

TOUR SERIES LOUDSPEAKER SYSTEMS



From Fender Pro Audio

Owner's Manual for
2912(c), 2915(c)

P/N 050757





Fender Musical Instruments
7975 North Hayden Road, Scottsdale, Arizona 85258 U.S.A.

Fender knows the importance of sound reinforcement. From the simple box-top mixer to today's professional touring concert systems, the need to communicate, to make the connection between the performer and the audience is foremost in Fender's mind.

Perhaps no other single piece of gear can make or break your band's sound. You see, your sound system is more than just a combination of dials, wires and speakers. It is an integral part of the audio chain and should be treated with special care and attention to detail.

At Fender, we know what building quality musical instruments and sound reinforcement equipment is all about. In fact, many of the world's best sounding electric musical instruments and sound reinforcement equipment proudly wear the Fender name.

Whether you need a simple box top powered mixer for your Saturday afternoon jam, or a professional full-size concert system, Fender has the sound reinforcement equipment to meet your needs.

Wishing you years of enjoyment and a heartfelt *thank you*,

Bill Schultz

Bill Schultz
Chairman
Fender Musical Instruments Corporation

TOUR SERIES 2912(c) / 2915(c) PROFESSIONAL LOUDSPEAKER SYSTEM

INTRODUCTION

13-Ply Baltic Birch Cabinet

Controlled Dispersion™ (60° or 90°) Constant Directivity Horn

4-pole Speakon™ Connectors and High Current 1/4" Phone Jacks

Built-in passive 4th Order Linkwitz-Riley crossover

Cast Frame Woofer

B & C 1" (2.55cm) Exit Compression Driver

Reinforced for Flying Applications (except "c" versions)

Thank you for purchasing a Tour Series 2912(c) / 2915(c) Loudspeaker System from Fender® Pro Audio. We are sure you will find it both a unique and effective sound reinforcement product, providing years of trouble-free service.

The 2912(c) / 2915(c) is a professional, full-range, two-way, compact loudspeaker designed for the most demanding concert sound and sound contracting requirements. With a scientifically derived trapezoidal shape and equipped with fly-points for use with the Fender RigSafe™ rigging and flying hardware (except "c" versions), the speakers are designed for use as a single unit or as part of a larger loudspeaker array. The RigSafe system is compatible with both the JBL S.A.F.E.™ and the ATM Flyware™ components.

Featuring a passive Linkwitz-Riley crossover, bi-amp capability, high power handling and variable horizontal coverage patterns, the 2912(c) / 2915(c) is designed to form the basis of anything from a P.A. system for a band to a full-size concert sound tour system. After moisture sealing, the 2912 / 2915 cabinets are painted with an environmentally friendly tough black finish for long life and lasting looks. The 2912c / 2915c are covered in a rugged black carpet with the addition of metal corners and feet. These speakers are ideal for use as a two-way system or as the mid / high pack in a three-way set-up incorporating a 118s(c) or 215s(c) subwoofer loudspeaker system.

CAUTION: Almost all speakers produce strong magnetic fields which may interfere with the normal operation of nearby electronic devices, including televisions and computer video monitors. To reduce or eliminate interference, increase the distance between this product and other nearby electronic devices.

CONNECTIONS

In normal operation (using the passive internal crossover), the 1/4" jacks and the Speakon™ Connectors are wired in parallel allowing any one of the connectors to be used as an input and any other as an output. This allows "daisy chaining" of multiple loudspeakers, eliminating the need for several long, cumbersome runs of speaker cable. During normal mode, the connections are as follows:

Polarity	Phone Jack	Speakon™
Positive (+)	Tip	1+ and/or 2+
Negative (-)	Sleeve	1- and/or 2-

When the switch on the back of the speaker is in the bi-amp mode, the internal crossover and high frequency attenuator are disabled. Thus, an external crossover must be used with the speaker and two channels of power amplification will be required: one for the low frequencies and another for the high frequencies. In bi-amp mode, the connections are as follows:

