Upsampling Upgrade for the LINK DAC III

Rev #7 (3/2006)

Users Manual

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Thank you for purchasing the "Upsampling Upgrade" for your LINK DAC. I am sure you will be very pleased with it. It adds the following new features to your LINK as well as improved performance.
Jitter Reduction
Upsampling to 96k or 132k
If you ordered the option factory installed, we have included a storage and shipping box for the upgrade in case you ever wish to remove the upgrade. Please retain this box.

JITTER REDUCTION

Dramatic Jitter Reduction is added to the LINK when this upgrade is installed, whether upsampling is turned on or off. It is applied to any source all the time.

BASIC UPSAMPLING

The toggle switch installed on the rear of the LINK allows upsampling to be turned on or off. The option LED on the front panel indicates "Upsampling on". The basic upsampling provides a new digitally sampled signal at 96 kHz. This signal is decoded by the internal LINK DAC at 96K and the 96K LED will also light up ONLY when an active source is being played. When no source is active, such as when a CD is paused, the input LED will light, but the frequency LED will not light. As soon as play is resumed the frequency LED will again light up. This is different from a LINK DAC without upsampling. It indicates frequency even if the source is not actively playing.

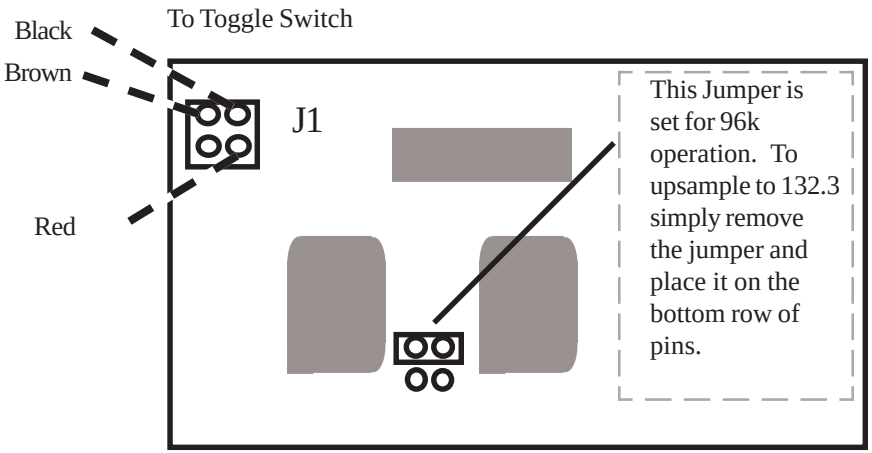
HIGHER RATE SAMPLING

Your new upsampling board has the capability to upsample to 96 kHz or 132.3 kHz. The upgrade is configured to upsample to 96 kHz from MSB. An extra oscillator is installed on the upsampling board, and can be selected instead of the standard oscillator to increase the sampling rate from 96 kHz to 132.3 kHz (3 times the CD rate of 44.1 kHz). This is the highest rate the LINK III can upsample to. No frequency LED lights up when the 132 kHz frequency is selected. Admittedly, we are driving both the decoder and DAC beyond their design limits, but our experience at normal room temperature conditions has shown the higher speed upgrade works very well. If your environment is too hot (the LINK sits on top of your amplifier), you may need to install the normal 96K oscillator.

To change the frequency, follow the instructions to open the cover of the LINK. Inside the LINK notice the small upsampling board installed in the main board, shown below. Two jumper positions are available between the large metal oscillators. They are labeled 96K and 132K. As shipped, the jumper is located in the 96K position. Remove the jumper and move to the 132K position.

HDCD UPGRADE

The HDCD can be installed at the same time as the upsampling upgrade as long as it is configured for 96k not 132k upsampling.

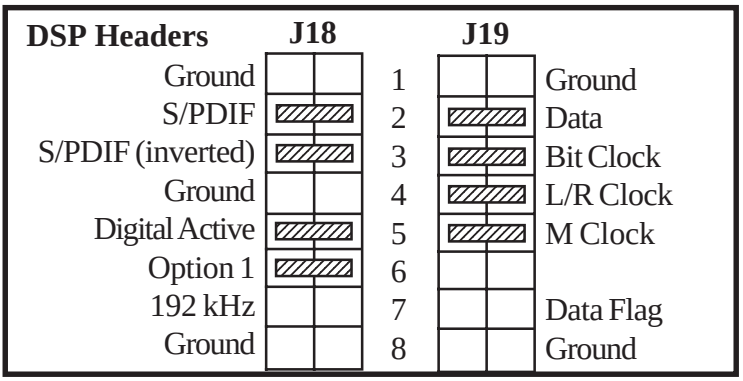


OTHER UPGRADES

This upgrade is compatible with the GOLD, NELSON and standard LINK DAC IIIs, and works with the Virtual 3d upgrade. If you have not already tried the P1000 power base, this is another clear performance booster for any LINK. To go even beyond, please consider the Nelson, Gold or Platinum LINK. MSB generally offers a trade-in credit when upgrading to the next level DAC.

