bluesky

SAT 6.5 Active Satellite
SUB 12 Active Subwoofer

LUCAS FILM THX pm3

Owner's Manual for 2.1 (stereo) Application

Contents

Safety Instructions

AVIS: RISQUE DE CHOC ELECTRIQUE
NE PAS OUVIR

WARNING: **To reduce the risk of fire or electrical shock, do not expose this equipment to rain or moisture. Do not remove cover. No user serviceable parts inside. Refer servicing to qualified personnel.**

1 **READ INSTRUCTIONS** - Read all safety and operating instructions before operating this product.

2. **RETAIN INSTRUCTIONS** - Retain these safety and operating instructions for future reference.

3. **HEED WARNINGS** - Follow all warnings on this product and in the operating instructions.

4. **FOLLOW INSTRUCTIONS** - Follow all operating and use instructions.

5. **ATTACHMENTS** - Do not use attachments not recommended by the product manufacturer as they may cause hazards.

6. **WATER AND MOISTURE** - Do not use this product near water - for example, near a bathtub, washbowl, kitchen sink, or laundry tub; in a wet basement; or near a swimming pool; and the like.

7. **ACCESSORIES** - Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious injury to a child or adult, and serious damage to the product. Use only with accessories recommended by the manufacturer, or sold with the product. Any mounting of the product should follow the manufacturer's instructions and should use a mounting accessory recommended by the manufacturer.

8. **POWER SOURCE** - This product should be operated only from the type of power source indicated on the marking label. If you are unsure of the type of power supply to your home, consult your product dealer or local power company.

9. **OVERLOADING** - Do not overload wall outlets or extension cords as this can result in a risk of fire or electric shock.

10. **LIQUID ENTRY** - Never spill any liquid of any kind on the product.

11. **SERVICING** - Do not attempt to service this product yourself. Opening or removing covers, including any over bottom or side speaker drivers, may expose you to dangerous voltage or other hazards. Refer all service to qualified service personnel.

12. **DAMAGE REQUIRING SERVICE** - Unplug this product from the wall outlet and refer servicing to qualified personnel under the following conditions:

    a. When the power-supply cord or plug is damaged.
    b. If liquid has been spilled, or objects have fallen into this product.
    c. If the product does not operate normally by following the operating instructions. Adjust only controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.
    d. If the product has been dropped or damaged in any way.
    e. When the product exhibits a distinct change in performance - this indicates a need for service.

13. **REPLACEMENT PARTS** - When replacement parts are required be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in risk of fire, electric shock, or other hazard.

14. **SAFETY CHECK** - Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.

15. **HEAT** - This product should be situated away from heat sources such as radiators, heat registers, stoves, or other products that produce heat.

1. Philosophy& Introduction

Blue Sky is a philosophy. We design each product to represent the highest ratio possible of performance to cost, providing the highest value added to our customers.

We will continually seek out opportunities to utilize the talent of the Blue Sky team to realize this philosophy. Our customer's value requirements will always be our prime focus, and only those products that achieve our performance value ratio will earn the right to carry the Blue Sky logo.

Sat 6.5 and SUB 12 represent the first products built using this philosophy. Ultra high quality, THX Approved studio monitors, with a price vs. performance ratio that cannot be beat.

Why do leading industry professionals choose Blue Sky Bass-Managed Monitoring Systems as their reference monitoring system?

1. **Blue Sky Bass-Managed Monitoring Systems are truly full-range!**
   Unlike most monitoring systems on the market today (even most large dual 15" in wall studio monitors), only a bass-managed system, like the SAT 6.5 / SUB 12, can deliver true full-range in-room response (20Hz to 20Khz). This allows you to hear everything that your digital recorder is recording, including many of the subsonic artifacts that only a mastering engineer would typically be able to detect.

2. **Blue Sky Bass-Managed Monitoring Systems strictly adhere to industry standards put forth by companies like THX® and Dolby®.**
   Blue Sky believes that your monitoring system shouldn't just sound good, but that the mixes you create on these monitors should also translate into other environments such as Consumer Audio Systems, Consumer Home Theatres or even Commercial Cinemas.

3. **Unlike many systems on the market, Blue Sky's computer optimized bass-management and crossover networks ensure accurate and smooth transition from Subwoofer to Main Monitor and smooth on and off axis frequency response...**
   We strongly believe that our monitoring systems need to be unquestionably accurate and we therefore have our products, measurements and data reviewed by an independent company - Lucasfilm's THX Division. THX reviews and then approves that we have met or exceeded all of their stringent standards for professional monitoring systems under their pm3 program. **Monitor with confidence!**

Thank you for choosing Blue Sky!

2. What is THX pm3® Certification?

Nearly two decades ago, George Lucas turned a passion for great sound into the world's most accepted and trusted solution for achieving it. The standard was named THX, and, today, with hundreds of thousands of home theatre customers and more than 3000 THX Certified movie theatres enjoying the benefits, the THX name has become nothing short of legendary. Simply put: when it comes to premium sound, no other name so closely defines quality for millions of movie-goers and home theatre enthusiast alike. **THX IS ONE OF A KIND**.