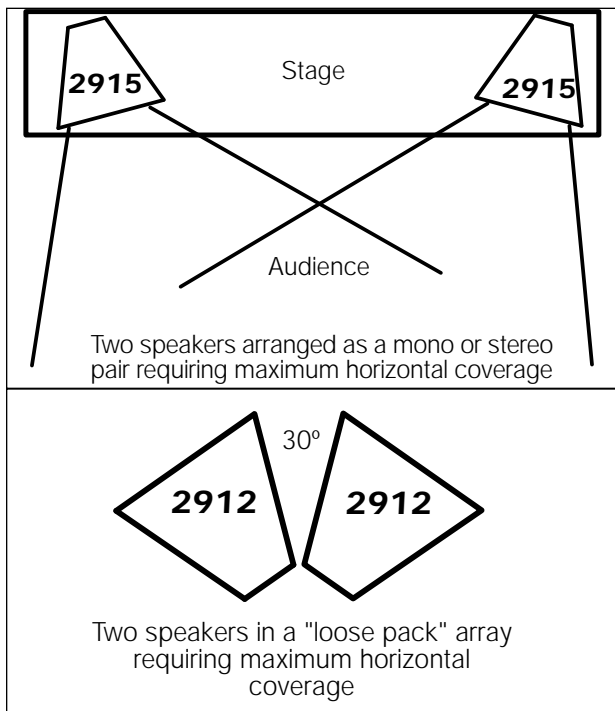
Frequency	Polarity	Phone Jacks		Speakon
		Left	Right	
Lows	Positive (+)	N/A	Tip	1+
Lows	Negative (-)	N/A	Sleeve	1-
Highs	Positive (+)	Tip	N/A	2+
Highs	Negative (-)	Sleeve	N/A	2-

IMPORTANT: If the crossover switch is set to external, DO NOT plug a full range signal into the High Frequency input. Doing so will destroy the compression driver.

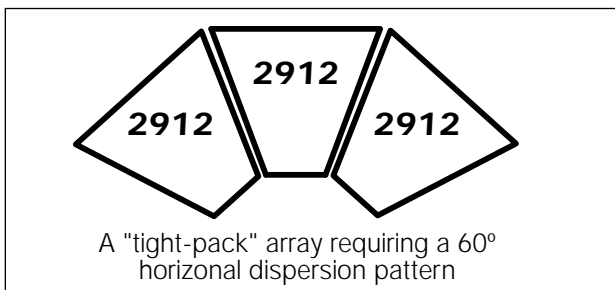
SETUP SUGGESTIONS

The placement of any speaker can dramatically affect its sound. Thus, there are several considerations to review when placing loudspeakers.

First, the range of the horizontal coverage should be determined. If the speaker will be used as a single unit, as part of a pair, or as part of a group of widely spaced enclosures, then maximum horizontal coverage will be desired. Examples of these types of setups are shown. No changes to the speaker are needed using these configurations. The horn in this configuration has a horizontal coverage angle of 90° and a vertical coverage of 40°.

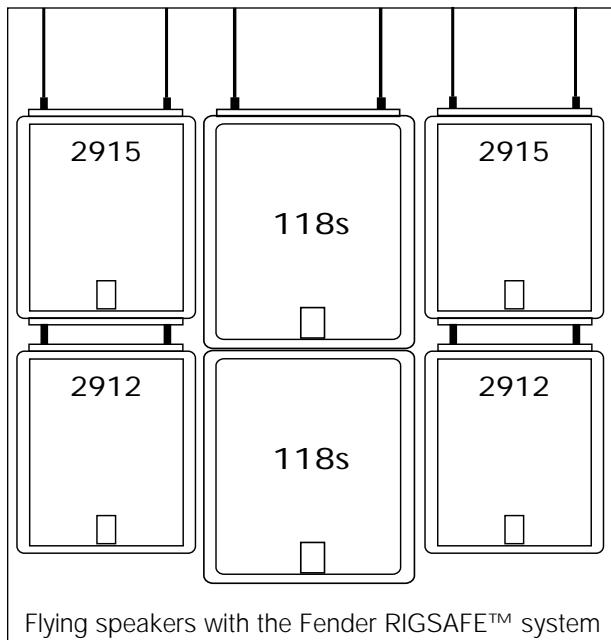


If the speaker is part of a tightly packed array (see figure below), the coverage pattern should be modified to reduce overlapping radiating patterns of multiple drivers. (See the section on "Horn Inserts" for more information.)



A **second** consideration is for feedback and bass performance. If the speaker is placed near a large, flat wall, the bass output will be increased by approximately 6 dB. Placing the speaker near a wall can cause feedback. If this occurs, the speaker must be moved. In general, placing speakers near a wall works best if the sources feeding the speaker are line level items.