REMOVAL OF UPGRADE

If ever the upgrade is removed, jumpers must be installed on the upgrade headers to make the LINK work. The position of those jumpers is shown in the diagram.



NORMAL POSITION OF LINK III JUMPERS

INSTALLATION

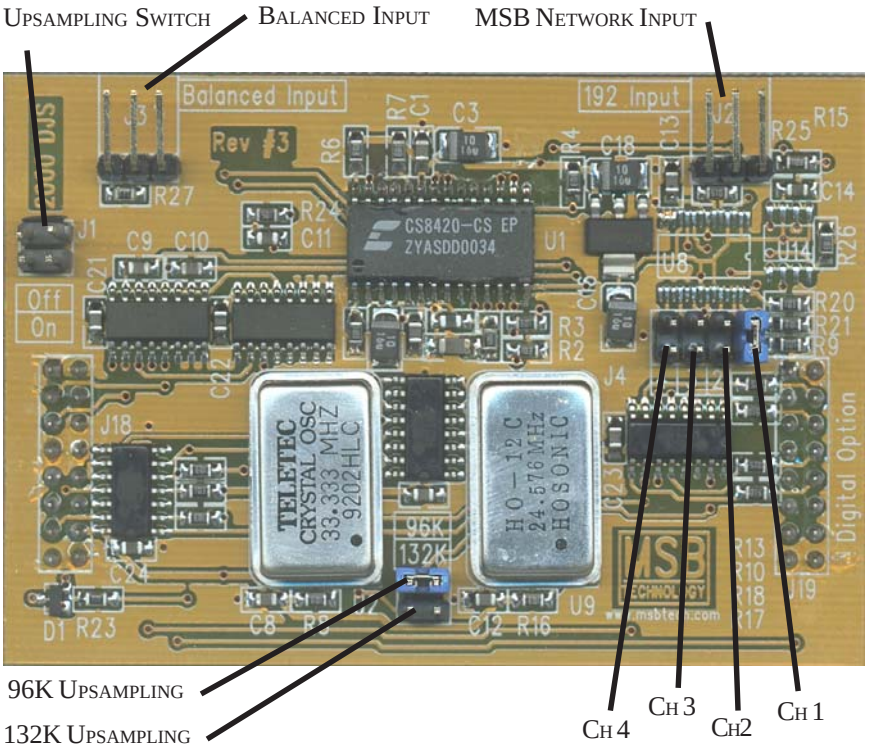
This section describes how to install the Upsampling Upgrade in a LINK III. Disregard this section if the upgrade was factory installed.

LINK III PREPARATION

Place the LINK III on a soft surface like a tablecloth or carpet. Disconnect the power supply. Remove the three philips screws on the back edge of the cover. Turn the LINK over and remove the three philips screws from the front edge of the cover. Carefully separate the base from the cover. Pick up the base and flip it over, placing it inside the cover. Take care not to disconnect the ribbon cable to the front panel. Place the LINK so that the RCA connectors are facing AWAY from you. This way all the diagrams will be oriented correctly.

REMOVE THE JUMPERS AND INSTALL THE BOARD

Two headers can be seen in the middle of the LINK III board. They are labeled J18 and J19. Four jumpers are installed as shown. Remove these jumpers. Tape them to the inside of the base so they will not be lost. Install the upgrade board by



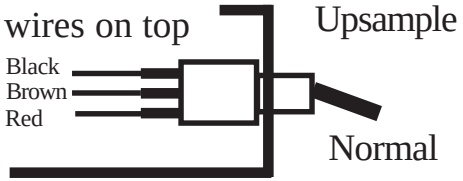
plugging its two sockets into these two headers. The board should be oriented so the writing is in the same direction as on the LINK board. Make sure the pins line up both up and down and right and left. It is very easy to shift the board one pin position in any direction. Before seating the board, inspect from all directions to confirm position. The board can then be pressed down firmly.

