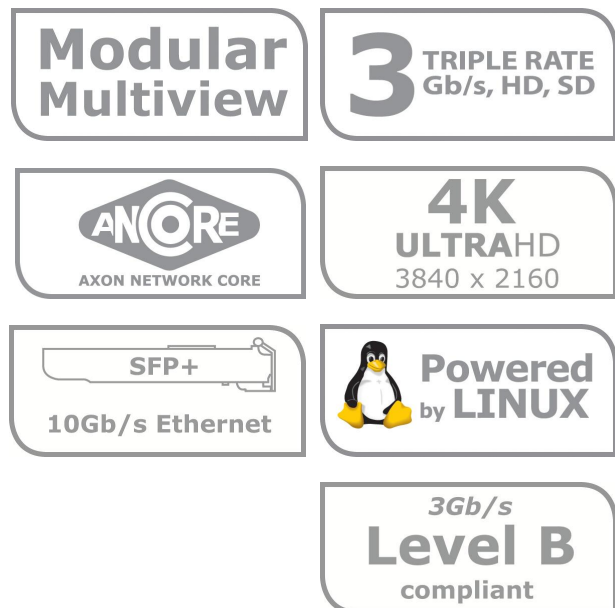




## MNU100-MNG100

**IP multiview building block with up to 6 inputs and up to 8 outputs (heads) or dual 4k/UHD output resolution**

**A Synapse® product**



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## Introduction

**SynView** is Axon’s next generation Synapse modular multi-viewer. The system consists of 6 different models. These models can be mixed and matched to build a hybrid multiviewer with up to hundreds of inputs and 8 1080p heads (on SDI) or two heads with UHD/4K resolution. Multiple connector panels will be available to allow for different I/O configurations.

There currently are 6 models defined:

