

A-D expansion cards with Dante® for the ISA One
ISA 428 MkII and ISA 828 MkII Mic Preamps

Installation and User Guide

FFFA002302-01

This installation guide provides instructions on how to install the card into your ISA One, ISA 428 MkII or ISA 828 MkII mic preamp, and how to configure the card using the RedNet Control software application.

NOTE: Fitting should only be carried out by someone competent to do so; if in doubt, please refer to qualified service personnel.

A video guide showing the card installation can be found here: pro.focusrite.com/help-centre

Should either User Guide not provide the information you need, be sure to consult: <https://pro.focusrite.com/technical-support>, which contains a comprehensive collection of common technical support queries.

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Safety Warning

The unit must be switched off AND the IEC power lead disconnected from the mains inlet on the rear panel BEFORE carrying out the installation.



Caution

The unit should be removed from any rack enclosure and placed on a clear, flat surface.

Allow the unit to cool before removing the top cover.

Anti-static precautions should be taken when handling the card once removed from its anti-static bag. Only handle the card by gripping its edges and avoid touching any component parts other than the cable or connector.

Box Contents

- ISA ADN2[8] card
- 3 x M3 screws
- Safety information cut sheet
- Focusrite Pro Important Information Guide, which provides links to:
 - RedNet Control
 - RedNet PCIe drivers (included with RedNet Control download)
 - Audinate Dante Controller (installed with RedNet Control)
 - Dante Virtual Soundcard (DVS) Token and download instructions

Tools required

- Pozidrive No.1 (Standard ANSI Type 1A) screwdriver

Tip: Have a cup or lid available to contain the top cover fixing screws as they are removed.

Installation – ISA One Unit



CONFIRM THAT THE MAINS POWER LEAD IS REMOVED FROM THE REAR OF THE UNIT

Remove the Top Cover

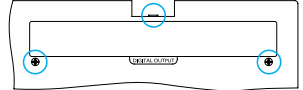
Remove the 10 pozi screws fixing the top cover to the top and sides of the unit.



If the cover is attached to the main unit with a chassis earth strap, this must not be disconnected.

Remove the Blank on the Rear Panel

Undo the 3 crosshead screws (circled) and remove the blanking plate. Retain the screws as they will be used to secure the digital card onto the rear panel.



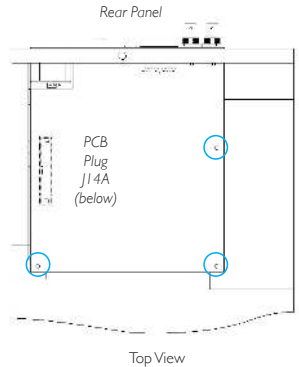
The blanking plate can be discarded.

Install the ADN2 Card

Position the card into the unit so that its ribbon cable points towards the PCB plug J14A below the card.

Align the three mounting holes in the card (circled) with the holes in the brackets below and loosely fit the screws supplied with the kit.

Refit the screws retained from the blanking plate into the rear of the card and then fully tighten all screws.



Connect the Ribbon Cable

The PCB mounted ribbon plug is fitted with two mating latches. With the latches fully apart, the A-D connector should be pressed firmly down in place until the latches click closed.

Note. The cable connector is fitted with an orientation tab that must align with the corresponding notch in the PCB Plug. If these are not properly aligned the connectors will not mate.

Replace the Top Cover

Refit the 10 pozi screws taking care not to pinch the earth safety strap against the A-D card.

Initialise the ISA One Unit with A-D Installed

The ISA One will need to be initialised to recognise the addition of the A-D card.

Switch on power to the unit whilst holding down any of the front panel switches. Once the front panel illuminates, the switch can be released – the digital card will now be active.

This is a one-time action and the unit will continue to recognise the presence of the A-D card.

Installation – ISA 428/828 MkII Units



CONFIRM THAT THE MAINS POWER LEAD IS REMOVED FROM THE REAR OF THE UNIT

Remove the Top Cover

Remove the 11 Pozzi screws fixing the top cover to the top and sides of the unit.

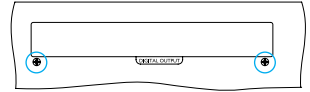


If the cover is attached to the chassis with an earth strap, this should not be removed.

Remove the Blank on the Rear Panel

Undo the 2 crosshead screws (circled) and remove the blanking plate. *Retain these screws as they will be used to secure the digital card onto the rear panel.*

The blanking plate can be discarded.



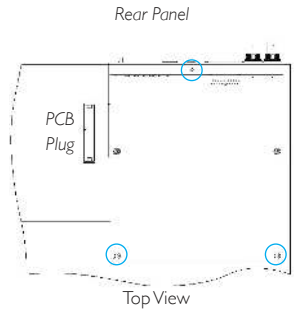
Install the ADN8 Card

Position the card into the unit so that its ribbon cable points towards the PCB plug: J42/J47 (ISA 428/828 MkII).

Align the two mounting holes at the rear of the card with the holes in the brackets below and loosely fit two of the screws supplied with the kit.

