

Synapse

PBS03

**Dual Channel Backup Switcher
With integrity checking**

Synapse

TECHNICAL MANUAL

PBS03

Dual Channel Backup Switcher
With integrity checking



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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.

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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	Safety
	EN55103-1: 1996	Emission
	EN55103-2: 1996	Immunity

<p>Axon Digital Design PBS03</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:</p> <p>(1) This device may cause harmful interference, and</p> <p>(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, RRS18, RRC10, RRC04 and RRS04 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/RRS18/RRC10/RRC04/RRS04) manual. The method of connection to a computer using Ethernet is described in the RRC manual.



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

Although not required to set up 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.

Locating 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.

3 A Quick Start

When Powering-up

On powering up the Synapse frame, the card set will use basic data and default initialisation settings.

Default settings

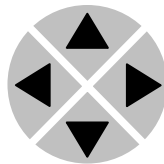
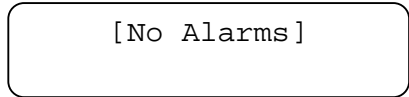
Refer to the menu structure for settings.

Changing settings and parameters

The front panel controls or the Synapse Setup Software can be used to change settings. An overview of the settings can be found in chapter 4, 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.

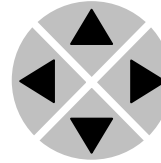
- Press ► To go forward through the menu structure.
- Press ◀ To go back through the menu structure.
- Press ▲ To move up within a menu or increase the value of a parameter.
- Press ▼ To move down through a menu or decrease the value of a parameter.

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

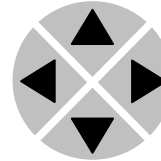
```
RRC18 [Select Card]
>S01=PBS03
```



Pressing the ► selects the PBS03 in frame slot 01.

The display changes to indicate that the PBS03 has been selected. In this example the Settings menu item is indicated.

```
PBS03 [Select Menu]
>Settings
```

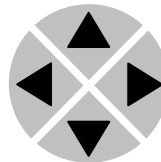


Pressing the ► selects the menu item shown, in this example Settings.

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

The display changes to indicate that the PBS03 Settings menu item SDI-Format has been selected and shows that its current setting is Auto.

```
PBS03 [Settings]
>SDI-Format=Auto
```

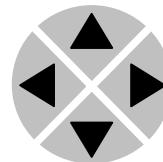


Pressing the ► selects the settings item shown, in this example SDI-Format.

