

**CARVIN  
AUDIO**

**TRX**

**TRx3210/TRx3210A**

**Line Array  
Turnkey Systems  
Made in USA**



**User Manual**

76-03211A 040214



## **TRx3210/TRx3210A Line Arrays**

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## ***Introduction:***

Congratulations on purchasing a TRX3000 Series loudspeaker from Carvin Professional Audio Products. The TRx Series are designed to give you the best in audio quality with many years of reliable, trouble-free operation. The TRx3210/A offers excellent pattern control, easy over-head suspension with safe and practical rigging hardware, as well as a simple ground stacking design, full technical documentation and the backing of a world-class company with decades of manufacturing experience, including a comprehensive warranty. Please read through this user manual carefully before you attempt to operate the loudspeaker system. It contains valuable information which will enable you to easily and quickly connect the loudspeakers, along with important system set-up, stacking and flying instructions.

## ***Thank You***

There are many options in the market place today for loudspeaker products and we thank you for choosing Carvin Audio products for your loudspeaker choice.

Carvin Audio products are proudly engineered and manufactured in San Diego, California, USA!

If you would like additional information about this or any other Carvin product, please contact us, or go to [carvinaudio.com](http://carvinaudio.com) (outside USA/Canada: [carvinworld.com](http://carvinworld.com))

## ***Unpacking***

Upon unpacking the unit, please check carefully for damage. If damage has occurred, please notify the delivery service at once. You, the consignee, must handle any claim. Please retain packaging in case of future re-shipment.

## ***TRx Line Array Concepts***

Pulling from our TCS Audio engineering, Carvin has produced a modular line array loudspeaker system that is very adaptable to a wide range of performance venues. Not every scenario requires a flown PA system. So with that in mind, the TRx3210 Line array loudspeaker can easily be stacked or flown.



**800.854.2235 carvinaudio.com (USA) carvinworld.com**  
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# TRx3210 Specifications

## TRx3210NF - without SureFly™ hardware

System Type: Dual 10-inch 3-Way, Reflex  
 Frequency Response: 70 Hz – 18.5 kHz (-10dB)  
 85 Hz – 16 kHz (-3 dB)  
 Coverage Pattern: 100° H x 10° V (single enclosure)  
 LF Driver: 2x 10-inch 2-inch VC  
 HF Driver: 2x 1-inch exit 1.75-inch VC  
 Crossover: 3-Way Quasi  
 Speaker Guard™ HF protection  
 Crossover Frequencies: 500Hz & 1.5 k Hz  
 Sensitivity (1w @ 1m): 98dB  
 Maximum SPL: 131dB Peak single enclosure  
 137dB Peak four enclosures  
 140dB Peak eight enclosures  
 LF Driver: 2x 10-inch 2-inch VC  
 HF Driver: 2x 1-inch exit 1.75-inch VC  
 Nominal Impedances (Continuous/Program/Peak)  
 Full range: 8 ohms 500w /1000w /2000w  
 Bi-amp LF: 8 ohms 500w /1000w /2000w  
 Bi-amp HF: 8 ohms 120w /240w /480w  
 Enclosure: 13-Ply Russian Baltic Birch  
 Suspension/Mounting: 14 captive 3/8in-16 nut fly pts.

SureFlyTRx™ rigging  
 Two 1-3/8" pole cups, 16.5" spaced

Finish: Black DuraTec™

UV, water resistant IP2

Transport: 2 Recessed Handles

Grill: Black powder coated steel

Acoustically Transparent Foam Backing

Connectors: Two 4-pin TwistLoc connectors

Dimensions (H x W x D): 11.8 in x 23.5 in x 14.8 in

300 mm x 600 mm x 376 mm

TRx3210 Net Wt: 60 lb (27 kg) with Flyware

TRx3210NF Net Wt: 52 lb (24 kg) No Flyware

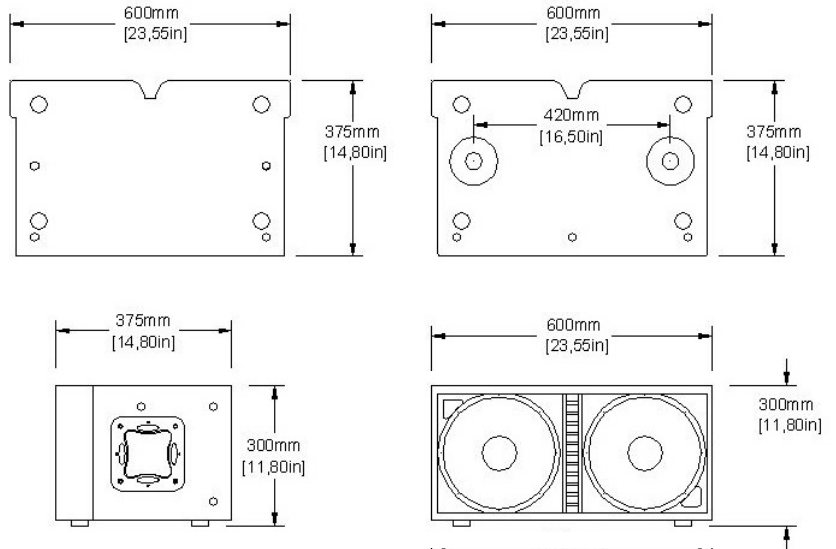
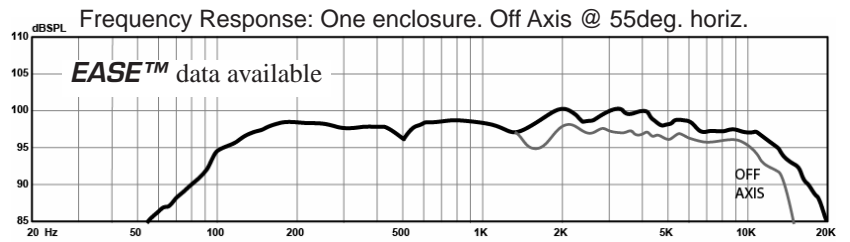
Rigging Accessories:

SureFlyTRx™ rigging kit 6.9 lb (3.1 kg)

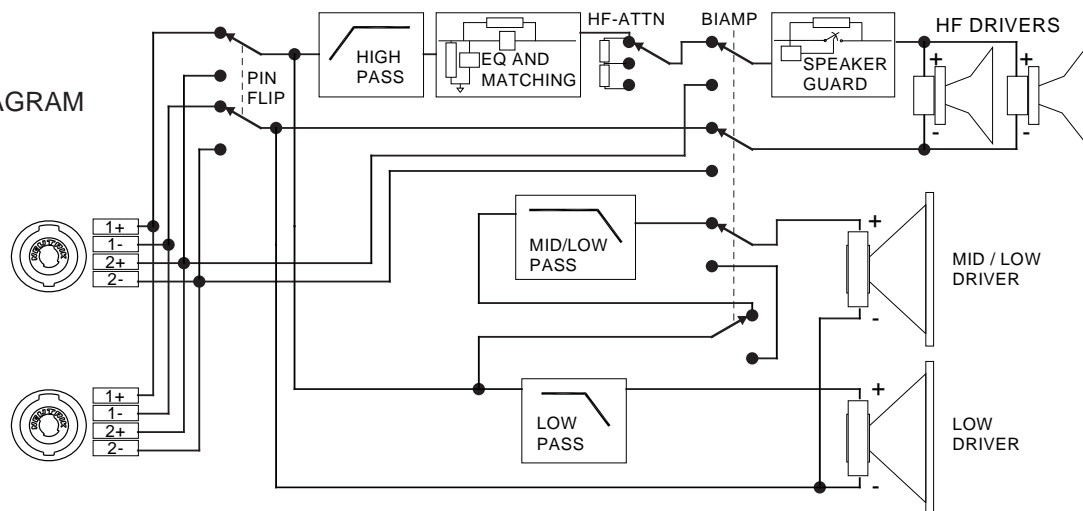
SureFlyTBar™ T-bar 19 lb (8.6 kg)

TCSHK58 5/8" Shackle 1.3 lb (0.5 kg)

Maximum Fly Capacity: 16



TRx3210  
BLOCK DIAGRAM



# TRx3210A Specifications

## TRx3210NFA - without SureFly™ hardware

System Type: Active 2500W Tri-Amp, X-Drive™ processed

Dual 10-inch 3-Way, Reflex

Frequency Response: 70 Hz – 18.5 kHz (-10dB)

85 Hz – 16 kHz (-3dB)

Coverage Pattern: 100H x 10V (single enclosure)

Crossover: Active DSP Tri-amp

Crossover Frequency: 1.2 kHz (750Hz LP one 10-inch)

Power: 3500W two cycle pulse peak

2500W 20ms burst (1000W, 1000W, 500W)

LF Driver: 2x 10-inch 2-inch VC

HF Driver: 2x 1-inch exit 1.75-inch VC

Input Sensitivity: 1.0, 1.2, 1.4, or 2.0 Vrms settings

Maximum Input signal: +12dBu

Maximum SPL: 131dB Peak single enclosure

Connectors: Signal In/Thru: XLR female/XLR male

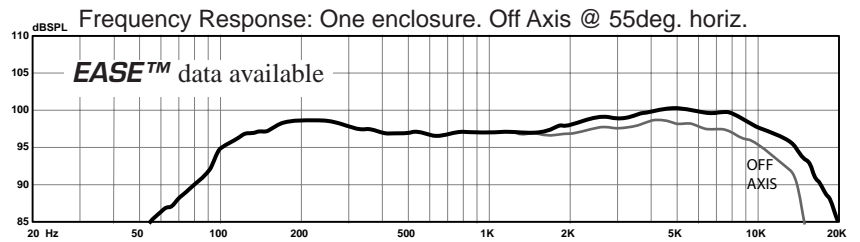
Remote Level/Mute: Terminal block

AC IN/OUT: Locking Neutrik™ PowerCon™

AC Power Requirement: 600VA

TRx3210A: 120VAC 50/60Hz 15A

TRx3210A-E: 230VAC 50/60Hz 10A



Enclosure: 13-Ply Russian Baltic Birch

Suspension/Mounting: 14 captive 3/8in-16 nut fly pts.