Today, a new landscape is emerging. A landscape comprised of hundreds of small, professional multi-channel facilities, whose need for differentiation, expert technical and marketing support and a true, multi-channel standard is becoming a competitive fact of life. Again, THX has a singular solution and this time it is called **THX pm3 Certification**.

Blue Sky International has designed **SAT 6.5** and **SUB 12** to conform to THX's rigorous standards and have been approved for use in THX pm3 Certified Studios. For information regarding THX pm3 Certification, please visit the THX website, www.thx.com, or contact **Blue Sky** International.

For information on this and other **Blue Sky** products visit the **Blue Sky** website at **www.abluesky.com** or contact **Blue Sky** International (contact details are on page 15).

3. Quick Setup

1. Carefully remove the SAT 6.5 Active Satellite and the SUB 12 Active Subwoofer from their respective packaging. Please make sure to retain all packaging materials for future shipping requirements.

2. The SAT 6.5 and SUB 12 leave the Blue Sky factory fully calibrated. With the gain controls set to the reference mark (which is at 12 o'clock on the gain control) on the subwoofer and monitor speakers, a 200mV -7dBu pink noise signal, with a bandwidth of 500 to 2kHz, will yield 90dB SPL at 1 meter for the satellite. Because most small monitoring rooms have some gain at low frequency a good starting point for the subwoofer level is -3dB from the reference position.

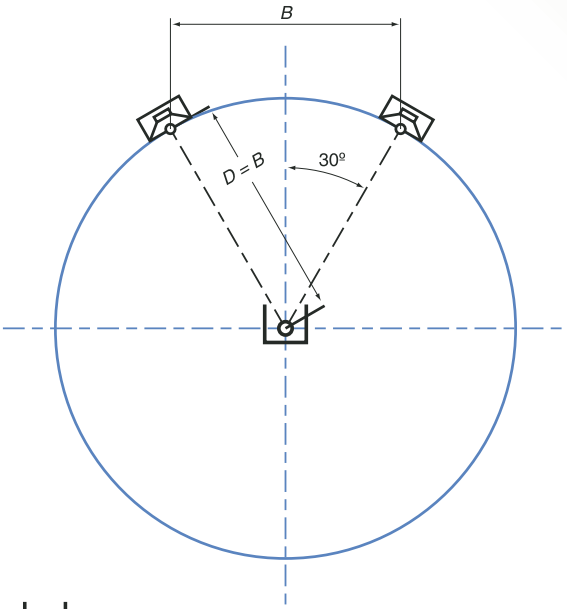
3. The SAT 6.5 and SUB 12 use XLR connectors. You will need a total of four (4) XLR cables for a stereo monitoring configuration (not supplied).

4. The first step in the installation process is to position the active subwoofer. Although you have great flexibility in where the active subwoofer is positioned, a good starting point is centered between the left and right satellite speakers. This could be under the console, behind the console, etc.

5. Once the subwoofer is in position, connect two XLR cables from the left and right monitor outputs on the mixing console or digital workstation to the Left and Right inputs on the subwoofer. Then connect the remaining two XLR cables to the left and right satellite outputs of the subwoofer. You will connect these cables at the end of Step 6. Please note that the SUB 12 has a sophisticated auto mute circuit, which mutes the subwoofer's active monitor outputs when there is no audio signal present for 15 minutes. Please plug in the power cord to the IEC connector on the subwoofer. Also set the subwoofer Phase switch to "+" and the Mute switch to "Auto".

6. Next, place the SAT 6.5 Active Satellite Speakers into position. The recommended position for the monitors is based on ITU standards and sets the speakers at 60 degrees from the listener, forming an equilateral triangle (a triangle with equal sides). See Figure 1. Fortunately, this setup eliminates most of the math and is easily simplified to the following guidelines: If you want to sit 1 meter (39.37 inches) from the speakers, place the speakers 1 meter apart. If you want to sit 6 ft from the speakers, place the speakers 6 ft apart. Etc. The active monitors can be positioned on the console, on stands, etc. Ideally the SAT 6.5 active monitors should be at seated ear height. If this is not possible, tilting the cabinet at the listening area can improve high-frequency coverage.

7. Once the speakers are in position, plug the two XLR cables from the Left and Right Subwoofer outputs into the SAT 6.5 inputs, and then plug the power cord into the IEC connector on the SAT 6.5. Confirm the system is wired as shown in System Signal Connection Diagram on - page 6.



8. At this point the Blue Sky monitoring system is correctly configured, and ready for the final step in the installation. Prior to plugging the system into the wall, and powering up the system, do a quick check of all connections.

9. If everything is correct, plug in all power cords. **Do not turn on the power switches, yet!** Some mixers and out-board equipment such as D-to-A converters and equalizers generate loud rail-to-rail pops when they initially turn-on. Depending on the level and the gain settings of the monitors, these pops could damage the tweeters in the SAT 6.5 monitors. To avoid this, always turn on equipment in the following sequence: Mixer 1st, subwoofer 2nd, and satellite speakers last.

10. At this point the Blue Sky monitoring system is fully operational, and ready for use. Begin by playing familiar pieces of music, which can assist you in the fine-tuning and exact positioning of both the active monitors and active subwoofer. It is important to remember that the positioning of the subwoofer in the room will impact the subwoofer level. You may find it necessary to increase or decrease the level from the reference position. This is OK, and is anticipated.

