



C3-540 CORIOmaster™
C3-510 CORIOmaster mini™
C3-503 CORIOmaster micro™
CORIOgrapher™ V2.7 and above

User Guide V2.3

In this guide

Welcome to tvONE™ Help	1
Get to know your products	2
About your CORIOmaster™	2
About your CORIOmaster mini™	4
About your CORIOmaster micro™	5
About the buttons of your CORIOmaster micro™	6
About modules	7
Input modules	7
Output modules	7
Audio modules	8
Power supply module	8
Adapters	8
About your Dual stream input module	9
About your S/PDIF and analog audio module	10
What's breakaway audio?	10
About your Encoder-100	11
Hardware recommendations	12
Set it up	13
Quick start	14
Planning and installing video walls	20
Planning a video wall	20
What is a window?	21
What is a preset?	21
Installing video wall hardware	21
Setting up a video wall in CORIOgrapher™	24
CORIOgrapher™ system requirements	24
About CORIOgrapher™	24
Getting started with CORIOgrapher™	25
To connect to your CORIOmaster and get its configuration	25
To log in with secure mode	26
To create a configuration offline	26
To send a configuration to your CORIOmaster	26
Naming input and output ports	27
Naming the input ports of a Dual stream input module	27
Enabling secure mode	28

Creating a video wall	29
Testing your video wall installation	30
Set up and test audio	33
Settings	36
Device settings	37
Naming your CORIOmaster™	37
Resetting your CORIOmaster™ to factory default settings	37
Choosing your default working units	38
Backing up and restoring your settings	38
Backing up your settings on your CORIOmaster	38
Restoring your settings from your CORIOmaster	39
Backing up your settings to a file on your computer	39
Restoring or copying settings from a file on your computer	40
Problems sharing settings between CORIOmaster units	40
CORIOmaster micro™ settings	41
Configuring the buttons of your CORIOmaster micro™	41
User settings	43
Creating and editing users	43
What are user roles?	43
Why set a timeout time?	44
Changing other users' passwords	44
Changing your own password	45
Network settings	45
Configuring network settings for your CORIOmaster™	45
Configuring network settings for streaming media	46
About static IP addresses	46
To configure network settings for streaming media	47
Finding the MAC address of your Dual stream input module	48
Playlist settings	48
Renaming playlists and moving playlists between modules	49
Deleting playlists	49
Encoders and streams settings	50
Managing encoders and streams	50
Use it	52
Presets	52
Creating and editing presets	53
What is a preset?	53
What is included in a preset?	53
What is not included in a preset?	53

For best results	53
Saving presets	55
Editing presets	55
Loading a preset	57
What is a preset?	57
Loading a preset from CORIOgrapher	57
Loading a preset with the buttons of your CORIOmaster micro	57
Changing the source playing in a window	58
Changing the source in CORIOgrapher	58
Changing the source with the buttons of your CORIOmaster micro	58
Changing the source using the dashboard	59
Using audio	59
Playing embedded audio	60
About embedded audio	60
Disabling and enabling audio for a source or display	60
Choosing what to listen to with CORIOgrapher	64
What's breakaway audio?	64
Choosing which outputs play audio	66
Adjusting input audio level and muting sources	66
Muting individual audio outputs	68
Cutting to black and muting individual outputs	69
Adjusting volume and muting all displays and outputs associated with a canvas	69
Cutting to black and muting all displays and outputs associated with a canvas	70
Controlling audio from the dashboard	71
Emergency cut to black and mute	72
Playing independent audio with a CORIOmaster micro™	73
About independent audio	73
Choosing which window to hear with the buttons of the front panel	74
Show me an example	74
Choosing which window to hear with CORIOgrapher	75
Adjusting the input audio level and muting individual sources	75
Muting the audio output	76
Media and streams	77
Playing media and streams	77
Before you start	78
Adding and editing media streams	78
Adding media items, streams, and playlists to your play queue	80

Playing a multicast stream from an Encoder-100 on multiple CORIOmaster units	81
Changing the duration of media items	82
Playing streams with low latency	83
Using the playback controls	83
Managing the play queue	84
Saving the play queue	85
Playing the play queue automatically	85
Saving media to internal storage	85
Creating and managing playlists	86
About playlists	86
Creating a new playlist	87
Saving the play queue to a playlist	88
Managing and editing playlists	89
Deleting a playlist	91
Moving playlists between modules	91
Deleting all playlists	91
Duplicating playlists	92
Using the internal drive	92
Replacing all items on the internal drive with all items on the USB drive	93
Removing all items from the internal drive	94
Current location	94
Copying a single item or folder to the internal drive	94
Managing media on the internal drive	94
Playing items from the internal drive	95
Choosing the best resolution for your playlist or play queue	96
Understanding the format of resolution	96
How do I know what resolution my media items are?	96
Using the buttons of your CORIOmaster micro™	98
Changing between preset and source selection mode with your CORIOmaster micro™	98
Locking your CORIOmaster micro™	98
Replacing a module	99
Creating and editing custom resolutions	103
About custom resolutions	104
Custom resolution options	105
Creating and editing custom resolutions	107
Creating a custom resolution from a video standard	108
Copying and editing a standard resolution	110
Deleting a custom resolution	110

Troubleshoot it	111
Checking and updating the CORIOmaster firmware	112
Checking your firmware version and downloading new firmware	112
Updating the firmware	113
I can't see my CORIOmaster™ in the Discovered Devices list	114
I can't log in securely to CORIOgrapher™	116
The picture keeps coming and going	118
My Dual stream input module keeps overheating	119
The video signal from my Encoder-100 is delayed	120
I can't hear any audio	122
General problems with audio	123
Audio from the Dual stream input module	127
Audio from the S/PDIF output of a CORIOmaster micro	128
If that doesn't work	129
Transitions aren't working smoothly	130
I can't update the firmware of my Dual stream input module	131
CORIOgrapher™ can't find or connect to my Encoder-100	132
General troubleshooting checklist	133
Returning a product for repair	133
What are the minimum requirements for running CORIOgrapher?	134
What's the password for my CORIOmaster™?	134
Can I use HDMI extenders with CORIOmaster™ output modules?	134
How large is the internal storage on a Dual stream input module?	134
How do I find the MAC address of my Dual stream input module?	134
How fast is my connection to the Dual stream input module?	134
Which media formats can I add to a play queue?	134
Can I save my play queue?	135
How do I mute audio?	135
Where would I find the information to create a custom resolution?	135
More	136
What's new in CORIOgrapher™ V2.7	136
Product specifications	137
CORIOmaster™ C3-540 specifications	137
CORIOmaster mini™ C3-510 specifications	139
CORIOmaster micro™ C3-503 specifications	141
Dual stream input module specifications	144
Encoder-100 specifications	145
End user license agreement for CORIOgrapher	145
Regulatory compliance for CORIOmaster™, CORIOmaster mini™, CORIOmaster micro™, Encoder-100, and all modules	148

Contact us149

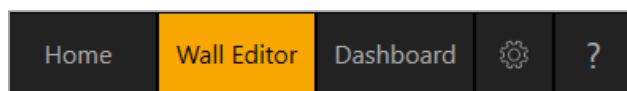
Video wall planner 150

Welcome to tvONE™ Help

Welcome to tvONE Help, the place to get help with your:

- CORIOmaster™
- CORIOmaster mini™
- CORIOmaster micro™
- CORIOgrapher™
- Encoder-100

This document is also available as online help. To open the online help, select ? in CORIOgrapher and search, or ask a question.



Meet CORIOmaster

Thanks for buying this CORIOmaster, CORIOmaster mini, or CORIOmaster micro. CORIOmaster connects to a wide range of sources and displays, and works with CORIOgrapher software to allow you to build dynamic video walls with an easy-to-use visual interface.

- » Output up to four video walls to monitors, LED screens, and projectors, including devices that support 4K
- » Wide range of inputs, including DVI, SDI, HDBase™, 4K, and streaming media
- » Embedded audio support with CORIOmaster, CORIOmaster mini, and CORIOmaster micro
- » S/PDIF audio output with CORIOmaster micro
- » Combination of different size and resolution of displays can be used
- » Adjustable bezel compensation
- » Edge blending of projectors
- » Up-down-cross conversion
- » Control your video wall with CORIOgrapher, secure IP, or serial connection
- » Horizontal alignment on analog PC inputs
- » AMX and Crestron modules available
- » CORIOmaster: 4RU frame size
- » CORIOmaster mini: 1 RU frame size
- » CORIOmaster micro: 1 RU half rack size, up to two video walls

Meet CORIOgrapher

CORIOgrapher V2.7 is packed with features to help you create and manage your video walls.

- » Simple, powerful, software interface
- » Save window configurations as presets and transition between presets
- » Rotate outputs in 1° increments
- » Manage streaming media
- » Use custom resolutions
- » See your changes instantly with immediate mode
- » Undo and redo your work
- » Position your displays and windows with pixel-precision

Get to know your products

Learn about the features and functions of your hardware.

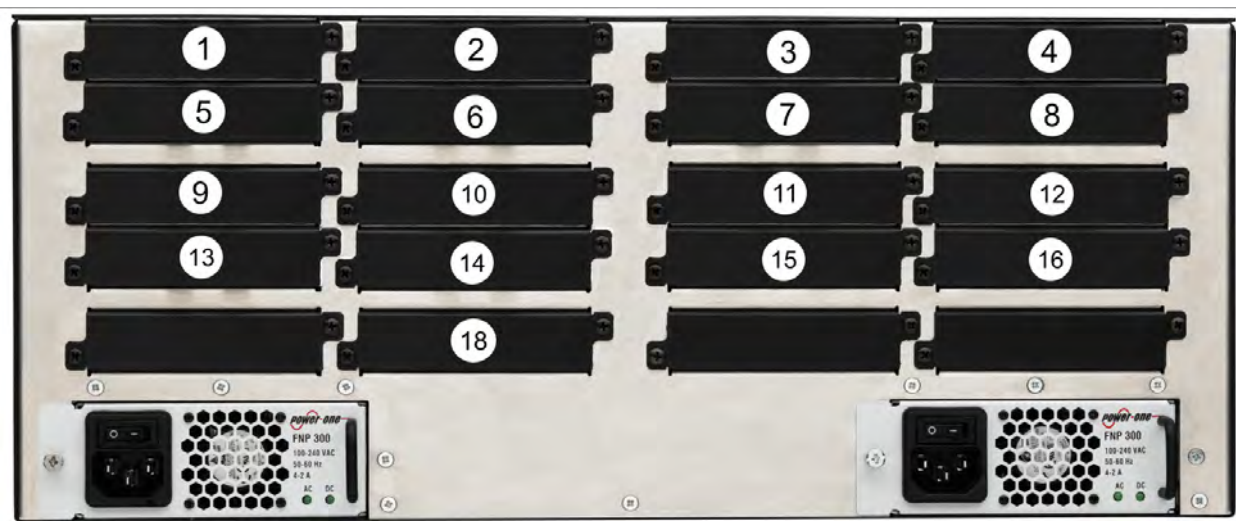
In this section

- About your CORIOmaster™ 2
- About your CORIOmaster mini™ 4
- About your CORIOmaster micro™ 5
 - About the buttons of your CORIOmaster micro™ 6
- About modules 7
 - About your Dual stream input module 9
 - About your S/PDIF and analog audio module10
- About your Encoder-10011
- Hardware recommendations12

About your CORIOmaster™

CORIOmaster connects to a wide range of sources and displays, and works with CORIOgrapher™ software to allow you to build dynamic video walls with an easy-to-use visual interface.

Slots

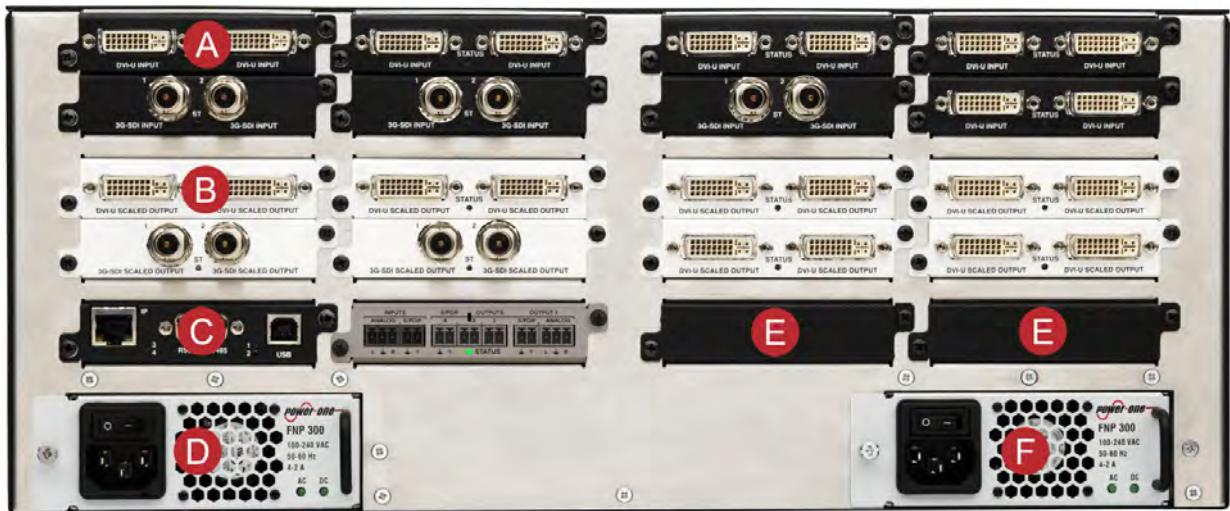


Your CORIOmaster has 16 slots that can contain input or output modules. You can have up to 14 input modules and up to 14 output modules. Of the 14 input modules, up to five can be Dual stream input modules. You can only have one S/PDIF and analog audio module.

In a CORIOmaster, slots 1 and 2 can only contain input modules, and slots 15 and 16 can only contain output modules. Only slots 4, 8, 5, 1, and 3 can contain Dual stream input modules. Install Dual stream input modules in the order shown here. Only slot 18 can contain a S/PDIF and analog audio module.

We recommend that you group your modules. Add input modules from slot 1 upwards, and add output modules from slot 16 downwards.

CORIOmaster rear panel



A	Input module (black)	Connect to sources
B	Output module (white)	Connect to displays
C	CPU module	Connect to your network with Ethernet Optional: connect to serial controller with RS-232 Optional: connect directly to a PC with Ethernet or RS-232
D	Optional second PSU, sold separately	Optional: connect to electrical outlet
E	Sealed slots	Not available for use
F	Power supply unit (PSU)	Connect to electrical outlet

About your CORIOmaster mini™

This guide uses the name CORIOmaster to mean CORIOmaster™, CORIOmaster mini™, and CORIOmaster micro™ systems, unless specifically stated.

Slots



Your CORIOmaster mini has six slots that can contain input or output modules. You can have up to five input modules and up to five output modules. Of the five input modules, up to two can be Dual stream input modules.

In a CORIOmaster mini, slot 6 can only contain an input module. Only slots 1 and 2 can contain Dual stream input modules.



Risk of poor performance

Avoid fitting an input module in slot 4.

CORIOmaster mini rear panel



A

Power supply unit (PSU)

Connect to electrical outlet

B

CPU module

Connect to your network with Ethernet

Optional: connect to serial controller with RS-232

Optional: connect directly to a PC with Ethernet or RS-232

C

Output module (white)

Connect to displays

D

Input module (black)

Connect to sources

Note: slot 6 is a fixed input slot, included with every CORIOmaster mini.

About your CORIOmaster micro™

This guide uses the name CORIOmaster to mean CORIOmaster™, CORIOmaster mini™, and CORIOmaster micro™ systems, unless specifically stated.

Slots



Your CORIOmaster micro has three slots that can contain input or output modules. You can have up to two input modules and up to two output modules.

CORIOmaster micro rear panel



A	S/PDIF audio output	Connect to audio device with RCA
B	Power supply input	Connect to an electrical outlet with PSU
C	Input module (black)	Connect to sources
D	Output module (white)	Connect to displays
E	CPU module	Connect to your network with Ethernet Optional: connect to serial controller with RS-232 Optional: connect directly to a PC with Ethernet or RS-232

CORIOmaster micro mounting accessories

You can mount your CORIOmaster micro to a surface, rack, or ONERack system with our mounting accessories, sold separately. Ask your distributor about:

- RM-503-1RK-MOD ONERack mounting module for CORIOmaster micro
- RM-503-1RU-DUAL rack mounting kit for one or two CORIOmaster micro units
- RM-503-SRF surface mounting kit for CORIOmaster micro

About the buttons of your CORIOmaster micro™

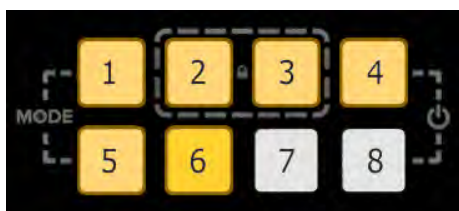
You can use the buttons of the front panel to load presets, choose which window to hear, change the source playing in a window, and lock the buttons.

By default, the buttons correspond to the first eight presets, sources, or windows in your system. You can choose which button corresponds to which preset, source, or window.

Read more about mapping the buttons of your CORIOmaster micro on page 41.

The buttons light up different colors depending on the mode and status of your CORIOmaster micro.

Colors of buttons



Buttons are lit dimly orange

The CORIOmaster micro is in preset selection mode.

Button is lit more brightly

The preset corresponding to button 6 is active.

Buttons are not lit

Buttons 7 and 8 do not have corresponding presets.



Buttons are lit dimly green

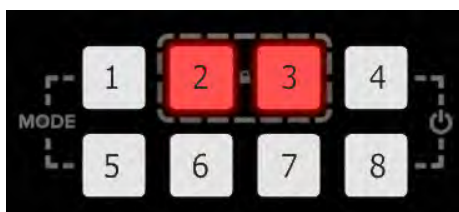
The CORIOmaster micro is in source selection mode.

Button is lit more brightly

The source corresponding to button 2 is playing in the active window. You hear the audio from the active window.

Buttons are not lit

Buttons 7 and 8 do not have corresponding sources.



Buttons 2 and 3 are lit red

The buttons of the CORIOmaster micro are locked.

Selecting the active window

- To select the active window, press and hold the button corresponding to that window until it starts flashing.

Selecting a window to hear

You hear the audio source playing in the active window on the device connected to the S/PDIF output.

- To select a window to hear, press and hold the button corresponding to that window until it starts flashing.
- You can play audio on any connected display or device with CORIOgrapher.

Selecting a preset or source

- To select a preset or source, press and release the button corresponding to that preset or source.

Changing between preset and source selection mode

- Press and hold buttons 1 and 5 until they start flashing.
The buttons change color.

About modules

CORIOmaster™, CORIOmaster mini™, and CORIOmaster micro™ support six types of input module, and five types of output module. Each module supports specific connections, but our range of adapters means you can connect almost any type of source or display to your CORIOmaster.

Input modules

Module	Product number	Connections
4K 30 HDMI input module, two inputs	CM-HDMI-4K-2IN	2 x HDMI up to 4096x2160 @30 HDMI compatible and HDCP compliant
Universal DVI input module	CM-DVIU-2IN	2 x DVI-U (HDCP compliant, and HDMI compatible with an adapter)
HD/SD-SDI input module	CM-HDSDI-4IN	4 x HD/SD-SDI using BNC For co-axial cables
HDBaseT input module	CM-HDBT-2IN-1 ETH	2 x HDBaseT For CATx cables Supports up to 2 x 4K @30Hz, or 1 x 4K @60 Hz
HDBaseT input module, two input	CM-HDBT-X-2IN-1 ETH	2 x HDBaseT For CATx cables
Dual stream input module Read more about the Dual stream input module on page 9.	CM-AVIP-IN-1 USB-1 ETH	1 x USB 2.0/3.0 1 x Ethernet

Output modules

Module	Product number	Connections
3G-SDI scaled output module	CM-3GSDI-SC-2OUT	2 x 3G/HD/SD-SDI using BNC, with scaling For co-axial cables
4K30 scaling output module	CM-HDMI-4K-SC-1 OUT	1 x HDMI up to 4K @30 Hz (UHD)
DVI-I scaled output module	CM-DVI-I-SC-2OUT	2 x DVI-I (HDCP compliant)
DVI-U scaled output module	CM-DVI-U-SC-2OUT (Discontinued)	2 x DVI-U (HDCP compliant)

Module	Product number	Connections
HDBaseT™ scaled output module	CM-HDBT-SC-2OUT-1ETH	2 x HDBaseT For CATx cables
Quad HDMI scaled output module	CM-HDMI-SC-4OUT	4 x HDMI up to 1080p @60 Hz For CORIOmaster C3-540 only

Audio modules

Module	Product number	Connections
S/PDIF and analog audio module Read more about the S/PDIF and analog audio module on page 10.	CM-AUD-2IN-4OUT	Input: 1 x analog and 1 x S/PDIF Output: 1 x analog and 4 x S/PDIF

Power supply module

Module	Product number	Connections
Redundant PSU for 4RU series units	CM-4RPS	1 x IEC power cord

Adapters

You can use our adapters to connect any of the following formats to the DVI modules. Unless stated, you can use all of these adapters with both DVI-I and DVI-U modules.

Adapter	Product number	Male connector	Female connector
HDMI adapter	CMD1941	DVI	HDMI
Analog PC adapter	ZDH2040	DVI	VGA
Analog RGBHV adapter	ZDB-2038	DVI	Analog RGBHV
YPbPr/YUV adapter	ZDR2042	DVI	YPbPr/YUV
YPbPr/YUV adapter cable	ZDB2044	DVI	YPbPr/YUV
YC (S-Video) adapter	ZDB2048	DVI-U only	2 x composite video
YC (S-Video) adapter	ZDS2046	DVI-U only	4-pin mini-DIN
Composite video adapter	ZDC2050	DVI	BNC

About your Dual stream input module

The Dual stream input module allows you to decode and play media and images from a USB drive or internal storage, and video streams from IP sources. Sources include streaming server, and from any device when used with an IP encoder, such as the Magenta™ Encoder-100.

Features

- Play two simultaneous channels of media, including IP streams
- Play video clips from USB drive up to 4K @30 Hz
- Play single IP streams up to 100 Mb/s
- Play dual IP streams up to 40 Mb/s
- Play still images up to 8K
- Play streams with low latency
- Play media from streaming server
- Create and save up to 20 playlists
- Primary channel supports up to 4K @30 Hz
- Secondary channel supports 1080p @60 Hz
- IP streams up to 1080p @60 Hz
- Full resolution and frame rate scaling
- Start playing media when your CORIOmaster™ starts
- Supports USB 2.0 and USB 3.0
- 16 or 128 GB internal storage



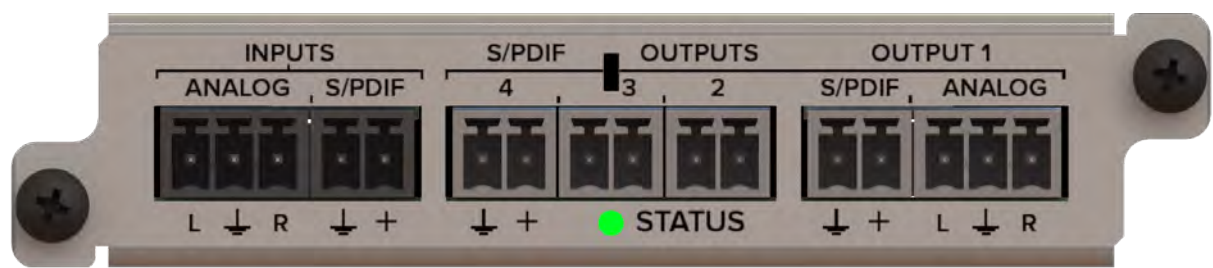
USB (LED)	Indicates the status of the USB drive. Green means that the USB drive is working correctly. Red means that the USB drive is over current.
USB 3.0	Connect a USB drive to play media directly.
USB 2.0	For best results, we recommend using quality USB drives compatible with USB 3.0.
ST1 (LED)	Indicates the status of the card. Green means that the card is working correctly. Red means that the card is starting, or that there is a problem.
ST2 (LED)	Indicates the status of the module. Green means that the module is working correctly. Red means that the module is starting, or that there is a problem.
LAN	Connect an Ethernet cable to play media over IP.

If any status indicator stays red, restart your CORIOmaster. If that doesn't work, contact tvONE support. Contact details are at the back of this guide.

Read more about your Dual stream input module in the Dual stream input module Quick Start Guide QSG-CM-AVIP-IN, or in CORIOgrapher Help.

About your S/PDIF and analog audio module

You can use Phoenix connectors to connect to a range of audio inputs and outputs.



INPUTS, ANALOG	Connect an analog audio device.
INPUTS, S/PDIF	Connect a digital audio device.
OUTPUT 1 S/PDIF ANALOG	Connect an analog or digital device to play audio from the video wall on canvas 1.
OUTPUT 2	S/PDIF output. Connect a digital device to play audio from the video wall on canvas 2.
OUTPUT 3	S/PDIF output. Connect a digital device to play audio from the video wall on canvas 3.
OUTPUT 4	S/PDIF output. Connect a digital device to play audio from the video wall on canvas 4.
STATUS (LED)	Indicates the status of the module. Green means that the module is working correctly. Red means that there is a problem.

If any status indicator stays red, restart your CORIOmaster. If that doesn't work, contact tvONE support. Contact details are at the back of this guide.

Compatibility

Your S/PDIF and analog audio module is compatible with your CORIOmaster or CORIOmaster mini. If you have a CORIOmaster micro, you cannot have an S/PDIF and analog audio module, but you can use the independent S/PDIF audio output.

Supported formats

The S/PDIF and analog audio module supports all audio formats with a frequency of 48 kHz.

Inputs

Your S/PDIF and analog audio module has two inputs, one analog and one digital input. You can use inputs from the S/PDIF and analog audio module as breakaway audio only.

What's breakaway audio?

Breakaway audio is independent of the windows on your video wall. It doesn't change when the sources playing in your windows change. The audio is sent to all enabled outputs.

Outputs

Your S/PDIF and analog audio module has four outputs. Each output is locked to a canvas in the wall editor. Output 1 is locked to canvas 1, output 2 is locked to canvas 2, and so on.

Output 1 has one analog and one S/PDIF digital port. You can send the same output to both ports, but you cannot send a different output to each port. Because output 1 is locked to canvas 1, only canvas 1 is capable of sending both analog and digital audio.

To choose a canvas, use the selection tool in the bottom-left corner of Wall Editor. The image below shows canvas 1 is selected.



Outputs 2-4 each have one digital S/PDIF output.

About your Encoder-100

The Encoder-100 streaming media encoder allows you to stream high quality video and audio from a range of sources to the Dual stream input module of your CORIOmaster™, CORIOmaster mini™, or CORIOmaster micro™.

Features

- Convert video and audio to high quality digital stream.
- High quality, low bandwidth encoding with H.264 compression.
- Full 1080p HD support at up to 60 frames per second.
- Single channel encoder.
- Supports streams with low latency.
- Supports unicast and multicast streaming.
- HDMI video and audio input and output.
- Analog audio input and output.
- Preview your video signal and stream separately.

Recommendations

- For best results, use Gb Ethernet cables and equipment.
- In industrial environments, use shielded Ethernet cables.
Shielded Ethernet cables are often marked F/UTP or FTP.

Encoder-100 rear panel



DC 5V	Connect to an electrical outlet
LAN	Sends encoded signal to your network Connect to your network with Ethernet
PREVIEW	Allows you to preview your encoded signal Connect to a display with a VGA cable
HDMI OUT	Allows you to preview your encoded signal Connect to a display with an HDMI cable
HDMI IN	Receives video and digital audio signal from a source Connect to a source with an HDMI cable
AUDIO OUT	Allows you to preview your audio signal Connect a speaker with a 3.5 mm jack audio cable
AUDIO IN	Receives analog audio from a source Connect a 3.5 mm jack audio cable

Read more about the Encoder-100 in the Encoder-100 user guide PDF-ENCODER-100, or in CORIOgrapher online help.

