

## Troubleshooting Guide

### Having trouble with the sound system?

#### *Condition*

#### *Possible Solution*

No sound (power LED not lit):

- turn POWER switch ON
- replace fuse

No sound (power LED lights):

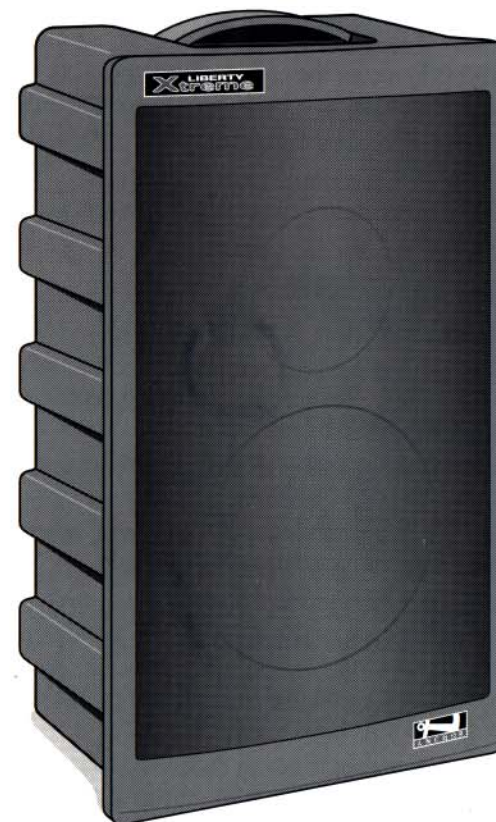
- check for output from source
- make sure all cables are completely plugged in
- increase volume control on input used

Distorted sound:

- check input cable connection
- lower input signal level

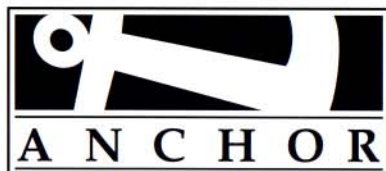
Excessive hum or noise:

- use shielded input cable
- use a balanced microphone



**LIBERTY**  
**Xtreme**  
**MPA-5100**

Owner's Manual



ANCHOR Audio, Inc. (310) 784-2300  
100-0080-000 / Revision A, 03/98





## Important Safeguards



**CAUTION**  
RISK OF ELECTRIC SHOCK  
DO NOT OPEN



**CAUTION:** To reduce the risk of electric shock, do not remove the cover. No user-serviceable parts inside. Refer servicing to qualified personnel.

**WARNING:** To prevent fire or electric shock, do not expose this equipment to rain or moisture.

**CAUTION:** To reduce the risk of fire, replace only with same type fuse (see specifications).



**AVIS**  
RISQUE DE CHOC  
ÉLECTRIQUE  
NE PAS OUVRIR



**ATTENTION:** Pour éviter les risques de choc électrique, ne pas enlever le couvercle. Aucun entretien de pièces intérieures par l'utilisateur. Confier l'entretien au personnel qualifié.

**AVIS:** Pour éviter les risques d'incendie ou d'électrocution, n'exposez pas cet article à la pluie ou à l'humidité.

**ATTENTION:** Pour diminuer le risque d'incendie, remplacer par des fusibles de même type (voir caractéristiques).

### EXPLANATION OF GRAPHICAL SYMBOLS

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to humans.

The exclamation point, within an equilateral triangle, is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

### EXPLICATION DES SYMBOLES GRAPHIQUES

Le symbole éclair avec point de flèche à l'intérieur d'un triangle équilatéral est utilisé pour alerter l'utilisateur de la présence à l'intérieur du coffret de "voltage dangereux" non isolé d'ampleur suffisante pour constituer un risque d'électrocution.

Le point d'exclamation à l'intérieur d'un triangle équilatéral est employé pour alerter les utilisateurs de la présence d'instructions importantes pour la fonctionnement et l'entretien (service) dans le livret d'instruction accompagnant l'appareil.

### DATE OF MANUFACTURE

The date of manufacture can be determined by the seven digit serial number code. The first digit denotes the month (A=Jan, B=Feb, etc.), and the second and third digits denote the year. Example: "B980033" indicates the unit was manufactured in February of 1998.