11. If a more exacting setup is required, a pink noise generator, used in conjunction with a real time analyzer can be used to fully optimize the system (See Page 10 - Expanded Setup Guide).

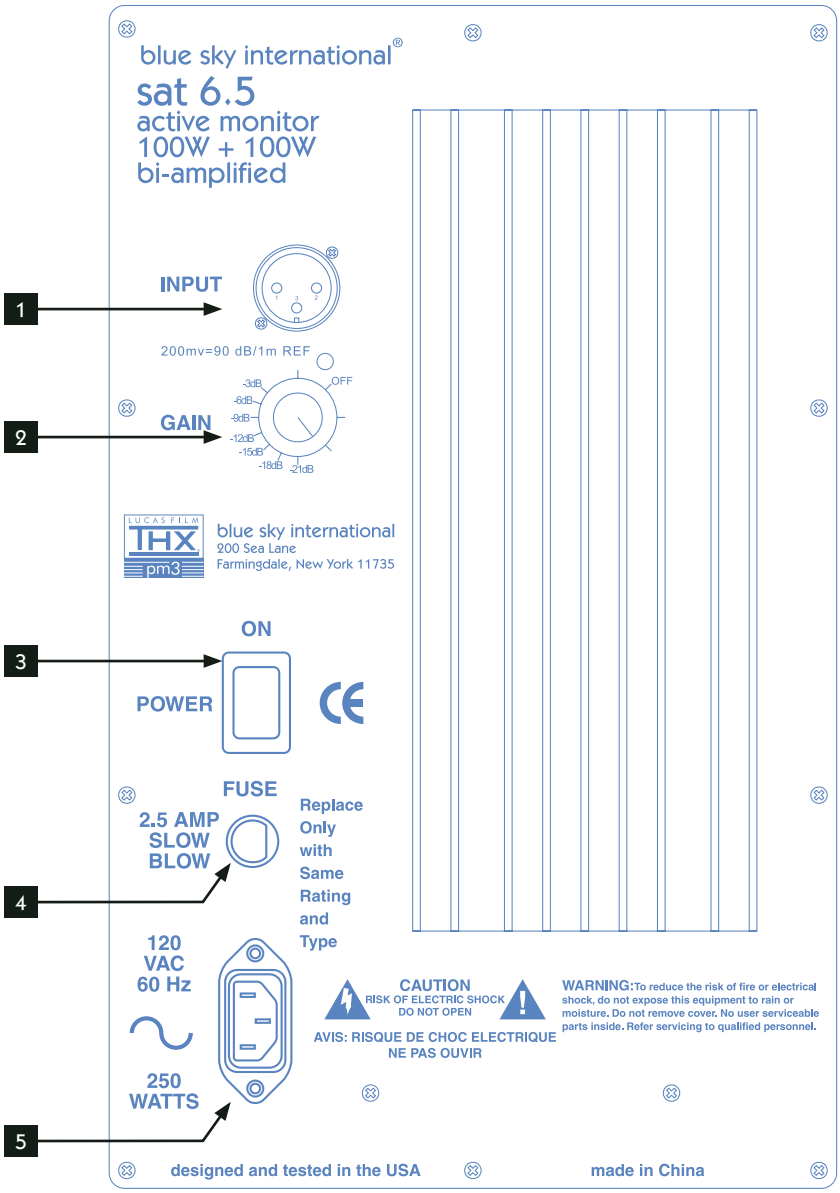
12. Just remember - Use your ears, they are the best audio tool you have and you will be amazed how accurate the setup can be if you use familiar audio material during the setup of the system.

13. Congratulations! You have now completed the set up of one of the world's finest monitoring systems. If you have any questions, please do not hesitate to contact us directly with your questions. (631) 249-1399 (9:00am to 5:30pm EST)

sat 6.5
active monitor
100W + 100W
bi-amplified

blue sky international
300 Sea Lane
Farmingdale, New York 11735

5. A Tour of SAT 6.5



1. **INPUT** - The XLR input is electronically balanced and should be connected to the output of the subwoofer or other bass-management controller. Do not connect more than one source to this input. Refer to the wiring table below for wiring custom cables and connectors.

2. **GAIN & POWER LED** - The gain control, controls input sensitivity. When set to the reference position, 200mv signal at the input equals 90dB of output at one meter. Next to the knob is the power indicator LED.

