

The Sonic Frontiers UltraJitterbug enhances the performance of virtually any high end digital-to-analog processor.

In response to the increasing understanding of word-clock jitter as a major barrier to the improved sonic performance of digital audio, Sonic Frontiers introduces a product that verifiably and significantly reduces jitter. The UltraJitterbug is a digital reclocker that reduces and rejects jitter from a digital source such as a CD player or DAT machine, and supplies a "clean" signal to a digital-to-analog processor.

The UltraJitterbug has three digital inputs - AES/EBU via XLR and S/PDIF via RCA coax and Toslink plastic fibre optic - which feed the new UltraAnalog AES21 AES/EBU ultra-low jitter input receiver. The AES21 receives the digital input data, decodes it and attenuates the jitter that is present on the incoming digital data stream.

Many special measures were taken to reduce contaminating noise and to prevent crosstalk. The inputs and outputs are isolated by their own custom, wide bandwidth, low capacitance pulse transformer. These transformers prevent any common mode noise in the digital signal from being coupled into the sensitive internal circuitry of the UltraJitterbug and the DAC. They also prevent the formation of a low frequency (ground loop) connection with the UltraJitterbug which could significantly increase 60Hz "hum", as well as couple the

data that is desired to be passed without limiting the bandwidth ("droop").

Further, the inputs are multiplexed relays which provide low impedance paths for the selected signals to pass through and high isolation between the selected input and the other unused inputs. Careful trace routing and guarding insure that the PC layout does not contribute to crosstalk. Separate ground planes are used for each circuit section to keep the noise of one section from contaminating another.

The power supply is a full linear regulated design with four separate linear regulators. The digital and analog power supplies are provided with separate regulators and the output driver has its own regulator to insure that the output is as free from unwanted noise as possible. The design of the power supply is conservative to insure that the temperature of the regulators remains low under all operating conditions thereby providing a very long operating life.

The UltraJitterbug is built under strict quality control utilizing the highest calibre of parts available. With its proven performance in the improvement of a digital signal through jitter rejection, the UltraJitterbug is a truly affordable upgrade to your existing digital-to-analog processor.

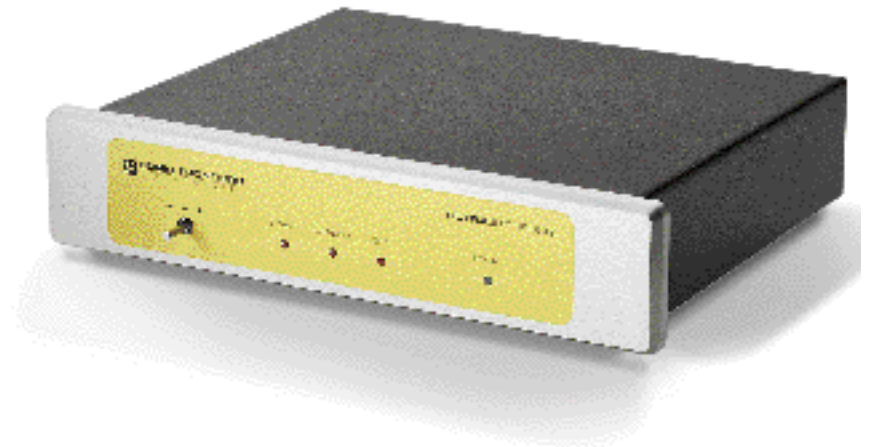
THE SONIC FRONTIERS ULTRAJITTERBUG

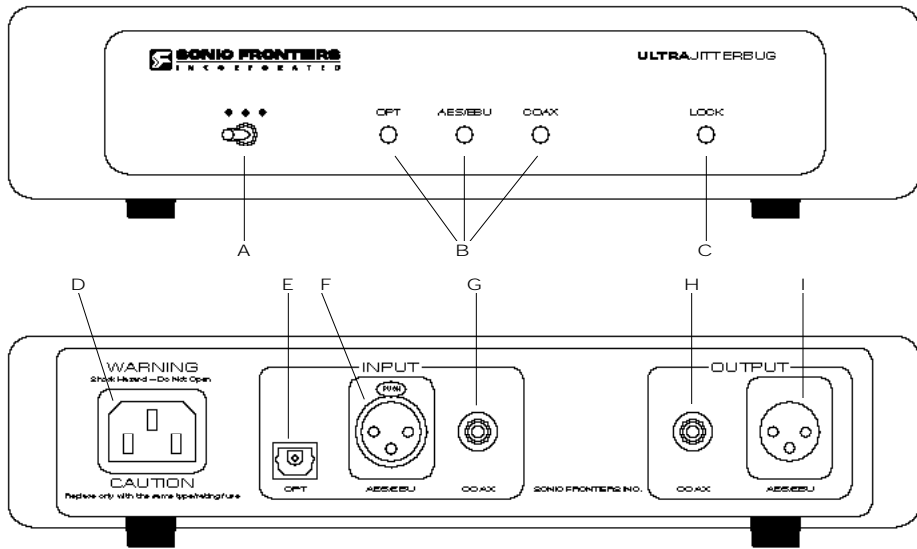
TECHNICAL SPECIFICATIONS

Jitter Rejection (attenuation)	Begins at 1 kHz, at a rate of 6 dB per octave
Intrinsic Jitter	Less than 40 ps (picoseconds) output
Dimensions	9.5" Wide x 7" Deep x 2" High (24 cm x 17.8 cm x 5 cm)



