



S Y N T H E S I S[®]

SDA-7200
Multi-Channel Amplifier

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INTRODUCTION

Thank you for purchasing a Synthesis SDA-7200 Digital Power Amplifier. You now have at your command a unique product that has been designed to deliver the best possible sonic performance regardless of the content being played, whether it is the latest blockbuster movie, a major sporting event or your favorite music.

Although the SDA-7200 has been developed to complement JBL Synthesis products it is equally at home when connected to any high-quality processor or an external EQ system connected to your surround processor. Its high-power design also means that it has the flexibility to power Synthesis speakers or virtually any high-quality speaker system from small in-ceiling speakers to the largest floor standing models. Of course, regardless of the speakers, the SDA-7200 delivers the performance JBL has been known for in close to 75 years of creating cinema sound.

Welcome to the Synthesis family, we wish you many years of listening pleasure!

FEATURES

- Cutting-edge digital amplifier design
- High efficiency and dual-speed fans for cool, quiet operation
- Short-circuit and thermal protection circuitry
- Music Sense circuitry and low voltage trigger connection for automatic turn-on
- Front-panel LED indicators for individual channel status
- Binding post terminals accommodate large gauge speaker cable
- Removable IEC power cord

INSTALLATION AND SETUP

INSTALLATION CONSIDERATIONS

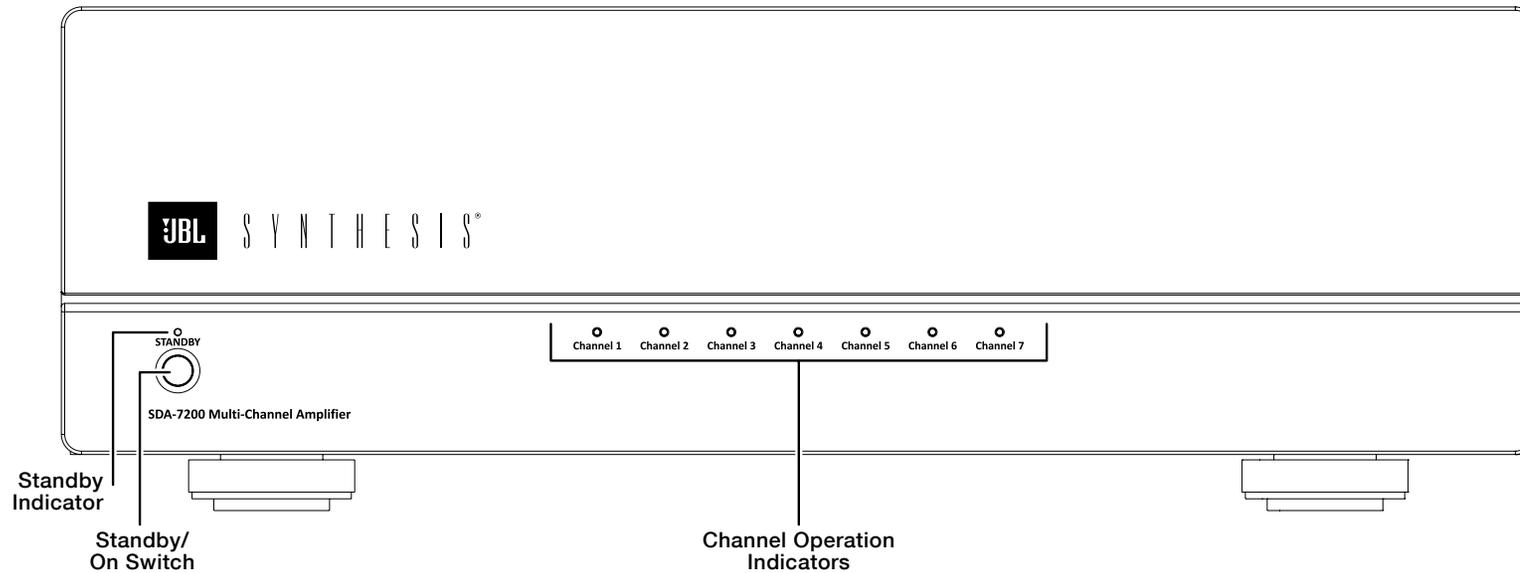
- To ensure optimal performance, please pay attention to the instructions in this manual.
- Install the SDA-7200 on a solid, flat, level surface that is dry, well-ventilated and out of direct sunlight.
- Do not place the SDA-7200 directly on a carpeted surface or cover any of the ventilation holes.
- Do not install the SDA-7200 on a surface that is unstable or unable to support all four feet.
- Do not install it directly above another product, and do not put another product directly on top of the SDA-7200.
- Do not expose the SDA-7200 to high temperatures or humidity, steam, smoke or excessive dampness or dust.