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

The display changes to indicate that the PBS03 Edit Setting menu item SDI-Format has been selected.

```
PBS03 [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.

Synapse Setup Software

Synapse Setup Software can be used to change the settings of 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 PBS03 Card

Introduction	The AXON PBS03 is a dual channel digital serial component (DSC 270 Mbit) video switcher. With integrity checking. The PBS03 has 2 SDI inputs to 2 outputs. The loop-through input is high impedance and must be terminated in 75 Ohms when not used.
EDH Status	The PBS03 monitors the EDH status of the incoming SDI stream in order to assess signal quality.
TRS Status	The PBS03 makes a changeover decision based on the number of the TRS found in the incoming SDI stream. There are two occurrences of the TRS symbol per digital video line, one at the start of active video and the second at the end of active video.
Freeze Status	The PBS03 is able to changeover based on the number of frozen frames detected in the incoming SDI stream.
Embedded audio status	The PBS03 is able to changeover if the embedded audio is no longer present or if it contains silence.
Switch back logic	The PBS03 has the capability to check the “ switch to “ channel or to automatically do the switch.
General Purpose Input	A GPI input is provided to provide an external means of changing over to the second input.
8 Relay Outputs	Eight relay outputs are provided to allow the switching of up to four channels of balanced audio.
Relay for active and backup channel	The active and backup channels are relay switched.
Back planes	The PBS03 can only be used with the BPX02 back plane.

Miscellaneous

The PBS03 cards fit into the Axon SFR04 & SFR18 rack.

LEDs at the front of the board indicate the status of the SDI inputs, Active Channel, Manual Overwrite and Connection.

The PBS03 can be controlled by Axon Synapse set-up software.

General

Note that it is necessary to terminate this output if the Channel B output is not used. Otherwise the card will not function.

We see `Input_A` as the Main channel and `Input_B` as the back channel.

On output A the channel that is active at that moment is always displayed. On output B the channel that is not active at that moment is displayed.

It is possible to set criteria for integrity checking (`carrier`, `TRS`, `freeze`, `audio silence`) for both the Main and Backup channel. There is logic if the card switches to the backup even when the other channel contains errors or it will switch only when the other channel is ok. It is possible that the card will switch back automatically or it will stay on the backup channel even when the main channel is ok again.

It is possible to switch between Main and Backup using an GOI contact.

A Synapse card can generate an event in case of loss of input etc. The PBS03 is capable to monitor events and will switch from main to backup. It is necessary that the PBS03 is in the same frame as the other card that should be monitored.