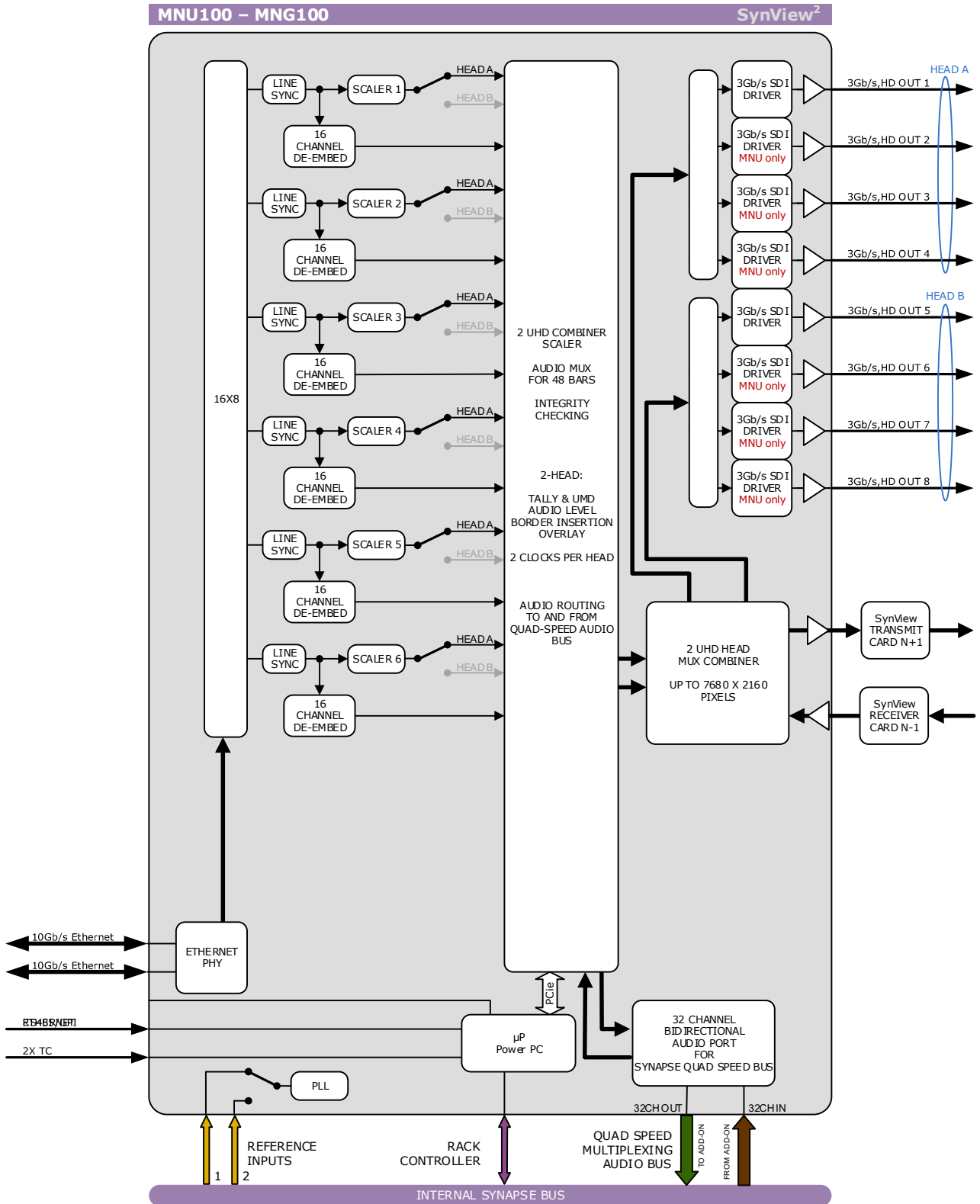
differentiation Model name Application	SDI IN	SDI OUT	IP inputs (physical)	IP inputs (logical)	IP outputs	PIP	monitoring
<b>MGU200</b> Production SDI inputs	8	8	-	-	-	16	basic
<b>MGG200</b> Production SDI inputs	8	2	-	-	-	16	basic
<b>MGU100</b> Monitoring SDI inputs	8	8	-	-	-	8	extensive
<b>MGG100</b> Monitoring SDI inputs	8	2	-	-	-	8	extensive
<b>MNU100</b> Network IP inputs	-	8	2x6 Back-up redundancy	6	-	6	basic
<b>MNG100</b> Network IP inputs	-	2	2x6 Back-up redundancy	6	-	6	basic

The above cards have the same output configuration with up to dual head UHD/4k on dual quad 3Gb/s SDI, or 8 heads on SDI. The cards can be combined in any combination up to **12** cards in the new SFR18 gen3 with the new SMP175 power supply. In the Gen3 SFR08 will fit up to 5 boards.

