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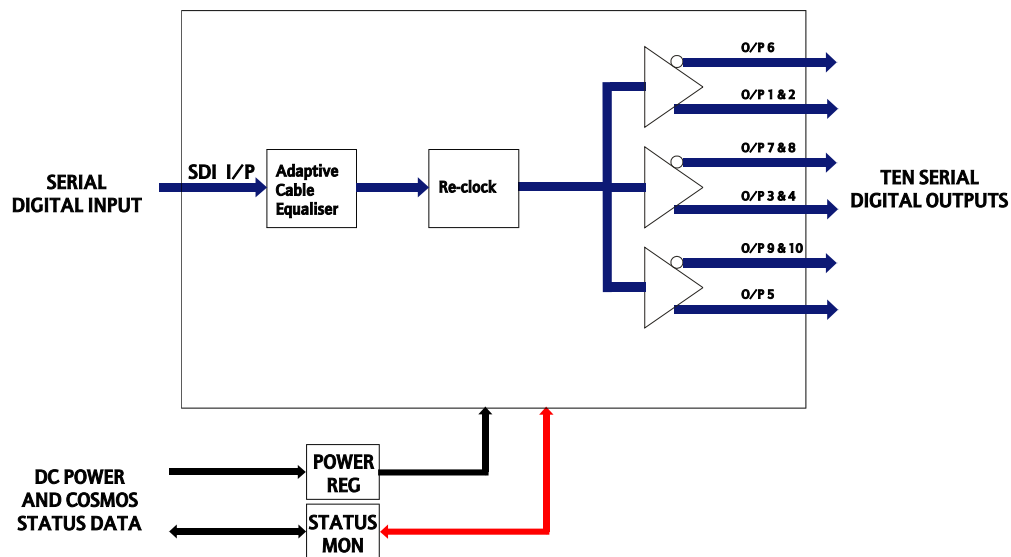
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1 Introduction

The 3400 is a serial digital video distribution amplifier designed to be used in the ICON series of 1RU or 3RU frames. It offers up to ten equalised and re-clocked serial digital outputs and takes both 20mm and 30mm rear connectors. Automatic or manual standard selection of all data rates up to 360Mbit/s is provided.

The features available are:

- five outputs with the 20mm K3400.2 rear connector
- ten outputs with the 30mm K3400.3 rear connector
- first five outputs are DVB-ASI compliant outputs (non-inverting)
- adaptive input equalisation
- re-clocking with automatic bit rate detection
- 143/177/270/360 Mbit/s modes
- COSMOS equipped