5 Settings Menu

Introduction	<p>The settings menu displays the current state of each setting within the PBS03 and enables the item to be changed or adjusted.</p> <p>Settings can be changed using the front panel of the Synapse frame (SFR18 or SFR04) or Synapse Setup software.</p> <p>Please refer to chapter 3 for information on the Synapse front panel control and Synapse Setup software.</p> <p>Note: When the PBS03 is in auto mode and switched to channel 2 (if switch back = off) then it's possible to switch to channel 1 with GPI contact number 3. See appendix for pin out.</p>
Mode	<p>Mode determines how the card will switch between the two channels.</p> <p>AUTO the card will switch from the main channel to the backup channel according to the criteria set (Carrier, TRS, Audio silence, Freeze, Event)</p> <p>MANUAL: it is possible to switch between the main and backup channel manually (the actual switch determined by the setting Manual-Sw).</p> <p>GPI-Sw: the PBS03 has local GPI inputs. With this contact it is possible to switch between the main and backup channel.</p> <p>The default setting is AUTO .</p> <p>Note: When the PBS03 is in auto mode and switched to channel 2 (if Switch-back is set to 'off') then it's possible to switch to channel 1 with GPI contact number 3. See appendix for pin out.</p>
Manual-Sw	<p>If the option Manual is selected in Mode, this setting allows you to switch between the Main and the backup channel.</p> <p>Options are SDI -In_1 and SDI-In_2</p> <p>The default setting is SDI-In_1</p>
Sw_GPI_1	<p>SW_GPI_1 determines that in case of a GPI closure (GPI contact one), the MAIN channel is active (for a switch to channel two close GPI_2 and set the SW_GPI_2 setting to ON).</p> <p>In Mode GPI should be selected.</p> <p>The default setting is OFF</p>
Sw_Carrier_1	<p>Sw_Carrier_1 determines that if an SDI carrier is no longer</p>

	<p>present in the main channel, the card will switch to the backup channel.</p> <p>This only works when the backup channel is Ok (if that is set in the setting Back-up OK and if Sw_Carrier_2 is set to ON)</p> <p>The default setting is On</p>
Sw_TRS_1	<p>Sw_TRS_1 determines that when the criteria of the TRS are no longer are fulfilled, it will switch from Main to Backup.</p> <p>TRS errors are signals that have less than 450 TRS in 250 Lines.</p> <p>TRS is a sum that is calculated for each video line.</p> <p>Please note that this only works when the backup channel is Ok (if set in the setting Back-up OK and if Sw_TRS_2 set to ON)</p> <p>The default setting is OFF</p>
Sw_Aud_Sil_1	<p>Sw_Audio_Sil_1 determines that when there is silence in the embedded audio of the main channel, the card switches to the backup channel.</p> <p>Please note that this only works when the backup channel is Ok (if that is set in the setting Back-up OK and if Sw_Aud_Sil_2 is set to ON)</p> <p>The default setting is OFF</p>
Sw_Freeze_1	<p>Sw_Freeze_1 determines that when there are frozen frames in the main channel, the card switches to the backup channel.</p> <p>Please note that this only works, if the backup channel is Ok (if that is set in the setting Back-up OK and if Sw_Freeze_2 is set to ON)</p> <p>The default setting is OFF.</p>
