- Dual driver subwoofers may be operated in parallel or discrete mode.
- VGC™ (Vented Gap Cooling) low-frequency transducers control heat build-up to increase power handling and decrease power compression, providing more acoustic output for every watt of amplifier input.
- 13 ply birch enclosures are finished in tough DuraFlex™ that resists the inevitable scuffs and dings a hard-working speaker suffers during a life of one-nighters.
- Pure titanium diaphragm compression drivers are used in all two & three-way models for high power handling and reliability.
- Optimized Aperture™ horn/driver combinations reduce throat distortion and provide smooth frequency response.
- A non-resonant, full-length perforated metal grill provides protection for the components and a rich yet unobtrusive appearance.
- Trapezoidal enclosures (except SR4715X / 4718X / 4719X / 4702X) for optimal coverage when splaying multiple cabinets.
- Family footprint on the most popular models provides ease of stacking for larger, full-range systems

Stage Monitor

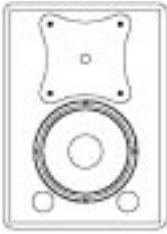
SR4702X

12” two-way stage monitor: With 600 watts of power capacity and 95 dB sensitivity, the SR4702X delivers all the output needed to cut through high stage volumes. Its compact footprint won’t crowd the stage and the low profile won’t come between the performer and the audience. For increased flexibility, a tripod mount socket is provided to facilitate use as a front-of-house speaker. A “pass-thru” speaker connector allows cleaner connection of adjacent cabinets driven by the same amplifier.



Product Range

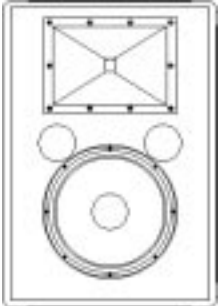
2-Way Systems



SR4722X
12" two-way compact speaker: A great choice for applications where compact size, ease of transport, and speaker stand "mountability" are required. For speech and many music uses, the SR4722X works great by itself. When more bass is needed, team it up with an SR-X Series sub-woofer. A pole-mount socket (35 mm) is provided for stand mounting.

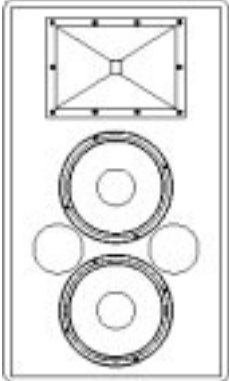


SR4725X
15" two-way compact speaker: The 15" two-way system is a favorite for general music and speech applications. The SR4725X produces extended low frequencies in a transportable enclosure.

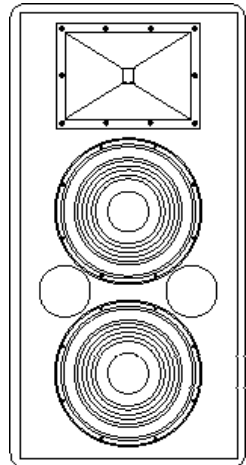


SR4726X
15" two-way high-output speaker: When the requirement is for very high acoustic output, extended low-frequency performance, and the convenience of a one-box system, choose the SR4726X. The large format 2447 compression driver coupled to an Optimized Aperture™ horn delivers great pattern control at very high levels with low distortion.

Dual LF Systems



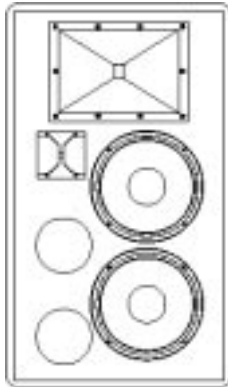
SR4731X
Dual 12" two-way system: With the combined power of two VGC LF motors and the cone area of dual 12" speakers, the SR4731X produces incredible amounts of mid-range power combined with lots of tight, punchy bass. The transition from the 12" LF drivers to the large format 2447 compression driver is very smooth. For extremely high-power applications requiring earth-moving bass, use the SR4731X over the SR4719X subwoofer.



SR4733X
Dual 15" two-way system: The SR4733X delivers the power and performance of separate subwoofer / high-mid configurations combined with the simplicity of an all-in-one system. At home in a wide range of live sound and playback applications, the SR4733X delivers very high acoustic output combined with lots of extended low bass.

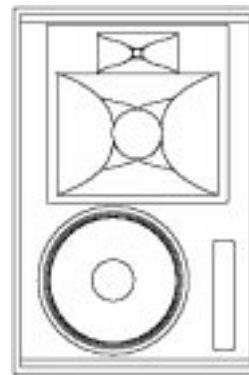
Product Range

3-Way Systems



SR4732X

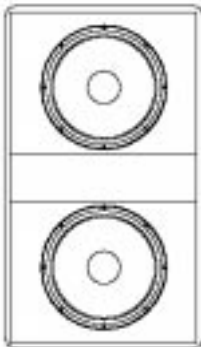
Dual 12" three-way system: Take the SR4731X, add the high-frequency sizzle of a 2404 UHF driver and you get the ultimate speaker system for very high-level music playback in medium to short throw applications. In combination with the SR4719X subwoofer, this is an unbeatable system for DJ and dance club applications.