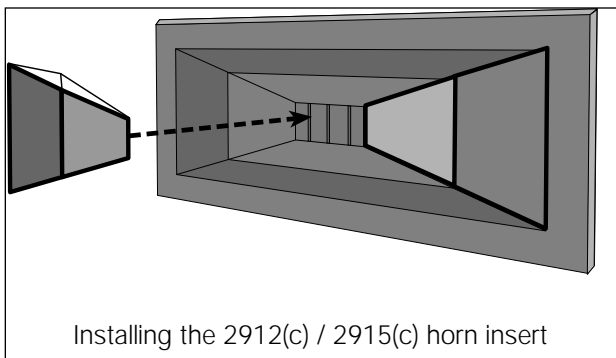
A **third** consideration is to what degree the speaker should be "heard and not seen", especially in permanent installations. Flying (hanging the speakers from the ceiling) is one option whereby the 2912 / 2915 can be integrated with a 118s subwoofer. In this configuration, the speakers can be arranged in any array of up to three rows (tiers), loose or tight pack, with or without downward angling (splaying).



The Fender RigSafe™ system is designed into both speaker cabinets models to safely accommodate such practices. This system is compatible with both the JBL S.A.F.E.™ and the ATM Flyware™ rigging systems. Nonetheless, flying loudspeakers above crowds is dangerous and should only be undertaken by experienced and insured riggers. For more information on safe rigging practices, please refer to the "Flying with Fender RigSafe™" brochure (p/n 049646) or contact ATM FlyWare at (310) 834-5914.

HORN INSERTS

To change the dispersion pattern from 90° to 60°, first remove the grille from the speaker. Using a small screw driver, gently pry the grille away from the top and bottom cleat. Next, gently pull outward at the center of the grille; it should bend and pull out from under the sides. If your insert has a plug on it, you may wish to remove it for easier installation. To do so, **carefully** cut it off with a razor blade. To attach the two horn inserts, first place the wider end of the insert under the front lip of the horn. Next, guide the smaller end of the insert under the ribs near the throat of the horn. The insert is secured in place by the 3 ridges.



Reinstall the grille by placing one side of the grille under the side cleat, then gripping the grille on the top and bottom, bend the other end under the cleat at the opposite end of the cabinet. With the inserts installed, the horizontal coverage angle is reduced to 60°.

The **high frequency driver** for all enclosures is a compression driver using high technology polymer materials to handle large amounts of power. This compression driver is mated to an innovative Controlled Dispersion™ horn that allows a single horn to be used for a number of applications. The quick placement or removal of the horn inserts can change the horizontal coverage pattern from 60° to 90°. When both inserts are installed, a 60° coverage pattern is achieved. This is useful in multi-cabinet tight pack arrays where a narrower consistent coverage pattern is required. With the horn inserts removed, a 90° coverage pattern is attained offering a wider horizontal dispersion pattern.

