Focusrite AMS-ISA-2CH-A-D-CARD

Focusrite ISA 2Channel A/D Option 192kHz ADC Microphone Preamp User Manual

Model: AMS-ISA-2CH-A-D-CARD

1. Introduction

The Focusrite ISA Stereo ADC represents a pinnacle in analog-to-digital conversion technology, seamlessly integrated within Focusrite's renowned circuitry. This 2-channel analog to digital converter card is specifically engineered for compatibility with Focusrite's ISA One and ISA 430 MKII microphone preamps. It delivers two channels of exceptional 24-bit conversion quality across all sample rates, up to an impressive 192 kHz. The card supports various digital output formats including 2-channel single/dual wire AES/EBU or 2-channel S/PDIF via a 9-pin D-type connector, as well as optical S/PDIF and ADAT. The ADAT (TO Slink) port operates in stereo at 24-bit, up to 96 kHz. This card is standard with the ISA One Digital and can be retrofitted to an ISA 430 MKII or an ISA One at any time, offering flexible integration into existing setups.

2. Key Features

- **2-Channel Analog to Digital Conversion:** Designed for use with Focusrite's ISA One or ISA 430 MKII microphone preamps.
- **Versatile Digital Outputs:** Includes AES/EBU, S/PDIF, Optical S/PDIF, and ADAT outputs.
- **High-Resolution Audio:** Supports 24-bit conversion at sample rates up to 192 kHz.
- **Flexible Integration:** Can be retrofitted to ISA 430 MKII or ISA One units.
- **Stereo ADAT Operation:** The ADAT (TO Slink) port functions in stereo at 24-bit, up to 96 kHz.
- **Master/Slave Configuration:** Two ISA 430s can utilize a single A/D converter, with one acting as master and the other as slave.

3. Setup and Installation

The ISA 2Channel A/D Option card is designed for straightforward installation into compatible Focusrite ISA units. Ensure the host unit is powered off and disconnected from all power sources before beginning installation.

3.1 Compatibility

This A/D converter card is compatible with the following Focusrite products:

- Focusrite ISA One (requires retrofitting)
- Focusrite ISA 430 MKII (requires retrofitting)
- Focusrite ISA One Digital (comes standard with this card)

3.2 Physical Installation (Retrofitting)

For ISA One or ISA 430 MKII units, the card can be retrofitted. Refer to the specific host unit's manual for detailed instructions on accessing the internal card slot. Typically, this involves:

1. Power off and unplug the host ISA unit.
2. Carefully open the chassis of the host unit as per its manual.
3. Locate the designated slot for the A/D option card.
4. Gently insert the ISA 2Channel A/D Option card into the slot, ensuring proper alignment with the internal connector.
5. Secure the card using any provided screws or retention mechanisms.
6. Close the chassis and secure it.

Figure 1: Focusrite ISA 2Channel A/D Option card showing the main circuit board, ribbon cable connector, and the rear panel with BNC (Word Clock), ADAT, S/PDIF, AES/EBU (D-type), and 2-wire/1-wire switches.

3.3 Connecting Digital Outputs

Once installed, connect the digital outputs to your desired recording interface or digital mixer. The card offers multiple output options:

- **AES/EBU:** Use a 9-pin D-type connector for 2-channel single or dual wire AES/EBU output.
- **S/PDIF:** Connect via the dedicated S/PDIF port.
- **Optical S/PDIF / ADAT:** Use the optical port for either optical S/PDIF or ADAT (TO Slink) connections. Note that ADAT operates in stereo at up to 96 kHz.
- **Word Clock:** Utilize the BNC connectors for external word clock synchronization if required.

4. Operation

The ISA 2Channel A/D Option card provides high-quality analog-to-digital conversion for your audio signals. Its operation is largely integrated with the host ISA preamp unit.