SureFlyTRx™ rigging

Two 1-3/8" pole cups, 16.5" spaced

Finish: Black Duratec™

UV, water resistant IP2

Transport: 2 Recessed Handles

Grill: Black powder coated steel

Acoustically Transparent Foam Backing

Dimensions (H x W x D): 11.8 in x 23.5 in x 14.8 in

300 mm x 600 mm x 376 mm

TRx3210A Net Wt: 60 lb (27 kg) with Flyware

TRx3210NFA Net Wt: 52 lb (24 kg) No Flyware

Rigging Accessories:

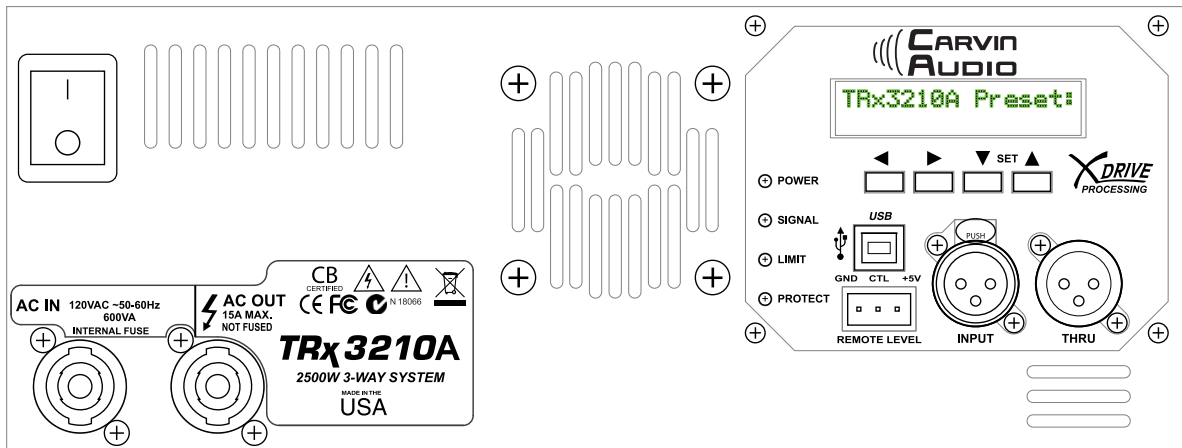
SureFlyTRx™ rigging kit 6.9 lb (3.1 kg)

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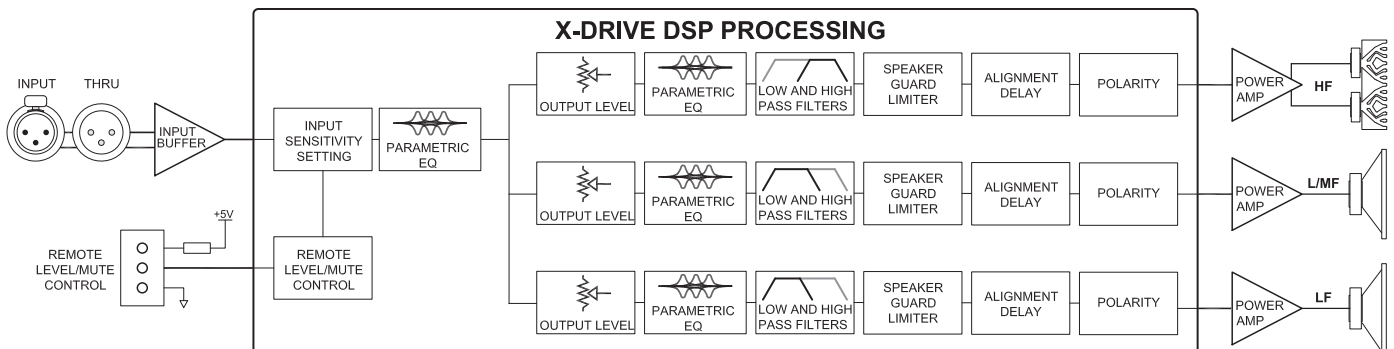
TCSHK58 5/8" Shackle 1.3 lb (0.5 kg)

Maximum Fly Capacity: 16

## TRx3210A REAR PANEL



## TRx3210A BLOCK DIAGRAM



## The Line Array Effect

The line-array effect is achieved by the 0 degree coupling of the enclosures in the array. The inherent advantage of a line array design allows the rear audience to hear nearly the same levels as the front. The PurePath™ horn produces a tight 10 degree vertical x 100 degree horizontal pattern on a single cabinet. Conventional enclosures drop 6dB when doubling the distance to the listener. However, when coupled in a line array this pattern narrows further to produce the line array effect, which drops only 3dB when doubling the distance to the listener.

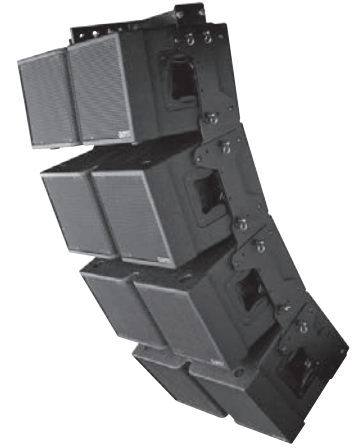
When the straight line of the line array is broken as in the case of a “J” curve, the elements curved at the bottom of the array behave more as a “point source” loudspeaker producing normal output to the closer listeners.

The TRx3210 can be deployed in a full curvilinear array with 10 degrees of angle between elements. This produces a smooth “point source” array covering 40 degrees of vertical and 100 degrees of horizontal coverage with only four enclosures.

Line Array with J curve

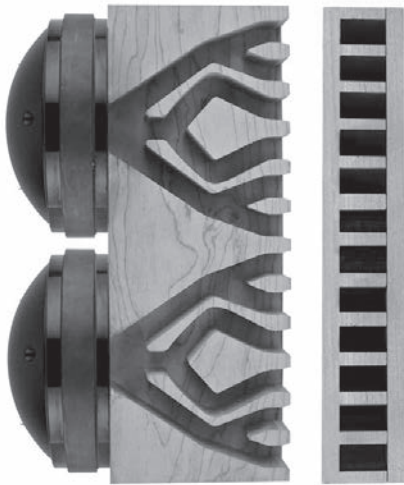


Linear Curve Array

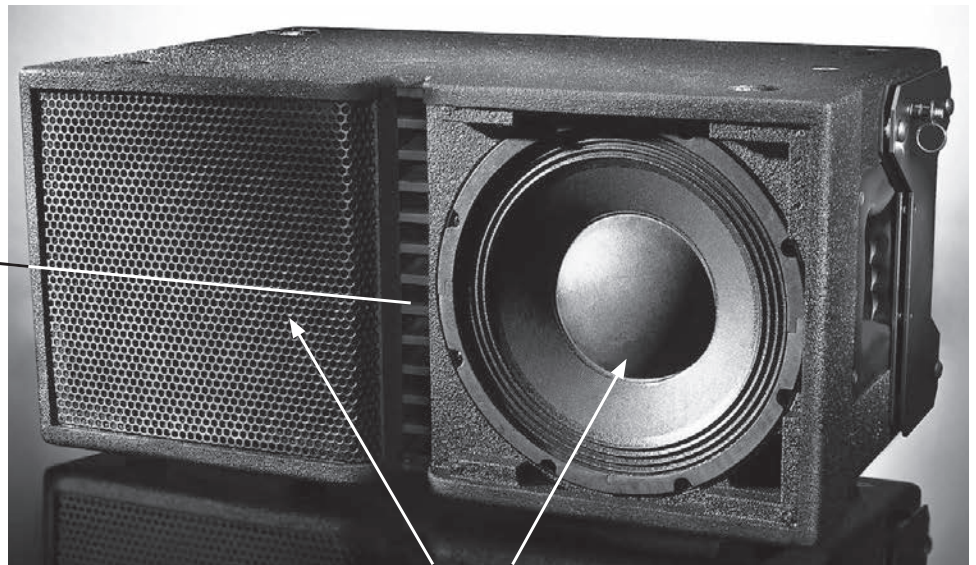


## The PurePath™ Horn Lens and dual 10” Drivers

The PurePath™ Horn Lens is CNC machined in-house from acoustically non-resonant Eastern Maple hardwood, providing a very smooth, equal path length wave guide for pure, natural and cylindrically projected highs. The two HF Mylar compression drivers feature a 1-inch exit and a 1.75” voice coil. The PurePath™ Horn Lens places the HF drivers in proper phase alignment with the 10-inch drivers.



PurePath Horn Lens



dual 10” 1000W peak drivers  
IP2 UV & Water Resistant

Two 10-inch MF/LF drivers feature 2-inch voice coils and power handling of 1000W peak per driver. They are treated for IP2 UV approval, which is also water resistant. These drivers are front loaded and field replaceable. The front steel grills are foam backed for added protection from the elements, and are easily removed for service access.

# **Stacking and Flying**

## **Overview**

To take full advantage of the extremely flexible features of the TRx3210 system, two modes of rigging systems have been developed. The first mode utilizes the interlocking feet and pole mounts and the second mode uses the SureFly™ hardware. The two rigging systems allow either line arrays or virtual point source clusters to be assembled – intuitively, quickly and easily, and with an absolute minimum of additional external parts to suit the coverage requirements of a variety of professional sound reinforcement situations.

The second mode using the SureFly™ hardware is inherently safe, flexible, self-contained and simple to use. The load is taken entirely through the SureFly™ hardware and not through the cabinet's woodwork. The rigging design allows the creation of clusters and arrays that can be assembled quickly and with a minimum crew.

## **Safety Notes on Rigging - Important Please Read!**

The Carvin SureFly™ rigging system has been designed and constructed to a high standard of safety and tested in the most demanding conditions. As a first concern to ensure the highest safety standards, the information following on the assembly and safe use of rigging accessories must be carefully understood and followed. Every user that operates, suspends or lifts a TRx3210 loudspeaker system needs to be properly trained before ever constructing and deploying the system in a working situation.

Only use Carvin recommended rigging accessories, which are specifically designed for their intended purpose. Do not use Carvin SureFly™ rigging with other types or brands of loudspeakers. This practice may compromise safety standards and Carvin will not be responsible for damage or injury as a result.

Do not modify the rigging accessories or use them in any other way than described in this user manual. Rigging components supplied as part of a complete assembly are non-interchangeable and must not be exchanged with the component parts of any other assembly.

The component parts of the Carvin SureFly™ rigging accessory must only be assembled using the fasteners and methods of assembly recommended in this manual. The use of fasteners and methods of assembly not specified or approved by Carvin may result in an unsafe rigging assembly. Welding, or any other means of permanently fixing rigging components to each other or to cabinet fixing points should never be done.

Rigging assemblies must only be assembled using the appropriate parts and fixings as specified in this manual using the specific mounting instructions. Rigging components or assemblies must only be fixed to Carvin loudspeaker cabinets using the cabinet fixing points.

Walls, floors or ceilings must be capable of load bearing capacity. When mounting rigging components on walls, floors or ceilings, ensure that all fixings and fasteners used are of an appropriate size and load rating. Wall and ceiling claddings and the construction and composition of walls and ceilings all need to be taken into account when determining whether a particular fixing arrangement can be safely employed for a particular load. Cavity plugs or other specialist fixings, if required, must be of an appropriate type and must be fitted and used in accordance with the makers instructions. Use only the rigging accessory fixing holes indicated in this manual and the specific mounting instructions to fix Carvin SureFly™ rigging accessories to walls, floors or ceilings.