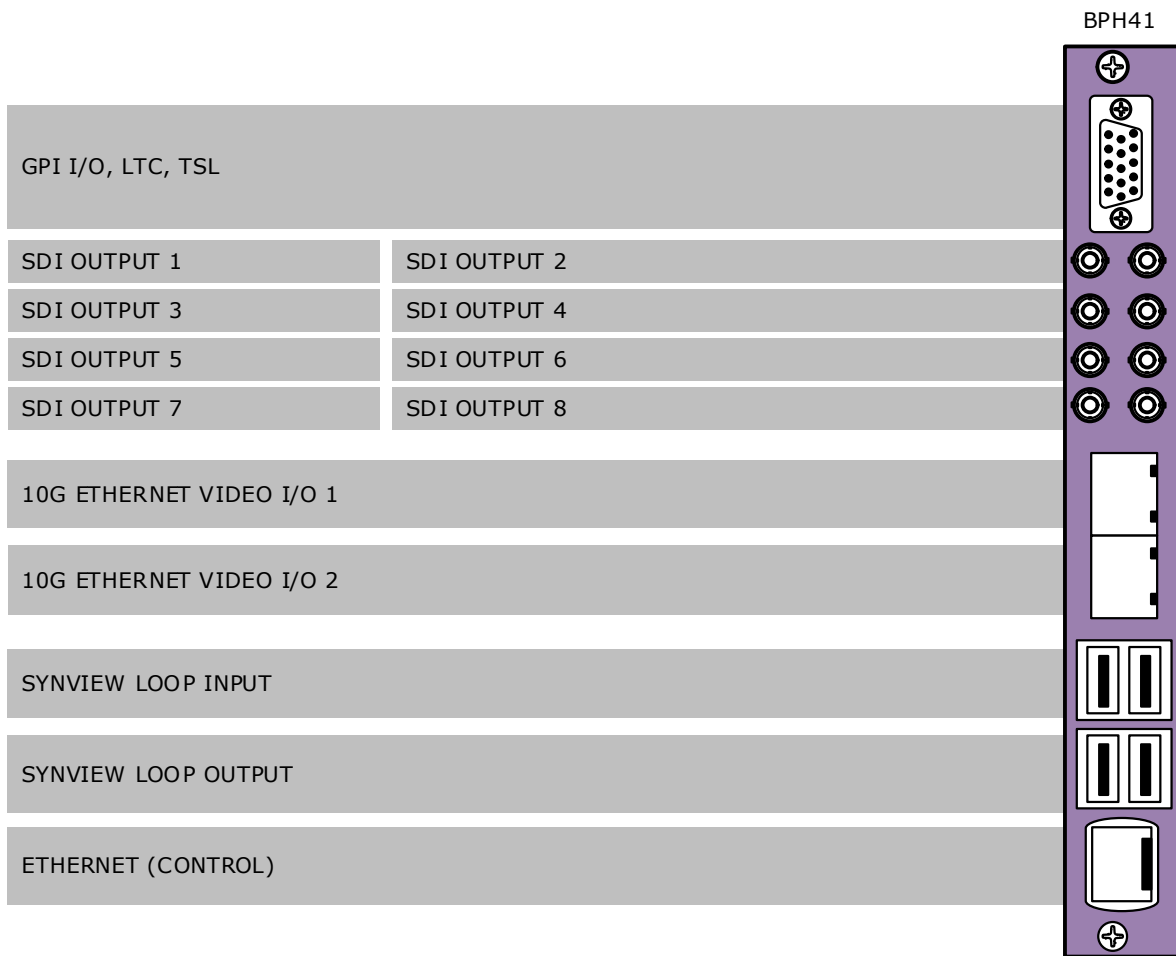
Because of the external Daisy Chain mini SAS-HD connector you can build a multi viewer with, in theory, an unlimited amount of input channels as you can chain the cards even between frames. You can split the multiviewer into smaller chunks of cards, each block with its own set of PIPs (Picture In Pictures) and its own outputs. A MGU200 can also be used stand alone as a dual quad split (or even oct split) with 8 1080p pictures spread over 2 UHD screens (pixel mapping with no scaling)



Block schematic MGU200 & MGG200



## Connector panel option



## HDMI connectivity

The consumer display market supplies our industry with great monitor options at very reasonable prices. The UHD compatibility of Synview2 allows for the use of very cost effective 4k UHD screens. The inputs for these screens are always based on HDMI. Recently the standard has been improved and the 2.0 spec allows for 4k with up to 60p frame rates.

A four wire to HDMI 2.0 converter ideally compatible with 2SI (or two sample interleaved) or Quadrants is needed to connect the SDI outputs to these commercial screens.

## Features

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The MGU200, MGG200, MGU100, MGG100 and MNU100 are all based on the same hardware. Via different firmware and selected connector panels, you can build a vast array of multiview application by mixing and matching the different versions

Features MNU100/MNG100:

