Troubleshooting Guide

Having trouble with the sound system?

Condition	*Possible Cause*
No sound (power LED not lit):	• power switch OFF • batteries fully discharged (LED flashes briefly)
Charge indicator doesn't light:	• blown fuse
No sound (power LED lights):	• no output from source • input cable unplugged • input volume control low or off • plug inserted into switched speaker output, but no speaker connected
Shortened battery life:	• short in external speaker cable or speaker • total external speaker impedance < 4Ω • batteries not fully charged • batteries need replacement
Distorted sound:	• poor connection on input cable • input signal too strong
Excessive hum or noise:	• input cable not shielded • not using balanced microphone

Having trouble with the wireless system?

Condition	*Possible Cause*
No sound (TX ON indicator lights):	• mute switch set to 'mute' position • wireless volume control low or off • no mic plugged into belt-pack transmitter
No sound (TX ON indicator off):	• sound system not turned on • transmitter power switch turned off • low battery or no battery in transmitter

ANCHOR

100-0005-000 / Revision F, 03/97

SONOSELF
LOCATION AUDIOVISUEL par VIDEOSON
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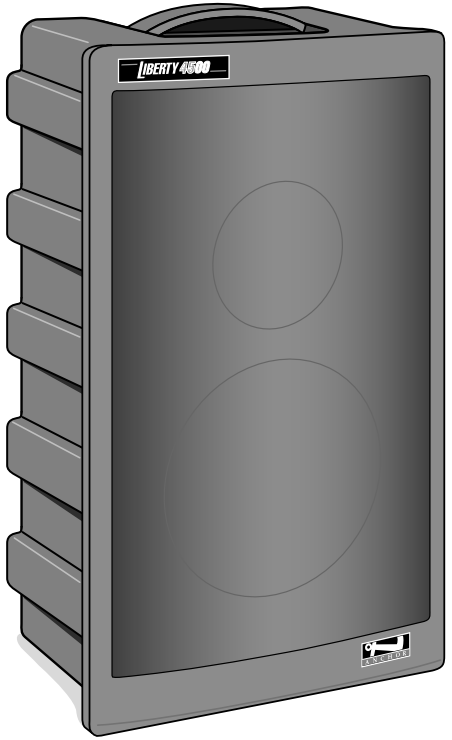
Ce matériel en location sur sonoself.fr



Liberty
Owner's Manual

ANCHOR

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Important Safeguards



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.



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

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

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 presence à l'intérieur du coffret de “voltage dangereux” non isolé d'ampleur suffisante pour constituer un risque d'elétrocution.



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 of this Anchor Audio product can be determined by the seven or eight digit serial number code. The fifth and sixth digits from the right denote the year, the seventh digit (letter) from the right denotes the month (A=Jan, B=Feb, etc.) Example: "XD960083" states that the unit was manufactured in April of 1996. An "X" may or may not exist as the eighth digit (letter) and has no significance in the serial number or date code.

Specifications

MPA-4500

Rated power output:	70 watts @ 4Ω continuous 120 watts @ 4Ω dynamic
Max SPL @ rated power:	119 dB project mode, 109 dB music mode

MPB-4500

Rated power output:	50 watts @ 4Ω continuous
Max SPL @ rated power:	117 dB project mode, 107 dB music mode
Batteries (two):	12 Volt rechargeable, 2.6 AH (7.0 AH with heavy duty batteries)