Where specified, the recommended maximum torque settings for screw fasteners must be strictly complied with.

## **Secondary Safeties**

Best practice dictates in addition to the principle load bearing means of suspension, that all loudspeakers flown in theaters, studios or other places of work and entertainment should (and where local laws apply) be provided with an independent, properly rated and securely attached secondary means of safety. Only steel wire ropes or steel chains of an approved construction and load rating may be used as secondary safeties. Plastic covered steel wire ropes are not permitted for use as secondary safeties.

## **Safety Inspections**

Carefully inspect rigging components and cabinets for defects or signs of damage before proceeding to assemble a flown array. If any parts are damaged or suspect, DO NOT USE.

Safety legislation and test and inspection requirements will vary from country to country. In most cases, annual independent test and inspection by a suitably approved and qualified inspector will be required. Carvin recommends regular safety inspections and further recommends keeping a logbook detailing the test and inspection history of each Carvin rigging component. Always wear protective headwear, footwear and eye protection in accordance with local regulations. Anyone involved in flying ANY sound system, especially in a touring capacity, should take note of the following advice:

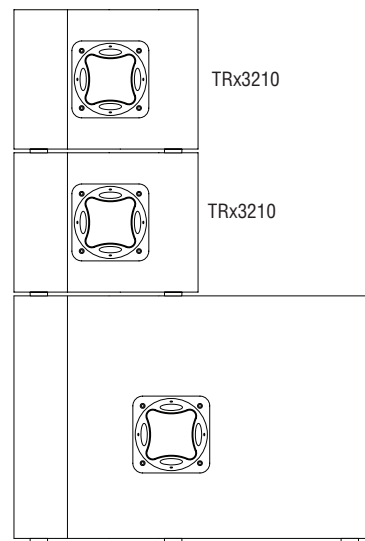
“The rigging of a flown sound system may be dangerous unless undertaken by qualified personnel with the required experience and certification to perform the necessary tasks. For ground suspension verify that the Genie™ lift or similar lift is level in both directions, or the array will not hang properly. Fixing of hanging points in a roof should always be carried out by a professional rigging specialist and in accordance with the local rules of the venue. The house rigger and/or building manager must always be consulted.”

## Stacking Array without SureFly™ Hardware

Each TRx3210NF features durable feet and align to interlock without the need for flyware. This is ideal for stacking on top of a ground-stacked subwoofer or elevated using two SS4 poles.



GROUND STACK



## Stacking with SureFly™ hardware

The SureFly™ hardware can also be utilized for ground stacking. The SureFly™ T-bar can be used as a base for a ground stacked array.

The TRx3118 is an 18" subwoofer featuring 3 top pole mounts and SureFly™ hardware.



## Assembling an Array

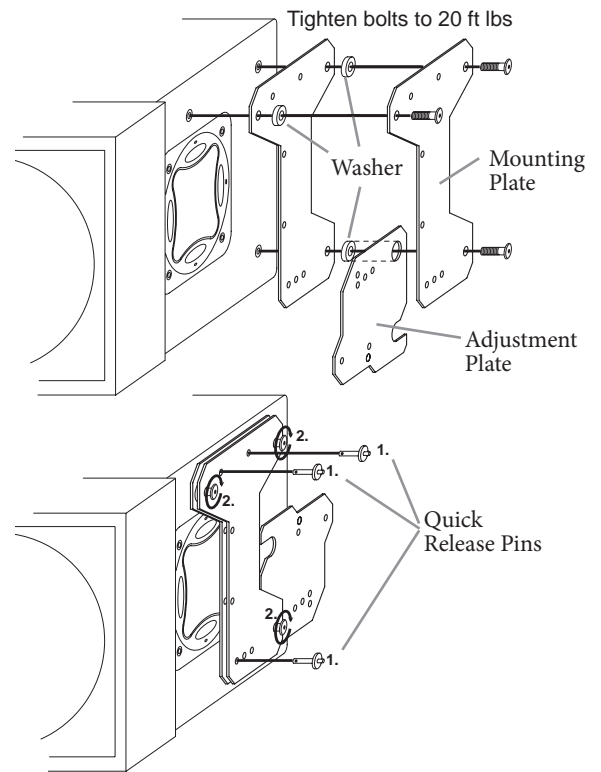
Assembly and deployment of TRx3210 arrays are carried out one array module at a time or in pre assembled groups of array modules. With the SureFly™ hardware kit installed on each enclosure, attach the T-bar to the top array enclosure. Each subsequent enclosure can be pinned at different angles to accomplish wide vertical coverage angles and focus sound energy where needed.

### Step 1 (skip with TRX3210 Flyware Model)

#### Installing the SureFlyTRx rigging kit on TRx3210NF.

Each TRx3210NF will require one SureFlyTRx rigging kit. The kit includes all mounting hardware and quick release pins. Drilling into the TRx3210NF enclosure is not required. All mounting points on the TRx3210NF enclosure have threaded inserts.

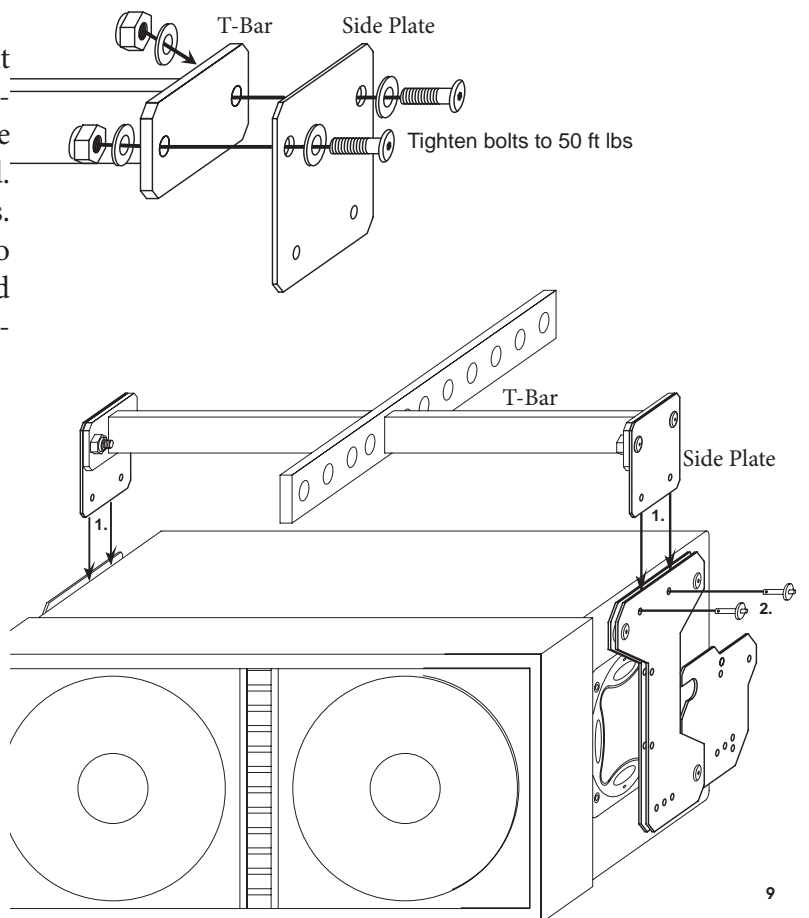
Set all quick release pins aside. As shown in the diagrams, assemble the side panels of the SureFlyTRx kit using the included bolts and washers. Insert the adjustment plate in-between the two mounting plates. The lower bolt will function as a hinge. Hand tighten the bolts and insert the quick release pins as shown. Once the side plates are aligned by installing the Quick Release Pins into the positions shown, use a torque wrench to tighten the bolts to 20ft. lbs. Repeat this procedure on the other side of the enclosure. After the SureFlyTRx hardware has been installed on all enclosures, they may be stacked 4 high by making sure both side adjustment plates slide in-between the mounting plates of the enclosure below. Store pins in the handle area after installation.



### Step 2

#### Installing the T-Bar

Attach assembled T-Bar to the top array enclosure. At the same time lower side plates of the T-Bar evenly into the SureFly hardware. Attach the T-Bar side plates using the bolts, washers and nuts supplied. Using a torque wrench, tighten the bolts to 50ft lbs. The T-bar side plates must insert between the two plates of the array module hardware. Align holes and secure with the included four (2 per side) quick release pins into both (A) and (B) holes.



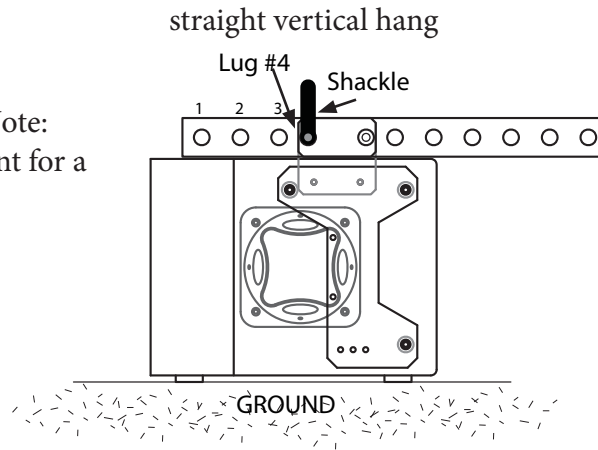
**Step 3**  
**Installing the Shackle**

Attach rated 5/8" shackle to lug #4. Note: this position sets a basic starting point for a straight vertical hang.