Hardware recommendations

At tvONE, we design our products to the highest quality standards. To get the best results from our products, we recommend that you use the best quality connectors, cables, and adapters. Consider the points below when you choose accessories and position equipment.

- For best results with HDMI/DVI, use cables under 15 m long, or shorter if you use connection adapters. If you need to place your products more than 15 m apart, use a signal extender.
See our range of signal extenders at tvone.com/signal-extension-systems.
- For best results with HDMI, use High Speed or Premium High Speed HDMI cables.
- In industrial environments, use shielded Ethernet cables.
Shielded Ethernet cables are often marked F/UTP or FTP. Use shielded Cat 6 cables with HDBaseT input and output modules and Dual stream input modules.
- Use good quality USB drives compatible with USB 3.0.

Set it up

This section contains everything you need to know about installing and setting up your video wall with CORIOmaster™ and CORIOgrapher™.

In this section

Quick start	14
Planning and installing video walls	20
Planning a video wall	20
Installing video wall hardware	21
Setting up a video wall in CORIOgrapher™	24
CORIOgrapher™ system requirements	24
About CORIOgrapher™	24
Getting started with CORIOgrapher™	25
Naming input and output ports	27
Enabling secure mode	28
Creating a video wall	29
Testing your video wall installation	30
Set up and test audio	33
Settings	36
Device settings	37
Naming your CORIOmaster™	37
Resetting your CORIOmaster™ to factory default settings	37
Choosing your default working units	38
Backing up and restoring your settings	38
CORIOmaster micro™ settings	41
Configuring the buttons of your CORIOmaster micro™	41
User settings	43
Creating and editing users	43
Changing other users' passwords	44
Changing your own password	45
Network settings	45
Configuring network settings for your CORIOmaster™	45
Configuring network settings for streaming media	46
Playlist settings	48
Renaming playlists and moving playlists between modules	49
Deleting playlists	49
Encoders and streams settings	50
Managing encoders and streams	50

Quick start

This Quick Start Guide gives you an overview of the steps involved in setting up a video wall with your CORIOmaster™, CORIOmaster mini™, or CORIOmaster micro™ hardware and CORIOgrapher™ software.

1. Plan your video wall. What do you want your video wall to look like? What equipment do you need to achieve this?

At the back of this guide is a plan that you can fill out.

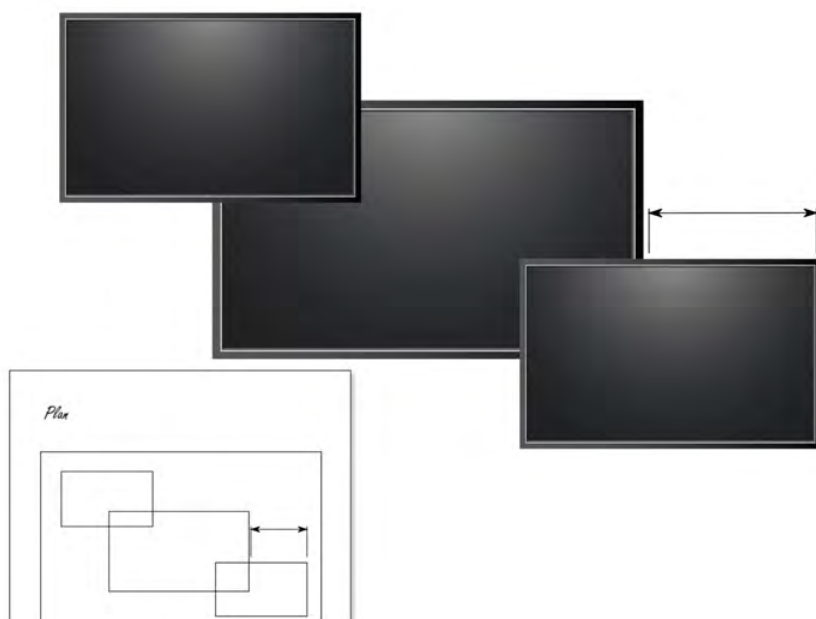
Read more about planning a video wall on page 20.



Video tearing

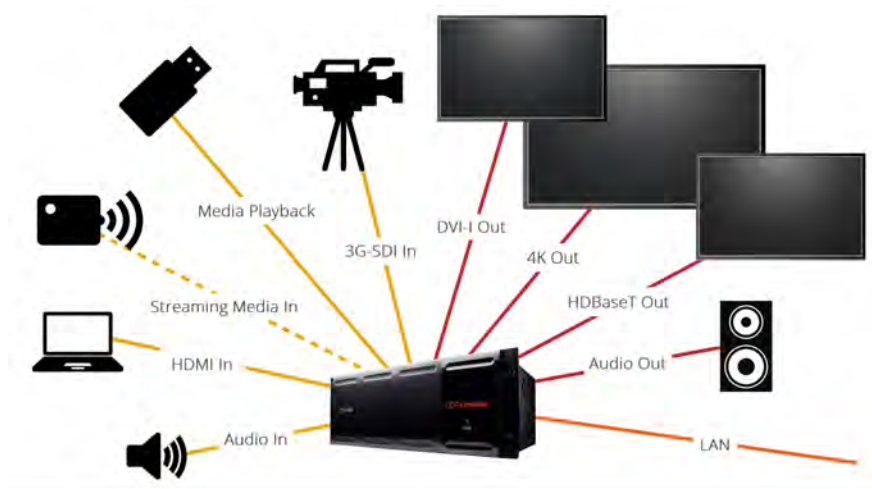
Using a mixture of frame rates and/or resolutions can cause video tearing. For best results, make sure all your displays use the same frame rate.

2. Install your hardware.
 - a. Position your displays.

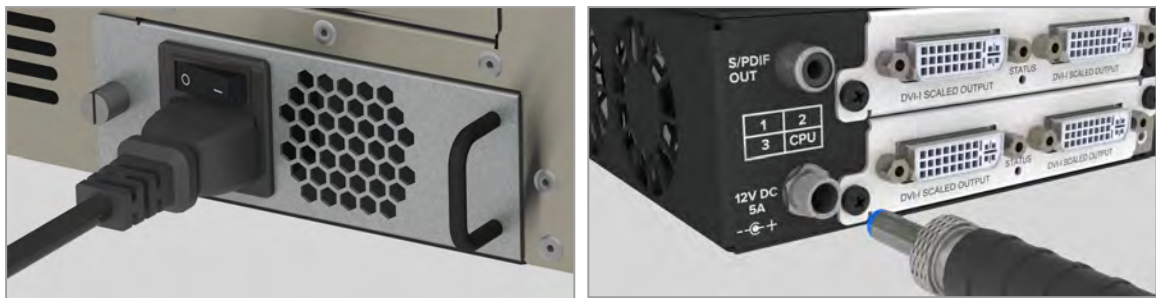


- b. Connect your displays and sources to your output and input modules. Connect the LAN port of the CPU module to your network.

OPTIONAL: If you have a CORIOmaster micro™, connect a digital audio device to the S/PDIF audio output.



c. Power on your CORIOmaster.



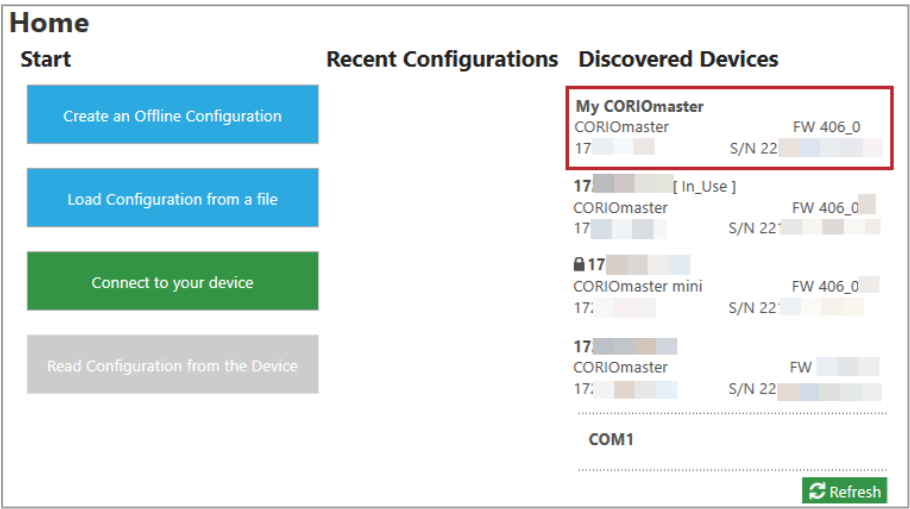
Read more about installing hardware on page 21.

3. Install CORIOdiscover and CORIOgrapher.

Your CORIOmaster comes with a USB drive, which contains software for installing CORIOdiscover and CORIOgrapher.

Download the latest version of CORIOgrapher from tvone.com/softwares.

4. Open CORIOgrapher and select your CORIOmaster. Enter your username and password to log in, and select Read to load your configuration.



The first time you log in, make sure the **Secure** option is cleared.
The default username is admin, and the default password is adminpw.

Authentication

Host (IP or COM) ☐ Secure

User name

Password

Login Cancel

Connect to Device

Successfully logged into the device

You now have the following options:

Read

Send

Connect

Read Configuration from device

Send offline Configuration to device

Just Connect to device (only Read system settings)

Send Read Connect

Read about what to do if you can't find your CORIOmaster in the list on page 114.
If you aren't connected to a CORIOmaster, you can create an offline configuration for your device.

Device Configuration for C3-510 (CORIOmaster mini)

Configuration Name: New Configuration

CPU

4 Input, Output

NO CARD

1 Input, Output

NO CARD

DVI_I 2-OUT

DVI_U 2-IN

DVI_U 2-OUT

HDBASET 2-IN

HDBASET 2-OUT

HDMI 4K 1-OUT

HDMI_4K 2-IN

MEDIA_4K IN

SDI_3G 2-IN

SDI_3G 2-OUT

SDI_HD 4-IN

2 Input, Output

NO CARD

3 Input, Output

NO CARD

6 Input

DVI_U 2-IN

reserved

Create Configuration

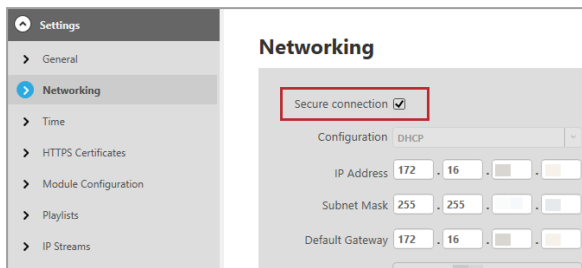
Discard Configuration

! The media player of the Dual stream module is not available when you work in an offline configuration.

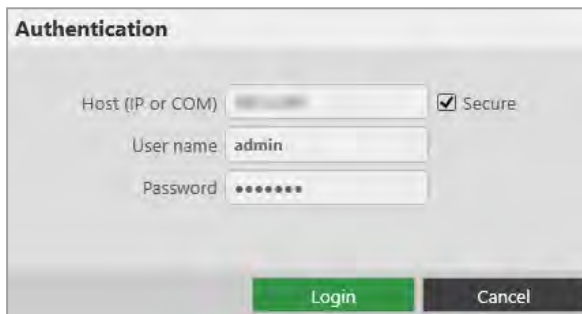
Read more about your first steps with CORIOgrapher on page 25.

5. **Optional:** enable secure mode.

- a. Select  > Networking.
- b. Select Secure connection.



- c. Select Save > Save.
CORIOmaster restarts.
- d. Select Secure and log in.



6. **Optional, but recommended:** name your input and output ports.

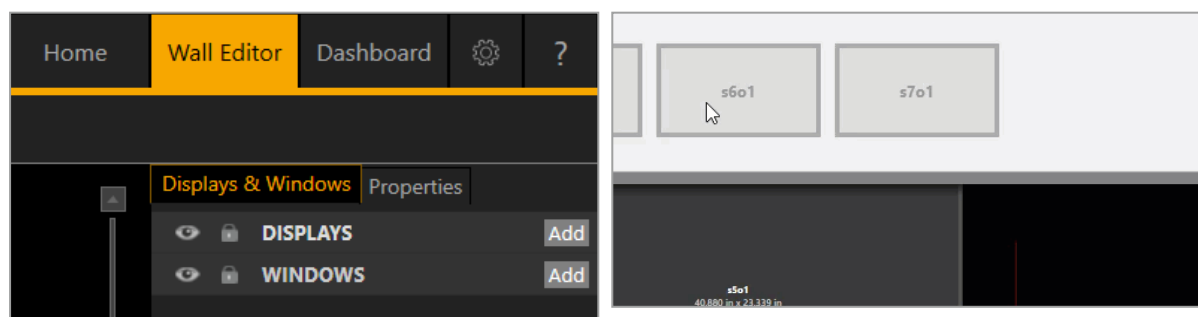
Select  > Slot Status. Give each port a name that describes the device connected to it.

Input Slots		
Slot	Name	Status
Slot4.In1	Camera1	INVALID
Slot4.In2	Camera2	INVALID
Slot5.In1	PlayQueue1	OK
Slot5.In2	PlayQueue2	OK

Read more about naming input and output ports on page 27.

7. On the wall editor, add your displays, and arrange them to match your video wall.

Select Wall Editor > (DISPLAYS) Add, and drag your displays onto the wall editor. Drag the displays into place.

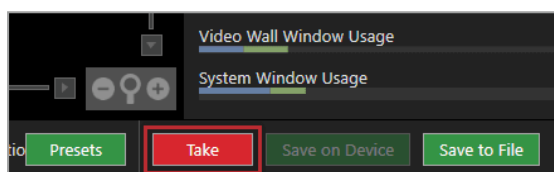
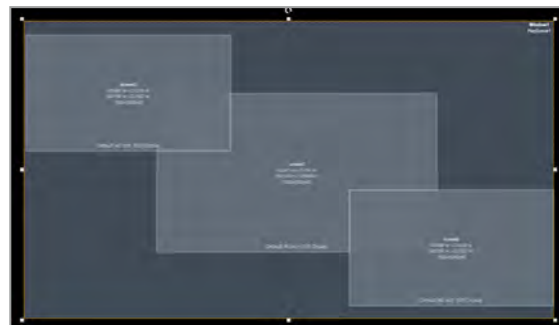
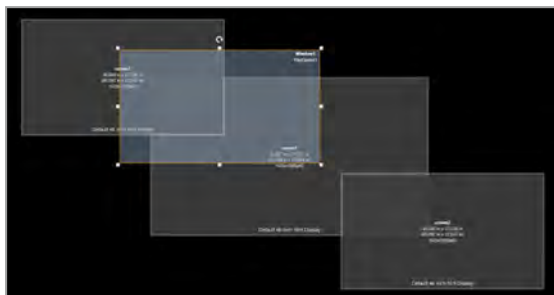


Create a rough arrangement at this stage. When you have tested your video wall you can make your arrangement more accurate.

Read more about creating a basic video wall on page 29.

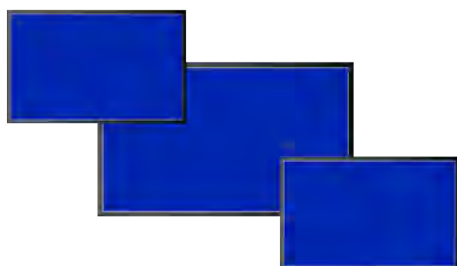
8. Add a window and scale it to cover the whole video wall.

Select Wall Editor > (WINDOWS) Add, and drag a window onto the wall editor. Drag the edges until it covers all of your displays. Select Take to send the video wall to your CORIOmaster.



9. Check that your video wall looks correct.

Make sure that the source for the window is playing, and check that the picture is assembled correctly.



✗ Not the source you were expecting, blue screen, display keeps dropping signal, or no image.

Possible causes:

- Source connected incorrectly
- Input ports named incorrectly
- Source not playing
- Source resolution not supported
- Display does not support HDCP
- Source does not support the required number of HDCP keys
- Poor quality or damaged cables



✓ Source correct, connected, and playing.

✗ Image appears in the wrong places.

Possible causes:

- Displays arranged incorrectly in CORIOgrapher
- Output ports named incorrectly
- Displays connected incorrectly



- ✓ Source and displays connected and arranged correctly.

10. Repeat step 7 to add windows for all of your sources. Check that all your sources and displays work as expected.

Read more about testing your video wall on page 30.

Read troubleshooting advice on page 111.

Next steps

Congratulations, your video wall is set up! You can now set up and test audio, make your video wall more accurate, configure the best quality settings, and add transitions and effects.

Read about setting up audio on page 33.

Read about settings on page 36.

Read about presets and transitions on page 53.

If your CORIOmaster contains one or more Dual stream input modules, you need to set those up too.

Read about setting up Dual stream input modules on page 1.

Planning and installing video walls

The first step towards creating a video wall with your CORIOmaster™, CORIOmaster mini™, or CORIOmaster micro™, is planning and setting up your hardware.

In this section

Planning a video wall	20
Installing video wall hardware	21

Planning a video wall

It's really helpful to write a plan before you start installing. A plan saves you time and effort later, and helps you make sure you have all the equipment you need.

There's a printable plan at the back of this guide.

If you can't print and fill out the plan, think about the following questions:

Overall effect

- What do you want your video wall to look like?
- How large is your video wall?
- What do you want to accomplish?

Displays

Video tearing



Using a mixture of frame rates and/or resolutions can cause video tearing. For best results, make sure all your displays use the same frame rate.

- How many displays do you need?
- What sizes are the displays?
- What are the bezel sizes of the displays?
- What is the native resolution of each display?
- Do you need displays that support HDCP (High-bandwidth Digital Content Protection)?
- How many projectors do you need?
 - Do you need to blend the edges of displays?
 - How much overlap do you need?

Sources or inputs

- What types of source do you need?
- What is the native resolution of each source?
- What is the frame rate of each source?
- Will the sources be available at all times that the video wall is operating?
- Is there any switching or processing before the source reaches your CORIOmaster™?

Windows

- How many windows do you need to create the effect you want?

Include all windows, even those that are not active all the time.
- What level of quality do you need for each window?

In most cases, you can't have the highest quality for all your windows. Which windows can be lower quality?

What is a window?

A window is a container for a source input. You can have multiple windows playing the same source. You can resize, move, and rotate windows in the video wall editor.

Presets

- Do you want to use presets in your video wall?
- What type of control system will you use to operate the video wall and change between presets?

What is a preset?

A preset stores information about windows, including positions, transitions, and effects such as borders or rotation. You can save presets and recall them later from the dashboard, or using the buttons of your CORIOmaster micro.

Installing video wall hardware

Once you have planned and collected your hardware, you can set it up. First, install your displays and place your sources. Then connect your displays to your output modules and your sources to your input modules.

Who can do this?

Anyone can do this task, but we recommend that you consult a qualified AV installer.

Placing your CORIOmaster™ and video wall

When you decide where to place your hardware, consider these points:

- Availability of electrical outlets
- Distance from CORIOmaster to sources and video wall

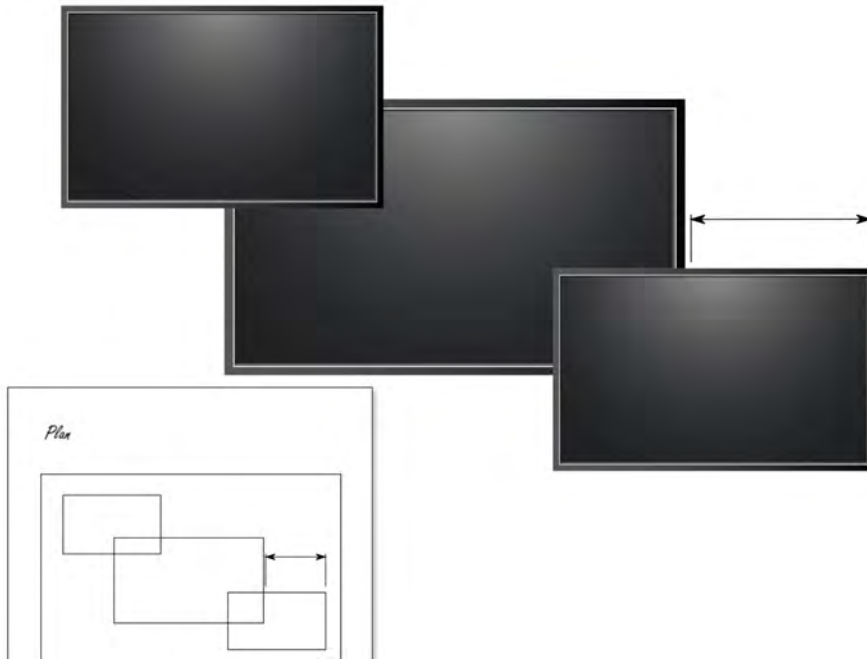
For best results, use cables under 15 m long, or shorter if you use connection adapters. If you need to place your CORIOmaster more than 15 m away from your video wall or sources, use a signal extender.

Read about our adapters on page 8.

See our range of signal extenders at tvone.com.
- Installation environment

In industrial environments, use shielded Ethernet cables.

Position your displays and sources



1. Use your plan to help you position your displays, which can be screens and/or projectors.
Make sure you note all the measurements, so you can make an accurate video wall in CORIOgrapher™.
2. Position your sources. Follow the advice above when you choose where to put your sources.
3. Connect your displays or projectors to the output modules of your CORIOmaster.



Keep a note of which display is connected to which port. You can use this information later when you name inputs and outputs in CORIOgrapher. You can also label the inputs and outputs directly.

4. Connect your sources to the input modules of your CORIOmaster.





Keep a note of which source is connected to which port. You can use this information later when you name inputs and outputs in CORIOgrapher.

5. Connect your CORIOmaster to your network. If you want to control your CORIOmaster with a serial controller, connect a serial controller.



6. Connect your CORIOmaster to an electrical outlet and power on.



You can now create your video wall in CORIOgrapher.

Setting up a video wall in CORIOgrapher™

When you've finished installing your video wall hardware and connected everything to your CORIOmaster™, you can create your video wall in CORIOgrapher.

In this section

- CORIOgrapher™ system requirements24
- About CORIOgrapher™24
- Getting started with CORIOgrapher™25
- Naming input and output ports27
- Enabling secure mode28
- Creating a video wall29
- Testing your video wall installation30
- Set up and test audio33

CORIOgrapher™ system requirements

Coriographer:

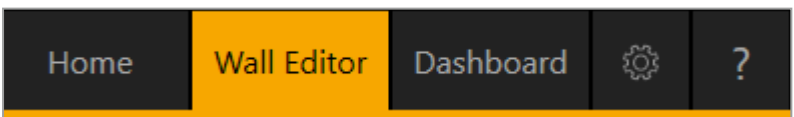
- Works with PCs running Windows® 7 and 10
- Does not work with touch-screen-only devices, including tablets or phones
- Installs Windows® .NET 4.6, if you don't have it
- Needs 600 MB of disk space during installation
- Is approximately 50 MB in size once installed

To use the preview feature, your PC must have Windows® Media Player installed, and it must have been launched at least once.

About CORIOgrapher™

CORIOgrapher is the software that controls your CORIOmaster™. You can create up to four video walls, with multiple screens and windows, and add transitions and effects for a state-of-the-art dynamic video wall experience.

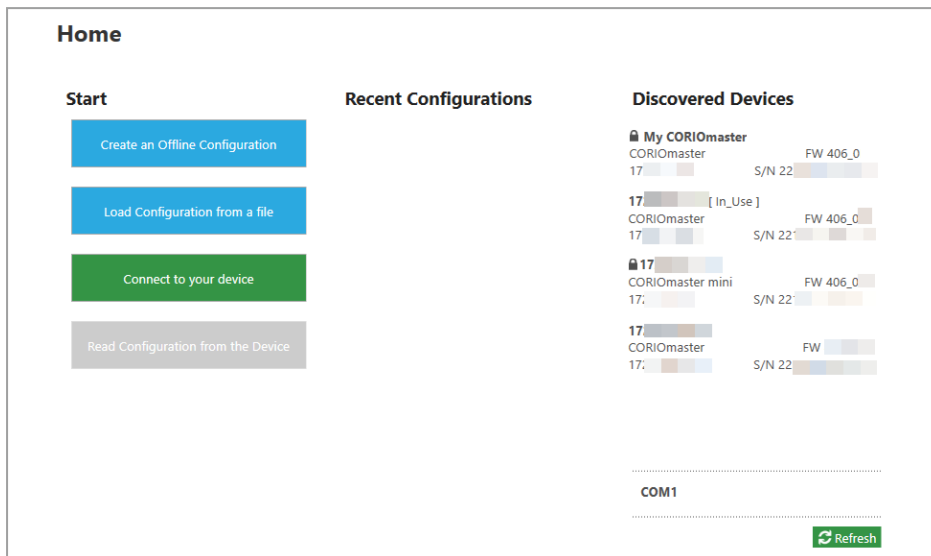
CORIOgrapher main areas



Home	Home is where you connect to a CORIOmaster, load a configuration from a file, or create an offline configuration.
Wall Editor	Wall Editor is where you create up to four video walls, each on its own canvas. If you have a CORIOmaster micro, you can create up to two video walls.
Dashboard	Dashboard is where you control the actions of your video walls.
	Settings is where you configure your system, network, modules, and more.
	? opens the online help.

Getting started with CORIOgrapher™

When you first open CORIOgrapher, you see the Home window.



- If you've set up your hardware already, you can connect to your CORIOmaster™, CORIOmaster mini™, or CORIOmaster micro™ and get information about its configuration of modules.
- If you haven't set up your hardware yet, you can create a configuration offline, or, if you have one, you can load a configuration from a file. You can save your configuration, and send the configuration to your CORIOmaster later.

Read about setting up hardware on page 21.

To connect to your CORIOmaster and get its configuration

The easiest way to get started using CORIOgrapher is to get the configuration of inputs and outputs directly from your CORIOmaster.

1. From Home, select your CORIOmaster from Discovered Devices.

If your CORIOmaster isn't in the list, select Refresh.

If you can't see your CORIOmaster, read troubleshooting advice on page 114.

2. Enter your administrator login details.

When you first log in as an administrator, enter the username `admin` and password `adminpw`. Leave the Secure option clear.

If Host (IP or COM) doesn't contain an IP address, read troubleshooting advice on page 115.

3. When you have logged in to your CORIOmaster, select Read to get its configuration.

You can now name your input and output ports.

Read about naming input and output ports on page 27.

To log in with secure mode

You can communicate securely with your CORIOmaster. To use secure mode, enable secure mode.

Read about enabling secure mode on page 28.

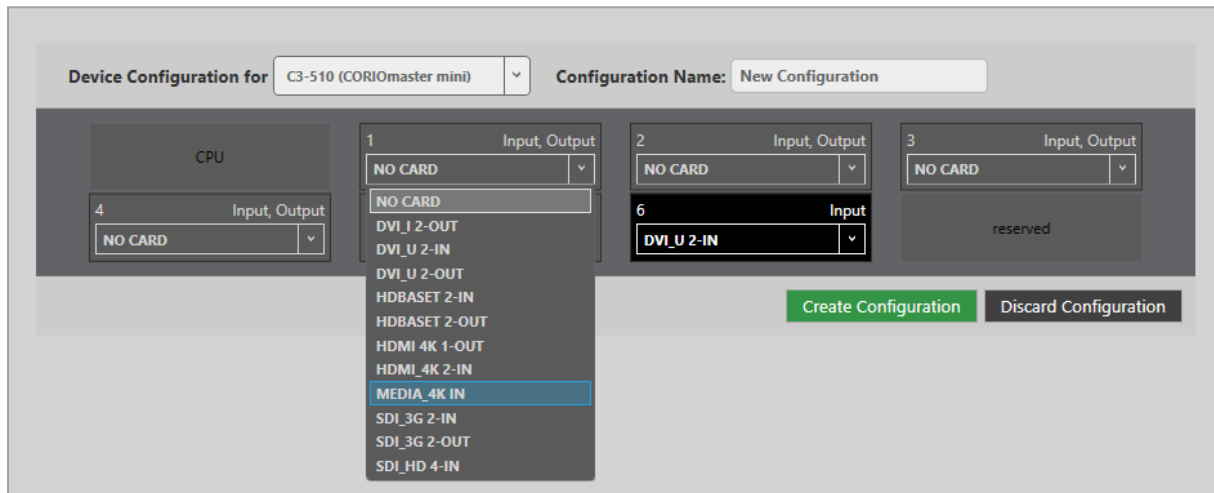
When secure mode is active, on Home you can see  next to the name of the CORIOmaster.