General

Frequency response:	60 Hz - 15 kHz ± 3 dB music mode (project mode: + 10 dB from 1.5 - 12kHz)
Speaker type:	8" woofer, titanium dome compression driver
Inputs	
Microphone inputs (two):	Lo-Z (1 kΩ), balanced, XLR phantom powered, 12 VDC / 6.8 k
Auxiliary (line) input:	Hi-Z (10 kΩ), unbalanced, 1⁄4"-phone
Sensitivity for rated output:	
Microphone:	-52 dBV (2.5 mVrms)
Auxiliary (line):	-14 dBV (200 mVrms)
Outputs	
Line output (post fader):	Lo-Z (< 1 kΩ), buffered, 1⁄4"-phone
Speaker out; switched:	8Ω, 1⁄4"-phone
Speaker out; unswitched:	4Ω, 1⁄4"-phone
DC Output:	12 Volts DC, 300 ma max.
AC power requirements: Export model:	110-125 VAC, 50/60 Hz 208-240 VAC, 50/60 Hz (MPA: 120 watts max, 30 watts idle. MPB: 50 watts max)
Dimensions (HWD) :	22.5 x 13 x 10", 57 x 33 x 25 cm
Weight:	
MPA-4500:	31 pounds, 13 Kg.
MPB-4500:	36 pounds, 16 Kg.
MPB-4500H:	44 pounds, 20 Kg.

Specifications subject to change without notice.

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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.

MP-4501 Companion Speaker
Dual function (music/project) unpowered speaker which can be connected to the speaker outputs of a Liberty for increased crowd coverage. Speaker cable not included.

SC-50 Speaker Cable
Heavy duty 50' speaker cable.

VL-45 Storage Cover
Heady duty cover for Liberty.

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 is a portable sound system with a built-in amplifier and multiple inputs. The dual-function feature makes it suitable for music or speech applications, indoors or out.

You'll need a microphone or some other input source before you get started. *If you have a battery-powered model, make sure the batteries are fully charged before use (see page 11).*

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

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 Mic 1 or Mic 2 input, or plug an audio source into the auxiliary input.
3. Set all input level controls to minimum, and set the bass and treble controls to the 12:00 position.
4. Turn the power switch ON (plug in the power cord if you're using an AC model). Slowly increase the level control adjacent to the input used until desired volume is reached.
5. For music and indoor applications, set the mode switch to *Music*.

   For speech and outdoor applications, set the mode switch to *Project*.
6. Adjust the bass and treble for desired sound quality.

To operate the wireless mic system on wireless models, see "Wireless Operation" on pages 12 and 13. And for more detailed instructions, see the "Operation" section beginning on page 8.

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Getting Started

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.

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

Inventory

- Liberty 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.

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.

Wireless Operation

Replacing the transmitter battery

Note: The transmitter power switch must be in the OFF position!

*Duracell MN1604 or equivalent.

HANDHELD: Unscrew the battery compartment cover on the lower end of microphone. Install a fresh 9 Volt alkaline battery* and replace the cover.

BODY-PACK: Press the "OPEN" end of the battery cover, slide it back and lift the cover. Install a fresh 9 Volt alkaline battery* being sure to observe proper polarity. Close the cover.

Operating the wireless microphone system

The audio signal from the built-in wireless receiver is fed into the mixing bus. The wireless mic may be used simultaneously with any of the other inputs .

Operating the wireless microphone system:



1. Set the wireless volume control to minimum.
2. Turn the sound system power switch ON.
3. Slide the transmitter power switch to PWR.
   The sound system's TX ON indicator lights to indicate wireless signal (RF) is being transmitted and received.



4. Adjust the wireless control to desired volume.

Caution: Harmful feedback may occur when walking in front of a sound system or speaker with a wireless microphone. Always point mic away from speakers.



Using the microphone ON/MUTE switch:

When set to the "ON" position the mic operates normally. To prevent unwanted sounds from being picked up without turning the transmitter off, move switch to "MUTE" position.

(The handheld mic/transmitter comes with a protective sleeve which fits over the power and mute switches to prevent accidental movement during use. To install it, unscrew the battery cover and slide the sleeve onto the microphone handle. Replace the cover.)

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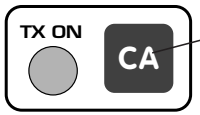
Wireless Operation

Setting up the wireless system

Checking the Frequency Code:

Before proceeding, you must first verify that the wireless frequency of your transmitter matches the frequency of the receiver installed in your Anchor sound system.

