# **User Guide**

HS7 (HOT SPOT<sub>0</sub>7), MS5 (MICRO SPOT 5), PA6S (POWERED HOT SPOT), NSPA (POWERED NANO SPOT)













MAKERS OF THE ORIGINAL HOT SPOT PERSONAL MONITOR

http://www.galaxyaudio.com/HotSpots.php



# TABLE OF CONTENTS

IMPORTANT SAFETY INSTRUCTIONS	1 <u>.</u>
WELCOME	
BEFORE YOU BEGIN	2
OHM'S LAW AND THE HOT SPOT	
SOUND REINFORCEMENT BASICS	5
HOT SPOT 7(HS7)/MICRO SPOT(MS5)	
POWERED SPEAKERS PA6S/PA6SR/NSPA	
USING THE PA6S	8-9
POWERED NANO SPOT	
STAND MOUNTING	12
WALL MOUNTING	
SPECIFICATIONS	16-17
ACCESSORIES AND REPLACEMENT PARTS	
FOUR RUBBER FEET FOR HOT SPOT	19
WARRANTY	
	· /



PAGE

#### **IMPORTANT SAFETY INSTRUCTIONS**

- 1.Read these instructions.
- 2.Keep these instructions.
- 3.Heed all warnings.
- 4.Follow all instructions.
- 5.Do not use this apparatus near water.
- 6.Clean only with dry cloth.
- 7.Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- 8.Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 9.Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- 10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- 11.Only use attachments/accessories specified by the manufacturer.
- 12.Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.



- 13. Unplug this apparatus during lightning storms or when unused for long periods of time.
- 14.Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
- 15.Do not expose this apparatus to dripping or splashing and ensure that no objects filled with liquids, such as vases, are placed on the apparatus.
- 16.To completely disconnect this apparatus from the AC Mains, disconnect the power supply cord plug from the AC receptacle.
- 17. The mains plug of the power supply cord shall remain readily operable.



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 persons.



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 product.

WARNING: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

# Welcome

Congratulations on your purchase of a Galaxy Audio Product! Backed by over 35 years of proven real-world performance and a 3 year warranty, the product you have selected is one of the finest personal monitoring devices available. Thank you for choosing Galaxy Audio.

For full specifications of Galaxy Audio products, visit www.galaxyaudio.com

# Fill this out and retain for your records

Model:

Serial number:

Purchased from:\_\_\_\_\_

Purchase date:

# **To contact Galaxy Audio** call 1-800-369-7768 write to P.O. BOX 16285 Wichita, Ks 67216-0285 or visit www.galaxyaudio.com

#### **CAUTION:** THESE PRODUCTS ARE CAPABLE OF PRODUCING SOUND PRESSURE LEVELS WHICH MAY CAUSE PERMANENT HEARING DAMAGE AFTER PROLONGED EXPOSURE.

# **BEFORE YOU BEGIN**

Before using this product be sure to read and understand all instructions in this manual pertaining to the model(s) you have purchased.

# DO...

- Read this manual
- S Use a unidirectional microphone
- Handle with care
- Complete the registration card at the back of the manual

# DON'T...

- So Expose any unit covered in this manual to rain or moisture
- Plug-in or unplug the HOT SPOT while it is operating (doing so may damage your amplifier)
- Attempt to make any repairs yourself (call Galaxy Audio for repairs). Failure to do so may void your warranty.

# OHM'S LAW AND THE HOT SPOT.

All unpowered HOT SPOTS and MICRO SPOTS have a 16 ohm impedance, and like most professional-type speakers have jacks which are wired in parallel (meaning the signal can travel into one jack and out of the other). Think of each speaker as a "load" added to the amplifier. The greater the number of speakers, the heavier the load. Adding too many speakers can overload the amplifier, causing it to overheat and distort. If the amplifier begins to distort, or if it becomes hot to the touch, disconnect any extra speakers. One easy way to determine the load on the amplifier is to use Ohm's law, which states: "The total impedance of *N* speakers in parallel is equal to the reciprocal of the sum of the reciprocals." In equation form:

Where Z1 is the impedance (or ohm rating) for the first speaker, Z2 for the second, and so on, for every speaker in the chain. This equation calculates the total impedance of the speaker system, which should **NOT** be lower than the minimum impedance rating of the amplifier.

