

SSG192

HIGH DEFINITION STUDIO SYNC GENERATOR



the master
clock for all
audio and
video in your
studio



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BEFORE YOU BEGIN

What Ships in the Box

- The SSG192 unit
- An IEC power cable
- The Quick Start
- A warranty card

When you register your unit, you get 2 extra years of warranty coverage!

Getting Help

If you have questions beyond the scope of this guide, contact our Technical Services Group in any of the following ways:

- T USA customers 888-349-3222 or 425-742-1518
International customers 01-425-742-1518
6:00 am to 5:00 pm Monday through Friday, Pacific Time
- F 425-787-3211
- E tech@lucidaudio.com
- W lucidaudio.com

Notational Conventions in this User Guide

Note Identifies information that needs extra emphasis. Generally supplies extra information to help you to better use the SSG192.

CAUTION Identifies information that, if ignored, may cause damage to the SSG192 unit or other equipment in your system.

WARNING Identifies information that, if ignored, may be hazardous to your health or that of others.

CAPS Controls, switches or other markings on the chassis of the SSG192.

Operator Safety Summary

Mains Voltage The unit comes from the factory configured for the voltage range applicable to the locale it was shipped to. The Line Voltage selector switch is located internally. Changing its setting requires the services of competent service personnel. When first connecting the SSG192, ensure that the AC mains voltage in your installation is within the range marked on the rear of the unit.

There is no user accessible fuse.

Power Source This product is intended to operate from a power source that does not apply more than 250 V rms between the power supply conductors or between either power supply conductor and ground. A protective ground connection, by way of the grounding conductor in the power cord, is essential for safe operation.

Grounding The chassis of this product is grounded through the grounding conductor of the IEC power cord. To avoid electric shock, plug the power cord into a properly wired receptacle before making any connections to

the product. A protective ground connection, by way of the grounding conductor in the power cord, is essential for safe operation. Do not defeat the safety purpose of the grounding plug. The three-pronged grounded plug is provided for your safety. When the provided plug does not fit your outlet, consult an electrician for replacement of the obsolete outlet.

Danger from Loss of Ground If the protective ground connection is lost, all accessible conductive parts, including knobs and controls that may appear to be insulated, can render an electric shock.

Proper Power Cord Use only the power cord and connector specified for the product and your operating locale. Use only a cord that is in good condition. Protect the power cord from being walked on or pinched, particularly at the plug, convenience receptacle, and the point where the cord exits from the apparatus.

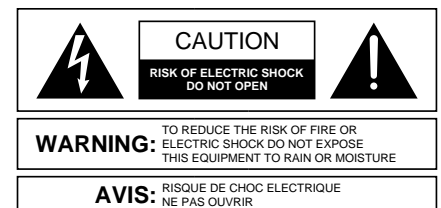
Internal Fuse There is an internal fuse that is considered not user replaceable. Should this fuse open, the unit will not operate. If the fuse opens, it is a sign of internal distress that simple fuse replacement will not fix. Seek qualified service for the unit.

Operating Location Do not operate this equipment under any of the following conditions: explosive atmospheres, in wet locations, in inclement weather, improper or unknown AC mains voltage, or if improperly fused. Do not install near any heat source such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat. Unplug this device during lightning storms or when unused for long periods of time.

Stay Out of the Box To avoid personal injury, do not remove the product covers or panels. Do not operate the product without the covers and panels properly installed. Only use accessories specified by the manufacturer. Clean only with a damp cloth.

User-Serviceable Parts There are no user serviceable parts inside the SSG192. In case of failure, refer all servicing to the factory. Servicing is required when the SSG192 has been damaged in any way, such as when a 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.

Equipment Markings



SEE OWNERS MANUAL. VOIR CAHIER D'INSTRUCTIONS.
No user serviceable parts inside. Refer servicing to qualified service personnel.
Il ne se trouve à l'intérieur aucune pièce pouvant être réparée l'utilisateur.
S'adresser à un réparateur compétent.

The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user of 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 of the presence of important operating and maintenance instructions in this user guide.

