



SeaChange® MediaClient™ 6000

Standard Definition and High Definition The “Versatile” MediaClient

The newest addition to the SeaChange MediaClient range, the MediaClient MCL 6000 solves the headaches of TV Operations on the cusp of providing HD services. Simple software updates ensures that a MCL 6000 purchased today for Standard Definition (SD) services can be easily repurposed for future High Definition (HD) use.

There are four SD MCL 6000 models available:

[MCL 6012 provides 1 SD input and 2 SD outputs](#)

[MCL 6024 provides 2 SD inputs and 4 SD outputs](#)

[MCL 6002 provides 2 SD inputs](#)

[MCL 6004 provides 4 SD outputs](#)

These new SD MediaClients I/O platforms are powered with flexible software codec kits for SD encoding and decoding. The MCL 6000 with SD codecs provide all the same superb functionality of the original MCL 4000 series; broadcast quality encoders supporting frame accurate encoding of MPEG-2, IMX or DV25/DV50 compression schemes. Simultaneously, the independent decoders support frame accurate playback of any combination of these formats back-to-back. From the same decoder output, efficient long GOP MPEG-2 program material plays frame accurately back-to-back with locally edited promos or advertisements in DV25/50 or IMX.

All MCL 6000 SD-powered models have clear upgrade paths to one or multiple of the 11 HD MediaClient models, including single or dual encoder only models, up to 3 HD only decoders, dual SD-HD Simulcast decoders as well as the 1-input, 2-output HD MediaClient.

For “HD-Now” implementations, these MediaClients can all be purchased pre-configured for HD only operation, meaning that you do not pay for un-used SD functionality.

All HD decoders have options that support pure HD clip playout, or support for mixed HD/SD clip playout with simultaneous HD and SD outputs (SD-HD Simulcast). These choices cater for the differing HD requirements of each TV operation.

The MCL 6000 series supports encoding and back-to-back play of HD 1080i MPEG-2 Long GOP up to 80Mb/s and I-Frame to 150Mb/s (dual encoder supports only to 35Mb/s Long GOP). Support is also provided for MXF OP1A Program Stream and Transport stream, HDV 720p, HDV1080i and XDCam HD (see detailed Specifications on back).



Housed in a new 1RU rack-mount platform, the MCL 6000 provides even higher channel density and the guaranteed versatility of SD or HD capability. Importantly, unlike other competitive SD/HD capable systems, you do not pay for the un-used HD capability up front. When required, and when new budget is available, you pay for the simple software upgrade to HD capability.

The new MCL 6000 is just one model of SeaChange MediaClient range designed to connect to the Emmy-award winning SeaChange MediaCluster. The MediaClient/MediaLibrary architecture represents one of the most highly scalable, storage efficient, fault tolerant, multi-channel Playout solutions on the market today.

KEY FEATURES

- Future-proof and versatile SD/HD-capable MCL
- Higher channel density than previous MediaClients
- Frame accurate back-to-back playback of different clip compression combinations from the same decoder
- Standard hot-swappable redundant power supplies
- Space-saving 1RU rack-mount chassis

OPERATIONAL BENEFITS

- Buy a SD MediaClient now and be confident that it can be later converted for HD use
- Use appropriate compression formats for different types of material; long GOP MPEG-2 for long duration programs and I-Frame for promos or advertisements. Support for back-to-back playback of these formats from the same decoder means simple operation.
- Improved tapeless integration with support for encoding and decoding of content from popular NLEs
- Supports file-based asset sharing with best-of-breed acquisition and production systems
- Efficient use of rack space

FEATURES SPECIFICATION

HD FEATURES:

Input Specifications

- Supports maximum two HD SDI inputs per SMPTE 292M
- Supports up to 20 bits and 24 bits eight embedded AES Pairs per SDI Input/Output per SMPTE272M
- Supports VITC/LTC as an input to provide time inserted into stream

Output Specifications

- Supports maximum triple HD SDI outputs per SMPTE 292M
- Supports up to 20 bits and 24 bits eight embedded AES Pairs per SDI Input/Output per SMPTE272M