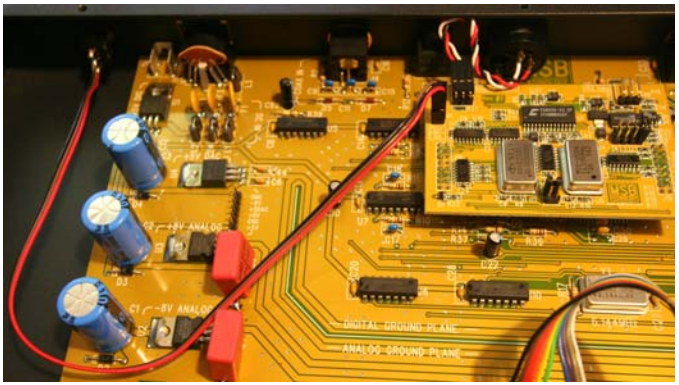
Switch Installation

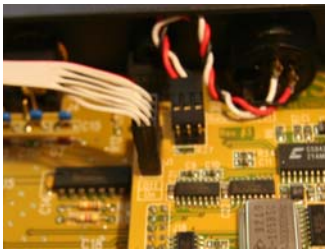
On the back of the LINK III is a 1/4" hole with a plastic plug in it, next to the power connector. Remove the plastic plug. Install the switch in the hole oriented as shown. Plug the switch into J1 "Off" on the new Network board. The connector is oriented in J1 as shown on page 3. Some DACs already have a switch installed. It is used to change the phase. Unless it is the same as the new switch supplied, remove it and replace it with the new switch. Jumpers should be installed in the location the switch was removed from as shown. Select the phase you want with the jumpers. The switch now is used for upsampling, not phase invert.

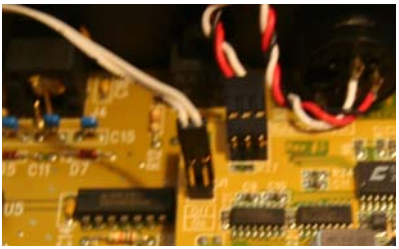
Alternate Switch Installation

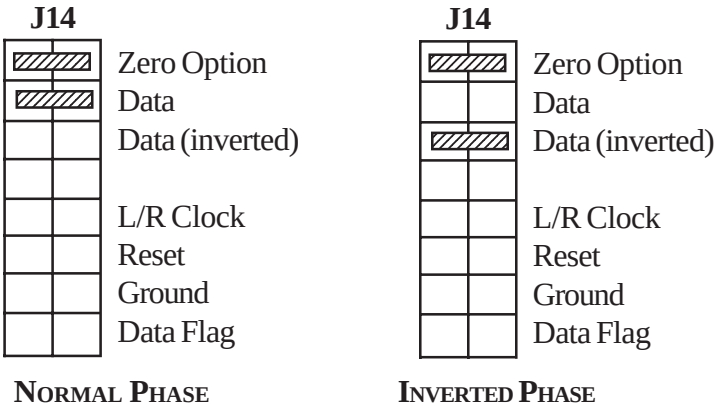
With different models the switch may vary as shown. Try the connector different ways until it works.











REASSEMBLE THE LINK III

Flip the base over, taking the twist out of the ribbon cable going to the front panel board. Slide the base into the front flange, aligning the base and front. Install the three philips screws in the bottom front. Flip the LINK over and install the three screws in the cover.

TEST UPGRADE

If anything does not conform to this test procedure, immediately disconnect the power and call or email MSB for help. Plug power into the LINK III. The power light should come on. Apply a digital source. The source should be indicated with an LED and you should hear a small click. You should immediately hear audio from the analog outputs. As you turn the toggle switch on and off, the option LED should turn on and off. Music should be heard in either position. The frequency display should indicate 96K when the music is actually heard, and when the switch is on, and indicate the normal source frequency when the switch is off. If configured for 132k, the no frequency LED will light when upsampling is turned on.

TROUBLESHOOTING

If you get no sound after installing the upgrade:

1. Check that the board is oriented correctly, the writing on the main board should line up with the writing on the upgrade board.

2. Check that the upgrade board is centered on the upgrade headers. It is easy to shift the board one pin position away..

3. If you removed an existing toggle switch, make sure you placed 2 jumpers on J14 as shown..