

## DUAL DIGITAL AES / EBU VARIABLE DELAY LINE SYNCHRONIZER 24-bit SAMPLING RESOLUTION

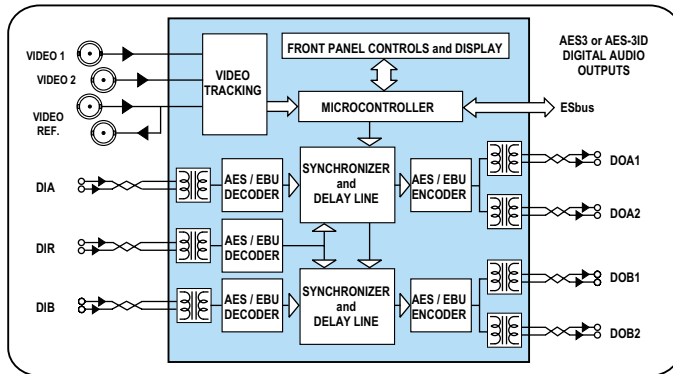
# ADS 640

The **ADS 640** is a high-quality digital audio delay line synchronizer, which allows to put back independently two AES / EBU signals with different possible delay for each channel.

Two process modes are possible : "Direct" or "Synchronized", another function is "Video tracking" which allows to follow in real time a delay between two composite video signals. Controls and screen display access from board's front side.

The **ADS 640** is compatible with AES3 and AES-3ID.

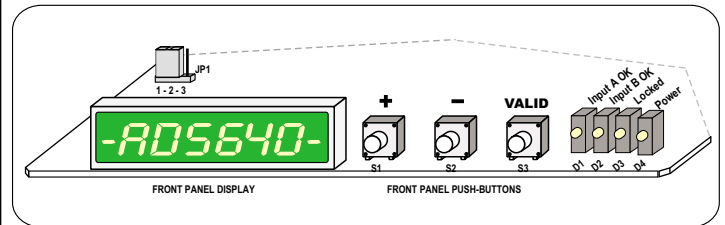
The **ADS 640** is designed on an "Europe" 3U electronic board.



Functional block diagram

### Features

- Dual independent variable delay line, 24 bit direct or 22 bit synchronized mode process ( DARS-DARS UC )
- Accepts 28 kHz to 54 kHz sampling frequency range
- Video tracking possibility , ( external analog video and reference inputs )
- AES3 / AES-3ID inputs and outputs supported, all transformer isolated, inputs with loop-through
- 4 AES3 / AES-3ID output signals
- Until 10.922 s, 11.888 s or 16.384 s delay possibility ( sampling rate dependent )
- Controls, adjustments and signalling on front side of the board
- Configurations by internal switchers
- ESbus remote control compatible



Front edge of the board

### User Controls

#### FRONT PANEL PUSH-BUTTONS and STATUS LEDs

- |  |  |   |  |
|--|--|---|--|
| S1 : PLUS increases value of selected parameter or moves forward in parameters listing | S2 : MINUS decreases value of selected parameter or moves backward in parameters listing | S3 : VALID enables one of the parameters and stores the new value | JP1 : State jumper, local or remote control mode (1-2 = local) |
| D1 : AES -A input present  | D2 : AES -B input present  | D3 : AES -A or/and B outputs locked                               | D4 : Power supply present                                      |

#### FRONT PANEL MENUS DISPLAY

- |  |  |   |  |
|--|--|---|--|
| DELAY : Step delay choice and control delay duration | SYNCHRO : - "Direct" or "Synchronized" mode  | MUTING : - audio fading enable                      | ADRESS : ESbus control board's address |
| CHANNEL : A or/and B channel control in progress     | VID FOL : - with or without dynamic tracking | STATUS : Scroll status display about selected input |  |

All parameters are saved in NON-VOLATILE RAM

### Technical Specifications

#### DIGITAL INPUTS and DARS REF.

SIGNALS : AES3-1992, AES-3ID, CCIR REC647-1, Spec. IEC 958-1  
On transformer isolated

3 x AES3 (differential)  
LEVEL : 200 mVpp to 7 Vpp  
IMPEDANCE : 110 Ω  
commutable 10 kΩ

or  
3 x AES-3ID (asymmetrical)  
LEVEL : 200 mVpp to 5 Vpp  
IMPEDANCE : 75 Ω  
commutable 10 kΩ

SAMPLING : 28 kHz to 54 kHz

#### ANALOG INPUTS

SIGNALS : 3 x analog composite video 625 / 50 or 525 / 59.94

LEVEL : 1 Vpp (asymmetrical)  
IMPEDANCE : 75 Ω or > 10 kΩ

#### REMOTE

REMOTE : ESbus compatible ( EBU / SMPTE bus )  
SubD-9 connector

#### DIGITAL OUTPUTS

SIGNALS : AES3-1992, AES-3ID, CCIR REC647-1, Spec. IEC 958-1  
On transformer isolated

