

Synapse

ASV22

**12 bit Composite / YC to Serial Digital Converter
with SDI Input**

Synapse

TECHNICAL MANUAL

**12 bit Composite / YC to Serial Digital Converter
with SDI Input**



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WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRICAL SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE

- ALWAYS disconnect your entire system from the AC mains before cleaning any component. The product frame (SFR18 or SFR04) must be terminated with three-conductor AC mains power cord that includes an earth ground connection. To prevent shock hazard, all three connections must always be used.
- NEVER use flammable or combustible chemicals for cleaning components.
- NEVER operate this product if any cover is removed.
- NEVER wet the inside of this product with any liquid.
- NEVER pour or spill liquids directly onto this unit.
- NEVER block airflow through ventilation slots.
- NEVER bypass any fuse.
- NEVER replace any fuse with a value or type other than those specified.
- NEVER attempt to repair this product. If a problem occurs, contact your local Axon distributor.
- NEVER expose this product to extremely high or low temperatures.
- NEVER operate this product in an explosive atmosphere.

Warranty: Axon warrants their products according to the warranty policy as described in the general terms. That means that Axon Digital Design BV can only warrant the products as long as the serial numbers are not removed.

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This product complies with the requirements of the product family standards for audio, video, audio-visual entertainment lighting control apparatus for professional use as mentioned below.

	EN60950 EN55103-1: 1996 EN55103-2: 1996	Safety Emission Immunity
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<p>Axon Digital Design ASV22</p> <p> Tested To Comply With FCC Standards</p> <p>FOR HOME OR OFFICE USE</p>	<p>This device complies with part 15 of the FCC Rules Operation is subject to the following two conditions: (1) This device may cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.</p>
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1 Introduction to Synapse

An Introduction to Synapse

Synapse is a modular system designed for the broadcast industry. High density, intuitive operation and high quality processing are key features of this system. Synapse offers a full range of converters and processing modules. Please visit the AXON Digital Design Website at www.axon.tv to obtain the latest information on our new products and updates.

Local Control Panel

The local control panel gives access to all adjustable parameters and provides status information for any of the cards in the Synapse frame, including the Synapse rack controller. The local control panel is also used to back-up and restore card settings. Please refer to the RRC18, RRC10 and RRC04 manuals for a detailed description of the local control panel, the way to set-up remote control over IP and for frame related settings and status information.

Remote Control Capabilities

The remote control options are explained in the rack controller (RRC18/RRC10/RRC04) manual. The method of connection to a computer using Ethernet is described in the RRC manual.



CHECK-OUT: “SYNAPSE SET-UP” SOFTWARE WILL INCREASE SYSTEM FLEXIBILITY OF ONE OR MORE SYNAPSE FRAMES

Although not required to Setup a Synapse frame, you are strongly advised to use a remote personal computer or laptop PC with the Synapse Setup software as this increases the ease of use and understanding of the modules.

2 Unpacking and Placement

Unpacking

The Axon Synapse card must be unpacked in an anti-static environment. Care must be taken NOT to touch components on the card – always handle the card carefully by the edges. The card must be stored and shipped in anti-static packaging. Ensuring that these precautions are followed will prevent premature failure from components mounted on the board.

Placing the card

The Synapse card can be placed vertically in an SFR18 frame or horizontally in an SFR04 frame. Locate the two guide slots to be used, slide in the mounted circuit board, and push it firmly to locate the connectors.

Correct insertion of card is essential as a card that is not located properly may show valid indicators, but does not function correctly.

REMARK: On power up all LEDs will light for a few seconds, this is the time it takes to initialise the card.

3 A Quick Start

When Powering-up

On powering up the Synapse frame, the card set will use basic data and default initialisation settings. All LEDs will light during this process. After initialisation, several LEDs will remain lit – the exact number and configuration is dependant upon the number of inputs connected and the status of the inputs.