To create a configuration offline

You don't need to be connected to a CORIOmaster to create video walls, but you do need to recreate the configuration of your CORIOmaster so that you're using the correct inputs, outputs, and devices.

You can also create offline configurations to help you decide what hardware you need.

1. From Home, select Create an Offline Configuration.
2. On the Configuration Editor window, choose a device, and give your configuration a name.
3. For each slot, choose an input or output module from the list.



- The number of slots available depends on your device.
- You don't have to use all the slots.
- If you are creating a configuration for an existing CORIOmaster, match your configuration to the modules of your CORIOmaster.
- If you are creating a configuration to help you decide what modules you need, there are some guidelines on where to put your modules.

Read about the configuration of a CORIOmaster on page 2.

Read about the configuration of a CORIOmaster mini on page 4.

To send a configuration to your CORIOmaster

You can send a configuration to your CORIOmaster from Home. You can either create a configuration offline, or load a saved configuration.

1. Create or load a configuration.
2. Select **Connect to your device** and enter your administrator login details.

When you first log in as an administrator, enter the username `admin` and password `adminpw`.

3. Select **Send**.

Naming input and output ports

You can name the input and output ports for each slot in CORIOgrapher™.

Why should I name input and output ports?

CORIOgrapher uses slot identifiers to give each input or output port in each slot a unique name. For example, the first port in slot 1 is named s1i1 for slot 1 input 1. These unique identifiers tell you the position, but not what is connected to that input or output.

Naming your ports with something that indicates what is connected to the port can help you identify what is what in your configuration, and will make it easier for you to see quickly which source is playing in which window. For example, you might rename s1i1 to Camera 1.

Naming the input ports of a Dual stream input module

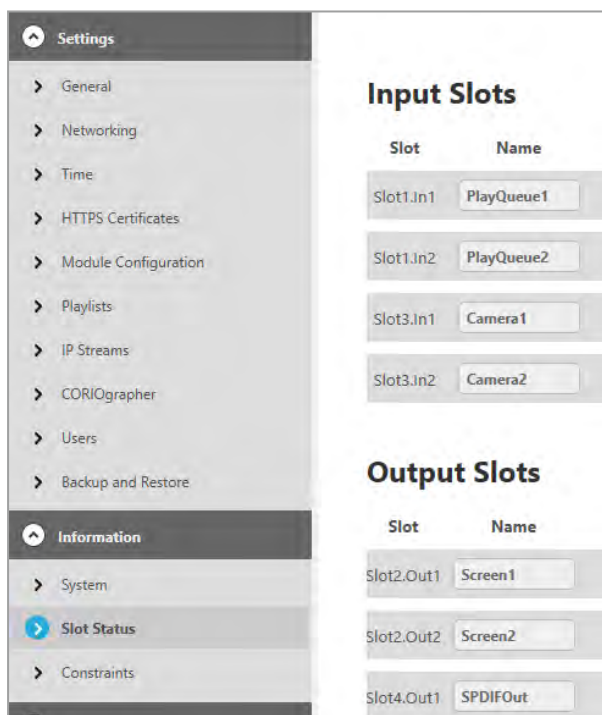
The Dual stream input module has two virtual input ports. Each port refers to a play queue, not to a specific streaming source. If you intend to build play queues with multiple sources, for example, one or two streaming sources and media items from a USB drive, then consider unique names such as PlayQueue1 and PlayQueue2. If you intend to always have just one streaming source in a play queue, then you could use names like WOWZAstream, or LectureTheatreStream.

Naming rules

Names must be unique and start with a letter. They can contain letters, numbers, and underscores, and can be up to 21 characters long.

To name input and output ports

1. In CORIOgrapher, select ⚙ > Slot Status.
2. For each port, enter a useful name.



3. To save your new names, select Apply (inputs and outputs only).
If you are creating an offline configuration, select Wall Editor > Save to File.

Enabling secure mode

If you have a CORIOmaster™ or CPU module purchased from 2019 onwards, you can use secure mode to encrypt information you send and receive from your CORIOmaster.

About secure mode

Secure mode uses HTTPS to encrypt all communication between CORIOgrapher™, or another secure controller, and your CORIOmaster. HTTPS encryption uses TCP port 443.

Secure mode only works on CORIOmaster units with a real time clock installed in the CPU module.

When secure mode is active, on Home you can see  next to the name of the CORIOmaster.

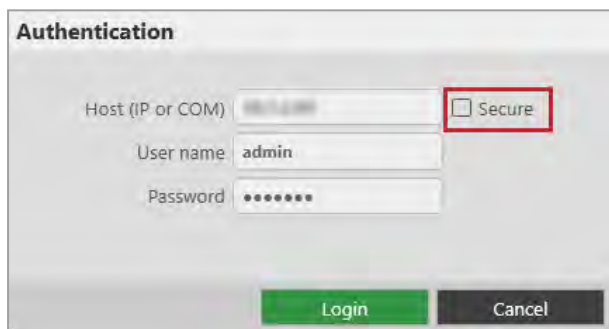


Secure mode disables unsecured connections over Ethernet. Unencrypted third-party controllers do not work over Ethernet when you use secure mode. You can still use unsecured controllers that are connected directly to your CORIOmaster, using the serial port of the CPU module.

Read troubleshooting advice on page 116.

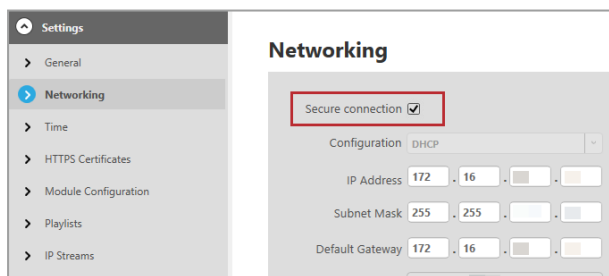
Enabling secure mode

1. Clear the Secure option and log in to CORIOgrapher.



The Authentication dialog box has a title bar 'Authentication'. It contains three input fields: 'Host (IP or COM)' with the value '192.168.1.100', 'User name' with the value 'admin', and 'Password' with masked characters '*****'. To the right of the Host field is a checkbox labeled 'Secure' which is currently unchecked and is highlighted with a red rectangle. At the bottom are two buttons: 'Login' (green) and 'Cancel' (grey).

2. Select  > Networking.
3. Select Secure connection.



The Networking settings screen has a left sidebar with 'Settings' at the top and a list of categories: 'General', 'Networking' (selected with a blue arrow), 'Time', 'HTTPS Certificates', 'Module Configuration', 'Playlists', and 'IP Streams'. The main area is titled 'Networking'. At the top, there is a checkbox 'Secure connection' which is checked and highlighted with a red rectangle. Below it, there is a 'Configuration' dropdown menu set to 'DHCP'. Underneath are three rows of IP address fields: 'IP Address' (172, 16, ., .), 'Subnet Mask' (255, 255, ., .), and 'Default Gateway' (172, 16, ., .).

4. Select Save > Save.
CORIOmaster restarts.

5. Select **Secure** and log in.



The Authentication dialog box has a title bar 'Authentication'. It contains three input fields: 'Host (IP or COM)' with a dropdown menu, 'User name' with the text 'admin', and 'Password' with masked characters '*****'. To the right of the Host field is a checked checkbox labeled 'Secure'. At the bottom are two buttons: 'Login' (green) and 'Cancel' (black).

Creating a video wall

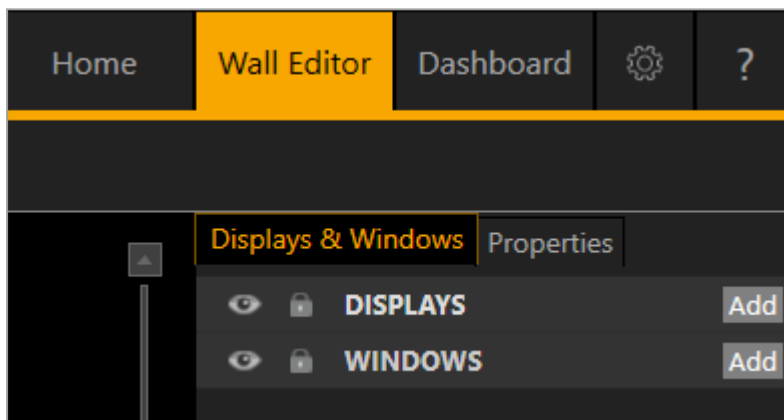
To create a video wall in CORIOgrapher™, you need sources and displays. Make sure you've either loaded your configuration from your CORIOmaster™, or created an offline configuration.

Read about reading the configuration from your CORIOmaster on page 25.

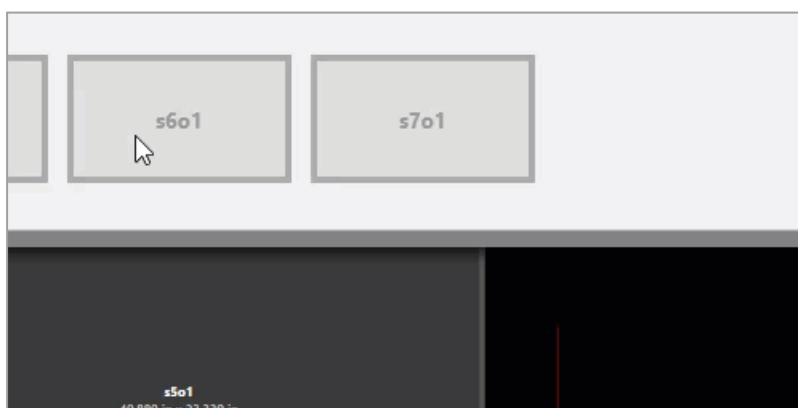
Read about creating an offline configuration on page 26.

To create a video wall

1. From Wall Editor, select (DISPLAYS) > Add.

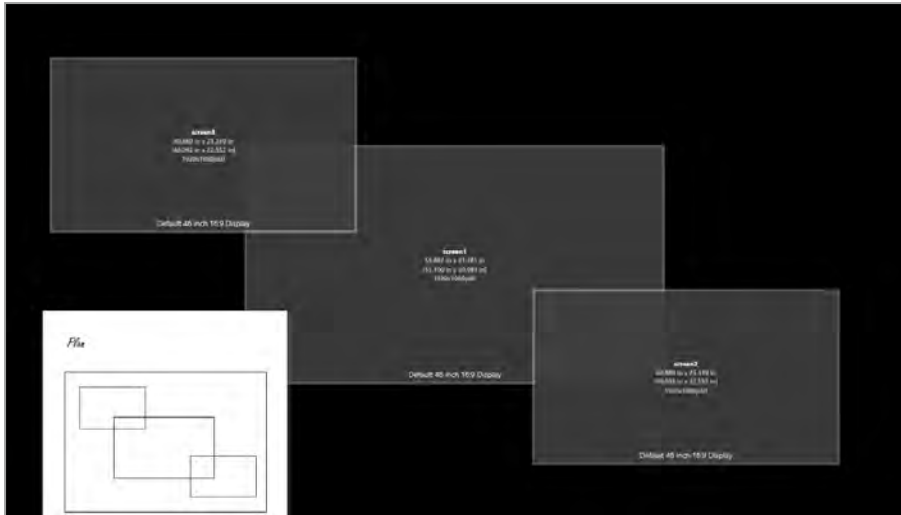


2. Select a display and drag it onto the video wall.



Repeat this step for each display that you want to use.

3. Arrange the displays on the video wall until they match your plan.



4. Add windows the same way that you add displays. Select (WINDOWS) > Add.
5. When you are happy with your video wall, select Take and then Save on Device to save your settings on your CORIOmaster.

Before you start refining and using your video wall, it's a good idea to test it to make sure everything is connected properly.

Read about testing your video wall on page 30.

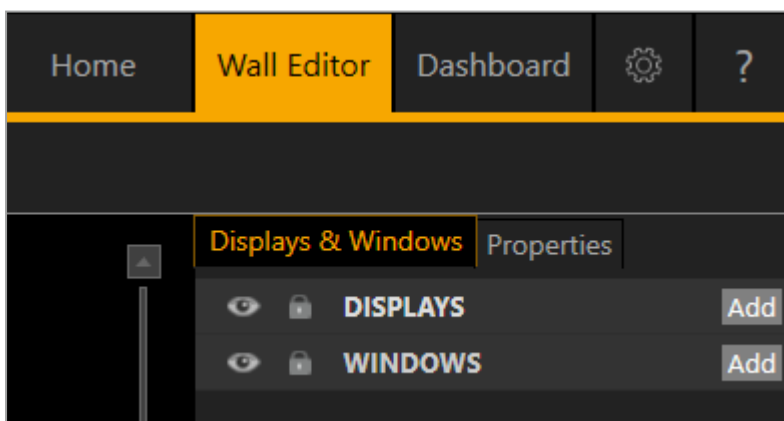
Testing your video wall installation

Once you've created your basic video wall, make sure that you've correctly connected all your hardware, and named and positioned your displays and windows correctly in CORIOgrapher™.



Testing your video wall is much easier if you've named your input and output ports. It also helps to label your sources and displays.
Read more on page 27.

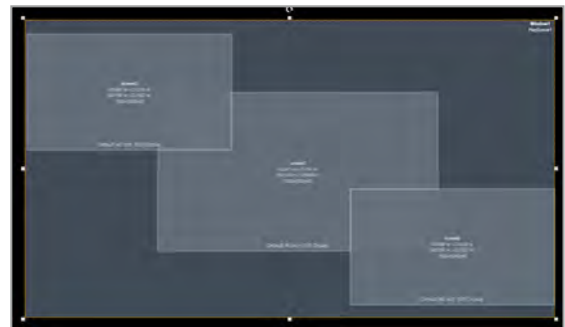
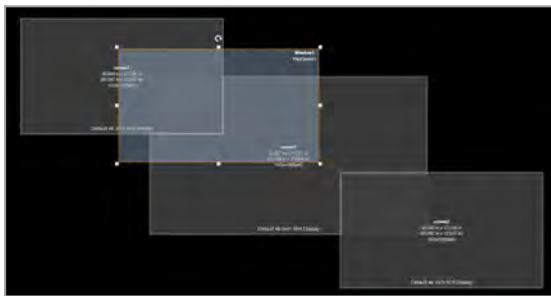
1. From Wall Editor, select (WINDOWS) > Add.



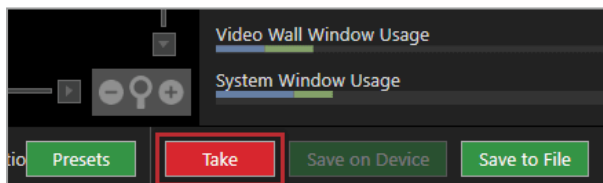
2. Select a source and drag it onto the video wall.



3. Drag the edges of the window until it covers all of your displays.

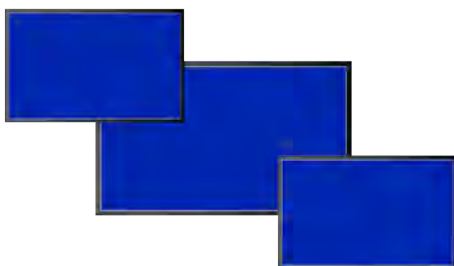


4. Select Take to send the video wall to your displays.



5. Check that your video wall looks correct.

Make sure that the source for the window is playing, and check that the picture is assembled correctly.



✗ Not the source you were expecting, blue screen, display keeps dropping signal, or no image.

Possible causes:

- Source connected incorrectly
- Input ports named incorrectly
- Source not playing
- Source resolution not supported
- Display does not support HDCP
- Source does not support the required number of HDCP keys
- Poor quality or damaged cables



- ✓ Source correct, connected, and playing.
- ✗ Image appears in the wrong places.

Possible causes:

- Displays arranged incorrectly in CORIOgrapher
- Output ports named incorrectly
- Displays connected incorrectly



- ✓ Source and displays connected and arranged correctly.

6. If your test was successful, select and delete the window you tested, and repeat the test for each input.

If your test was not successful, you might need to contact tvONE support.

See contact details on page 149.

7. When you are happy with your video wall, select **Take** and then **Save on Device** to save your settings on your CORIOmaster™.

If your video wall is displaying the right sources in the right windows, but doesn't look quite right, you can use the settings in **Wall Editor** to refine your video wall and make it more accurate.

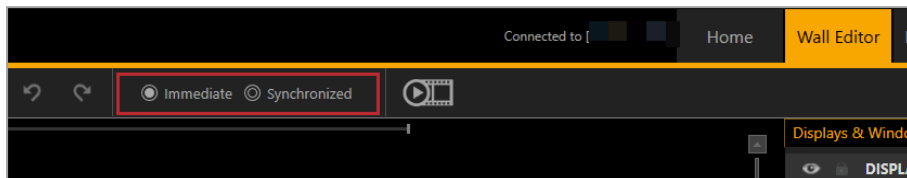
You can now set up and test audio.

Set up and test audio

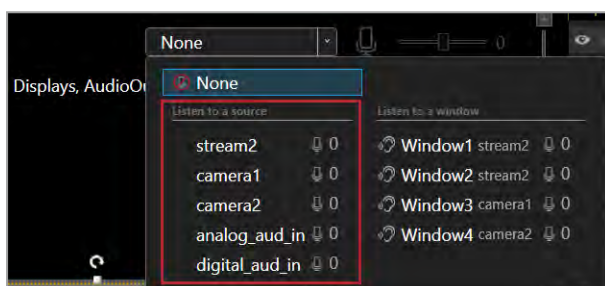
Your CORIOmaster, CORIOmaster mini, or CORIOmaster micro supports embedded audio in uncompressed PCM format. CORIOmaster micro also includes an independent S/PDIF audio output.

Testing embedded audio inputs

1. From Wall Editor, select Immediate.



2. Select an audio source from the list.



You hear the audio source from all the displays and output devices associated with this canvas.

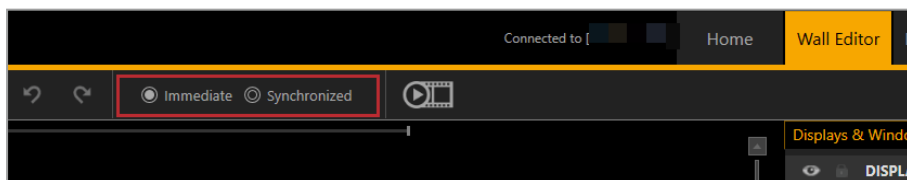
3. Select each source in turn.

If you cannot hear a source:

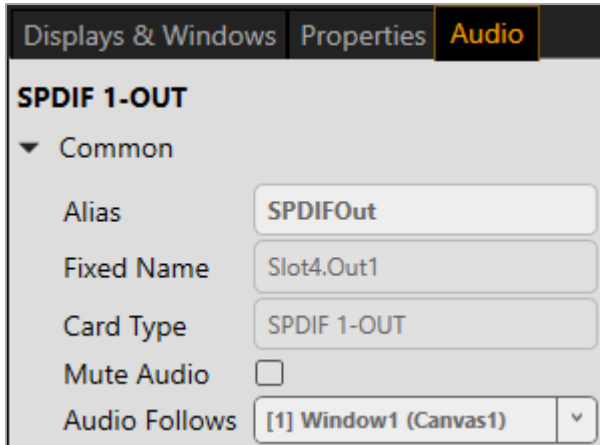
- check the audio settings of the source device.
- On Wall Editor, make sure the source is not muted. A muted source shows .
- In Settings > Slot Status, make sure Audio Enabled is selected for the source.
- If you cannot hear any sources, check the audio settings of the output devices.
- If your source is a stream with low latency, CORIOmaster mutes the audio.
Read more about playing streams on page 77.
- The Dual stream input module only supports the following embedded audio formats:
 - mp3
 - aac

Testing embedded audio outputs

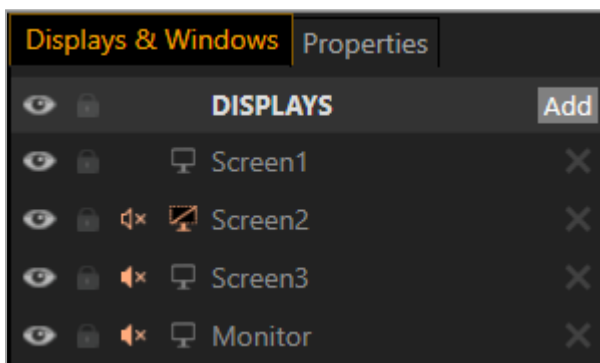
1. From Wall Editor, select Immediate.



- If you have a CORIOmaster micro, mute the S/PDIF output.
From Audio, select Mute Audio.

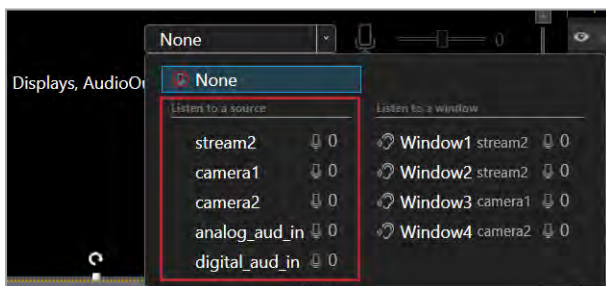


- From Displays & Windows, mute all the displays, except the one you want to test.



Select  to mute a display, and  to unmute a display.

- Select an audio source from the list.



You hear the audio source from the display that isn't muted.

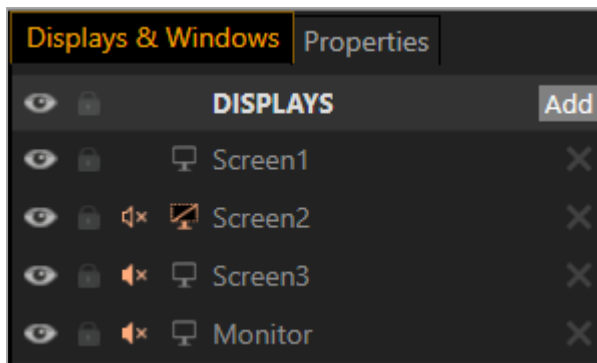
- Mute and unmute each display until you have heard audio from all displays.

If you can't hear audio:

- Check the audio settings on the display itself.
- On Wall Editor, make sure the source is not muted. A muted source shows .
- In Settings > Slot Status, make sure Audio Enabled is selected for the source and for the display.
- If your source is a stream with low latency, CORIOmaster mutes the audio.
Read more about playing streams on page 77.
- The Dual stream input module only supports the following embedded audio formats:
 - mp3
 - aac

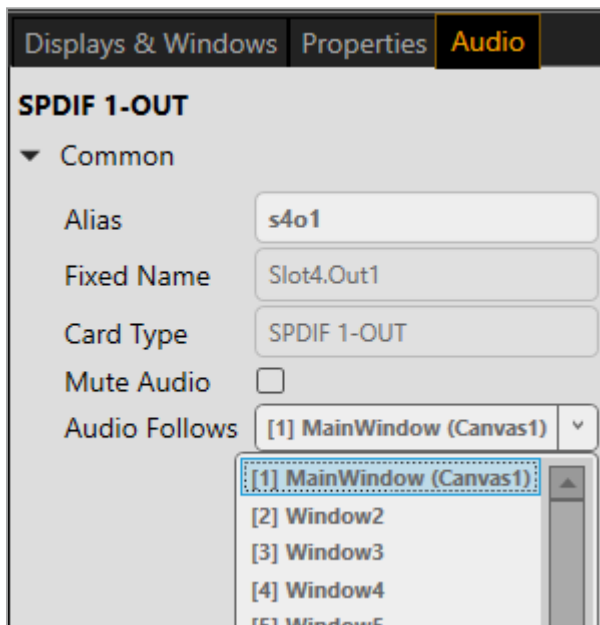
Testing the S/PDIF output of a CORIOmaster micro

1. From Wall Editor, select Displays & Windows.
2. Mute all the displays.



Select to mute a display, and to unmute a display.

3. From Wall Editor, select Audio
4. Select a window from Audio Follows.



If you can't hear audio:

- Check the audio settings on the display itself.
- On Wall Editor, make sure the source is not muted. A muted source shows .
- In Settings > Slot Status, make sure Audio Enabled is selected for the source and for the display.
- If your source is a stream with low latency, CORIOmaster mutes the audio.
Read more about playing streams on page 77.
- The Dual stream input module only supports the following embedded audio formats:
 - mp3
 - aac

Read about what to do if you can't hear audio on page 122.

Settings

You can manage device settings, network settings, and user settings. You can also get information about your CORIOmaster™, and name your modules.

In this section

Device settings	37
Naming your CORIOmaster™	37
Resetting your CORIOmaster™ to factory default settings	37
Choosing your default working units	38
Backing up and restoring your settings	38
CORIOmaster micro™ settings	41
Configuring the buttons of your CORIOmaster micro™	41
User settings	43
Creating and editing users	43
Changing other users' passwords	44
Changing your own password	45
Network settings	45
Configuring network settings for your CORIOmaster™	45
Configuring network settings for streaming media	46
Playlist settings	48
Renaming playlists and moving playlists between modules	49
Deleting playlists	49
Encoders and streams settings	50
Managing encoders and streams	50

Device settings

Administrators can configure settings for your CORIOmaster™, including creating and changing its name, changing the measurement units you use to create video walls, backing up and restoring your configuration, and resetting the CORIOmaster to its factory default settings.

In this section

- Naming your CORIOmaster™ 37
- Resetting your CORIOmaster™ to factory default settings 37
- Choosing your default working units38
- Backing up and restoring your settings38

Naming your CORIOmaster™

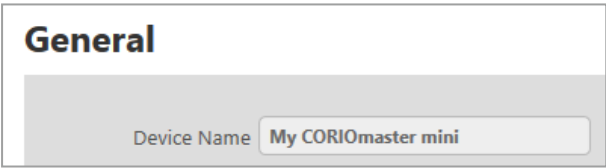
You can give your CORIOmaster a unique name.

Why should I name my CORIOmaster?

If you have more than one CORIOmaster unit on your network, giving each unit a unique name can make it easier to find and log in to that unit quickly.

To name your CORIOmaster

- 1. Select ⚙️ > General.
- 2. Enter a name for your CORIOmaster.



Resetting your CORIOmaster™ to factory default settings

Why restore factory default settings?

If your CORIOmaster has become unstable, you have repeated errors that you can't fix, or you need to remove all settings and presets, you can reset your CORIOmaster to its factory default settings.

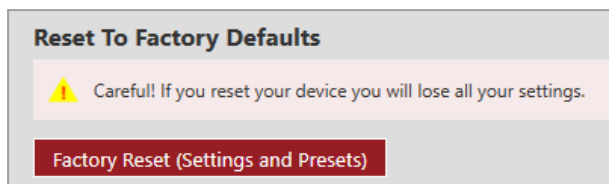
 When you reset your CORIOmaster to factory default settings, all of your settings and configurations are deleted.

Before you reset your CORIOmaster, you might want to back up your configuration. When you set up your CORIOmaster, you can restore your configuration.

Read about backing up and restoring your configuration on page 38.