WHAT'S IN THE BOX

Your new SDA-7200 includes the items listed below. If anything is missing please contact your dealer or installer before contacting JBL Synthesis as they may have used it to install you new product:

- AC Power Cord
- Trigger Cable
- Right and Left “rack ears” and the mounting screws used to install them to your SDA-7200.

FRONT PANEL CONTROLS AND INDICATORS



Standby Indicator: This LED indicator is red when the SDA-7200 when AC mains power is applied and the rear panel Master Power Switch is turned on. It will turn blue when the unit is turned on.

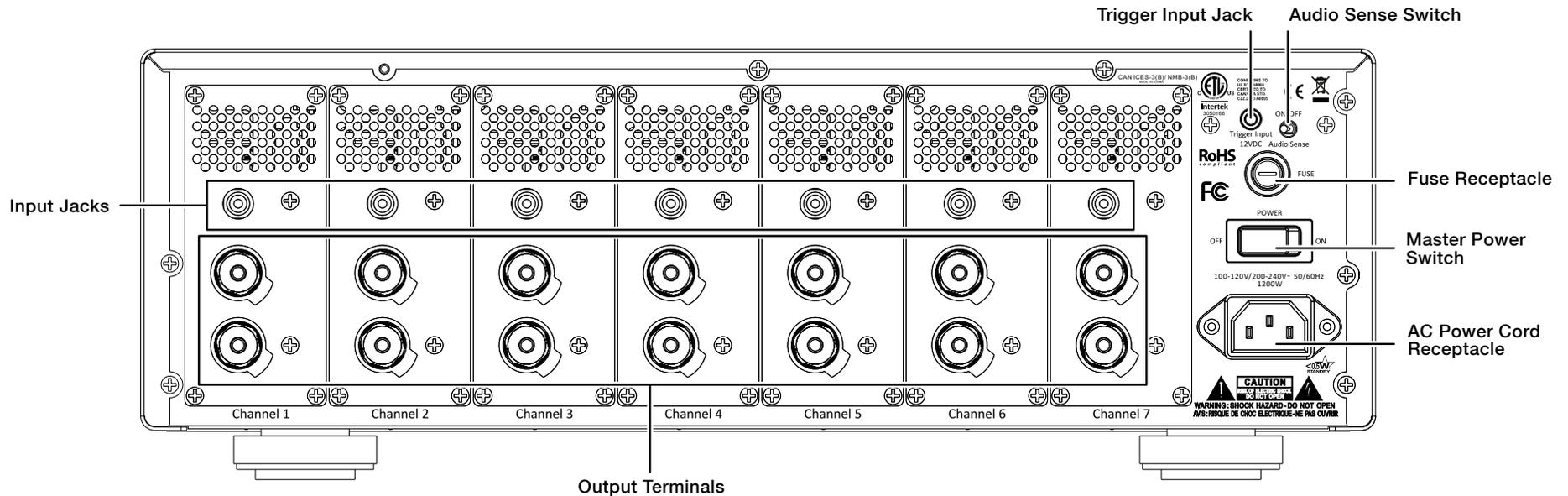
Standby/On Switch: This switch is only active when the Audio Sense switch on the rear panel is set to the right pointing towards "Off" and there is no cable connected to the Trigger Input Jack.

As shipped from the factory this switch does not operate; this is normal and is not a problem with your amplifier. To activate this switch make certain that the Audio Sense Switch in the rear panel is set to the OFF position (pointing to the right) and that there is no cable connected to the Trigger Input Jack.