Default settings

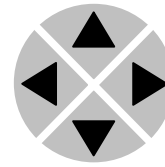
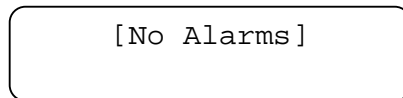
In its default condition, the ASV22 will act as a frame synchroniser and auto phase corrector.

Changing settings and parameters

The front panel controls or the Synapse Set-Up Software can be used to change settings. An overview of the settings can be found in chapter 5, 6 and 7 of this manual.

Front Panel Control

Front Panel Display and Cursor



Settings are displayed and changed as follows;

Use the cursor 'arrows' on the front panel to select the menu and parameter to be displayed and/or changed.

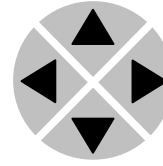
- Press ► To go forward through the menu structure.
- Press ◀ To go back through the menu structure.
- Press ▲ To move up within a menu or increase the value of a parameter.
- Press ▼ To move down through a menu or decrease the value of a parameter.

REMARK: Whilst editing a setting, pressing ► twice will reset the value to its default.

Example of changing parameters using front panel control

With the display as shown below

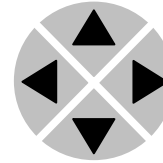
```
RRC18 [Select Card]
>S01=SFS10
```



Pressing the ► selects the SFS10 in frame slot 01.

The display changes to indicate that the SFS10 has been selected. In this example the Settings menu item is indicated.

```
SFS10 [Select Menu]
>Settings
```

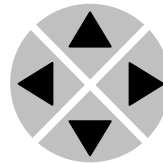


Pressing the ► selects the menu item shown, in this example Settings.

(Pressing ▲ or ▼ will change to a different menu eg Status, Events).

The display changes to indicate that the SFS10 Settings menu item SDI-Format has been selected and shows that its current setting is Auto.

```
SFS10 [Settings]
>SDI-Format=Auto
```

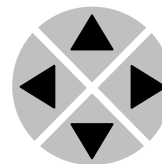


Pressing the ► selects the settings item shown, in this example SDI-Format.

(Pressing ▲ or ▼ will change to a different setting, eg Mode, H-Delay).

The display changes to indicate that the SFS10 Edit Setting menu item SDI-Format has been selected.

```
SFS10 [Edit Setting]
```



To edit the setting of the menu item press ▲ or ▼.

All menu items can be monitored and/or changed in this way. Changing a setting has an immediate effect.

Software

Synapse modules from a PC, either locally or remotely. The software enables communication based on TCP/IP between the Setup PC and Synapse frames/modules.

Each Synapse frame is addressed through its rack controller's unique IP address, giving access to each module, its menus and adjustment items. The Synapse Setup software has access to data contained within the Synapse module and displays it on a GUI. The software has an intuitive structure following that of the module that it is controlling.

Having selected the desired Frame and Module from the GUI Synapse Network View, select the menu item that you wish to open. Opening the menu item gives a complete list of available properties with their associated Value.

For example to change a setting e.g. SDI-Format, select SDI-Format from the list of settings by 'double clicking' to open a dialogue box. The dialogue box allows parameters to be changed or set to default value. On completion close the dialogue box.

Menu Structure Example

Slot	Module	Item	Parameter	Setting
▲				
▲				
S02		Identity		
▲				
S01	SFS10	Settings	SDI-Format	Auto
▼				
S00	RRC18	Status	Mode	625
		▼		
		Events	Ref-Input	525
			▼	
			H-Delay	
			▼	

REMARK: Further information about Front Panel Control and Synapse Setup Software can be obtained from the RRC18 and RRC04 operational manuals.

