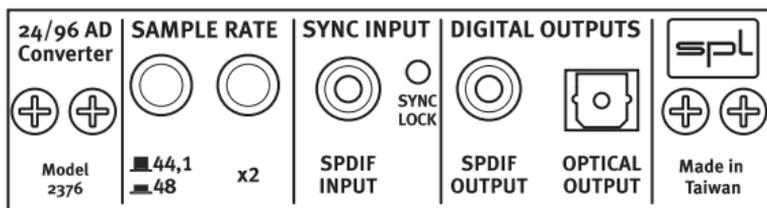




# Owners Manual



## **24/96 AD Converter** Model 2376

Internal stereo AD converter module

Version 1.0 – 6/2003

Designer: Ruben Tilgner

This manual contains a description of the product. It in no way represents a guarantee of particular characteristics or results of use. The information in this document has been carefully compiled and verified and, unless otherwise stated or agreed upon, correctly describes the product at the time of packaging with this document.

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SPL electronics GmbH

Sohlweg 55

41372 Niederkruechten

Germany

Tel. +49 (0)2163 983 40

Fax +49 (0)2163 983 420

Email: [info@soundperformancelab.com](mailto:info@soundperformancelab.com)

[www.soundperformancelab.com](http://www.soundperformancelab.com)

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Safety instructions	4
Product features	4
Packing list	5
Installation – general instructions/adapter plate	5
Installation – step-by-step	6
Connections - inputs and outputs	8
Operation	9
Technical specifications	10
Warranty	11

## Safety instructions

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- Please refer to the safety instructions in the manual of the unit in which you will be installing the converter.
- When installing the converter, carefully follow the instructions beginning on page 5. If you are uncertain, please ask a qualified technician or your SPL dealer for assistance.

## Product features

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The 24/96 AD Converter module is an optional digital output for compatible SPL devices\* with a plug-and-play design for easy installation. It offers an S/P-DIF output with both coaxial and optical connectors in parallel.

The heart of the module is a 24-bit converter by AKM® with a variable sample rate of up to 96 kHz. The sample rate can be switched between 44.1, 48, 88.2 and 96 kHz. Highly accurate quartz oscillators ensure a clean, low-jitter master clock.

The converter can be synced to other digital devices via the SYNC input. If a valid signal is present, the converter automatically conforms to the sample rate received at the SYNC input. A yellow LED illuminates to display a valid sync signal. The internal oscillators are automatically disabled when an external clock signal is present to prevent interference.

An extremely effective voltage stabilizing circuit ensures that the converter continuously receives sufficient and stable voltage – an important prerequisite for clean, transparent audio.

The compact design of the input stage guarantees the shortest possible signal path to the converter. Oversized grounding surfaces on both sides of the circuit board effectively reduce interference and ensure optimal separation between analog and digital components.

*\* Currently Track One Model 2058, Channel One Model 9945, GainStation 1 Model 2272, Kultube Model 2049*

- 24/96 AD Converter Module
- Two each M3 screws, nuts and washers
- Adapter plate
- Manual

### General instructions/adapter plate

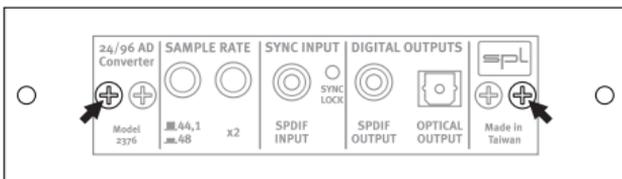
### Installation

The SPL AD Converter Module Model 2376 (falsch in deutschem Text) is designed strictly as an option for compatible SPL devices. If you are not a technician or do not have sufficient experience with electronic repairs or modifications, we highly recommend that you ask a technician or your SPL dealer for assistance.