Channel Operation Indicators: These indicators are off when the SDA-7200 is in the Standby mode and will briefly flash red and then turn blue when the SDA-7200 is turned on.

During normal operation if all, or any, of the lights turns red that indicates a possible problem with your amplifier. Consult the Troubleshooting Guide on Page n for more information on correcting any faults.

REAR PANEL CONNECTIONS



Input Jacks: Connect these jacks to the audio outputs of your surround processor or external EQ.

NOTE: All channels are equal, so you may connect any output channel position from your processor or EQ to any of the inputs.

Output Terminals: Connect these terminals to the wires running from the amplifier to your speakers. Always be careful to observe proper polarity by connecting the positive/red outputs on the top row of the SDA-7200 to the positive/red terminals on the speakers and the negative/black terminals on the bottom row of the SDA-7200 to the negative/black terminal speakers.

NOTE: When using a bare wire connection always make certain that the wire strands from any speaker connection do not touch another or any part of the rear panel and that the positive and negative cables do not touch each other.

NOTE: After connecting speaker wire to the terminals hand tighten the speaker terminal nut. DO NOT use tools or excessive force.

Trigger Input Jack: Connect the trigger output of a compatible product capable of feeding 5VDC to 16VDC to this jack when automatic amplifier turn on/off is desired. Use the Trigger Cable supplied with the amplifier or any cable with 3.5mm mono connectors on each end.

NOTE: When a cable is connected to this jack the Front Panel Standby/On Switch 3 is disabled.

Master Power Switch: Turn this switch to the On position to operate the product. When it is in the Off position the amplifier is disconnected from AC power and will not respond to any controls. In normal operation this switch may be left On, but it should be turned Off when the unit will not be used for an extended period of time such as a vacation.

AC Power Cord Receptacle: Connect the AC power cord supplied with the unit to this receptacle, and connect the power cord plug to an AC outlet.

Fuse Receptacle: If the amplifier is totally inoperative it may be due to a blown fuse. Before replacing the fuse it is important that the Master Power Switch be placed in the Off position.

IMPORTANT NOTE: To assure continued safety and proper operation it is critical that fuse be replaced with one that is of the exact same type and rating as the original. If you have any questions do not replace the fuse yourself and contact your dealer or installer.

Audio Sense Switch: This switch determines the method by which the SDA-7200 will be placed in the On, or active operational, condition.

- The SDA-7200 is shipped with the switch is set to the left, or ON. In this position the unit will automatically turn on when an audio signal is present at any of the Input Jacks. The unit will automatically turn off approximately 30 minutes after an audio signal is no longer present.
- When the switch is set to the right, or OFF, the amplifier is the manual control mode and will turn on when the front panel front panel Standby/On Switch is pressed as long as a Trigger Cable is not connected.

NOTE: The Audio Sense function is disabled and the front panel Standby/On switch is inactive when a cable is connected to the Trigger Input Jack.

CONNECTIONS AND CONFIGURATION

SAFETY NOTE: When making connections between the SDA-7200 and a surround processor or EQ system be certain that both the SDA-7200 and other device feeding it are turned off. To assure that there will be no unwanted signal transients that can damage equipment or speakers, it is always best to unplug all equipment before making any connections.

AUDIO SIGNAL CONNECTIONS

AUDIO INPUT CONNECTIONS

Audio input connections for the SDA-7200 are simple and straight-forward: Connect the output of the surround processor or EQ system.

All channels are equal, so you may connect any channel output of your surround processor or EQ system to any input on the amplifier. We recommend the following connection scheme, but whichever output channel is connected to a given input on the amplifier we suggest you make a list of those connections so that the speakers may be properly connected:

- Channel 1: Front Left
- Channel 2: Center
- Channel 3: Front Right
- Channel 4: Left Surround
- Channel 5: Right Surround
- Channel 6: Left Back Surround
- Channel 7: Right Back Surround

When making connections make certain to gently, but firmly insert the “RCA” type plugs them into the jacks on the back of the SDA-7200. Loose connections can cause intermittent sound and may damage your speakers.