4 The ASV22 Card

Introduction	<p>The AXON ASV22 is a 12bit analog to digital converter that converts Analog Composite or Y/C signals to Serial Digital (SDI). In addition the ASV22 has an SDI input.</p> <p>The converter is capable of working with most common television standards, PAL, NTSC.</p>
All Digital Decoding	<p>The ASV22 utilises 12 bit digital decoding to ensure accurate high quality signal processing.</p>
Four Serial Digital Outputs	<p>Four SDI outputs are available with embedded audio, reducing the need for distribution amplifiers and external embedders.</p>
Composite, Y/C and SDI Inputs	<p>The ASV22 has two analog inputs that can be used for Composite video or Y/C signals and a separate SDI input. A software switch allows selection between the inputs. The ASV22 enables the Active Picture, Vertical Interval and Horizontal Interval information of the output SDI signal to be selected from separate input sources.</p>
Automatic Standard Selection	<p>Most video standards can be handled by the ASV22. In 'Auto' Mode (see later) the unit automatically detects the input standard being used and changes the signal processing to the standard detected at the input.</p>
Built-in Framestore	<p>In order to allow the ASV22 to handle poor quality input signals and correct timing errors a frame store is provided.</p>
Reference Input	<p>Two reference input are provided to the ASV22 by the Synapse Bus, these can be the same TV standard in order to provide redundancy, or different TV standards to allow operation in two different modes.</p>
External Freeze	<p>External Freeze allows the ASV22 to freeze the output signal. This is performed manually by switching to freeze input.</p>
Tracking output	<p>A tracking output is provided by the ASV22. This output provides a timing pulse for use with other Axon Synapse devices, e.g. for Audio Synchronisation with a DIO24.</p>

Back planes

The ASV22 can be used with the BPL01 back plane.

Miscellaneous

The ASV22 cards fit into the Axon SFR04 & SFR18 rack.

LED's on the front of the board indicate the presence Video Reference, Input signal, Connection & Processor Errors.

The ASV22 can be controlled by Axon Synapse set-up software.

5 Settings Menu

Introduction

The settings menu displays the current state of each setting within the ASV22 and enables the item to be changed or adjusted.

Settings can be changed using the front panel of the Synapse frame (SFR18 or SFR04) or Synapse Setup software.

Please refer to chapter 3 for information on the Synapse front panel control and Synapse Setup software.

AP-Sel

The ASV22 accepts a range of inputs, SDI, composite (CVBS) and Y/C signals. AP-Sel selects the Active Picture content from the selected source.

The settings of AP-Sel are;

CVBS: Composite input with 12bit decoding.

YC: Y/C input with 12bit decoding.

SDI: SDI.

The default setting of AP-Sel is CVBS.

The Active Picture content is combined with Vertical Interval information and Horizontal Interval information that is set using the following VI-Sel & HI-Sel settings.

VI-Sel

VI-Sel selects the Vertical Interval information to be used by the ASV22.

Analog: VI information contained within the decoded Composite input.

SDI: VI information contained within the SDI input signal

Blank: Blanks the VI

The default setting of VI-Sel is Analog.

HI-Sel

The HI-Sel settings selects the Horizontal Interval information to be used. The settings of HI-Sel are;

Blank: Blanks the HI.

SDI: HI information contained within the SDI input signal.

The default setting of HI-Sel is Blank.

REMARK: If the input analog signal does not have information contained within the Horizontal Interval HI-Sel can only be set to Blank or SDI.

REMARK: If HI-SEL is set to SDI, the SDI signal has to be locked to the same reference as the analog active picture input.

