

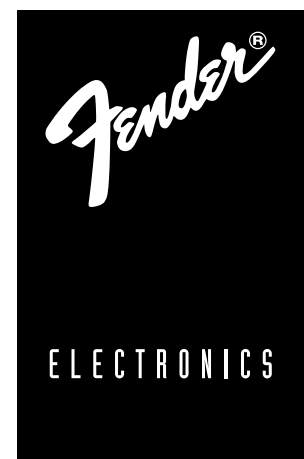
TOUR SERIES LOUDSPEAKER SYSTEMS



From Fender Pro Audio

Owner's Manual for
215s, 215sc

P/N 050554





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 215s / 215sc PROFESSIONAL SUBWOOFER LOUDSPEAKERS

INTRODUCTION

13-Ply Baltic Birch Cabinet

1600W Program Power Handling

35 Hz to 170 Hz Frequency Response

101 dB Sensitivity @ 1W / 1m

**Two 15" Woofers with 4" Voice Coils and
110 Ounce Magnets**

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

Thank you for purchasing a Tour Series 215s or 215sc Professional Subwoofer 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.

Designed for the most demanding concert sound and sound contracting requirements, the cabinet's multiple cavities and internal wood bracing helps eliminate side wall movement. This design results in low distortion, very high power handling and very high SPL output. Likewise, large ports on the 215s and 215sc cabinets prevent compression at high SPL due to large exit velocities.

After moisture sealing, the 215s cabinet is painted with a environmentally friendly tough black finish for longer life and lasting looks. The 215sc is covered in a rugged black carpet with the addition of metal corners and feet. Also, a pole mount adapter is available for placing a mid or high range enclosure over the 215s or 215sc.



-Only use Fender Mounting Pole (P/N 071-1359-000) to support the full range cabinets.

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

The two 4-Pole Speakon™ connectors and the two 1/4" phone jacks are wired in full parallel so that any one of the connectors may be used as an input and the other connectors as an output to another subwoofer. This allows the multiple, cabinets to be "daisy chained", eliminating the need for several long runs of speaker cable.

Note: A single 215s / 215sc subwoofer represents a 4Ω load to the amplifier. Daisy chaining two of them in parallel will represent a 2Ω load to the amplifier. Only amplifiers rated for 2Ω output should be used in this configuration.

The following polarity convention should be used when making connections to the 215s / 215sc:

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

USING THE 215s/215sc IN A SYSTEM

The 215s / 215sc is designed to augment the low frequency performance of the main P.A. speakers using bi-amplification. By reproducing very high levels of the low bass frequencies, the 215s / 215sc relieve the smaller main speakers from having to supply this energy.

In order to split frequencies and send certain frequencies to one type of speaker and other frequencies to another type, a line-level electronic crossover, such as a Fender PCN-2 or PCN-4, is required.

Two different configurations are shown on pages 5 and 6, demonstrating how easy it is to add a subwoofer to a system. Figure 3, on page 7, shows a more extensive configuration for those set-ups requiring additional power.

SETUP SUGGESTIONS

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

The first is time alignment. The mid/high racks should be as close as possible to the subwoofer so the sound from the subwoofer reaches the audience at the same time as the sound from the mid/high packs. If the subwoofer is placed too far from the mid/high packs, a slight smearing of the lower bass frequencies may occur. While ideal placement for this consideration would involve stacking the mid/high pack on top of the subwoofer, this effect is quite subtle and an obvious effect may not be heard until the separation between the two cabinets is large enough to cause an audible time delay.

The second consideration is to try to obtain as much bass as possible from the subwoofer. A subwoofer hinging in free air is referred to as operating in "full space" since the subwoofer is free to radiate in all directions (omnidirectionally). A speaker in the middle of the floor or up in the air with its back against a wall is referred to as operating in "half space".

The 215s/215sc is designed for a "half space" configuration. Full space operation will result in about a 3 dB decrease in output as compared to half space. In order to compensate for the decrease in output using a full space configuration, the power amplifier may need to be turned up. Placing a speaker near a large, flat wall and on the floor (quarter space) will boost the bass performance by about 3 dB as compared to half space. The more surfaces the subwoofer is placed against, the fewer the number of subwoofer enclosures are needed to achieve a desired SPL.