## Specifications

### MPA-5100

Rated power output:

low frequency amp:

high frequency amp:

Max SPL @ rated power:

90 watts @ 4Ω continuous

40 watts @ 16Ω continuous

122 dB project mode, 115 dB music mode

### General

Frequency response:

80 Hz - 15 kHz

(project mode: +8 dB from 2 - 12 kHz)

Speaker type:

8" woofer, constant-directivity horn

Tone control:

8 db cut / 8 db boost @ 8 kHz

### Inputs

Balanced input:

XLR male, switchable mic/line level  
15VDC phantom power (switchable)

Unbalanced input:

1/4"-phone, Hi-Z, unbalanced

Sensitivity for rated output:

Balanced Mic: -58 dBV (1.25 mVrms)

Balanced Line: -6 dBV (500 mVrms)

Unbalanced Line: -20 dBV (100 mVrms)

### Outputs

Line output (post fader):

XLR male, 600Ω, active balanced

AC power requirements:

export model:

110 - 125 VAC, 50/60 Hz

210 - 240 VAC, 50/60 Hz

(250 watts maximum, 30 watts idle)

AC accessory outlet:

export model:

110 - 125 VAC, 50/60 Hz

210 - 240 VAC, 50/60 Hz

(500 watts maximum)

Fuse rating:

export model:

T 3.15A / 250V

T 1.6A / 250V

Dimensions (HWD):

22.5 x 13 x 10", 57 x 33 x 26 cm

Weight:

34 pounds, 15.5 Kg.

Specifications subject to change without notice.







## Accessories

### **MIC-90 Handheld Microphone**

Anchor's dynamic, balanced, low impedance microphone with a unidirectional pick-up pattern. It has an on/off switch and comes with a 20' cable and mic clip.

### **SS-450 Speaker Stand**

Made of heavy duty structural aluminum.

### **VL-45 Storage Cover**

Heavy duty cover for Liberty.

### **EX-50M Microphone Cable**

50' mic extension cable.

### **MSB-201 Microphone Stand and Boom**

Microphone floor stand with 33" adjustable boom.

### **FL-4500 Admiral Lectern**

Floor model lectern with a center console to accommodate a Liberty sound system. It has a shock-mounted mic input.

Thank you for choosing an Anchor Audio portable sound system. Our products incorporate state-of-the-art design and the finest quality of materials and workmanship. We're proud of our products and appreciate the confidence which you have shown by selecting an Anchor system.

I hope you'll take a few of minutes to review this manual. We've incorporated several unique features into our products, and your knowledge of how to use them will enhance the performance and your enjoyment of the system.

David Jacobs, President on behalf of all Anchor employees



## Quick Use Guide

Liberty Xtreme is an AC-powered sound system optimized for applications requiring very loud, clear sound. It has several signal input options, and a line output to connect with other systems. The selectable sound mode feature makes it ideal for both music and speech applications, indoors or out.

You'll need a microphone or some other input source before you get started.

### **Here's how easy it is to use**

1. Set the unit in front of your audience on the floor, table or on a speaker stand.
2. Plug a microphone into the balanced mic input XLR jack, or plug an audio source into a line input.
3. Set both input level controls to minimum, and set the tone control to the 12:00 position.
4. Plug the power cord in, then turn the power switch ON. Slowly increase the level control adjacent to (above) the input used until desired volume is reached.
5. For music and indoor applications, set the sound mode switch to *Music*.  
For speech and outdoor applications, set the sound mode switch to *Project*.
6. Adjust the tone control for desired sound quality.

For more detailed instructions, see the "Set-Up" section on pages 6 -7 and the "Operation" section beginning on page 8.

Problems?  
Consult the  
troubleshooting  
section on the  
back page of  
this manual.

Save the shipping carton and packing materials. They were specially designed to ship your unit safely.

## Inspection and inventory of your system

Check unit carefully for damage which may have occurred during transit. Each Anchor product is carefully inspected at the factory and packed in a special carton for safe transport.

## Inventory

- Liberty Xtreme sound system
- Warranty registration card

## All damage claims must be made with the freight carrier.

Notify the freight carrier immediately if you observe any damage to the shipping carton or product. Repack the unit in the carton and await inspection by the carrier's claim agent. Notify your dealer of the pending freight claim.

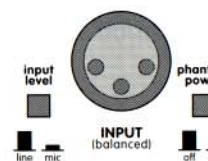
## Returning your unit for service or repairs

Should your unit require service, contact your dealer or our Customer Service Department at (310) 784-2300 to obtain a Return Authorization (RA) number. All shipments to Anchor must include an RA number and must be shipped prepaid. *C.O.D. shipments will be refused and returned at your cost.*

## Warranty registration

Please fill out the warranty card and return it with a copy of your invoice to Anchor's Customer Service Department. This will activate your limited two year warranty.

## Balanced Input



Liberty Xtreme is equipped with a balanced XLR input jack that can be set to allow microphone or line level sources, with or without phantom power (15 volts DC). A balanced microphone (Lo-Z) is preferred for use with long cables in order to minimize hum and interference. Phantom power is required when using mics with a condenser element; in all other cases the phantom power switch should be set to OFF.