SPEAKER WIRE CONNECTIONS

Regardless of the channel configuration used, the final step of the installation process is to connect the amplifier to your speakers, using high quality cable. The SDA-7200 is equipped with binding post terminals that accept bare wire, spade lugs or banana type plugs.

To assure that the high quality audio produced by your SDA-7200 is carried to your speakers without loss of clarity or resolution, we recommend that you use high quality speaker cable. Many brands of cable are available, and the choice of cable may be influenced by the distance between your speakers and the amplifier, the type of speakers you use, personal preferences, and other factors. Your dealer or installer is a valuable resource to consult in selecting the proper cable for connections between your amplifier and speakers.

Regardless of the brand or type of cable selected, we recommend that you use a cable constructed of fine, multi-strand copper with a gauge of 14 or larger. Remember, that in specifying cable, the lower the number, the thicker the cable.

If bare wire is used for the connections, strip approximately 1/2 inch to 3/4 inch (20mm) of insulation from the end of each wire and carefully twist the strands of each conductor together. Be careful not to cut the individual strands or twist them off; for optimal performance, all strands must be used.

First, loosen the knobs on the Output Terminals until the pass-through hole is visible. Next, pass the cable through the hole making certain that you place the “positive” cable side through the top connector and the “negative” cable through the bottom connector. Make certain that the wire strands from one cable do not touch another or the back panel of the amplifier. When the connections are made, twist the cap back so that the connection is secured, but do not over tighten or use tools.

If you are using spade lugs, connect them to the wire using the manufacturer’s instructions, and then loosen the caps on the speaker terminals. Place lugs between the plastic cap and the back of the terminal, making sure to observe proper polarity. Hand tighten the knobs when finished.

When banana plugs are permitted, connections may be made by simply inserting the jack affixed When using banana plugs simply push them into the holes at the back of the knobs on the Output Terminals into the hole provided on the rear of the colored screw caps on the binding posts. Before using banana type jacks make certain that the plastic screw caps are firmly tightened down by turning them in a counter clockwise direction until they are snug against the chassis.

Finally, connect the wires to the speakers, being certain to observe proper polarity. Make note of the channel connections from your processor or or EQ system so that each channel output is connected to the proper speaker location.

CONFIGURATION

The SDA-7200 will automatically turn on in one of three ways. Depending on your specific application, the unit may be turned on manually using the front-panel Standby/On Switch, via automatic sensing of an audio input source or in response to a low voltage trigger signal.

For manual operation, simply move the Audio Sense Switch to the right (OFF) position and make certain that a cable is not connected to the Trigger Input Jack. To manually turn the unit on or off press the Front Panel Standby/On Switch.

For automatic turn-on, follow the instructions below for the chosen trigger method.

REMOTE TURN-ON FROM AN EXTERNAL DEVICE USING THE LOW VOLTAGE TRIGGER

For automatic turn on in response to a a low voltage trigger signal from a surround processor connect one end of the supplied Trigger Cable to the Trigger Input Jack and the other end to your processor. As long as the settings in the processor are properly configured the amplifier will turn on when the processor is turned on.

REMOTE TURN-ON USING AUDIO SENSE

For automatic turn on in response the presence of an audio signal from your surround processor make certain that the Trigger Cable is NOT connected and move the Audio Sense Switch to the left/ON position. The amplifier will then turn on when an audio signal is present on any of the Audio Inputs and turn off approximately thirty minutes after the audio signals stop.

AC POWER CONNECTION

The final step in the installation of the SDA-7200 is to connect the power cord. First, connect the female end of the cord into the AC Power Receptacle on the rear panel. Once the cord has been firmly connected to the SDA-7200, insert the plug end into an AC power outlet.

IMPORTANT SAFETY NOTE: Should the power cord become lost or damaged, be certain to replace it with a replacement that meets or exceeds the original specifications. Use of power cords with insufficient capacity, such as those used with computers or office equipment, may create a safety hazard.

AUDIO LEVEL SETTINGS

The final step in configuring your SDA-7200 for proper operation and performance is to calibrate the audio output levels. This is done using the controls on surround processor/preamp or other source device.

OPERATION

Operation of the SDA-7200 is simple. In normal use there are no controls to adjust once the installation is complete.