SR4735X

15" three-way system: For long-throw applications in which the power and additional control of a horn-loaded cone MF driver is desired, choose the SR4735X. This system boasts extremely wide frequency response and is a great choice as an arrayable, front-of-house reinforcement system.

Subwoofers

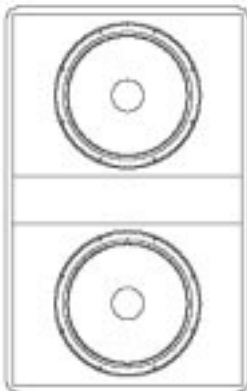
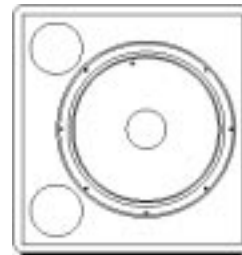


SR4715X

Dual 15" subwoofer: For those who prefer the tight, punchy bass of a 15" sub, the SR4715X is the answer. The SR4715X has the same footprint as the other SR-X 15" two-way systems (including the dual LF models) for tight floor stacking.

SR4718X

Single 18" subwoofer: The single 2241 subwoofer produces pounding bass down to 30 Hz. A top mounted, 35 mm diameter socket is provided for an optional pole (JBL model SS3-BK) to elevate a speaker such as the SR4702X or SR4722X above your subwoofer. The socket is intended to accommodate speakers up to 100 lbs (45 kg). Observe the stand mounting precautions outlined in the "Before You Begin" section of this User's Guide.



SR4719X

Dual 18" subwoofer: Capable of delivering a wall-shaking 136 dB of acoustical output with a frequency range extending to 25 Hz, the SR4719X is the choice for large rooms, outdoor performance and high-level sound reinforcement or music playback. The rectangular enclosure is ideal for stacking any of the SR-X two-way systems for those who require uncompromising high level sound reproduction.

Recommended Power



The following table shows the recommended amplifier power for SR-X models. For applications in which the ability to reproduce brief, high-power transients is important, an amplifier capable of up to twice the power listed below may be used.

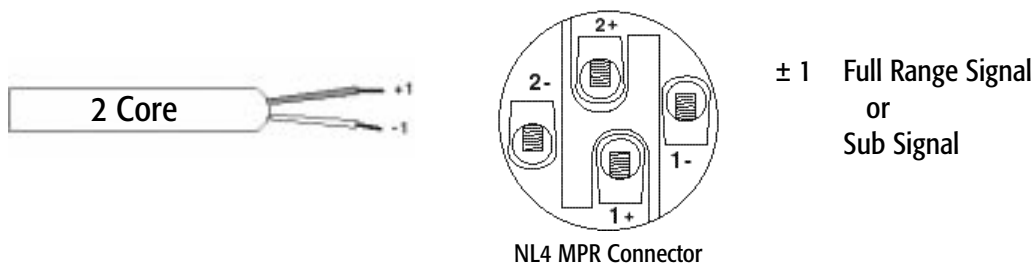
Model	Full-Range / Parallel (1)	HF (2)	LF (3) / Discrete (4)
SR4702X	600W@8Ω	100W@8Ω	600W@8Ω
SR4715X	1,200W@4Ω	n/a	600W@8Ω x2
SR4718X	600W@4Ω	n/a	n/a
SR4719X	1,200W@4Ω	n/a	600W@8Ω x2
SR4722X	600W@8Ω	60W@8Ω	600W@8Ω
SR4725X	600W@8Ω	100W@8Ω	600W@8Ω
SR4726X	600W@8Ω	150W@16Ω	600W@8Ω
SR4731X	1,200W@4Ω	150W@16Ω	1,200W@4Ω
SR4732X	1,200W@4Ω	150W@16Ω	1,200W@4Ω
SR4733X	1,200W@4Ω	150W@16Ω	1,200W@4Ω
SR4735X	600W@8Ω	100W@8Ω	600W@8Ω

1. Full-range / Parallel – Is the amplifier power required to optimally drive this speaker system when used in full-range (passive) mode. In the case of dual-driver subwoofer models, this is the power required to drive both transducers at the same time.
2. HF – Is the amplifier power required to optimally drive the high-frequency section of this speaker system when used in bi-amp mode.
3. LF – Is the amplifier power required to optimally drive the low-frequency section of this speaker system when used in bi-amp mode.
4. Discrete – Is the amplifier power required to optimally drive an individual transducer in a dual transducer subwoofer.
5. ± 1 or ± 2 Pass-Thru - This allows for the convenience of a single conductor cable from the amplifier rack to the speakers stack, this configuration supplies separate amplifier power to the subwoofer (ie ± 2) and to the mid-high speaker (ie. ± 1 Pass-Thru).