Standard	This item controls the detection the input standard. The settings of <code>Standard</code> are <code>Auto</code> detection, <code>625</code> , <code>525</code> . The default setting is <code>Auto</code> . Having detected or set a standard, the ASV22 automatically utilises the settings in the menus <code>625-Stndrd</code> or <code>525-Stndrd</code> .
625-Stndrd	The handling of 625 TV Line standards can be set using <code>625-Stndrd</code> . The settings are <code>PAL-BGHI</code> , <code>PAL-N</code> . The default setting is <code>PAL-BGHI</code> .
525-Stndrd	The handling of 525 TV Line standards can be set using this item. The settings are <code>NTSC</code> , <code>PAL-M</code> . The default setting is <code>NTSC</code> .
Mode	<p><code>Synchronize</code> and <code>Delay</code> mode can be selected within the <code>Mode</code> menu. In <code>Synchronize</code> mode, the <code>Autophaser/Line synchroniser</code> is active. In <code>Delay</code> mode a reference is not required, the output timing is derived from the analog input signal, if used otherwise timing is derived from the <code>sdi</code> input signal.</p> <p>The default setting is <code>Synchronize</code>.</p> <p>Synchronizing Mode: When <code>Mode</code> is set to <code>Synchronize</code> and the card is locked to a reference, the card is in synchronizing mode. (NOTE that it is referred to the output signal so it takes the H-V-delay into account)</p> <p>Delay Mode: When <code>Mode</code> is set to <code>Delay</code>, the card is in <code>Delay Mode</code>. The <code>H-Delay</code> and <code>V-Delay</code> settings give the delay, addition to the processing time of the card.</p> <p>Note: The delay of the card is indicated by the tracking pulse on the BNC output. This can be used, for example, to track an audio delay.</p>

Input-Gain	<p>The input gain can be set to <code>Fixed</code>, <code>Auto-Brst</code>, <code>Auto-Sync</code> or <code>Variable</code>. The default setting is <code>Fixed</code>. In <code>Fixed</code> mode the input stage is static and expects a compliant input signal with the correct amplitude. In <code>Auto-Brst</code> an Automatic Gain Control is enabled, and the gain is based on the color subcarrier's amplitude. In <code>Auto-Sync</code> mode an AGC stage is enabled and the input voltage is adjusted automatically depending on the sync amplitude. If the sync is smaller than 300 mV, the video input signal will be amplified in the exact amount to give 300 mV sync amplitude. If the sync amplitude is too high, the opposite will occur. And in <code>Variable</code> mode the input signal is manually adjustable.</p>
Var-gain	<p>This is the adjustment menu for the <code>Variable</code> mode mentioned above. The range of adjustment is 0,26x to 1,99x. The default setting is 1,00x.</p>
Ref-Input	<p>This setting allows the user to determine which reference input is used to lock the ASV22. Input 1 is the uppermost input of on the RRC18 rack controller connection panel at the rear of the SFR18, Input 2 is the lower. The SFR04 has one reference input.</p> <p>The available settings for <code>Ref-Input</code> are 1, 2 and <code>Auto</code>. The default setting of <code>Ref-Input</code> is 1.</p> <p>1, 2: Lock to the reference at the respective input.</p> <p><code>Auto</code>: Selects <code>Ref_1</code> to 625, <code>Ref_2</code> to 525. If a signal is not connected the reference the reference will automatically be locked to the reference.</p>
H-Delay	<p>The <code>H-Delay</code> setting allows adjustment of the horizontal phase of the output signal with respect to the selected reference input.</p> <p>The <code>H-Delay</code> setting gives a delay in addition to the reference timing. For example, if <code>H-Delay</code> is set to 10 samples, the output signal will be delayed by the reference timing + 10 samples of 37ns, therefore the delay = Ref timing+ 37ns x10. The signal is delayed (advanced) with respect to the phase of the reference signal.</p> <p>In 625/50 the adjustment range of <code>H-Delay</code> is 0-1727 samples, 0..64 μs (one PAL TV line).</p> <p>In 525/60 the adjustment range of <code>H-Delay</code> is 0-1715 samples, 0..63.556 μs (one NTSC TV line).</p> <p>The default setting is 0 samples.</p>

Note: Please refer to the following description of Ref input for synchronization and timing information.

V-Delay

V-Delay setting allows adjustment of the vertical phase of the output signal with respect to the selected reference input.

The V-Delay setting gives a delay in addition to the reference timing. For example, if V-Delay is set to 10 TV lines, the output signal will be delayed by the reference timing + 10 TV lines. The signal is delayed (advanced) with respect to the phase of the reference signal.

In 625/50 the adjustment range of V-Delay is 0-624 lines (one TV frame).

In 525/60 the adjustment range is 0-524 lines (one TV frame).

The default setting is 0 lines.