The third consideration is convenience and the visual aspect of the speaker array. For temporary installations, the subwoofer can be used as a support for a mid/high pack mounted either directly on top of the subwoofer or supported by the optional pole mount assembly (Fender P/N 071-1359-000) and using the subwoofer as a base. In permanent installations, the 215s/215sc, for example, can be placed under a stage or table. For each particular situation, a compromise among these three factors should yield the best solution possible.

CROSSOVER SUGGESTIONS

After the speaker system has been placed, the crossover point needs to be set for maximum benefit. While the 15" drivers in the 215s/215sc are fully capable of accurately reproducing frequencies above 350 Hz, the bandpass enclosure has been designed to acoustically roll off frequencies above 170 Hz. This decreases distortion levels and boosts frequencies below 170 Hz. Thus, the crossover point should be set lower than 130 Hz to ensure that all frequencies are reproduced. Setting the crossover point too low (below 80 Hz) will not take full advantage of the subwoofer because it places too high of a demand on the mid/high packs. For these reasons, a crossover point of ranging between 80 and 130 Hz is recommended depending upon the placement of the speakers.

The output level of the subwoofer(s) should be matched by ear to the output level of the full range cabinets by adjusting the level control at the crossover (if it has one) or at the power amplifiers. Normally, the output of the full range cabinets is subjectively higher than that of the subwoofers so a balance can be achieved by turning down the mid/high frequency signal at or before the power amplifiers.