Sw_Event_1	<p>Synapse cards can produce events (input lost etc.), if the card is located in the same frame as the PBS03. In that case the card can switch from main to backup. With SW-Event_2 the PBS03 is set to perform this action.</p>
Sw_GPI_2	<p>W_GPI_2 determines that in case of a GPI closure (GPI contact one), the MAIN channel is active (for a switch to channel two close GPI_2 and set the SW_GPI_2 setting to ON).</p> <p>In Mode GPI should be selected.</p> <p>The default setting is OFF</p>
Sw_Carrier_2	<p>Sw_Carrier_2 determines when there is no longer an SDI carrier present on the backup channel, the card will automatically</p>

switch to the main channel. Please note that this only works when the setting `Switch back` is set to ON.

The default setting is On.

Sw_TRS_2 `Sw_TRS_2` determines when the criteria of the TRS are no longer fulfilled; it will immediately switch from Main to Backup. Please note that this only works when the setting `Switch back` is set to ON.

Sw_Aud_Sil_2 `Sw_Audio_Sil_2` determines when, in case of silence in the embedded audio of the main channel, the card is allowed to switch to the backup channel. Please note that this only works when the setting `Switch back` is set to ON.

Sw_Freeze_2 `Sw_Freeze_2` determines when, in case of frozen frames in the main channel, the card is allowed to the backup channel. Please note that this only works when the setting `Switch back` is set to ON

Sw_Event_2 Synapse cards can produce events (input lost etc.), if the card is located in the same frame as the PBS03. In that case the card can switch from main to backup. With `SW-Event_2` the PBS03 is set to perform this action.

Auto-Sw `Auto-Sw`: this setting determines if the card always switches from the main channel to the backup even when the backup channel is not ok. The criteria are set in the settings above.

`Back-up Ok`: In this case the card will check if the backup channel is ok before doing the switch. That is, if the criteria are set in the settings above.

The default is Back-up OK.

Switch-Back `Switch-Back` can be set On or Off. The default setting is On.

When `Switch-Back` is set to On, and a change over to channel 2 has occurred, the PBS03 will immediately switch back to channel 1 if the quality of channel 1 improves to a level where there are more than 510 TRS in 256 lines in Channel 1.

When `Switch-Back` is set to Off, and a change over to channel 2 has occurred, the PBS02 will only switch back to channel 1 if channel 2 has less than 450 TRS in 256 lines and the condition of Channel 1 is OK.

Default setting is ON

FrontSwitch This setting enables or disables the switch mounted on the front of the PBS03 card The settings of Front-Switch are `Enable` &

