

MCG-1018



Multi-format up/down scaling

Accurate effect restoration

Dynamic multi-LUT switching

SDR/HDR & HDR/HDR conversion

IP/SDI/NVI conversion

MCG-1018

☆ Product Overview

The MCG-1018 not only implements IP gateway and up-conversion functions, but also supports multi-LUT table switching and other functions, suitable for IP/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 reproduction of conversion effects from other up/down converters
- Supports dynamic loading of multiple LUTs and real-time matching of metadata for automatic switching.

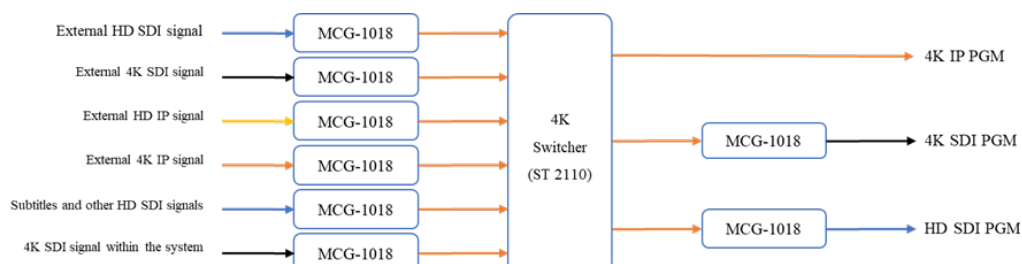
The product adopts a chassis card form factor, with each 2U chassis supporting up to 5 processing units.



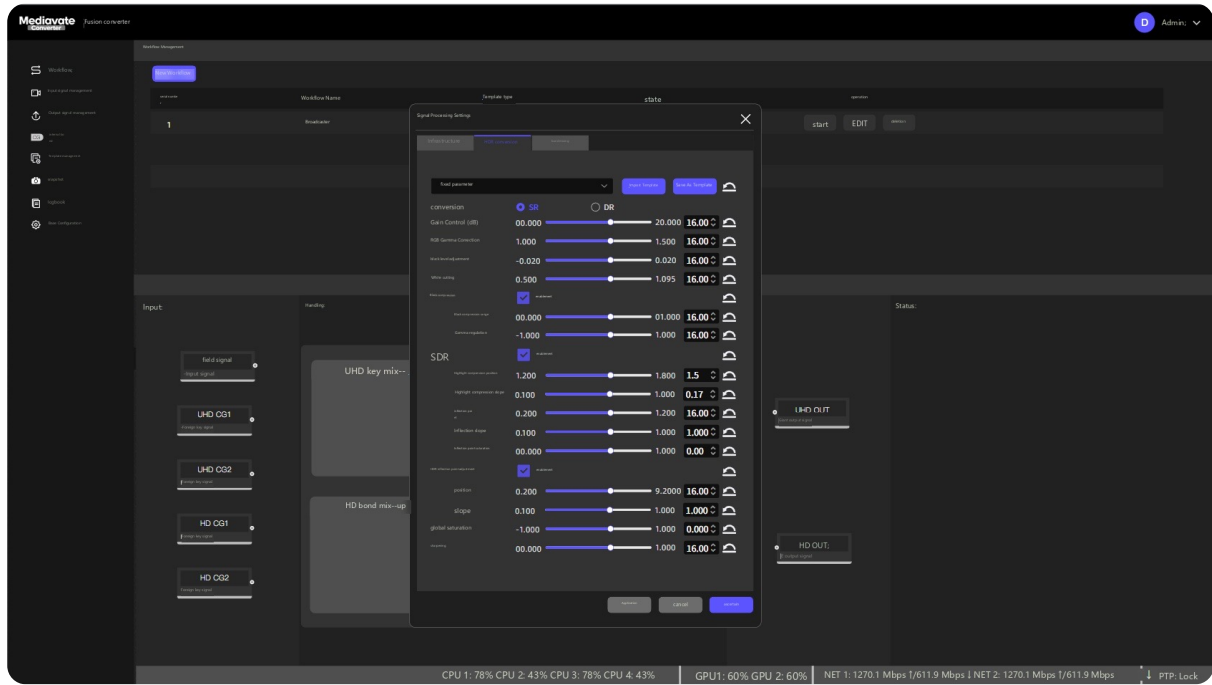
✓ Application Scenarios

Rich Conversion Methods

- Features SDI/IP conversion, upconversion, downconversion, cross-conversion, and NAT redirection.