To reset your CORIOmaster to factory default settings

1. Select ⚙️ > General.
2. Select Factory Reset.

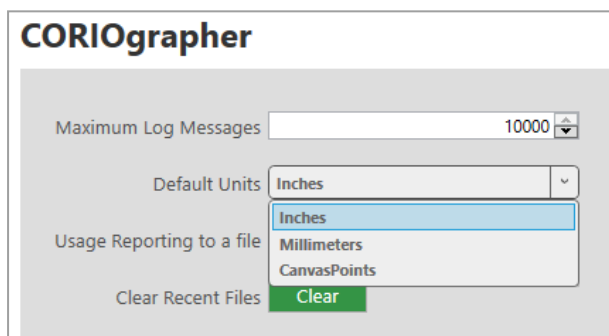


Choosing your default working units

You can choose to work in inches or millimeters when you build video walls in CORIOgrapher™. You can also choose to work in canvas points. Canvas points are equal to pixels in most cases.

To choose a unit

1. Select ⚙️ > CORIOgrapher.
2. From Default Units, choose your preferred units.



Backing up and restoring your settings

You can save your settings to a file on your CORIOmaster™, or to a file on your computer. You can restore your settings from either file. You can share a file saved on a computer between several CORIOmaster units that have the same configuration of modules.

Backing up your settings on your CORIOmaster

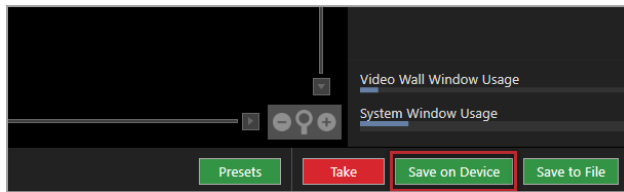
Settings that are saved on your CORIOmaster

All settings are saved to a backup file on your CORIOmaster, including:

- Presets
- Configuration, including custom names
- Canvasses
- The play queue of a Dual stream input module
- Network settings
- Manually added streams

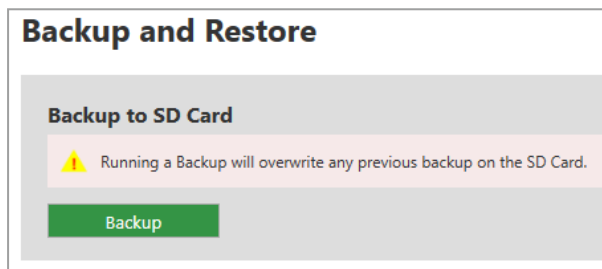
What isn't saved to your CORIOmaster

Work that you haven't saved to file, or saved to your CORIOmaster using **Save on Device**, isn't saved to a backup file on your CORIOmaster.



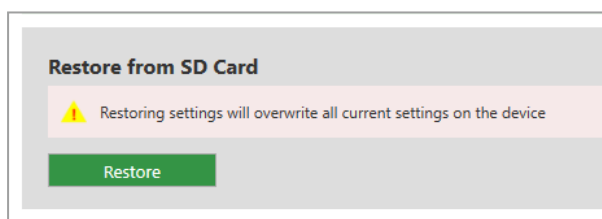
To back up your settings on your CORIOmaster

1. Check that you've saved all your work.
2. Select ⚙️ > Backup and Restore > Backup.



Restoring your settings from your CORIOmaster

1. Select ⚙️ > Backup and Restore.
2. Select Restore.



Backing up your settings to a file on your computer

Settings that are saved on your computer

Most settings are saved to a backup file on your CORIOmaster, including:

- Presets
- Configuration, including custom names
- Canvasses
- Network settings
- Manually added streams
- Custom resolutions

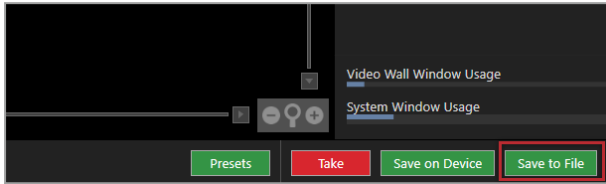
Note: device name and network settings are saved as part of the backup file, but are not included when you restore settings to your device. This allows you to share the backup file between devices without causing conflicts with names and network settings.

What isn't saved to your computer

The play queue and playlists of a Dual stream input module aren't saved to your computer.

To back up your settings to a file on your computer

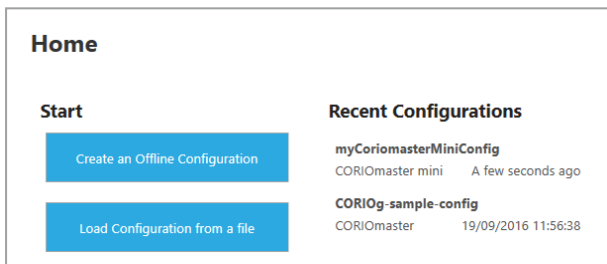
1. Select Wall Editor > Save to File.



2. Choose a location for the file, and save.

Restoring or copying settings from a file on your computer

1. Connect to the CORIOmaster that you want to update with saved settings.
2. Select Home.
3. Under Recent Configurations, select a saved file.



If you can't see your file in the list, select Load Configuration from a file and browse to your file.

Problems sharing settings between CORIOmaster units

You can't share saved settings between different sizes of CORIOmaster unit. For example, if you save the settings from a CORIOmaster mini™, you can't use it in a CORIOmaster.

You can't share saved settings between devices with different configurations of modules.

You might not be able to copy settings from one CORIOmaster to another if they have very different firmware versions, or you might lose some data in the process.

CORIOmaster micro™ settings

In this section

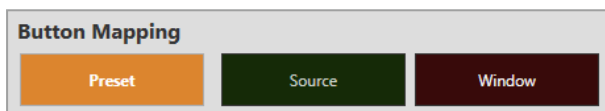
Configuring the buttons of your CORIOmaster micro™41

Configuring the buttons of your CORIOmaster micro™

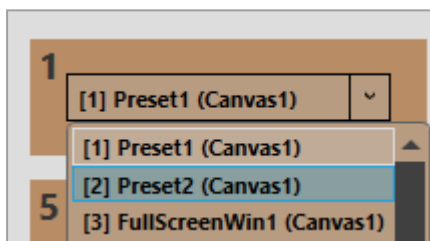
You can choose which presets, sources, and windows correspond to the buttons on the front panel of your CORIOmaster micro™. Configure the buttons in CORIOgrapher™.

Mapping presets, sources, and windows to the buttons of the front panel

1. Select ⚙ > (Front Panel) Button Mapping.
2. Select the option you want to configure.



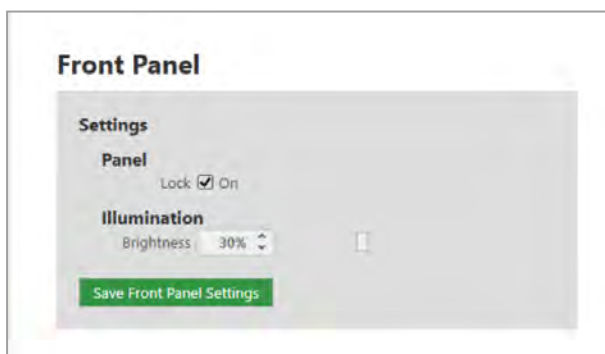
3. For each button, select a preset, source, or window from the list.



4. Repeat steps 2 and 3 until you have configured all modes and buttons, and then select Save.

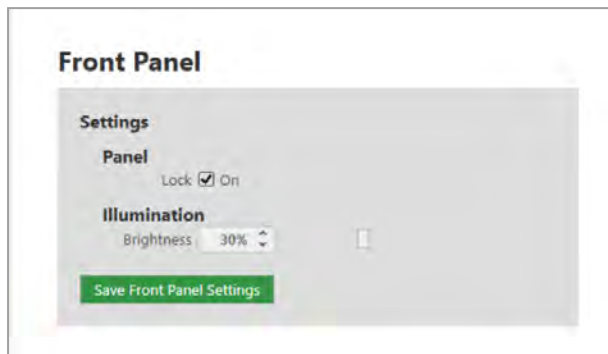
Changing the brightness of the buttons of the front panel

1. Select ⚙ > (Front Panel) Settings.
2. Use the slider to adjust the brightness.



Locking the buttons of the front panel

1. Select ⚙️ > (Front Panel) Settings.
2. Select or clear Lock.



User settings

Administrators can create and edit users, change user roles, and enable specific timeout times. Users and power users can change their own passwords.

In this section

Creating and editing users	43
Changing other users' passwords	44
Changing your own password	45

Creating and editing users

You can create and edit users, change user roles, and enable specific timeout times. You can have up to four additional users.

What are user roles?

CORIOgrapher has three types of user, administrator, power user, and user.

	Users	Power Users	Administrators
Use the dashboard, including loading presets and using audio controls	✓	✓	✓
Send configurations to your CORIOmaster		✓	✓
Create offline configurations		✓	✓
Save and load configurations		✓	✓
Use the console		✓	✓
Create and edit video walls		✓	✓
Create and edit presets		✓	✓
Set window and display properties, including disabling audio		✓	✓
Change settings, including creating and editing other users			✓
Set up a new CORIOmaster			✓

Why set a timeout time?

By default, a connection to a CORIOmaster, CORIOmaster mini, or CORIOmaster micro must stay active, or it is disconnected after five minutes. An active connection sends at least one command to the CORIOmaster every five minutes.

To stay connected while idle for more than five minutes, set a longer timeout time for each user. You can also allow the user to stay connected permanently, with no timeout time, by clearing the **Enable timeout** option.

Locking out other users



CORIOgrapher only allows one connection at a time. If you allow any user to connect permanently, or with a long timeout time, they can lock out other users. This can also prevent commands from other devices reaching the CORIOmaster.

To create a new user, or edit an existing user

1. Select > Users.
2. To create a new user, choose an empty slot. To edit an existing user, find that user's details.
3. Enter a username.
Usernames must start with a letter, and can contain only letters, numbers, and underscores.
4. Select a user role.
5. Enter a password in the **New Password** box and the **Confirm Password** box.
Passwords must be between 5 and 32 characters, must start with a letter, and can contain any combination of alphanumeric characters and symbols. Passwords cannot contain spaces.
6. Select the **Enable timeout** option, and enter or select a timeout time from 1–540 minutes.



tvONE recommends a timeout time from 1–5 minutes.

7. Select **Save**.

Changing other users' passwords

You can make changes to other users' accounts.

Password rules

Passwords must be between 5 and 32 characters, must start with a letter, and can contain any combination of alphanumeric characters and symbols. Passwords cannot contain spaces.

To change other users' passwords

1. Select > Users.
2. Find the user whose password you wish to change and enter the new password in the **New Password** box.
3. Enter the same password in the **Confirm Password** box and select **Save**.

Changing your own password

Password rules

Passwords must be between 5 and 32 characters, must start with a letter, and can contain any combination of alphanumeric characters and symbols. Passwords cannot contain spaces.

To change your password

- 1. Select  > Users.
- 2. Find your user details and enter your new password in the New Password box.
- 3. Enter the same password in the Confirm Password box and select Save.

Network settings

Administrators can configure network settings for CORIOmaster™ units and Dual stream input modules.

In this section

Configuring network settings for your CORIOmaster™	45
Configuring network settings for streaming media	46

Configuring network settings for your CORIOmaster™

You can choose a DHCP or static IP address, and configure your static IP settings.

Before you start

If you want to use a static IP address, you need some information about the range of available IP addresses on your network. Your network administrator should be able to help you.

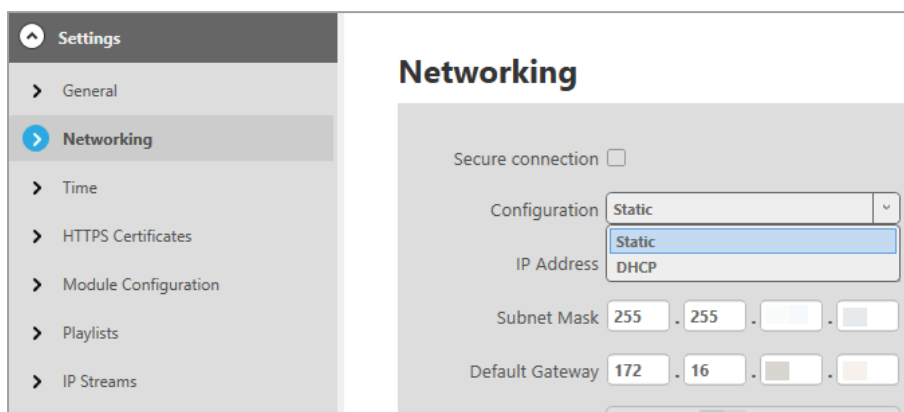


Static IP address

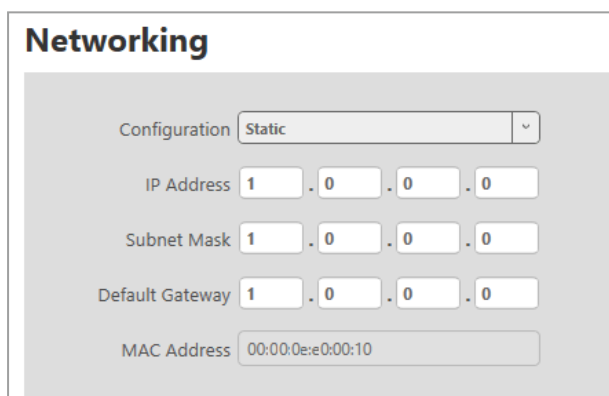
If you choose a static IP address, make sure you enter a unique value for your IP address. Using the same IP address for multiple devices can cause your devices to disconnect. Contact your network administrator for help.

To configure network settings for your CORIOmaster

1. In CORIOgrapher, select ⚙️ > Networking.
2. Choose an IP configuration.



- If you choose DHCP, an IP address is assigned to you.
 - If you choose Static, the last static IP address you saved is available to edit. If you haven't previously saved a static IP address, default values for a static IP address are available to edit.
3. **OPTIONAL:** Configure your static IP address.



- Enter a value for your IP address and subnet mask.
- If your CORIOmaster and PC are on different networks, enter a value for your gateway.

If you need help with network settings, contact your network administrator.

Configuring network settings for streaming media

If you want to stream media over your network, or from the internet, configure the network settings for your Dual stream input module.

If you only want to use your Dual stream input module to play media from a USB drive, you don't need to configure network settings.

You can also configure the network settings for your Encoder-100.

Read about configuring your Encoder-100 on page 1.

About static IP addresses

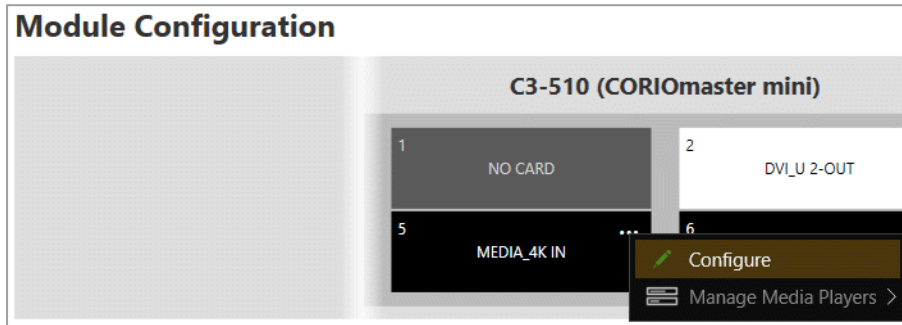
If you want to use a static IP address, you need some information about the range of available IP addresses on your network. Your network administrator should be able to help you.

Static IP address

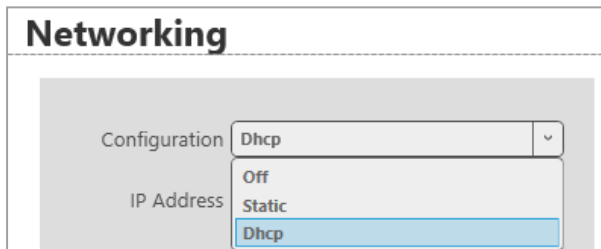
- ❗ If you choose a static IP address, make sure you enter a unique value for your IP address. Using the same IP address for multiple devices can cause your devices to disconnect. Contact your network administrator for help.

To configure network settings for streaming media

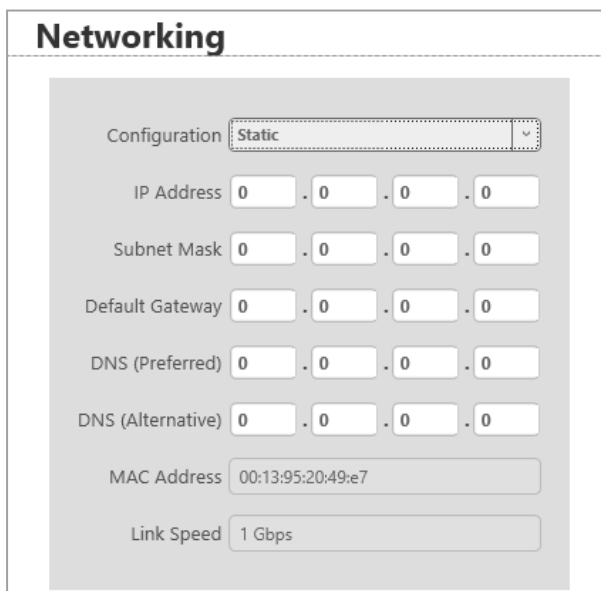
1. In CORIOgrapher, select ⚙️ > Module Configuration.
2. Find the Dual stream module that you want to set up, and select ⋮ > Configure.



3. Choose an IP configuration.



- If you choose DHCP, an IP address is assigned to you.
 - If you choose Static, the last static IP address you saved is available to edit. If you haven't previously saved a static IP address, default values for a static IP address are available to edit.
4. **OPTIONAL:** Configure your static IP address.

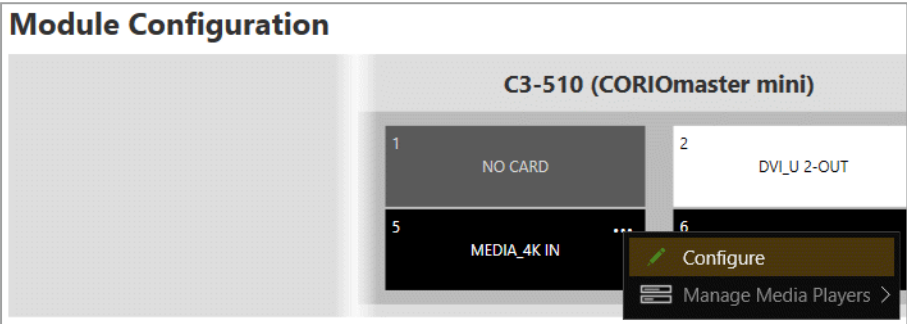


- Enter a value for your IP address and subnet mask.
- If you want to stream from the internet, for example from a Wowza server, enter a value for your gateway.
- If you want to refer to a source by name, enter a value for DNS.

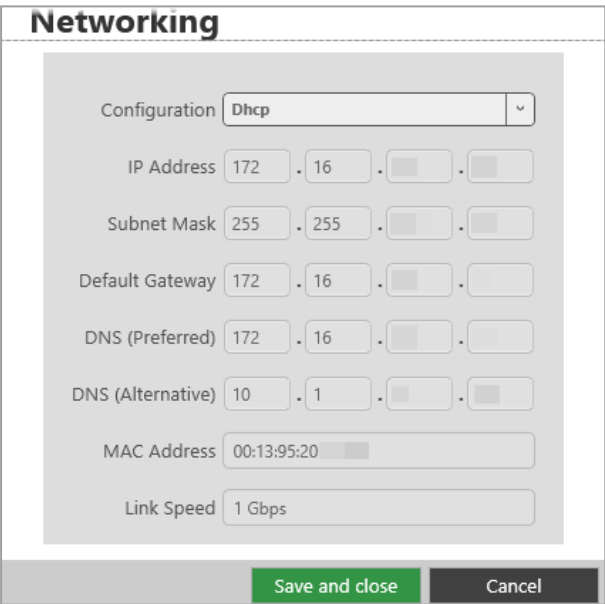
If you need help with network settings, contact your network administrator.

Finding the MAC address of your Dual stream input module

1. In CORIOgrapher, select  > Module Configuration.
2. Find the Dual stream module that you want to set up, and select  > Configure.



3. Read the MAC address.



Playlist settings

If you have a Dual stream input module, you can view the status of your playlists, delete all playlists or individual playlists, move playlists between modules, and rename playlists.

In this section

Renaming playlists and moving playlists between modules	49
Deleting playlists	49

Renaming playlists and moving playlists between modules

You can see a list of all your playlists on all your Dual stream input modules. You can rename your playlists and move them between modules.

Renaming your playlists

1. In CORIOgrapher, select ⚙️ > Playlists.
2. Find the playlist you want to rename, and enter a new name.

Number	Name	Module	Resolution	
1	Playlist 1	Slot2 ▾	1920x1080p60	<button>Remove</button>
2	Playlist 2	Slot2 ▾	1920x1080p60	<button>Remove</button>
3	Playlist 3	Slot2 ▾	1280x720p60	<button>Remove</button>

Moving playlists

1. In CORIOgrapher, select ⚙️ > Playlists.
2. Find the playlist you want to move and select a module from the list.

Number	Name	Module	Resolution	
1	Playlist 1	Slot2 ▾	1920x1080p60	<button>Remove</button>
2	Playlist 2	Slot2 ▾	1920x1080p60	<button>Remove</button>
3	Playlist 3	Slot2 ▾	1280x720p60	<button>Remove</button>

Deleting playlists

If you have a Dual stream input module, you can delete all your playlists, or individual playlists.

Deleting all your playlists

1. In CORIOgrapher, select ⚙️ > Playlists.
2. Select Remove all playlists.

Playlists

Total

Used

Available

Remove all playlists

Deleting individual playlists

1. In CORIOgrapher, select  > Playlists.
2. Find the playlist you want to delete.
3. Select Remove.

Number	Name	Module	Resolution	
1	Playlist 1	Slot2	1920x1080p60	<button>Remove</button>
2	Playlist 2	Slot2	1920x1080p60	<button>Remove</button>
3	Playlist 3	Slot2	1280x720p60	<button>Remove</button>

Encoders and streams settings

You can view and manage all your encoders and saved streams.

In this section

Managing encoders and streams50

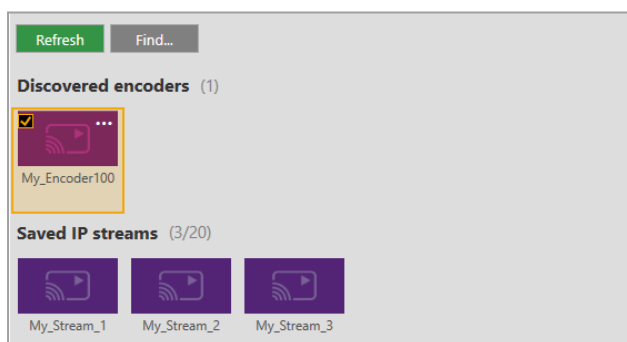
Managing encoders and streams

You can view and manage all your encoders and saved streams.

Select  > IP Streams.

Managing your encoders

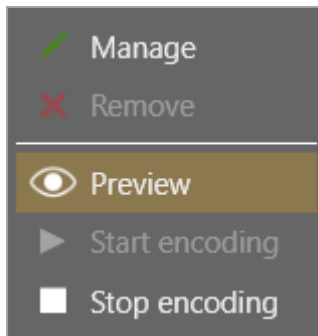
Encoders that CORIOgrapher™ detects appear under Discovered encoders.



You can:

- Refresh the list of encoders.
- Search for an encoder that doesn't appear automatically.
- Select an encoder to see details about that encoder.
- Select  to:
 - Manage the encoder, or change your configuration.
Read about configuring your Encoder-100 on page 1.
 - Remove an inactive encoder.
 - Preview the stream from an encoder.

- Start or stop encoding.



Managing your saved streams

Streams that you add and save manually appear under **Saved IP streams**.

- You can see how many streams you have, and how many slots you have left.
- You can add new streams, and remove all your saved streams.

IP Streams

Total 20

Used 3

Available 17

Add IP Stream **Remove all saved IP streams**

- You can edit the name and URL of saved streams.
 1. Select the stream and then select **⋮** > **Edit**.
 2. Edit the name or URL of the media stream.

Edit IP Stream

Name:

URL:

Save **Cancel**

Use it

When your video wall equipment is installed and you've recreated your video wall in CORIOgrapher™, you can play streaming media, and add transitions and effects to your video wall.

In this section

Presets	52
Creating and editing presets	53
Loading a preset	57
Changing the source playing in a window	58
Using audio	59
Playing embedded audio	60
Playing independent audio with a CORIOmaster micro™	73
Media and streams	77
Playing media and streams	77
Creating and managing playlists	86
Using the internal drive	92
Choosing the best resolution for your playlist or play queue	96
Using the buttons of your CORIOmaster micro™	98
Changing between preset and source selection mode with your CORIOmaster micro™	98
Locking your CORIOmaster micro™	98
Replacing a module	99
Creating and editing custom resolutions	103

Presets

You can create and save up to 50 presets in CORIOgrapher™.

In this section

Creating and editing presets	53
Loading a preset	57

Creating and editing presets

You can create and save up to 50 presets in CORIOgrapher™.



Risk of losing work

There is no Save As option. To update an existing preset, first load the preset, and then make changes.

What is a preset?

A preset stores information about windows, including positions, transitions, and effects such as borders or rotation. You can save presets and recall them later from the dashboard, or using the buttons of your CORIOmaster micro.

What is included in a preset?

Presets store information about windows, including:

- Source playing in the window
- Position
- Z order, or stacking order
- Size
- Rotation
- Border
- Flip
- Source change transitions

What is not included in a preset?

- System settings
- Displays
- Video walls other than the one you are working on

For example, if you have video wall 1 and video wall 2 set up, but you have video wall 1 open in Wall Editor when you save a preset, the preset contains only information about video wall 1.

- Audio settings, including which window is playing audio, which source is playing breakaway audio, and whether you have chosen breakaway mode or audio-follows-video mode.
- Window:
 - Quality
 - Full name
 - Alias
 - Video wall
 - Fade to black



You can save all this information as a backup file.
Read more on page 38.

For best results

To prevent your presets behaving unexpectedly, follow the advice below.

Build your busiest preset first

Build the preset with the highest number of windows first. Include all the windows you want to use in all your presets. Any windows that aren't for this preset, move away from the displays, and shrink to reduce bandwidth.

Don't use presets to add and remove windows

If you want to remove a window from your display with a preset, don't delete the window.

- Move the window away from the display.
- Reduce the size of the window to reduce unnecessary video bandwidth.
Note: windows that aren't on the display still take up bandwidth.
- Set the preset duration to 0 seconds.

✓ Preset 1



✗ Preset 2



✓ Preset 2



If you delete a window from a video wall, that window is also deleted from any presets for that video wall.

Don't use presets to change window quality

Don't change the quality of a window that is included with a preset.

For example, if you save a preset that contains two windows of UHQ quality, and then change the quality of one window to EHQ, it will not return to UHQ when you load the preset.

If you want to reduce the video bandwidth consumed by a window, consider shrinking it instead.

Don't use 0 seconds as the duration of a transition

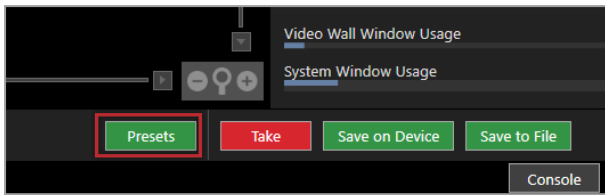
If your preset includes a change of source in a window, don't set the transition time to 0 seconds. For best results, set the transition time to 0.1 seconds.

Windows used in presets only appear on one video wall

You can't use windows that are included in presets on more than one video wall.