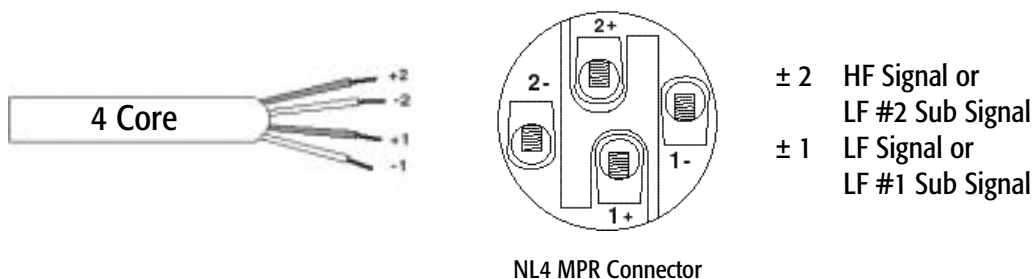
Cable & Connections

Each connector panel incorporates two Neutrik® Speakon® connectors. The second connector facilitates the ability to “loop through” to other SR-X speakers in the system. The diagrams below detail the cable-side connections.

Passive Systems & Subs (Parallel mode)

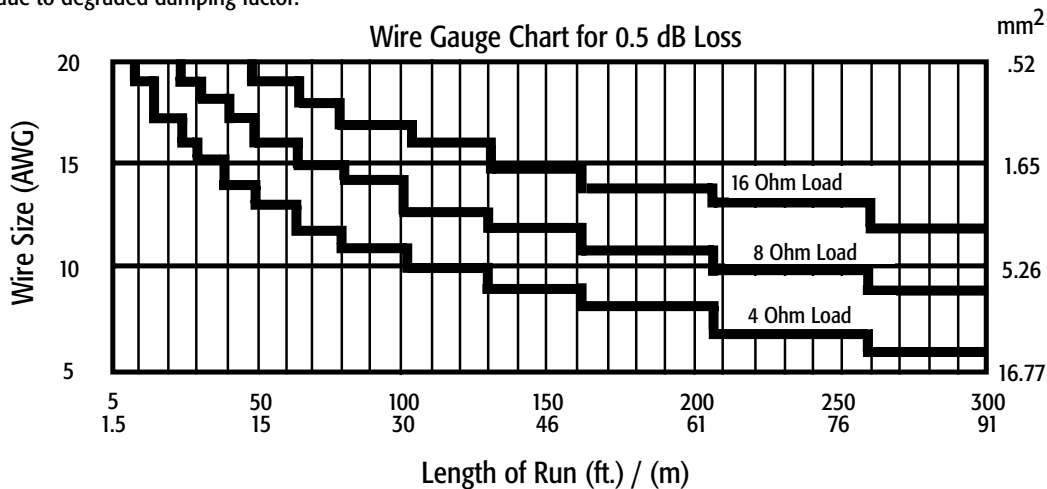


Bi-Amp Systems & Subs (Discrete mode)



Wire Gauges

Selection of the appropriate wire gauge is important to system operation. A cable that's too light will result in amplifier power being wasted due to the series resistance of the cable and in loss of low-frequency performance due to degraded damping factor.



Input Panel

Internal Network Mode Selector

All SR-X models are fitted with the internal network mode selector.

The ability to select the mode of operation provides the sound system user flexibility in the system configuration, and also permits the system to be upgraded at a later date. By simply removing the input panel and changing the position of a heavy duty connector, the system can be configured as either a bi-amp or a passive system. After replacing the input panel, the network position is indicated on the connector plate panel. This provides a truly tamper resistant solution to avoid the horrors of a mis-configuration.

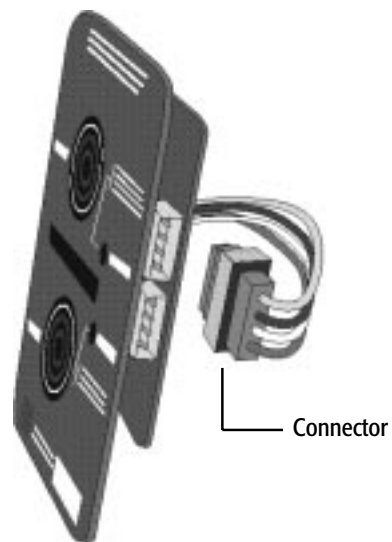


In passive operation, a system can be operated with a minimum of only one amplifier and no additional system controllers. In bi-amp operation, the system can be operated for maximum transducer performance and will require the use of additional amplifiers - and an electronic crossover (see "Crossovers and Controllers"). For Subwoofer systems with more than one transducer, the same ability to select the mode of operation is provided - but instead of bi-amp/passive selection, the input can be configured for either parallel woofers (4 ohm) with ± 1 or ± 2 Pass-Thru or individual transducer access (2 x 8 ohm). This can be useful for assuring maximum power transfer from the amplifier to the transducers. The SRX4718 also has a mode selector for ± 1 or ± 2 .

