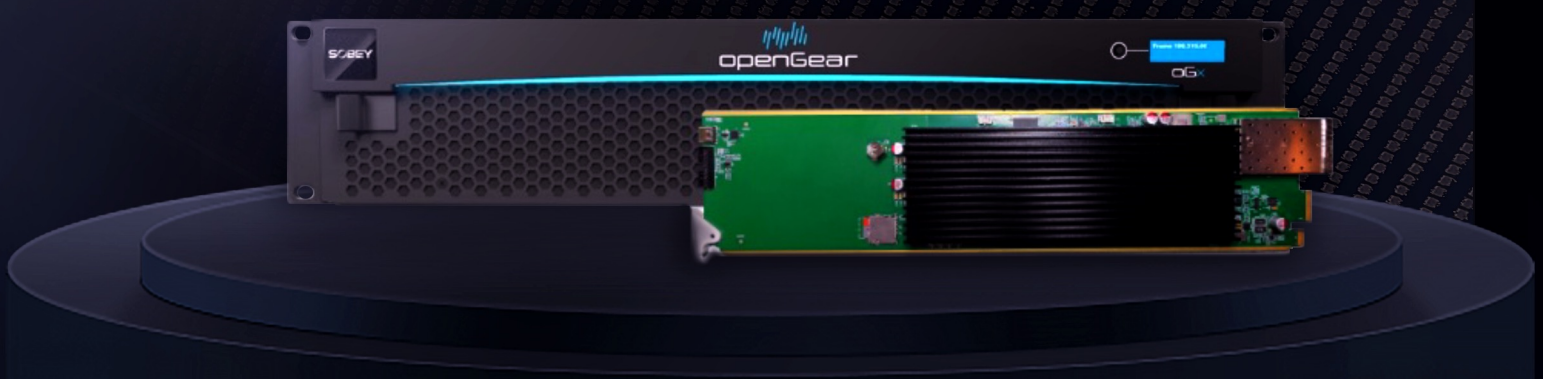
CHENGDU SOBEY DIGITAL TECHNOLOGY CO., LTD.

SOBEY

MCG-1016



Multi-format up/down scaling	Accurate effect restoration
LUTs based conversion	IP/SDI/NVI conversion

MCG-1016

Product Overview

The MCG-1016 implements up-conversion and down-conversion functions, suitable for SDI signal cross-conversion scenarios in systems such as OB vans, studios, master control, and broadcasting. The product has the following main functions:

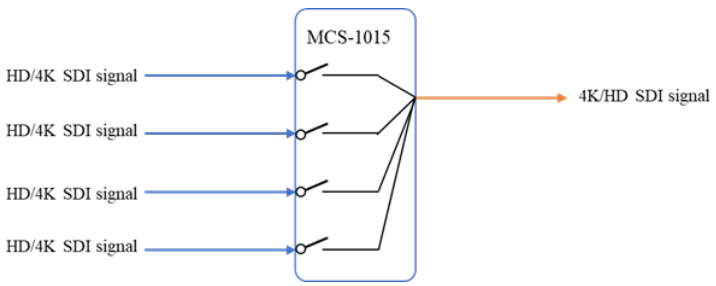
- Supports up-conversion and down-conversion based on dynamic metadata, static metadata, parameter settings, and LUT tables.
- Supports frame synchronization processing for all input signals.
- Supports reproduction of conversion effects from other up/down converters.

The product adopts a chassis card form factor, with each 2U chassis supporting up to 10 processing units.

Application Scenarios

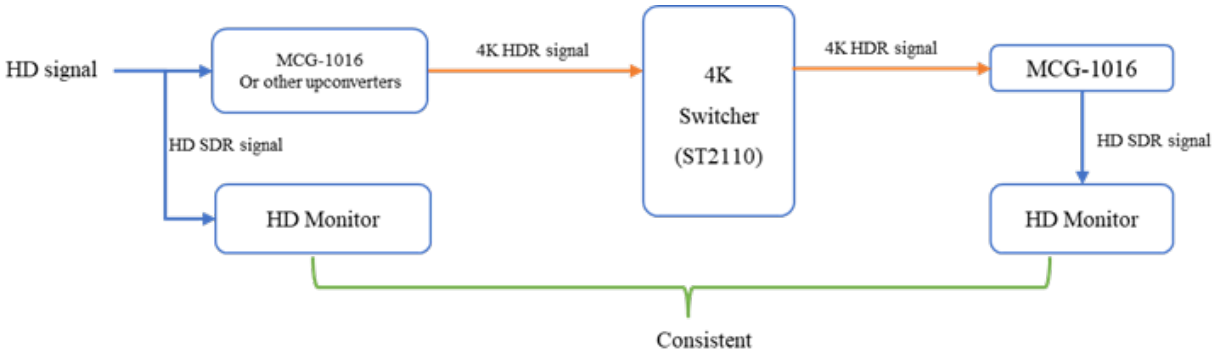
Supports calibration, reproduction, and adaptation to other converter effects

- Based on the pre-configured CCU output, the conversion parameters between 4K HDR and HD SDR outputs from the CCU are restored using Sobey's proprietary algorithm, and a LUT is generated. This LUT can be imported into post-production systems such as DaVinci Resolve, FCP, and Sobey non-linear editing, or it can be exported back to the cross converter for switcher post-processing.



