

Your Ideal Lecture Capture Appliance



Matrox® Monarch™ LCS

Simple to Integrate. Easy to Operate. Affordable.

Classroom technology specialists will find this reliable, standalone network appliance simple to set up and integrate into any open Video Management System (VMS) or Lecture Management System (LMS). Monarch LCS lets you easily define profiles for live streamed and recorded lectures by mixing camera and presentation material from SDI and HDMI sources. Once configured, this versatile H.264 encoding appliance can be operated by anyone at the push of a button. And it won't break your budget!



Variety of operating modes

Complex recording equipment is no longer required to effectively capture presentations in lecture halls. A typical setup would consist of video and audio of the presenter and a computer source with supporting material which can be mixed into a single webcast. The operator can select a number of operating modes that include layouts such as Picture-in-Picture and Side-by-Side. If the operator prefers to dynamically change the inputs throughout the lecture, the Monarch LCS also offers Switcher mode. With very little set up time, the Monarch LCS can be configured to capture and deliver content such as presentations and seminars in many appealing layouts.

Viewer defined layouts

Keep your audience fully engaged by putting the control in their hands. In isolated mode, the appliance provides two independent video files or streams. This feature, when used with a compatible 3rd party player, enables the viewer to select their preferred layout. The synchronized streaming or recording of Monarch LCS' dual inputs are invaluable when such players are used. By aligning video inputs, the viewer can seamlessly switch to their preferred layout while maintaining perfectly synced audio and video.



Easy to operate



Monarch LCS are controlled and configured via the powerful Monarch LCS Command Center using any network-connected device that supports a standard web-browsing application. The UI is designed for operator ease-of-use and features one-click operation. Drill down to configure typical streaming and recording settings, drawing from a list of preset options. These settings define all encoding parameters, including resolution and bitrate. Encoding parameters can be customized and combined with destination and operating mode settings and saved as a unique profile. If the appliance must be accessed by different users, profiles can be instantly recalled without having to re-enter data.

Centralized monitoring

In multi-seat installations—such as in university campuses—Monarch LCS Radar's browser-based dashboard allows administrators to monitor and troubleshoot all Monarch LCS units deployed on the network.



Automate operations with scheduler



By using the scheduler the Monarch LCS can be set to start automatically before the commencement of an event, without requiring any human intervention. The Monarch LCS scheduler supports iCalendar generated schedules such as Google Calendar or Microsoft Outlook. Schedules created with either of these can be exported to an .ics file format and imported into Monarch LCS. With a single master schedule all Monarch LCS devices on a network can be controlled. When the master schedule is loaded in a Monarch LCS, it will automatically start and stop streaming and recording events at the slated times, corresponding to that individual device's schedule.

Store and forward

The Monarch LCS' ability to record files locally to an SD card or USB attached storage and transfer the files over the network, or via FTP/sFTP protocols to cloud based servers at a later time is valuable to network administrators as it reduces the risk of network congestion during peak times. This also avoids loss of files due to network connectivity issues or errors occurring during peak time transfers. File transfers can be triggered manually, automatically at a preset time every day or immediately after recording. Monarch LCS tracks successful file transfers and avoids retransferring unless it is specifically requested. Failed or incomplete transfers are also tracked and tagged for retransfer. File management can be programmed to delete successfully transferred files, ensuring the local storage never runs out of space.





Simple to integrate

Designed to work in network environments, Monarch LCS is a network appliance that facilitates a seamless integration into existing infrastructures managed by third party asset management solutions.

Set your destinations

This dual encoder offers multiple destination options when streaming or recording. When set to recording, an encoding channel captures content in MOV or MP4 files to ensure that video files can be played on virtually any player. Recordings can be stored on local USB drives, SD cards, or network-mapped drives and made available immediately to a VMS for distance learning such as Ensemble Video, Kaltura, Presentations 2Go, TechSmith Relay and UbiCast. For streaming purposes, the encoders use either RTMP or RTSP protocol to deliver live streams to local media servers or cloudbased CDNs.



Uncompromising quality

Offering unprecedented quality, Monarch LCS can share up to 20 Mb/s of encoding capacity across its two H.264 encoding channels. Each independent channel has individual bitrate/quality settings and benefits from powerful scaling, deinterlacing, and noise reduction engines that ensure only pristine images are sent to the encoders. When the highest quality is required, each encoder can be set to encode at 1080p30 resolutions.