Please Note: There are no passive network components in the circuit when the Bi-amp mode is selected. (Except: SR4732X and SR4735X which retain a crossover section between midrange and HF.)

Changing the Input Mode Connector

1. Remove 6 connector plate retaining screws and remove the plate.
2. Turn plate over and locate the male connector.
3. Pull out connector and firmly place in socket of desired system mode - you should be able to see the yellow indicator in the desired mode window.
4. Replace plate and secure with 6 screws.



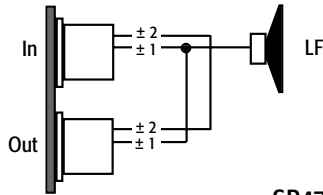
Please Note: For SRX4715X - SRX4719X, The connector is split to permit discrete mode operation.

Input Configurations

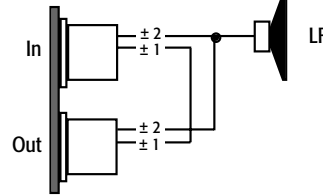
This section describes the different configurations of Input Connector Panel mode selections. The wiring connections from the Input Panel to the transducers change when the mode selector is moved. **Please Note:** Each line in the diagrams below represents a pair of wires. (E.g. *both* +1 and -1 connecting wires.)

Sub Connector Plate w/ NL4 MPR Inputs

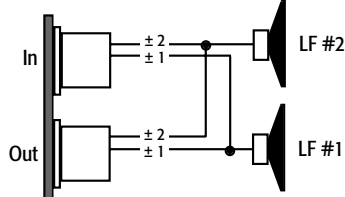
SR4718X Pin 1 Hot (as shipped)



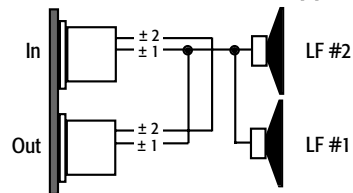
SR4718X Pin 2 Hot *



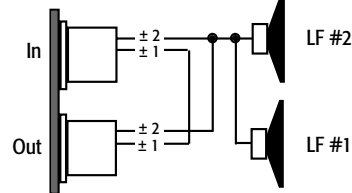
SR4715/19X Discrete Mode



SR4715/19X Pin 1 Hot (as shipped)



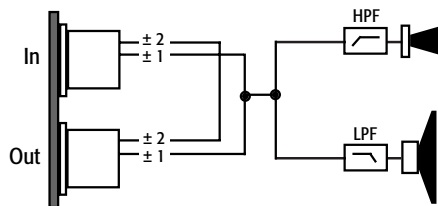
SRX4715/19X Pin 2 Hot *



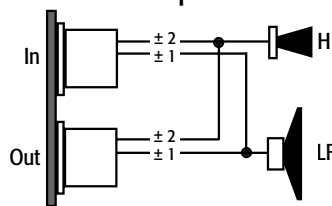
* Units manufactured after April '00.

2-Way Connector Plate w/ NL4 MPR Inputs

Passive Mode

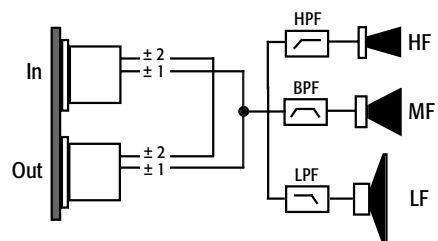


Bi-Amp Mode

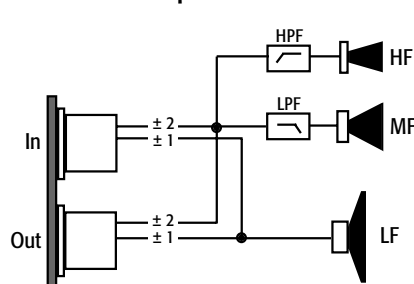


3-Way Systems

Passive Mode



Bi-Amp Mode



LPF = Low Pass Filter
BPF = Band Pass Filter
HPF = High Pass Filter

DSC260 Digital System Controller

SR-X Series loudspeaker systems may be operated in an optional bi-amplified mode. When used in this optional mode, an external, low-level crossover network is required. JBL Professional offers the DSC260 Digital System Controller for these applications. In addition to the crossover functions, the DSC260 provides signal (time/phase) alignment, equalization, and limiting. JBL has developed programs for the DSC260 that will optimize the performance of your SR-X Series system. These programs may be downloaded from the "Software Downloads" section of www.jblpro.com at no charge. If you do not have access to the World Wide Web, you may contact JBL Professional at the address listed elsewhere in this manual. The documentation included with your DSC260 will detail the process for loading new programs.