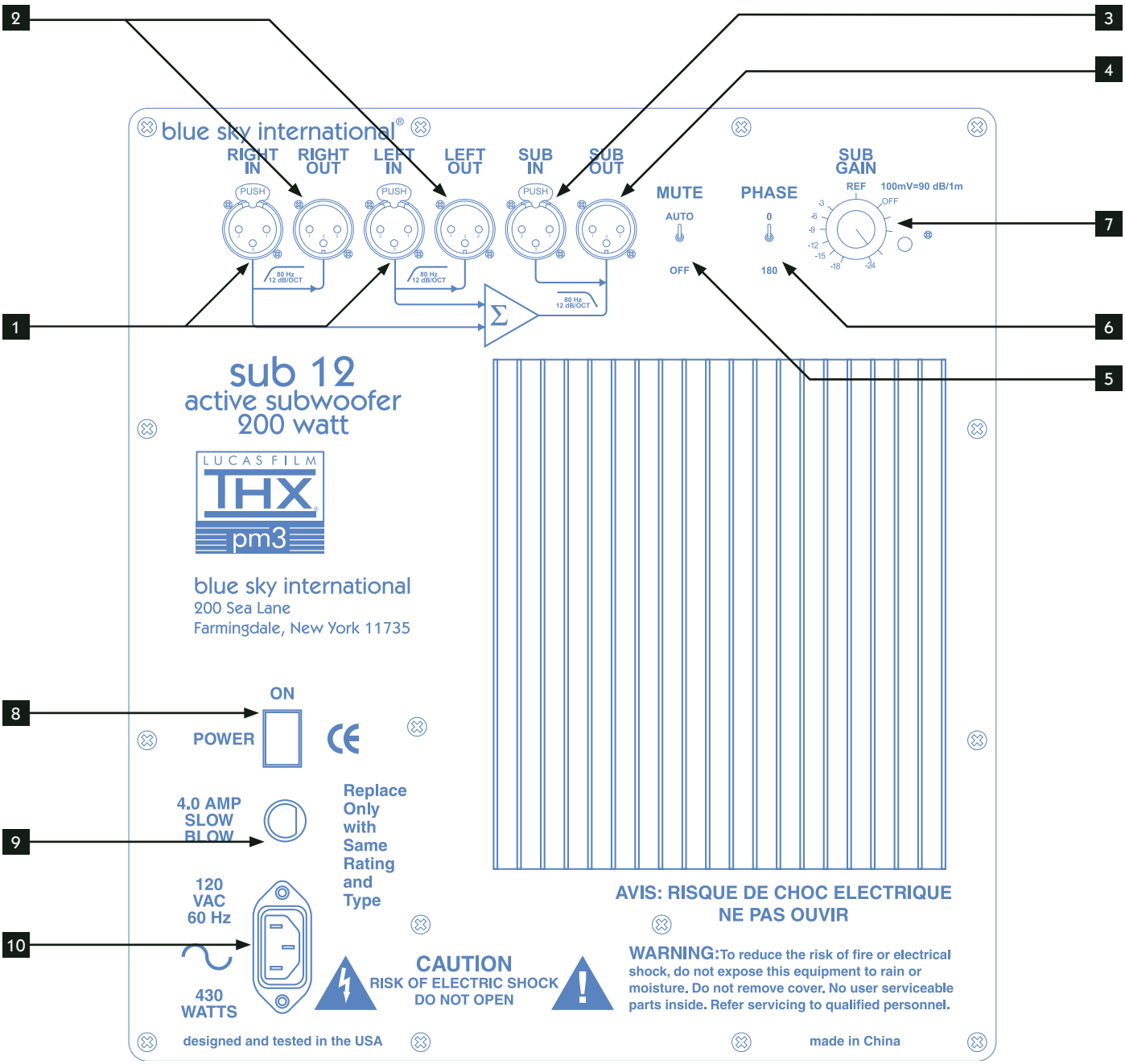
3. **Power Switch** - Controls the power to both amplifiers and all internal electronics.

4. **FUSE - 2.5 Amp Slow Blow Fuse** - Replace with same rating and type. This fuse is for 120 VAC / 60Hz operation only. For products purchased in countries outside North America, please see the FUSE and POWER addendum included with this product.

5. **IEC POWER TERMINAL** - Connect to 120 Volt AC / 60Hz power source, rated for 250 WATTS. Use the included IEC Power Cable.

6. **OmniMount® INSERTS** (located on the bottom of the speaker cabinet) - The SAT 6.5 comes standard with four 1/4 X 20 inserts that match OmniMount® Series 100 brackets. OmniMount® series 100 brackets are rated for up to 50 pounds of weight. For more information regarding the many mounting brackets available from OmniMount®, please visit the Omnimount® website www.omnimount.com, or contact your pro audio retailer.

6. A Tour of SUB 12



1. **RIGHT/LEFT IN** - These XLR inputs should be connected to the right/left output of your console or digital workstation. The inputs are electronically balanced. Do not connect more than one source to these inputs. Refer to the wiring table below for wiring custom cables and connectors.

	XLR	TRS	RCA
HOT (+)	Pin 2	Tip	Tip
COLD (–)	Pin 3	Ring	
SHIELD (GROUND)	Pin 1	Shield	Shield

2. **RIGHT/LEFT OUT** - This XLR output should be connected to the right/left input of the active satellite speaker. The outputs are electronically balanced. These outputs are bass-managed and are therefore bandwidth limited to spectral content above 80Hz. Refer to the wiring table in bullet point 1 for wiring custom cables and connectors.

3. **SUB IN** - This XLR input should be connected to either the subwoofer output of an external bass-management controller or the daisy-chain output (SUB OUT) of another Blue Sky Active Subwoofer. This input is electronically balanced. This input is full-bandwidth (up to approximately 200Hz) and does not use a low pass filter. Refer to the wiring table in bullet point 1 for wiring custom cables and connectors.