CAUTION

To prevent electric shock, do not use the polarized plug supplied with the unit with any extension cord, receptacle, or other outlet unless the prongs can be fully inserted.

PRODUCT SUMMARY

THE SSG192 HIGH DEFINITION STUDIO SYNC GENERATOR

is an extremely flexible and solid digital audio/video master clock generator for recording, mastering, postproduction, dubbing, and online video studios. With multiple clock rates and multiple (simultaneous) output formats, the SSG192 can handle any scenario. Proper synchronization of digital signals throughout a studio ensures the elimination of distortion causing jitter and audible artifacts.

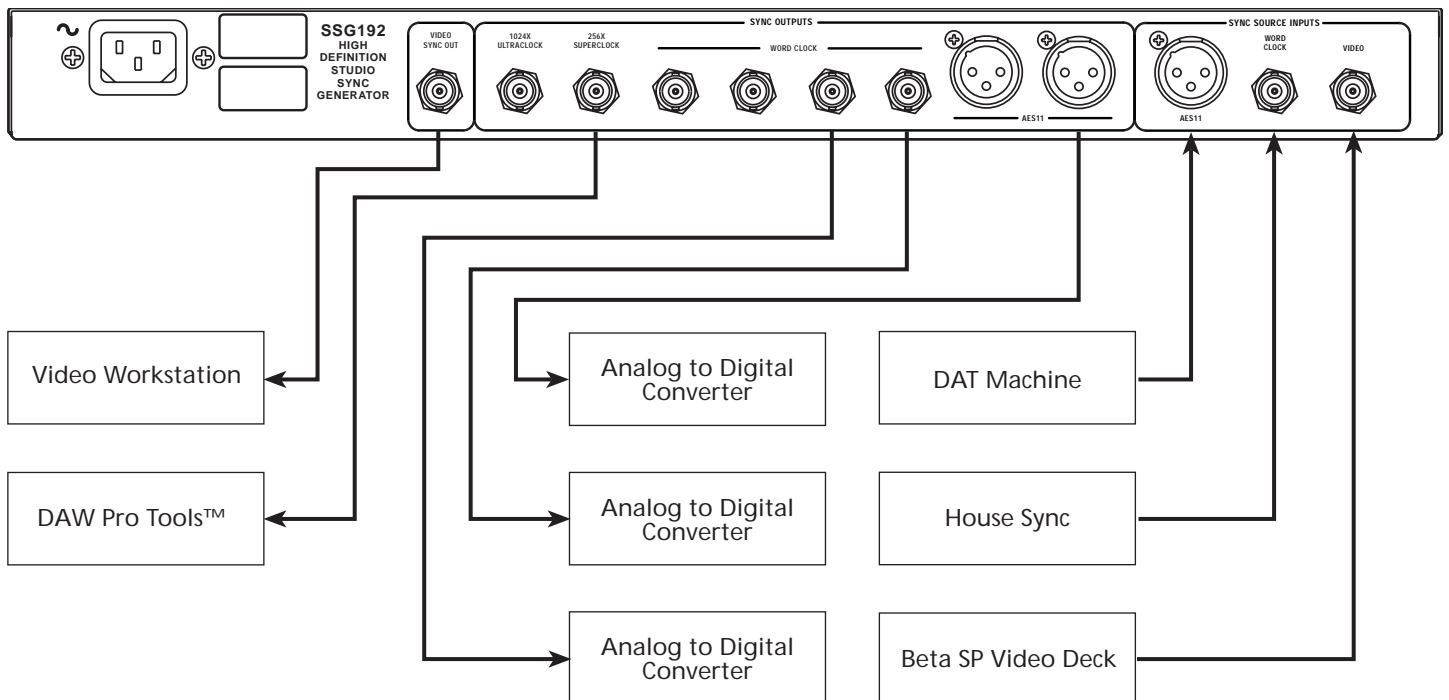
Key Features

Output Formats	Simultaneously outputs Word Clock, 256X Super-clock, 1024X Lucid Ultra-Clock, and AES11 sync formats.
Synchronization Capability	Synchronizes to house video blackburst (NTSC 60 Hz, 59.94 Hz, PAL 50 Hz), AES3, AES11, or Word Clock.
Sample Rates Supported	Supports all standard digital audio sample frequencies from 32 kHz to 192 kHz.
Video Sync Generation	Syncs to internal audio clock of input device.
Compatibility	Compatible with equipment from Digidesign®, Sonic Solutions, Mackie®, Yamaha®, Tascam®, and many other manufacturers of digital audio consoles, workstations, and recorders.