The delay of the card is indicated by the tracking pulse on the BNC output. This can be used, for example, to track an audio delay.

Note: Please refer to the description of Ref input for synchronization and timing information.

Remove-Setup

Remove-setup enables setup (Black Level) of NTSC signals to be removed. The settings of Remove-setup are On and Off. The default setting is On.

Chroma-Enh

The Chroma-Enh setting item enables the enhancement of the Chrominance signal being processed in 12bit mode. The settings of Chroma-Enh are On and Off. The default setting is Off.

Freeze

Freeze enables the capture of one Video Frame when it is set to On. Freeze can be set On or Off. The default setting is Off.

Frz-Mode

Frz-mode gives the choice of storing a complete Video Frame or Field (double written) for the above Freeze Menu and the external freeze input. The settings of Frz-mode are Field and Frame. The default setting is Field.

Panic Frz

Panic-Frz enables the capture of the last video information when the input signal is lost. Panic freeze always uses Field mode irrespective of the settings of the Freeze-mode menu item. The settings of Panic-Frz are On or Off. The default setting is On.

Ext-Frz	Ext-Freeze enables the external freeze input. GPI contact closure J9 of the BPL01. the settings of Ext-Freeze are Disabled and Enabled. The default setting is Disabled.
Y-Gain	Y-Gain controls the Luminance gain of the built-in processing amplifier. The control range is between 0% and 150%.The default setting is 100%.
C-Gain	Cb-Gain controls the Colour Difference gain of the built-in processing amplifier. The control range is between 0% and 150%. The default setting is 100%.
Y-Black	This item controls the Luminance black level adjustment between -128.....+127bits The black level can be aligned by +/- 100mV(analog video). The default setting is 0.
Cb-Black	This item controls the Colour Difference (Cb) black level adjustment.
Cr-Black	This item controls the Colour Difference (Cr) black level adjustment.
EDH-Gen	This setting allows the user to switch the built in EDH generator on/off. The EDH generator inserts EDH (SDI Error Detection Handling) into the output signal. The settings of EDH-Gen are On and Off. The default setting is On.
VLI-Ins	The Video Line Index insertion menu enables the generation of Video Index information. Video Index is used to trigger cascaded equipment that process wide screen manipulation, aspect ratio converters for example. VLI-Ins can be set On or Off. The default setting is Off.
VLI-Data	Video Line Index data insertion recognises 16 different modes. These modes are divided into 2 groups, 4:3 and 16:9, each group having 8 sub-categories numbered 0-7. Valid VLI-Data ranges are 4:3_0, 4:3_1, 4:3_2, etc., to 16:9_0, 16:9_1, 16:9_2 etc. The default setting is 4 : 3_0.
Emb-Mode	Emb-Mode enables additional audio channels to be appended

added to the existing audio-groups in the ancillary data space of the SDI stream Emb-Mode has three settings, Off, Append, and Overwrite. The default setting is Off.

In Overwrite mode all existing audio groups will be overwritten and the processes group is inserted.

In Append mode additional audio channels will be added.

In order to blank the ancillary data space of the SDI stream, set Emb-Mode to Overwrite and set Emb-Sel to Off (see below).

Emb-A-Sel Emb-A-Sel determines which of the four groups of audio available on the Synapse bus will be embedded by embedder A of the ASV22 into the SDI stream. The settings of Emb-A-Sel are Off, Group_1, Group_2, Group_3, Group_4. The default setting is Off.

Emb-B-Sel Emb-B-Sel determines which of the four groups of audio available on the Synapse bus will be embedded by embedder B of the ASV22 into the SDI stream. The settings of Emb-B-Sel are Off, Group_1, Group_2, Group_3, Group_4. The default setting is Off.

Emb-A1/2 Emb-A1/2 determines which audio channels are embedded by channels 1 and 2 of embedder A. The available settings are, AddOn_A1/2, AddOn_A3/4, AddOn_B1/2, AddOn_B3/4, AddOn_C1/2, AddOn_C3/4, AddOn_D1/2, AddOn_D3/4. The default setting of Emb-A1/2 is AddOn_A1/2.