4 x AES3  
LEVEL : 3.6 Vpp (differential)  
IMPEDANCE : 110 Ω

or 4 x AES-3ID  
LEVEL : 1 Vpp (asymmetrical)  
IMPEDANCE : 75 Ω

#### PROCESSING PERFORMANCE

QUANTIZATION  
Direct mode : 24 Bit  
Synchronised : 22 Bit

SAMPLING : 28 kHz to 54 kHz

POWER : < 5 W

# ADS 640

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### Overall Performances

#### Delay performances

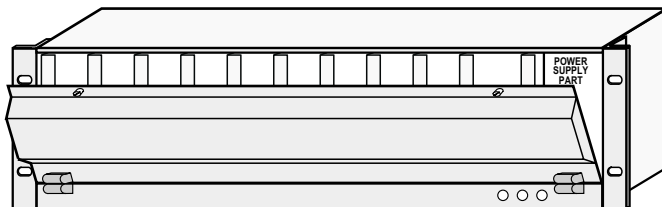
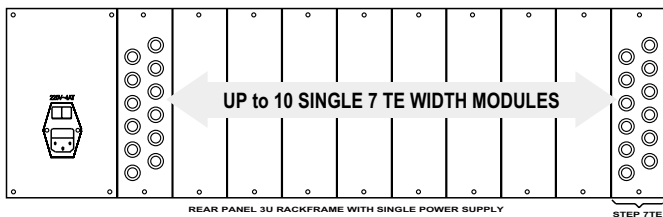
	Minimum direct mode		Maximum direct mode
sampling frequency 48 kHz :	0.104 ms	sampling frequency 48 kHz :	10.922 s
sampling frequency 44.1 kHz :	0.113 ms	sampling frequency 44.1 kHz :	11.888 s
sampling frequency 32 kHz :	0.156 ms	sampling frequency 32 kHz :	16.384 s
	Minimum synchronized mode		
sampling frequency 48 kHz :	2.770 ms		
sampling frequency 44.1 kHz :	3.015 ms		
sampling frequency 32 kHz :	4.156 ms		

### Mounting Frames

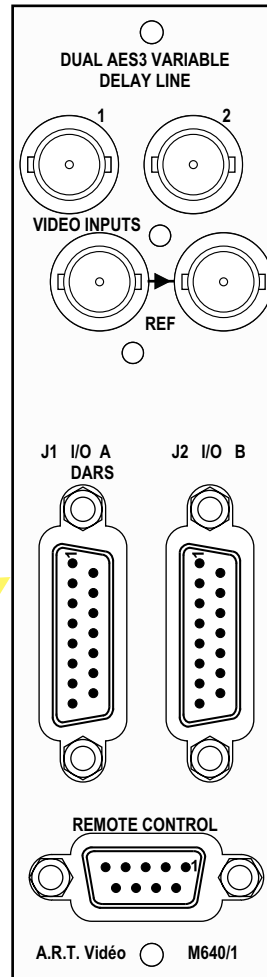
#### 19" 3RU RACKFRAME

The 19" 3U rackframe holds up to 10 modules with single power supply unit and 9 modules with redundant power supply unit. Access is given to electronic modules by rocking down the front panel. Ventilation of the rack is performed by forced convection. Each module includes : electronic plug-in board, rear interconnection board, and rear mechanical support with the connectors.

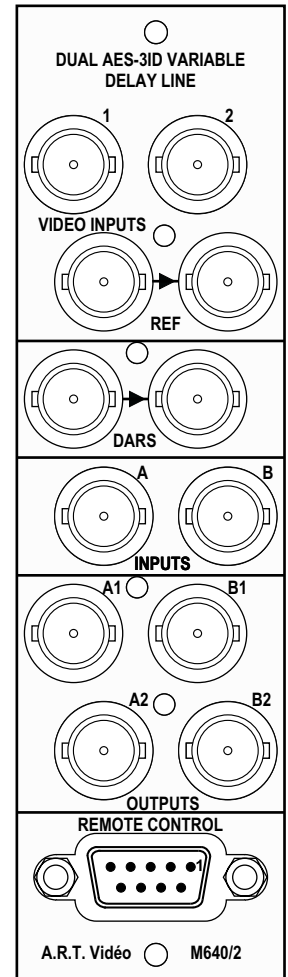
DIMENSION :	3RU x 410 mm deep
WEIGHT :	< 15 Kg
TEMPERATURE RANGE :	0 - 40°C
ELECTRONIC MODULES :	10 with single power supply 9 with redundant power supply
POWER INPUT :	88 - 135 V or 185 - 264 V (commutable) 50 / 60 Hz
POWER :	150 W max



3U MODULE REAR PANEL  
IN / OUT  
AES3 STANDARD



3U MODULE REAR PANEL  
IN / OUT  
AES-3ID STANDARD



### Ordering informations

#### 19" 3RU rackframe

M-ADS640/1 :	dual digital AES / EBU variable audio delay line synchronizer AES3 inputs standard 3U module for 19" 3RU rackframe (Electronic plug-in board and rear panel)	B-ADS640 :	dual digital AES / EBU variable audio delay line synchronizer AES3 and AES-3ID electronic plug-in board rear panel for 19" 3RU rackframe
M-ADS640/2 :	dual digital AES / EBU variable audio delay line synchronizer AES-3ID inputs standard 3U module for 19" 3RU rackframe (Electronic plug-in board and rear panel)	MOD 3U :	3U module for 19" 3RU rackframe
		RACK3U-1 :	19" 3RU rackframe with single power supply
		RACK3U-2 :	19" 3RU rackframe with redundant power supply
		BPM-1 :	blank rear panel unit

Specifications and designs are subject to change without notice