OVERVIEW OF REAR PANEL CONNECTORS

CONNECTION		CONNECTOR TYPE	WHAT IT DOES
POWER INPUT		3-pin IEC	Connects to AC mains.
SYNC OUTPUTS Outputs are simultaneous	VIDEO SYNC OUT	BNC	Supplies a video sync signal at the frame rate selected on the front panel. Requires 75-ohm termination at the cable end.
	1024X ULTRACLOCK	BNC	Supplies output at 1024 times the selected sample rate. Use with other Lucid high definition digital products. Requires 75-ohm termination at the cable end.
	256X SUPERCLOCK	BNC	Supplies output at 256 times the selected sample rate. Use with ProTools® and other products. Requires 75-ohm termination at the cable end.
	WORD CLOCK	BNC	Supplies output at the selected sample rate. Requires 75-ohm termination at the cable end.
	AES11	XLR3 male	Supplies a 110-ohm (AES3 sync protocol) sync output.
SYNC SOURCE INPUTS Inputs selected from the front panel	AES11	XLR3 female	Allows using an AES3 digital audio signal as a sync source, with or without modulation. Any modulation is ignored. 110-ohm termination supplied internally.
	WORD CLOCK	BNC	Bridges the word clock input.
	VIDEO	BNC	Bridges the video sync input.