Other Crossovers and Controllers

The crossover designs of SR-X series speakers incorporate circuitry that tailors system response. When the internal SR-X crossovers are set to "Bi-amp Mode" this circuitry is bypassed. The JBL DSC260 programs for SR-X include the appropriate response tailoring. Other crossovers and system controllers may not have this tailoring and may require additional equalization in order to perform properly.

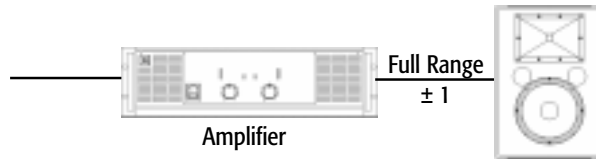


System Configurations

There are many different possible configurations of systems within the JBL SR-X Series. This section shows a selection of key system configurations that will provide a basis for setting up any system, it includes: DSC controllers, amplifiers and wiring connections. It is very important that you are familiar with the previous sections of this User's Guide and also the DSC260 system controller. Settings are available for the DSC260 for bi-amplified, and bi-amplified plus subwoofer, operation of the SR-X systems. Please note that when using the LF reinforcement systems, a suitable adjustment may be required in the DSC260 for accurate operation in the system. This is a straight forward procedure which is clearly outlined in the DSC260 User's Guide.

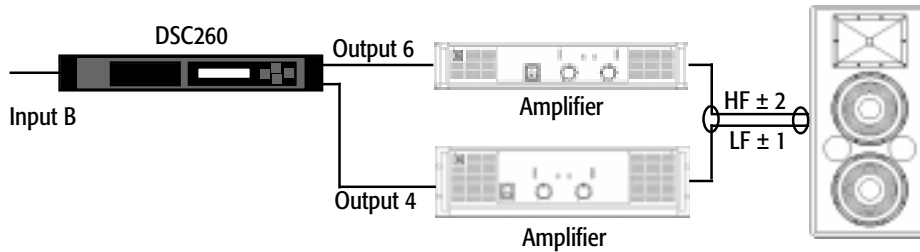
Note: Each line in the diagrams below represents a pair of wires. (E.g. both +1 and -1 connecting wire.)