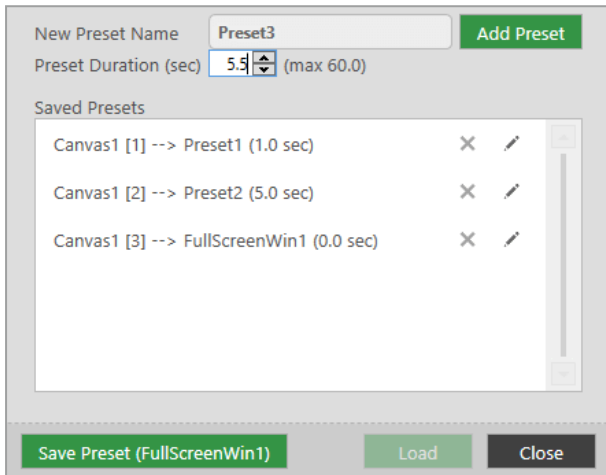
Saving presets

1. Create a video wall and select Presets.



2. Enter a name for your preset.

Names can be up to 19 characters long, and cannot contain spaces or ".".



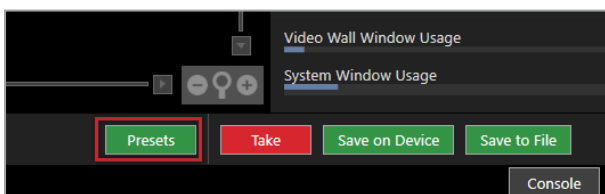
3. Enter or select a duration for your preset.
The duration is the time taken to transition to this preset.
4. Select Add Preset.

Editing presets

You can change the name and duration with a preset, or update a preset with a new configuration.

To change the name or duration of a preset

1. Select Presets.

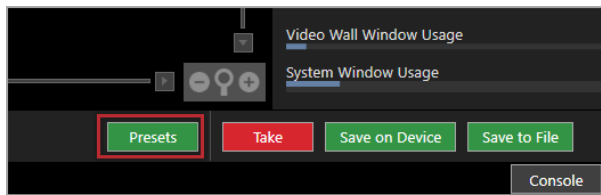


2. Find the preset you want to edit and select .
3. Enter a new name or duration.
4. Select any area outside the dialog box to save your changes, or select Close to save and exit the dialog box.

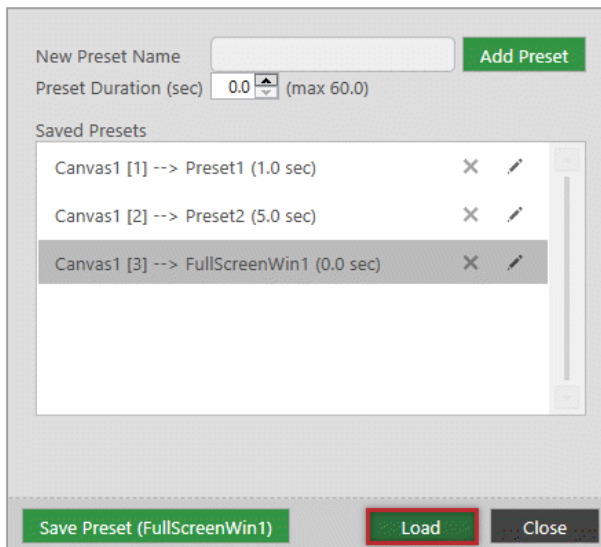
To update a preset with a new configuration

Make sure you load the preset you want to update before you make changes.

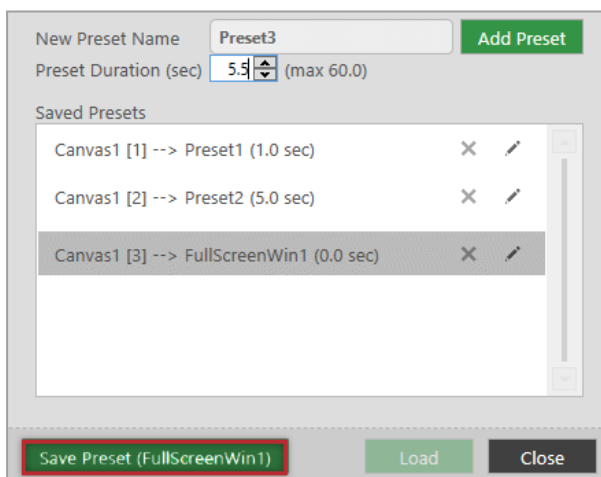
1. Select Presets.



2. Find the preset you want to edit and select Load.



3. Close Presets and make your changes to your video wall.
4. Select Presets > Save Preset.



Loading a preset

If you have saved one or more presets in CORIOgrapher™, then you can choose a preset to load. You can choose presets in CORIOgrapher, and if you have a CORIOmaster micro™, you can use the buttons to choose from a selection of presets.

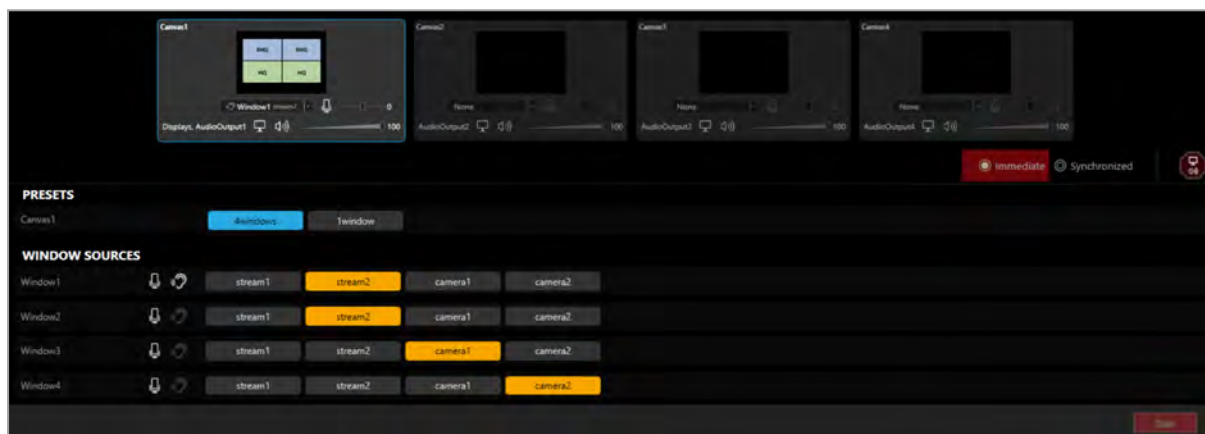
What is a preset?

A preset stores information about windows, including positions, transitions, and effects such as borders or rotation. You can save presets and recall them later from the dashboard in CORIOgrapher, or using the buttons of your CORIOmaster micro.

Loading a preset from CORIOgrapher

You can load any of your saved presets from the dashboard in CORIOgrapher.

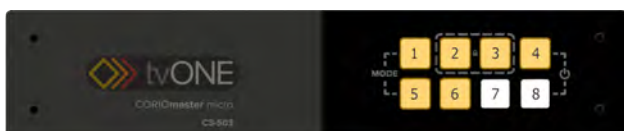
- From Dashboard, select a preset.



Loading a preset with the buttons of your CORIOmaster micro

You can choose from eight presets with the buttons of your CORIOmaster micro. By default, the eight buttons correspond to saved presets 1 to 8. You can configure your buttons to correspond to your choice of presets.

Read about configuring the buttons of your CORIOmaster micro on page 41.



When your CORIOmaster micro is in preset selection mode, the buttons are orange. Any buttons that do not have a corresponding preset are unlit.

1. Check that your CORIOmaster micro is in the correct mode for choosing presets.
If your CORIOmaster micro is not in the correct mode, press and hold buttons 1 and 5.
2. Press and release the button that corresponds to your chosen preset.

The button flashes while the preset loads, and is then lit more brightly.



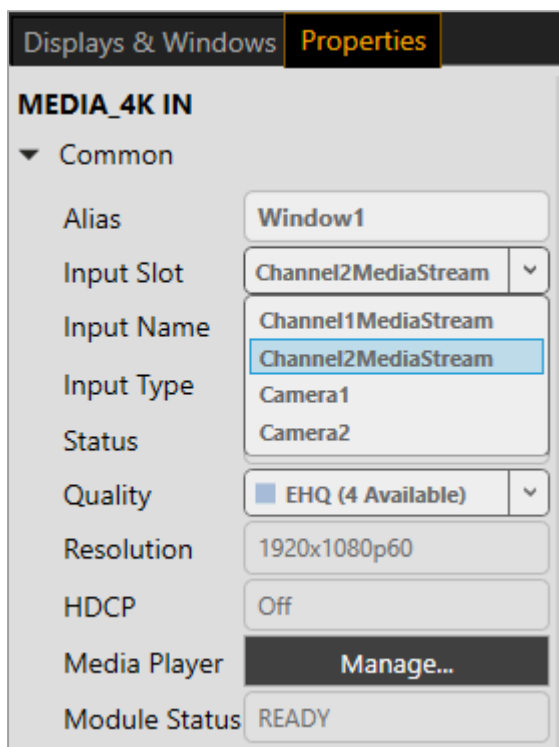
Note: while a preset is loading and the button is flashing, you cannot select another preset. Wait until the button stops flashing.

Changing the source playing in a window

You can choose which source plays in any window. If you have a CORIOmaster micro™, you can change the source with the buttons of the front panel.

Changing the source in CORIOgrapher

1. From Wall Editor, double-click the window you want to change.
2. In Properties, choose a source from Input Slot.

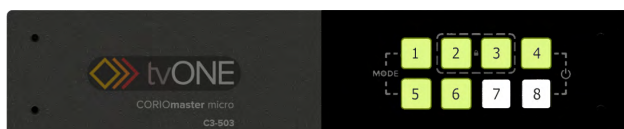


Changing the source with the buttons of your CORIOmaster micro

You can choose from up to eight sources with the buttons of your CORIOmaster micro. By default, the eight buttons correspond to your first eight sources. You can configure your buttons to correspond to your choice of sources.

Read about configuring the buttons of your CORIOmaster micro on page 41.

When your CORIOmaster micro is in source selection mode, the buttons are green. Any buttons that do not have a corresponding source are unlit.

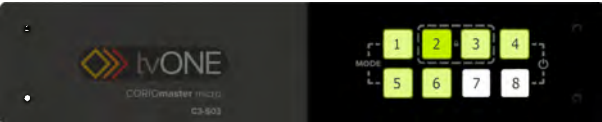


1. Check that your CORIOmaster micro is in the correct mode for choosing sources.
If your CORIOmaster micro is not in the correct mode, press and hold buttons 1 and 5.
2. Press and hold the button that corresponds to the window that you want to change, until it starts flashing.

Note: if you are listening to audio, when you choose a window, you hear the audio from that window. You can change the audio back to your chosen window at the end of this task.

3. Press and release the button that corresponds to your chosen source.

The button flashes, and is then lit more brightly.

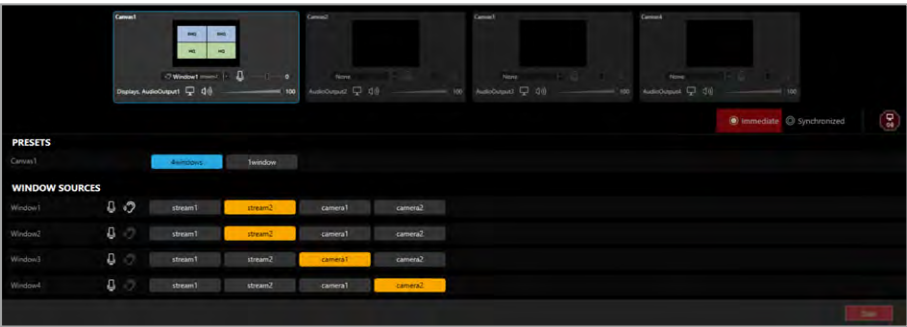


4. **Optional:** change the audio source back to your previous source. Press and hold the button that corresponds to the window that you want to hear, until it starts flashing.

Changing the source using the dashboard

You can change the source playing in any window from the dashboard in CORIOgrapher.

1. From Dashboard, find the window you want to change, and select a source.



2. Select Take.

Using audio

All CORIOmaster™ devices support embedded audio. CORIOmaster micro™ also includes an independent S/PDIF output.

Read about setting up and testing your audio on page 33.

In this section

Playing embedded audio	60
Playing independent audio with a CORIOmaster micro™	73

Playing embedded audio

You can play embedded audio on any CORIOmaster™ device. There are two modes, breakaway audio mode, and audio-follows-video mode.

Read about setting up and testing your audio on page 33.



Audio is not saved as part of a preset.

Audio settings are set for sources, not windows. If you adjust or mute the audio from a window, all the windows playing that source are affected.

In this article

About embedded audio	60
Disabling and enabling audio for a source or display	60
Choosing what to listen to with CORIOgrapher	64
What's breakaway audio?	64
Choosing which outputs play audio	66
Adjusting input audio level and muting sources	66
Muting individual audio outputs	68
Cutting to black and muting individual outputs	69
Adjusting volume and muting all displays and outputs associated with a canvas	69
Cutting to black and muting all displays and outputs associated with a canvas	70
Controlling audio from the dashboard	71
Emergency cut to black and mute	72

About embedded audio

- You can play embedded audio from any input port on any input module, as long as the embedded audio is in uncompressed PCM format, at 48 kHz.
- If you have an S/PDIF and analog audio module you can play audio of any format, as long as your media player can provide output in uncompressed PCM format, at 48 kHz.
- You can play embedded audio and audio from the S/PDIF and analog audio module on any output device associated with your video wall.
- CORIOmaster supports 2-channel audio, and does not support surround sound.
- You can only play audio from the S/PDIF and analog audio module in breakaway audio mode.
- The CORIOmaster micro also has an independent S/PDIF audio output that you can connect to a digital audio device with an RCA cable.

Read more about playing audio with the S/PDIF output on page 73.

Disabling and enabling audio for a source or display

If you never want to hear a source, or you never want to play audio on a specific display, you can disable it.

Administrators can disable audio from  > Slot Status.

Administrators and power users can disable audio from Wall Editor > Properties.



Users cannot re-enable the audio, so if you want other users to be able to restore audio, mute the source or display instead.

When the audio from a source is disabled, it is not available to select from the wall editor or the dashboard. When the audio to a display is disabled, the button to mute and unmute audio on that display is not available from Displays & Windows.

Disabling and enabling audio from Slot Status

Administrators can disable and enable sources and outputs.

1. Select ⚙️ > Slot Status.
2. Select or clear Audio Enabled.

Input Slots

Slot	Name	Audio Enabled
Slot1.In1	stream1	☐
Slot1.In2	stream2	☒
Slot2.In1	camera1	☒

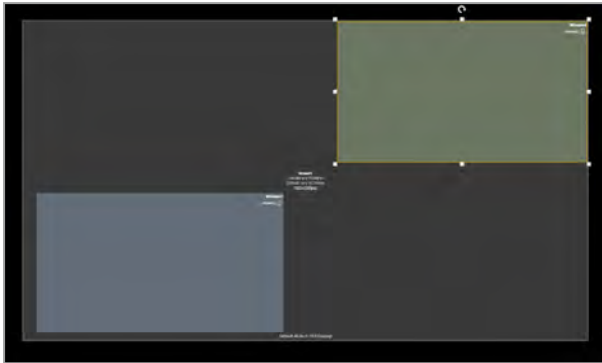
Output Slots

Slot	Name	Audio Enabled
Slot16.Out1	Screen1	☒
Slot16.Out2	Screen2	☒
Slot16.Out3	Screen3	☒
Slot16.Out4	Monitor	☐

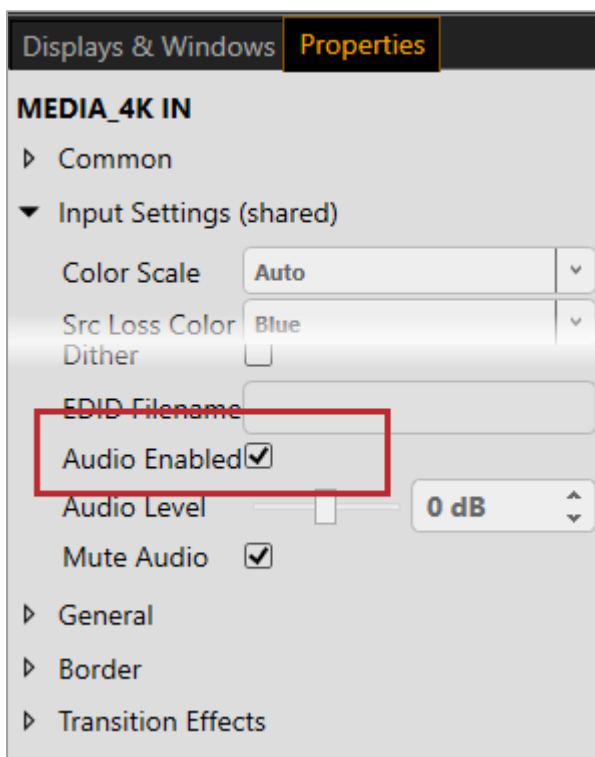
Disabling and enabling an audio source playing in a window from Properties

Administrators and power users can disable audio sources.

1. From Wall Editor, select a window.



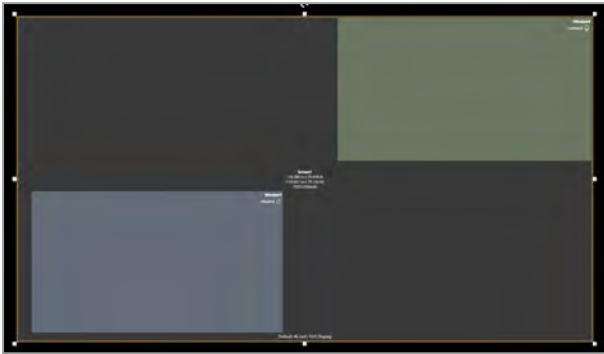
2. Select Properties > Input Settings (shared).
3. Select or clear Audio Enabled.



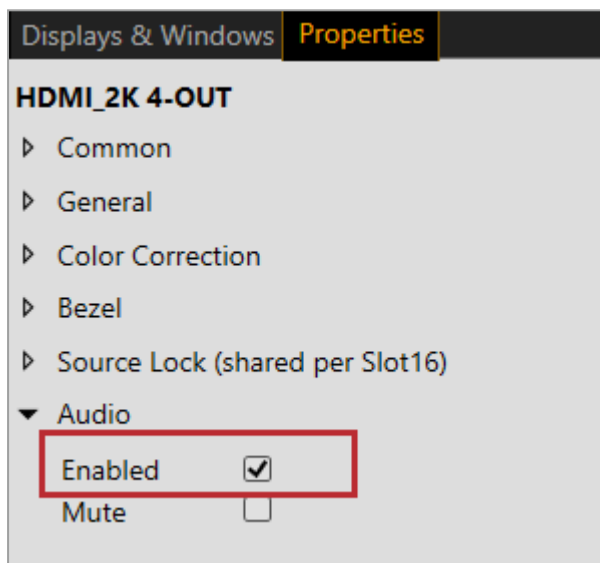
Disabling and enabling audio for a display from Properties

Administrators and power users can disable audio for displays.

1. From Wall Editor, select a display.



2. Select Properties > Audio.
3. Select or clear Audio Enabled.



Choosing what to listen to with CORIOgrapher

All users can choose what embedded audio to listen to.

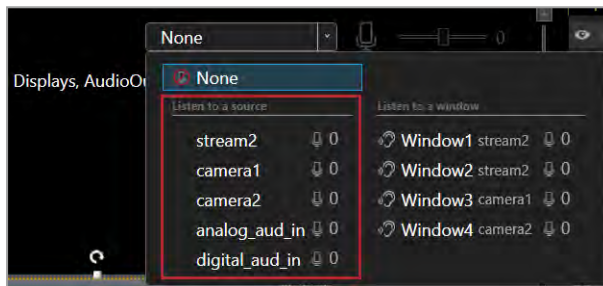
Choosing a source to listen to with breakaway audio mode

What's breakaway audio?

Breakaway audio is independent of the windows on your video wall. It doesn't change when the sources playing in your windows change. The audio is sent to all enabled outputs.

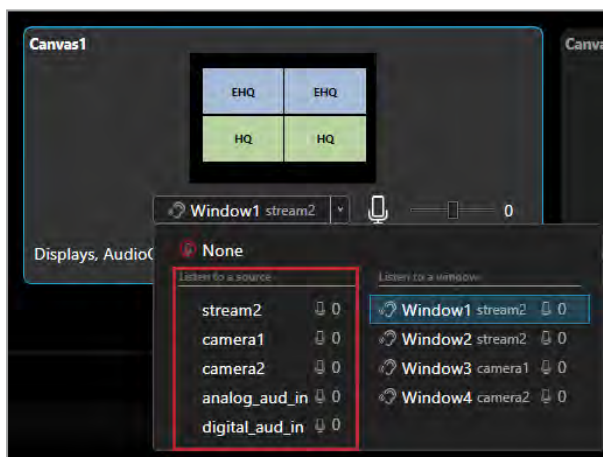
When you choose breakaway audio mode, you hear your chosen audio all the time, even if your video sources change.

- From Wall Editor, select a source from the list.



Or

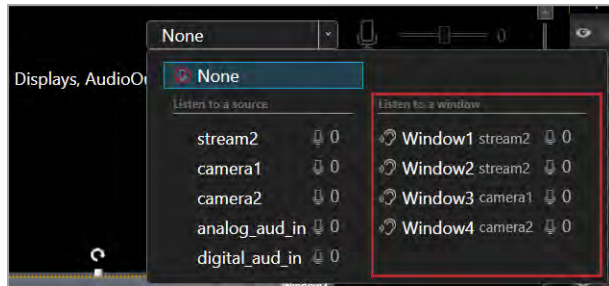
- From Dashboard, select a source from the list.



Choosing a window to listen to with audio-follows-video mode

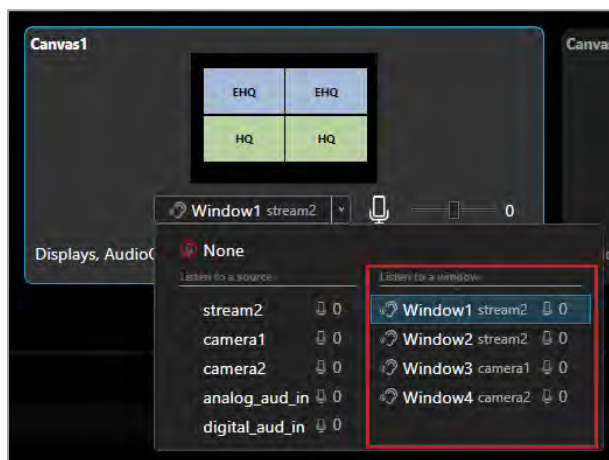
When you choose audio-follows-video mode, you listen to a window. If the source playing in that window changes, the audio changes to play the new source.

- From Wall Editor, select a window from the list.



Or

- From Dashboard, select a window from the list.



Choosing which outputs play audio

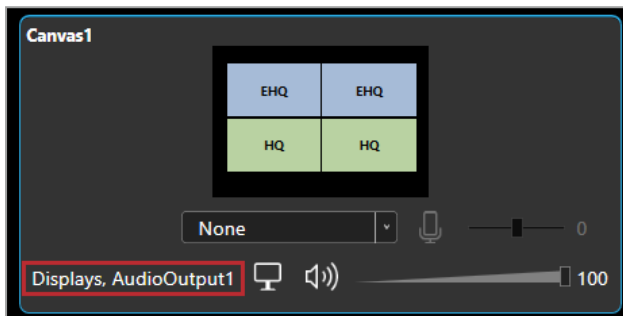
Audio from any source is sent to all the displays associated with a canvas. If you have an S/PDIF and analog audio module, the audio is also sent to the output associated with the canvas.

Read more about the S/PDIF and analog audio module on page 10.

You can see where audio is sent from Wall Editor:



And from Dashboard:



Audio is not sent automatically to the S/PDIF output of a CORIOmaster micro.

Read about sending audio to the S/PDIF output of a CORIOmaster micro on page 73.

You can choose to only send audio to one or more specific outputs by disabling or muting the other outputs.

Read about disabling outputs on page 60.

Read about muting outputs on page 68.

Adjusting input audio level and muting sources

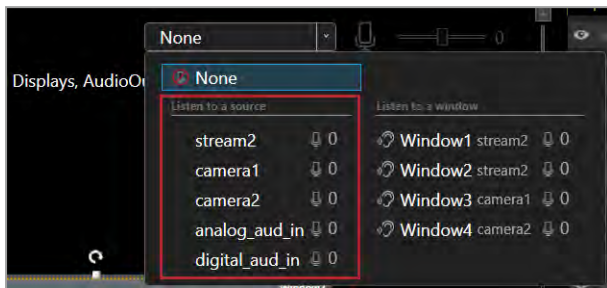
All users can mute, unmute, and adjust the input audio level for any source.

Adjust the input audio level to match and balance the audio levels of different sources. For example, if you have one very loud source, lower the input audio level until it matches your other sources.

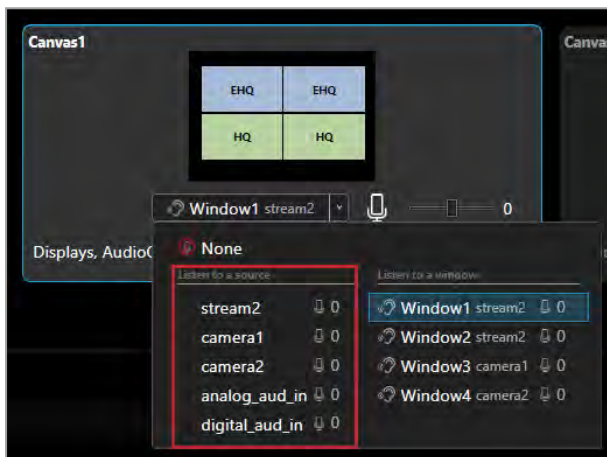
To mute and unmute a source

1. Select a source.

From Wall Editor:

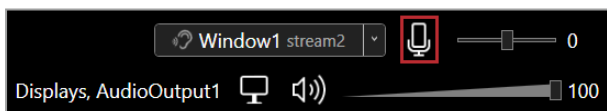


From Dashboard:

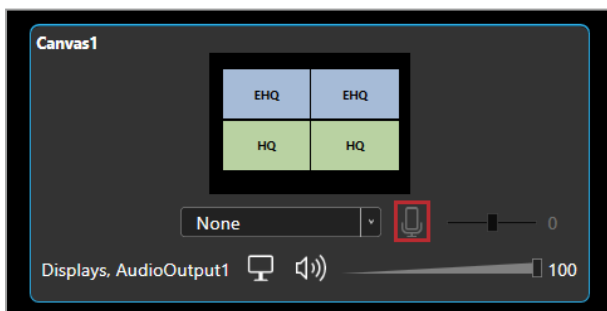


2. Mute or unmute the source.

From Wall Editor:



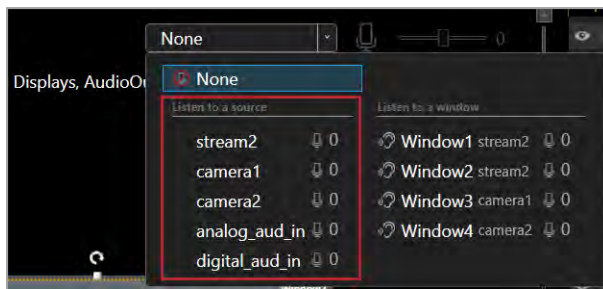
From Dashboard:



- To mute audio, select .
- To unmute audio, select .

