

# ISA 428/828 Digital Option Installation

## ISA 428/828 Digital Output Kit

The kit should contain: -

Qty	Description
1	ISA 428/828 Analogue to Digital converter card
4	Crosshead screws
4	M3 Shakeproof washers
1	Heatsink (ISA 428)

Tools required: -

No. 1 crosshead screwdriver, Pozidriv preferred.

### WARNING!

**THE MODULE SHOULD BE DISCONNECTED FROM THE AC POWER BEFORE ATTEMPTING TO CARRY OUT THE FOLLOWING INSTRUCTIONS.**

**ALLOW THE MODULE TO COOL BEFORE STARTING INSTALLATION OF THE DIGITAL OPTION.**

**ANTI-STATIC PRECAUTIONS SHOULD BE TAKEN WHEN HANDLING THE CARD OUTSIDE OF ITS ANTI-STATIC BAG; ONLY HANDLE THE CARD BY GRIPPING THE CARD BY ITS EDGES AND AVOID TOUCHING ANY OF THE COMPONENT PARTS OTHER THAN THE CABLE AND CONNECTORS. PLACE THE UNIT ON A CLEAN, FLAT SURFACE.**

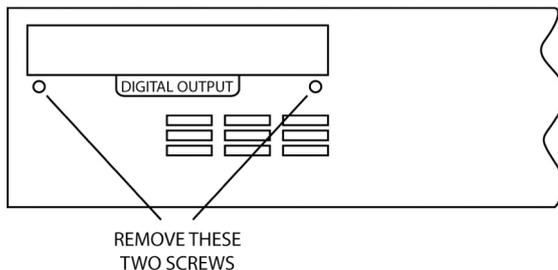
### Removing the Top Cover

Remove the 11 crosshead screws fixing the top cover to the top and sides of the ISA 428/828 unit. N.B. The cover is attached to the main unit via a chassis earth cable. This must not be disconnected.

### Removing the Digital Option Cover on the Rear Panel

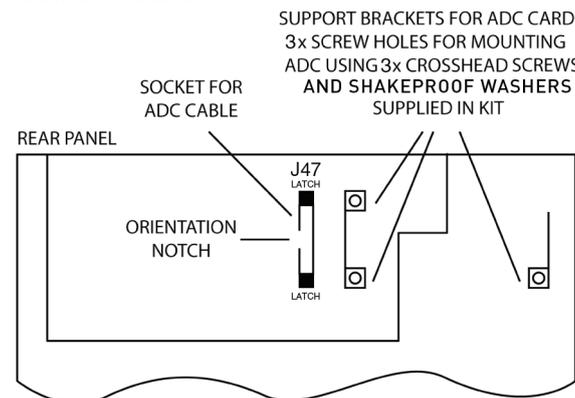
The rear panel digital connector area is accessed by removing the rear cover plate next to the "DIGITAL OUTPUT" labelling. The plate is removed by removing the two crosshead screws shown below. Retain these screws for securing the digital card in place later.

REAR PANEL



### Installing the Digital Option into the ISA 828

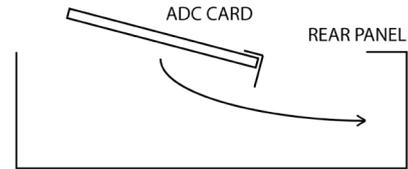
The digital card is mounted in place using 3 of the 4 supplied crosshead screws and the two support brackets that are already installed in the unit.



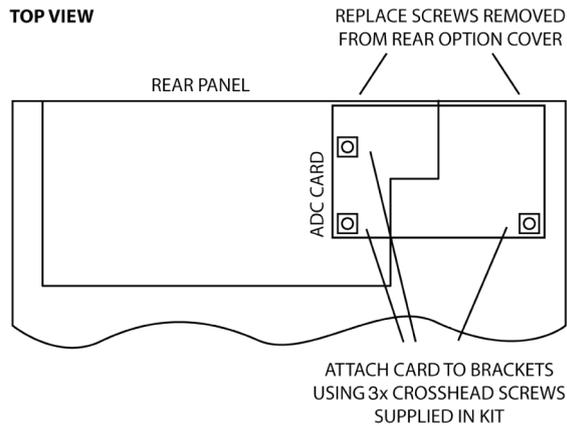
### Fitting the Card into the ISA 828

Place card into unit with the cable pointing toward socket J47. Rest the ADC on the brackets so that the 3 relevant ADC holes line up with the 3 bracket holes. There are 4 holes on the card but 1 is not used. Screw card into place using 3 crosshead screws and shakeproof washers and the two screws retained from the rear option cover.