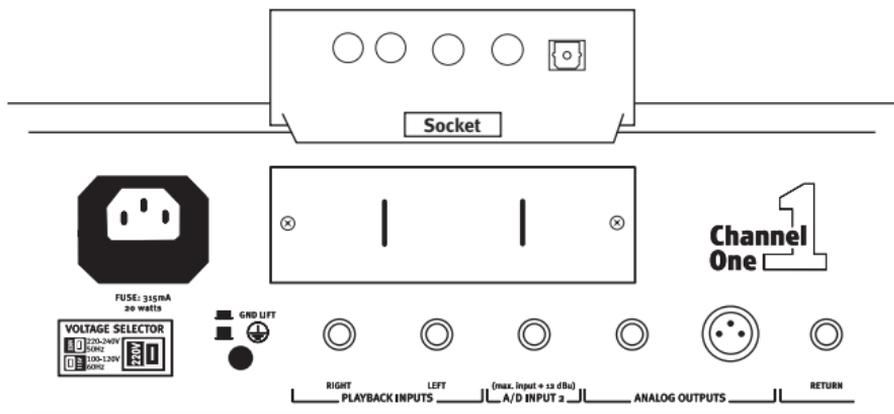
- Before installing the module, discharge any static electricity by deactivating the ground lift switch on the rear panel of the respective SPL device and touching the unit's casing.
- Disconnect the power cable as well as any other cables from the SPL unit.
- Handle the converter module with care, avoiding contact with the components. Hold the module by the panel or the edges of the circuit board only. Do not use force or exert excess pressure when connecting the module to the device.

### Adapter plate

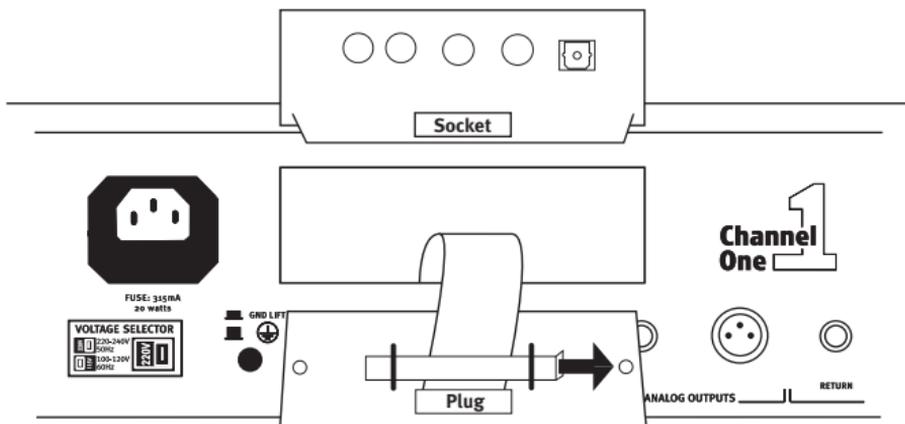
Most converter-ready SPL devices are designed to accept one of two various converter modules. The 2376 is the smaller of the two, so that in most cases it must be attached to the adapter plate using the included M3 screws, washers and nuts before it can be mounted in the rear-panel option slot on the SPL device.



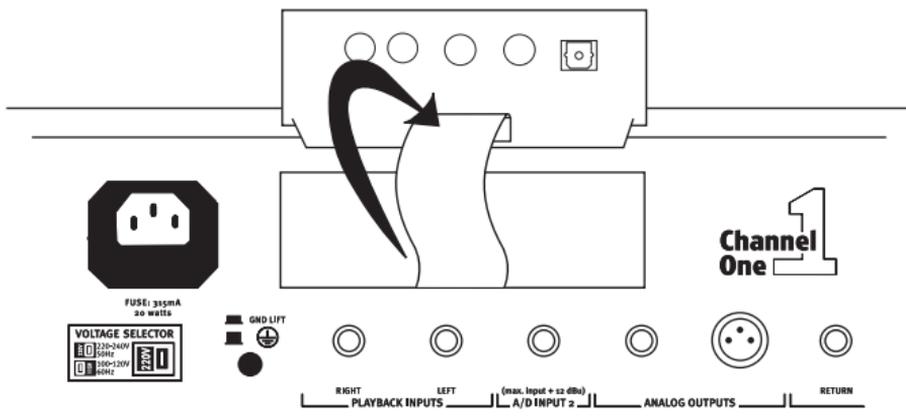
**Step 1:** Lay the converter module on the top of the device as illustrated. Loosen the screws and remove the cover of the option slot on the device's rear panel.



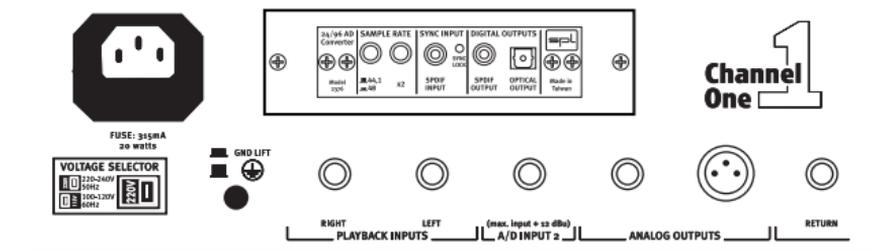
**Step 2:** Remove the strap holding the cable from the inside of the option slot cover. You may have to (carefully) cut through the drop of silicone.