BASIC CONNECTION

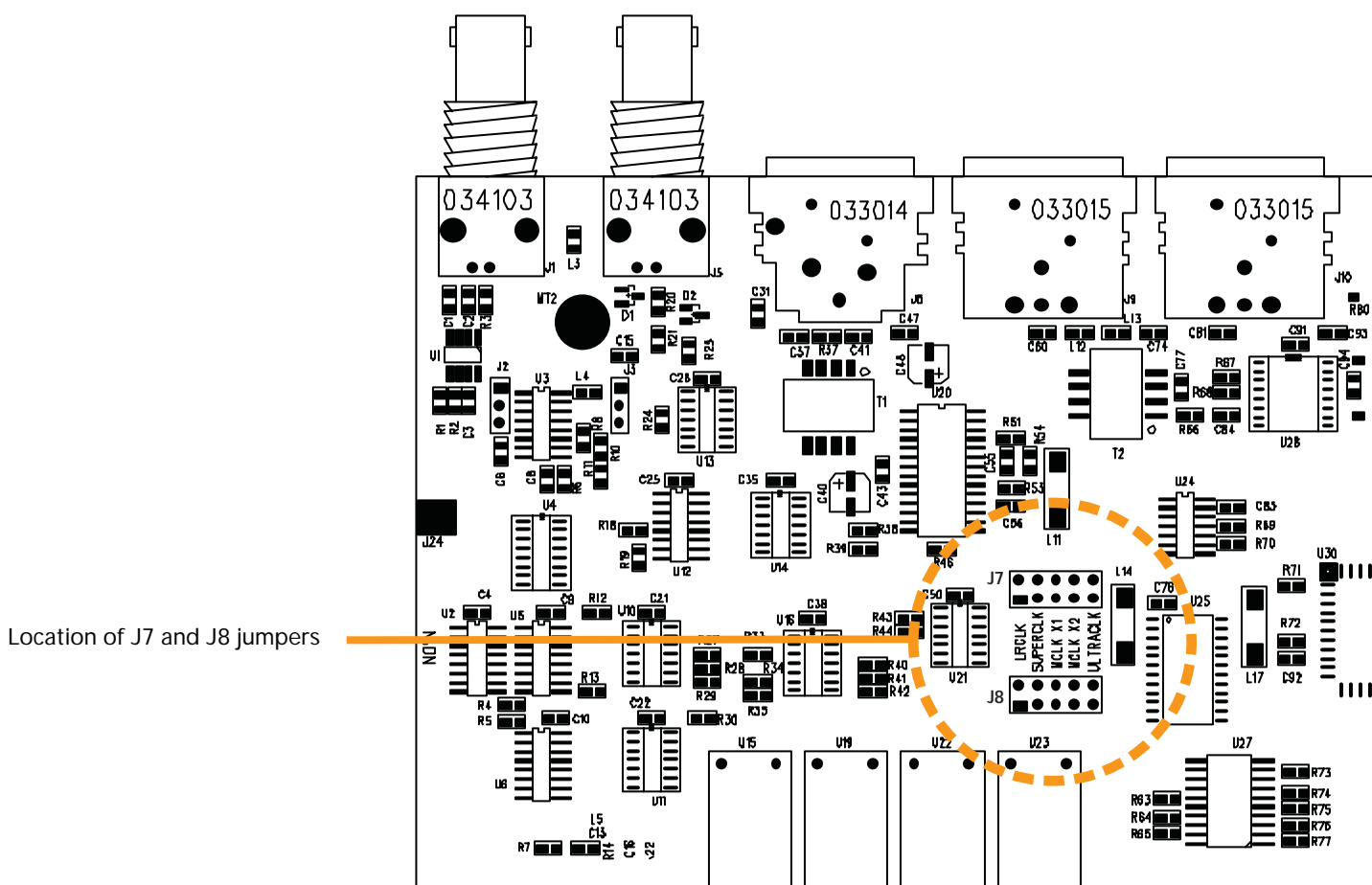


OUTPUT RECONFIGURATION

UltraClock and Superclock outputs of the SSG192 can be jumpered to change them to other clock formats. They can be configured for UltraClock, Superclock or Word Clock.

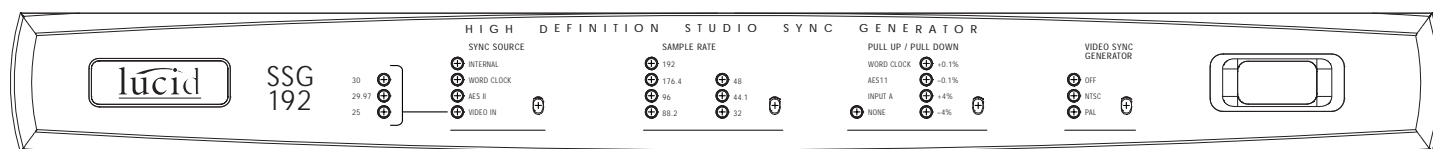
To change the jumper setting:

1. Disconnect the SSG192 from the AC mains source.
2. Remove the top cover by removing the 2 screws located at the rear edge of the cover, the 2 screws located at each end of the top cover, and 3 screws located on each side of the product. Lift the top cover free of the product and set it aside.
3. Find the jumpers which are located in the middle of the circuit board, behind the middle AES11 connector.
 - J7 affects the 256X Superclock output.
 - J8 affects the 1024X UltraClock output.
4. Move the jumper to the location corresponding to your requirements.
5. Reverse steps 1 and 2 to reassemble the unit.