Refit the screws retained from the blanking plate through into the rear of the card and then fully tighten all screws.

The 3rd screw supplied with the kit will be installed through the top cover.



Connect the Ribbon Cable

The PCB mounted ribbon plug is fitted with two mating latches. With the latches fully apart, the A-D connector should be pressed firmly down in place until the latches click closed.

Note. The cable connector is fitted with an orientation tab that must align with the corresponding notch in the PCB Plug. If these are not properly aligned the connectors will not mate.

Replace the Top Cover

Refit the 11 Pozzi screws taking care not to pinch the safety earth strap against the A-D card. Install the screw through the top cover.

Initialise the ISA 428/828 MkII Unit with A-D Installed

The ISA 428/828 MkII unit will need to be initialised to recognise the addition of the A-D card.

Switch on power to the unit whilst holding down any of the front panel switches. Once the front panel illuminates, the switch can be released – the digital card will now be active.

This is a one-time action and the unit will continue to recognise the presence of the A-D card.

REDNET CONTROL 2

RedNet Control 2 is Focusrite’s customisable software application for controlling and configuring Red, RedNet and ISA interfaces. A graphical interface for each device shows: control and function settings, signal meters, signal routing and mixing.

After installation of the ADN interface card, audio from your ISA preamp can be added to a Dante network.

First Use and Firmware Updates

Your ADN card may require a firmware update* when it is first installed and switched on. Firmware updates are initiated and handled automatically by the RedNet Control application.

**It is important that the firmware update procedure is not interrupted – either by switching off power to the ISA preamp or the computer on which RedNet Control is running, or by disconnecting either from the network.*

From time to time Focusrite will release RedNet firmware updates within new versions of RedNet Control. We recommend keeping all Focusrite Pro units up to date with the latest firmware version supplied with each new version of RedNet Control.

ISA ADN2/8 GUI

The device windows for the ADN interface cards are shown below:



ADN2 Graphical Interface



ADN8 Graphical Interface

Each display shows the audio level for each channel. At full scale, 0 dBFS is indicated by a red bargraph segment on each level meter.

Status Icons

Status icons for the network are shown at the left edge of the device window:



- Networks – Each illuminates if a valid connection is present
- Locked – Unit is successfully locked to the network (changes to the red cross if not locked)
- Network Master – Illuminates if a unit is the network master

ID (Identification)

Clicking on the ID icon  will identify the device being controlled by flashing its front panel ‘Lock’ LED.

RedNet Control – Tools Menu

Clicking on the Tools icon  will open the System Settings window.

The A-D card's hardware and firmware details, as well as the current network and sync settings, are displayed in the left pane of the window:

Information

Name

ISA-2Ch-050433

Model

ISA 2-Channel ADC

Firmware

2.14.1458

Primary IP

169.254.11.57

Primary MAC

00:1D:C1:0B:5C:58

Secondary IP

0.0.0.0

Secondary MAC

00:00:00:00:00:00

Status

Primary Network

Secondary Network

Network Locked

Clock

Sample Rate

48kHz

Pull Up/Pull Down

None

Sync

Slave

Source

Internal

Preferred Master

Enable

☐

ISA Clock Source

Internal

Word Clock Input

☒

☐

Word Clock Input Termination

Enable

☒

Word Clock Output

Network

Network (Base Rate)

☒

☐

Manual Firmware Upgrade

Close

Preferred Master – The ADN2/8 A-D card will automatically lock to a valid Network Grand Master via its Dante connection. Alternatively, Preferred Master can be enabled so that it becomes the Network Grand Master.

If more than one device has the Preferred Master option set, then the device with the lowest MAC address will be chosen as Grand Master.

ISA Clock Source – Select either:

- Internal – Set via the front panel Clock Select switch
- Word Clock Input

Also see Note 1 on page 6.

Word Clock Input Termination – Terminates word clock input BNC with 75Ω.

Termination should be enabled if the ADN card is the last device in the Word Clock chain.

Word Clock Output – Select either:

- Network – Output matches the network rate
- Network (Base Rate) – 44.1kHz or 48kHz, dependant on whichever multiple has been selected

NOTES

1. External Clock Input – Unit Differences

The way in which ISA One, Two and 428 MkII units respond to an external clock selection will vary slightly depending on the unit's revision.

On earlier units, the EXT clock input options will include a **256X** setting rather than the **Dante Clock** setting on the later units.

All ISA 828 MkII units will be of the 'Dante Clock' version.

Front Panels Marked 256X

The front panel EXT LED indicators only follow the rate selected if the change is made using the front panel switch. If a change to the external clock is made over the network, the front panel LED won't update, and the LOCK LED will start flashing.

Note that the unit will still operate correctly – it will still follow the RNC2 or the front panel switch selection – but it won't update the front panel indication.

When a change is made from the front panel, the unit will always toggle to whichever would be the next selection. For example: if the front panel is set to 48k, and the setting is changed to 44.1k via RNC2, 88.2k will still be the next sample rate selected by pressing the button on the front panel. This behaviour is the same for the sync source.