FIGURE 1

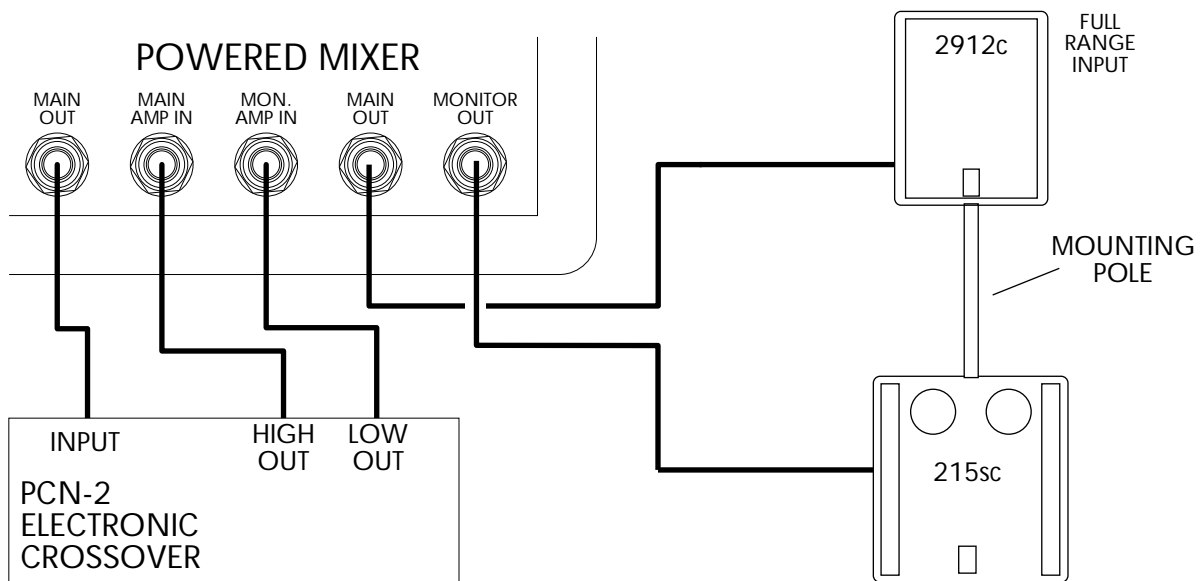


FIGURE 2

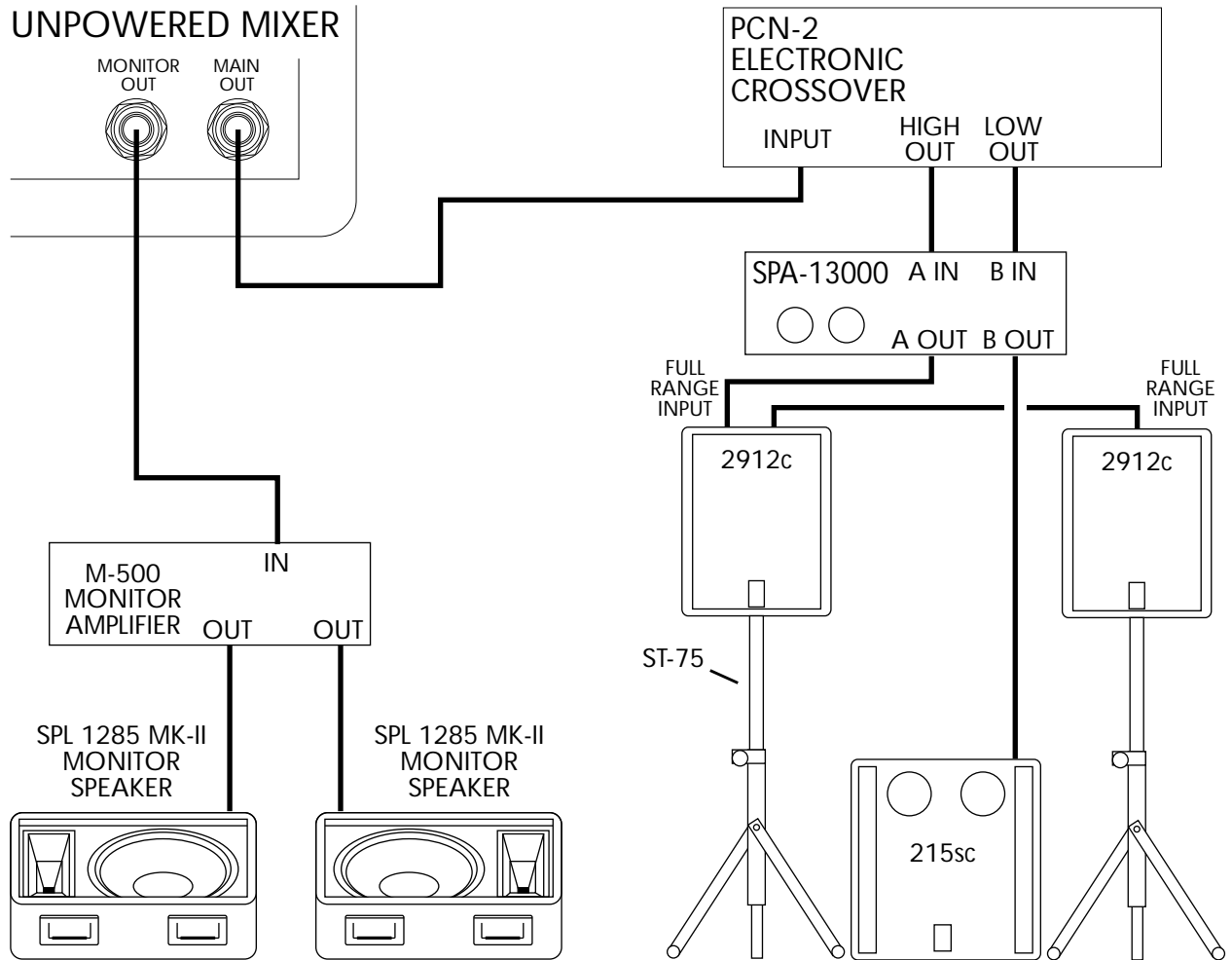
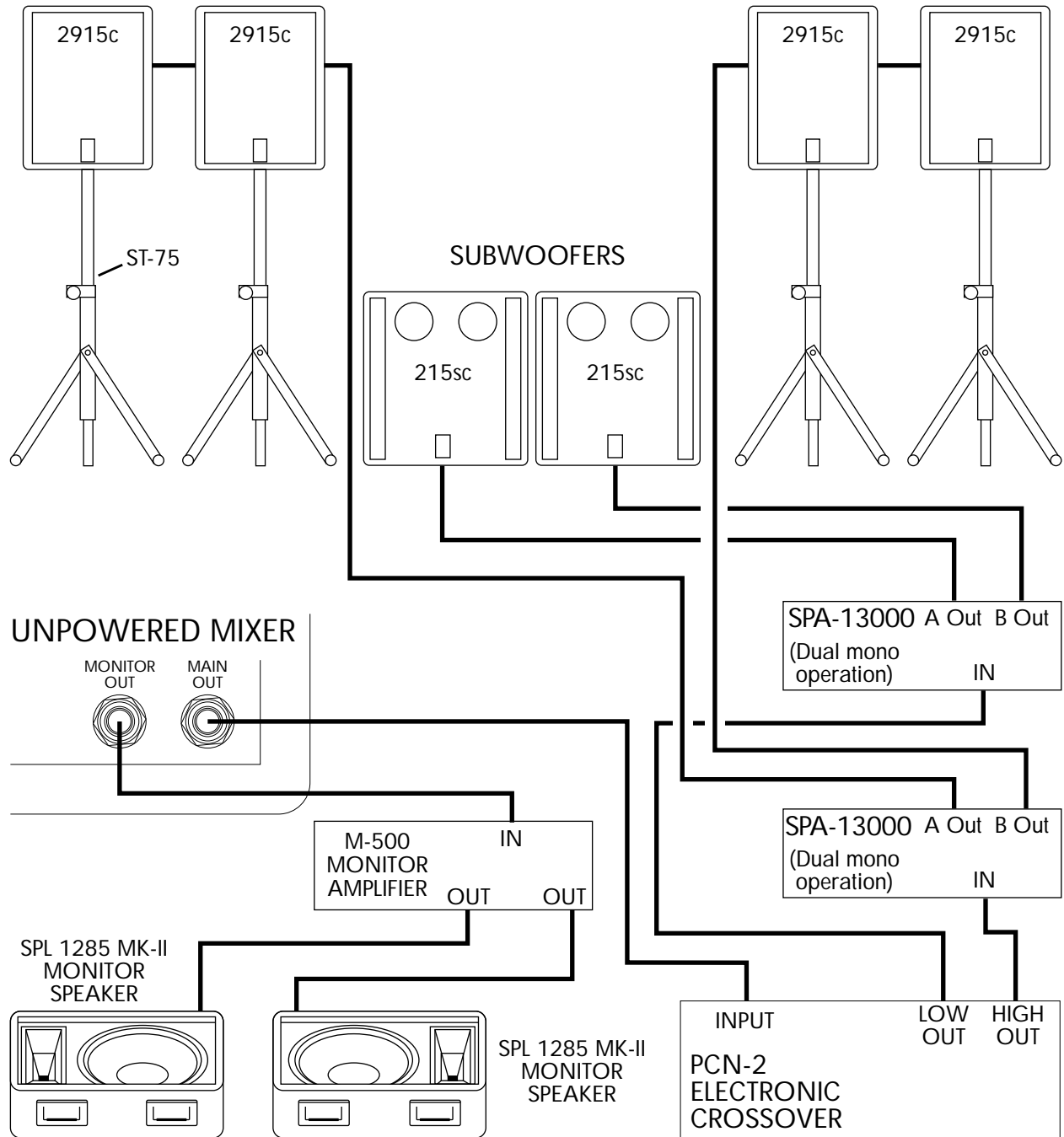


FIGURE 3



SPECIFICATIONS

PART NUMBER	071-1320-000 215s 071-1320-100 215sc
POWER BANDWIDTH	20 Hz to 50 kHz, 500W +0, -3 dB into 2 Ω
MAXIMUM dB SPL OUTPUT LONG TERM	130 dB
DRIVERS	Two 15" (38.1cm) cast frame woofers 4" (10.2 cm) voice coils 110 ounce (3.1 kg) magnets
CABINET	3/4" 13-ply Baltic birch Black paint (215s) Black carpet (215sc)
FREQUENCY RESPONSE	
Axial +/- 3 dB:	45 Hz to 170 Hz
LF Limit +/- 3 dB:	45 Hz
LF Limit +/- 3 dB:	37 Hz
AXIAL SENSITIVITY	
SPL @ 1W/1m:	101 dB
1/2 Space Efficiency:	4.50%
POWER HANDLING	
E.I.A. RS 426-B Noise:	800W, for 8 hours
Program:	1600W
Peak:	3200W
Nominal Impedance:	4 Ω
DIMENSIONS	
Weight	130 lbs. (59 kg)
Height	27.25" (69.2 cm)
Width	25.75" (65.4 cm)
Depth	20.56" (52.2 cm)

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