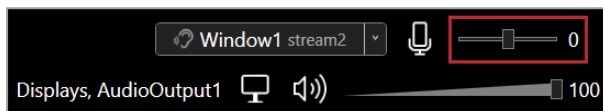
To adjust the input audio level for a source

1. Select a source.

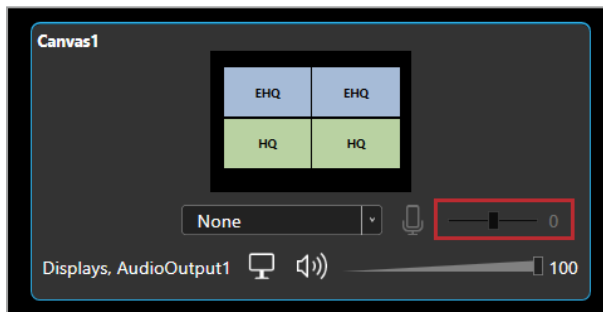


2. Adjust the input audio level.

From Wall Editor:



From Dashboard:

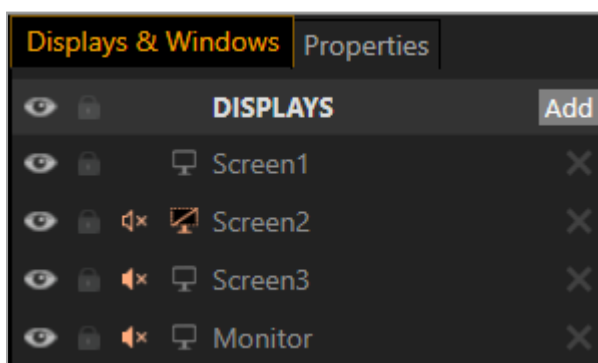


- Slide to the right to increase audio input.
- Slide to the left to reduce audio input.

Muting individual audio outputs

Administrators and power users can mute and unmute individual outputs.

From Wall Editor > Displays & Windows:



- To mute audio, select .
- To unmute audio, select .

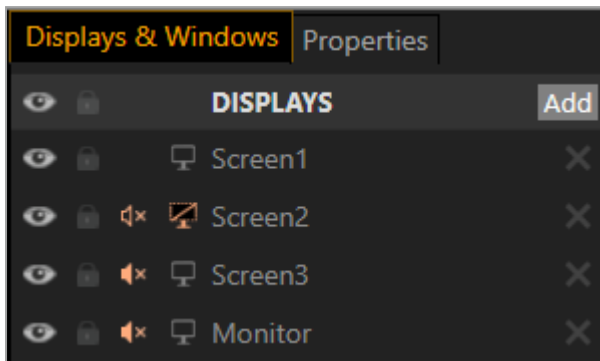
Outputs that do not show  or  are disabled in Settings > Slot Status.

Outputs that show  are cut to black and muted, or the canvas is muted.

Cutting to black and muting individual outputs

Administrators and power users can cut to black and mute individual outputs, and restore them.

From Wall Editor > Displays & Windows:



- To cut a display to black and mute, select .
- To restore a display, select .

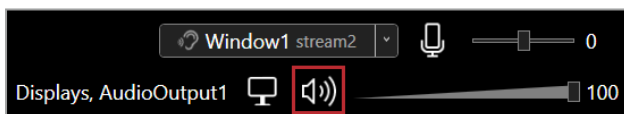
Adjusting volume and muting all displays and outputs associated with a canvas

All users can mute, unmute, and adjust the volume for all displays and outputs associated with a canvas at the same time in CORIOgrapher.

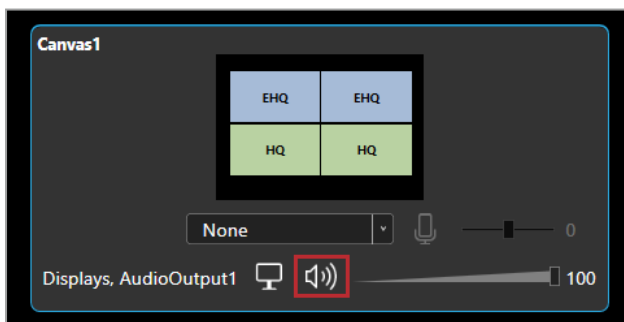
 This does not affect the S/PDIF output of the CORIOmaster micro.

To mute and unmute all displays and outputs associated with a canvas

From Wall Editor:



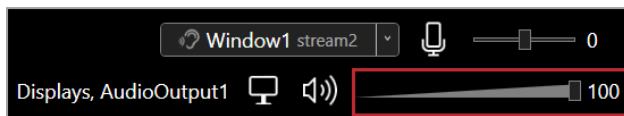
From Dashboard:



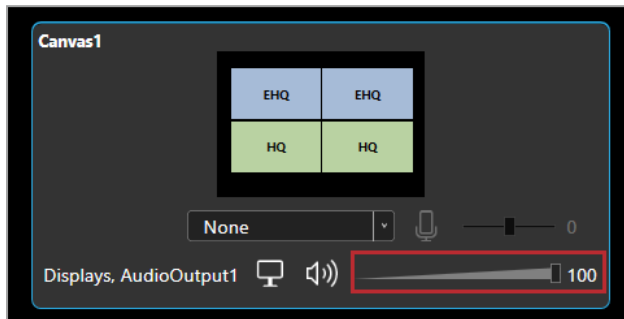
- To mute audio, select .
- To unmute audio, select .

To adjust the volume for all displays and outputs associated with a canvas

From Wall Editor:



From Dashboard:



- Slide to the right to increase volume
- Slide to the left to reduce volume

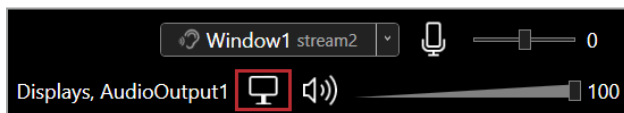
Cutting to black and muting all displays and outputs associated with a canvas

All users can cut to black and mute, and restore, all displays and outputs associated with a canvas at the same time in CORIOgrapher.

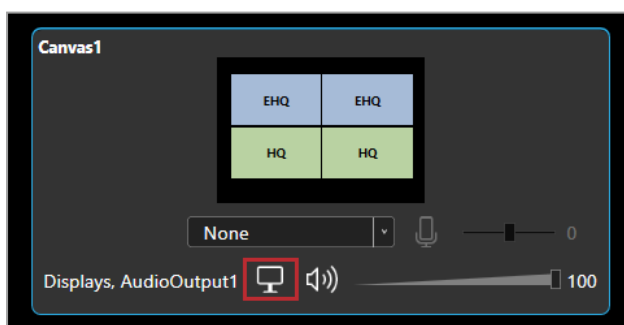
! This does not affect the S/PDIF output of the CORIOmaster micro.

To cut to black and mute all displays and outputs associated with a canvas

From Wall Editor:



From Dashboard:

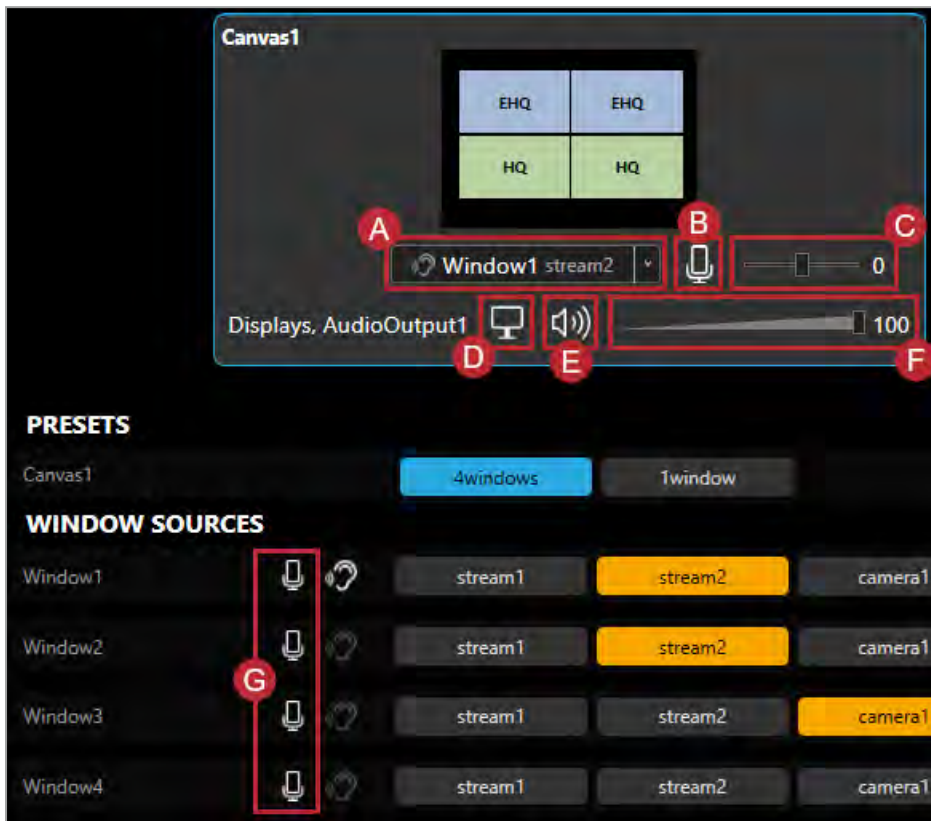


- To cut to black and mute all displays and outputs associated with the canvas, select .
- To restore all displays and outputs associated with the canvas, select .

Controlling audio from the dashboard

All users can choose what to listen to, mute and unmute specific sources and the current source, mute all displays and outputs, and adjust the input audio level and volume.

! This does not affect the S/PDIF output of the CORIOmaster micro



- A Select a source or window to listen to.
- B Mute and unmute the source currently playing.
- C Adjust the input audio level of the source currently playing.
- D Cut to black and mute all displays and outputs, and restore all displays and outputs.
- E Mute and unmute all displays and outputs.
- F Adjust the volume of all outputs.
- G Mute the sources playing in specific windows.

Emergency cut to black and mute

All users can cut to black and mute, and restore, all displays and outputs across all canvasses, including the S/PDIF output of the CORIOmaster micro, in CORIOgrapher > Dashboard.

To cut to black and mute all displays and outputs

- To cut to black and mute all displays and outputs, select .
- To restore all displays and outputs, select .

Playing independent audio with a CORIOmaster micro™

Your CORIOmaster micro can play independent audio. Connect the S/PDIF port of your CORIOmaster micro to a digital audio device, with an RCA cable. You can control what you hear from the S/PDIF output with the buttons of the front panel.

 Embedded audio and independent audio can play at the same time.

Your CORIOmaster micro can also play embedded audio. Control embedded audio with CORIOgrapher. Read about playing embedded audio on page 60.

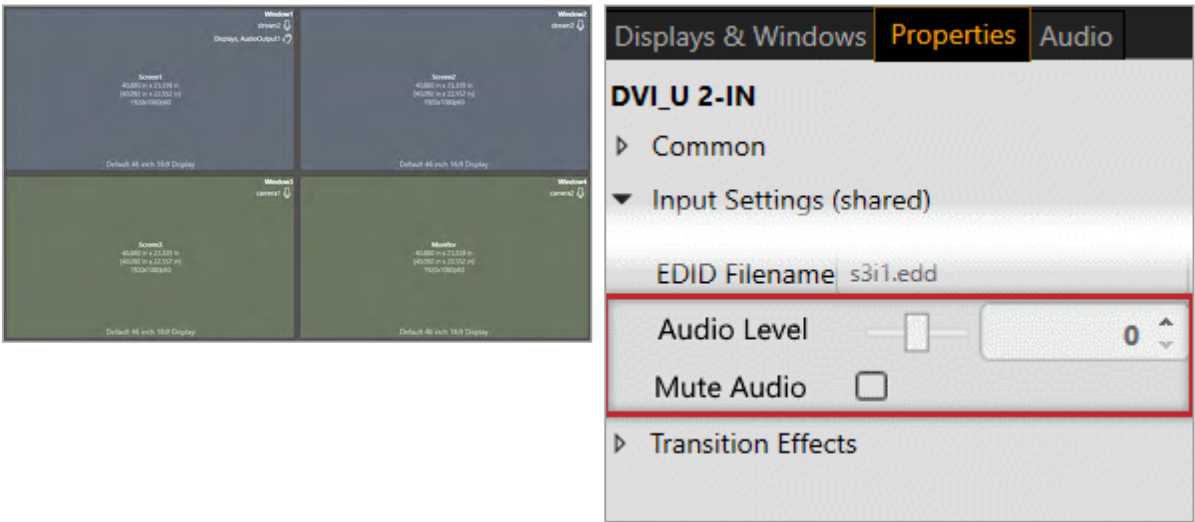
 Audio settings are set for sources, not windows. If you adjust or mute the audio from a window, all the windows playing that source are affected.

In this article

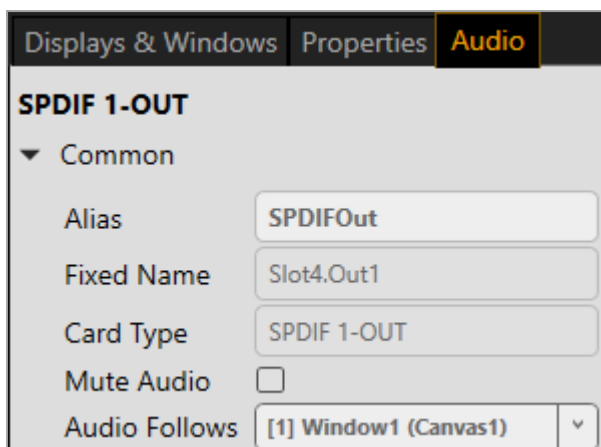
About independent audio	73
Choosing which window to hear with the buttons of the front panel	74
Show me an example	74
Choosing which window to hear with CORIOgrapher	75
Adjusting the input audio level and muting individual sources	75
Muting the audio output	76

About independent audio

- Your CORIOmaster micro has an S/PDIF audio output that you can connect to a digital audio device with an RCA cable.
- You can listen to a source playing in a window. The window you hear is the active window. You can choose which window is active with the buttons of the front panel. In CORIOgrapher > Wall Editor, the active window shows »?
- You can mute and adjust the input audio level of individual sources playing in windows in CORIOgrapher™.



- You can mute the audio output in CORIOgrapher.



- The Dual stream input module only supports the following embedded audio formats:
 - mp3
 - aac

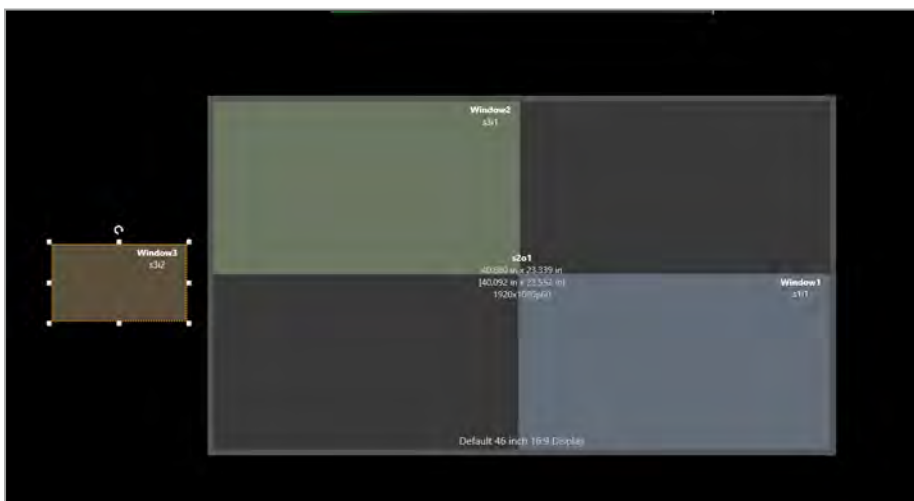
Choosing which window to hear with the buttons of the front panel

You can choose which window to hear with the buttons on your CORIOmaster micro. By default, the eight buttons correspond to your first eight sources. You can configure your buttons to correspond with your choice of windows.

You can choose to hear any window, including windows that aren't showing on your video wall, or are on a different canvas.

Show me an example

In this example, window 3 is not showing on the video wall, but you can still choose to hear the audio from window 3. Note that window 3 is a preview window to reduce video bandwidth.

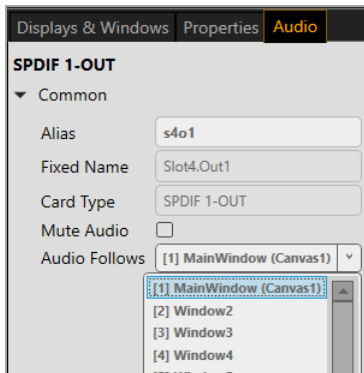


- Press and hold the button that corresponds to the window you want to hear, until it flashes red.

Choosing which window to hear with CORIOgrapher

You can choose which window to hear in CORIOgrapher.

1. From the wall editor, select Audio.
2. Select a window to hear from Audio Follows.



Adjusting the input audio level and muting individual sources

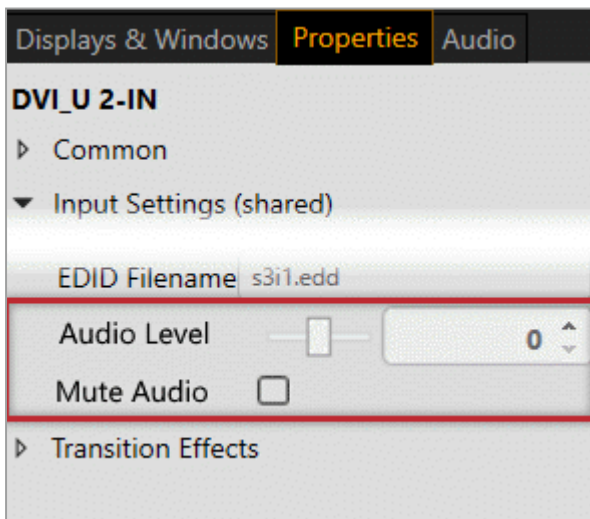
For each source, you can mute, unmute, and adjust the input audio level in CORIOgrapher.



Audio settings are set for sources, not windows. If you adjust or mute the audio from a window, all the windows playing that source are affected.

Adjusting input audio level and muting using source properties

1. Double-click any window playing the source you want to adjust.
2. In Properties, adjust the audio.
 - Use the Audio Level slider to set input audio level.
 - To mute the audio, select Mute Audio.
 - To restore audio, clear Mute Audio.



Muting sources from the wall editor

On the wall editor, you can mute and unmute the sources associated with the windows of your video wall.



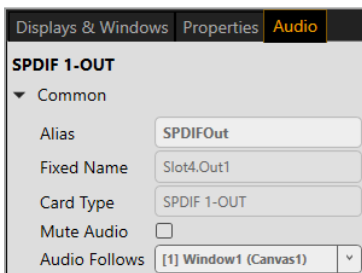
- To mute audio, select .
- To unmute audio, select .

Muting the audio output

You can mute and unmute the S/PDIF audio output in CORIOgrapher.

Muting using audio properties

- From the wall editor, select Audio > Mute Audio.



Muting the audio output from the wall editor

On the wall editor, the window playing audio shows .



- To mute the audio output, select .
- To hear the audio output, select .

Media and streams

If you have a Dual stream input module, you can play media items and streams on your video wall.

In this section

- Playing media and streams 77
- Creating and managing playlists86
- Using the internal drive92
- Choosing the best resolution for your playlist or play queue96

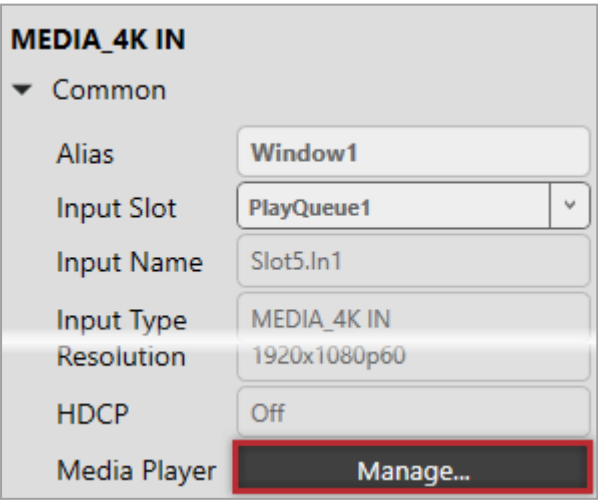
Playing media and streams

If you have a Dual stream input module, you can play media items and video streams. Add up to 20 media items or streams to a play queue or saved playlist. Each Dual stream input module can play up to two simultaneous play queues on your video wall.

In this article

- Before you start 78
- Adding and editing media streams 78
- Adding media items, streams, and playlists to your play queue 80
- Playing a multicast stream from an Encoder-100 on multiple CORIOmaster units81
- Changing the duration of media items82
- Playing streams with low latency83
- Using the playback controls83
- Managing the play queue84
- Saving the play queue 85
- Playing the play queue automatically 85
- Saving media to internal storage85

Manage your media and streams in CORIOgrapher™. Double-click the window you wish to play media or streams, and select (Media Player) Manage.



❗ The media player is not available when you work offline.

Dual stream input modules in CORIOmaster™ and CORIOmaster micro™ units support embedded audio, for streams and media items with the following embedded audio formats:

- mp3
- aac

❗ CORIOmaster automatically mutes audio from streams with low latency.

Read more about playing audio with your CORIOmaster on page 60.

Read more about playing audio with your CORIOmaster micro™ on page 73.

Before you start

- To stream media from the internet or your network, you need to connect an Ethernet cable and configure the network settings for your Dual stream input module.



✓ For best results, use Gigabit equipment and cables.

Read about configuring network settings for a Dual stream input module on page 46.

- To turn any video source into a stream, you need an encoder. The encoder takes video and audio signals, converts them to an AVIP (Audio-Visual over Internet Protocol) signal, and sends them over your network. For example, you could encode and stream the signal from an endoscope, or from a camera in a lecture theater.

Read about the Encoder-100 on page 11.

- To play media directly from a USB drive, or copy media from a USB drive to internal storage, you need to connect a USB drive to your Dual stream input module.

✓ For 4K media, use a good quality, high-speed 3.0 USB drive.

- To play media saved in the internal storage of the Dual stream input module, you don't need to connect anything.
- To play any kind of media you need to set up a video wall with a window pointing to your Dual stream input module.

Read about setting up a basic video wall on page 29.

Adding and editing media streams

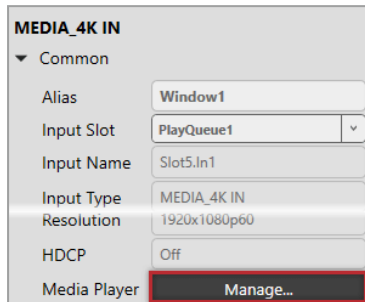
You can manually add media streams from your network or from the internet. You can configure and add streams from an Encoder-100.

Learn how to configure your Encoder-100 on page 1.

To manually add a stream

If you know the URL of the stream and the stream is not hosted by an Encoder-100, use this method.

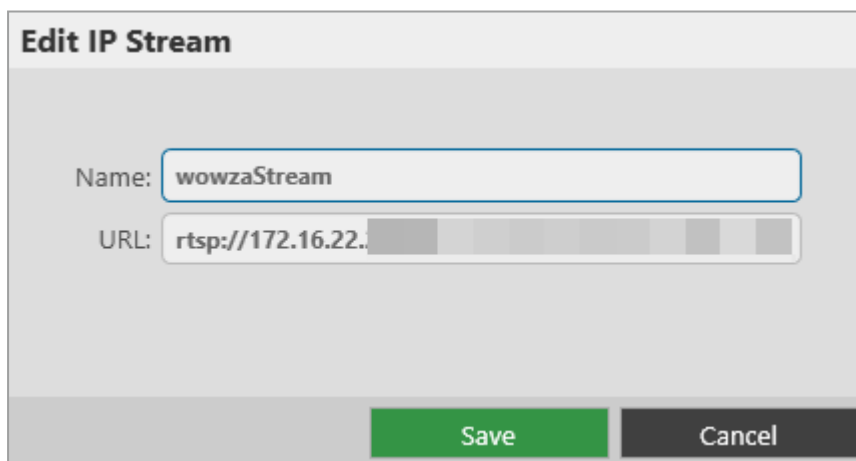
1. In CORIOgrapher, double-click the window you wish to play streaming media, and select (Media Player) Manage.



2. Select IP Streams.



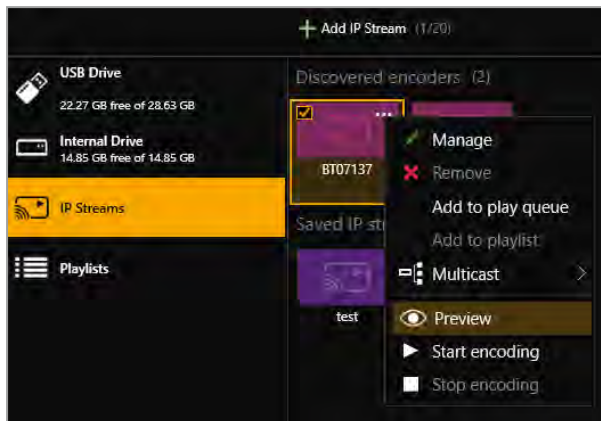
3. Select Add IP Stream.
4. Enter a descriptive name and the URL of the media stream, and then select Add IP Stream.
5. To edit the details of a media stream, select the stream and then select ... > Edit.
6. Edit the name or URL of the media stream.



Previewing the stream from your Encoder-100

If you have an Encoder-100 that is streaming, you can preview the stream.

- Select the Encoder-100, and then select ⋮ > Preview.



Adding media items, streams, and playlists to your play queue

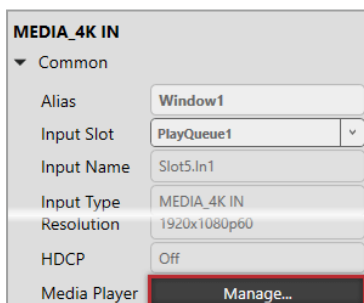
You can add video clips, still images, and media streams to a play queue, up to a total of 20 items. Media items can be on a USB drive, in internal storage, streamed from your network, or streamed from the internet.

You can play audio embedded in video clips and media streams. You cannot play audio-only files.

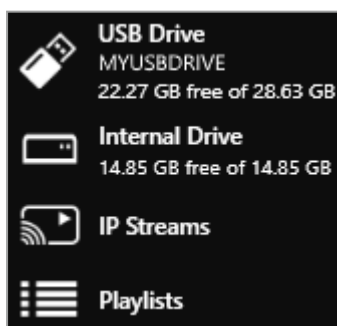
You can also add a playlist to a play queue. When you add a playlist to a play queue, the playlist replaces all the items in the play queue.

You add all types of media, streams, and playlists the same way, when the play queue is playing, paused, or stopped.

1. In CORIOgrapher, double-click the window you wish to play media or streams, and select (Media Player) Manage.



2. Select your media source.



3. Drag media items and streams, or a playlist, into the play queue.



Still image



Saved stream



Video clip



Found encoder

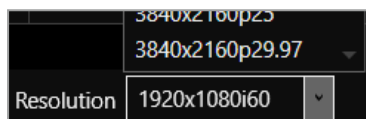


Playlist



Found encoder, streaming

4. Choose a resolution for your play queue.



Read about choosing the right resolution on page 96.

Read more about playlists on page 86.

See a list of supported video formats on page 144.

Playing a multicast stream from an Encoder-100 on multiple CORIOmaster units

By default, your Encoder-100 supplies a single stream to a single CORIOmaster. You can supply a multicast version of that stream to more than one CORIOmaster.