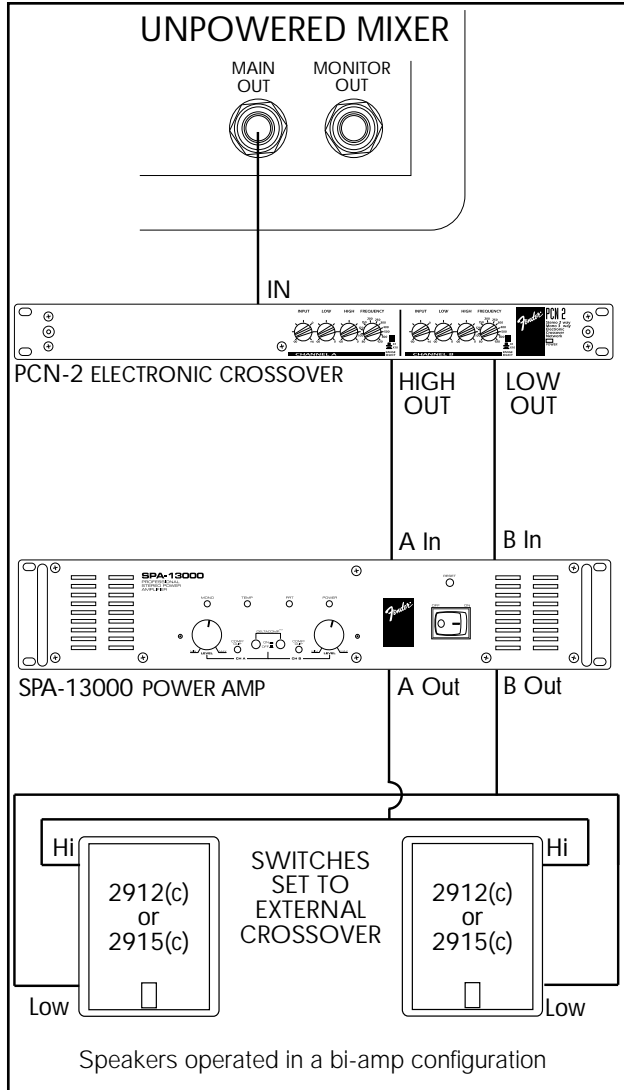
NORMAL vs. BI-AMP OPERATION

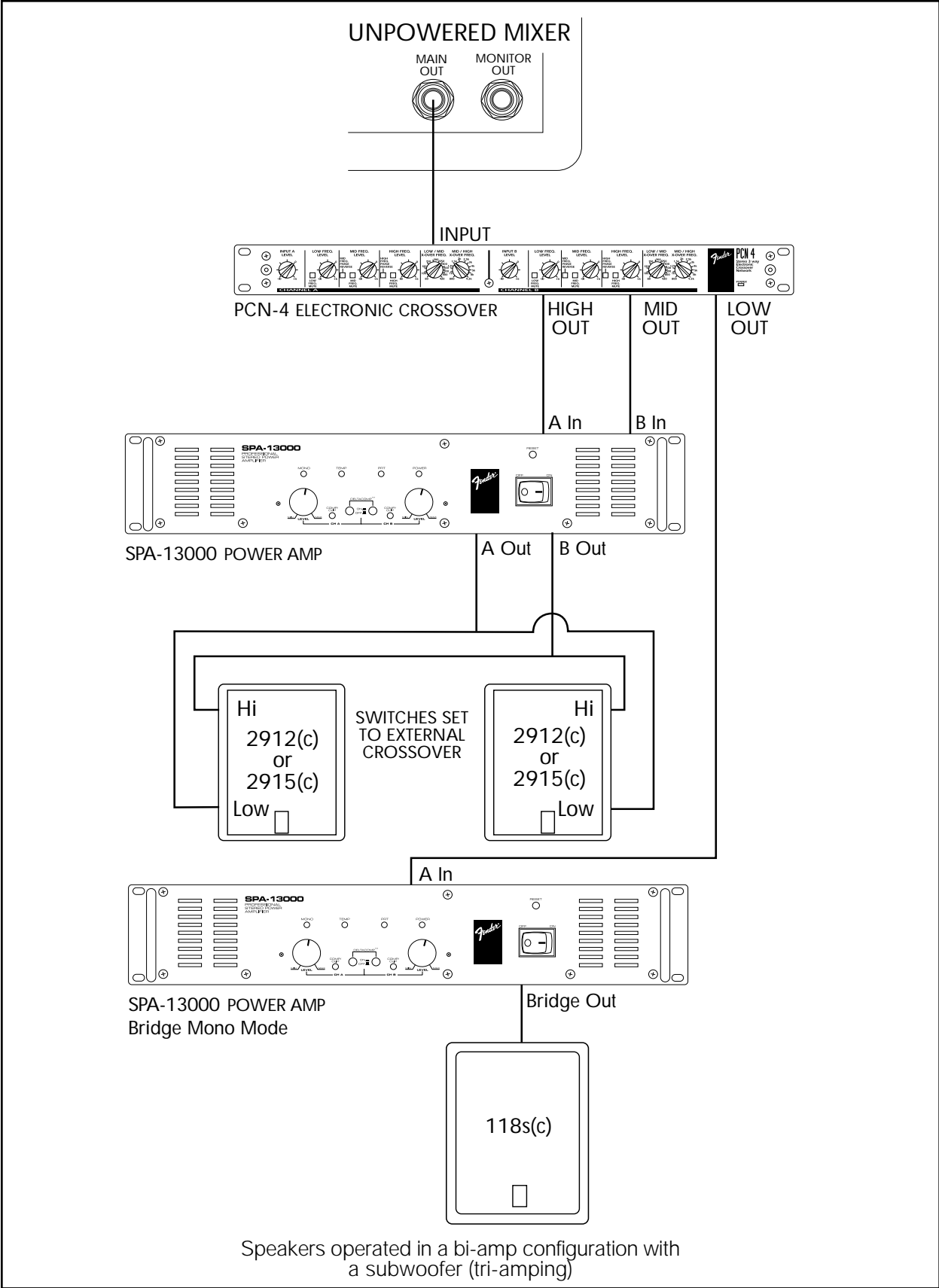
Hours of testing and listening are used to determine the crossover point and filter slopes for each speaker. This information is then used to design the built-in passive crossover. For versatility and increased headroom, some users may wish to use an active electronic crossover / processor, such as the Fender PCN-2 or PCN-4, with the system. This electronic crossover or processor will take the place of the internal crossover of the speaker system. The "Normal / Bi-Amp" switch on the back of the cabinet must be set to the "Bi-Amp" position. A typical set-up of a bi-amp configuration is shown at right.