4. **SUB OUT** - A Subwoofer output for connecting additional subwoofers. This should be connected to the SUB IN of an additional Blue Sky SUB12.

5. **MUTE** - This switch is used to activate the automatic mute circuit built into the subwoofer. When the automatic mute circuit is activated, the system will automatically mute both the subwoofer and satellite outputs when no signal is present for 15 minutes. Once signal is present again, the system will automatically turn on.

6. **PHASE** - This switch is used to change the phase response of the subwoofer only. When this switch is in the 0 position, it is in-phase with the signal going to the Active Satellites. When this switch is in the position marked 180, it is 180 degrees out-of-phase with the signal going to the Active Satellites. Please refer to the Expanded Setup Guide (page 10) for instructions on how to use this switch.

7. **SUB GAIN & Power LED** - This knob controls the input sensitivity of the subwoofer amplifier only. When set to the reference position, a 100mv signal at the input equals 90dB of output at one meter. Next to the knob is the power indicator LED.

8. **POWER SWITCH** - This switch controls the power to the subwoofer amplifier and all internal electronics.

9. **FUSE - 4.0 Amp Slow Blow Fuse** - Replace with same rating and type. This fuse is for 120 VAC / 60Hz operation only. For products purchased in countries outside North America, please see the FUSE and POWER addendum included with this product.

10. **IEC POWER TERMINAL** - Connect to 120 Volt AC / 60Hz power source, rated for 430 WATTS. Use the included IEC Power Cable.

11. **1/4 X 20 INSERTS** - Located on the bottom of the subwoofer cabinet are four 1/4 X 20 inserts for spiked or rubber feet.

7. Expanded Setup Guide

After completing the setup as specified in the **Quick Setup** (Page 5), a more accurate setup can be performed using a Sound Pressure Level meter (SPL meter), 1/3 Octave Real Time Analyzer (RTA) and a pink noise generator. This setup guide should be used for 2 Channel systems with one or more subwoofers. If you need information regarding setting up a 5.1 channel system, please consult the manual that comes with the Blue Sky Bass Management Controller.

1. Confirm that the satellite and subwoofer speakers have been placed as recommended in the **Quick Setup** (page 5). Additionally, confirm that the system has been wired as recommended in the **Quick Setup** (page 5).

2. Before starting the calibration process, turn the level down on the satellite and the subwoofer speakers. High-level test signals can damage the speakers, and more importantly your ears.

3. Patch a pink noise generator, tape or other source with at least 60 seconds of 0dBu Pink Noise into your console. If you are using a digital source, the test signal should measure -20dB FS (0dB FS = Full Scale Digital).

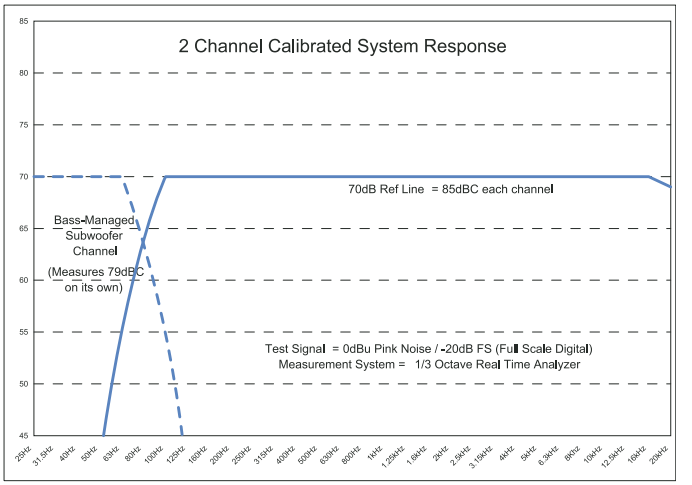
4. Turn on the pink noise source and confirm that the console, or digital workstation is generating -20dB FS / 0dBu at the output meters.

5. Slowly bring up the gain of the left satellite speaker only. Bring up the level until you measure 85dB on the C scale, with the response set to Slow. SPL should be measured at the mix position, with the SPL meter at arms length, with the microphone at seated ear height, angled at approximately 45 degrees, and pointed at the center point between the left and right speakers. If you are using an RTA align the level of the speakers to 70dB reference line on the analyzer.

6. Repeat step 5 for the right speaker. (Make sure that you only align one channel at a time, do not run signal through the left channel while calibrating the right channel!)

7. Now, that you have set the approximate level for the right and left speakers, it is time to set the level for the subwoofer.

8. If you are using an SPL meter proceed to step 10. If you are using an RTA turn on the pink noise generator to the left or right channel. Confirm that the channel, without the subwoofer running, has a response, which roughly aligns with the 70dB Ref Line. Now, bring up the level of the subwoofer until its average response aligns with the 70dB Reference Line. If there is a steep dip or hole in the response, centered around 80Hz, switch the phase switch on the back of the subwoofer to the minus (-) position. A note about subwoofer response: The response of the subwoofer is strongly affected by the acoustics of the room. Blue Sky satellite/subwoofer



systems are designed to minimize the effects of room acoustics and allow you the greatest chance of having smooth full-range frequency response. Experimenting with subwoofer placement can yield smoother frequency response.