Front Panels Marked Dante Clock

On newer units the EXT LEDs will always indicate the correct setting whether changes are made from the front panel or via the network.

2. Asynchronous Clock Inputs

On ISA ADN2 and ADN8, If an external Word Clock, which is asynchronous to the Grand Master, is used whilst there is a Dante Network attached, there will be audio glitches on outputs. This can be resolved by disconnecting the network, or by placing the ISA ADN2/ADN8 on a different network/subnet.

PERFORMANCE AND SPECIFICATIONS

Digital Performance	
Supported sample rates	44.1 / 48 / 88.2 / 96 / 176.4 / 192 kHz [-4% / -0.1% / +0.1% / +4.167%] at 24 bit
Clock Sources	Internal or from Word Clock

Connectivity	
Dante	
Primary & Secondary	Ethernet standard RJ45 connectors (Compatible with Cat 5e and above).
AES3	
Channel Count	2 x AES3 Channels (ADN2) 8 x AES3 Channels (ADN8)
Output	1 x XLR-3 male (ADN2) 1 x DB25 female; AES59 Combined I/O / Tascam Digital (ADN8)
0 dBFS reference level	22 dBu
Frequency response	20 Hz – 20 kHz ± 0.1 dB
THD+N	-105 dB [0.0006%] unweighted, 20 Hz – 20 kHz; -1 dBFS input
Dynamic range	121 dB 'A'-weighted (typical), 20 Hz – 20 kHz
ADAT	
Channel count / Output	2 x ADAT Channels (ADN2) 8 x ADAT Channels (ADN8)
Output	1 x TOSLINK connector (ADN2) 2 x TOSLINK connectors (ADN8)
Channel assignments: (ADN2): 44.1 / 48 kHz 88.2 / 96 kHz 176.4 / 192 kHz (ADN8): 44.1 / 48 kHz 88.2 / 96 kHz 176.4 / 192 kHz	Port 1: Channels 1–2 SMUXI: Port 1: Channels 1–2 SMUXII: Port 1: Channels 1–2 Port 1: Channels 1–8 , Port 2: Channels 1–8 SMUXI: Port 1: Channels 1–4, Port 2: Channels 5–8 SMUXII: Port 1: Channels 1–2 , Port 2: Channels 3–4
S/PDIF (ADN2 Only)	
Channel count / Output	2 x S/PDIF channels / 1 x RCA phono socket
Frequency response	20 Hz – 20 kHz ± 0.1 dB
THD+N	-105 dB [0.0006%] unweighted, 20 Hz – 20 kHz; -1 dBFS input
Dynamic range	121 dB 'A'-weighted (typical), 20 Hz – 20 kHz
Word Clock	
Input	1 x BNC 75Ω port
Output	1 x BNC 75Ω port

Focusrite Pro Warranty and Service

All Focusrite products are built to the highest standards and should provide reliable performance for many years, subject to reasonable care, use, transportation and storage.

Many of the products returned under warranty are found not to exhibit any fault at all. To avoid unnecessary inconvenience to you in terms of returning the product please contact Focusrite support.

In the event of a Manufacturing Defect becoming evident in a product within 3 years from the date of the original purchase, Focusrite will ensure that the product is repaired or replaced free of charge.

A Manufacturing Defect is defined as a defect in the performance of the product as described and published by Focusrite. A Manufacturing Defect does not include damage caused by post-purchase transportation, storage or careless handling, nor damage caused by misuse.

Whilst this warranty is provided by Focusrite the warranty obligations are fulfilled by the distributor responsible for the country in which you purchased the product.

In the event that you need to contact the distributor regarding a warranty issue, or an out-of-warranty chargeable repair, please visit: www.focusrite.com/distributors

The distributor will then advise you of the appropriate procedure for resolving the warranty issue. In every case it will be necessary to provide a copy of the original invoice or store receipt to the distributor. In the event that you are unable to provide proof of purchase directly then you should contact the reseller from whom you purchased the product and attempt to obtain proof of purchase from them.

Please do note that if you purchase a Focusrite product outside your country of residence or business you will not be entitled to ask your local Focusrite distributor to honour this limited warranty, although you may request an out-of-warranty chargeable repair.

This limited warranty is offered solely to products purchased from an Authorised Focusrite Reseller (defined as a reseller which has purchased the product directly from Focusrite Audio Engineering Limited in the UK, or one of its Authorised Distributors outside the UK). This Warranty is in addition to your statutory rights in the country of purchase.

Registering Your Product

For access to Dante Virtual Soundcard, please register your product at: www.focusrite.com/register

Customer Support and Unit Servicing

You can contact our dedicated RedNet Customer Support team free of charge:

Email: proaudiosupport@focusrite.com

Phone (UK): +44 (0)1494 836384

Phone (USA): +1 (310) 450-8494

Troubleshooting

If you are experiencing problems with your ISA ADN2/8, we recommend that in the first instance you visit our Support Answerbase at: www.focusrite.com/answerbase