	<p>Disable. The default setting is Enable. When enabled, the front switch overrides all other changeover settings.</p> <p>Enable: When Front-Switch is set to Enable, the switch mounted on the front of the PBS03 card allows switching between channel one and channel two of the PBS03. The manual override LED blinks to confirm that the PBS03 is in manual mode. If the switch is held down for 3 seconds, the blinking LED is switched off.</p> <p>Disable: When Front-Switch is set to Disable, the switch mounted on the front of the PBS03 card is disabled and does not allow switching between channel one and channel two of the PBS03.</p> <p>Default setting is ENABLE .</p>
Freeze-frmr	<p>FREEZE-Frmnr allows to set the number of frozen frames that should initiate a changeover. The related range is from 10 to 2047 frames.</p> <p>Default setting is 70.</p>
Freeze-hold	<p>FREEZE-Trsh determines the sensitivity level of the Freeze-Frmnr. Digital, Analog_Lsens, Analog_Msens, Analog_Hsens are the options.</p> <p>Digital when the source has a digital origin</p> <p>Analog_Lsens when the origin source is analog, the sensitivity is LOW.</p> <p>Analog_Msens when the origin source is analog, the sensitivity is MIDDLE.</p> <p>Analog_Hsens when the origin source is analog, the sensitivity is HIGH.</p> <p>Default setting is Analog_Lsens.</p>
Audio-Loss	<p>If the SwitchOr AUDIO-LOSS setting is activated, the Audio-loss setting determines what particular group detects on loss of embedded audio.</p> <p>Group1, Group2, Group3 or Group4.</p> <p>Default setting is Group1</p>
Sil-Det	<p>SILENCE-DET. The specific group selected for Audio-Loss (see previous item) can also be set to detect on silence by means of the Silence-Det. setting. This option is available for all channels and the selected stereo pairs.</p> <p>Channel 1-2, Channel 3-4 or Channel 1-2-3-4.</p> <p>Default setting is Channel 1-2</p>

Sil-Level	<p>SILENCE-LEVEL, determines what level is set to silence if AUDIO-LOSS is activated in a range from -40 dBFs to -100dBFs in steps of -10dBFs.</p> <p>Default setting is -100dBFs order to allow the PBS03 to do a changeover for the selected channels</p>
Silence-Time	<p>SILENCE-TIME. Sets the amount of time that it will take before a changeover is activated.</p> <p>Range from 1 till 255 seconds in steps of 1 second.</p> <p>Default setting is 1 second.</p>
Event-Card_1	<p>Event-card enables the channel changeover to be activated by the occurrence of an event on any of the Synapse cards located within the SFR frame. The settings of Event-card, for an SFR18 are slots, 0 to 18, which enables the events from the card in the selected slot to activate the changeover. The default setting of Event-card is 0.</p>
Event-Tag_1	<p>Event-Tag enables the events on the Synapse card selected by Event-card to activate the channel changeover. The setting of Event-Tag are 0 to 127. The default setting of Event-Tag is 0.</p>
Event-Card_2	<p>Event-card enables the channel changeover to be activated by the occurrence of an event on any of the Synapse cards located within the SFR frame. The settings of Event-card, for an SFR18 are slots, 0 to 18, which enables the events from the card in the selected slot to activate the changeover. The default setting of Event-card is 0.</p>
