MCS-SD-RCP-ED SD system includes embedded digital audio.
MCS-SD-RCP-GA SD system includes basic analog audio.
MCS-SD-RCP-GD SD system includes basic digital audio.

MCS-RCP Control Panel for Opus Presentation Mixer / Master

MCS-FRSD-ED SD Frame includes embedded digital audio.
MCS-FRSD-GA SD Frame includes basic analog audio.
MCS-FRSD-GD SD Frame includes basic digital audio.

SD FRAME ASSEMBLIES
MCS-FRHD-ED HD Frame includes embedded digital audio.
MCS-FRHD-GA HD Frame includes basic analog audio.
MCS-FRHD-GD HD Frame includes basic digital audio.

HD FRAME ASSEMBLIES
Opus HD Video Presentation Mixer / Master Control Switcher frame, 6RU, includes redundant power supplies.

Optional Items
MCS-HD16-MK keyer module, CPU modules for both frame and control panel

Miscellaneous Accessories / Components
SPTX+OPUS Four SPTX (SPT-LXYTOSONY) on one 1/2RU module

Ordering Information
USA East +1 (800) 231 9673, +1 (757) 548-2300
Canada +1 (800) 387 0233, +1 (416) 445 9640
Europe +33 (1) 4287 0909
France +33 (1) 4287 0909

**Leitch**

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High Definition is the future of television technology.

As a broadcaster, you need a system that meets your standard definition requirements today — and is easy and affordable to upgrade tomorrow.

Leitch presents Opus, the state-of-the-art master control switcher designed with flexibility to meet your SDTV and HDTV challenges.

Many companies offer HD upgrades — but they’re loaded with compromises. Only Leitch engineers the total solution. We’re the world’s most advanced provider of digital and analog products, systems and software — unrivaled in service and support.

When you’re ready to convert to HDTV, the Opus Master Control Switcher is ready to take you to a higher level of performance excellence.

Higher Flexibility

Opus is the only system that can migrate from SD (270 Mb/s) to HD (1.485 Gb/s) within the same frame, allowing all video and audio connections to be maintained. Other companies must replace the entire frame, requiring complex rewiring and construction.

Other systems often cut back on features when switching to the HD standard. Opus has the strength to maintain full functionality after upgrading.

Taking You To A Higher Level Of Performance Excellence

- Integrated with Leitch routers, servers, and CCS Navigator software
- Fast and easy upgrade to HDTV — no need to replace the entire frame
Unsurpassed multi-channel functionality —
With just a few keystrokes, delegate a control panel to a different on-air channel (frame), or delegate two channels to be under the control of one Opus panel.

Dual channel effects option, an Opus exclusive —
Moves beyond just a squeeze up or one over-the-shoulder box, allowing for dual boxes or squeezes for interviews and creative image enhancement, any possible effect that you can imagine in two dimensions.

Opus GUI for control panel backup/remote control/monitoring —
Another Opus exclusive, this software application can be used as a backup for the control panel. You can also “stack” up multiple control panels in a single window in a multi-channel installation.

Video processing is full 10-bit quality —
Ensures the quality of the overall video signal by maintaining 10-bit processing throughout the video path, including all options.

Background only source set-up, automatic removal of keys (and/or audio-over) —
For example, this feature ensures that identifying logos are always removed (without fail) when switching to a commercial source or to any sources so designated.

Keyers downstream of effects (transitions include effects) —
This feature prevents, a round station logo, for example, from looking squashed when going to a squeeze effect.

Eight Quick Selects —
Permit store and recall of key, audio and transition parameters. Quick Selects can also be associated with preset source selections for automatic recall.

Embedded audio flexibility enables mixing of discrete and embedded audio sources —
The embedded audio option allows you to select, on a per-source basis, whether the audio used is from corresponding video source or from the discrete audio input (with the exception of sources 13 through 16).

Comprehensive audio processing capabilities —
- 24-bit resolution (selectable)
- 4 AES channels standard
- 8 audio-over inputs
- 2 separate over/under stages
- sum/swap channels, phase reverse

More standard features —
- 36 GPI & 36 GPO
- Output monitoring
- 1H buffers on inputs
- 5 aux. video outputs
- Flexible timer operation
- RouterMapper shared application
**Primary Buses**
Direct 16 primary audio and video sources to the respective output. The eight-character alphanumeric display indicates the source currently assigned to each input. The Aux. Preview row can also serve as a local control panel for any of the six auxiliary outputs.

**Monitor Control**
Choose from ten sources available for audio and video monitoring output. Five are internally connected to the monitor bus, and five are available as external inputs. The bargraph displays provide PPM/VU level monitoring of up to eight channels of audio.

**Audio Control**
Adjust attributes of the 16 primary or eight audio-over input sources — for any of the four levels. The two eight-character displays indicate the currently selected adjustment parameter and its associated value.

**Assignment & Setup**
Choose from various setup and configuration functions.

**Time**
View the real-time clock, and use the timer to count up or down from a desired event or from a simple start command.