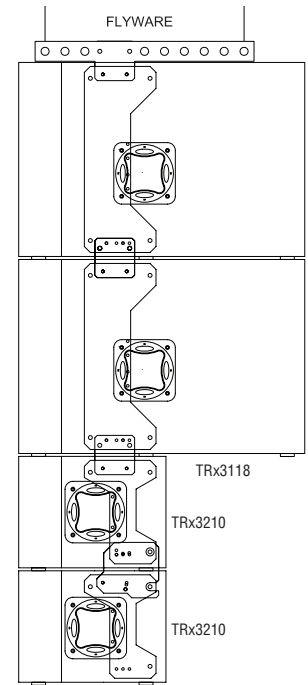
5/8" Shackle  
# TCSHK58

Finger tighten shackle only. Do not use a tool to tighten



**TRx3118 subwoofer**

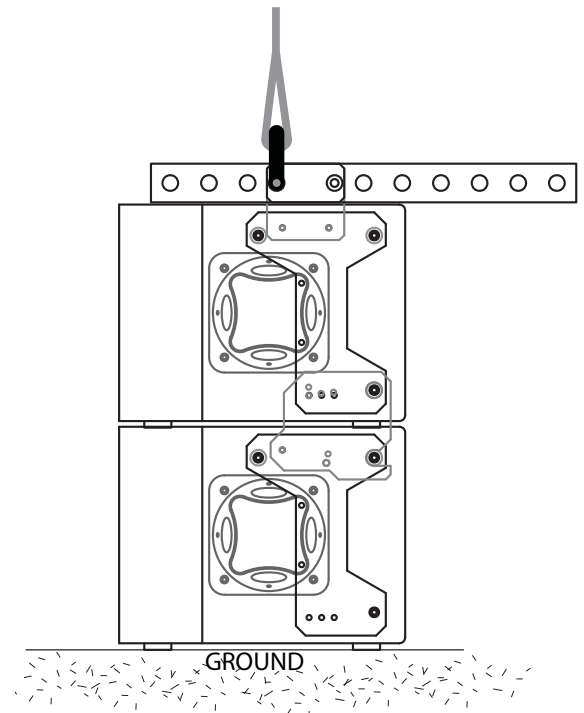
When suspending the TRx3118 with SureFly™ hardware, place the subwoofer at the top of the array. Then attach the TRx3210 boxes below.



**Step 4**  
**Adding additional enclosures**

Attach a rated chain motor or hoist hook to the shackle. Using the chain motor or hoist, lift assembly up to clear another array module. Place an array module underneath the first array module assembly and lower suspended array module. As you are lowering, align so feet mate with foot receptacles on top of lower array module. Side adjustment plates must insert between the two plates of the array module hardware. See Step 5 for adjustment plate.

Attach to motor hoist



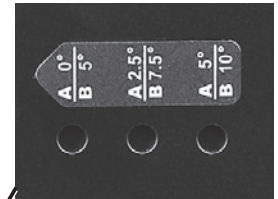
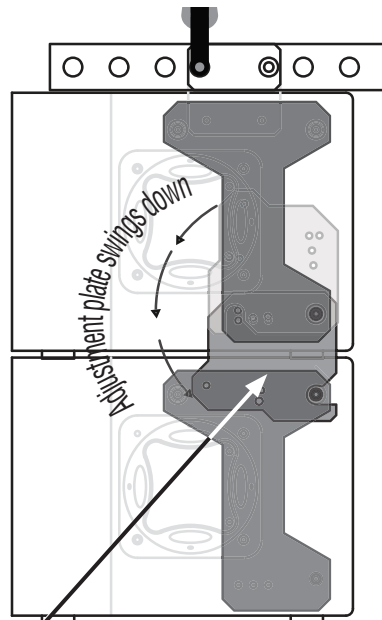
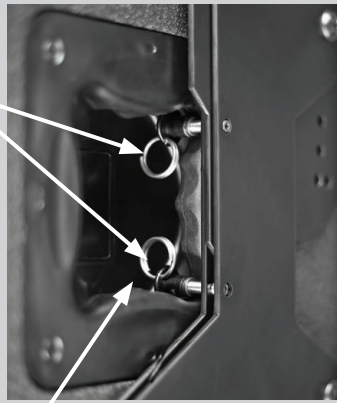
**Quick Release Pin**

Press the button on the top of the pin with thumb to insert and remove pin.



## Pin Storage

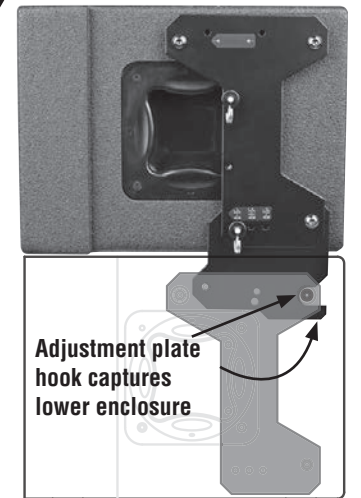
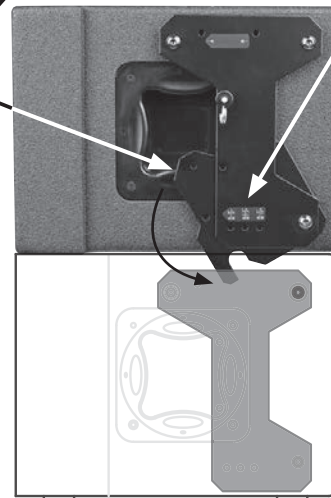
The quick-release pins can be stored in the handles on the inside of the SureFly hardware plates on each side of the array module. This keeps them from being misplaced or damaged during transport and holds the inner adjustment plate from swinging down.



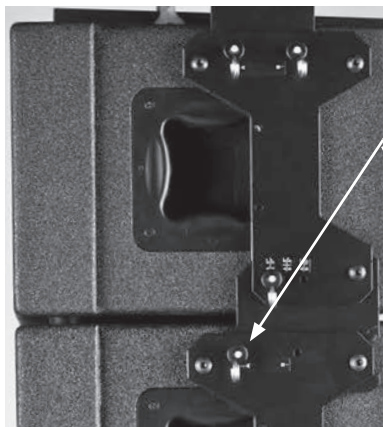
## Step 5

Remove the lower quick-release pin from the handle storage location to release the adjustment plate. Allow the adjustment plate to swing down between the two side plates on the lower enclosure. Adjust enclosures to allow adjustment plate to capture the lower enclosure with hook on adjustment plate.

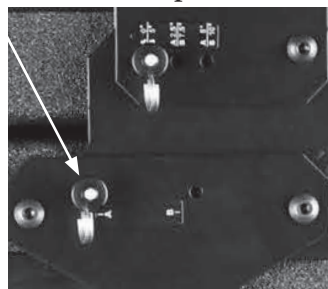
When the adjustment plate is fully in place, the “A” location pin can be inserted. Repeat on opposite side of array enclosure.



Adjustment plate hook captures lower enclosure

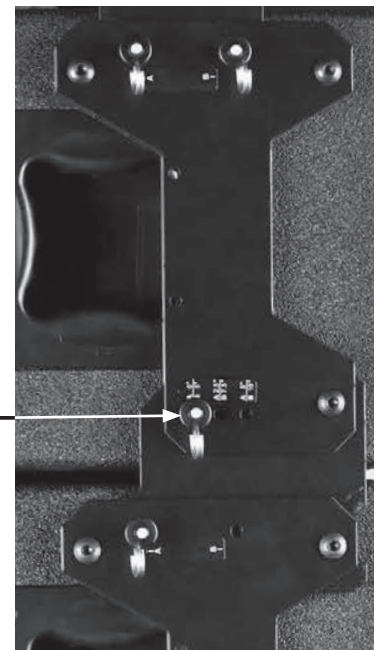


close up view



## Step 6

Push the second quick-release pin into forward hole labeled (A 0°) on the upper enclosure. Repeat on opposite side of array enclosure. This 0 degree position is used for a straight Line-Array. This is also storage and transport position when using the DB3210 dolly board.



### **Step 6 continued**

If you require a J curve at the bottom of a long array or a curve array, adjust the pins on the lower enclosures to create the desired curve. There are 6 different angles that can be achieved between each enclosure by changing both pin positions. With the lower enclosure in the “A” position, the upper enclosure’s pin positions/angles are: 0, 2.5 and 5 degrees. When adjusting angle pin, lower the front of the bottom cabinet to the desired angle.

**0 degree Pin position**



**2.5 degree Pin position**



**5 degree Pin position**



With the lower cabinet in the “B” position the upper enclosure’s angle pin positions/angles are: 7.5 and 10 degrees. Caution when adjusting pin “A” or “B”. Support the weight of the lower enclosure. Do not adjust pin “A” or “B” with additional enclosures attached below. This pin locks the adjustment plate to the lower enclosure.

**7.5 degree Pin position**



**10 degree Pin position**

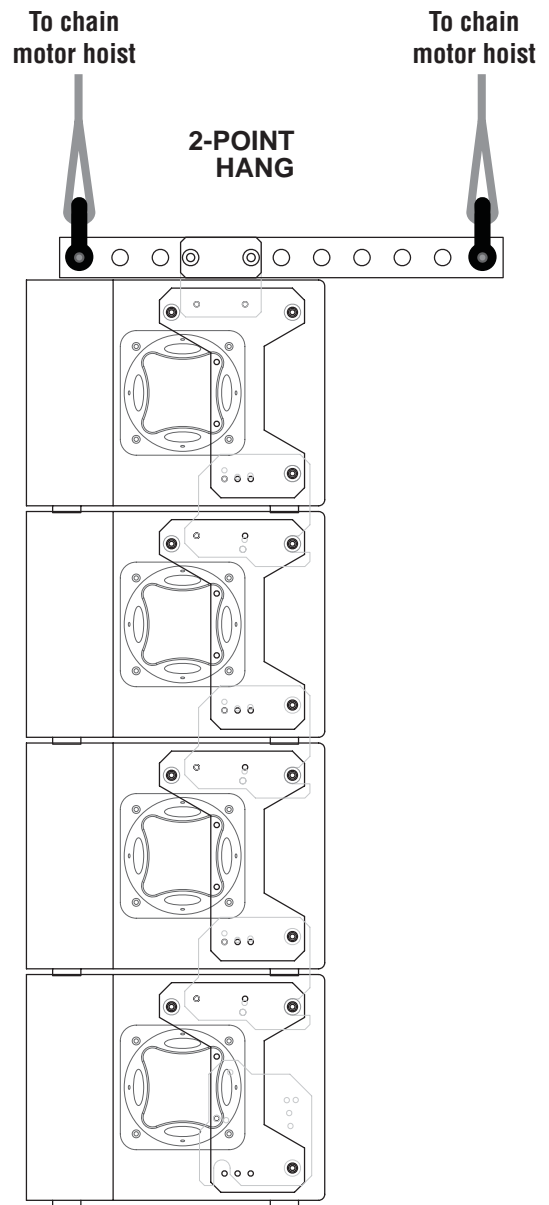
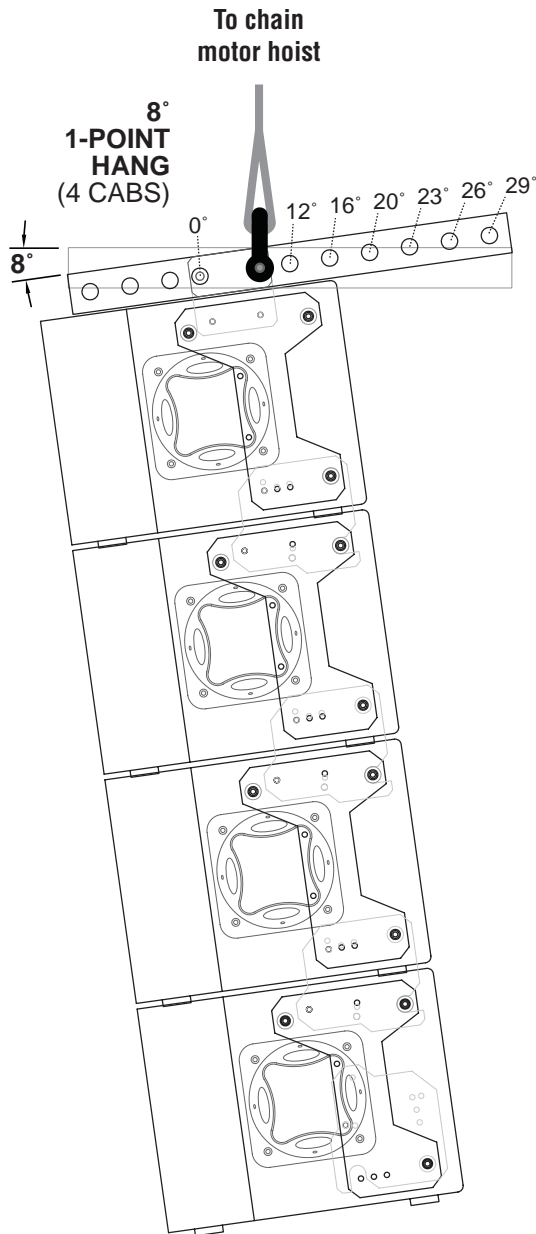