SIDE VIEW



TOP VIEW

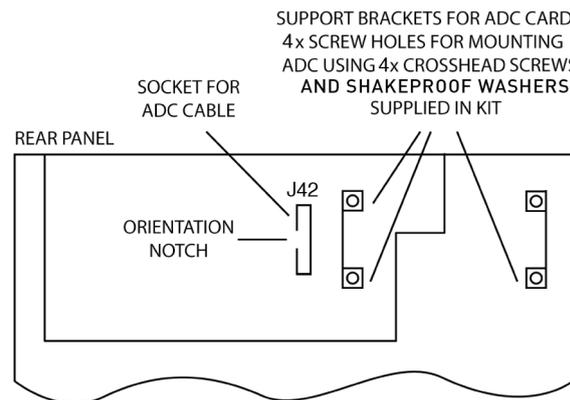


Once the card has been secured in place, the digital card ribbon cable can be connected to the adjacent socket, labelled J47. With the latches open, the connector should be pressed firmly down in place until the latches close to ensure good contact.

N.B. The cable has an orientation tab that should align with the orientation notch in the socket. If this is not correctly aligned the cable will not fit correctly – do not force it!

### Installing the Digital Option into the ISA 428

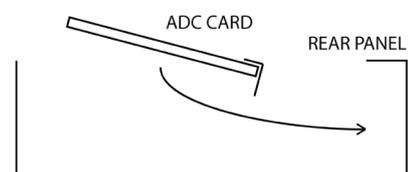
The digital card is mounted in place using the 4 supplied crosshead screws and the two support brackets that are already installed in the unit.

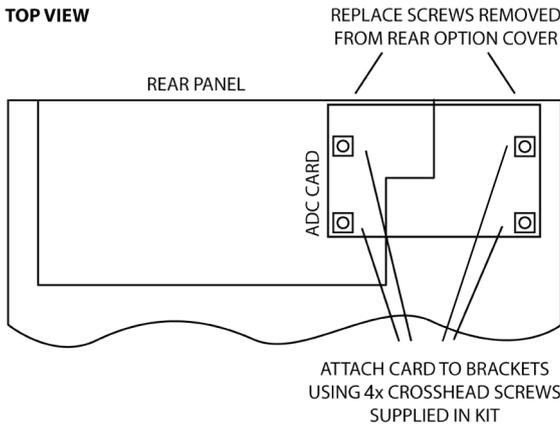


### Fitting the Card into the ISA 428

Place card into unit with the cable pointing toward socket J42. Rest the ADC on the brackets so that the 4 ADC holes line up with the 4 bracket holes. Screw card into place using 4 crosshead screws and shakeproof washers and the two screws retained from the rear option cover.

SIDE VIEW



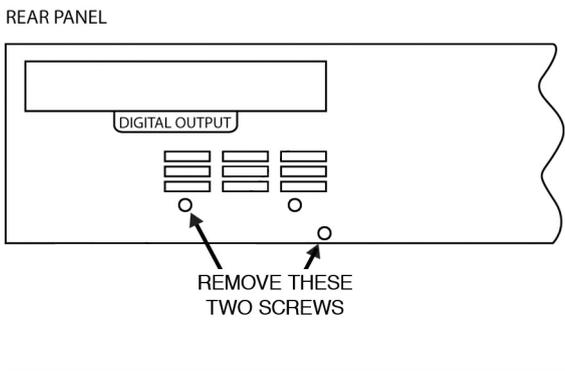


The cable can be connected to the adjacent socket, labelled J42. The connector should be pressed firmly down in place to ensure good contact.

N.B. The cable has an orientation tab that should align with the orientation notch in the socket. If this is not correctly aligned the cable will not fit correctly – do not force it!