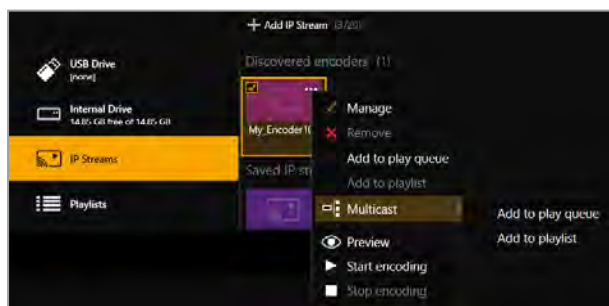
Adding a multicast stream from an Encoder-100 to a play queue or playlist

- You don't need to configure your Encoder-100 to send a multicast stream, if your default address and TTL are correct for your network.

For more help, contact your network administrator.

- To add a multicast stream to the play queue, the play queue must be stopped.
- To add a multicast stream to a playlist, first select a playlist.

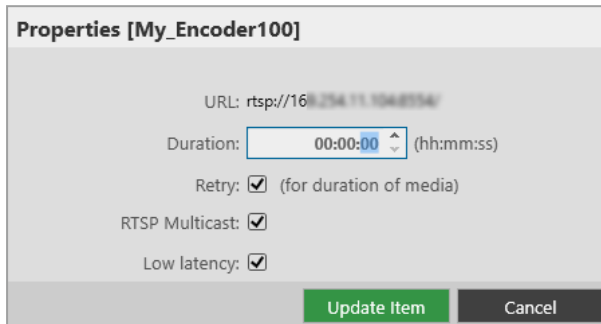
1. Select IP Streams.
2. Select the Encoder-100 you want to add.
3. Select **⋮** > Multicast > Add to play queue or Add to playlist.



Changing a single stream to a multicast stream

If you already added a single stream from an Encoder-100 to the play queue or a playlist, you can change the single stream to a multicast stream.

1. If the encoder is in a playlist, open the playlist.
2. Select the encoder, and select **⋮** > Edit.
3. Select RTSP Multicast.



The image shows a 'Properties [My_Encoder100]' dialog box. It contains the following fields and controls: 'URL: rtsp://169.254.11.104:8554/' (text field), 'Duration: 00:00:00 (hh:mm:ss)' (spinner), 'Retry: ☒ (for duration of media)', 'RTSP Multicast: ☒', and 'Low latency: ☒'. At the bottom are 'Update Item' and 'Cancel' buttons.

For best results

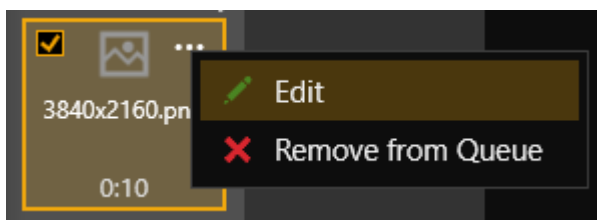
If you send a multicast stream on a large network, tvONE™ recommends using equipment with IPv4 multicast addressing, and/or IGMP v2 support. For more information, contact your network administrator.

Changing the duration of media items

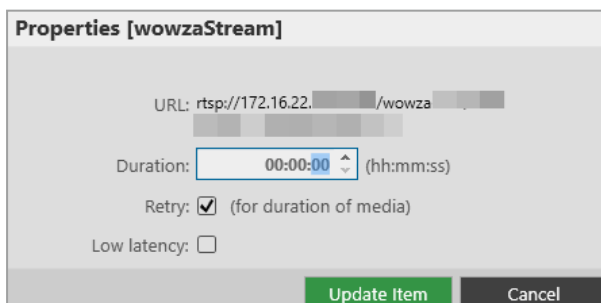
By default, still images play for 10 seconds, video clips play for the length of the clip, and streams play indefinitely, until the stream ends.

You can choose how long to play each media stream, video clip, or still image in the play queue.

1. In the play queue, select the media item.
2. Select **⋮** > Edit.



3. Edit the duration of the item and select Update Item.
The maximum duration is 23 hours, 59 minutes, and 59 seconds.

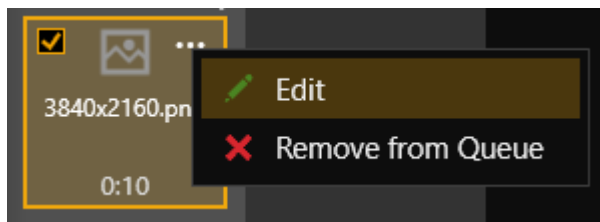


The image shows a 'Properties [wowzaStream]' dialog box. It contains the following fields and controls: 'URL: rtsp://172.16.22.1/wowza' (text field), 'Duration: 00:00:00 (hh:mm:ss)' (spinner), 'Retry: ☒ (for duration of media)', and 'Low latency: ☐'. At the bottom are 'Update Item' and 'Cancel' buttons.

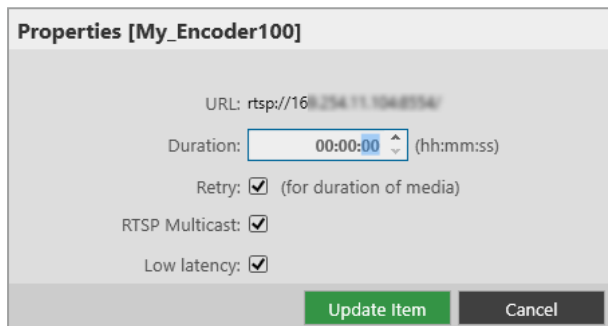
Playing streams with low latency

You can play streams with low latency.

1. In the play queue, select the stream.
2. Select ⋮ > Edit.



3. Select Low latency.



Repeat these steps for every item in the play queue that you want to play with low latency.

! CORIOmaster automatically disables the audio of streams with low latency. If you want to listen to audio from your stream, clear Low latency.

Using the playback controls

When the play queue is playing, you can:



Stop playback



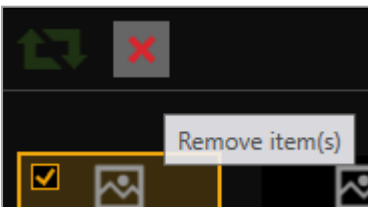
Pause playback



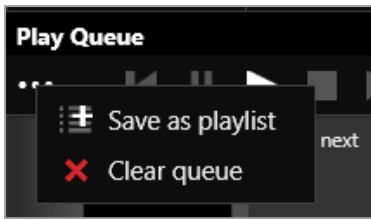
Skip to the next item



Return to the previous item



Remove an item from the play queue



Clear the play queue

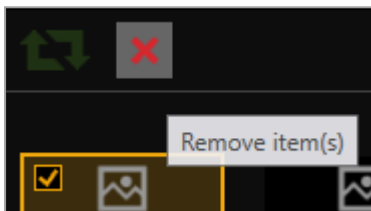
When the play queue is stopped, you can:



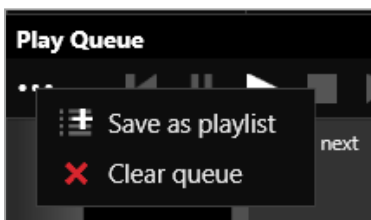
Enable and disable looping



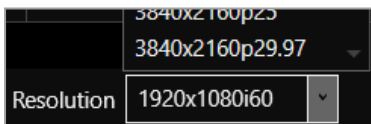
Play the play queue



Remove an item from the play queue



Clear the play queue



Change the resolution of the play queue

Managing the play queue

When the play queue is playing or stopped, you can:

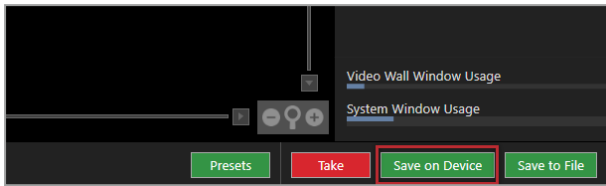
- Drag new media items or streams into the play queue, up to a total of 20 items.
- Drag items to re-order the play queue.
- Change the duration of a media item in the play queue.
- Remove any item from the play queue.
- Clear the entire play queue.
- Choose to play the play queue when your CORIOmaster starts up.
- Drag a playlist into the play queue.

Dragging a playlist into the play queue replaces the existing play queue.

Saving the play queue

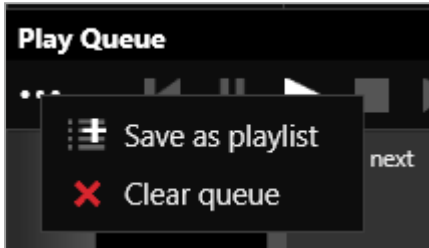
You can save your play queue so that it is available the next time you start your CORIOmaster.

- Build your play queue and select **Save on Device**.



You can save your play queue as a playlist.

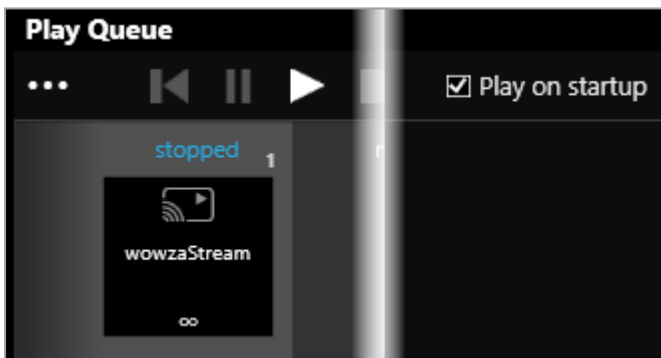
- Build your play queue and select **⋮ > Save as playlist**.



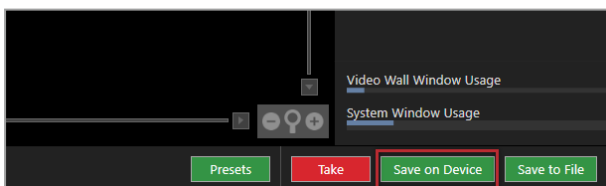
Playing the play queue automatically

You can choose to play the play queue automatically when you start your CORIOmaster.

1. Build your play queue and select **Play on startup**.



2. Select **Save on Device**.



Saving media to internal storage

You can save media items from your USB drive to the internal drive.

Read more about the internal drive on page 92.

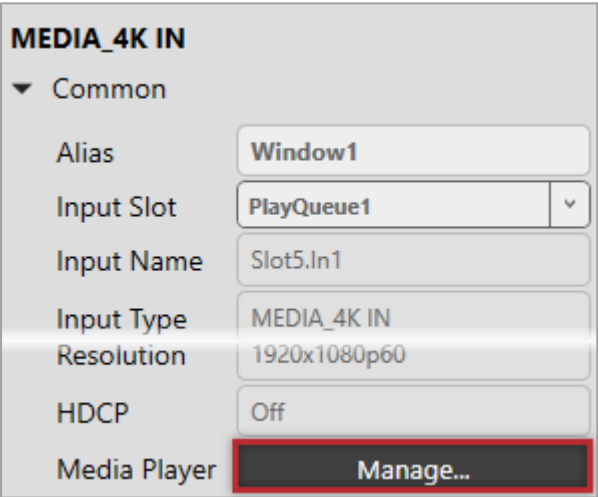
Creating and managing playlists

If you have a Dual stream input module, you can save media items and video streams to playlists. Your CORIOmaster™ can store up to 20 playlists.

In this article

About playlists	86
Creating a new playlist	87
Saving the play queue to a playlist	88
Managing and editing playlists	89
Deleting a playlist	91
Moving playlists between modules	91
Deleting all playlists	91
Duplicating playlists	92

Create and manage your playlists in CORIOgrapher™. Double-click the window you wish to create a playlist for, and select (Media Player) Manage.



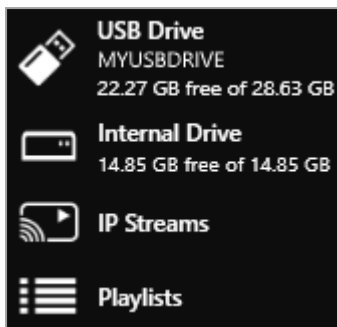
 The media player is not available when you work offline.

About playlists

- Your CORIOmaster can store up to 20 playlists.
- Each playlist can include up to 20 items, including still images, video clips, and streams.
- Playlists are shared between the two channels of a Dual stream input module, but are not shared between Dual stream input modules.
- Playlists save the names and pathways of media items and streams. If you change the name, path name, or location of an item, the playlist cannot find it.
- You can create new playlists from scratch, or save your play queue as a playlist.
- Playlists are saved on your CORIOmaster.
- You can choose to save or delete your playlists when you restore your CORIOmaster™ to factory default settings.

Creating a new playlist

1. Select Playlists > +.

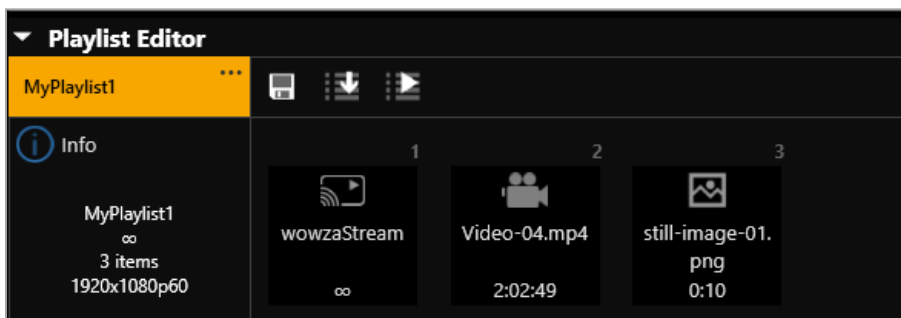


2. Enter a name and choose a resolution for your playlist.
Names can be up to 64 characters long, or fewer, depending on your character set.

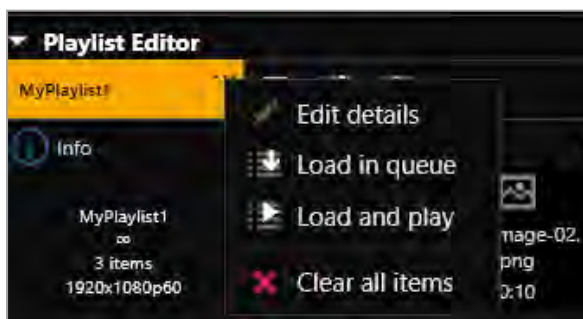
A light gray form with two fields: 'Name:' with the text 'MyPlaylist1' and 'Resolution:' with a dropdown menu showing '1920x1080p60'.

Read about choosing the right resolution on page 96.

3. Select your new playlist.
The playlist opens in the playlist editor. If the playlist editor is collapsed, select ► to open it.



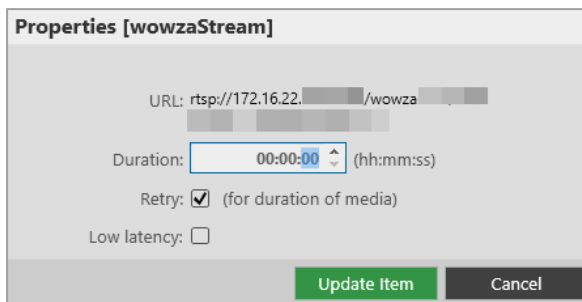
4. Drag up to 20 media items and streams from the media browser into the playlist editor.
5. Make any changes to your playlist.
 - To reorder the playlist, drag and drop items and streams.
 - To remove something from the playlist, select the item or stream and select ... > Remove from playlist.
 - To remove all items from the playlist, select ... > Clear all items.



- To change the properties of an item, select the item, and then select ... > Edit.
You can change the duration of an item in the playlist.

You can choose to play a stream with low latency.

❗ If you choose to play a stream with low latency, CORIOmaster disables the audio from your stream.



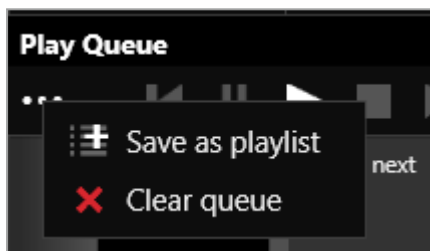
The 'Properties [wowzaStream]' dialog box contains the following fields and controls:

- URL: `rtsp://172.16.22. /wowza`
- Duration: `00:00:00` (hh:mm:ss)
- Retry: ☒ (for duration of media)
- Low latency: ☐
- Buttons: 'Update Item' (green) and 'Cancel' (dark grey)

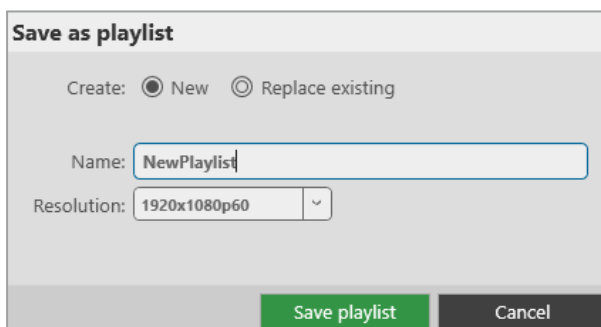
6. To save your playlist permanently, select .

Saving the play queue to a playlist

1. From the play queue, select **⋮** > Save as playlist.



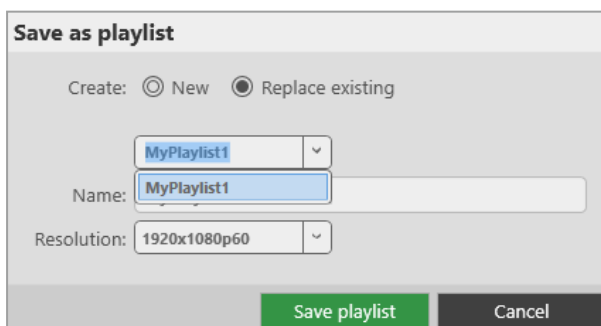
2. Choose to create a new playlist, or to replace an existing playlist.
3. If you create a new playlist, enter a name and choose a resolution for your playlist.



The 'Save as playlist' dialog box shows the 'Create' section with the following options:

- Create: ☒ New ☐ Replace existing
- Name: `NewPlaylist`
- Resolution: `1920x1080p60`
- Buttons: 'Save playlist' (green) and 'Cancel' (dark grey)

4. If you replace an existing playlist, select a playlist to replace from the list. You can enter a new name and choose a new resolution for the playlist if you want to.



The 'Save as playlist' dialog box shows the 'Create' section with the following options:

- Create: ☐ New ☒ Replace existing
- Dropdown: `MyPlaylist1`
- Name: `MyPlaylist1`
- Resolution: `1920x1080p60`
- Buttons: 'Save playlist' (green) and 'Cancel' (dark grey)

Names can be up to 50 characters long.

Read about choosing the right resolution on page 96.

Managing and editing playlists

You can edit playlists, clear all the items from a playlist, and open a playlist to edit the items. You can load a playlist to the play queue, and play a playlist.

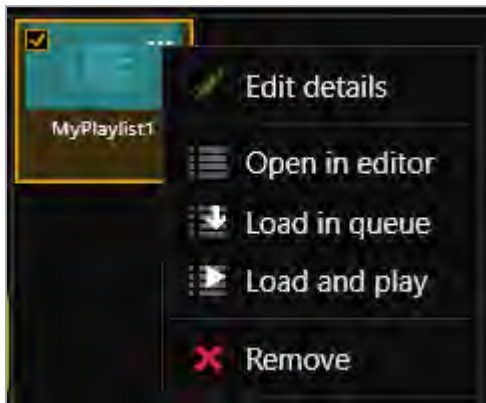
You can also manage the names and locations of your playlists in Settings > Playlists.

Read more about configuring playlist settings on page 49.

Editing a playlist

You can change the name and resolution of a playlist.

1. Select Playlists and select a playlist.
2. Select ⋮ > Edit.

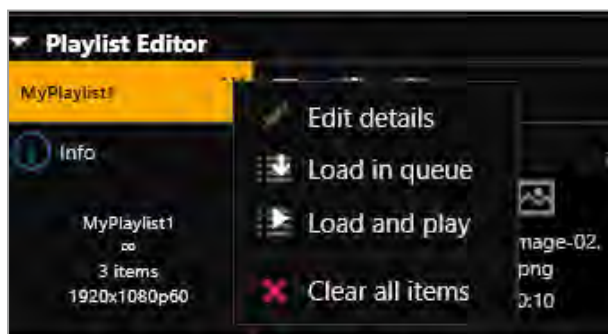


3. Enter a new name or choose a new resolution.

A screenshot of the playlist editor form. It has a 'Name:' label followed by a text input field containing 'MyPlaylist1'. Below that is a 'Resolution:' label followed by a dropdown menu showing '1920x1080p60'.

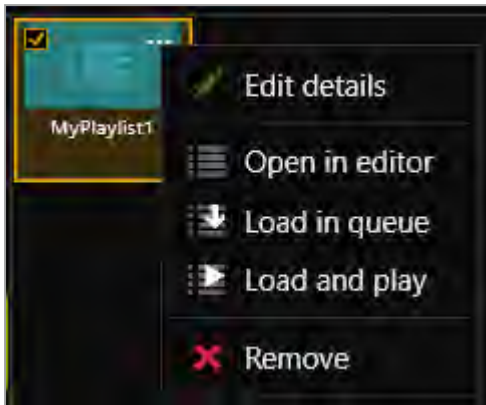
Clearing all the items from a playlist

- From the playlist editor, select ⋮ > Clear all items.



Opening a playlist to edit the items

1. Select Playlists and select a playlist.
2. Select ⋮ > Open in editor.



Read about the changes you can make to a playlist in [Creating a new playlist](#) above.

Loading a playlist to the play queue

When you load a playlist, any items in the play queue are replaced, and playback stops.

You can:

- Drag a playlist into the play queue
- Select a playlist and select ⋮ > Load in queue.
- From the playlist editor, select .

Playing a playlist

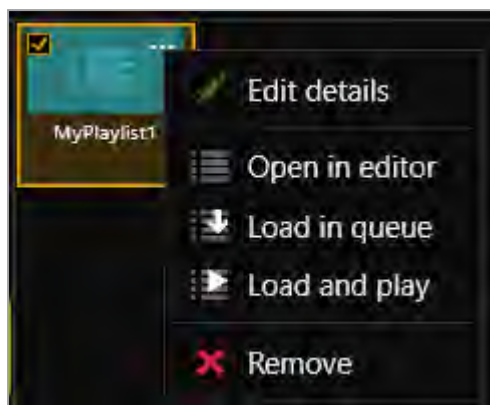
When you load and play a playlist, any items in the play queue are replaced.

You can:

- Drag a playlist into the play queue and select .
- Select a playlist and select ⋮ > Load and play.
- From the playlist editor, select .

Deleting a playlist

- Select a playlist and select ... > Remove.



Moving playlists between modules

You can change the slot that a playlist is associated with in Settings > Playlists.

Number	Name	Module	Resolution	
1	Playlist 1	Slot2	1920x1080p60	<button>Remove</button>
2	Playlist 2	Slot2	1920x1080p60	<button>Remove</button>
3	Playlist 3	Slot2	1280x720p60	<button>Remove</button>

Read more about configuring playlist settings on page 48.

Deleting all playlists

You can delete all your playlists in Settings > Playlists.

Playlists

Total

Used

Available

Remove all playlists

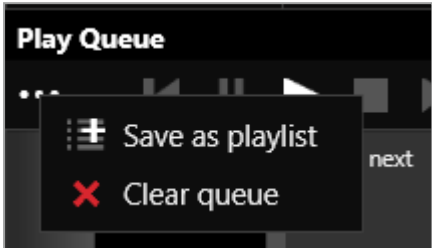
Read more about configuring playlist settings on page 48.

Duplicating playlists

If you want several playlists to contain the same items, you can create a play queue and then save it under several different names.

For example, you might want all your playlists to contain a particular stream, and your company logo.

- 1. Drag items into the play queue.
- 2. From the play queue, select ⋮ > Save as playlist.



- 3. Enter a name and choose a resolution for your playlist.

A screenshot of a "Save as playlist" dialog box. It has a title bar "Save as playlist". Below the title bar, there are two radio buttons: "Create: New" (selected) and "Replace existing". Below that is a text field labeled "Name:" containing the text "NewPlaylist". Below the text field is a dropdown menu labeled "Resolution:" with "1920x1080p60" selected. At the bottom of the dialog are two buttons: "Save playlist" (green) and "Cancel" (grey).

- 4.
- 5. Repeat steps 2 and 3. Enter a unique name for the playlist each time.
- 6. Open each new playlist and add items in the playlist editor.

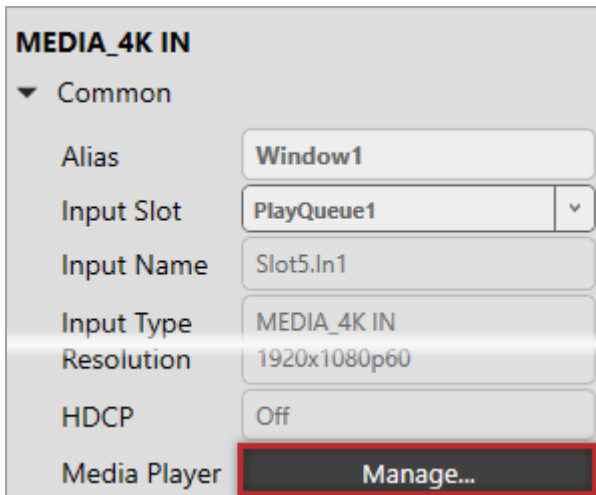
Using the internal drive

You can save media to the internal drive of your Dual stream input module. You can manage your saved media, and add media items to a playlist or play queue.

In this article

Replacing all items on the internal drive with all items on the USB drive	93
Removing all items from the internal drive	94
Current location	94
Copying a single item or folder to the internal drive	94
Managing media on the internal drive	94
Playing items from the internal drive	95

Manage your media and streams in CORIOgrapher™. Double-click the window you wish to play media or streams, and select (Media Player) Manage.



! The media player is not available when you work offline.

Dual stream input modules in CORIOmaster™ and CORIOmaster micro™ units support embedded audio, for streams and media items with the following embedded audio formats:

- mp3
- aac

! CORIOmaster automatically mutes audio from streams with low latency.

Read more about playing audio with your CORIOmaster on page 60.

Read more about playing audio with your CORIOmaster micro™ on page 73.

Replacing all items on the internal drive with all items on the USB drive

✓ Use this option when you first set up your Dual stream input module to quickly copy all your media items from your USB drive to the internal drive.

You can replace all the items on your internal drive with the items on the USB drive. All items currently on the internal drive are deleted.

All items on your USB drive are copied exactly to the internal drive, including folders and folder structure, up to path names of 480 characters, or fewer, depending on the language you use.

! Items that aren't compatible with your Dual stream input module are copied to the internal drive, but not displayed. These items use memory, and you can't remove them manually. To remove hidden items, remove all items from the internal drive.
See a list of compatible file types on page 144.

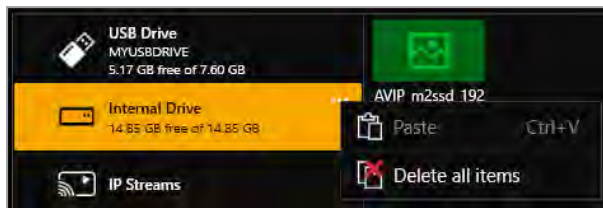
- Select (USB Drive) ⋮ > Replace all items on the internal drive.



Removing all items from the internal drive

You can remove all visible and hidden items from the internal drive.

- Select Internal Drive > Clear all items.



Current location

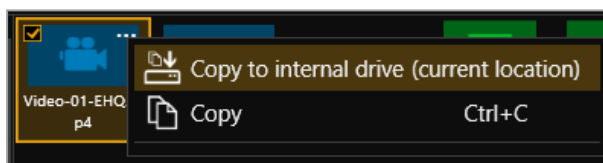
When you copy media items from your USB drive to the internal drive, the items are copied to the last location you visited on the internal drive.

For example, you create a folder on the internal drive called *Videos*. You open *Videos* and then select USB Drive. You select a media item and copy it to the internal drive. The media item is copied to *Videos*.

Copying a single item or folder to the internal drive

You can copy individual media items and folders from your USB drive to the internal drive. Items are copied to the last location you visited on the internal drive.