LINE IN



## Line Input

The unbalanced line input is used for playback of a tape or CD player, musical instrument, VCR or similar line-level source. It may be combined with the balanced input for a composite output.

Note: All line-level connections must be made with shielded cable to avoid hum, buzzing or radio interference.



## Line Output

The line output provides a balanced, composite signal of the inputs being used. Use the line output to record your presentation, or to "daisy chain" another powered sound system to the Liberty Xtreme for greater crowd coverage.



## Sound Mode Switch

The sound mode switch allows the user to customize the sound output of the Liberty Xtreme for a particular application:

### Using the music mode (button out):

Liberty Xtreme provides flat, full-range frequency response for music/singing or indoor vocal applications.

### Using the project mode (button in):

Frequencies in the vocal range (800Hz-12KHz) are boosted for added clarity and efficient projection. Use for outdoor functions, large crowds and speech applications.

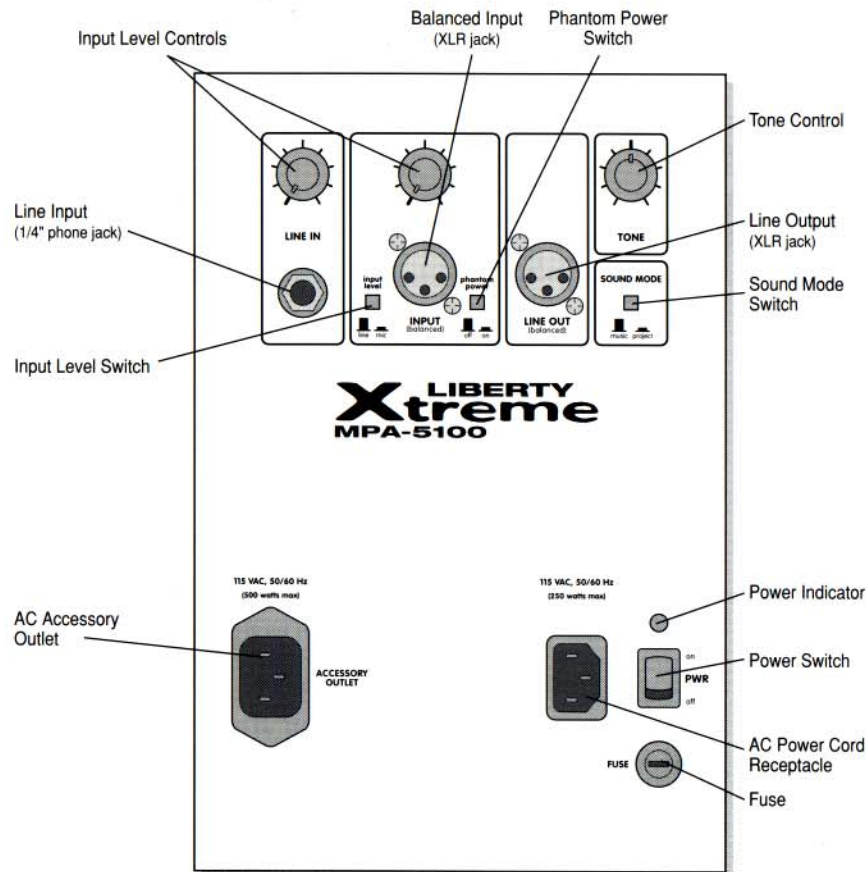
To control feedback, try attenuating the tone control.





## Operation

### Liberty Xtreme control panel



### Operating the sound system

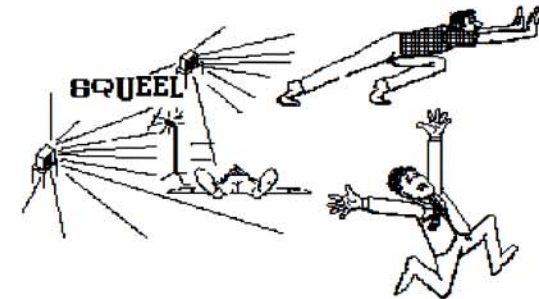
1. Set both input level controls to minimum and tone to 12:00 position before turning the power on.
2. Plug a microphone into the balanced input jack or connect an audio source to a line input jack.
3. Turn power ON (red LED above switch will light).
4. Adjust the level control located above the input used to desired volume level.
5. Adjust the tone control (and sound mode switch, if necessary) for desired sound.



## Feedback Information

### What causes feedback?

Feedback is a ringing, howling, or shrill sound that is self-generated by the sound system. It is the result of sound from the speakers being picked up by the microphone and then re-amplified by the system. This can form a self-sustaining loop that can damage the sound system if allowed to continue.