Video Standard

- 1920 x 1080i (29.97 Hz)
- 1920 x 1080i (25 Hz)
- 1280 x 720P (59.94 Hz)
- 1280 x 720P (50 Hz)

Video Codecs

- Main Profile @ High Level, per ISO/IEC 13818-2
- 422 Profile @ High Level, per ISO/IEC 13818-2
- Main Profile @ High 1440 Level, per ISO/IEC 13818-2
- 422 Profile @ High 1440 Level, per ISO/IEC 13818-2
- XDCAM-HD 17.5M/25M/35Mb/s
- HDV 25Mb/s

Stream Multiplexes

- MPEG-2 Program Stream per ISO/IEC 13818-2
- MPEG-2 Transport Stream per ISO/IEC 13818-2
- MXF OP1A: Single MPEG-2 Elementary stream video and multiple MPEG Layer2 audio essence
- XDCAM HD
- Raw HDV

Audio Standard

- Supports up to eight AES pairs uncompressed audio per SMPTE302M audio
- Supports up to four MPEG-1 Layer II compressed audio per ISO/IEC 13818-3 audio
- Supports up to eight mixed compressed and uncompressed AES pairs basing on two constraints above

Audio Sampling Frequency

- 48KHz

Audio Quantization

- Supports 16, 20 or 24 bits

Audio Pass-through

- Supports pass-through of any data format (16, 20, or 24 bits) per AES pair, including Dolby E or AC-3

Vertical Blanking Interval Specification

- Uncompressed VBI
 - Supports 6 lines per video frame (Chroma/Luma)
- Encoded VBI
 - CC as per CEA-708
 - VITC as per SMPTE-RP188

Additional Features

- Supports back-to-back encoding
- Supports back-to-back decoding
- Support audio mapping (Decoder only)
- Support VDCP, Sony BVW-75 and SeaChange API control protocols

HARDWARE SPECIFICATIONS

Chassis Description

1RU, rack-mountable with rails, black

Power Supply (standard)

Dual, redundant 650W Power Supplies, hot-swappable

Removable Media

CD-ROM

Audio/Video I/O Board

SD/HD 2-SDI IN
SD/HD 4-SDI OUT
SD/HD 1-SDI IN and 2-SDI OUT
SD/HD 2-SDI IN and 4-SDI OUT

LTC Input (optional)

Single LTC Input: Miranda Little Red
Dual LTC Inputs: DB9 to RJ45 Converter connector

Network I/O

Dual 1000BaseT Ethernet, RJ45 Output connectors

SD FEATURES:

Input Specifications

- Supports maximum two SD SDI inputs per SMPTE 259M
- Supports up to 20 bits and 24 bits eight embedded AES Pairs per SDI Input per SMPTE272M.
- Supports VITC/LTC as an input to provide time inserted into stream

Output Specifications

- Supports maximum Quad SD SDI outputs per SMPTE 259M
- Supports up to 20 bits and 24 bits eight embedded AES Pairs per SDI Input per SMPTE272M

Video Standard

- 720 x 480i (29.97 Hz)
- 720 x 576i (25 Hz) - PAL
- 720 x 576i (29.97 Hz) - PAL

Video Codecs

- Main Profile @ Main Level, per ISO/IEC 13818-2
- 4:2:2 Profile @ Main Level, per ISO/IEC 13818-2
- IMX 30M/40M/50Mb/s
- DV25(DVCPPro), DV50(DVCPPro50), per SMPTE314M
- IEC-DV(DVCAM or DVSD) 25Mb/s, per IEC61834-2

Stream Multiplexes

- MPEG-2 Program Stream
- MPEG-2 Transport stream
- MXF OP1A: D10 as SMPTE 386M compatible with XDCAM/e-VTR
- MXF OP1A: Single MPEG-2 Elementary stream video and multiple MPEG Layer2 audio essence as SMPTE 381M
- MXF OP1A: Single MPEG-2 Elementary stream video and multiple AES3/BWF (SMPTE382M) audio essence as SMPTE 381M
- DV25(DVCPPro25)
- DV50(DVCPPro50)
- IEC-DV(DVCAM or DVSD)