9. If you are using an SPL meter to calibrate your system, **disconnect** the signal going to the left and right satellite speakers. Turn on the pink noise generator to **either** the left or right speaker. Now, bring up the gain of the subwoofer until you are measuring 79dB (C weighted - Slow). Because of the nature of pink noise, it is important to measure for an extended period of time. You will notice that the meter level will change continuously, so you may need to do a mental average. After aligning the subwoofer reconnect both satellite speakers.

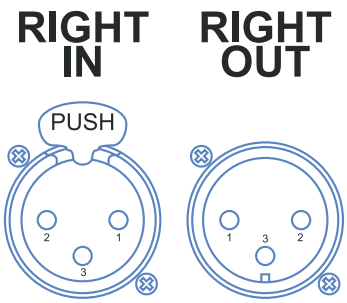
10. **Now, it is time to listen... When listening to a properly aligned Blue Sky satellite/subwoofer system, you will notice extended low frequency response, wide dynamic range, a deep sound stage and very smooth transition from subwoofer to satellite speaker.**

11. **Congratulations!** You have now completed the set up of one of the world's finest monitoring systems. If you have any questions, please do not hesitate to contact us directly with your questions. (631) 249-1399 (9:00am to 5:30pm EST)

8. Cable and Wiring Specifications

Use high-quality, shielded cables to connect your console, workstation or other source to your Blue Sky monitoring system. Foil-shielded cables, such as Belden 8451, 8761, or 9501 should do quite well. Other high quality cables are available and those that incorporate better shielding will yield an overall higher noise rejection, lowering your systems susceptibility to external interference. Another important tip to keep in mind when wiring your system is to route all line level cables away from the AC and other power sources, this will reduce the probability of having AC hum emanating from your monitoring system.

	XLR	TRS	RCA
HOT (+)	Pin 2	Tip	Tip
COLD (–)	Pin 3	Ring	
SHIELD (GROUND)	Pin 1	Shield	Shield



9. Technical Information

As mentioned in the introduction of this manual, Blue Sky International's high performance to cost ratio is based on a philosophy that says that inexpensive products should NOT be made from "inferior" components. This counter intuitive attitude means that the highest quality components and manufacturing techniques available are used in all aspects of the development and production of this reference quality monitoring system. The specifications say it all, these speakers are not toys - they are tools. We hope this new set of tools serves you for a long time and that all the components, engineering and manufacturing resources that have been used to make them shines through in every day use.

This next section outlines the components, specifications and performance data that make this product such a uniquely high value.

In order to continually improve all of its products Blue Sky reserves the right to change these specifications without notice.

SAT 6.5 - 6 1/2" Active Satellite

General Specifications

Input Impedance	40k Ohms balanced
Common Mode Rejection Ratio	40dB typical 60Hz
Voltage Sensitivity	200mV = 90dB SPL @ 1M
Maximum Input Level	+24dBu balanced
Frequency Response	+/- 1.5dB 200 to 10kHz +/- 3.0dB 80 to 20kHz
Low Frequency Cutoff	80Hz
Low Frequency Rolloff	12dB per octave
System Q	.707
System Crossover Frequency	1.5kHz
System Crossover Slope	4th order Linkwitz-Riley Acoustic

Enclosure

* Solid 3/4" MDF construction with 1" front and rear baffle
* Viscoelastic energy absorbing front baffle coating
* 1/4"x 20 inserts for attachment of OmniMount(type 100 brackets.
* Dimensions are 12" H x 8" W x 10 1/4" D (11.88" with heatsink and tweeter wave guide)
* Weight 27lbs.

6 1/2" Hemispherical Woofer

* Long excursion design with a cast aluminum frame
* 1 1/2" aluminum voice coil with vented motor for high power handling
* Copper shorting ring for lower distortion.
* Ultra-Low power compression
* Mica filled polypropylene cone and rubber surround
* Fully video shielded

1" Tweeter

* Dual concentric diaphragm with integral wave guide
* High power handling neodymium motor structure
* Fully video shielded
* Sub 1Khz primary resonance

Satellite Amplifier

* Discrete symmetrical bipolar design with localized feedback
* 100-Watts RMS into 4-Ohms for the woofer
* 100-Watts RMS into 4-Ohms for the tweeter
* THD + Noise less than 0.015% at rated output @1kHz
* XLR balanced input
* Adjustable gain control.
* Computer optimized crossover

SUB 12 - 12" Active Subwoofer

General Specifications

All subwoofer measurements are measured using the subwoofer direct input, which does not have a low pass filter.