## T-Bar Hang Points

To change the angle of the array, attach the shackle to the different lug holes as shown in the below diagram. The further back from center, a larger degree of forward tilt is achieved.

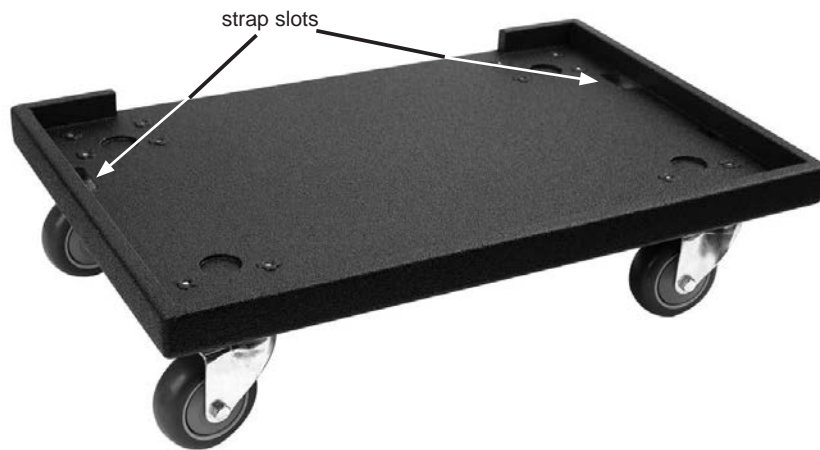
By using two hang points and two chain motor hoists, the angle of the array can be changed by raising or lowering the front or back of the array by adjusting the chain motors. This requires the use of a second shackle as shown in the diagram below.

For ground suspension verify that the Genie™ lift or similar is level in both directions, or the array will not hang properly.



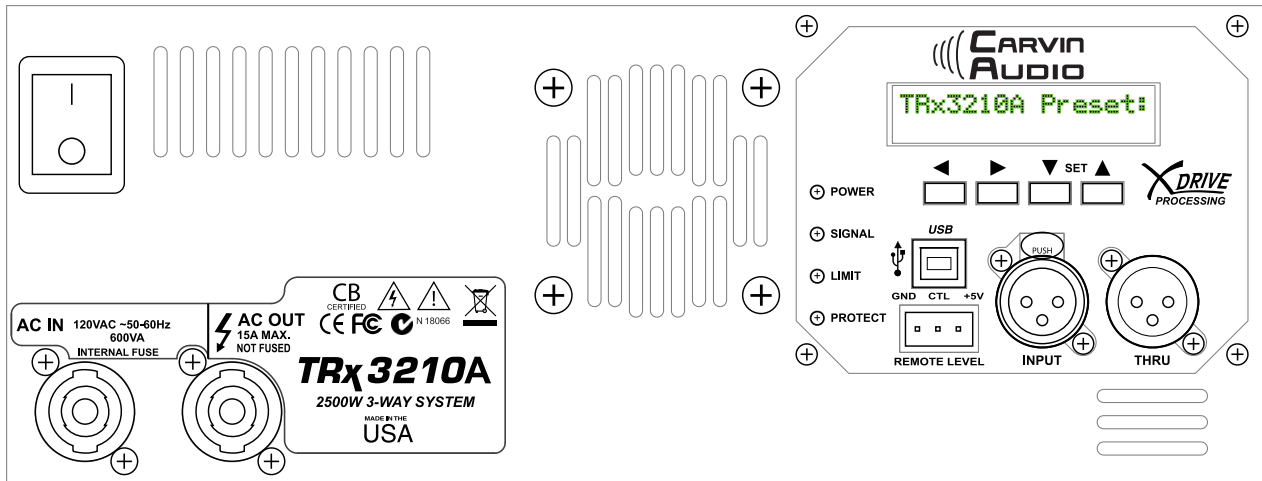
## **DB3210 Transport Dolly Board** *(optional)*

The optional Baltic Birch/Duratec™ DB3210 transport Dolly Board allows a block of up to four TRx3210 speaker cabinets to be conveniently transported in a pre-rigged configuration and is recommended as the most efficient way to truck and handle the cabinets. The transport dolly board is wide enough to allow the lock pins to be inserted in the SureFly™ hardware while on the dolly board, which makes it possible to lift the block of four cabinets together while still being dimensioned to fit up to five-across for a standard truck pack.



# TRx3210A Active Module and Settings

The active TRx3210A triamp module is driven by X-Drive™ DSP processing with optimized presets for arrays and ground stacks. Crossover filters, Parametric EQ, Alignment Delay and Amp Limiters are factory tuned to maximize performance output.



## POWER SWITCH

Push the upper portion of the power switch to turn the system on. If the blue POWER indicator is on but there is no sound check the Protect LED.

## POWER LED

The POWER LED indicates the unit is turned on and functioning properly.

## SIGNAL LED

The SIGNAL LED indicates there is a signal present at the INPUT XLR.

## LIMIT LED

The LIMIT LED indicates maximum output of the system is being reached. A flashing LIMIT LED is acceptable. The DSP will reduce peaks to prevent amp clipping. If the LIMIT LED is continuously ON, reduce the level going in to the INPUT XLR. As with any system, reduce the volume if distortion is heard.

## PROTECT LED

The PROTECT LED indicates one of the protection circuits has activated. To reset the amp, turn the power off for about 10 seconds, then turn it back ON. If the PROTECT LED stays lit for more than 5 seconds, check for a blocked fan intake.

## DIGITAL DISPLAY

The bright green LED DIGITAL DISPLAY will display various information about the system and its settings. When you first turn on the unit, the display will indicate which preset is loaded.

## SETTING BUTTONS: UP/DOWN (SET) & LEFT/RIGHT

Use the UP and DOWN (SET) buttons to load presets for different speaker configurations, based on the number of TRx3210A and the array angle set by the SureFly™ TRx quick release pins.

1-4 boxes	0-2.5 deg (straight)
1-4 boxes	5-7.5 deg
1-4 boxes	10 deg
5-8 boxes	0-2.5 deg (straight)
9-12 boxes	0-2.5 deg (straight)
13-16 boxes	0-2.5 deg (straight)

Use the LEFT/RIGHT buttons to access the Input Sensitivity setting and set with the UP/DOWN for 1.0 Vrms, 1.2Vrms, 1.4Vrms or 2.0 Vrms. The factory setting is 1.4Vrms. Increase the setting to lower the output.

## USB PORT

The USB port is for updating system firmware such as additional presets.

## REMOTE LEVEL (MUTE) CONNECTOR

This is a terminal block connector with 5 volt control of volume, typically used in permanent installations. Short the CTL and GND pins to MUTE.

## INPUT/THRU XLR CONNECTORS

Connect the INPUT XLR to a signal source such as the output of a mixer. The THRU XLR can be connected to more TRx3210A's or other units.

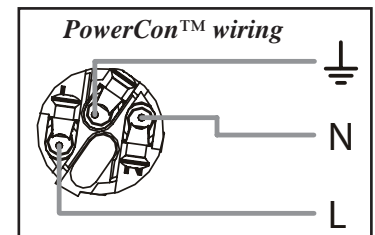
## FAN INTAKE/EXHAUST VENTS

The TRx3210A features a variable speed fan, which runs silent at low speeds. Make sure the fan intake and exhaust vents are free from blockage at all times.

## AC IN JACK (BLUE PowerCon™ A-type)

The AC IN connector accepts the blue Neutrik™ PowerCon™ “A-type” connector (part# **NAC3FCA**). One **NAC3FCA** connector is supplied, attached to a short length of 3-conductor wire. You can use a longer wire if it is properly rated for the application. Attach a proper 3-prong connector for your voltage type to the other end of the wire, with careful attention to follow the correct pinouts and safety standards. No attempt should ever be made to use the unit without the ground connected. Plug into the proper voltage for your unit.

Alternately, you can attach the grey Neutrik™ PowerCon™ “B-type” connector (part# **NAC3FCB**) for an **A-B** jumper cable between two TRx3210's. Pay careful attention to follow the correct pinouts and safety standards. With the connector attached, plug into the AC OUT jack of another TRx3210A, or into a PowerCon™ “B-type” outlet with the proper voltage.



## AC OUT JACK (GREY PowerCon™ B-type)

The AC OUT connector accepts the grey Neutrik™ PowerCon™ “B-type” connector (part# **NAC3FCB**), and is used to power other units.

Use the VA rating on other devices to determine how many can be connected to the AC OUT. The maximum limit on the AC OUT connector is 15A. Other limiting factors include the breaker rating for the AC line you are plugging into, wire type and (if used) generator capacity.

## FUSE

The FUSE is located internally near the AC input. To check or replace, first **remove the power cord** and then remove the amp module from the speaker enclosure then remove the front panel to access the fuse. The fuse type is a 250V Slow Blow rated at 10A.