OVERVIEW OF FRONT PANEL CONTROLS

CONTROL	SELECT SETTING	TOGGLE SWITCH PERFORMS THIS SYSTEM CONTROL FUNCTION
SYNC SOURCE	INTERNAL	Select for video when you want the SSG192 to be the master clock.
	WORD CLOCK	Select for the Word Clock input to be the master clock.
	AES11	Select for the AES11 input to be the master clock.
	VIDEO IN	Select for the video to be the master clock.
SAMPLE RATE	192 kHz, 176.4 kHz, 96 kHz, 88.2 kHz, 48 kHz, 44.1 kHz, 32 kHz	Select one audio sample rate. 192 kHz, 176.4 kHz, 96 kHz, 88.2 kHz for digital video disk; 96 kHz, also, for multitrack tape 48 kHz for professional multitrack tape and video 44.1 kHz for compact disk 32 kHz for broadcast audio
PULL UP / PULL DOWN	None, +0.1%, -0.1%, +4%, -4%	Option to select (only when Sync Source INTERNAL is selected) sample rates to correctly synchronize audio with video. Selections also work in tandem, i.e., +3.9%, +4%, +4.1%. Rates are automatically detected in Sync Sources WORD CLOCK and AES11.
VIDEO SYNC GENERATOR	OFF, NTSC (29.97 fps), PAL (25 fps)	Select specific video frame rate: OFF, NTSC (59.94 Hz/29.97 fps) or PAL (50 Hz/25 fps)
POWER SWITCH	1, 0	Turns the unit on or off.