4.1 Sample Rate and Bit Depth

The card supports 24-bit conversion at all standard sample rates up to 192 kHz. The specific sample rate will typically be set on your digital audio workstation (DAW) or the receiving digital device, and the ISA unit will synchronize accordingly.

4.2 Using with ISA 430 MKII

When installed in an ISA 430 MKII, the A/D card allows the unit to function as a high-quality mono/stereo tracking converter or as a stereo converter during mixdown. The ISA 430's optional A/D is stereo and can accept inputs from both internal post-processing and external sources simultaneously.

4.3 Master/Slave Configuration (Two ISA 430s)

For advanced setups, two ISA 430 units can share a single A/D converter. In this configuration, one ISA 430 acts as the master unit, providing the clock and conversion, while the other acts as the slave. Refer to the ISA 430 MKII manual for detailed instructions on setting up this master/slave relationship and ensuring proper clock synchronization.

5. Maintenance

The Focusrite ISA 2Channel A/D Option card is a robust electronic component designed for long-term reliability. Minimal maintenance is required to ensure optimal performance.

- **Cleaning:** Periodically, gently wipe the exterior of the host unit with a soft, dry, lint-free cloth. Do not use liquid cleaners or solvents.
- **Environment:** Operate and store the unit in a clean, dry environment, away from direct sunlight, excessive heat, humidity, and dust.
- **Ventilation:** Ensure the host unit has adequate ventilation to prevent overheating.
- **Handling:** When handling the card during installation or removal, always observe proper anti-static precautions to prevent damage to sensitive electronic components.

6. Troubleshooting

If you encounter issues with your ISA 2Channel A/D Option card, consider the following common troubleshooting steps:

- **No Digital Output:**
  - Verify that the card is correctly seated in its slot within the host ISA unit.
  - Check all digital cable connections (AES/EBU, S/PDIF, ADAT) for secure fit.
  - Ensure the host ISA unit is powered on and functioning correctly.
  - Confirm that the receiving digital device (e.g., audio interface, DAW) is configured to accept input from the correct digital format and clock source.
- **Audio Dropouts or Clocking Issues:**
  - Ensure proper clock synchronization between the ISA unit (with the A/D card) and your digital audio system. Use Word Clock if necessary.
  - Verify that all devices in the digital audio chain are set to the same sample rate.
  - Check cable integrity, especially for longer digital runs.
- **Incorrect Sample Rate/Bit Depth:**
  - Confirm the sample rate and bit depth settings on your DAW or receiving device. The card will operate at the highest quality supported by the host and receiving device.
- **Card Not Recognized:**
  - Re-seat the card firmly in its slot.
  - Ensure the host ISA unit's firmware is up to date, if applicable.

If problems persist after attempting these steps, please contact Focusrite customer support for further assistance.

7. Specifications

Model Number	AMS-ISA-2CH-A-D-CARD

Conversion Type	2-channel Analog to Digital
Bit Depth	24-bit
Max Sample Rate	192 kHz
Digital Outputs	AES/EBU (9-pin D-type, single/dual wire), S/PDIF, Optical S/PDIF, ADAT (TO Slink)
ADAT Sample Rate	Up to 96 kHz (stereo)
Compatibility	Focusrite ISA One, ISA 430 MKII, ISA One Digital
Item Weight	14.4 ounces (approx. 0.41 kg)
Product Dimensions	11.8 x 9.84 x 0.7 inches (approx. 30 x 25 x 1.8 cm)
Date First Available	July 16, 2004

8. Warranty and Support

8.1 Warranty Information

Focusrite offers a **3-Year Warranty** on this product and all other Focusrite products. This warranty covers defects in materials and workmanship under normal use. Please retain your proof of purchase for warranty claims. For full terms and conditions of the warranty, please visit the official Focusrite website or contact their customer support.

8.2 Customer Support

For technical assistance, troubleshooting, or warranty inquiries, please contact Focusrite customer support through their official website. You can typically find support resources, FAQs, and contact information at focusrite.com/support.