Z(Total)= 
$$\frac{1}{Z_1} + \frac{1}{Z_2} + \frac{1}{Z_3} + \frac{1}{Z_4} + \frac{1}{Z_N}$$

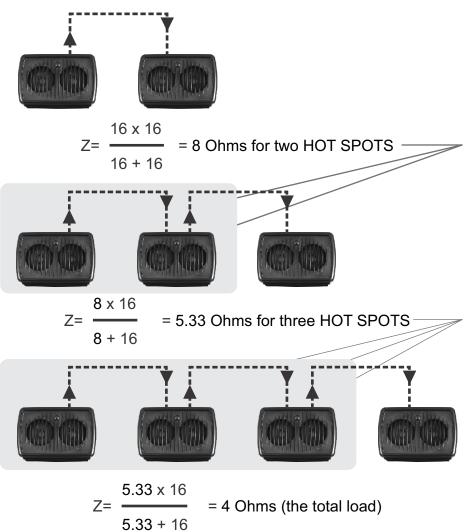
#### EXAMPLE 1:

For one pair of speakers use the short form of the equation: the product of the two speakers divided by the sum of the two speakers is equal to the total impedance or the equivalent impedance of the speaker system.

$$Z = \frac{Z_1 \times Z_2}{Z_1 + Z_2}$$

This equation may be used to calculate the equivalent impedance for additional speakers in two-speaker increments. Determine the impedance of the first two speakers, substitute Z total for Z, and include the next speaker. Repeat the process until all speakers have been included. The result should be the same as with the first method. A word of caution: polarity rules must be observed when connecting multiple speakers. Polarity will not affect the Z, but can

affect the quality and volume of the sound. If you are having problems with any of these applications use Galaxy Audio's CRICKET Polarity and Continuity Test Set to check the polarity of your cables.



## EXAMPLE 2:

As long as all of the speakers have the same impedance rating, the equivalent impedance of the system is the rated impedance of one speaker divided by the number of equivalent speakers.

# SOUND REINFORCEMENT BASICS

# Avoiding feedback

*Feedback* (the shriek sometimes emitted by PA systems) occurs when the microphone (or pickup) and speaker are positioned too close together for a given level of volume. Once feed back occurs, it will continue until either the volume is decreased or the microphone or speaker is moved. *Gain* is the degree to which the volume may be turned up before feedback begins. In setting up a sound system, the objective is to maximize gain.

## **Monitor Placement**

- HOT SPOT Monitors should be positioned within arm's reach of the performer.
- Monitors should be placed to the rear of the microphone being used by the performer.

# **Avoiding Distortion**

Distortion in a monitor system usually occurs when the amplifier is being over-driven, nearing the limits of its power output capability. Over-driving the amplifier may be corrected by reducing the bass frequencies in the monitor mix (low notes use a lot of power). Since the HOT SPOT NEOLITE S5N driver will not reproduce tones lower than 200 Hz, reduce the low frequencies if the speaker begins to distort. Distortion may also originate with a bad signal source.

# **NEO DRIVER**

The NEOLITE S5N, SW6.5 & ST1.5 drivers are state of the art controlled bandwidth speakers that are included in most speakers covered in this manual. The NEOLITE is manufactured with the rare earth element Neodymium that has an extremely intense magnetic field in comparison to its weight. This magnetic field is also very concentrated, allowing the speaker to be placed near sensitive equipment that may be affected by a strong magnetic force, such as a TV or a computer monitor.





# Unpowered HOT SPOT 7 (HS7)/MICRO SPOT (MS5)

The HOT SPOT was created as the solution to the problem of musicians and public speakers not being able to hear themselves while performing. The HOT SPOT's design is unsurpassed in efficiently reproducing the crucial vocal range frequencies.

The HS7 & PA6S/R come with a built in stand mount that allows the unit to be placed on nearly any microphone stand, close to the performer, for true near field vocal monitoring (some microphone stands may require the optional stand adaptor SA-1)

The Hot Spot 7 (HS7) comes with a volume control that not only affects the volume of the unit, but also the impedance of the unit. (See chart [T.1] (pg. 7) for more information about the volume control).

#### MS5

Like the Hot Spot 7 the Micro Spot (MS5) is also tailored to the vocal frequencies. The Micro Spot can be mounted to a microphone stand using the included yoke bracket kit. For information regarding the bracket kit see, MOUNTING YOUR MICRO SPOT SERIES SPEAKERS. [A.1](pg. 12)

Like the HS7, the Micro Spot (MS5) is also equipped with a volume control. (Please refer to table [T.1] (pg. 7) for information regarding the positions on the volume control).