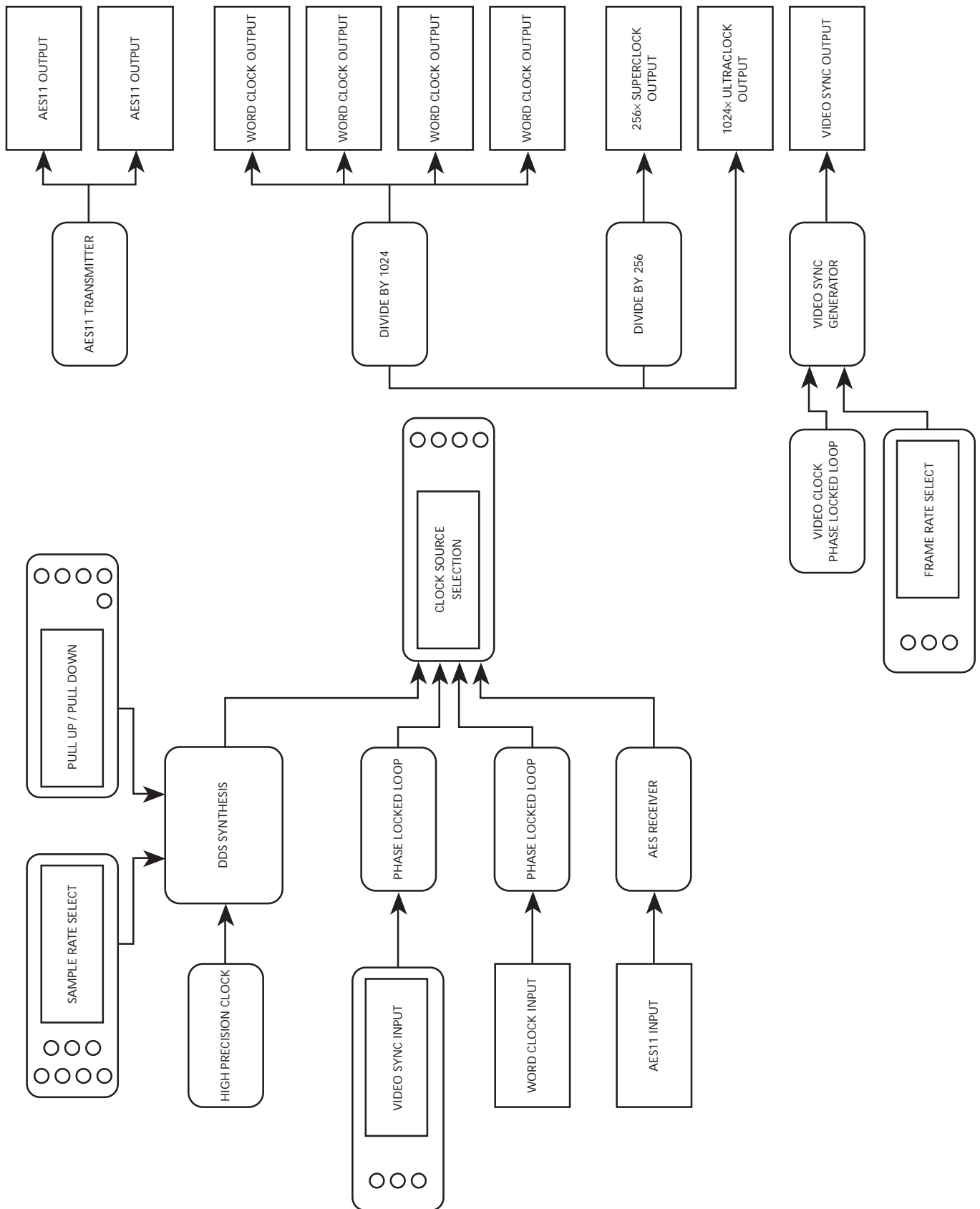
OPERATING THE SSG192

STEP 1	STEP 2	STEP 3	STEP 4
FRONT PANEL CONTROL SETTINGS			
SYNC SOURCE	SAMPLE RATE	PULL-UP/PULL-DOWN RATES	VIDEO SYNC GENERATOR
INTERNAL	→ Select rate	→ Select rate	→ Select fps rate
WORD CLOCK	→ Select rate	→ Auto detects rate if one is needed	
AES11	→ Select rate	→ Auto detects rate if one is needed	
VIDEO IN	→ Select rate	→ Select rate	

TROUBLESHOOTING

SYMPTOM	PROBABLE CAUSE / WHAT TO DO
No LEDs light	Device not plugged into AC mains.
INTERNAL sync has no output	Either output cable is unplugged or incorrectly terminated.
WORD CLOCK sync has flashing LED	Device for WORD CLOCK input is not plugged in or is out of signal range. Plug in the device for WORD CLOCK, with external 75 ohm termination. Ensure Word Clock range is between 40 kHz and 100 kHz.
Toggle switch for SAMPLE RATE doesn't work	SYNC SOURCE not set to INTERNAL or VIDEO IN.
Manual operation of PULL UP/PULL DOWN toggle switch doesn't work	SYNC SOURCE not set to INTERNAL.
No output from VIDEO SYNC GENERATOR	Output device not plugged into VIDEO SYNC OUT. SYNC SOURCE not set to INTERNAL. VIDEO SYNC GENERATOR set to OFF.
My A/D converter doesn't lock to Word Clock output	A/D input is not connected and/or terminated. Check that the input is connected and terminated appropriately for your A/D converter. SSG192 is unlocked to selected input. Check input lock range.
AES11 sync has flashing LED	AES11 input is not connected. AES11 is out of frequency range. Correct AES11 source frequency range.
PULL UP/PULL DOWN switch doesn't work at 32 kHz	Not designed to work at 32 kHz.
VIDEO IN has no lighted LEDs	VIDEO input is not connected. VIDEO input is unlocked. Check to see that the frame rate is correct. VIDEO input signal sounds bad. Amplify external signal or correct signal integrity.
Device connected to VIDEO input has wrong LED lit for SYNC SOURCE	Video deck is set to wrong format or speed. Correct video deck settings.
WORD CLOCK or AES11 input lights wrong sample rate	WORD CLOCK or AES11 input rate is set incorrectly. Correct the source for WORD CLOCK or AES11 input sample rate.

SIGNAL FLOW DIAGRAM



SPECIFICATIONS

Performance

Digital Audio Output Sample Rates	Internal Sync: 32 kHz, 42.336 kHz, 44.056 kHz, 44.1 kHz, 44.144 kHz, 45.937 kHz, 46.080 kHz, 47.952 kHz, 48 kHz, 48.048 kHz, 50 kHz, 88.2 kHz, 96 kHz, 100 kHz, 192 kHz
	Word Clock: 30 kHz to 200 kHz
	AES11: 30 kHz to 100 kHz
	Video In: 30 kHz to 200 kHz @ 25 fps to 30 fps