Emb-A3/4 Emb-A3/4 determines which audio channels are embedded by channels 3 and 4 of embedder A. The available settings are, AddOn_A1/2, AddOn_A3/4, AddOn_B1/2, AddOn_B3/4, AddOn_C1/2, AddOn_C3/4, AddOn_D1/2, AddOn_D3/4. The default setting of Emb-A3/4 is AddOn_A3/4.

Emb-B1/2 Emb-B1/2 determines which audio channels are embedded by channels 1 and 2 of embedder B. The available settings are, AddOn_A1/2, AddOn_A3/4, AddOn_B1/2, AddOn_B3/4, AddOn_C1/2, AddOn_C3/4, AddOn_D1/2, AddOn_D3/4. The default setting of Emb-B1/2 is AddOn_B1/2.

Emb-B3/4 Emb-B3/4 determines which audio channels are embedded by channels 3 and 4 of embedder B. The available settings are, AddOn_A1/2, AddOn_A3/4, AddOn_B1/2, AddOn_B3/4,

AddOn_C1/2, AddOn_C3/4 , AddOn_D1/2 , AddOn_D3/4.
The default setting of Emb-B3/4 is AddOn_B3/4.

6 Status Menu

Introduction	The status menu indicates the current status of each item listed below.
Analog-Inp	This status item indicates the presence of a valid analog video signal at the input. <i>Analog-Inp</i> indicates if an input signal is <i>NA</i> (not available) or <i>Present</i> .
SDI-Input	This status item indicates the presence of a valid Serial video signal at the SDI input. <i>SDI-Input</i> indicates if an input signal is <i>NA</i> (not available) or <i>Present</i> .
Reference	This status item recognises a valid reference input on the chosen reference input. Status is not feedback when there is no input. <i>Reference</i> indicates if a reference input is <i>NA</i> (not available) or <i>Present</i> .
Format-Det	<i>625-Lines</i> and <i>525-Lines</i> standards can be detected as the valid input signal format, <i>625/50</i> and <i>525/60</i> are recognised as valid inputs.
EDH-Stat	<i>EDH-Stat</i> , indicates the status of the EDH within the incoming SDI signal. <i>OK</i> is indicated if the status of the detected EDH does not indicate errors. <i>UES</i> is shown if an EDH data block is not present. <i>EDA</i> is displayed if an EDH error has previously been detected by another card in the SDI chain. <i>EDH</i> is displayed if a previously undetected EDH error is detected by this device.

GrpInUse_In

GrpInUse_In indicates the audio groups that are already present in the incoming SDI signal. The indication of a group, or groups being present is as follows,

Display

- _____
- 1_____
- __2____
- 12_____
- ___3____
- 1_3_____
- __23____
- 123_____
- _____4
- 1__4_____
- __2_4____
- 12_4_____
- ___34____
- 1_34_____
- __234____
- 1234_____

When no groups are present GrpInUse_In indicates _____.

Grp-Ins

When the serial digital video signal already contains audio data and Emb-Mode is set to Append and the selection Emb-Sel is set to the same group number as the present audio, this status item will generate an Error. No embedding occurs for the selected group that creates the error. If Emb-Mode is set to Overwrite the present audio data will be lost, and replaced by the new audio data. If Emb-Mode is set to Overwrite, no Grp-Ins error can occur. If an error does not occur Grp-Ins will indicate Ok.

Audio-CH_A1

Audio-CH_A1 displays the status of audio channel A1. The status can be NA (not available) or Ok.

Audio-CH_A2

Audio-CH_A2 displays the status of audio channel A2. The status can be NA (not available) or Ok.

Audio-CH_A3

Audio-CH_A3 displays the status of audio channel A3. The status can be NA (not available) or Ok.

Audio-CH_A4

Audio-CH_A4 displays the status of audio channel A4. The status can be NA (not available) or Ok.