**Step 3:** Carefully and without twisting it, plug the cable from the device into the slot on the converter module. The plug only fits one way into the slot.



**Step 4:** Without turning it, insert the module into the device (circuit board up) and fasten it using the screws from the option slot cover. Congratulations! Your new converter module is now ready for operation.



**Input: SYNC INPUT**

The SYNC input allows you to feed an external signal into the converter to control the sample rate. Connect an S/P-DIF output from your master source (e.g. sound card) to the SYNC input. The 2376 is not equipped to accept Word Clock for synchronization.

The yellow SYNC LOCK LED illuminates when a valid sync signal is present at the SYNC input, and the converter is automatically synchronized to the external sample rate.

The internal oscillators are automatically disabled when an external clock signal is present to prevent interference. If the sync signal is no longer present (e.g. in the case of a dropout), the converter automatically reverts to the sample rate selected via the buttons (see page 9).

**Additional input with single-channel devices**

If the 24/96 AD Converter is installed in a single-channel SPL device such as the GainStation 1, Channel One or Track One, the second channel of the stereo converter can be used via the additional analog AD converter input on the device's rear panel. This allows you to „daisy-chain“ two preamps or channel strips through one converter, or route any other single-channel analog signal to the converter's second channel. For additional information please see the manual for the SPL device you are upgrading.

**Double S/P-DIF output: RCA and optical**

The converted signal is routed in parallel to the RCA and optical outputs. The digital signal is transferred in professional S/P-DIF format without sample rate data in the status block.

We recommend that you check the documentation on your receiving device to ensure that it can process the professional S/P-DIF format (some devices only accept consumer format). If your receiving device does not identify the sample rate, it most likely needs the status-block data and does not automatically recognize the incoming sample rate.

**Sample rate selection**

The 24/96 AD converter module allows you to select between the four most common sample rates: 44.1, 48, 88.2 and 96 kHz.

Using the 44.1/48 button, select one of the two basic sample rates (out: 44.1 kHz; in: 48 kHz). The x2 button doubles these sample rates to select 88.2 or 96 kHz respectively.

## Technical specifications

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Sample rates:	44.1, 48, 88.2, 96 kHz
Dynamic range:	104 dB (A-weighted)
THD+N (@-1 dBFS/1 kHz):	95 dB
Frequency response (48 kHz):	10 Hz-22kHz, $\pm 0.2$ dB
Jitter (average; 700 Hz-100 kHz):	↔ 300 ps
Power consumption +15 V:	max. 94 mA
Power consumption -15 V:	max. 5 mA
Dimensions (W x H x D):	100 x 27 x 76 mm (3.94 x 1.06 x 3 in.)
Weight:	74 g (2.6 oz.)

SPL products are manufactured using carefully selected components and materials and state-of-the-art production technology. Every SPL product is thorough inspected and tested before leaving the factory, including acoustic and electronic testing.

SPL warrants the SPL 24/96 AD Converter Model 2376 to be free of defects in materials or workmanship for a period of 24 months after the date of purchase. Should any trouble caused by defects in materials or workmanship develop during this period, SPL will repair or, at our option, replace the product at no charge. Should SPL choose to replace the product, we reserve the right to replace it with a newer model.

In order to validate your warranty, you must either return the enclosed warranty registration card, completely filled out, to SPL, or register your product online within 14 days of purchase. You may register your product online at [www.soundperformancelab.com](http://www.soundperformancelab.com) or, in the USA or Canada at [www.spl-usa.com](http://www.spl-usa.com).

The warranty period begins on the date of purchase. The warranty is non-transferable. Repairs or replacements do not extend the warranty period.

This warranty does not apply if:

- the product was not purchased from an authorized SPL dealer
- repairs are required due to normal wear and tear
- the product has been abused, misused or improperly maintained, or if repairs or alterations have been made or attempted by any other than authorized SPL service personnel
- the serial number has been removed or defaced

In no event shall SPL be liable for any indirect, incidental or consequential damages from the sale or use of this product, either during or after the warranty period.

SPL disclaims liability for any implied warranties, including implied warranties of merchantability and/or fitness for a specific purpose, after the warranty period.

This warranty gives you specific legal rights. You may have other rights, which vary from country to country and state to state. Some of the above limitations may not apply to you.

SPL electronics GmbH

41372 Niederkruechten, Germany