Full-range 2-Way



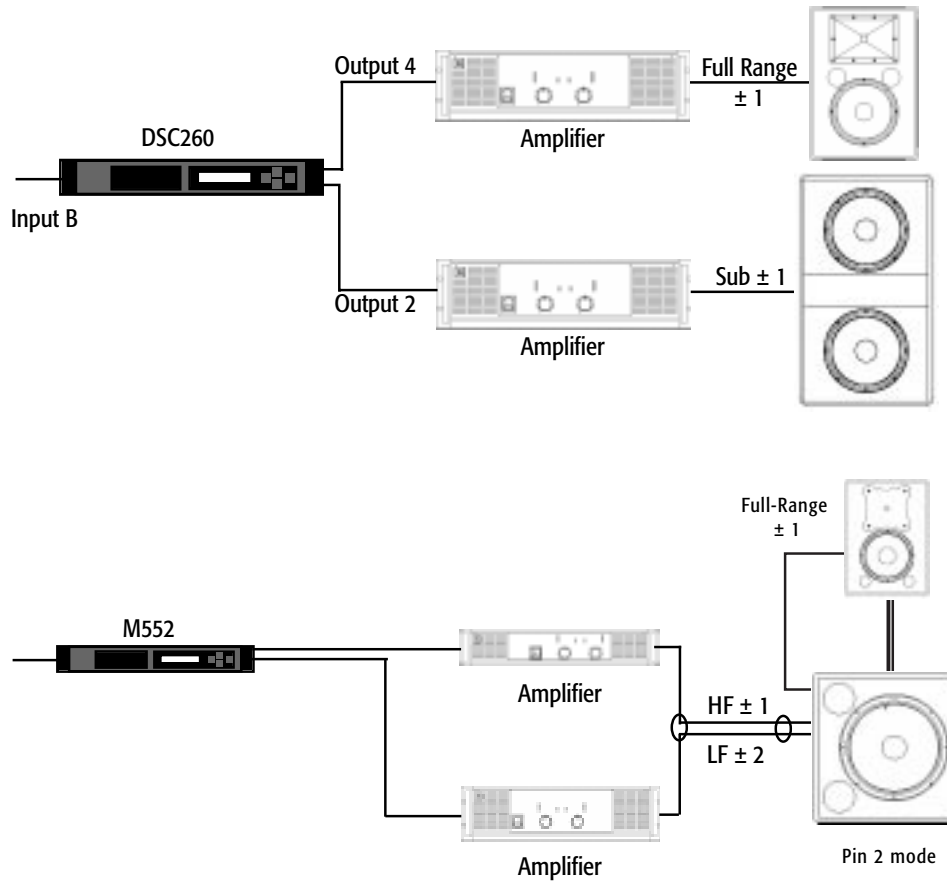
Bi-Amplified 2-Way

See "Crossovers and Controllers" for important information.



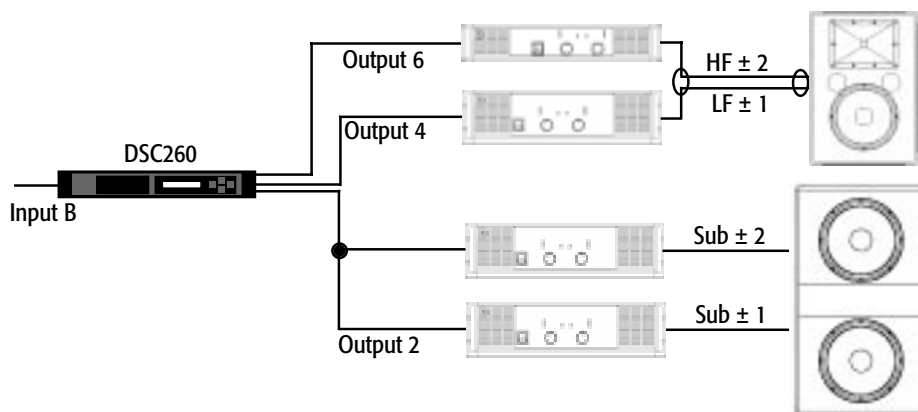
System Configurations

Full-range 2-way with Sub (Parallel Mode)



Full-range 2-Way with Sub (using a single 4 conductor amp - speaker cable)
 (See page 9 and 10 for details on input configuration.)

Bi-Amp 2-way with Sub (Discrete Mode)



SR-X/F Flying Versions

Suspension or flying speaker systems requires training and expertise. Improper rigging of a flying speaker may result in injury, death, equipment damage, and legal liability. This User Guide is intended to provide a skilled system rigger with resources needed to get the most from the SR-X/F speaker system. This User Guide will not provide the novice with the skills and training needed to safely fly a speaker system. If you lack the skills, training, and proper ancillary equipment to fly a speaker system do not attempt to do so. Obtain the services of a qualified rigger or get the proper training yourself. One source for training is:

RiggerMeister

In the U.S call or write:
 (310) 834-5914
 (888) RIG-MORE
 Fax: (310) 834-3042
 21000 South Wilmington Ave.
 Carson, CA 90810

In Europe call or write:
 (44) 0171-482-3300
 Fax: (44) 0171-482-4484
 102 Grafton Road
 London NW5 4BA UK

The SR-X/F models are equipped with ATM FLY-WARE® rigging hardware. Only hardware rated for overhead suspension and certified in accordance with appropriate safety standards should be used to fly speaker systems. A source for such hardware and assistance in selecting appropriate hardware is:



In the U.S call or write:
 (310) 834-5914
 (888) RIG-MORE
 Fax: (310) 834-3042
 21000 South Wilmington Ave.
 Carson, CA 90810

In Europe call or write:
 (44) 0171-482-3300
 Fax: (44) 0171-482-4484
 102 Grafton Road
 London NW5 4BA UK
www.atmflyware.com