Event-Card_2	<p>Event-Tag enables the events on the Synapse card selected by Event-card to activate the channel changeover. The setting of Event-Tag are 0 to 127. The default setting of Event-Tag is 0.</p>

6 Status Menu

Introduction	The status menu indicates the current status of each item listed below.
SDI-In_1	<p>SDI-In_1 indicates the status of the digital signal present at input 1 of the PBS03. SDI-In_1 indicates the condition of the SDI signal as follows;</p> <p>OK: The signal at Input 1 of the PBS03 does not have errors.</p> <p>TRS: The signal at Input 1 of the PBS03 has TRS errors.</p> <p>EDH: The signal at Input 1 of the PBS03 has EDH errors.</p> <p>TRS & EDH: The signal at Input 1 of the PBS03 has TRS & EDH errors.</p> <p>NA: If a signal is not present (Not Available) at the Input.</p>
SDI-In_2	<p>SDI-In_2 indicates the status of the digital signal present at input 1 of the PBS03. SDI-In_2 indicates the condition of the SDI signal as follows;</p> <p>OK: The signal at Input 2 of the PBS03 does not have errors.</p> <p>TRS: The signal at Input 2 of the PBS03 has TRS errors.</p> <p>EDH: The signal at Input 2 of the PBS03 has EDH errors.</p> <p>TRS & EDH: The signal at Input 2 of the PBS03 has TRS & EDH errors.</p> <p>NA: If a signal is not present (Not Available) at the Input.</p>
Active-ch	<p>Active-ch indicates which of the two channels of the PBS03 is currently active.</p> <p>SDI-In_1 and SDI-In_2</p>
CarrierD_1	<p>CarrierD_1 indicates if there is a carrier detected on SDI_1 input.</p> <p>This is represented by OK or Error</p>
Trs_1	<p>Trs_1 indicates whether there are TRS errors on SDI_1 input</p> <p>This is represented by OK or Error</p>
Audio-Sil_1	<p>Audio-Sil_1 indicates if SDI-1 contains silence in the embedded audio.</p> <p>This is represented by OK or Error.</p>

Freeze_1	Freeze_1 indicates if SDI_2 contains frozen frames. This is represented by Ok or Error.
Event_1	Event_1 indicates if errors occurred when the switch was used on the basis of an event. This is represented by Ok or Error.
Gpi_in_1	GPI_in_1 indicates if errors occurred when the switch was used with a GPI contact. This is represented by Ok or Error.
CarrierD_2	CarrierD_2 indicates if a carrier is detected in the SDI_2 input. This is represented by Ok or Error.
Trs_2	Trs_1 indicates if TRS errors occurred on SDI_2 input This is represented by OK or Error.
Audio-Sil_2	Audio-Sil_2 indicates if SDI-2 contains silence in the embedded audio. This is represented by OK or Error.
Freeze_2	Freeze_1 indicates if SDI_2 contains frozen frames This is represented by Ok or Error
Event_2	Event_2 indicates if errors occurred when the switch was used on the basis of an event. This is represented by Ok or Error
GPI_2	GPI_in_1 indicates if errors occurred when the switch was used with a GPI contact. This is represented by Ok or Error
GrpInUse_1	Group In Use_1 indicates which embedded audio groups are present in SDI input 1.
GrpInUse_2	Group In Use_2 indicates which embedded audio groups are present in SDI input 2.