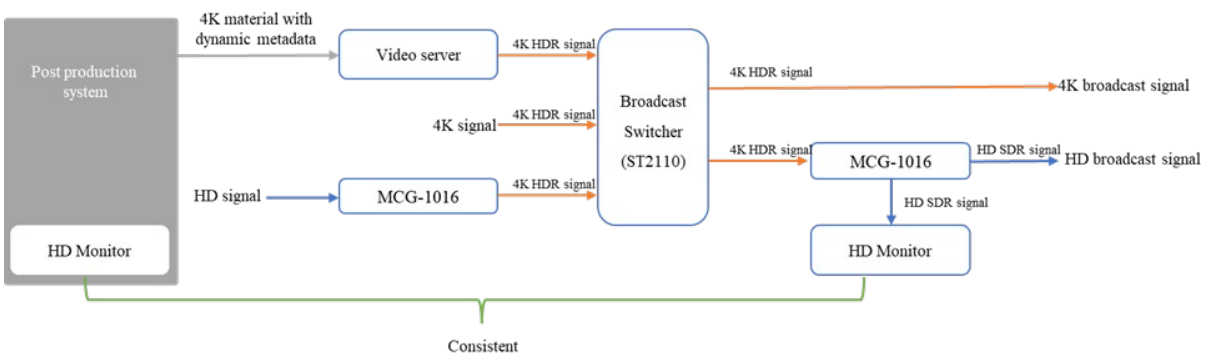
Output restored HD signals

- In the production process of 4K live broadcasts, external HD signals need to be up-converted into 4K signals before being fed into the system. The PGM signals produced by the switcher also need to be down-converted into HD signals for the post-production system or broadcasting system. Regardless of whether the up-conversion is performed using equipment from the same series, the MCG-1016 supports the down-conversion output of restored HD signals.



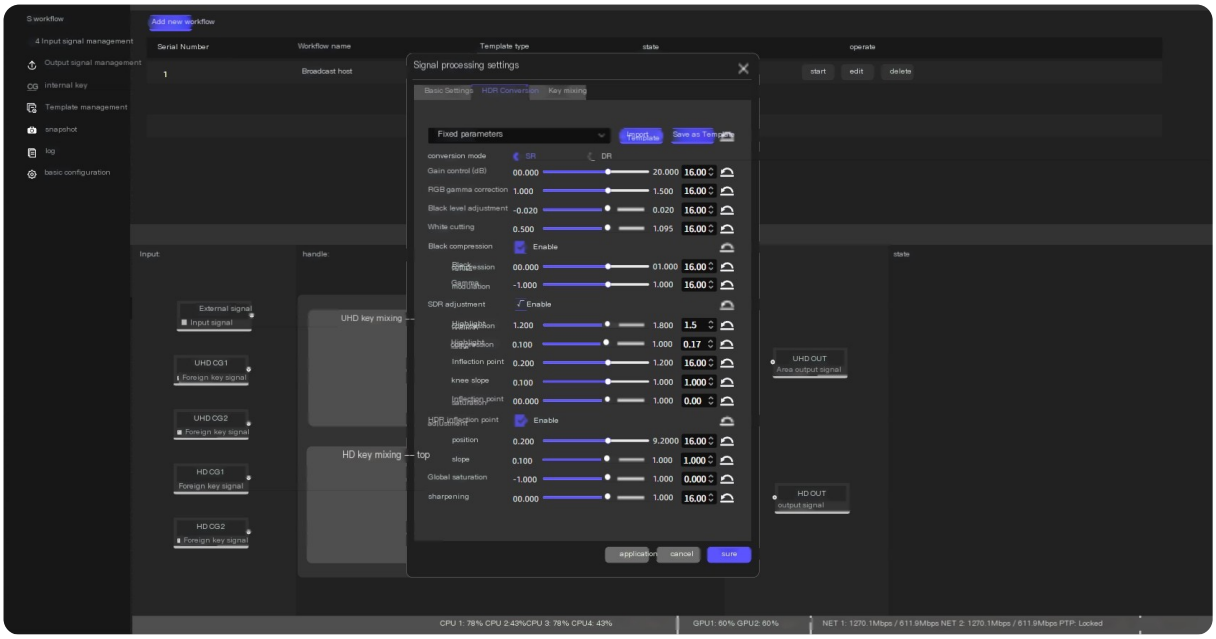
A collaborative production and broadcasting scenario where what is reviewed is what is broadcasted, based on dynamic metadata down-conversion

- In the broadcasting scenario, it supports down-conversion based on the dynamic metadata provided by the post-production system, achieving HD effects consistent with the content that has been produced and reviewed by the post-production system.

