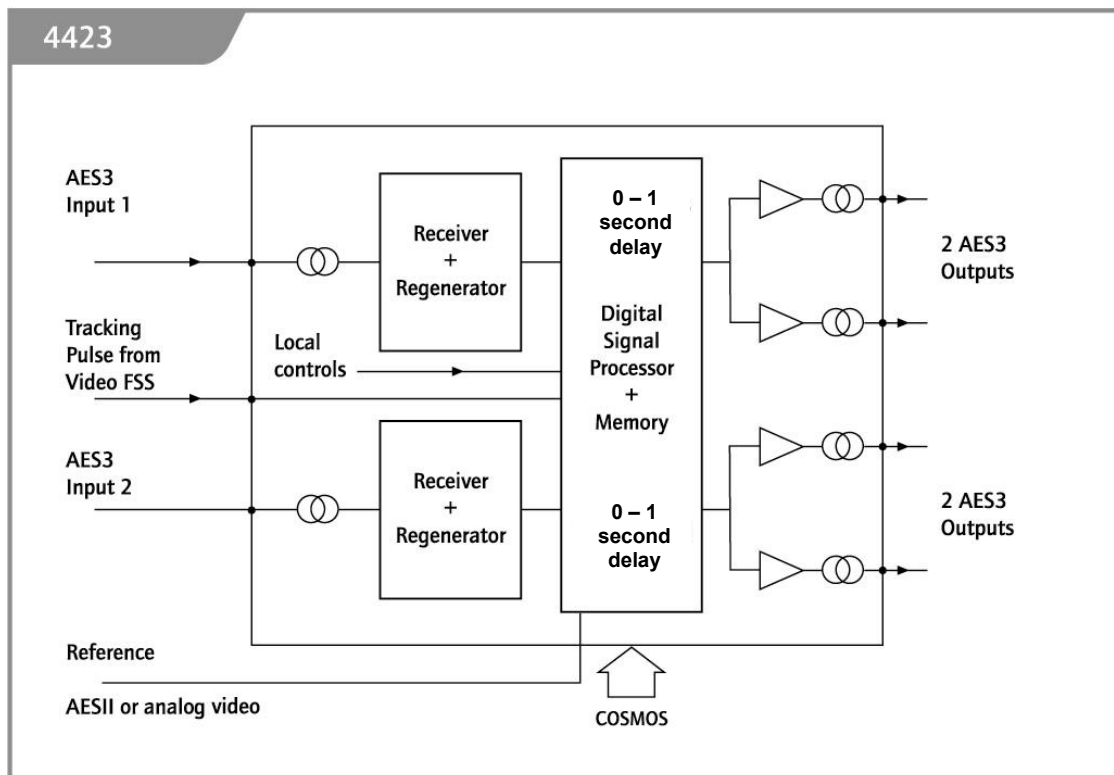


## FEATURES

- Dual AES3 delay channels
- TTL pulse input for video tracking
- Over 1 second additional pre-set delay
- Synchronises input sample rate to local reference
- Handles audio not locked to video
- Inaudible 'frame slipping' algorithm
- Balanced and unbalanced AES3 interfaces
- COSMOS compatible

## FUNCTIONAL BLOCK DIAGRAM



## ORDERING INFORMATION

|                      |   |
|----------------------|---|
| <b>ICO-4423-3B00</b> | Dual AES (balanced) Tracking delay 0-1.3secs (30mm)   |
| <b>ICO-4423-3U00</b> | Dual AES (unbalanced) Tracking delay 0-1.3secs (30mm) |

**SPECIFICATION**

**Inputs**

**Signal** Two, AES3, balanced or unbalanced, mutually synchronous. Input 1 is used in delay calculations and must be present for correct operation.

