



ProDesk™ SAT 5 Active Satellite SUB 8 Active Subwoofer Owner's Manual for 2.1 (Stereo) Application

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	* The FVC is an optional upgrade and is not included w	ith ProDesk™

Safety Instructions



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

To that end we are proud to introduce ProDesk[™], the first truly full-range monitoring system specifically designed for critical mixing and monitoring on the desktop. ProDesk[™] brings the desktop user the same spectral performance as Sky System One, with the only compromise being less output than its bigger brother. ProDesk[™] uses the same revolutionary design technologies that were used in Sky System One. Ultra low distortion, proprietary woofers, superlative Danish tweeters and highly optimized amplifiers specifically designed for this application. ProDesk[™] is the logical evolution of Blue Sky's 2.1- integrated 3-way system concept and when used with Blue Sky's new BMC, can also offer an extremely high performance 5.1 solution for desktop applications.

Thank you for choosing Blue Sky

Important notes about ProDesk[™] and this Owner's Manual

SAT 5 High Pass Filter Switch -

The SAT 5 includes a user selectable High Pass filter network. This filter network can be switched "IN" or "OUT" of circuit. When the SAT 5 is used in a 2.1 system configuration, with the SUB 8, this switch must be in the "IN" position. If the SAT 5 is used with the SUB 12 or the Blue Sky BMC, this switch must be in the "OUT" position. This is because the SUB 8, which is part of ProDesk™ does not include the High Pass Filter networks, which are included as part of the SUB 12 and the Blue Sky BMC.

SUB 8 Left and Right Channel Outputs -

<u>The SUB 8 is not compatible with the Blue Sky SAT 6.5</u>. This is because the SUB 8 does not include the requisite 80Hz High Pass filter networks for the Left and Right channel outputs. These High Pass filters are included in the SAT 5 and therefore the lack of filters in the SUB 8 does not represent a problem when the SUB 8 and SAT 5 are used together.

Applications addressed in this manual -

This manual is for 2.1 system setup only. If you are using the ProDesk system in a 5.1 channel setup please follow the directions and instruction provided with the Blue Sky Bass-Management Controller. For more information on the BMC, please visit www.abluesky.com

3. Quick Setup

- Carefully remove the SAT 5 Active Satellite and the SUB 8 Active Subwoofer from their respective packaging. Please make sure to retain all packaging materials for future shipping requirements.
- 2. The SAT 5 and SUB 8 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.
- The SAT 5 and SUB 8 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. Finally, Plug in the power cord to the IEC connector on the subwoofer.
- 6. Next, place the SAT 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 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.
- Once the left and right speakers are in position, plug the two XLR cables from the subwoofers' Left and Right outputs into each of the SAT 5 inputs, and then plug the power cord into the IEC connector on the SAT 5. Confirm the system is wired as shown in System Signal Connection Diagram on page 6.
 IMPORTANT! Confirm that the High-Pass filter switch is on the "IN" circuit position. This switch will turn on the 80Hz High-Pass filter that is required when using the SAT 5 in a 2.1 system with the



SUB 8. This switch should be in the "OUT" position only when the SAT 5 is used with the SUB 12 or in a 5.1 system when being used with the BMC. Visit www.abluesky.com for more information on the BMC and SUB 12.

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.

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- 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 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.

4. System Signal Connection Diagram



5. A Tour of SAT 5



4.

5.

- 1. **INPUT** The XLR input is electronically balanced and should be connected to the output of the subwoofer or other bassmanagement controller. Do not connect more than one source to this input. Refer to the wiring table below for wiring custom cables and connectors.
- 2. HIGH PASS FILTER SWITCH This switch will turn on the 80Hz High-Pass filter that is required when using the SAT 5 in a 2.1 system with the SUB 8. This switch should be in the "OUT" position only when the SAT 5 is used with the SUB 12 or in a 5.1 system when being used with the BMC. Visit www.abluesky.com for more information on the BMC and SUB 12.
- 3. GAIN & POWER CONTROL & LED This knob controls input sensitivity. When set to the reference position, a 200mv signal at the input equals 90dB of output at one meter. Below the knob is the power indicator LED.

- **IEC POWER TERMINAL** Connect to 120 Volt AC / 60Hz power source, rated for 85 WATTS. Use the included IEC Power Cable.
- **FUSE** 2.0 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.
- POWER SWITCH Controls the power to both amplifiers and all internal electronics.
- 7. OmniMount® INSERTS (located on the bottom of the speaker cabinet) The SAT 5 comes standard with four ¼ X 20 inserts that match OmniMount® Series 30 brackets (formerly known as the 75 series). OmniMount® Series 30 brackets are rated for up to 25 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 8



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 not bandwidth limited and are designed to be used with the SAT 5 or other monitor that has an 80Hz internal high pass filter network. 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.
- SUB OUT A Subwoofer output for connecting additional subwoofers. This should be connected to the SUB IN of an additional Blue Sky SUB 8.
- 5. SUB GAIN CONTROL & 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.
- 6. FUNCTIONAL VOLUME CONTROL (FVC) RJ-11 Connector Jack - This standard six conductor RJ-11 jack is used to connect the subwoofer to the optional FVC. The remote control cable length should not exceed 100 Feet. For more information on the FVC, please turn to page 15 "The Functional Volume Control".
- POWER SWITCH This switch controls the power to the subwoofer amplifier and all internal electronics.
- 8. FUSE 2.0 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.
- IEC POWER TERMINAL Connect to 120 Volt AC / 60Hz power source, rated for 200 WATTS. Use the included IEC Power Cable.