**Keyer Control**
Establish attributes for each of the two keyers.

**Next Transition**
Determine what, if anything, will happen when the next transition occurs. The four eight-character displays indicate the external source currently selected on the individual key or audio-over buses.
Video Features
- 10-bit quality video processing throughout
- Program Special for off-line use
- Two independent linear keyers
- Sixteen primary inputs and four key (key & fill) inputs, all serial
- One line buffer on all inputs
- Extended input range using external routers
- Full program/preset transitions
- Full monitoring output
- Clean outputs available prior to each key stage
- Optional 2D DVE
- Optional key border/shadow

Audio Features
- Four AES audio channels (optional embedded or two-channel analog audio processing) with 24-bit resolution
- Program Special for off-line use
- Sixteen primary and eight audio over inputs
- Complete audio channel control
- Full audio breakaway capability
- Two separate over/under stages
- Clean outputs available prior to each over stage
- Full control panel metering (VU & PPM ganged)

General Features
- Panels and frames assignable in n x m network configuration
- RouterMapper™ application for full user configuration
- Pilot™ application (optional) provides configurable alarm notifications on-screen, to a database, or by email
- Automation interface flexibility
- Machine control capability
- 36 assignable opto-isolated GPs and 36 assignable relay GPOs
- Clock and timer functions (independent or slaved)
Product Specifications

SDTV
270Mb/s, 525/625, per SMPTE 259M
Connector: BNC per IEC 169-8
Impedance: 75 ohms
Equalization: Automatic up to 100m of Belden 1694

HDTV
Input:
1.485Gb/s serial per SMPTE 292M
1080i at 59.94Hz
Equalization: Automatic up to 100m of Belden 1694
Output:
1.485Gb/s serial
1080i per SMPTE 296M-1999

Input and Output:
Connector: BNC per IEC 169-8
Impedance: 75 ohms

VIDEO CONNECTIONS
Inputs:
16 Primary
4 Key
4 Fill
5 Monitor
1 Squeeze
Background
Outputs:
2 Monitor
1 Preview
6 Auxillary
1 Squeeze Monitor

GPI
Input:
Quantity: 36
Polarity: Insensitive
Type: Optically isolated
Voltage Range: 5 to 15V nominal, 24V maximum
Current Range: 4 to 14mA, 50mA maximum
Sensitivity: 150ns latch time, nominal
Connector: 25-pin "D" type (MCB-25 breakout included)

Output:
Quantity: 36
Polarity: Insensitive
Type: Relay
Voltage: 24V maximum
Load: 1A maximum
Connector: 25-pin "D" type (MCB-25 breakout included)

AUDIO
AES Input and Output:
48KHz per AES1992
20/24-bit operation selectable
Channels: 4 (4 stereo pairs)
Connector: 25-pin D type (MCB-25 breakout included)
Levels: Four AES audio levels standard

Embedded Input and Output:
Per SMPTE 272M for SD video
Per SMPTE 299M for HD video
Channels: 2 groups

Analog Input and Output:
(all specifications 20Hz to 20KHz, relative FS = 24 dBu)
Channels: 2 (1 stereo pair)
Gain Adjustable: ±6dB in steps of 0.5dB
Resolution: 20-bit
Impedance: Hi-Z or 600 ohm (jumper selectable)
Sampling: 48KHz
Frequency Response: ±0.1dB
SNR: 92dB (unweighted)
THD+N: -80dB
Crosstalk: >80dB isolation
IMD: <0.005%, +24dBu, Hi-Z or 600 ohm
Dynamic Range: 100dB

AUDIO CONNECTIONS
Inputs:
16 Primary
8 Over
5 Monitor
1 Squeeze
Background
Outputs:
1 Program
2 Program Special
1 Preset
2 Clean Feed
1 Preview
2 Monitor

EXTERNAL REFERENCES
1 looping Video Reference Input
NTSC/PAL color black or
either level sync, per SMPTE 240M
59.94Hz/60Hz
±300mV nominal
Line rate — 1080i: 33.7KHz, 720p: 45KHz
Connector: BNC per IEC 169-8
Impedance: 75 ohms
1 terminating Audio Reference
AES3 per AES11-DARS (48 KHz)
Connector: BNC per IEC 169-8 (75 ohm, unbalanced)
or
Connector: 25-pin D type (MCB-25 breakout included)

CONTROL PANEL INTERFACES
Audio bargraph display inputs
4 x XLR female (one per AES input channel)
Timecode input
Per ANSI / SMPTE 12M, 1 XLR female
Timecode output (timer)
Per ANSI / SMPTE 12M, 1 XLR male
RS 232 (future, utility) 1 9-pin "D" type
Ethernet, 10baseT 2 x RJ-45

POWER CONSUMPTION
Control Panel
250W maximum
150W typical
Frame
400W maximum
250W typical

PHYSICAL
Frame:
General
Dimensions: 6RU, 19" rack mountable chassis
Weight: 55 lbs. (25 kg) fully loaded
Control Panel:
Dimensions, surface
28"W x 18"H
Dimensions, tub
26.67W x 17.5"H x 3.5"D (front) x 6.2"D (rear)
Dimensions, panel height
0.378" above mounting plane
Weight: 43 lbs. (19.5 kg)

Supports Leitch's revolutionary
Command Control System (CCS),
which provides distributed real-time
control, configuration, and
monitoring of Leitch and third-party
equipment.
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MCS-RCP Control Panel for Opus Presentation Mixer / Master Control Switchers, includes redundant power supplies.
MCS-FRSD-ED SD Frame includes embedded digital audio.
MCS-FRSD-GA SD Frame includes basic analog audio.
MCS-FRSD-GD SD Frame includes basic digital audio.
MCS-FX-H-2U Opus HDTV Effects module, dual channel.
MCS-FX-H-2 Opus HDTV Effects module, single channel.
MCS-FX-S-2U Opus SDTV Effects module, dual channel.
MCS-FX-S-2 Opus SDTV Effects module, single channel.
MCS-FX-H Opus HDTV Effects module, single channel.
MCS-FX-S Opus SDTV Effects module, single channel.
MTRNG-SITE-V Maintenance Training - On Site or Custom, rate per day, expenses not included.
SYSCOM-V System Commissioning, rate per day, expenses not included.