The 3400 SDI/SDTI/ASI distribution amplifier

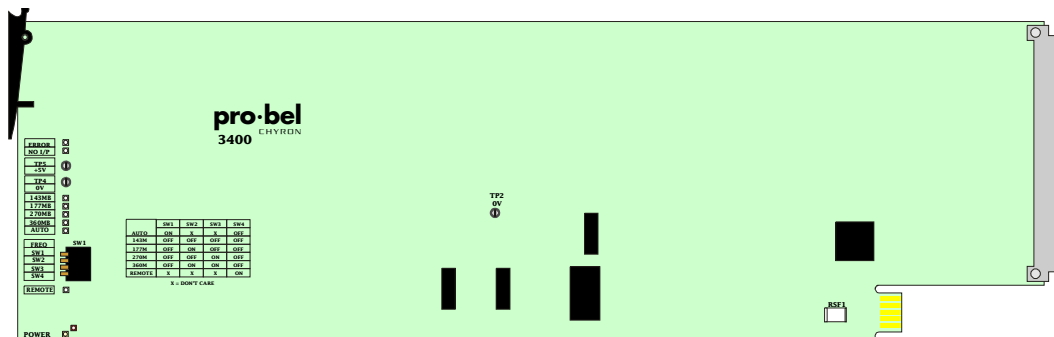
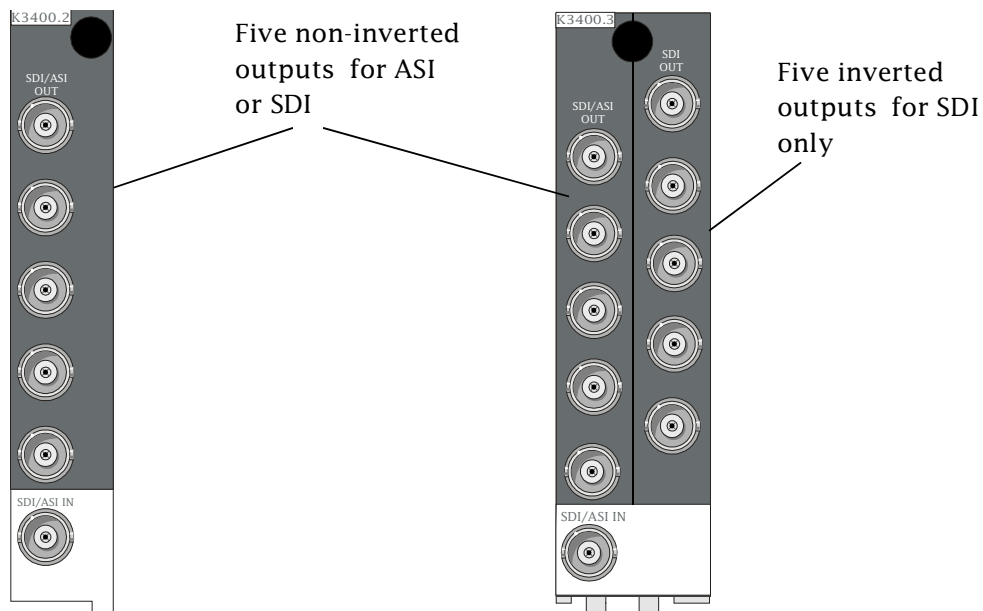


2 Installation

For module installation instructions please refer to the appropriate ICON rack frame section of the manual

2.1 Selecting the rear connector

The 3400 may be used with either the 20mm K3400.2 rear connector providing five outputs or the 30mm K3400.3 rear connector providing ten outputs. Only the first five, non-inverting outputs can be used for ASI.

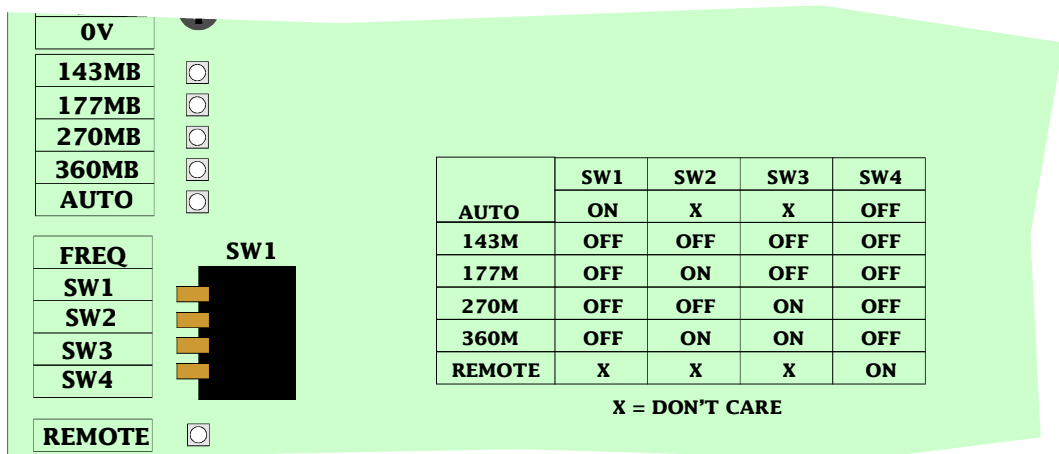


The 3400 SDI/SDTI/ASI distribution amplifier

3 Configuration

3.1 Setting the re-clock speed

The re-clocking speed can be automatically determined by the module or manually selected. If COSMOS control is used, the re-clock speed can also be made remotely. Use SW1 to make the selection.