Flexible inputs

Monarch LCS can support productions with two HDMI video sources or one SDI and one HDMI video source. Embedded or analog audio can be selected as the audio source. By supporting video camera signals that are either SDI or HDMI, this lecture recorder gives operators the flexibility to select what is best for that installation. SDI signals can travel more than 300 feet (100 meters) over coaxial cable, which is ideal if the camera is mounted a long distance from the encoder. When cable lengths are not an issue, HDMI cameras may prove the most affordable option, particularly in larger installations.



Frame synchronization between inputs

The ultimate lecture viewing experience can only be guaranteed when computer, video and audio content is synchronized before encoding. While the resolutions of camera and computer outputs can easily be managed, frame rates will rarely match. The Monarch LCS accepts these different feeds and synchronizes them before encoding, delivering perfectly timed video and audio, regardless of the operating mode. Built-in frame syncs also correct any signal discontinuity at either input, ensuring uninterrupted streaming and recording operations.

Live production preview output

Both SDI and HDMI outputs are active and can be mapped to either inputs, a useful feature for driving in-house projections. The HDMI output also gives the operator the option of selecting the production output at the frame size of the encoding parameters, enabling them to preview content that will be sent to the remote viewer.





Remotely manage your device

The Matrox Utils application allows operators to remotely scan and find all Monarch LCS devices present on their network. The Utils application will also scan the attached Monarch LCS and notify the operator if the unit is up to date with its installed firmware version and will also update the device automatically to ensure that it has the latest software release. The Matrox Utils Application can also be used to reboot Monarch LCS devices present on the network.

Versatile API for your environment

Contractors or in-house IT specialists can take advantage of Monarch LCS Dev Tools, which includes automatic configuration tools and the Monarch LCS Control API, to provide operators with a unified, consistent and branded experience. Individuals do not need to interact with the Monarch LCS Command Center web UI, simplifying enterprise-level and centrally administered deployments. Tight integration can be found with a variety of our partners.



Control with Crestron

The Monarch LCS Control API is an ideal way to integrate Monarch LCS functionality into an existing classroom, boardroom or other space equipped with a Crestron control system. Monarch LCS registered users are invited to download a sample SIMPL module written to run on Crestron 2-Series® and 3-Series® Room Media Controllers.

Robust and practical design

Powerful and robust, Monarch LCS storage ports are located on the front of the device along with three simple one-touch buttons that offer an alternative to the Web based UI control. All connectors are located at the back, including the locking power connector, which ensures that Monarch LCS can just as easily be located on a desktop as in a rack. A 1RU tray can fit up to two units.



Matrox Monarch LCS connections



- | | | |
|--|---|--|
| <ol style="list-style-type: none"> 1. Power LED 2. Input Section Button 3. Switch Button 4. Start/Stop Encoder Button 5. USB Port 1 6. USB Port 2 7. SD Card Slot 8. Power Connector | <ol style="list-style-type: none"> 9. Gigabit Ethernet Port 10. RS-232 Connector 11. HDMI Input B Connector (with embedded audio) 12. HDMI Output Connector (with embedded audio) 13. HDMI Input A Connector (with embedded audio) | <ol style="list-style-type: none"> 14. SDI Output Connector (with embedded audio) 15. SDI Input A Connector (with embedded audio) 16. Analog Audio Output (stereo) 17. Analog Audio Input (stereo) |
|--|---|--|

Contact Matrox

North America Corporate Headquarters
 Tel: (514) 822-6364, (800) 361-4903 (North America) • Fax: (514) 685-2853
 E-mail: video.info@matrox.com

Europe, Middle East & Africa
 Tel: +44 (0) 1895 827220 • Fax: +44 (0) 1895 827239
 E-mail: video.info.emea@matrox.com

Matrox is a market leader in the 4K and HD digital video hardware and software fields, offering accelerated H.264 encoding, streaming, AV signal conversion, capture/playout servers, and CGs. Matrox's Emmy award-winning technology powers a range of multi-screen content creation and delivery platforms used by broadcasters, telcos, cable operators, post-production facilities, live event producers, videographers, and AV professionals worldwide. Founded in 1976, Matrox is a privately held company headquartered in Montreal, Canada.

For more information, visit www.matrox.com/video.

© 2019 Matrox Graphics, Inc. All rights reserved. Matrox reserves the right to change specifications without notice. Matrox and Matrox product names are registered trademarks in Canada and other countries and/or trademarks of Matrox Electronic Systems Ltd and/or Matrox Graphics Inc. All other company and product names are registered trademarks and/or trademarks of their respective owners. 03/2019