**Sample rates** 26kHz to 54kHz (48kHz only when locked to video)

**Reference** AES11, balanced or unbalanced, same nominal sample rate as inputs or analogue video.

**Tracking pulse** TTL level compatible, video frame frequency, positive portion indicates video delay.

**Outputs**

**Signal** Two, AES3, (one per input), balanced or unbalanced

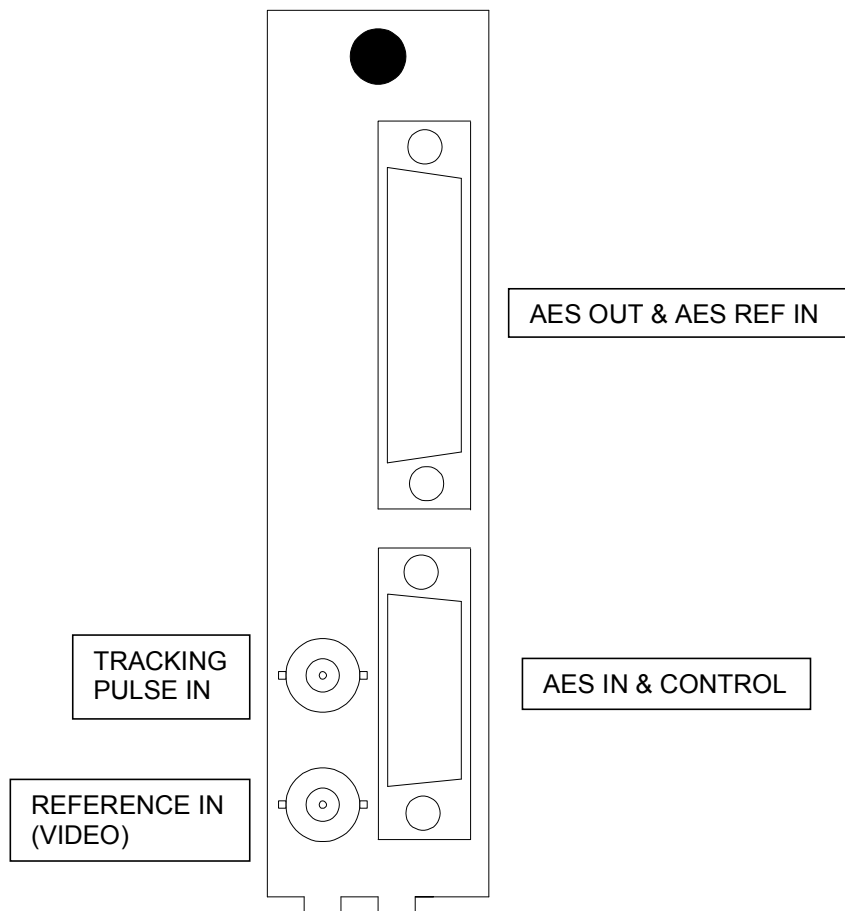
**Performance**

**Delay** Common to both audio channels, variable delay follows tracking pulse, up to 1.3 seconds additional pre-set delay

**Channel Status** Channel Status, User and Validity bits are buffered in groups of 192 for each input and copied to the outputs, dropping or repeating complete blocks as necessary

**REAR PANEL LAYOUT**

Balanced AES3 (K4423-3B)



**D25 (AES Output & Reference Input) Pin-out**

| <b>Pin No.</b> | <b>Description</b> |
|----------------|--------------------|
| 1              | Output 1- (Feed 1) |
| 2              | Output 1+ (Feed 1) |
| 3              | Gnd                |
| 4              | Output 1- (Feed 2) |
| 5              | Output 1+ (Feed 2) |
| 6              | AES Ref In -       |
| 7              | AES Ref In +       |
| 8              | Gnd                |
| 14             | Output 2- (Feed 1) |
| 15             | Output 2+ (Feed 1) |
| 16             | Gnd                |
| 17             | Output 2- (Feed 2) |
| 18             | Output 2+ (Feed 2) |