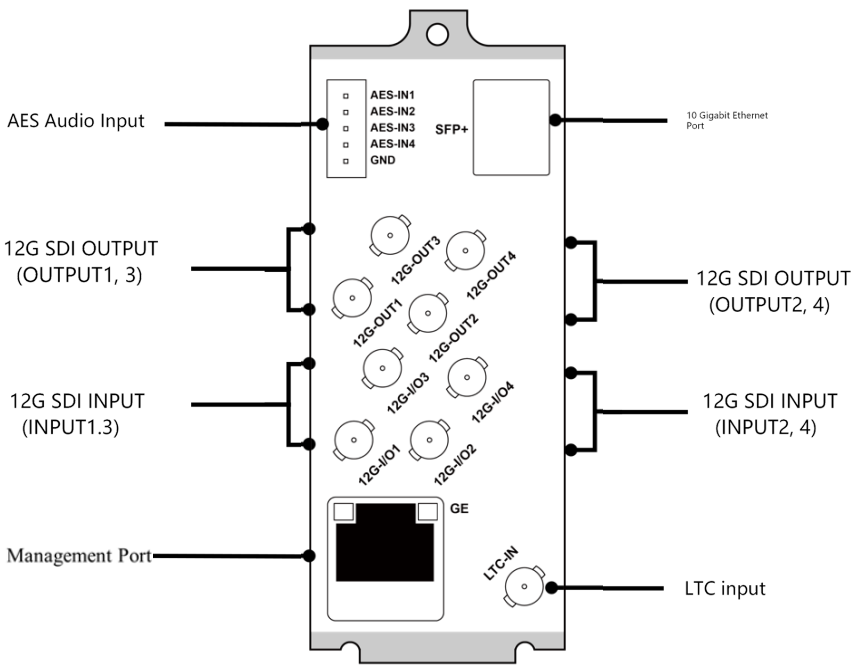


Diverse transformation methods

- Supports a variety of transformation methods, including dynamic/static metadata, LUTs, and parameter settings.



Device Interface



Technical Specification

Input/output	
SDI Interface	12G SDI x 8（4 IN/OUT，4OUT）
10 Gigabit Ethernet NIC	SFP+ x 1
Management Port	RJ-45 x 1
LTC	LTC In x 1
Video Standards	
4K	3840 x 2160 60p/59.94p/50p
HD	1920 x 1080 60p/59.94p/50p/59.94i/50i
Clock synchronization	
REF Bi-Level or Tri-Level	
Number of slots	
2 slots	
Main function	
Single-Channel Cross Converter	
Supports 4K/HD up/down conversion, HDR/SDR conversion, and HDR/HDR adaptation conversion for SDI signals	
Supports frame synchronization processing for incoming SDI signals	
Supports color space recognition and ITU-R BT.709 to BT.2020 conversion	
Supports up/down conversion based on dynamic/static metadata	
Supports up/down conversion based on LUTs and LUT import/export	
Supports up/down conversion based on parameters, including: SR/DR, gain control, RGB gamma correction, black level adjustment, white clipping, black compression (black compression range, black compression gamma adjustment), SDR adjustment (highlight compression position, highlight compression slope, inflection point, inflection point slope, inflection point saturation), HDR inflection point adjustment (position, slope), and global saturation	
Supports HDR/HDR adaptation based on fixed parameters or LUTs	
Provides supporting software, supports calibration, reproduction, and adaptation to other converter effects.	
Provides supporting software to generate down-conversion LUTs based on upconverters, enabling the restoration of HD signals.	
Provides supporting software to further optimize and dim the transformation effect implemented by the LUTs, generating new LUTs for real-time transformation.	
One 2RU chassis supports up to 10 channels for cross-conversion.	
Chassis configuration	
Number of Slots	20
Power Supply	100V to 240V AC，50/60 Hz
Power Consumption	600W
Temperature Range	0℃- 40℃
Dimensions (W x H x D, mm)	483 x 90 x 427
Redundant Power Supply	Yes