# TRx3210 Bi-Amp Configuration (Passive Systems)

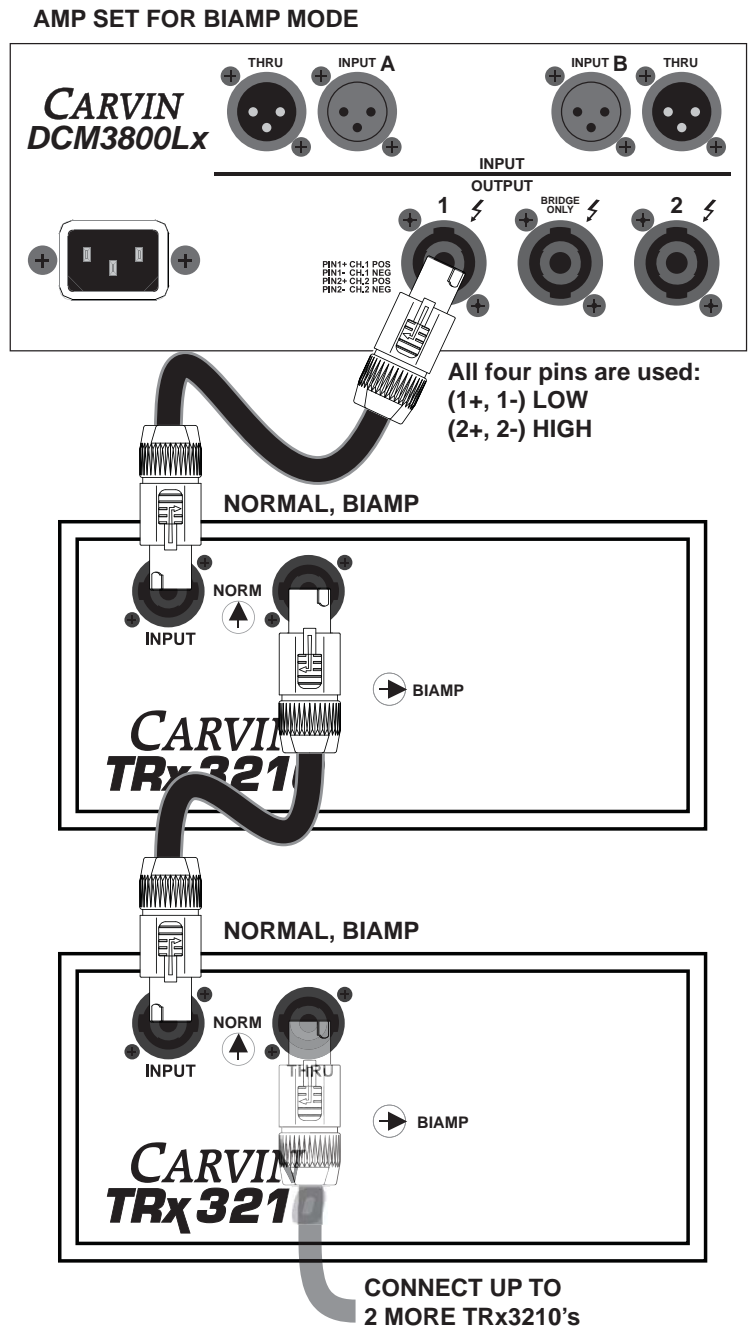
TRx3210 enclosures can be configured either in full range/passive mode or bi-amped 3-way mode. They ship from the factory as standard in full range/passive mode with the H.F. Attenuation switch set to 0. Changing the TRx3210 from Full Range to Bi-Amp is as simple as flipping a concealed switch on the connection panel.



## Bi Amp Operation:

Remove rubber plug marked FULL RANGE/BIAMP from connection panel. Using a small flat-head screw driver, carefully insert screwdriver into opening and slide switch to the right for Bi-Amp operation.

Note: Mode switch must always be in the UP (normal) position for Bi-Amp operation and H.F. Attenuation switch must be in the 0 position. Replace rubber plug after change.



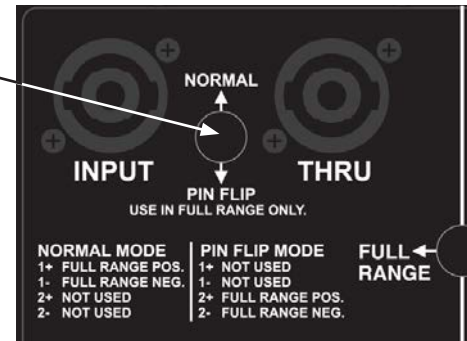


## TRx3210 Pin Flip Switch (Full Range Operation)

Carvin TRx3210 loudspeakers come with a speaker pin flip switch. In full range/passive mode, this switch allows the user to select operation from either pins 1+ & 1- (standard) or pins 2+ & 2-. This can significantly simplify speaker cable runs by half with 4-pin TwistLoc cables. Below is an example of how the pin flip switch is used.

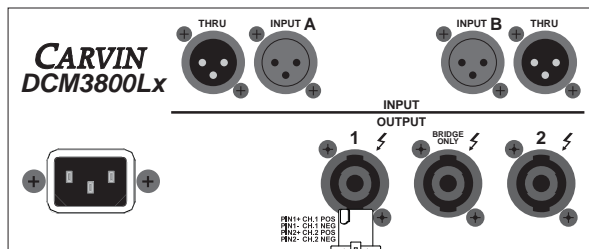
Remove rubber plug marked NORMAL/ PIN FLIP from connection panel. Using a small flat-head screw driver, carefully insert screwdriver into opening and slide switch to the down position for Pin Flip operation. This will enable use of pin 2+ & 2- to drive this speaker module. Note: pins 1+ & 1- will be no longer used in this cabinet. Replace rubber plug after change.

When using the PIN FLIP feature, you must switch to FULL RANGE mode.



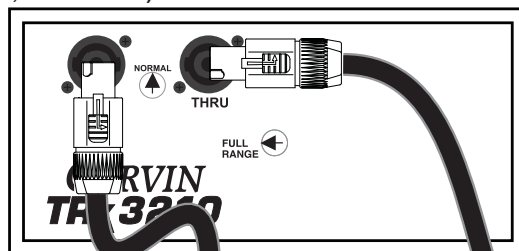
## Four TRx3210 Full-Range Passive Hook-up: 2 cabs in Pin Flip Mode, 2 cabs in Normal pin Mode

USE PARALLEL INPUTS (ARRAYS), or STEREO (LEFT/RIGHT)

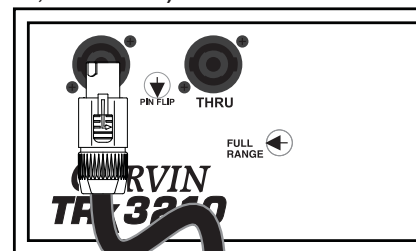


All four pins are used:  
(1+,1-) amp OUTPUT 1  
(2+,2-) amp OUTPUT 2

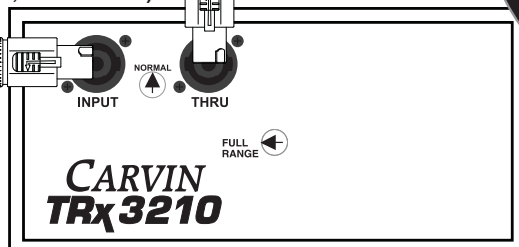
AMP CH.1: PINS 1+, 1-  
(NORMAL, FULL RANGE)



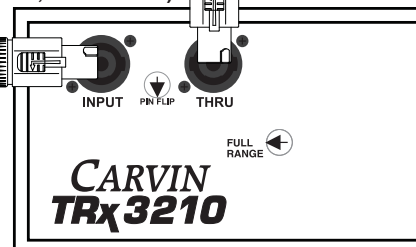
AMP CH.2: PINS 2+, 2-  
(PIN FLIP, FULLRANGE)



AMP CH.1: PINS 1+, 1-  
(NORMAL, FULL RANGE)



AMP CH.2: PINS 2+, 2-  
(PIN FLIP, FULLRANGE)



## TRx3210 High Frequency Attenuation Switch

Each Carvin TRx3210 Line Array loudspeaker contains a high-frequency section that is designed for extremely high sound pressure level (SPL). When the TRx3210 is used in large multi-box arrays, the mid and low frequency speakers mutually couple and produce higher SPL's. The more speakers used, the more output and coverage is accomplished. In smaller configurations of less than four units, it is recommended that the high frequency section of each box be lower in output volume (attenuation). Depending on the amount of boxes used, room acoustics, and application, different levels of attenuation will be needed to match the volume of the mid/low frequency drivers.

Another use of the attenuation switch is to control shading in multiple-box arrays. In larger configurations, it may be specified to have the upper boxes produce full output of the HF frequencies to project longer distances to the rear of the venue, while the lower boxes are attenuated for the near-field listeners.

The HF Attenuation switch has three user selectable positions 0dB, -3dB, and -6dB. Since every room is different, the level of attenuation should be selected accordingly.

Note: This switch is only functional in FULL RANGE passive mode. This switch has no effect in BIAMP mode.

Remove rubber plug marked H.F. ATTENUATION from the connection panel. Using a small flat-head screw driver, carefully insert screwdriver into opening and slide switch to the desired attenuation setting. Replace rubber plug after change.



# Audio Processing (Passive Systems)

## Processor Settings for DCMLx, XD360 or other speaker management systems

For optimum performance, a loudspeaker management processor is recommended. Carvin offers the DCMLx power amps which include on-board X-Drive™ processing, as well as the XD360 X-Drive™ outboard processor to manage amplifiers without on-board processing. Carvin's DCMLx power amps and XD360 will have TRx3210 crossover settings as a preset. The following charts provide a variety of settings that cover both full-range and bi-amping.

The settings below apply to all speaker management systems.