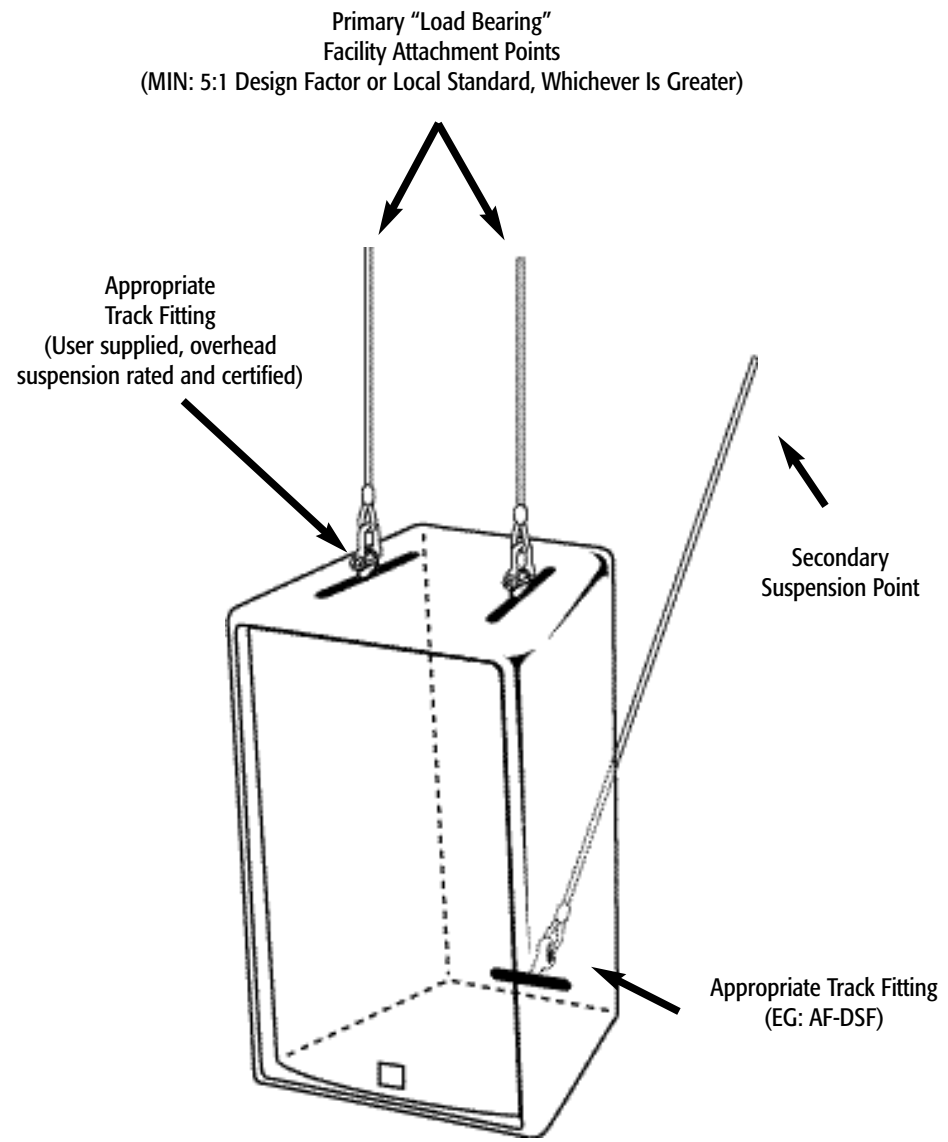


Sound Manufacturing Inc.

In the U.S call or write:
 (909) 878-9104
 Fax: (909) 878-4248
 PO Box 1907
 Big Bear Lake, CA 92315-1907
www.smirigging.com
smirigging@aol.com

Example

Each primary "load bearing" suspension point shall be rated for the entire load.



Working load limits: No more than four (4) high (vertical)

The four (4) high vertical specification represents a static ratio of 7:1.