- Supports rich transformation methods such as dynamic/static metadata, LUTs, and parameter settings



Supports Calibration, Reproduction, and Adaptation to Other Converter Effects

- Based on the pre-configured CCU output, using Sobey's proprietary algorithm, the conversion parameters between 4K HDR and HD SDR outputs from the CCU are restored, 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.



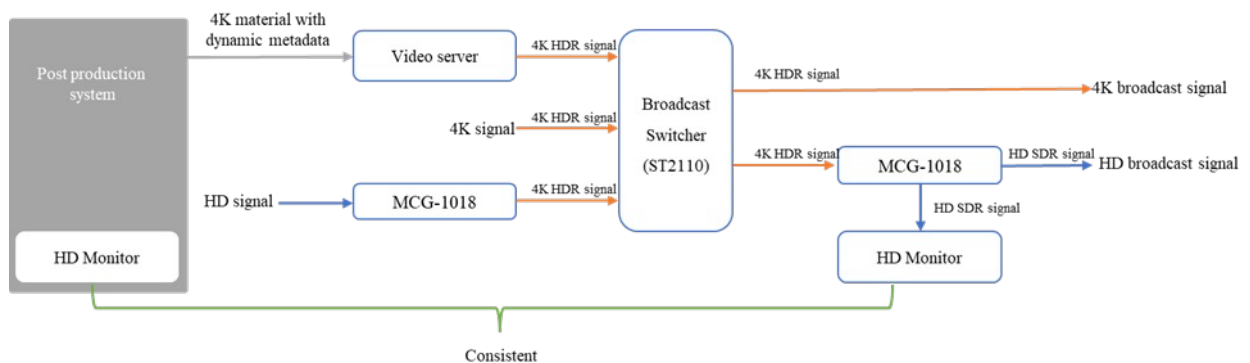
Output restored HD signal

- During 4K live broadcast production, the incoming HD signal needs to be upconverted to 4K before entering the system. The PGM signal after switcher processing also needs to be downconverted to HD for the post-production or broadcast system. Regardless of whether this series of equipment is used for upconversion, the MCG-1018 supports downconverted output restored HD signal.



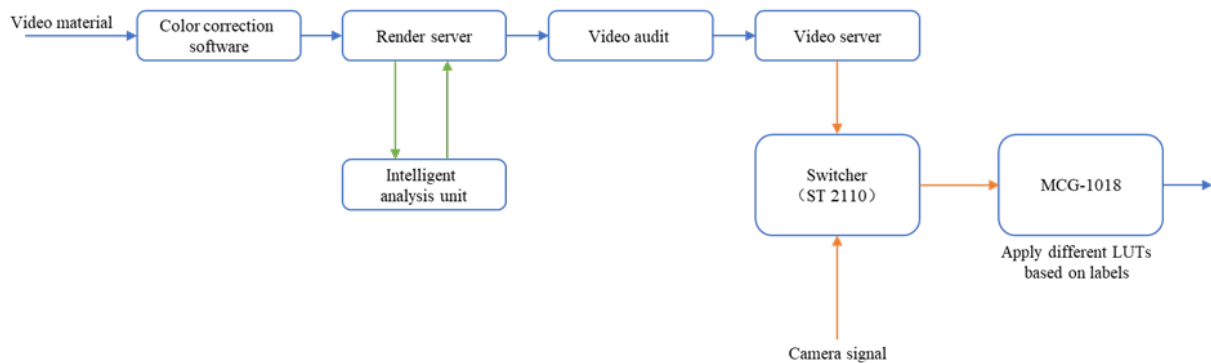
Conversion Based on Dynamic Metadata, Collaborative Production and Broadcasting Scenario of "What is Reviewed is What is Played"

- In broadcast scenarios, it supports downconversion based on dynamic metadata provided by the post-production system, achieving an HD effect consistent with the content completed and approved by the post-production system.