BREAKING THE SOUND BARRIER



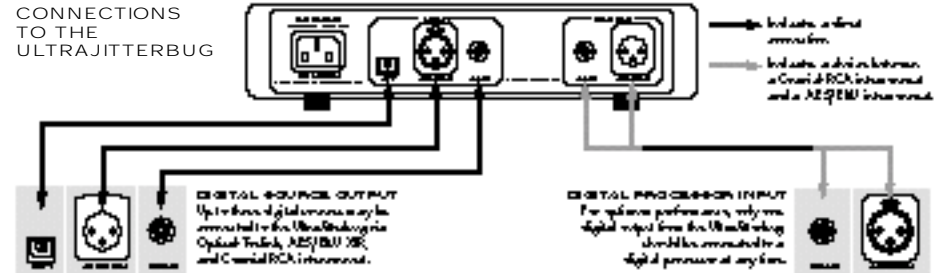


OPERATION, CONNECTIONS AND CONTROL FUNCTIONS

- A - Digital Source Select Switch - This three-position toggle selects the desired input path, (Toslink - plastic fibre optical, AES/EBU - XLR connector, or RCA - coax connector).
- B - Source Indicator LED - One of the three LEDs will light to indicate the selected source of input.
- C - Locked/Unlocked LED - This LED will light when the UltraJitterbug is locked to an incoming data stream. When the LED is off the UltraJitterbug is not locked and the outputs are muted.
- D - IEC Socket - The detachable power cord connects here. When the UltraJitterbug is plugged in to a power source the unit is on.
- E - Optical - Toslink Input - This is the input socket for a S/PDIF - Toslink - plastic fiber optic connection to the digital source.
- F - AES/EBU Input - This is the input socket for an AES/EBU - XLR connection to the digital source. The AES/EBU cables impedance should be 110 ohms.
- G - Coaxial Input - This is the input socket for a coaxial - S/PDIF - RCA connection to the digital source. The coaxial - S/PDIF - RCA cables impedance should be 75 ohms.
- H - Coaxial Output - This is the output socket for a coaxial - S/PDIF - RCA connection to the digital-to-analog processor. The coaxial - S/PDIF - RCA cables impedance should be 75 ohms.
- I - AES/EBU Output - This is the output socket for an AES/EBU - XLR connection to the digital-to-analog processor. The AES/EBU cables impedance should be 110 ohms.

Note: For best performance, connect only one output at a time. Any number of inputs may be connected at one time.

The UltraJitterbug is factory set for the correct operating AC voltage for the area in which it is sold. If a different operating voltage is required, please contact an authorized Sonic Frontiers dealer, distributor or the factory directly.



LIMITED FIVE YEAR WARRANTY

Sonic Frontiers, Inc. warrants to the purchaser that each UltraJitterbug is free of manufacturing defects for a period of five (5) years from the date of purchase. To receive this warranty, the original purchaser must mail to Sonic Frontiers, within thirty (30) days from date of purchase, the enclosed Warranty Registration Card completed. Sonic Frontiers, Inc. will then validate the warranty to the original purchaser. This warranty is subject to the following conditions and limitations:

1. Warranty applies only to the original purchaser.
2. This warranty is void and inapplicable if the product has been handled other than in accordance with the instructions in this Owner's Manual, abused or misused, damaged by accident or neglect or in being transported, or the defect is due to the product being tampered with, modified or repaired by anyone other than Sonic Frontiers, Inc. or an authorized Sonic Frontiers' repair depot.
3. Warranty does not cover normal maintenance.
4. Sonic Frontiers, Inc. shall not be responsible in any way for consequential or indirect damages or liabilities resulting from the use and operation of the product covered herein or resulting from any breach of this warranty or any implied warranty relating to said product.

During this period, Sonic Frontiers, Inc. will repair or replace any defective components free of charge. A Return Authorization (RA) Number is required before any product is returned to our factory for any reason. This number must be visible on the exterior of the shipping container(s) for Sonic Frontiers to accept the return.

Units shipped to us without a Return Authorization Number or without a visible RA Number on the exterior of the shipping container(s) will be returned to the sender, freight collect.

Units to be repaired by Sonic Frontiers, Inc. must be sent shipping and insurance prepaid by the original purchaser in the original packing material. A returned product should be accompanied by a written description of the defect. Repaired units will be returned by Sonic Frontiers, Inc. shipping and insurance prepaid.

All other warranties or conditions either written or are void.

SAFETY INSTRUCTIONS

1. Water and Moisture - This product should not be used near water. Do not expose this product to rain or moisture to prevent fire or shock hazard.
2. Heat - This product should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances which produce heat.
3. Power Sources - This product should be connected to an AC power source of the same rated voltage. The original shipping containers will stipulate the AC voltage this unit can operate on.
4. Cleaning - A regular dusting with a soft, non-abrasive cloth will generally keep the finish of the faceplate and chassis looking like new. At no time should you allow any liquid to come in contact with the UltraJitterbug; it may run into the electronic circuitry and cause damage which will not be covered under your warranty.
5. Servicing - Do not open this product. No user serviceable parts inside. Refer servicing to an authorized service technician.
6. Non-Use Periods - The power cord of this product should be unplugged from the outlet when left unused for an extended period of time.

DISCLAIMER OF LIABILITY

Under no circumstances does Sonic Frontiers, Inc. assume liability or responsibility for injury or damages sustained in the use or operation of this equipment or for damages to any other equipment connected to it.

Sonic Frontiers, Inc. reserves the right to make design changes or improvements without the obligation to revise prior versions. All specifications are subject to change without notice.

Note:

We recommend that you retain all of the packing material and shipping boxes for your UltraJitterbug. They are custom designed to prevent shipping damage from occurring. Sonic Frontiers, Inc. will accept no responsibility for any damage occurring to an UltraJitterbug that is shipped in packing material other than the original Sonic Frontiers packing material.