10.

14 X 20 INSERTS - Located on the bottom of the subwoofer cabinet are four 14 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.

- 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).
- 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.
- 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).
- Turn on the pink noise source and confirm that the console, or digital workstation is generating -20dB FS / 0dBVU 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!)
- 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 a 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. 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.
- 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.
- 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. (516) 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 5 Active Satellite

Enclosure

- * Solid .75" MDF construction with 1" front and rear baffle
- * ¼"x 20 inserts for attachment of OmniMount type 30 brackets (formerly known as the 75 series).
- Dimensions are 10.88" H x 6.62" W x 10.23" D (11.88" with heatsink and tweeter wave guide)
- * Weight 24lbs. / 11kg

.75" Tweeter

- * Dual concentric diaphragm with integral wave guide
- High power ferrite magnet assembly
- Fully video shielded

5.25" Hemispherical Woofer

- Cast aluminum frame
- * 1.5" voice coil
- Copper shorting ring
- * Aluminum alloy cone
- * Fully video shielded
- * Vented motor structure

Satellite Amplifier

- * Dual 60 Watts into 4-Ohm
- * .01% THD + noise at rated power @ 1 kHz
- * XLR balanced input
- * Adjustable gain control
- B00® optimized crossover
- 80Hz filter bypass switch

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 200Hz to 10kHz
	+/- 3.0dB 80Hz to 20kHz
Low Frequency Cutoff	80Hz
Internal High Pass Filter	80Hz 2nd order (selectable)
Internal Crossover	1.8kHz

SUB 8 - 8" Active Subwoofer

Enclosure

- * .75" MDF with 1" front and rear baffle
- Isolation feet include
- Dimensions: 13" H x 16" W x 13.37" D (15.76" with heatsink and grill)
- Weight 48.5lbs / 22kg

8" Hemispherical Woofer

- * 8-inch high excursion woofer
- Vented motor structure
- * Cast aluminum frame
- * 2.0 " voice coil
- Aluminum alloy cone

Amplifier

- Discrete symmetrical bipolar design
- * 100 Watts RMS into 4-Ohm
- * 01% THD + noise at rated power @ 100 Hz
- XLR balanced input
- * Adjustable gain control
- * B00® optimized crossover
- Voltage Sensitivity
- * Frequency Response (direct IN anechoic) 0 to 200Hz
- * Typical in room response (direct IN)

Bass-Management

- Input impedance
- Common mode rejection
- * Maximum Input Level
- * Output Impedance
- Nominal gain
- * High Pass filter
- Low Pass filter
- * Direct In low pass filter

100mv=90dB SPL@1m

- 35Hz to 200Hz (1500 cubic feet)
- 20K balanced 40dB typical @ 60Hz
- +24dBu balanced
- 200 Ohms balanced
- 0dB
- None (built into SAT 5)
- 80Hz 4th order
- None

blue sky ProDeskTM SAT 5 Active Satellite & SUB 8 Active Subwoofer Owners Manual for 2.1 (Stereo) Applications Issue 1, rev 3

10. Satellite Cabinet Dimensions



11. Subwoofer Cabinet Dimensions



12. The Functional Volume Control

Introduction

The Functional Volume Control (FVC) is a simple yet effective hardwired remote control that is designed to be used with the SUB 8 as part of a ProDesk™ 2.1 System (future subwoofer models may also take advantage of this feature). For 5.1 channel systems the FVC should not be used and instead the Blue Sky BMC should be used. (For more information on the Blue Sky BMC, please visit www.abluesky.com)

Connection and Operation

The FVC is designed to connect to the SUB 8 via standard 6 conductor modem cable and RJ11 jack (included with the remote). The maximum length for this wire should not exceed 100 feet.

Once connected, the Functional Volume Control (FVC) controls the gain of the Left and Right input channels of the Sub 8. The FVC does not control the gain of the external / direct SUB IN channel. However, the FVC will control the level of the Left & Right summed and derived subwoofer signal that is sent to the SUB OUT jack and the internal subwoofer amplifier. Calibration levels between the SUB 8 and SAT 5 are not affected by the FVC and calibration should be done as stated in the ProDesk™ manual.

Below is an outline that shows how the SUB 8 and FVC interact, either when the remote is connected or not.

1. Power Up

A. Volume Control Not Connected

1. L/R gain defaults to 0dB (unity gain)

B. Volume Control is connected

- 1. L/R channels are muted
- 2. LED on Remote Flashes
- 3. User must turn Gain control fully counterclockwise until the LED stops flashing and is on continuously
- 4. The FVC is now operating normally

2. FVC cable is disconnected during normal operation

A. When disconnected, gain stays at current level until power is recycled or the FVC is reconnected

3. Volume control is attached after power up

- A. Volume control will not operate and LED will flash
- B. User must turn Gain control fully counterclockwise until the LED stops flashing and is on continuously
- C. The FVC is now operating normally













13. 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:

- Review the manual and ensure that you have followed all setup and operating instructions.
- Call (516) 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.
- 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.
- 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# 70 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.

14. General Contact Details

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

Blue Sky International
70 Sea Lane
Farmingdale, NY 11735
USA
E16 040 2660

tel:	516 249 3662
fax:	516 249 8870
email	info@abluesky.com

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

www.abluesky.com



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