AUDIO-Ch1_1	<p>Audio-Ch1_1 indicates the status of Channel 1 of SDI INPUT 1 with embedded audio.</p> <p>OK indicates that the audio is present.</p> <p>NA indicates that the audio is not available.</p>
AUDIO-Ch1_2	<p>Audio-Ch1_2 indicates the status of Channel 2 of SDI INPUT 1 with embedded audio</p> <p>OK indicates that the audio is present.</p> <p>NA indicates that the audio is not available.</p>
AUDIO-Ch1_3	<p>Audio-Ch1_3 indicates the status of Channel 3 of SDI INPUT 1 with embedded audio</p> <p>OK indicates that the audio is present.</p> <p>NA indicates that the audio is not available.</p>
AUDIO-Ch1_4	<p>Audio-Ch1_4 indicates the status of Channel 4 of SDI INPUT 1 with embedded audio</p> <p>OK indicates that the audio is present.</p> <p>NA indicates that the audio is not available.</p>
AUDIO-Ch2_1	<p>Audio-Ch2_1 indicates the status of Channel 1 of SDI INPUT 2 with embedded audio</p>
AUDIO-Ch2_2	<p>Audio-Ch2_2 indicates the status of Channel 2 of SDI INPUT 2 with embedded audio</p> <p>OK indicates that the audio is present.</p> <p>NA indicates that the audio is not available</p>
AUDIO-Ch2_3	<p>Audio-Ch2_3 indicates the status of Channel 3 of SDI INPUT 2 with embedded audio</p> <p>OK indicates that the audio is present.</p> <p>NA indicates that the audio is not available</p>
AUDIO-Ch2_4	<p>Audio-Ch2_4 indicates the status of Channel 4 of SDI INPUT 2 with embedded audio</p> <p>OK indicates that the audio is present.</p> <p>NA indicates that the audio is not available</p>
Anc-Det_1	<p>ANC-DET indicates that embedded audio is present and valid. ANC-DET if an input signal is OK, NA (not available), or ERROR</p>

Anc-Det_2 ANC-DET indicates that embedded audio is present and valid. ANC-DET if an input signal is OK, NA (not available), or ERROR

EDH-Stat_1 EDH-Stat indicates the status of the EDH within the incoming SDI signal. OK indicates that the detected EDH does not show errors.
UES means that an EDH data block is not present.
EDA is displayed if an EDH error has previously been detected by another card in the SDI chain.
EDH is displayed if a previously undetected EDH error is detected.

EDH-Stat_2 EDH-Stat indicates the status of the EDH within the incoming SDI signal. OK indicates that the detected EDH does not show errors.
UES means that an EDH data block is not present.
EDA is displayed if an EDH error has previously been detected by another card in the SDI chain.
EDH is displayed if a previously undetected EDH error is detected.

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.
PBS03 Events	The events reported by the PBS03 are as follows;
Announcements	<p>Announcements is not an event. This item is only used for switching the announcement of status changes on/off. 0=off, other =on.</p> <p>Beware: this does NOT influence the announcement from the cards within the frame or the announcing of the Frame Status object. Use the 'Settings' menu items 'Broadcasts' and 'Forwarding' for Announcement propagation on the network.</p>
Input_1 to Input_2	Input_1 and Input_2 can be selected between 0 .. 99. 0= no event, 1..99 is the priority setting.