Audio-CH_B1	<code>Audio-CH_B1</code> displays the status of audio channel B1. The status can be NA (not available) or Ok.
Audio-CH_B2	<code>Audio-CH_B2</code> displays the status of audio channel B2. The status can be NA (not available) or Ok.
Audio-CH_B3	<code>Audio-CH_B3</code> displays the status of audio channel B3. The status can be NA (not available) or Ok.
Audio-CH_B4	<code>Audio-CH_B4</code> displays the status of audio channel B4. The status can be NA (not available) or Ok.
FPGA-Stat	<code>FPGA-Stat</code> displays the status of the internal processor of the ASV22. The status is indicated as Ok or Error.

7 Events Menu

Introduction	An event is a special message that is generated on the card asynchronously. This means that it is not the response to a request to the card, but a spontaneous message.
What is the Goal of an event?	The goal of events is to inform the environment about a changing condition on the card. A message may be broadcast to mark the change in status. The message is volatile and cannot be retrieved from the system after it has been broadcast. There are several means by which the message can be filtered.
Events	The events reported by the ASV22 are as follows;
Announcements	Announcements is not an event. This item is only used for switching the announcement of status changes on/off. 0=off, other =on
Ref-Status	Reference can be selected between 0 .. 255. 0= no event, 1..255 are the priority setting. If the reference is lost an Event will be generated at the priority.
Input_ANA	Input_ANA can be selected between 0 .. 255. 0= no event, 1..255 are the priority setting. If set to 0 no events will be generated. If the input is lost an Event will be generated at the priority.
Input_SDI	Input_SDI can be selected between 0 .. 255. 0= no event, 1..255 are the priority setting. If set to 0 no events will be generated. If the input is lost an Event will be generated at the priority.
EDH-Status	EDH status can be selected between 0 .. 255. 0= no event, 1..255 is the priority setting.
ANC-status	ANC status can be selected between 0 .. 255. 0= no event, 1..255 is the priority setting.
What information is available in an event?	The message consists of the following items; 1) A message string to show what has happened in text, for example: "INP_LOSS", "REF_LOSS", "INP_RETURN".

- 2) A tag that also shows what happens, but with a predefined number: e.g. 1 (= loss of input), 2 (= loss of reference), 129(= 1+128 = return of input). For a list of these predefined tags see the table on the next page.
- 3) A priority that marks the importance of an event. This value is defined by the user and can have any value between 1 and 255, or 0 when disabled.
- 4) A slot number of the source of this event.

The Message String

The message string is defined in the card and is therefore fixed. It may be used in controlling software like Synapse Set-up to show the event.

The Tag

The tag is also defined in the card. The tag has a fixed meaning. When controlling or monitoring software should make decisions based on events, it is easier to use the tag instead of interpreting a string. The first implementation is the tag controlled switch in the GPI16.

In cases where the event marks a change to fault status (e.g. 1 for Loss of Input) the complement is marked by the tag increased by 128 (80_{hex}) (e.g. 129 (81_{hex}) for Return of Input).

Defining Tags

The tags defined for the ASV22 are:

Event Menu Item	Tag		Description
Announcements	0 or NA	0 or NA	Announcing of report and control values
Ref-Status	02 _{hex} =REF_LOSS	82 _{hex} =REF_RETURN	reference lost or returned
Input_ANA	01 _{hex} =INP_LOSS_ANA	81 _{hex} =INP_RETURN_ANA	primary input lost or returned
Input_SDI	01 _{hex} =INP_LOSS_SDI	81 _{hex} =INP_RETURN_SDI	primary input lost or returned
EDH-Status	03 _{hex} =EDH_ERROR	83 _{hex} =EDH_OK	EDH error occurred
ANC-Status	06 _{hex} =ANC_ERROR	86 _{hex} =ANC_OK	ANC-Status error

The Priority

The priority is a user-defined value. The higher the priority of the alarm, the higher this value. Setting the priority to Zero disables the announcement of this alarm. Alarms with priorities equal or higher than the Error Threshold setting of the RRC will cause the error LED on the Synapse rack front panel to light.