### How to prevent feedback

**ALWAYS STAND BEHIND THE SPEAKER WHEN USING A MICROPHONE!**

**CAUTION:** Feedback can damage your equipment and may be hazardous to your hearing. To avoid feedback, always make sure volume controls are at minimum before turning unit on. If feedback occurs, immediately reduce the volume.

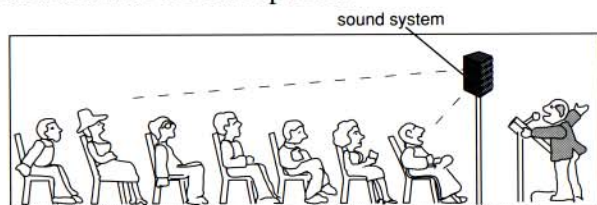
## Setting up the Liberty Xtreme sound system

Positioning of the speaker is perhaps the most important consideration when setting up a sound system. You should survey the location prior to the activity and observe the seating arrangement and area of coverage.

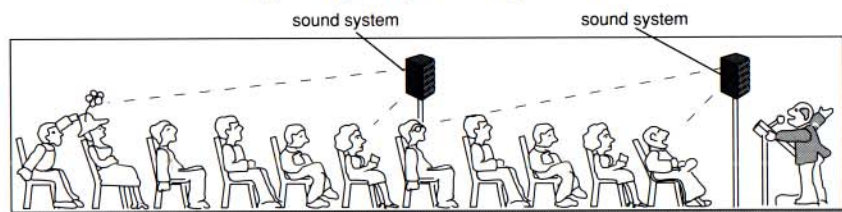
Keep in mind, the best sound system set-up is when the audience is not conscious of a sound system being used.

### Basic principles of sound system set up:

- Position your sound system in front of the audience and ahead of the microphone.

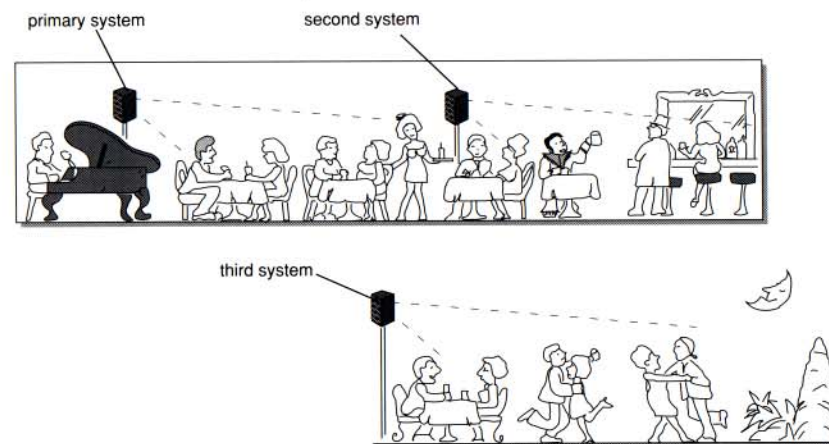


- Elevate the sound system so the sound projects over the front listeners. This permits sound to reach the listeners in the rear without overpowering those in front. The Liberty is easily and safely elevated above the audience by using Anchor's SS-450 speaker stand.
- For long and narrow seating arrangements, position one sound system in front and off to one side of the listeners. Then position a second sound system mid-way back on the same side of the audience. Direct the speakers diagonally across the audience (see notes regarding daisy-chaining below).



- Daisy Chain operation:** There may be times when the crowd size requires more than one sound system, or when part of the audience is in a separate listening area. To use multiple Liberty Xtreme systems, connect a shielded mic cable between the Line Output of the primary sound system to the Balanced Line Input of

the second system. Set the volume on the second system, and thereafter the volume of the primary Liberty Xtreme will control both units.



## Setting up difficult rooms

Reverberant rooms—those with acoustically-reflective surfaces like glass or concrete (such as a gymnasium), can be troublesome when using a sound system. Proper care must be used during setup to minimize feedback, which is caused by the microphone 'hearing' the sound reflected back from the walls, floors and ceilings.

### Techniques to reduce feedback in difficult rooms:

- The best microphones to use in feedback-prone rooms are handheld, CollarMic™ or headset boom types. They allow the mic element to be close to the mouth so the system 'sees' more of the users voice and less of the room. The volume control can be turned down while still maintaining an adequate sound level—another important factor in reducing feedback.
- Orienting the speakers directly at the crowd and away from the walls (and the user, or course) will help reduce feedback. Experimentation may be necessary.

A lapel mic will perform poorly under these conditions and should not be considered.