1. The control panel of the sound system should have the following label:



Frequency Code label
(Shure designates a one- or two-letter code which corresponds to the wireless frequency at which the component operates.)

2. The frequency code must match the code found on the transmitter as described below:

   HANDHELD: Unscrew the battery compartment cover on lower end of the microphone. Remove the battery (if installed) and check code on the label.

label on **handheld** mic/transmitter

SHURE BROTHERS INC.
LX2 HANDHELD TRANSMITTER
FREQUENCY CODE – **CA**
176.200 MHz

SHURE BROTHERS INC.
TX FCC ID: DD4L11
CANADA: 616 C9398
LX1 – **CA** 176.200 MHz

label on **body-pack** transmitter

   BODY-PACK: Check the code on the label located behind the belt clip.

3. If the frequency codes don't match, locate the correct transmitter whose code matches the sound system.

About the transmitter battery gauge/indicator

Assuming a battery is installed in the transmitter, you can estimate the remaining operating time by sliding the power switch to the PWR position *(first turn the sound system off, or set the transmitter mute switch to the MUTE position)*. Observe the color of the LED indicator(s) that light up:

Operating times using a fresh 9 volt alkaline battery *Duracell MN1604 or equivalent.

Battery LED Indicator	Operating Time
green	6 - 20 hours
green & amber	4 - 6 hours
amber	2 - 4 hours
red	< 1 hour

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(s) in use 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.*

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Set-Up

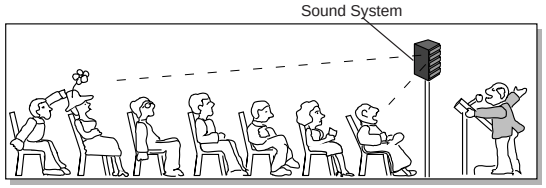
Setting up the Liberty sound system

Positioning of the speaker(s) 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.

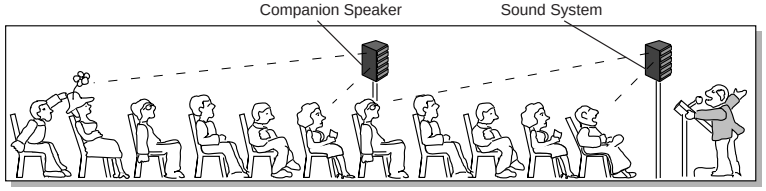
Keep in mind, the best sound system set-up is when the audience is not conscious of a sound system being used.

Basic principles of sound system set up:

- Position your sound system in front of the audience and ahead of the microphone. This is especially important when a person is addressing the audience.



- 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, narrow seating arrangements, position your powered sound system in front and off to one side of the listeners. Then position an unpowered companion speaker mid-way back on the same side of the audience. Direct the speakers diagonally across the audience.



- There may be times when the crowd size requires more than one Liberty sound system, or when the overflow crowd is in a separate listening area. To use multiple powered systems, connect a shielded cable between the Line Out of the primary Liberty

Battery Operation (MPB-4500)

Caring for the built-in batteries

It is very important that you fully charge the batteries in your system before first use, and as soon as possible after each and every use—even if operated only briefly.

IMPORTANT: Do not store system with a partially or fully discharged batteries, as this will reduce battery service life.

BATTERY
Flashing = low battery.

When the "Battery" LED flashes or won't light:

The automatic protection circuit turns the unit off when the batteries approach their 'critical discharge point' to prevent damage. *When the Battery LED begins flashing, this indicates the batteries are low and the unit will shut off in 15 - 30 minutes.*

Charging the batteries

Your system has a built-in automatic charger designed to properly charge and maintain the batteries—there is one thing you need to do, however: *Plug the power cord into an outlet!* But let's go through it step by step, just to make sure.