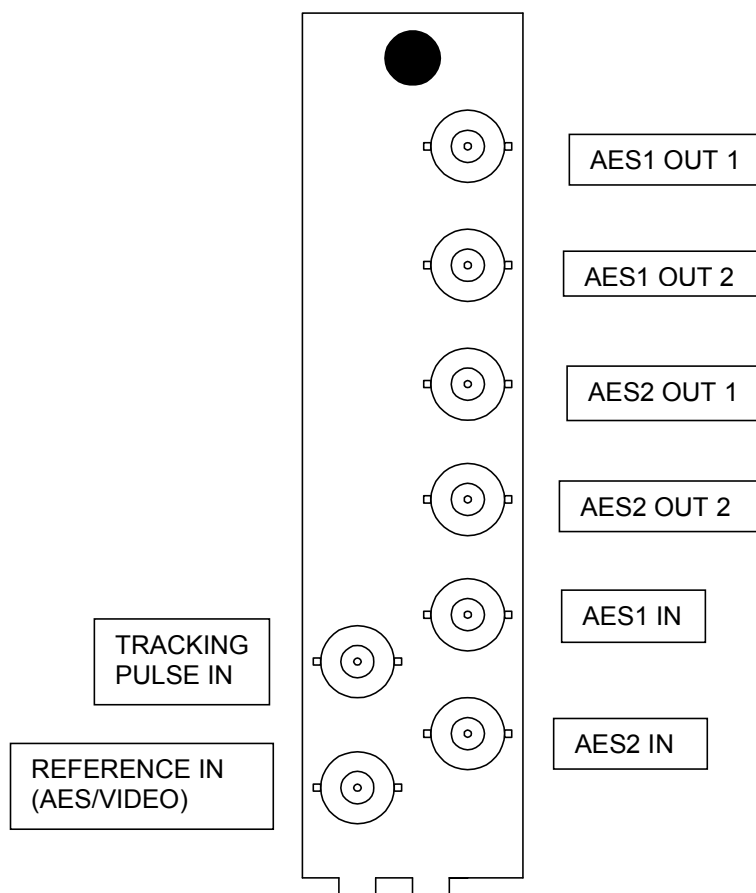
# ICON 4423 Dual AES 3 Tracking Audio Delay User Manual



## D15 (AES Input & Control) Pin-out

| Pin No. | Description |
|---------|-------------|
| 6       | Input 1 -   |
| 13      | Input 1 +   |
| 7       | Input 2 +   |
| 15      | Input 2 -   |
| 14 & 5  | Gnd         |

## Unbalanced AES3 (K4423-3U)



## DIAGNOSTIC LEDs (additional to LEDs dedicated to individual switch settings)

| Label      | Colour | Description                           | Normal State |
|------------|--------|---------------------------------------|--------------|
| Maximum    | Yellow | Delay setting beyond available memory | Off          |
| Remote     | Yellow | Remote (Cosmos) control enabled       | As SW 4-4    |
| I/P 1 Fail | Red    | AES Input 1 not present               | Off          |
| I/P 2 Fail | Red    | AES Input 2 not present               | Off          |
| AES Ref    | Yellow | AES Reference present                 | On           |
| 625        | Yellow | 625 line video reference detected     |              |
| 525        | Yellow | 525 line video reference detected     |              |
| Test 0     | Yellow | On during 'fast' correction           | Off          |
| Test 1     | Yellow | On during 'slow' correction           | Off          |
| Reset      | Red    | On during microprocessor reset        | Off          |

## FRONT EDGE SWITCHES

| Switch     | Label    | Type       | Function  |
|------------|----------|------------|---|
| SW1        | UNITS    | Rotary Hex | Fixed delay, TV frames x 1 (see note1)                                  |
| SW2        | TENS     | Rotary Hex | Fixed delay, TV frames x 16 (see note1)                                 |
| SW3-1      | FAST     | DIP        | On = 0.2% rate of change, Off = 0.1%                                    |
| SW3-2      |          | DIP        | Reserved  |
| SW3-3      | TR-P-DIS | DIP        | On = Ignore Tracking Pulse, Off = Follow Tracking Pulse (+ fixed delay) |
| SW3-4      |          | DIP        | Reserved  |
| SW4-1 to 3 |          | DIP        | Reserved  |
| SW4-4      | REMOTE   | DIP        | On = Enable Cosmos Remote Control                                       |

Note 1 - maximum delay 22 Hex (34 frames) for 625, 28 Hex (40 frames) for 525. In the absence of a video reference, delay is calibrated in 625 frames (40 ms)

## JUMPERS

| Jumper | Function  |
|--------|---|
| PL5    | AES Input 1 Termination, 75Ω, 110Ω, Hi Z, Bal, Unbal.   |
| PL8    | AES Input 2 Termination, 75Ω, 110Ω, Hi Z, Bal, Unbal.   |
| PL7    | Reference BNC fed with AES or Video                     |
| PL6    | Video Termination, 75Ω, Hi Z                            |
| PL9    | AES Reference Termination, 75Ω, 110Ω, Hi Z, Bal, Unbal. |

## REFERENCE

The module may be fed from a balanced or unbalanced AES or analogue video reference. An AES reference will be automatically selected in preference to a video reference if both are present. If no reference is present the module will free run at a frequency adjustable by RV1.

## COSMOS STATUS MONITORING AND CONFIGURATION

Cosmos provides configuration of all locally controllable parameters plus monitoring of: -

- Input status
- Reference status
- Power status
- Card identity