Audio Standard

- Supports up to eight AES pairs uncompressed per SMPTE302M audio
- Supports up to four AES pairs uncompressed per SMPTE331M for MXF wrapped IMX only.
- Supports up to four MPEG-1 Layer II compressed ISO/IEC 13818-3 audio
- Supports up to eight mixed compressed and uncompressed AES pairs

Audio Sampling Frequency

- 48KHz

Audio Quantization

- Supports 16, 20 or 24 bits

Audio Pass-through

- Supports pass-through of any data format (16, 20, or 24 bits) per AES pair, including Dolby E or AC-3

Vertical Blanking Interval Specification

- Compressed VBI - 16 or 32 lines supported
- Uncompressed VBI - Supports 6 lines per video frame (Chroma/Luma)
- Encoded VBI - CC as per CEA-608 - VITC as per SMPTE-12M

Additional Features

- Support back-to-back encoding
- Support back-to-back decoding
- Support audio mapping (Decoder only)
- Support VDCP, Sony BVW-75 and SeaChange API control protocols

SOFTWARE SPECIFICATIONS

Operating System

Microsoft Windows XP Professional

SeaChange Software

Broadcast Kit 3.1 (for BMLex)
Broadcast Kit 4.1 (for BMLex)
Broadcast Kit 5.1 (for ML1G)

SD/HD SIMULCAST DECODER FEATURES:

I/O Specifications

- Supports maximum dual HD SDI outputs per SMPTE 292M
- Supports maximum dual SD SDI outputs per SMPTE259M
- Supports up to 20 bits and 24 bits eight embedded AES Pairs per SDI Input per SMPTE272M

Video Standard

- HD
 - 1920 x 1080i (29.97 Hz)
 - 1920 x 1080i (25 Hz)
 - 1280 x 720P (59.94 Hz)
 - 1280 x 720P (50 Hz)
- SD
 - 720 x 480i (29.97 Hz)
 - 720 x 576i (25 Hz) - PAL
 - 720 x 576i (29.97 Hz) - PAL

Video Codecs

- HD: Please refer to HD Video Codecs specifications
- SD: Please refer to SD Video Codecs Specifications

Stream Multiplexes

- HD: Please refer to HD relative specifications
- SD: Please refer to SD relative specifications

Audio Standard

- up to eight AES pairs uncompressed audio, per SMPTE302M audio
- up to four MPEG-1 Layer II compressed audio, per ISO/IEC 13818-3 audio
- Supports up to four AES pairs uncompressed per SMPTE331M for MXF wrapped IMX only
- up to eight mixed compressed and uncompressed AES pairs basing on two constraints above

Audio Sampling Frequency

- 48KHz

Audio Quantization

- Supports 16, 20 or 24 bits

Audio Pass-through

- Supports pass-through of any data format (16, 20, or 24 bits) per AES pair, including Dolby E or AC-3

Vertical Blanking Interval Specification

- HD - Please refer to HD relative specifications
 - Supports upconversion of CEA-608 captions to CEA-708 captions
- SD - Please refer to SD relative specifications
 - Supports extraction of Line 21 data if present in CEA-708 stream and output as CEA-608 captions

Aspect Ratio

- SD up-converted to HD
 - Preservation of the original source ratio 4:3
 - Full screen with minimal geometric distortion fill horizontally
- HD down-converted to SD
 - Preservation of the original source ratio 16:9
 - Full screen with minimal geometric distortion fill vertically
- SD 4:3 anamorphic up-converted to 16:9 HD

Additional Features

- Supports back-to-back decoding
- Support audio mapping (Decoder only)
- Support VDCP, Sony BVW-75 and SeaChange API control protocols

CHASSIS SPECIFICATIONS

Dimensions

1.703" x 16.93" W x 27.25" D
(43.25 mm x 430 mm x 692 mm)

Weight

Approximately 40.0 lb (18.14 kg)

Ambient Temperature

Operating: +10° C to +35° C
Non-operating: -40° C to +70° C

Relative Humidity

Non-operating: 90%, non-condensing @ 35° C

AC Voltage

600W

Safety and EMC Compliance (Class A)

TBD