# The HOT SPOT 7 (HS7) and MICRO SPOT (MS5) The impedance of the HOT SPOT 7 (HS7) and MICRO SPOT (MS5) is

The impedance of the **HOT SPOT 7 (HS7)** and **MICRO SPOT (MS5)** is determined by the position of its volume control. Use the table below to determine the actual impedance.

[T.1]	POSITION	IMPEDANCE	dB REDUCTION
	Full Clockwise	16 ohms	0
	2nd	23 ohms	-3
	3rd	33 ohms	-6
	4th	46 ohms	-9
	5th	64 ohms	-12
	6th	90 ohms	-15
	7th	130 ohms	-18

\* There is not an off setting, fully counter clockwise is an 18dB reduction in level.

**Note:** Each Hot Spot 7 (HS7) comes equipped with two twistlock 1/4" Combo speaker jacks, each Micro Spot (MS5) come equipped with two 1/4" speaker Jacks all of which are wired in parallel to allow easy "daisy chaining' of multiple Hot Spots.











# PA6S/PA6SR & NSPA

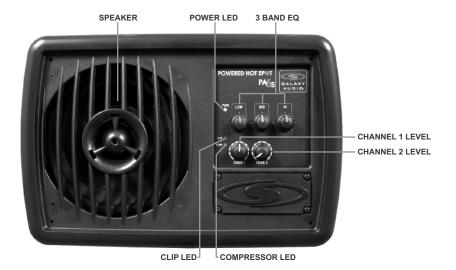
# FEATURES OF THE GALAXY AUDIO PA6S/PA6SR

- Ultra light weight/high power design
- Special design woofer and tweeter for full range sound
- Two channels with XLR/1/4" inputs and XLR thru outputs
- Additional 1/8" Stereo Line input on Channel 2
- PA6SR includes Wireless Receiver option. (see PA6SR Manual and visit www.Galaxyaudio.com for instructions).

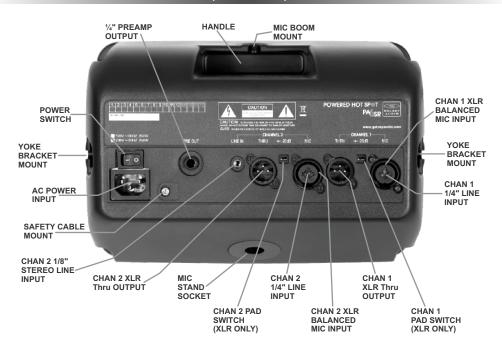
# Using the PA6S (please see illustrations on page 9)

- A Balanced Mic signal may be plugged into the Channel 1 XLR Input. This signal will appear unaltered at the Channel 1 Thru Output Jack and may be sent on to the Main PA. For strong signals the -20dB Pad Switch may be engaged to prevent distortion.
- A Balanced or Unbalanced Line Level signal may be plugged into the Channel 1 1/4" Line Input. Channel 1 Input signals are controlled by the front panel Channel 1 Level Control.
- The Channel 2 Inputs, Pad Switch, Thru Output, and Level Control function identically to those of Channel 1. Channel 2 also features a 1/8" Stereo Line Input, which will accept signals from Tape, CD, Digital Players, or Instruments. Stereo signals are mixed to Mono and controlled by the front panel Channel 2 Level control.
- The front panel also features a 3-band EQ consisting of Low, Mid, and High controls, as well as Power, Compressor, and Clip indicators. Reduce Input levels if the Clip LED comes on.
- The rear panel Pre Out provides a line level signal of the entire mix, after the Level controls, that may be patched to other powered monitors, mixers, or recording devices. This signal is not affected by the EQ controls.
- The PA6S may be placed on a mic stand using the socket on the bottom of the cabinet. Some mic stands will require our SA-1 adapter (see page 12). An optional Yoke Wall Bracket is also available (see page 13). A mic boom or gooseneck may be mounted to the top of the cabinet using the optional hardware shown on (page 13).