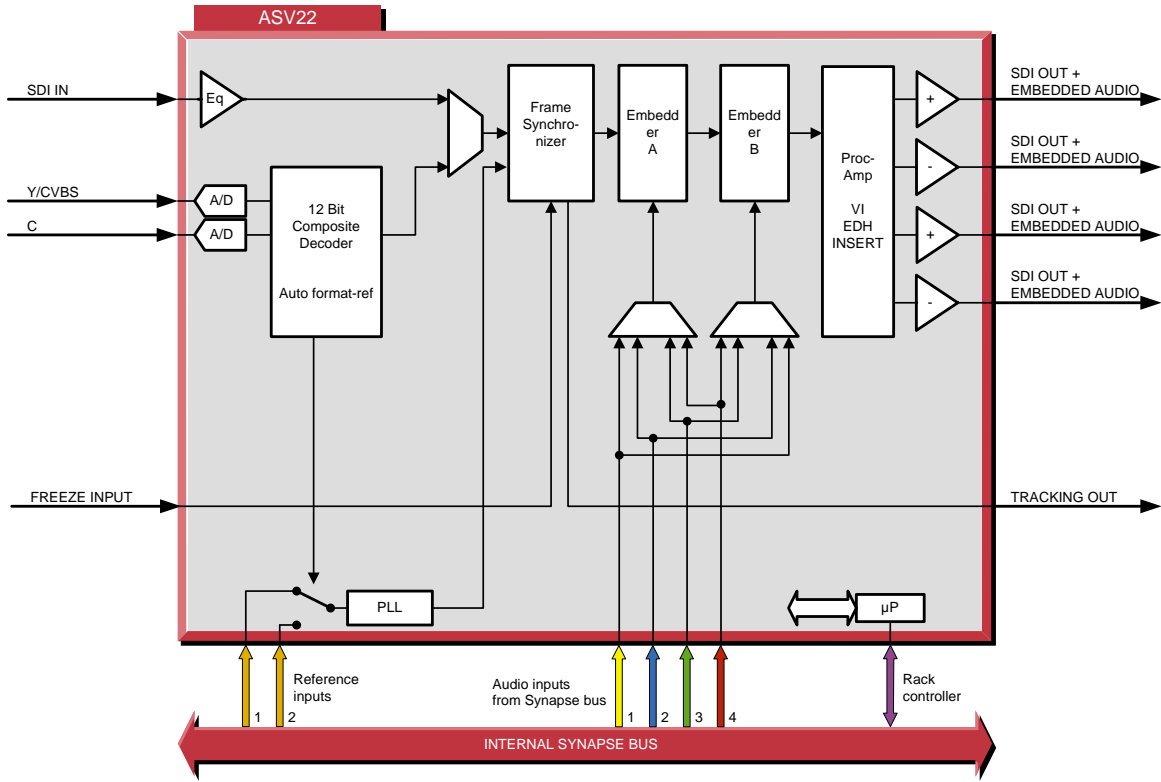
The Address

Together with the message string or the tag, the slot number or address of the card is relevant to be able to assign the event to a certain card.

8 LED Indication

Error LED	The error LED indicates an error if the internal logic of the ASV22 card is not configured correctly or has a hardware failure.
Input LED	This LED indicated the presence of a valid video signal on the input.
Reference LED	Indicated the presence of a valid reference signal on the selected reference input connector (ref-1 or ref-2). See section 5 Ref Input.
ANC Data LED	This led indicates the presence of embedded audio in the serial digital video signal.
DATA ERROR LED	This led indicates three different types of errors: <ul style="list-style-type: none">- Audio signal 1, 2, 3 or 4 of the local output is clipped.- ANC Error.- EHD Error.
Connection LED	This LED illuminates after the card has initialised. The LED lights for 0.5 seconds every time a connection is made to the card.

9 Block Schematic



10 Connector Panel

The ASV22 can be used with the following backplane: BPL01,

!Unused inputs and outputs must be terminated with the correct impedance!