	SW1	SW2	SW3	SW4
AUTO	ON	X	X	OFF
143M	OFF	OFF	OFF	OFF
177M	OFF	ON	OFF	OFF
270M	OFF	OFF	ON	OFF
360M	OFF	ON	ON	OFF
REMOTE	X	X	X	ON

X = DON'T CARE

Re-clock settings	SW1	SW2	SW3	SW4
Mode				
AUTO	ON	X	X	OFF
143M/bit/s (Composite NTSC)	OFF	OFF	OFF	OFF
177M/bit/s (Composite PAL 625)	OFF	ON	OFF	OFF
270M/bit/s (Component 4:2:2 625)	OFF	OFF	ON	OFF
360M/bit/s (Widescreen)	OFF	ON	ON	OFF
REMOTE	X	X	X	ON

Notes:

X= Don't care.

Move switch keys down for ON and up for OFF.

Selecting remote operation with SW4 ON overrides all other switch settings.

3.2 LED indicators

The module is equipped with the following indicators to provide a means of monitoring operation:

Indicators		
LED	Colour	Function
Error	Red	Internal PLL not locked
No I/P	Red	No input detected
143Mb	Yellow	143M/bit/s re-clock speed
177Mb	Yellow	177M/bit/s re-clock speed
270Mb	Yellow	270M/bit/s re-clock speed
360Mb	Yellow	360M/bit/s re-clock speed
Auto	Yellow	Automatic re-clock speed selected
Remote	Yellow	Remote COSMOS operation selected
Power	Green	Power OK

4 **Trouble shooting**

The Error and No I/P LEDs are lit

- check that a serial digital video signal is connected to the rear connector input BNC

The Error (No lock) LED is lit

- check that the input signal is a valid serial digital video signal with a basic clock rate of 143, 177, 270 or 360 Mbit/s.

Half the outputs appear not to work

- check that only the non-inverting outputs (1 to 5) are used for ASI signals

The Power LED is not lit

- check mains power to the frame is turned on
- if necessary check the PSU as explained in the power supply section
- check the card is plugged in securely
- check to see if one of the re-settable fuses have operated. To do this turn the power off, wait for thirty seconds and then restore the power.

5 **COSMOS Status Monitoring**

If the frame is equipped with a COSMOS controller card the following parameters will be reported back to the COSMOS status monitoring system.

- auto/standard switch status
- data rate select switch status
- no input present detect status
- error or PLL lock status
- local/remote control select switch status

In remote mode, the auto/standard mode select and manual data rate selection may be controlled through COSMOS.

In addition, the module is programmed with the following information, which can be read by the status monitoring controller:

- module present
- module type
- module bar code
- module issue no

For further details of the Pro-Bel status monitoring system please refer to the COSMOS status monitoring manual.



6 Specification

Inputs

Number and type: One serial digital video input to EBU Tech 3267E, SMPTE 259M - ABCD

Impedance: 75 Ω unbalanced

Outputs

Number and type: Ten as input equalised and re-clocked, only 5 available with 20mm rear panel

Compatibility: All outputs are compatible with SDI/SDTI. Only the first five are non-inverting and can be used with the DVB-ASI format signals

Impedance: 75 Ω unbalanced

Performance

Input return loss: > 15dB to 300MHz, > 12.5dB to 400MHz

Max output level: 800mV into 75 Ω load

Output return loss: > 15dB to 300MHz, > 12.5dB to 400MHz

Output rise time: <500ps

Re-clocking jitter: <400ps

Cable equalisation: > 250 metres of Belden 8281 or PSF1/2, 290 metres typical at 270Mbit/s
> 200 metres of PSF1/3, 225 metres typical at 270Mbit/s

Re-clocking frequencies: 143, 177, 270, 360 Mbit/s

On-card controls

Auto/manual standard select switch

Data rate select switch

Local/remote select switch

LED indicators

Data rate 143Mbit/s - yellow
Data rate 177Mbit/s - yellow
Data rate 270Mbit/s - yellow
Data rate 360Mbit/s - yellow
Auto re-clock ended - yellow
No Input - red
Error, PLL not locked - red
Remote control mode - yellow
Power OK - green

7 **Ordering information**

ICO-3400-2000

SDI/ASI Distribution Amplifier with 20mm rear panel providing 5 outputs

ICO-3400-3000

SDI/ASI Distribution Amplifier with 30mm rear panel providing 10 outputs (5 ASI)