#### The PA6S (POWERED HOT SPOT) CONTROLS/INDICATORS and their operation (Front Panel)



(Rear Panel)



# POWERED NANO SPOT NSPA





The NSPA is the result of years of research and development to make the smallest and loudest speaker for it's size by Galaxy Audio. The NSPA has a 25-watt amplifier, with a universal power supply. That means this unit can be used anywhere in the world\* as it will function on 100-240 VAC (volts AC) at 50/60 Hz.

Using the NSPA (please see illustrations on pg. 11)

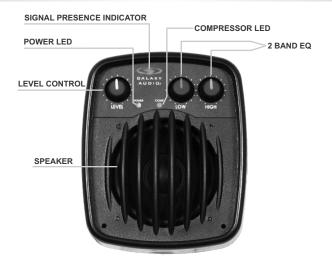
- A Balance Mic signal may be plugged into the XLR Jack. For strong signals the –20 dB pad switch may be engaged to prevent distortion.
- A Balanced or Unbalanced Line level signal may be plugged into the 1/4" Line Input.
- A computer, MP3 player, or similar stereo or mono 1/8" source may be plugged into the 1/8" Line Input.
- The front panel features a Level Control, 2-band EQ consisting of Low and High controls as well as a Power, Compressor and Signal Presence indicator.
- The NSPA may be placed on a mic stand or wall by using the yoke bracket. (See page 12)

\* Some Countries may require a different IEC power cord (not included)





#### The NSPA (POWERED NANO SPOT) CONTROLS/INDICATORS and their operation (Front Panel)



#### **CONTROLS/INDICATORS** and their operation (Back Panel)

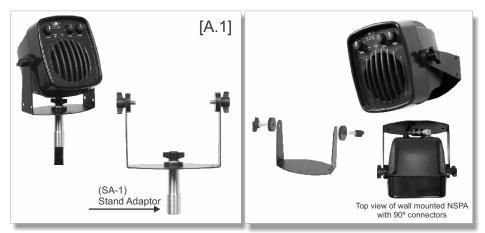


# MOUNTING YOUR NANO SPOT (NSPA), MICRO SPOT (MS5) or HOT SPOT SERIES SPEAKERS

The Micro Spot (MS5), and the Nano Spot are supplied with a bracket kit that allows either stand or wall mounting. Wall mount options are available for the Micro Spot (MS5) and PA6S HS7 from any Galaxy Audio dealer, or online at <u>www.galaxyaudio.com</u>

## **Stand Mounting Nano Spots and Micro Spots**

To install the yoke bracket, attach the SA-1 to the yoke bracket using the included wing screw and washer as shown in picture below [A.1]. The yoke bracket assembly can now be screwed on to the microphone stand. Remove the two plastic threaded inserts from the T-nuts in each side of the Micro Spot with a small flat blade screwdriver. Place the Micro Spot into position so that the wing screws at the ends of the yoke line up with the T-nuts in the cabinet. Tighten the wing screws by hand.



# **STAND MOUNTING TIP:**

All HOT SPOT's, both powered and un-powered, have a built in microphone stand mount: just slide the microphone stand into the receptacle on the bottom of the HOT SPOT. Some microphone stands may require the SA-1 adaptor.

#### THE SA-1 WILL ALLOW YOU TO SECURELY PLACE YOUR HOT SPOT ON ANY MICROPHONE STAND.





Note: Follow instructions included with optional PA6S/HS7 yoke bracket kit.

# WALL/CEILING MOUNTING

Galaxy Audio yoke brackets can be used for permanently mounting HS7, PA6S and MICRO SPOT loudspeakers to walls and ceilings. The mounting angle can be adjusted by simply loosening the wing screws at either end of the yoke and by loosening the bolt where the yoke mounts to the wall plate. These brackets should be used only on a flat, secure, and stable surface.

#### **PRECAUTIONS:**

Whenever an object is affixed to a wall or ceiling, you must take special care to mount it securely to prevent it from falling and causing damage or injury.

**MOUNTING SURFACES:** Carefully examine the composition, construction and strength of the surface you are mounting to. Be sure to provide adequate reinforcement should you deem it necessary. You must also consider what type of hardware and what type of mounting techniques are appropriate for each mounting surface.

**FASTENERS:** Attaching the bracket requires fasteners selected for the strength and composition of the mounting surfaces involved. Whatever fastener is selected, it should be no smaller than a #8 screw or 1/4" bolt. When drilling pilot holes be sure that the holes

are <u>smaller</u> than the core diameter of the screw. Always use fasteners in all mounting holes and avoid over tightening, as this can weaken the mounting surface, damage the fasteners, and make the installation much less secure.