GPI_in	GPI-in can be selected between 0 .. 99. 0= no event, 1..99 are the priority setting. If the reference is lost an Event will be generated at the priority.
Freeze_1 to Freeze_2	Freeze_1 and Freeze can be selected between 0..99. 0= no event, 1..99 is the priority setting.
What information is available in an event?	<p>The message consists of the following items;</p> <ol style="list-style-type: none">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 Setup 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 RRC10 are:

Event Menu Item	Tag		Description
Announcements	0 or NA	0 or NA	Announcing of report and control values
Input_1	01 _{hex} =INP_LOSS_1	81 _{hex} =INP_RETURN_1	SDI input 1 lost or returned
Input_2	01 _{hex} =INP_LOSS_2	81 _{hex} =INP_RETURN_2	SDI input 2 lost or returned
GPI_in	08 _{hex} =GPI_in_ON	88 _{hex} = GPI_in_OFF	GPI Active or Inactive
Freeze_1	08 _{hex} =Freeze on _1	08 _{hex} =Running on _1	Freeze or running picture
Freeze_2	08 _{hex} =Freeze on _2	08 _{hex} = Running on _2	Freeze or running picture

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.

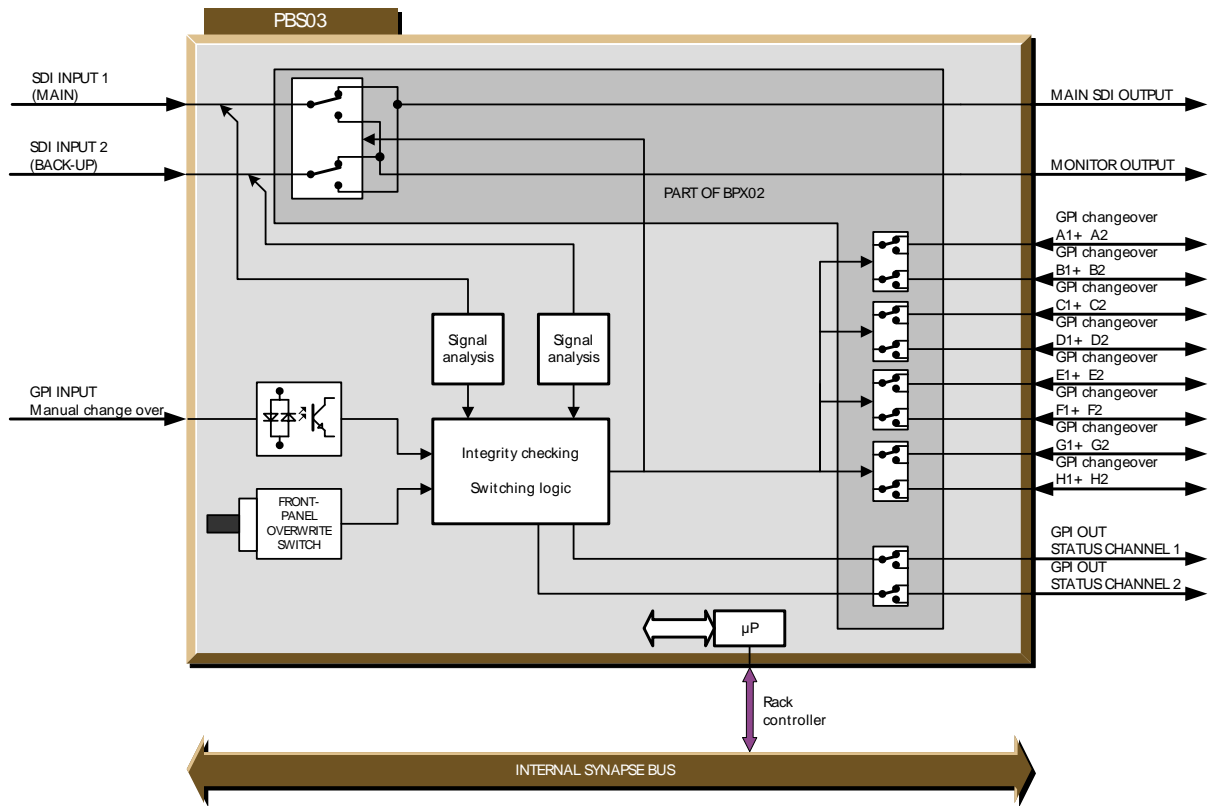
The Address

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

SDI 1 OK LED	The SDI 1 OK LED indicates the status of the SDI 1 input (main input). The LED illuminates if the TRS is OK and blinks if there are EDH errors in the incoming signal.
SDI 2 OK LED	The SDI 2 OK LED indicates the status of the SDI 2 Input (backup input). The LED illuminates if the TRS is OK and blinks if there are EDH errors in the incoming signal.
Active Main Channel LED	Active Main Channel LED illuminates to show that SDI 1 main input is currently in use.
Active Backup Channel LED	Active Backup Channel LED illuminates to show that SDI 2 backup input is currently in use.
Manual Overwrite LED	Manual Overwrite LED blinks to show that the manual overwrite switch (on the board) is active.
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

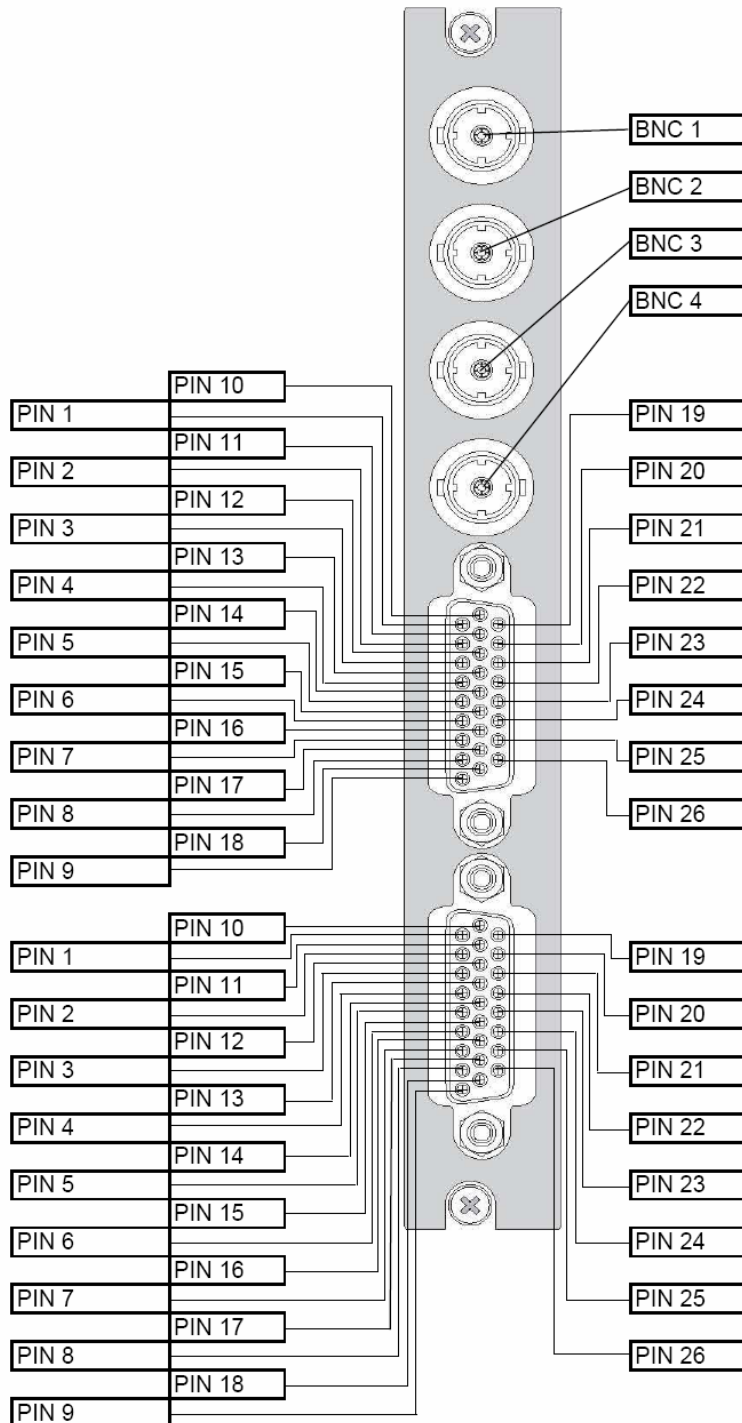


10 Connector Panel

The PBS03 can only be used with the following backplane: BPX02.

WHEN MONITOR OUTPUT ISN'T USED, THEN IT IS NECESSARY TO TERMINATE IT.

BPX02



BNC 1	CHANNEL 1 IN
BNC 2	CHANNEL 2 IN
BNC 3	CHANNEL 2 OUT
BNC 4	CHANNEL 1 OUT

UPPER 26 P SUB HD

PIN 1	H CC
PIN 2	G CC
PIN 3	F CC
PIN 4	E CC
PIN 5	D CC
PIN 6	C CC
PIN 7	B CC
PIN 8	A CC
PIN 9	GND
PIN 10	H NCC
PIN 11	G NCC
PIN 12	F NCC
PIN 13	E NCC
PIN 14	D NCC
PIN 15	C NCC
PIN 16	B NCC
PIN 17	A NCC
PIN 18	5 Volt pos.
PIN 19	H NOC
PIN 20	G NOC
PIN 21	F NOC
PIN 22	E NOC
PIN 23	D NOC
PIN 24	C NOC
PIN 25	B NOC
PIN 26	A NOC

LOWER 26 P SUB HD

PIN 1	5 Volt pos.
PIN 2	GPI 2 +
PIN 3	GPI 3 -
PIN 4	NC
PIN 5	NC
PIN 6	NC
PIN 7	ACTIVE CH NCC
PIN 8	CHANNEL 1 NCC
PIN 9	CHANNEL 2 NCC
PIN 10	GND
PIN 11	GPI 1 -
PIN 12	GPI 3 +
PIN 13	GPI 4 -
PIN 14	NC
PIN 15	NC
PIN 16	ACTIVE CH C
PIN 17	CHANNEL 1 C
PIN 18	CHANNEL 2 C
PIN 19	GPI 1 +
PIN 20	GPI 2 -
PIN 21	GPI 4 +
PIN 22	NC
PIN 23	NC
PIN 24	ACTIVE CH NOC
PIN 25	CHANNEL 1 NOC
PIN 26	BP

NCC : NORMALY CLOSED CONTACT
 NOC : NORMALY OPEN CONTACT
 CC : CENTER CONTACT