Voltage Sensitivity	90dB SPL @ 100mv @ 1M (40 to 80Hz bandwidth limited pink noise)
Frequency Response (anechoic)	30 to 200Hz +/-3dB
Typical In-Room Response	20 to 200Hz (3000 Cubic Feet)

Bass Management Section

Input Impedance	20k Ohms balanced
Common Mode Rejection Ratio	40dB typical @60Hz
Maximum Input Level (all inputs)	+24dBu balanced
Maximum Output Level	+24dBu balanced
Output Impedance	200 Ohms balanced
Auto Mute Time Out	>15 Minutes
Mute Threshold (all inputs)	30mV

Left &Right Inputs to Sat Outputs

Gain (balanced in and out)	0dB
High-Pass Filter type	2nd order Linkwitz-Riley
High-Pass Filter Cutoff	80Hz
High-pass Filter Q	.707
THD + Noise	.002% @ 1kHz @ +4dBu

Left & Right Inputs to Sub Out

Gain	0dB
Low-Pass Filter Type	4th order Linkwitz-Riley
Low-Pass Cutoff	80Hz

Subwoofer Direct In to Direct Output

Gain	0dB
Low-Pass Filter	None

Enclosure

* Solid 3/4" MDF construction with 1" MDF Front and Rear Baffle
* Viscoelastic energy absorbing front baffle coating
* Flush mounted driver
* Isolation feet are included. Inserts for optional attachment of spike feet.
* Dimensions are 18" H x 16" W x 20" D (22.07" with heatsink and grill)
* Weight 62lbs.

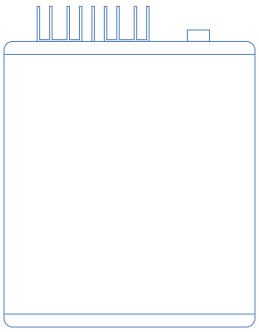
12" Woofer

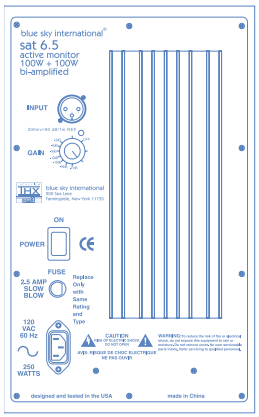
* Long excursion design with cast aluminum frame.
* 2" voice coil with vented motor for high power handling
* Fully video shielded

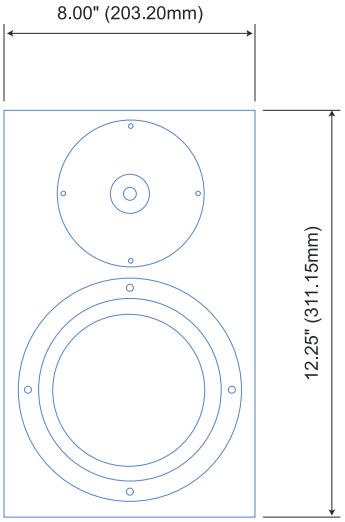
Subwoofer Amplifier

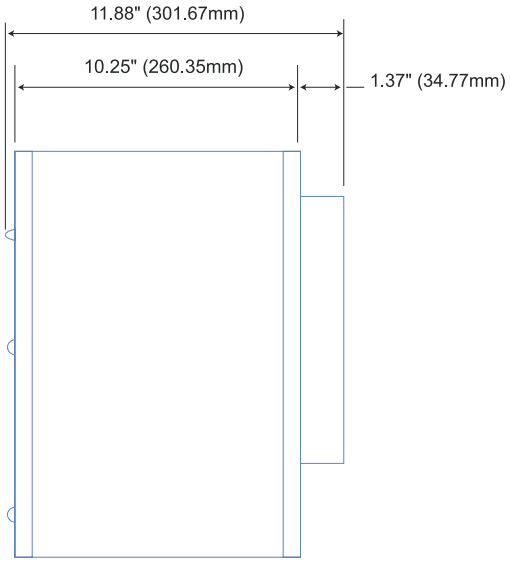
* Discrete symmetrical bipolar design with localized feedback
* 200-W RMS into 4 Ohms
* THD + Noise less than 0.015% at rated power @100Hz
* Adjustable gain control