Specs • Warranty

	LF Driver	Mid Driver	HF Driver	Horn	Rated Power*	System Impedance	Frequency Range (-10 dB)	Crossover Freq.	Nominal Sensitivity**	Dispersion (H X V)	Weight	Shape	Dimensions
SR4702X	2206H	--	2426H	OASR	600	8	42Hz-20kHz	1.3 kHz	95dB	85° x 85°	29 kg 64 lbs	Multi-angle monitor	648 x 403 x 356 25.5 x 15.9 x 14
SR4715X	2226H (x2)	--	--	--	1200	4	35Hz-300Hz	80 - 100 Hz recommended	100dB	--	53.5 kg 118 lbs	Rectangular	1067 x 584 x 653 42 x 23 x 25.7
SR4718X	2241G	--	--	--	600	4	38Hz-300Hz	80 - 100 Hz recommended	98dB	--	39.9 kg 88 lbs	Rectangular	616 x 613 x 610 mm 24.3 x 24.1 x 24 in
SR4719X	2241H (x2)	--	--	--	1200	4	30Hz-300Hz	80 - 100 Hz recommended	101dB	--	85.3 kg 188 lbs	Rectangular	765 x 1219 x 616 30.1 x 48 x 24.3
SR4722X	2206H	--	2417H	OASR	600	8	42Hz-18kHz	1.2 kHz	95dB	85° x 85°	27.2 kg 60 lbs	Trapezoidal	686 x 486 x 333 27 x 19.1 x 13.1
SR4722X/F	2226H	--	2426H	2370A	600	8	35Hz-18kHz	1.1 kHz	98dB	90° X 40°	37.2 kg 82 lbs	Trapezoidal	718 x 616 x 435 28.3 x 24.3 x 17.1
SR4725X	2226H	--	2447J	2381 2383	600	8	35Hz-20kHz	1.1 kHz	97dB	90° X 50° 60° X 50°	48.5 kg 107 lbs	Trapezoidal	883 x 616 x 435 34.8 x 24.3 x 17.1
SR4725X/F	2226H	--	2447J	2381 2383	1200	4	39Hz-20kHz	1.2 kHz	98dB	90° X 50° 60° X 50°	59.9 kg 132 lbs	Trapezoidal	1067 x 616 x 435 42 x 24.3 x 17.1
SR4726X	2206H (x2)	--	2447J	2381	1200	4	39Hz-21kHz	1.2 kHz, 6 kHz	98dB	90° X 50°	62.1 kg 137 lbs	Trapezoidal	1067 x 616 x 435 42 x 24.3 x 17.1
SR4726X/F	2206H (x2)	2447J	2404H	2381	1200	4	39Hz-21kHz	1.2 kHz, 6 kHz	98dB	90° X 50°	62.1 kg 137 lbs	Trapezoidal	1067 x 616 x 435 42 x 24.3 x 17.1
SR4731X	2206H (x2)	--	2447J	2381 2383	1200	4	37Hz-20kHz	1.2 kHz	100dB	90° X 50° 60° X 50°	65.8 kg 145 lbs	Trapezoidal	1219 x 616 x 435 48 x 24.3 x 17.1
SR4731X/F	2206H (x2)	--	2447J	2381 2383	1200	4	37Hz-20kHz	1.2 kHz	100dB	90° X 50° 60° X 50°	65.8 kg 145 lbs	Trapezoidal	1219 x 616 x 435 48 x 24.3 x 17.1
SR4732X	2206H (x2)	2447J	2404H	2381	1200	4	39Hz-21kHz	1.2 kHz, 6 kHz	98dB	90° X 50°	62.1 kg 137 lbs	Trapezoidal	1067 x 616 x 435 42 x 24.3 x 17.1
SR4732X/F	2206H (x2)	2447J	2404H	2381	1200	4	39Hz-21kHz	1.2 kHz, 6 kHz	98dB	90° X 50°	62.1 kg 137 lbs	Trapezoidal	1067 x 616 x 435 42 x 24.3 x 17.1
SR4733X	2226H (x2)	--	2447J	2381 2383	1200	4	37Hz-20kHz	1.2 kHz	100dB	90° X 50° 60° X 50°	65.8 kg 145 lbs	Trapezoidal	1219 x 616 x 435 48 x 24.3 x 17.1
SR4733X/F	2226H (x2)	--	2447J	2381 2383	1200	4	37Hz-20kHz	1.2 kHz	100dB	90° X 50° 60° X 50°	65.8 kg 145 lbs	Trapezoidal	1219 x 616 x 435 48 x 24.3 x 17.1
SR4735X	2226H	M209-8A	2426H	MH1	600	8	36Hz-20kHz	340 Hz and 1.6 kHz	97dB	70° X 50°	50.8 kg 112 lbs	Trapezoidal	946 x 616 x 479 37.3 x 24.3 x 18.9
SR4735X/F	2226H	M209-8A	2426H	MH1	600	8	36Hz-20kHz	340 Hz and 1.6 kHz	97dB	70° X 50°	50.8 kg 112 lbs	Trapezoidal	946 x 616 x 479 37.3 x 24.3 x 18.9

* IEC filtered random noise with a 6 dB crest factor

**1W@1m (2.83V for 8ohms, 2.00V for 4ohms, ave'd 500Hz-5kHz)

Specifications subject to change without notice

DuraFlex

Your SR-X loudspeaker system is finished in JBL's DuraFlex™. DuraFlex is tough and inherently flexible and it is extremely resistant to knocks, scratches and scuffs. The DuraFlex finish on your SR-X speakers is actually much tougher than the plywood to which it is applied.

Note: SR-X enclosures are not paintable.

In the event that cosmetic damage occurs to your speakers a DuraFlex touch-up kit (PN 16677) is available from JBL Professional.

Warranty & Contacting JBL

These products are designed and backed by JBL Professional, the world leader in sound reinforcement. For complete JBL warranty information, to order replacement parts or to ask for clarifications to this manual, contact JBL Professional:

Within the United States contact: Applications Dept
JBL Professional
PO Box 2200
8400 Balboa Blvd.
Northridge, CA 91329

In the USA you may call Monday through Friday, 8:00 am to 5:00 pm Pacific Coast Time:
(818) 894-8850

In other areas throughout the world: Contact the JBL Professional Distributor in your country.

A list of JBL Professional Distributors and U.S. Service Centers can be attained from the JBL Professional website:
www.jblpro.com