After all connections have been made to the amplifier's inputs and speaker terminals have been made, and the AC power cord has been connected, the way in which the unit turns on is determined by the connections and settings made for the Audio Sense Switch or use of a Trigger Cable as described in the CONFIGURATION section of this Guide.

NOTE: There will be a short delay between any action that turns the amplifier on and when you begin to hear audio. This is normal and it protects the speakers from damage due to any turn-on noise. You may also hear a relay click when the unit turns on. This is also normal and does not indicate any fault or problem with the amplifier.

If you are using manual control with your system it is always a good idea to turn on your amplifier LAST. This avoids the possibility of any turn on pops or transients from other equipment being amplified and sent to your speakers where they may cause damage. To avoid damage to your speakers always start with a low volume setting.

To maintain proper operating temperature, the SDA-7200 has dual-speed, thermally controlled fans that will automatically turn on and adjust their speed when necessary. No action is required to activate them and it is normal for the fans to change speed or turn off depending on the unit's internal temperature.

You are now ready to enjoy the finest sonic performance available.

TROUBLESHOOTING

Incorrect connections, configuration or operation is sometimes mistaken for a product malfunction. If problems occur, see this section for troubleshooting information. If a problem persists, please contact your JBL Synthesis authorized dealer or installer.

No power:	<ul style="list-style-type: none"> If no front panel indicators are lit, check to make certain that the AC power cord is firmly inserted into the AC Power Socket.
The front panel Standby/On Switch does not function:	<ul style="list-style-type: none"> It is normal for the Standby/On switch to be inactive when a trigger cable is connected or when the Audio Sense Switch is in the left, or ON, position. To restore this switch to manual operation remove the trigger cable and change the Audio Sense Switch to the right, or OFF, position.
Power on, but no audio:	<ul style="list-style-type: none"> If all Channel Operation Indicators are red the amplifier may have shut itself down to prevent overheating. Turn the unit off for about five minutes and then restart. If this problem persists check for proper ventilation and if added air flow does not solve the problem consult your dealer or installer. Check the surround processor to make certain it is not in a "Mute" mode.
Audio from some, but not all channels:	<ul style="list-style-type: none"> If all some channels, but not all, have audio output first check to make certain that all audio input and speaker connections are solid. If some channels operate and show a blue Channel Operation Indicator, but one or more are red, first turn the unit off with the Master Power Switch and then turn it on. If one or more Channel Operation Indicators are still red try the following: <ol style="list-style-type: none"> Turn the unit off and then check the speaker wire connections at both the amplifier and speaker side to make certain that none of the conductor strands are touching the chassis or another conductor channel. Remove the wires at the speaker end of a channel with a red indicator and see if it turns blue. This is an indication that fault is likely in the speaker and not the amplifier. If none of these suggestions solves the problem, turn your amplifier off and contact your dealer or installer.

SPECIFICATIONS

Output Power:	320 watts per channel, 2 channels driven at 8 ohms, 20Hz - 20kHz, <1%THD 200 watts per channel, 7 channels driven at 8 ohms, 20Hz - 20kHz, <1%THD
Input Impedance:	>20K ohms
Frequency Response @1W, -3dB Point:	20 Hz – 20 kHz, +/-0.1dB
Power Bandwidth:	20 Hz – 20 kHz
Signal-to-Noise Ratio:	94Br, 20Hz -20kHz, A-weighted
Damping Factor:	>700 @ 1kHz, 100W
Mains Voltage (Factory Set):	110-120 VAC ±10% 220-240 VAC ±10%
Power Consumption:	Standby: <0.5 Watts Quiescent: 156 Watts 1/8 power: 323 Watts Maximum Power: 1766 Watts
Unit Dimensions (H x W x D):	15.25" x 16.25" x 6.0" (with connectors) 15.25" x 16.25" x 5.25" (without feet) 438mm x 413mm x 152mm (with connectors) 438mm x 413mm x 133mm (without feet)
Shipping Dimensions (H x W x D):	20.5" x 24.13" x 11.5" (522mm x 613mm x 288mm)
Unit Weight:	26.5 LBS. (12KG)
Shipping Weight:	33 LBS. (15KG)



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