1. Turn the system's power switch off.
2. Plug the cord into an AC outlet (the Charger LED will light, indicating the batteries are being charged).

   When the batteries are fully charged (about 6-8 hours), the Charger LED will flash. That's all there is to it!

CHARGER
Plug cord into AC outlet.
Light On = charging.
Flashing = fully charged.

IMPORTANT: Always store your system with the batteries in a fully charged condition. During extended periods of storage, leave the system plugged into an outlet. If this is not possible, charge the system at least once each month for a minimum of 24 hours.

To squeeze a little more time out of a fully-charged unit, plug the AC power cord into an outlet while you're using the system.

Expected service time from the batteries

Battery service time will vary depending on the volume level, type of program usage and if a companion speaker is used with the system. You can expect about 6-8 hours of operation at medium volume, 2-4 hours at full volume of continuous music input (usually longer for speech applications). Service times are doubled on the MPB-4500H (heavy duty batteries).

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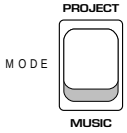
Operation

Mode (music/project) Switch



Use the mode switch to tailor the sound output of the Liberty for your particular application:

To control feedback, try attenuating the respective tone control

Using the music mode:

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

Using the project mode:

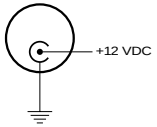
Frequencies in the vocal range (800Hz-12KHz) are boosted for added clarity and efficient projection. Use for outdoor functions, large crowds and speech applications.

When using the MP-4501 speaker with a powered Liberty, verify that the mode switch of both units are set the same.

12 Volt DC Output

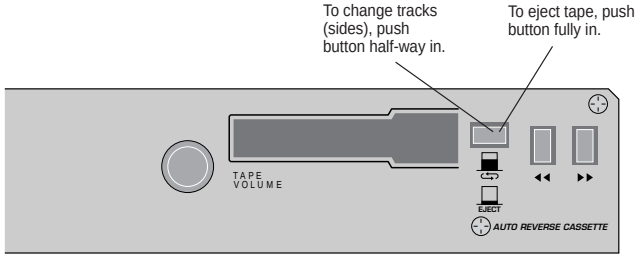


The DC output jack is used to power auxiliary equipment such as an outboard wireless receiver or Anchor's Mini-Mix. It is rated output is 12 volts DC, 300 ma maximum (output available at jack may be lower depending on options installed).



Using the cassette tape player

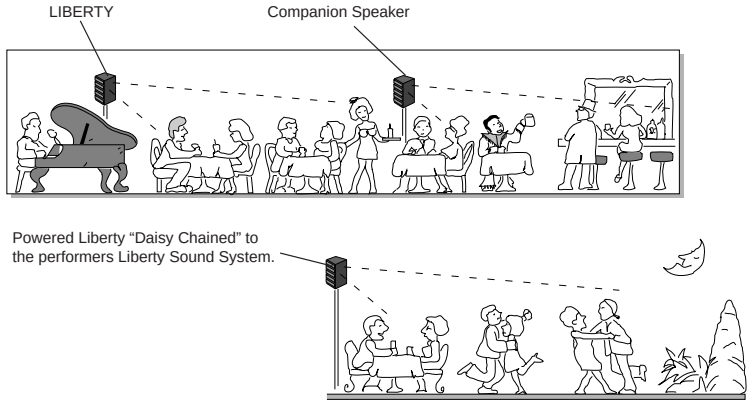
The cassette player features auto reverse for continuous playback. The audio signal is fed directly into the mixing bus so the sound can be mixed with other inputs of the Liberty.



Note: Use only high-quality tapes, and periodically clean the tape head with a cleaning kit.

Set-Up

system to the Auxiliary Input of the secondary system (known as 'daisy chain' operation). Set the volume of the second system, and thereafter the volume of the primary Liberty will control both units. For even more coverage, an unpowered companion speaker can be driven by each powered Liberty system.