TRx3210 Passive Full Range w/Sub		
	Main	SUB
Output Gain	-3 dB	0.0 dB
Output Limit	0	0
Output Delay	0.0 mS	0.0 mS
Polarity	IN	IN
LPF	20 kHz	80 Hz
Q	OFF	Linkwz 24
HPF	80 Hz	31.5 Hz
Q	Linkwz 24	Butter 12
PEQ1 GAIN	6 dB	
PEQ1 FREQ	630 Hz	
PEQ1 BW	0.16	
PEQ2 GAIN	-9 dB	
PEQ2 FREQ	2.7 kHz	
PEQ2 BW	0.12	

TRx3210 Bi-Amp w/Sub			
	High	Low-Mid	SUB
Output Gain	-15 dB	0.0 dB	0.0 dB
Output Limit	0	0	0
Output Delay	84 uS	0.0 mS	0.0 mS
Polarity	OUT	IN	IN
LPF	20 kHz	1.5 kHz	80 Hz
Q	OFF	Butter 48	Linkwz 24
HPF	1.5 kHz	80 Hz	31.5 Hz
Q	Butter 48	Linkwz 24	Butter 12
PEQ1 GAIN	6 dB	-12 dB	
PEQ1 FREQ	2 kHz	315 Hz	
PEQ1 BW	1	0.3	
PEQ2 GAIN	12 dB	9 dB	
PEQ2 FREQ	12 kHz	400Hz	
PEQ2 BW	3	0.12	

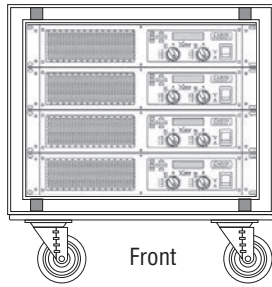
TRx3210 passive 4 unit curve array		
	Main	SUB
Output Gain	-3 dB	0.0 dB
Output Limit	0	0
Output Delay	0.0 mS	0.0 mS
Polarity	IN	IN
LPF	20 kHz	80 Hz
Q	OFF	Linkwz 24
HPF	80 Hz	32 Hz
Q	Linkwz 24	Butter 12
PEQ1 GAIN	6 dB	
PEQ1 FREQ	630 Hz	
PEQ1 BW	0.16	
PEQ2 GAIN	-9 dB	
PEQ2 FREQ	2.7 kHz	
PEQ2 BW	0.12	

TRx3210 Bi-Amp 4+ Arrays: Straight, lower 4 J-curve (J), and Sub					
	High	Low-Mid	High (J)	Low-Mid (J)	SUB
Output Gain	-9 dB	0.0 dB	-15 dB	0.0 dB	0.0 dB
Output Limit	-3dB	0	-3dB	0	0
Output Delay	84 uS	0.0 mS	84 uS	0.0 mS	0.0 mS
Polarity	OUT	IN	OUT	IN	IN
LPF	20 kHz	1.5 kHz	20 kHz	1.5 kHz	80 Hz
Q	OFF	Butter 48	OFF	Butter 48	Linkwz 24
HPF	1.5 kHz	80 Hz	1.5 kHz	80 Hz	32 Hz
Q	Butter 48	Linkwz 24	Butter 48	Linkwz 24	Butter 12
PEQ1 GAIN	-6 dB	-12 dB	-6 dB	-12 dB	
PEQ1 FREQ	2 kHz	315 Hz	2 kHz	315 Hz	
PEQ1 BW	1	0.3	1	0.3	
PEQ2 GAIN	12 dB	9 dB	12 dB	9 dB	
PEQ2 FREQ	12 kHz	400Hz	12 kHz	400Hz	
PEQ2 BW	3	0.12	3	0.12	

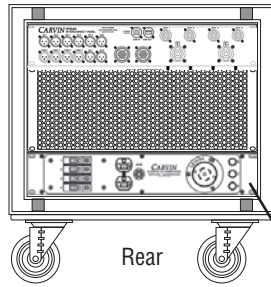
# Turnkey Factory Assembled Amp Racks

## ARx AMP RACKS DCM-Lx DSP Amps

Configured for minimum of 4 ohm operation per amplifier channel



Front



Rear

### ARx4 Amp Rack

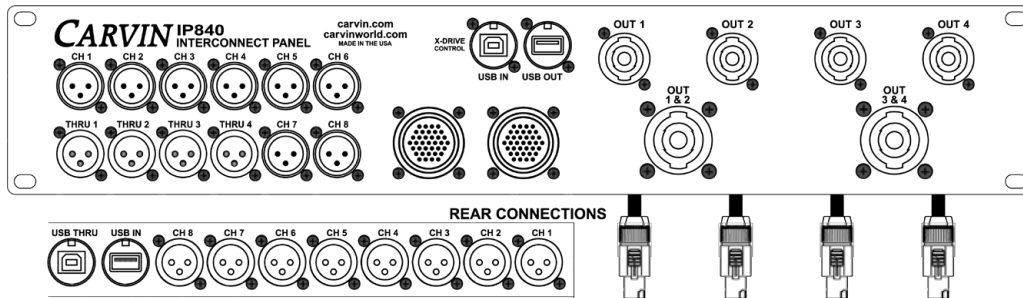
- (4) DCM3800Lx (15,200w)
- (1) IP840 Connect Panel
- (1) USB6HUB
- (4) C2U USB 2ft cable
- (6) C1XLR 8" cable
- (2) C3XLR 3ft cable
- (1) 4UVP Vented Panel 4U
- (1) 2UP Blank Panel 2U
- (1) SR8 8U Shock Rack Case
- (1) AR-ASSM Assembled/Tested

### ARx2 Amp Rack (not shown)

- (2) DCM3800Lx (7,200w)
- (1) IP840 Connect Panel
- (1) USB6HUB
- (2) C2U USB 2ft cable
- (2) C1XLR 8" cable
- (2) C3XLR 3ft cable
- (1) 4UVP Vented Panel 4U
- (1) 2UP Blank Panel 2U
- (1) SR8 8U Shock Rack Case
- (1) AR-ASSM Assembled/Tested

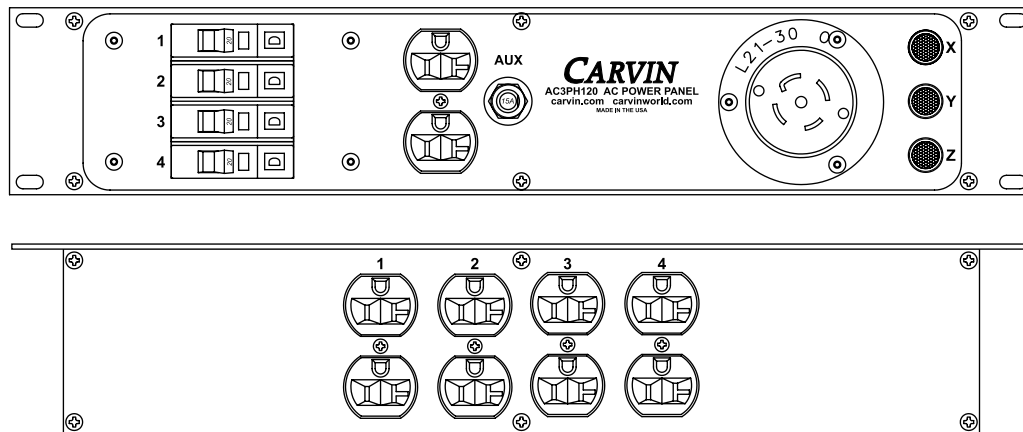
Option: AC3PH120 AC Panel  
3 phase 208v distributor. Amps  
prewired when ordered with rack

## IP840 Interconnect Panel



- IP840 2U Interconnect XLR inputs and TwistLoc outputs • Fast multi-pin for easy connections to rack gear
- Built-in rear TwistLoc cables connect to power amps • Front USB to computer, rear to USB hub

## AC3PH120 3 Phase Power Splitter



- AC3PH120 2U AC power panel for 100-130VAC 50-60Hz • Safety approvals ETL listed to UL standards.
- 3 phase 120VAC/208VAC • Each phase (leg) supports one 20 amp breaker (3rd & 4th breaker on leg 3)

## Components

<b>TRx3210A</b>	<b>Active</b> 2500w dual 10" Line Array with SureFly™ hardware.
<b>TRx3210NFA</b>	<b>Active</b> 2500w dual 10" Line Array without SureFly™ hardware
<b>TRx3210</b>	Dual 10" Line Array with SureFly™ hardware.
<b>TRx3210NF</b>	Dual 10" Line Array without SureFly™ hardware
<b>TRx3018A</b>	<b>Active</b> 2500w 18" subwoofer, non-flyable
<b>TRx3118A</b>	<b>Active</b> 2500w 18" subwoofer with SureFly™ hardware
<b>TRx3118NFA</b>	<b>Active</b> 2500w 18" subwoofer without SureFly™ hardware
<b>TRx3118</b>	4000w 18" subwoofer with SureFly™ hardware
<b>TRx3118NF</b>	4000w 18" subwoofer without SureFly™ hardware
<b>TRx2218B</b>	1600w dual 18" subwoofer
<b>TRx3218</b>	2000w dual 18" subwoofer
<b>SUREFLYTBAR</b>	Optional T-Bar suspension kit. One required per array. Hang up to 16 array modules. Includes 4 Quick Release Pins
<b>SUREFLYTRx</b>	Optional upgrade kit to fly TRx3210NFA or TRx3210NF
<b>SF3118</b>	Optional upgrade kit to fly TRx3118NF

## Accessories

<b>SureFlyPin</b>	Extra Quick Release Pins
<b>TCSHK58</b>	Rated 5/8" Anchor Pin Shackle
<b>IP840</b>	XLR/TwistLoc 2U interconnect panel with 37-pin DT12 interconnects and TwistLoc cables
<b>AC3PH120</b>	120V, 3-phase AC distribution panel
<b>NAC3FCA</b>	PowerCon™ power IN cable (120VAC, US version) for TRx3210A or TRx3118A
<b>NAC3FCB</b>	PowerCon™ power OUT jumper cable for TRx3210A or TRx3118A
<b>DB3210</b>	Baltic Birch/Duratec™ transport dolly for up to four TRx3210 array modules
<b>DB3118</b>	Baltic Birch/Duratec™ transport dolly with locking latches for TRx3118 subwoofers
<b>CTS44</b>	4" Swivel Caster for subwoofer - set of 4
<b>C2U</b>	2 ft. USB cable
<b>C1XLR</b>	8" XLR cable
<b>C3XLR</b>	3 ft. XLR cable
<b>PRO1TL</b>	18" NL4 Speaker jumper cable 12 gauge
<b>PRO25TL</b>	25 ft NL4 Speaker Cable 12 Gauge
<b>PRO50TL</b>	50 ft NL4 Speaker Cable 12 Gauge
<b>PRO50TL-8</b>	50 ft. NL8 Speaker cable 12 gauge
<b>PRO100TL-8</b>	100 ft. NL8 Speaker cable 12 gauge
<b>AD48</b>	NL8 to (2) NL4 Y breakout
<b>NL8MM</b>	NL8 male to male barrel connector

## Warranty

The Carvin warranty on the professional TRx3000 series loudspeaker products remains in effect for five years from the date of the first consumer purchase. Carvin DCM series power amplifiers are warranted for three years from the date of original purchase. All other Carvin products are warranted for one year from the date of original purchase.

### WHO IS PROTECTED BY THIS WARRANTY?

Your Carvin TRx3210 and TRx3210A warranty protects the original owner for five years so long as: A) Your product has been purchased from Carvin. B) The original dated sales invoice is presented whenever warranty service is required.

### WHO PAYS FOR WHAT?

Carvin pays for all material expenses related to defective workmanship including drivers and crossovers. However, Carvin does not pay for any driver with an open voice coil, rubbing voice coil or drivers, which in all cases is an indication that excessive power has been used.