For those situations requiring a subwoofer, the 2912(c) / 2915(c) can still be amplified if a three-way electronic crossover is used. An example of this configuration is shown on the next page.

It is strongly recommended that a fourth-order "Linkwitz-Riley" or a digital FIR fourth-order active crossover be used. The crossover frequency, for both the 2912(c) / 2915(c), should be set at approximately 2000 Hz. Since the output sensitivity of the compression driver is higher than that of the woofer, the high frequency output of the system must be decreased at either the crossover (if such a control is provided) or at the power amplifier(s) that are used for the high frequencies.

CAUTION: Be sure to connect the high frequencies and low frequencies to their correct inputs indicated on the back of the speaker cabinets.





SPECIFICATIONS

MODEL		2912(c)	2915(c)
PART NUMBER		2912: 071-1330-000 2912(c): 071-1330-100	2915: 071-1340-000 2915(c): 071-1340-100
MAXIMUM dB SPL OUTPUT LONG TERM		120 dB	121 dB
CABINET		3/4" (1.9 cm) 13-ply Baltic birch	3/4" (1.9 cm) 13-ply Baltic birch
CROSSOVERS		2000 Hz 4 pole low pass with phase compensation network 2000 Hz 4 pole high pass	2000 Hz 4 pole low pass with phase compensation network 2000 Hz 4 pole high pass
CONNECTIONS		(2) 1/4" Phone Jacks (2) 4-pole Speakon Jacks	(2) 1/4" Phone Jacks (2) 4-pole Speakon Jacks
DRIVER	Low:	12" (30.5 cm) cast frame woofer 2.5" (6.4 cm) voice coil 80 ounce (2.3 kg) magnet 8 Ω nominal impedance	15" (38.1 cm) cast frame woofer 3" (7.6 cm) voice coil 80 ounce (2.3 kg) magnet 8 Ω nominal impedance
	High:	1" Exit Throat Polymer Diaphragm 2" (5 cm) voice coil 38 ounce (1.1 kg) magnet 16 Ω nominal impedance	1" Exit Throat Polymer Diaphragm 2" (5 cm) voice coil 38 ounce (1.1 kg) magnet 16 Ω nominal impedance
FREQUENCY RESPONSE	Axial +/- 3 dB:	60 Hz to 18 kHz	56 Hz to 18 kHz
AXIAL SENSITIVITY	SPL @ 1W/1m:	97 dB	98 dB
POWER HANDLING	EIA RS 426-A Noise: Program: Peak: Nominal Impedance: Woofer: Compression:	150W for 8 hours 300W 600W 8 Ω 300W program 80W program	200W for 8 hours 400W 800W 8 Ω 400W program 80W program
DIMENSIONS	Weight Height Width (front) Width (rear) Depth	73 lbs. (33 kg) 25.6" (65 cm) 21.9" (55.6 cm) 9" (22.8 cm) 19.5" (50 cm)	75 lbs. (34.1 kg) 26.8" (68 cm) 21.9" (55.6 cm) 9" (22.8 cm) 19.5" (50 cm)

WARNING: (2912 / 2915 only) The length of the useful life of these cabinets will depend in substantial part upon how they are treated in use. The user of this cabinet must periodically have this cabinet inspected to ensure that continued use has not weakened the cabinet's structure, including the various joints which are fastened with glue and/or screws. Because this cabinet is in some instances, suspended from heights in use and could cause serious injuries or fatalities if it falls, this determination is important and must be attended to by the user.

For questions concerning flying your 2912 or 2915, please refer to the "Flying with Fender RigSafe™" booklet (P/N 049646) or contact ATM FlyWare at (310) 834-5914.

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