7. Power Supply

- When using powered 6-pin FireWire, it may not be necessary to use a power supply for the Gateway as it is then powered by the bus. Note, that the achievable maximum S/N may be lower when using the Gateway in this mode.

- Although the AC power supply provided with the Gateway is sufficient for most situations , for measuring applications requiring a minimal noise floor we recommend utilizing an advanced DC power supply having improved filtering and noise reduction capabilities.

8. Compatibility with EASERA

- The Gateway is completely compatible with EASERA.

- Due to bugs in early EASERA versions up to v1.0.50 there may be minor problems when using the ASIO driver for a different output channel than the first.

- It is recommended to first check for the latest EASERA update before reporting any problems.

- The EASERA Gateway is designed for exclusive use with the EASERA TDS module. This module is available with EASERA v1.1.

9. Driver Stability

- There may be stability problems or performance problems when using EASERA Gateway with a FireWire connection through a PC card (previously known as PCMCIA card). Especially PC cards with combined USB 2.0 and FireWire ports may exhibit errors. In such a case please contact your EASERA Gateway vendor for a list of recommended PC cards.

- On some computers the present driver configuration may prevent the Gateway driver from functioning properly. Especially WLAN and network drivers may be blocking the kernel for time spans longer than the synchronization interval required for the FireWire driver. In such cases errors like audio drop-outs or latency shifts may occur. To solve these kinds of problems, the software tool “EASERAGateWayDiag” can be used to adjust the interval length. Alternatively, drivers can be deactivated individually using the Windows device manager.

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Additions To EASERA Gateway User Manual

Important Warning:
Please do not create a loopback connection between any of the XLR inputs and any of the outputs while phantom power is switched on!

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1. General Comments

• The EASERA Gateway is a FireWire-based external PC AD/DA Converter - Preamp.. It provides 2 XLR/TS inputs, 2 TS line inputs and 6 TS line outputs.

• For external volume control purposes there are individual gain controls for the first two input channels and a main gain control for the first two output channels.

• EASERA Gateway drivers support DirectSound, Wave and ASIO. The EASERA Gateway can be used with any audio software supporting one of these formats.

• The EASERA Gateway can also be used with an Apple computer, but EASERA. will not run on an Apple.

• EASERA Gateway supports the following sample rates: 44kHz, 48kHz, 88kHz and 96kHz simultaneously for all channels.

• The latency of the EASERA Gateway is fixed at +/-1 sample when using the ASIO driver.

• The Gateway can be powered using bus-powered 6-pin FireWire. Typically the external power supply provided will be required when used with a PC notebook.

• Calibration is not required in order to make relative measurements, such as RT, energy measures or frequency responses. When absolute levels are desired, calibrating the hardware will give more precise results. Calibration is recommended in order to be prepared for any measurement type.

2. Switching Sample Rates

• Sample rates can be switched either through the Gateway Control Panel or through EASERA. When changing the sample rate in EASERA, make sure you wait a second or two to allow the driver to initialize properly before you push the “Go” or “Play Test Signal” button.

3. External Gain Controls

• When using the Gateway with EASERA, the calibration status depends on the gain controls. The default configuration provided with the driver setup assumes that the gain controls are positioned for minimum input gain and maximum output gain. Set the controls labelled 1 and 2 to their full counter-clockwise (CCW) position and the Main Level control to its full clockwise (CW) position to use the default calibration settings.

• The default configuration may not be appropriate to use during some measurements. When the settings for the external gains are changed, the input clip voltage and / or the output maximum voltage must be calibrated again in EASERA for the corresponding channel.

• If only rough calibration is needed it may not be necessary to re-calibrate the device in EASERA after every change. As an alternative the individual steps of the gain controls could be measured once, noted in a table and then entered as External Gains in EASERA. Unfortunately, the exact gain depends on whether the control has been turned CW or CCW to get to the desired step.

• If the rotation direction is properly taken into account it is possible to create a gain table that yields an accuracy of about +/- 0.1dB. If directions are not taken into account the values of the gain table may vary from the exact values up to about +/- 1dB.

4. Calibration of Input Clip Voltage and Output Maximum Voltage

• Installing the EASERA Gateway driver also installs default calibration data for EASERA. This includes default values for the input clip voltages and for the output maximum voltages. These voltages correspond to completely closed external input gain controls (fully CCW) and completely open external output gain controls (fully CW). The default values provided are:

Line Outputs -	6.3V
Mic/Inst Inputs -	4V
Line Inputs -	6V

• It is recommended to recalibrate the voltages for each Gateway, as the default settings provided may not match the device properties exactly.

• The default voltage values for the Mic/Inst inputs are calibrated for the Mic (XLR) inputs. If the Instrument (TS) inputs are used the voltages must be recalibrated, because they can be up to about 5dB higher than the voltages for the Mic inputs.

• If complete calibration is needed, all channels of the Gateway should be calibrated. That includes 4 input lines as well as 6 output lines.

• Hint: EASERA distinguishes between DirectSound, Wave and ASIO drivers, including the calibration. However, the Gateway has the same voltage values for all three drivers. If the device has been calibrated with one driver, the values can be copied manually to the other drivers, if necessary.

• Hint: If you have calibrated the Mic (XLR) input and you need to use the Instrument (TS) input, you don’t have to recalibrate the system if you know the dB difference between the two. Just enter the value, such as “-5.6dB” as an External Input Gain in EASERA.

5. Internal Volume Controls

• The calibration data for the internal output volume controls using the DirectSound and Wave driver is the same for all devices. It is provided along with the Gateway driver installer.

• Note that because the DirectSound and Wave drivers can only utilize two channels at a time, each pair of internal output volume controls will have to be calibrated individually, if a recalibration is necessary.

• There are no internal output volume controls using the ASIO driver.

• There are no internal input volume controls using the DirectSound, Wave or ASIO drivers.

6. Input Boost

• The EASERA Gateway control panel allows for enabling an input boost of 12dB. Note that EASERA does not know about this setting, because it is external to the software.

• If you need to switch this setting you will have to recalibrate your input in EASERA. You can either do this by measuring the input clip voltage or by entering “12dB” as an External Input Gain in EASERA.

• Note that the exact value for the Input Boost may vary from channel to channel and from device to device.