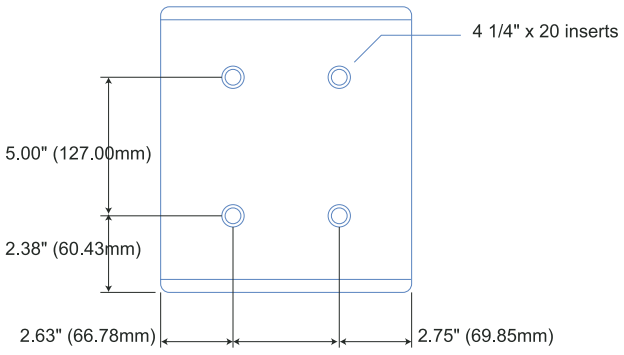
10. Satellite Cabinet Dimensions



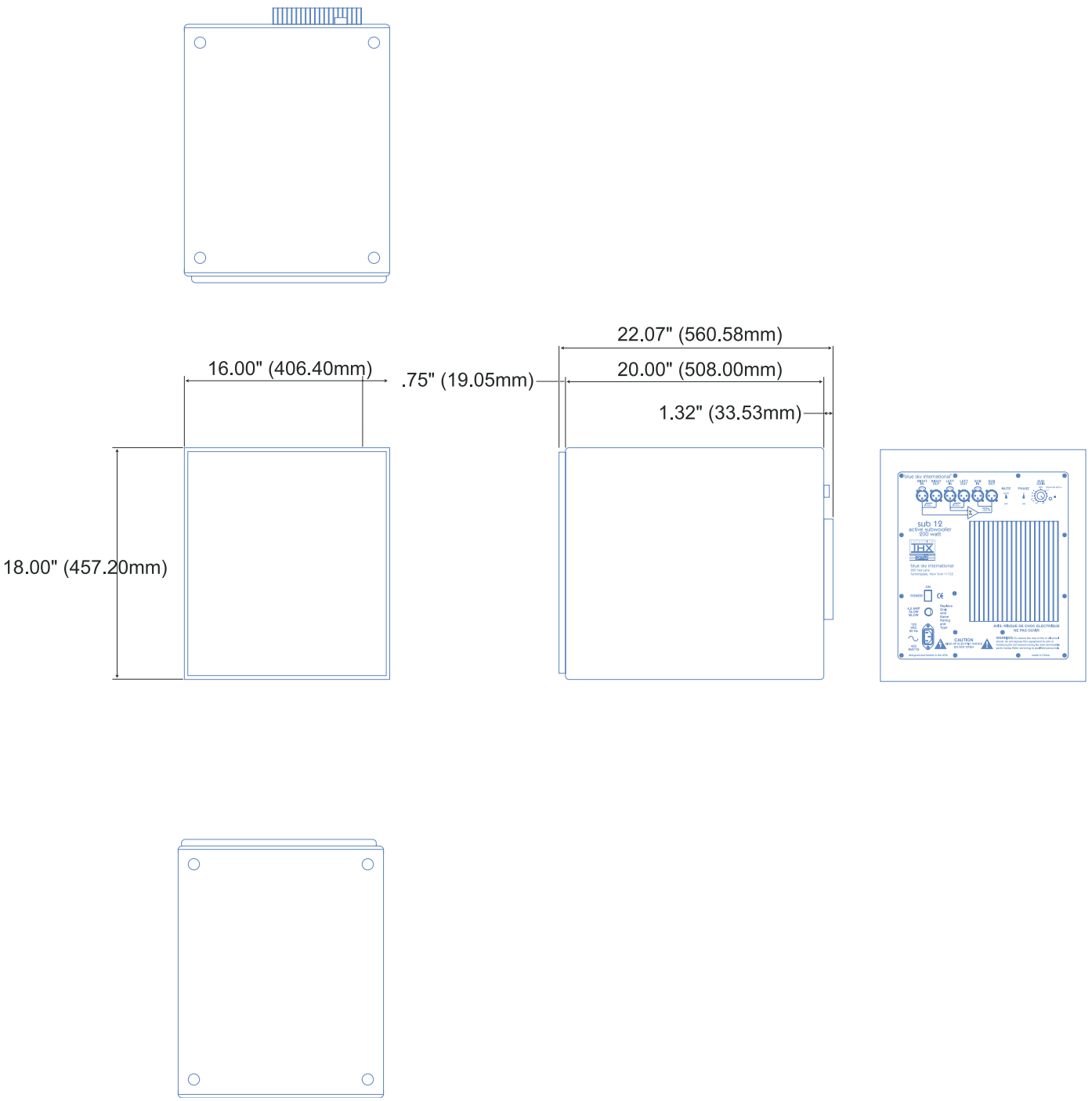








11. Subwoofer Cabinet Dimensions



12. Factory Service Instructions

Service for the U.S. versions of Blue Sky products is available only from our authorized distributor, Group One Ltd., located in Farmingdale, New York. (Service for Blue Sky products outside the United States can be obtained through local dealers or distributors.) If your monitor needs service, follow these instructions:

1. Review the manual and ensure that you have followed all setup and operating instructions.

2. Call(631) 249-1399 9:00am to 5:30pm EST and ask for Customer Service. Explain the problem and request an RA (Return Authorization) number. It is important to have your product serial number available when you call. You must have an RA number before you can obtain service.

3. Pack the product in its original packing material and box (do not return the power cord or the manual). If you don't have the original packing material and/or box, please let Customer Service know when you call for the RA number. Blue Sky is not responsible for any damage that occurs due to non-factory packaging.

4. Include a legible note stating your name, shipping address (no P.O. boxes), daytime phone number, RA number, and a detailed description of the problem, including how it can be duplicated

5. Write the RA number on the top of the carton.

6. Ship the product to the address below. We recommend United Parcel Service (UPS). Please insure the product regardless of shipping method.

Blue Sky International
ATTN: SERVICE DEPT / RA#
200 Sea Lane
Farmingdale, NY 11735
USA

7. Turnaround time is three to five business days depending on the problem. When calling for RA numbers, please ask Customer Service what the turnaround time is. The serviced product will be sent back to you via the same shipping method as received (i.e. if you ship your monitor UPS Ground it will be returned UPS Ground, UPS Red will be returned UPS Red etc...). This only applies to products serviced under the warranty.

13. General Contact Details

For sales and other enquiries, please contact Blue Sky at:

Blue Sky International
200 Sea Lane
Farmingdale, NY 11735
USA

tel: 631 249 3662
fax: 631 753 1020
email info@abluesky.com

To discover the very latest information check out our website at:

www.abluesky.com

Blue Sky International
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