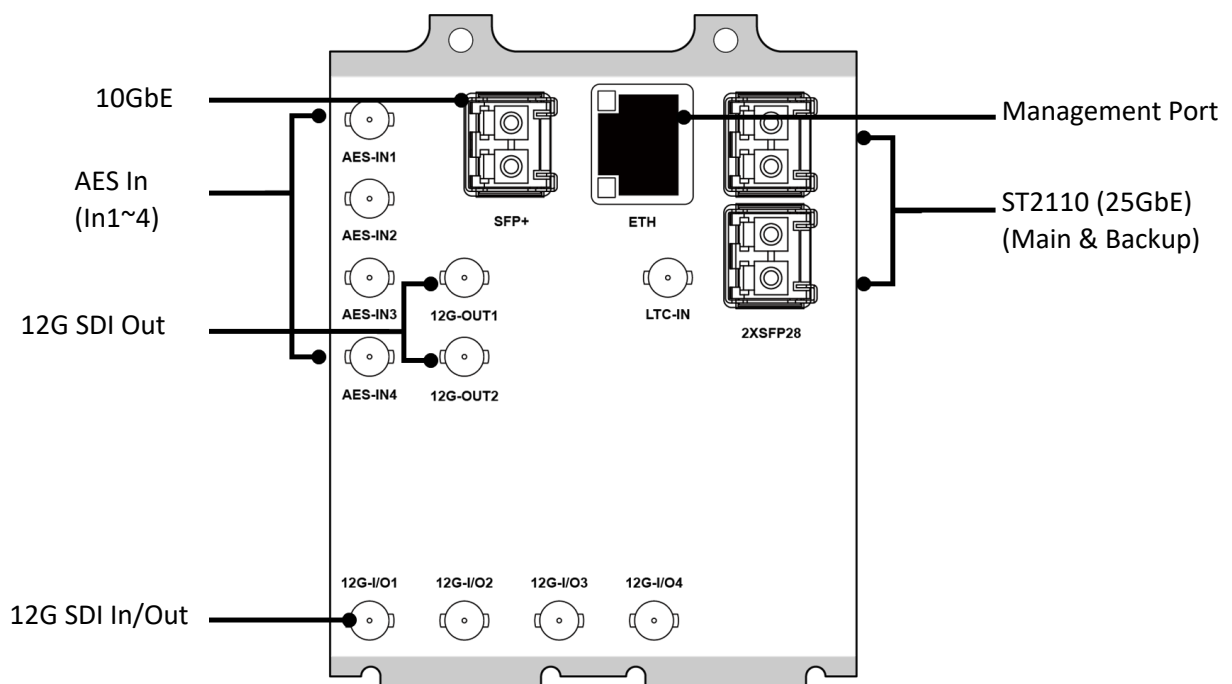


Automatically match and switch different LUT tables based on scene metadata

- In the program production process, transformation parameters or transformation scene parameters are obtained based on the intelligent analysis of the materials, and the corresponding transformation metadata is written into the file. MCG-1018 automatically matches the corresponding LUT based on the metadata to perform transformation, so as to achieve different transformation effects.



Device Interface



Technical Specification

Input/Output

Media Data Interface	25G SFP28 x 2
SDI Interface	12G SDI x 6 (4IN/OUT, 2OUT)
Digital Audio	BNC x 4,8 channel
LTC	LTC In x 1
10 Gigabit Ethernet Port	SFP+ x 1
Management Port	RJ-45 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
SMPTE ST 2059 PTP clock

Number of slots

4 slots

Main function

Supports Single-Channel Cross Converter
Supports 4K/HD up/down conversion, HDR/SDR conversion, and HDR/HDR adaptation conversion for SDI signals
Supports IP signal 4K/HD up/down conversion, HDR/SDR, HDR/HDR conversion
Supports IP/SDI mutual conversion, simultaneous up/down conversion, HDR/SDR conversion, HDR/HDR adaptation conversion, SDI supports simultaneous 4K/HD output

Main function

Supports frame synchronization processing for incoming SDI signals

Dynamic loading of multiple LUTs, real-time matching of metadata/automatic switching

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 AES audio embedding

Supports calibration, reproduction, and adaptation to other converter effects.

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.

Supports HDR/HDR adaptation based on fixed parameters or LUTs

One 2RU chassis supports up to 5 channels of cross-conversion

Chassis Configuration

Number of slots	20
Power supply	100V to 240V AC, 50/60 Hz
Power consumption	600W
Temperature range	0°C- 40°C
Dimensions (W x H x D, mm)	483 x 90 x 427
Redundant power supply	Yes