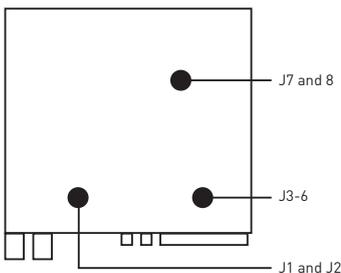
### Fitting the Heatsink onto the ISA 428

Remove the two screws shown below and use them to attach the heatsink to the rear panel.



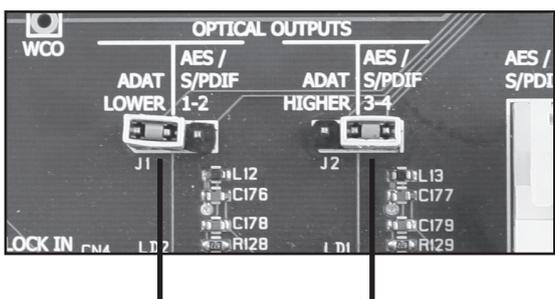
### ADC Jumpers Guide

#### ADC Jumper positions diagram



There are 8 Jumpers on the ADC that change the settings of the various digital output streams. Here is a guide to each one:

**J1 and J2:** change the data format of optical outputs 1 and 2, respectively.



Jumper 1 link in left position      Jumper 2 link in right position

### Replacing the Top Cover on the ISA 428/828

The top cover should now be replaced using the 11 crosshead screws to secure firmly to the chassis. **ON THE ISA 828, DO NOT SLIDE THE LID INTO PLACE BUT LOWER GENTLY TO ENSURE THE EARTH CABLE SCREW (ATTACHED TO THE LID) DOES NOT DAMAGE THE ADC.**

The installation is now complete and the unit can be reconnected to the AC power.

### Initialising the ISA 428/828 Unit with ADC Fitted

The ISA 428/828 recognises the installation of the digital card by switching on the power to the unit while holding down any of the front panel switches. Once the front panel is illuminated, release the front panel switch. The digital card will now be active.

This is a one-time action – once initialised, the unit will recognise the presence of the ADC each time the unit is powered up.

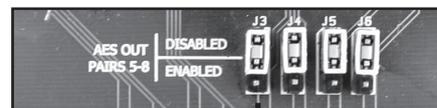
Please refer to the relevant User Guide for digital card operation.

#### Notes

- When syncing to an external clock the sampling frequency should be set to match between the two pieces of equipment.
- If you experience any difficulties installing this digital option please refer to the Focusrite answerbase @ [www.focusrite.com/answerbase](http://www.focusrite.com/answerbase)

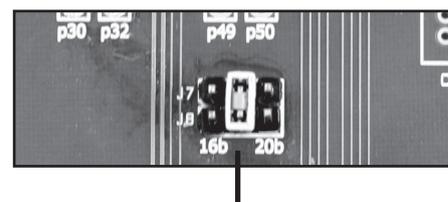
	J1 (optical output 1)	J2 (optical output 2)
Left position (Default)	Channels 1-8 in ADAT lightpipe (44.1/48kHz) OR Channels 1-4 in ADAT lightpipe SMUXII (88.2/96kHz) OR Channels 1/2 in ADAT lightpipe SMUXIV (176.4kHz, 192kHz)	Channels 1-8 in ADAT lightpipe (44.1/48kHz) OR Channels 5-8 in ADAT lightpipe SMUXII (88.2/96kHz) OR Channels 3/4 in ADAT lightpipe SMUXIV (176.4kHz, 192kHz)
Right position	Copy of data transmitted by AES Output 1	Copy of data transmitted by AES Output 2

**J3-6:** enable or disable AES Outputs 5-8, respectively, to allow compatibility with Digidesign 96/192 interfaces. (This is detailed more thoroughly in Appendix 2 of the main User Guide.) Set the jumper links in the lower position to enable the outputs and the upper position to disable them, e.g. setting J4 in the upper position disables AES Output 6.



Jumpers 3-6 links in upper (default) position (AES outputs 5-8 disabled)

**J7 and 8:** change the audio word length. Note that the single jumper link straddles J7 and J8 (creating 3 possible positions):



Jumpers 7/8 link in middle (default) position

Jumper link in left (16b) position: audio word length is forced to 16-bits  
 Jumper link in middle position: audio word length is forced to 24-bits  
 Jumper link in right (20b) position: audio word length is forced to 20-bits