**SECONDARY SUPPORT:** As we recommend the use of a secondary support for added safety, each yoke bracket is equipped with a safety cable. When properly installed it provides secondary support without inhibiting the adjustment of the bracket, and can be easily hidden out of sight.

#### MOUNTING PROCEDURE:

**<u>PREVIEW</u>**: After evaluating the mounting surfaces and obtaining the appropriate fasteners, the installation will consist of the following steps, in order:

- 1. Mounting the bracket plate to the wall or ceiling.
- 2. Bolting the yoke to the plate.
- 3. Joining the cabinet with the bracket assembly.
- 4. Installing the safety cable.
- 5. Adjusting the speaker position and tightening the yoke bolt and wing screws.

**TOOLS REQUIRED:** You will need at least these tools for installation:

7/16" box end wrench

Large crimping pliers

Tools to secure the fasteners selected for the bracket assembly (drill, screwdrivers, etc.)

Carpenter's level for precise positioning of the speaker.

Note: It is often helpful to have another person available to hold the speaker in place during the tightening procedure.

#### INSTALLATION: ATTACHING THE BRACKET ASSEMBLY TO THE MOUNTING SURFACE:

Position the bracket assembly onto the wall or ceiling at the location you have selected, preferably to a stud, joist or other structural member rather than only to drywall or other non-structural material. Make sure there will be enough clearance to rotate and tilt the speaker to the desired angle. Using the base plate of the bracket assembly as a template, mark the four hole locations. NOTE: Check that any holes you drill and the fasteners will not interfere with any wiring, plumbing, etc. that may be behind the mounting surface.

Pull speaker wires through the mounting surface and the feed thru the hole in the bracket. Secure the bracket base plate. Do not over tighten fasteners! Bolt the yoke to the base plate and tighten with a 7/16" box end wrench.

#### JOINING THE CABINET TO THE BRACKET ASSEMBLY:

Lift the speaker into position so that the wing screws at the ends of the yoke line up with the T-nuts in the cabinets. Tighten the wing screws by hand.

#### SECURING THE SAFETY CABLE:

Slip the loose end of the safety cable through the cable clamp located at the back of the cabinet. Bring the cable back through the crimp sleeve and firmly crimp the sleeve with a large pair of crimping pliers.

#### ADJUSTMENT:

Loosen the yoke bolt just enough to slide or rotate the yoke to the desired position. Tighten the yoke bolt securely with a 7/16" box end wrench. If necessary loosen the wing screws and tilt the Hot Spot to the desired position. Re-tighten the wing screws firmly by hand. After a few minutes check the assembly for any slippage and re-tighten. Connect the speaker wires and the installation is complete.

Note: When using the Yoke Bracket with HS7 or PA6S/R you must install the threaded inserts into the left and right sides of the cabinet. See instructions included with bracket kit.

# SPECIFICATIONS

ompliment ucture dling 1 watt @ 1 meter) Response pedance pedance		
t @ 1 meter) onse nce s	2- 5" drivers (S5N-8)	1- 5" driver (Ceramic Driver SS5C160-16B)
tt @ 1 meter) onse nce is	14.8 oz. (.42 kg) total	14.5 oz. (0.45 kg)
1 meter)	200 watts cont.	100 watts
	94 dB (1 kHz octave band)	88 dB (1 kHz octave band)
ections	150 Hz - 18 kHz	150 Hz - 15 kHz
sctions	16 ohms	16 ohms
	Two twistlock/1/4" combo jacks	Two 1/4 inch Jacks wired in
	POS: +1 NEG: -1 wired in parallel	Parallel
	4	28.25
-	ABS Plastic	ABS Plastic
	7.75"x 11.75"x 6.75"	6.25"x 6"x 7.5"
(1)	(197mm x 298mm x 171mm)	(159mm x 152.4mm x 191mm)
Net Weight 5.2	5.25 lbs. (2.38 kg)	4 lbs. (2.74 kgs)
Additional Feature vo	volume control; range 18 dB	volume control; range 18 dB

The Galaxy Audio S5N-8, SW6.5 and ST1.5 are ferro fluid cooled drivers.

**\*Splowt** A unit of measure, expressed as dB, that divides a speaker's maximum SPL by its weight in pounds. Galaxy Audio's NANO SPOT boasts a splowt of 58 dB (highest in the known universe).