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 gain control can be turned down while still maintaining adequate volume—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.

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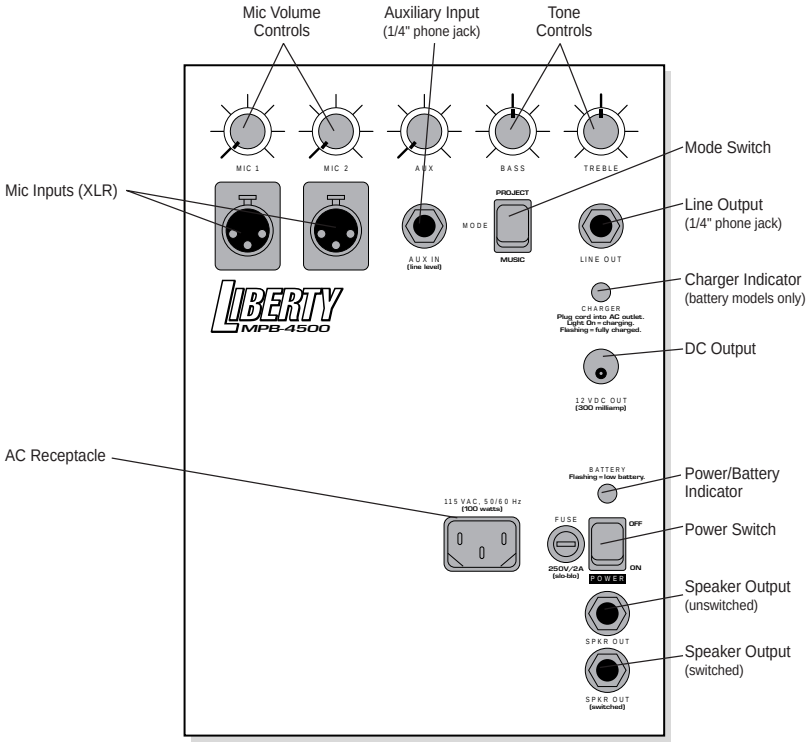
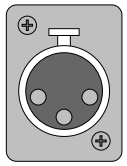
Liberty Control Panel



Operating the sound system

1. Set all input level controls to minimum and bass and treble to 12:00 position before turning the power on.
2. Plug a microphone into either Mic input jack or connect an audio source to the auxiliary input.
3. Turn power ON (red LED above switch will light).
   On battery models, if the LED flashes or does not light, the batteries must be charged (see page 11).
4. Adjust the level control adjacent to the input used to desired volume level.
5. Adjust the bass and treble controls for desired sound.



Mic 1 and Mic 2 Inputs

Liberty is equipped with two balanced, low impedance XLR microphone inputs. Use with a balanced microphone to help prevent hum or interference when using long cables. They have phantom power for use with condenser-type microphones.



Auxiliary Input

The auxiliary (line-level) input is used for playback of a tape or CD player, musical instrument, VCR or similar source. It may be combined with the mic inputs 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 output signal is a composite of all the inputs. Use it to record your presentation, or to "daisy chain" another powered sound system to the Liberty for greater crowd coverage.

External Speaker Outputs

Use the speaker outputs to drive an unpowered speaker for greater crowd coverage. There are two output jacks located in the lower right corner of the back panel:



Using the unswitched speaker output.

Use the unswitched output to power a companion speaker in addition to the speakers in the Liberty (for broader sound coverage and distribution). Use a speaker rated at 8Ω, such as Anchor's MP-4501.



Using the switched speaker output.

When a plug is inserted into the switched speaker output, the Liberty's internal speakers are disconnected and all amplifier power is routed to the auxiliary speaker only.

Two unpowered companion speakers can be "chained" to the switched speaker output.

NOTE: When using an auxiliary speaker with battery models, additional power is required to drive the companion speaker which will shorten battery service time.