- 2x 10Gb Ethernet inputs displaying the content of maximum 6 sources with ST2022-6 and ST2110 inputs
- Back-up redundancy, the card can switch when errors are detected in the content
- Clean switch functionality
- Each input can be displayed on each head with an individual scale and position
- Low latency (20 ms for 50Hz, 17 ms for 59.94Hz)
- Full RGB domain (internal 20bit processing for scaling)
- Up to 2x 4k/UHD (2160p60) resolution on 2x 4-wire SDI (MGU200 only)
- Up to 8 3Gb/s SDI outputs
- Full variable scaling and positioning for all individual inputs
- All inputs are compatible with 1080p50/59.94, 1080p(sf)29.97/25/24, 1080i50/59.94, 720p59.94/50/29.97/25/24 and SD625/525 (mixing is allowed with different frame rates)
- 48 audio bars free assignable from 96 embedded sources and/or 32 sources via the Quad Speed Audio bus
- Three assignable regions in or under monitor: Input format, Static UMD and Dynamic UMD, VITC, ATC, LTC, Aspect Ratio
- Lock to input, reference or free running
- Masked or transparent audio bar graphics with AES/EBU, BBC or Nordic scale VU meters.
- Customizable color schemes for audio meters
- Two definable clocks per head; Analog, Digital or Combined
- Digital clock can be set to normal time, up counter or down counter
- Clocks can be assigned to VITC, ATC, LTC, NTP (Ethernet) or system
- UMD colors: gray, green, red and amber
- Border, UMD and tally brightness adjustments
- Automatic 4:3 and 16:9 modes through VI or WSS triggers (SD-SDI inputs)
- GPI control for Aspect ratio, Full screen modes and Tally
- Locks to Bi-level, Tri-level syncs or SDI input
- Full control and status monitoring through the front panel of the SFR08/SFR18 frame and the Ethernet port (ACP)

**For more information, screen examples and explanations about the various I/O modes, please refer to the Synview brochure via our website [www.axon.tv/synview](http://www.axon.tv/synview).**

## Applications

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- Small to extremely large monitoring walls
- Fast response production monitor walls with unequalled low processing delay and startup time
- High resolution high source count monitor walls
- OB van preview monitoring and shading
- Multiview monitoring walls in ST2022-7 environments

## Ordering information

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### Module:

- **MNU100:** 6 IP inputs with 6 PIPs to dual UHD heads (extensive video/audio analysis)
- **MNG100:** 6 IP inputs with 6 PIPs to dual HD heads (extensive video/audio analysis)

### Standard I/O:

- **BPH41\_MNNxxx:** Connector panel for IP inputs

## Specifications

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### IP Video Input

<b>Standard</b>	ST2022-6, ST2110-20, ST2110-30 (future) 625/50 or 525/59.94 SMPTE 259M-C (270Mb/s) with SMPTE 272M embedded audio  SMPTE 292M (1.5Gb/s), SMPTE 260M, SMPTE 274M, SMPTE 296M, SMPTE 349M, SMPTE424  1080i/59.94, 1080i/50, 720p/59.94, 720p/50 1080p/50 and 1080p/59.94
<b>Number of Inputs</b>	6

### Reference Input through RRC

<b>Number of Inputs</b>	2 on SFR18, 2 on SFR08
<b>Tri-level</b>	SMPTE274M, SMPTE296M 600 mVp-p nominal, 75 Ohms terminated through loop
<b>Bi-level</b>	PAL Black Burst ITU624-4/SMPTE318, Composite NTSC SMPTE 170M 1Vp-p nominal, 75 Ohms terminated through loop

### Display output

<b>Standard</b>	RJ45 containing DVI or HDMI up to UHD/60p
<b>Number of Outputs</b>	2 display signals Up to 8 3Gb/s SDI
<b>Cable driver</b>	Up to 10 meter with CAT6 Up to 100 meter on SDI

### Serial video output

<b>Standard</b>	SMPTE 292M (1.5Gb/s), SMPTE 260M, SMPTE 274M, SMPTE 296M, SMPTE 349M, SMPTE424A
<b>Number of Outputs</b>	8

### LTC Input

<b>Standard</b>	SMPTE 12M
<b>Connector</b>	15pins D-sub
<b>Number of Inputs</b>	2

### Miscellaneous

<b>Weight</b>	Approx. 350g
<b>Operating Temperature</b>	0 °C to +50 °C
<b>Dimensions</b>	137 x 296 x 20 mm (HxWxD)

### Electrical

<b>Voltage</b>	+24V to +30V
<b>Power</b>	<35 Watts