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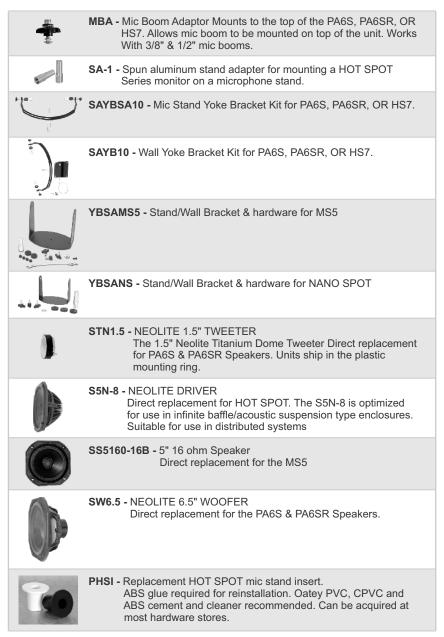
	PA6S	NSPA
Power Output	170 Watts @ 4 Ohms	25 Watts @ 4 Ohms
Distortion	< 0.5% THD @ 4 Ohms	< 0.5% THD @ 4 Ohms
Minimum Load	4 ohms	4 ohms
Frequency Response	80 Hz - 18 kHz	150 Hz - 17 kHz
Equalization	Three Band Center Detent LOW: +/-12 dB @ 200 Hz	Two Band Center Detent LOW: +/-12 dB @ 200 Hz
	MID: +/-12 dB @ 2 kHz HIGH: +/-12 dB @ 10 kHz	HIGH: +/-12 dB @ 10 kHz
Input Connections	Two 1/4" Balanced/Unbalanced Two XLR 24V Phantom PWR One 1/8" Stereo Line In	One 1/4" Balanced/Unbalanced One XLR 24V Phantom PWR One 1/8" Storeo Line In
Output Connections	Two XLR Thru Outputs One 1/4" Preamp Output	
Power Requirements	DOMESTIC: 120Vac~ 60Hz	Included Power Supply Input 100-240 VAC,
	EXPORT: 230Vac~ 50Hz	Output 18 VDC, 1.75 A
Speaker Compliment	6.5" Neolite Woofer, 1.5" Neolite Dome Tweeter	3" Driver, 4 Ohms,
Enclosure	Fire Retardant Styrene	Fire Retardant Styrene
Dimensions	7.75"x 11.75"x 6.75" (197mm x 298mm x 171mm)	5" x 4.25" x 4.5" (127mm x 108mm x 114.3mm)
Net Weight	6.4 lbs. (2.9 kg)	1.75 lbs. (.793 kg)

The Galaxy Audio S5N-8 and ST1.5 are ferro fluid cooled drivers.



# ACCESSORIES AND REPLACEMENT PARTS

Many of these parts and accessories may be found and purchased from the Galaxy Audio website in either the Galaxy Store (www.galaxyaudio.com/store.php) or in the accessories tab of each products web page.



Four rubber feet are included for those of you using the HOT SPOT as a stand alone wedge speaker.



These rubber feet help prevent wandering and vibration of the HOT SPOT on hard surfaces.



## This pertains to the PA6SR Only

FCC Consumer Alert for Wireless Microphones (U.S.)

Most users do not need a license to operate this wireless microphone system. Nevertheless, operating this microphone system without a license is subject to certain restrictions: the system may not cause harmful interference; it must operate at a low power level (not in excess of 50 milliwatts); and it has no protection from interference received from any other device. Purchasers should also be aware that the FCC is currently evaluating use of wireless microphone systems, and these rules are subject to change.

For more information, call the FCC at 1-888-CALL-FCC (TTY: 1-888-TELL-FCC) or visit the FCC's wireless microphone website at www.fcc.gov/cgb/wirelessmicrophones





MAKERS OF THE ORIGINAL HOT SPOT PERSONAL MONITOR



# THREE YEAR LIMITED WARRANTY

WARRANTY Information can be viewed online at http://www.galaxyaudio.com/warranty.php



www.galaxyaudio.com/warranty.php

HS7 (HOT SPOT: 7), MS5 (MICRO SPOT: 5), PA6S (POWERED HOT SPOT:), NSPA (POWERED NANO SPOT:)

1-800-369-7768 www.galaxyaudio.com

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