Connectors

Video Sync Input	1 x BNC, non-terminating
	Accepts sync or video, video modulation ignored
Video Sync Output	1 x BNC, 75-ohm source
Word Clock Sync Input	1 x BNC, non-terminating
Word Clock Sync Output	4 x BNC, 75-ohm source
AES11 Sync Input	1 x XLR3 female, 110-ohm terminating
	Accepts AES11 sync signals or AES3 audio signals, modulation ignored
AES11 Sync Output	2 x XLR3 male, 110-ohm source
256X Superclock Output	1 x BNC, 75-ohm source
1024X UltraClock Output	1 x BNC, 75-ohm source

Power Requirements

Power In	3-pole IEC
	105 VAC to 130 VAC, 50 Hz to 60 Hz
	210 VAC to 260 VAC, 50 Hz to 60 Hz
Voltage Change Switch	Internal, requires technician

Physical

Size (H x W x D)	1 U chassis, 1.72 in. x 19 in. x 6 in. / 4.37 cm x 48.26 cm x 15.24 cm
Shipping Weight	7.4 lbs

In the interest of continuous product improvement, Lucid reserves the right to alter, change, or modify these specifications without prior notice. For the latest specifications, visit lucidaudio.com. Go to the product page for the SSG192.

WARRANTY

Get Additional Warranty Coverage

We would like to offer you an incentive to complete our product registration form. When you fully complete and mail your product registration card, you will receive a total of 3 years of warranty coverage, under the terms and limitations as set forth below, without additional cost.

If you don't register your product, you will still receive one year of warranty coverage, but it only takes a minute to fill out the card, and we won't share your personal information with others.

Warranty

Lucid expressly warrants to the original purchaser ("Buyer"), subject to the terms and conditions set forth below, that the Product will be free from defects in material and workmanship as a result of normal commercial use for one (1) year from the date of purchase. This warranty will be automatically extended (subject to the additional limitations set forth below) for an additional two years if the Warranty Registration is completed and returned to Lucid within thirty (30) days of the date of delivery.

Lucid's warranty obligation is limited to the repair, replacement, or refund at Lucid's sole discretion, of the part or parts of the Product which may thus prove defective in materials or workmanship within one year from date of purchase (or three years from the date of purchase if Buyer has registered its purchase as provided above) under normal use and which our examination discloses to our satisfaction to be thus defective, provided that Buyer gives Lucid prompt notice of its warranty claim and satisfactory proof thereof.

Lucid will make every reasonable effort to ensure that parts are available to support the repair of our products under warranty. In the event that a product or component part thereof becomes obsolete, unavailable or irreparable, Lucid reserves the right to refund a prorated portion of the purchase price in full satisfaction of all warranty claims. A refund of the purchase price is prorated as follows:

100% through year one, 67% through year two, 33% through year three.

In order to serve you better we request that the Buyer shall, prior to shipping Product to Lucid for warranty service, contact Lucid and secure a Return Authorization Number that shall be included with the returned Product. This will facilitate our efforts to keep track of your Product and process your warranty repair as quickly as possible. Buyer will prepay all freight charges to ship the Product to Lucid for warranty inspection and service. This warranty is subject to Lucid's inspection of the Product at its facilities and, upon Lucid's request, satisfactory proof of purchase (dated copy of original retail dealer's invoice.)

Lucid reserves the right to effect repairs to the product with reconditioned components/parts. Products once repaired under warranty will be shipped to Buyer freight prepaid by Lucid via United Parcel Service (surface) or any similar shipper, to any location designated by buyer within the Continental United States. At Buyer's request and expense Product will be returned via airfreight. Outside the continental United States, repaired or replaced products will be returned freight collect.

THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES EXPRESS OR IMPLIED, ARISING BY LAW OR OTHERWISE (INCLUDING, WITHOUT LIMITATION ANY OBLIGATIONS OF THE SELLER WITH RESPECT TO CONSEQUENTIAL DAMAGES) INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR USE AND OF ALL OTHER OBLIGATIONS OR LIABILITIES ON OUR PART, AND WE NEITHER ASSUME, NOR AUTHORIZE ANY OTHER PERSON TO ASSUME FOR US, ANY OTHER LIABILITY IN CONNECTION WITH THE SALE OF THE PRODUCT. THIS WARRANTY SHALL NOT APPLY TO THIS PRODUCT OR ANY PART THERE OF WHICH HAS BEEN SUBJECT TO ACCIDENT, NEGLIGENCE, ALTERATION, ABUSE, OR MISUSE. WE MAKE NO WARRANTY WHATSOEVER IN RESPECT TO ACCESSORIES OR PARTS NOT SUPPLIED BY US. THE TERM "ORIGINAL PURCHASER," AS USED IN

THIS WARRANTY SHALL BE DEEMED TO MEAN THAT PERSON OR COMPANY THAT ORIGINALLY PURCHASED THE PRODUCT.

This Lucid product has been designed and manufactured for use in professional and studio audio systems and is not intended for other usage. This warranty only applies to Buyers using the Product in professional and studio audio systems. With respect to others, including but not limited to consumers for personal, family, or household use, Lucid expressly disclaims all warranties, including but not limited to warranties of merchantability and fitness for a particular purpose and the express warranties as otherwise provided herein.

Lucid reserves the right to modify the design or make additions to, or improvements to, its product lines without making similar upgrades to Product purchased by Buyer. Lucid does not authorize any third party, including any dealer or sales representative, to assume any liability, effect any repairs or modifications to the Product, or make any additional warranties or representation regarding the Product or Product information on behalf of Lucid.

Lucid's total liability on any claim, whether in contract, tort (including negligence) or otherwise arising out of, connected with, or resulting from the manufacture, sale, delivery, resale, repair, replacement or use of Product will not exceed the purchase price of the Product or any part thereof which gives rise to the claim. In no event will Lucid be liable for any incidental or consequential damages including but not limited to damage for lost revenue, cost of capital, claims of customers for service interruptions or failure to supply, and costs and expenses incurred in connection with labor, overhead, transportation, installation or removal of products or substitute facilities or supply houses as a result of Product failure.

This limited warranty gives Buyer certain rights. Buyer may have additional rights under applicable law.

Where to Get Service

If outside of the USA

If you have determined that your SSG192 requires repair services and you live outside of the United States, please contact your local Lucid dealer or distributor for instructions on how to obtain service.

If inside the USA

Lucid will perform in-warranty or out-of-warranty service on any product it has manufactured for a period of three years from date of manufacture. If you reside in the USA, then proceed as follows:

In-Warranty Repairs

Repairs made in-warranty will cost you only one-way freight charges. We'll prepay the return (surface) freight. Of course, if the repair is due to operator error, parts and labor will be charged. If there are charges for the repair costs, you will pay for the return freight. All charges will be COD unless you have made other arrangements (prepaid, Visa, or MasterCard).

Out-of-Warranty Repairs

If the warranty period has passed, you'll be billed for all necessary parts, labor, packaging materials, and freight charges.

To Get Your SSG192 Unit Repaired (USA Customers Only)

1. Call our Technical Services Group for a return authorization (RA) number.
(888) 349-3222 or (425) 742-1518
Monday through Friday
6:00 am to 5:00 pm Pacific Time
2. Have your serial number ready to give to the service representative.
3. Pack the unit in its original packaging materials.
4. Include your name, address, daytime telephone number, and a brief statement of the problem.
5. Write the RA number on the outside of the box.
6. Ship the unit to Lucid, freight prepaid.
We do not accept freight collect shipments.

Lucid

14926 35th Ave West
Lynnwood WA 98037

If You Don't Have Factory Packaging Materials

If you send us your product in substandard packaging, we will charge you for factory shipping materials. If you don't have the factory packaging materials, do the following:

1. Select an oversized carton.
2. Wrap the unit in a plastic bag, and surround it with bubble-wrap.
3. Pack the box full of Styrofoam peanuts. Be sure there is enough clearance in the carton to protect the rack ears.

We will return the unit in Lucid packaging.