### WHAT DOES THE CARVIN WARRANTY COVER?

Except as specified, your Carvin Warranty covers all defects in material and workmanship. The following are not covered: Damage caused by accident, misuse, abuse, product modification or neglect; damage occurring during shipment; damage resulting from failure to follow instructions contained in your Instruction Manual; damage resulting from the performance of repairs by someone not authorized by Carvin; claims based upon any misrepresentations by the seller; any Carvin product on which the serial number has been defaced, modified or removed.

### WARRANTY INFORMATION

If your Carvin product needs service, email [service@carvin.com](mailto:service@carvin.com) or [export@carvin.com](mailto:export@carvin.com) for international customers. Please do not ship your Carvin product to the factory without prior authorization. You are responsible for shipping charges.

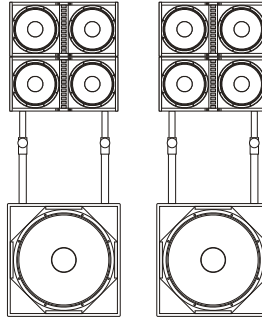
# Turnkey Systems

## 500+ Person System Package

### **TRS500A** (Active TRx3018A subs, Passive TRx3210)

Subwoofer powered full range system (10,000w)

- (4) TRx3210NF Array Enclosures
- (2) TRx3018A Active Subwoofers w/Ext. Amp
- (2) PRO1TL
- (2) PRO5TL
- (4) SS4 Poles
- (1) DB35 Dolly Board
- (1) DB3210 Dolly Board



## 1500+ Person System Packages

### **FLYING SUBS PACKAGE**

#### **TRx3118A-4** (Active TRx3118A subs)

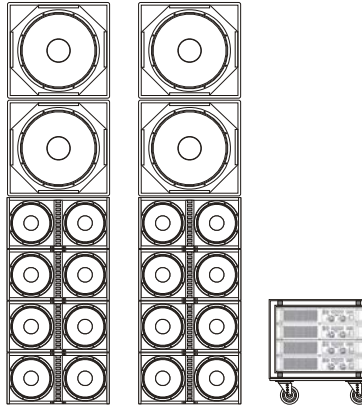
Active Flyable Subwoofer System (10,000w)

- Mounts Inline on the SureFlyTBar in array systems
- (4) TRx3118A Active Flyable Subwoofer

### **TRS1500A** (Active TRx3210A)

Active Line Array System (20,000w)

- (8) TRx3210A Active Array Enclosures
- (2) SureFlyTBar
- (4) TCSHK58 shackles
- (2) DB3210 Dolly Boards (8 TRx3210)



### **TRS1500P** (Passive TRx3210)

Biamp Passive Line Array System (15,200w)

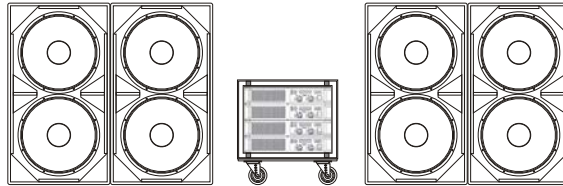
- (8) TRx3210 Array Enclosures
- (1) ARx4 Amp Rack
- (2) SureFlyTBar
- (4) TCSHK58 shackles
- (2) DB3210 Dolly Boards (8 TRx3210)

### **SUBWOOFER PACKAGE**

#### **TRS1500S** (TRx2218B subs)

Passive Subwoofer System (15,200w)

- (4) TRx2218B Dual 18" Subwoofer
- (1) ARx4 Amp Rack
- (4) CTS44 Caster Set

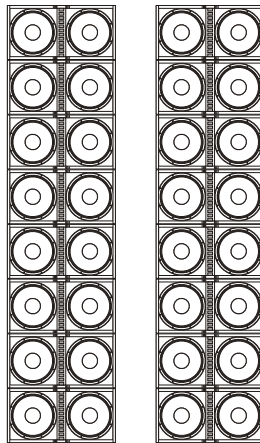


## 4000+ Person System Packages

### **TRS4000A** (Active TRx3210A)

Active Line Array System (40,000w)

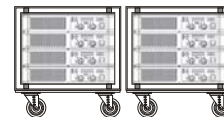
- (16) TRx3210A Active Array Enclosure
- (2) SureFlyTBar
- (4) TCSHK58 shackle
- (4) DB3210 Dolly Board (16 TRx3210)



### **TRS4000P** (Passive TRx3210)

Biamp Passive Line Array System (30,400w)

- (16) TRx3210 Array Enclosure
- (2) ARx4 Amp Rack
- (2) SureFlyTBar
- (4) TCSHK58 shackle
- (4) DB3210 Dolly Board (16 TRx3210)

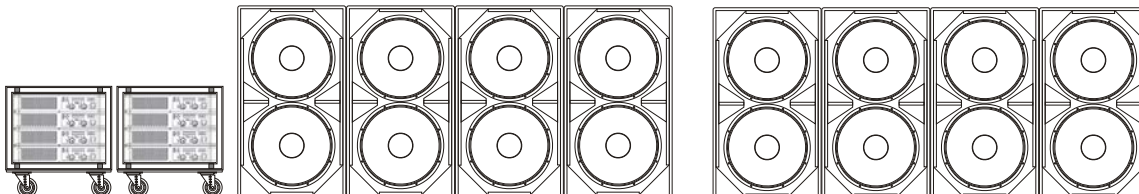


### **SUBWOOFER PACKAGE**

#### **TRS4000S** (TRx2218B subs)

Passive Subwoofer System (30,400w)

- (8) TRx2218B Dual 18" Subwoofer
- (2) ARx4 Amp Rack
- (8) CTS44 Caster Set



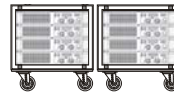
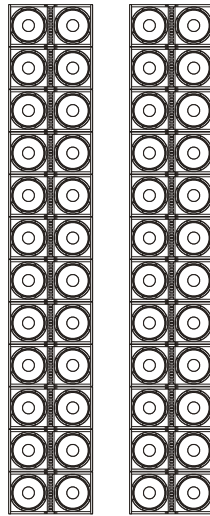
## 7000+ Person System Packages

### **TRS7000A** *(Active TRx3210A)*

- Active Line Array System (60,000w)
- (24) TRx3210A Active Array Enclosure
- (2) SureFlyTBar
- (4) TCSHK58 shackle
- (6) DB3210 Dolly Board (24 TRx3210)

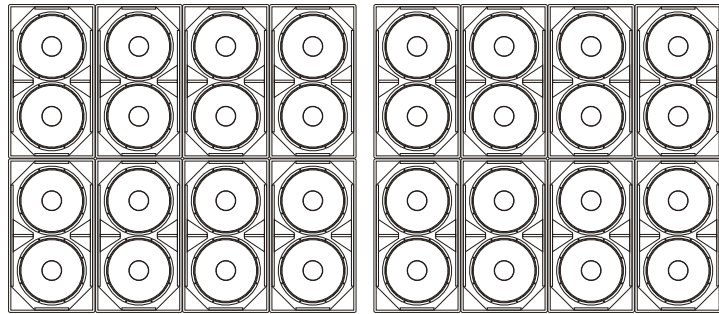
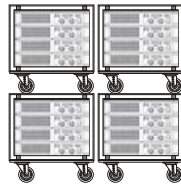
### **TRS7000P** *(Passive TRx3210)*

- Biamp Passive Line Array System (30,400w)
- (24) TRx3210 Array Enclosure
- (2) ARx4 Amp Rack
- (2) SureFlyTBar
- (4) TCSHK58 shackle
- (6) DB3210 Dolly Board (24 TRx3210)



### **SUBWOOFER PACKAGE TRS7000S** *(Passive TRx3218 subs)*

- Passive Subwoofer System (60,800w)
- (16) TRx3218 Dual 18" Subwoofer
- (4) ARx4 Amp Rack
- (16) CTS44 Caster Set



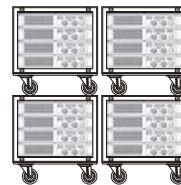
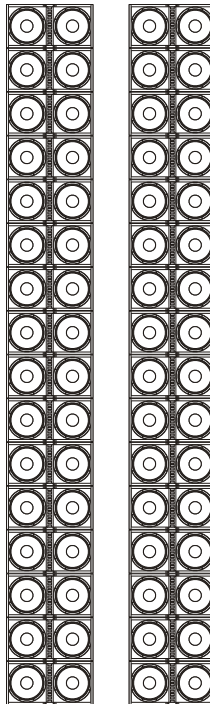
## 9000+ Person System Packages

### **TRS9000A** *(Active TRx3210A)*

- Active Line Array System (80,000w)
- (32) TRx3210A Active Array Enclosure
- (2) SureFlyTBar
- (4) TCSHK58 shackle
- (8) DB3210 Dolly Board (32 TRx3210)

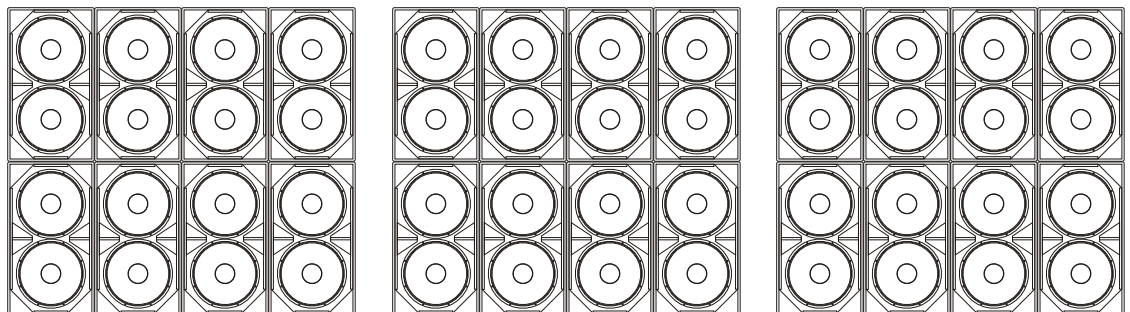
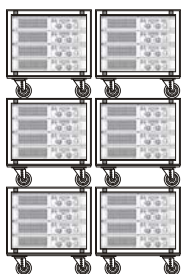
### **TRS9000P** *(Passive TRx3210)*

- Biamp Passive Line Array System (60,800w)
- (32) TRx3210 Array Enclosure
- (4) ARx4 Amp Rack
- (2) SureFlyTBar
- (4) TCSHK58 shackle
- (8) DB3210 Dolly Boards (32 TRx3210)



### **SUBWOOFER PACKAGE TRS9000S** *(Passive TRx3218 subs)*

- Passive Subwoofer System (91,200w)
- (24) TRx3218 Dual 18" Subwoofer
- (6) ARx4 Amp Rack
- (24) CTS44 Caster Set



**TRX**  
Made in USA

**CARVIN  
AUDIO**

**CARVIN**

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