1. From USB Drive, select a media item or folder.
2. Select ... > Copy to internal drive (current location).

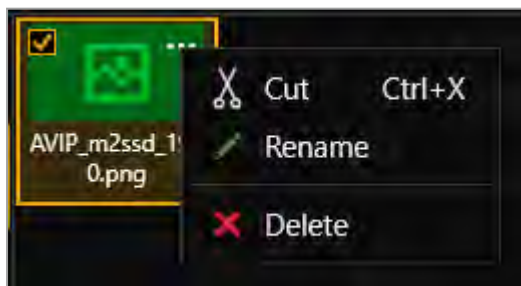


You can also copy or cut and paste individual items and folders from your USB drive to the internal drive with Ctrl+C or Ctrl+X, and Ctrl+V.

Managing media on the internal drive

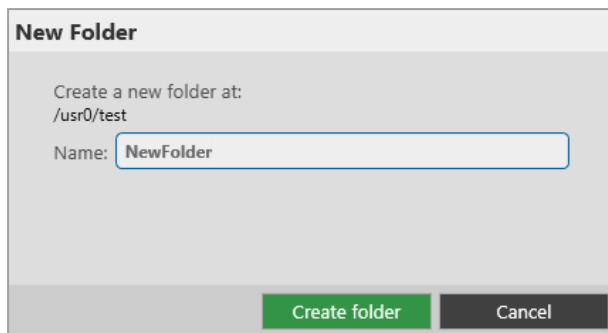
From Internal Drive, you can:

- Copy or cut and paste individual items and folders.
Select a media item or folder, and then select ... > Copy or Cut. Right-click in an empty space and select Paste.
- Copy or cut and paste individual items and folders with Ctrl+C or Ctrl+X, and Ctrl+V.
- Delete media items and folders.
Select a media item or folder, and then select ... > Delete.



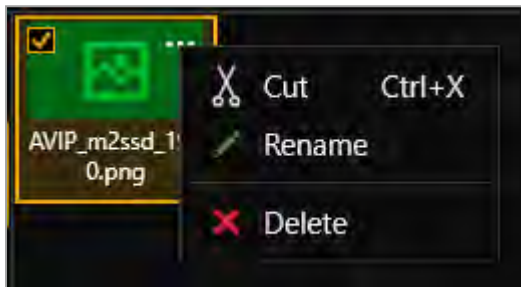
- Create a new folder.

Right-click in an open space, and select **New folder**. Enter a name for your folder.



- Rename media items and folders.

Select a media item or folder, and then select **⋮** > **Rename**.



Playing items from the internal drive

You play items from the internal drive in the same way you play all media items and streams. Drag items into the play queue, or into a playlist.

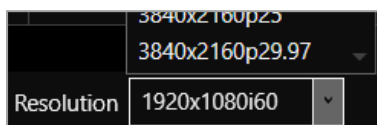
Read more about playing media and streams on page 77.

Read more about playlists on page 86.

Choosing the best resolution for your playlist or play queue

The best resolution for your play queue or playlist depends on the frame rate of your media items, and their size in pixels.

The resolution you choose determines the input resolution going into your CORIOmaster. All media items in the play queue or playlist are automatically scaled to fit this resolution. If you find that the resolution you choose doesn't give you the results you want, you can change this resolution whenever you want.



The Dual stream input module supports two simultaneous channels playing media. The two channels can have different resolutions, and you can choose a custom value for channel one (slot n position 1). Channel two (slot n position 2) only supports 1920x1080p60.

Understanding the format of resolution

Resolution is shown in the form:

Width x Height (in pixels), **p** or **i**, **Frame Rate** (in Hz, or frames per second)

Where **p** means progressive scanning, and **i** means interlaced scanning.

For example, 1920x1080i60 is 1920 pixels wide, 1080 pixels high, interlaced, and has a frame rate of 60 Hz.

How do I know what resolution my media items are?

To find the resolution of a media stream, visit the source of the stream.

To find the resolution of a media item, select the item in the media browser. Information about that item is displayed on the right.



Frame rate

- For best results, add video clips and media streams with the same frame rate to a play queue. You can then choose a resolution with a frame rate that matches your media items.

	Video clip 1	Video clip 2	Video clip 3
✓	1920x1080p 60	3840x2160p 60	1600x1200p 60

- If you have a mixture of frame rates, choose a resolution with a frame rate that is a factor of your frame rates. For example, you can add media items with frame rates of 30 Hz and 60 Hz, and then choose a resolution with a frame rate of 60 Hz. You can do this because you can divide 60 by 30.

Note: don't round up frame rates. For example, don't treat 23.98 Hz as 24 Hz.

	Video clip 1	Video clip 2	Video clip 3	Best frame rate	Reason
✓	1920x1080p 60	3840x2160p 30	1600x1200p 60	60	60 is a factor of both frame rates. $60/60 = 1$ $60/30 = 2$
✓	3840x2160p 25	1920x1080p 50	1280x720p 50	50	50 is a factor of both frame rates. $50/50 = 1$ $50/25 = 2$
✗	1280x720p 23.98	1280x720p 24	1920x1080p 60	-	This play queue doesn't work because 60 can't be divided by 24, and you can't round 23.98 up to 24.

Resolution

- Choose a resolution no larger than your largest media item. Upscaling at this stage takes up unnecessary bandwidth.
- Don't choose a resolution that is much smaller than your media items. Downscaling at this stage can cause your media to appear blocky and low in quality when it is upscaled later in the process.
- If you have a play queue with a wide range of resolutions, you could choose a resolution in the middle of the range. This means that your largest items are downscaled.
- Consider the types of media you want to play. If you have, for example, two large 4K video clips and two smaller still images, you might prefer to put up with poorer quality still images in return for best quality video. In this case, choose your resolution based on the size of the video clips.

Scanning

- Avoid mixing media items with progressive scanning and media items with interlaced scanning in the same play queue.

Using the buttons of your CORIOmaster micro™

You can use the buttons of your CORIOmaster micro™ to select presets and sources, and to lock your CORIOmaster micro.

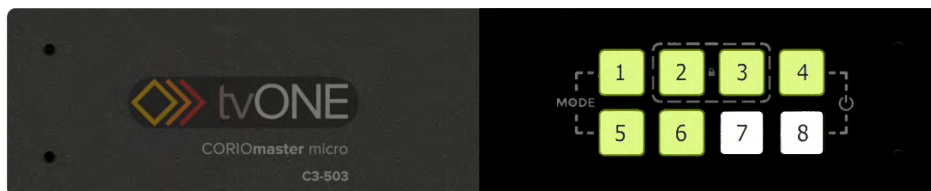
In this section

Changing between preset and source selection mode with your CORIOmaster micro™	98
Locking your CORIOmaster micro™	98

Changing between preset and source selection mode with your CORIOmaster micro™

To change between preset selection mode and source selection mode, press and hold buttons 1 and 5.

When the mode changes, the button color changes. In preset selection mode, the buttons are orange. In source selection mode, the buttons are green.

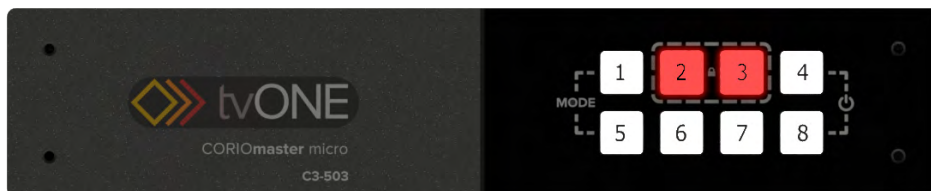


Locking your CORIOmaster micro™

Locking your CORIOmaster micro with the front panel

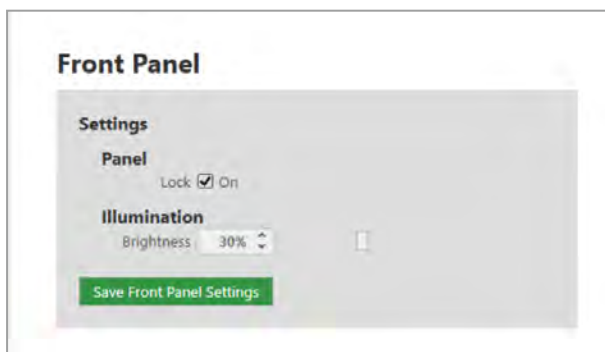
To lock and unlock your CORIOmaster micro™, press and hold buttons 2 and 3.

When your CORIOmaster micro is locked, buttons 2 and 3 turn red.



Locking your CORIOmaster micro in CORIOgrapher™

1. Select  > (Front Panel) Settings.
2. Select or clear Lock.



Replacing a module

Risk of damaging modules

Take care when you replace modules. If the components of modules touch other modules, or the metal chassis, they can be damaged. If you don't have experience, ask a qualified technician for help.



Removing a module from your CORIOmaster™

1. Unscrew the module that you want to replace.



2. Loosen the screws of the module above or below the module that you want to replace.

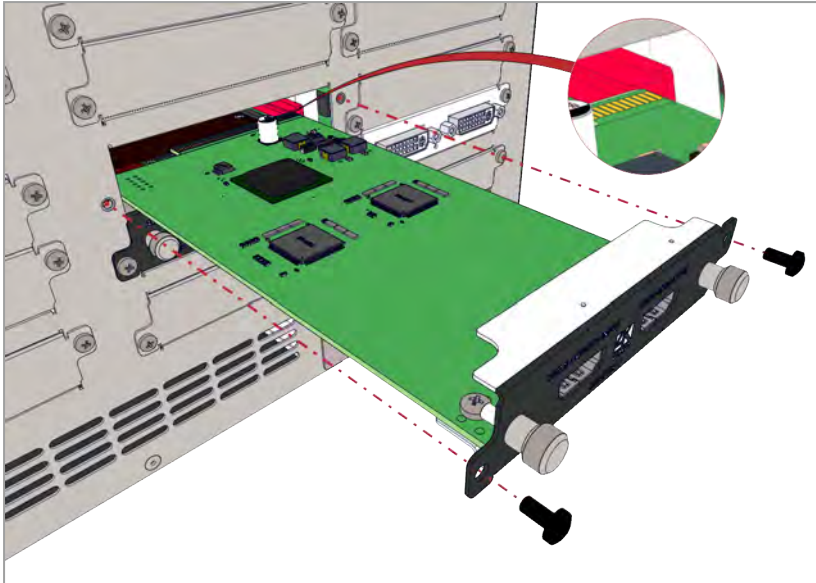


3. Grip the silver handles and pull the module forward, out of your CORIOmaster.

Modules with four or more inputs or outputs can be difficult to remove by hand. Some modules are designed with a small notch. Use the extractor tool that came with your module to hook into the notch and pull out the module.



Inserting a module into your CORIOmaster



1. Insert the module into the guide rails of your CORIOmaster.
2. Push the module firmly into the dock at the rear of your CORIOmaster.
3. Screw the module in place.
4. Tighten the screws of the module above or below.

Removing a module from a CORIOmaster micro™

If you need to replace the module in slot 3, first remove the module in slot 1.



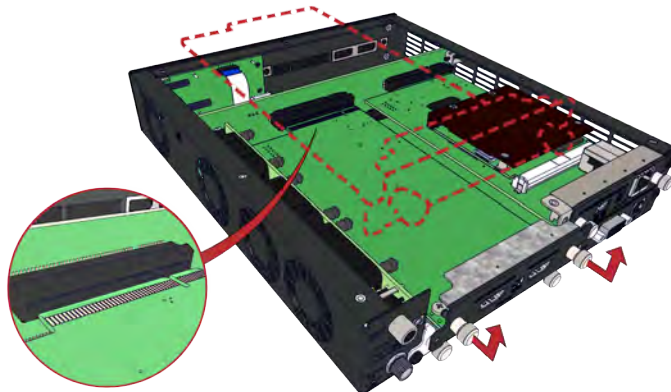
1. Remove the top cover of your CORIOmaster micro.



2. Remove the screws of the module or modules you want to replace. Loosen the screws of the module below the module that you want to replace.



3. Grip the silver handles and pull the module forward a short distance, out of the dock on the back plane. Lift the module out of your CORIOmaster micro. Keep the module flat.

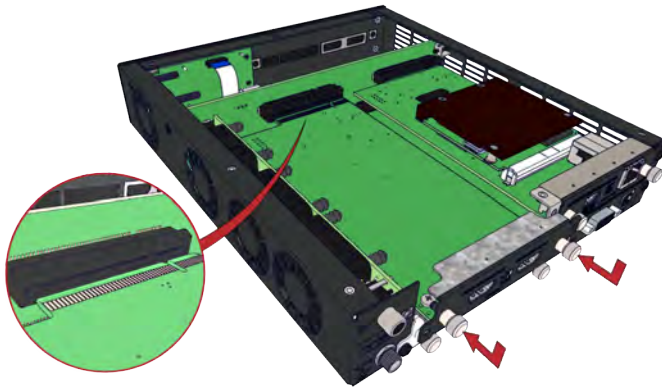


Modules with four or more inputs or outputs can be difficult to remove by hand. Some modules are designed with a small notch. Use the extractor tool that came with your module to hook into the notch and pull out the module.



Inserting a module into your CORIOmaster micro

1. Carefully lower the module into your CORIOmaster micro, and then push the module firmly into the dock on the back plane.



2. Replace the screws and do them up loosely.
3. Replace the top cover of your CORIOmaster micro.

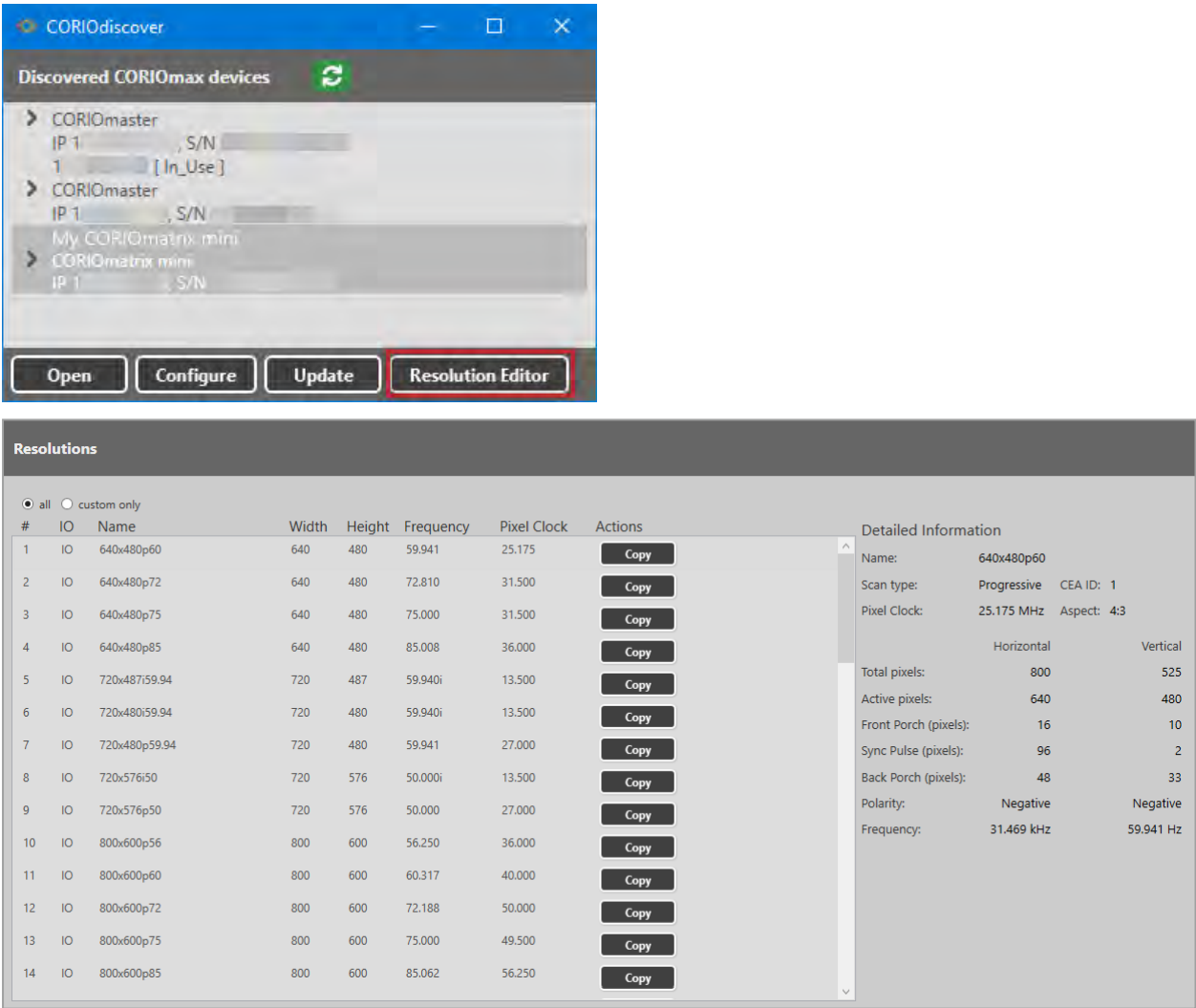


4. Tighten all screws.

Creating and editing custom resolutions

You can use CORIOdiscover to create and save up to 10 custom resolutions to use on your CORIOmaster . Custom resolutions are for both inputs and outputs. You can get the specific values for creating a custom resolution from the manufacturer of your source or display.

View standard resolutions and create custom resolutions in the resolution editor of CORIOdiscover. Open CORIOdiscover, select your device, and then select Resolution Editor.



Select a resolution to see detailed information on the right-hand side.

In this article

About custom resolutions	104
Custom resolution options	105
Creating and editing custom resolutions	107
Creating a custom resolution from a video standard	108
Copying and editing a standard resolution	110
Deleting a custom resolution	110

About custom resolutions

Guidelines for all custom resolutions

- All numeric values are in pixels, unless otherwise stated.
- All numeric values are positive integers, or zero.
- String values may not contain spaces.
- String values may only be valid, printable ASCII characters.
- Strings have a limited number of characters.
- For resolutions with HActive up to and including 1920 pixels, the pixel clock must be between 13.5 MHz and 162 MHz.
 - You can also have a pixel clock of 297 MHz, on the HDMI output module only.
- The value for active video cannot be zero.
- The maximum size for a resolution created for a DVI module is 1920x1200 @60 Hz.

Supported video standards

- VESA CVT
- CEA-861-D
- VESA DMT

Not supported

You can't create custom resolutions for SDI sources or displays.

Guidelines for 4K custom resolutions

If the HActive value is not divisible by 64, you cannot rotate the output.

The maximum values for a 4K custom resolution are:

- HActive = 3840
- VActive = 2528
- Pixel clock = 297 MHz

Supported values for pixel clocks, for the HDMI output module, for resolutions with HActive > 1920:

- 27 MHz
- 74.175824 MHz
- 74.25 MHz
- 148.351648 MHz
- 148.5 MHz
- 260 MHz
- 296.703296 MHz
- 297 MHz



If the pixel clock your source or display is within 0.0001 MHz of a value in this list, it might work, depending on your other settings. If you can't see anything on your display, try using the exact values given here.

Guidelines for interlaced custom resolutions

- The vertical front and back porches must be twice the even field.
- The vertical sync pulse must be twice the even value.

Custom resolution options

When you create a custom resolution, you need to enter values for the following options. The values come from the manufacturer of your source or display.

Name:

3840x2160p29.97

×

Scan type:

Progressive

CEA ID:

95

Pixel Clock (MHz):

296.703296 MHz

Aspect:

16:9

Horizontal

Vertical

Total pixels:

4400

2250

Active pixels:

3840

2160

Front Porch (pixels):

176

8

Sync Pulse (pixels):

88

10

Back Porch (pixels):

296

72

Polarity:

Positive

Positive

Frequency:

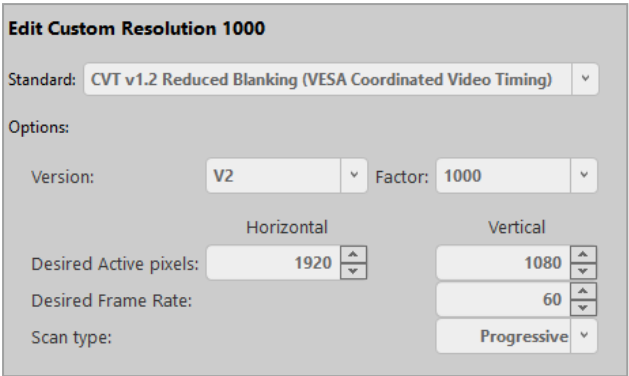
67.432567272 kHz

29.970029 Hz

Option	Notes
Name	Enter a useful name for your resolution. General naming rules Note: it is possible to create more than one custom resolution with the same name. Check the list of custom resolutions available from Resolutions. Names: - Can be 1–23 characters long. - May only contain valid, printable ASCII characters. - Must not contain spaces. Best practice naming rules For best results, use the name format below: <pre>[width]x[height][scantype][rate][optional]</pre> Where: [width] and [height] are values in pixels - X is the letter x [scantype] is i or p [rate] is the frame rate, and can contain a decimal point [optional] is any additional, optional, text
Scan type	Choose between progressive and interlaced scanning.

Option	Notes									
CEA ID	Only enter a value when you define a custom resolution that complies with the CEA-861-D profile for that value. The CEA identifier information option (CEA ID) does not affect the custom resolution. It is there for providing information on the resolution to any connected equipment. If you enter a value for CEA ID and your custom resolution does not conform to the CEA format for that value, you might not see an image on your display.									
Pixel Clock	Enter a value between 13.5 and 162 MHz, or, for 4K resolutions, see the guidelines for 4K custom resolutions. If the specification of your source or display does not include a value for pixel clock, set the vertical and horizontal frequency instead. See below.									
Aspect	If you are creating a custom resolution for a CORIOmatrix or CORIOmatrix mini, select an aspect ratio from the list. Choose from: <table><tr><td>16:9</td><td>16:10</td><td>16:6</td></tr><tr><td>4:3</td><td>5:3</td><td>64:27</td></tr><tr><td>5:4</td><td>1:1</td><td>256:135</td></tr></table>	16:9	16:10	16:6	4:3	5:3	64:27	5:4	1:1	256:135
16:9	16:10	16:6								
4:3	5:3	64:27								
5:4	1:1	256:135								
Active pixels	Enter a number of pixels between 64 and 3840 to set the width of the visible image. Enter a number of pixels between 64 and 2528 to set the height of the visible image.									
Front Porch	The front porch is the gap between the end of the active video and the start of the sync pulse, in pixels. Enter a number of pixels between 1 and 2000 to set the horizontal and vertical front porch.									
Sync Pulse	The sync pulse identifies the start of each row or frame of video. Enter a number of pixels between 8 and 500 to set the horizontal sync pulse. Enter a number of pixels between 10 and 100 to set the vertical sync pulse.									
Back Porch	The back porch is the gap between the end of the sync pulse and the start of the active video, in pixels. Enter a number of pixels between 1 and 2000 to set the horizontal back porch. Enter a number of pixels between 1 and 100 to set the vertical back porch.									
Polarity	The sync pulse separates the video fields into positive and negative polarity. Choose between positive and negative.									
Frequency	You only need to enter values here if the specification for your source or display specification does not include a value for pixel clock. Enter a value in kHz to set the horizontal frequency, and a value in Hz to set the vertical frequency.									

Options for custom resolutions based on the VESA CVT standard



Edit Custom Resolution 1000

Standard: CVT v1.2 Reduced Blanking (VESA Coordinated Video Timing) ▼

Options:

Version: V2 ▼ Factor: 1000 ▼

Horizontal: 1920 ▲▼

Vertical: 1080 ▲▼

Desired Frame Rate: 60 ▲▼

Scan type: Progressive ▼

Option	Notes
Version	Enter the version number of the VESA CVT standard you want to use.
Factor	The factor converts from an exact frame rate into an NTSC-compatible vertical frequency. Choose between 1000 and 1001. Select 1000 to make the vertical frequency the same as your desired frame rate. Select 1001 if you need a vertical frame rate that does not exactly match your desired frame rate. For example, select 1001 if your desired frame rate is 60, but you need a vertical frequency of 59.94.
Desired Active pixels	Enter a number of pixels to set the width and height of the displayed area. The highest resolution we support is 1920x1200p60, with reduced blanking. See the VESA standard for other CVT standard resolutions.
Desired Frame Rate	Enter a frame rate in Hz.

Creating and editing custom resolutions

1. Select your device, and then select Resolution Editor.



2. Enter your administrator username and password.
The default username is admin, and the default password is adminpw.

3. Select custom only.

Resolutions

☐ all ☒ custom only

#	IO	Name	V
1000	IO	Empty1000	0

4. Find an empty custom slot, or choose a custom resolution to edit, and then select Edit.
5. Enter a useful name for your custom resolution.
6. Enter values for any other options as needed.

Name: 3840x2160p29.97 ✕

Scan type: Progressive ▼ **CEA ID:** 95

Pixel Clock (MHz): 296.703296 MHz **Aspect:** 16:9 ▼

	Horizontal	Vertical
Total pixels:	4400	2250
Active pixels:	3840	2160
Front Porch (pixels):	176	8
Sync Pulse (pixels):	88	10
Back Porch (pixels):	296	72
Polarity:	Positive ▼	Positive ▼
Frequency:	67.432567272 kHz	29.970029 Hz

Read about rules for names and other options on page 105.

Creating a custom resolution from a video standard

Creating a custom resolution from the CEA-861-D or VESA DMT standard

1. From Resolutions, find an empty custom slot, or choose a custom resolution to edit, and then select Edit.
2. Select your standard from the list.

Edit Custom Resolution 1000

Standard: Manually create a custom resolution ▼

Options:

- Manually create a custom resolution
- CVT v1.2 Standard (VESA Coordinated Video Timing)
- CVT v1.2 Reduced Blanking (VESA Coordinated Video Timing)
- DMT 1.0r11 (VESA Display Monitor Timing)
- CEA-861-D (Consumer Electronics Association)

- Manual...
- For Int...
- Front...
- Enter r...
- Set Factor to 1001 if you are using a Video Optimized Frequency.

3. Select a resolution from the list.

Edit Custom Resolution 1000

Standard: DMT 1.0r11 (VESA Display Monitor Timing) ▼

Options:

Resolutions: 640x400p85-DM02 ▼

- 640x400p85-DM02
- 720x400p85-DM03
- 640x480p60-DM04
- 640x480p72-DM05
- 640x480p75-DM06
- 640x480p85-DM07
- 800x600p120-RB-DM0D

4. Enter a useful name for your custom resolution.
5. Enter values for any other available options as needed.

Creating a custom resolution from the VESA CVT standard

1. From Resolutions, find an empty custom slot, or choose a custom resolution to edit, and then select Edit.
2. Select your standard from the list.

Edit Custom Resolution 1000

Standard: Manually create a custom resolution ▼

Options:

Resolutions: Manually create a custom resolution ▼

- CVT v1.2 Standard (VESA Coordinated Video Timing)
- CVT v1.2 Reduced Blanking (VESA Coordinated Video Timing)
- DMT 1.0r11 (VESA Display Monitor Timing)
- CEA-861-D (Consumer Electronics Association)

- Manual
- For Int
Front
- Enter r
- Set Factor to 1001 if you are using a Video Optimized Frequency.

3. Enter a useful name for your custom resolution.
4. Enter values for any other available options as needed.

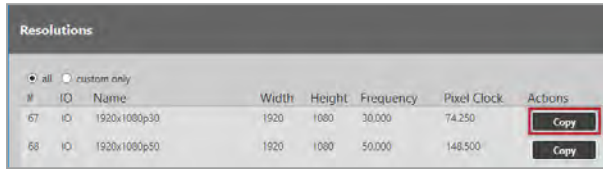
Read about rules for names and other options on page 105.

Copying and editing a standard resolution

If you want to create a custom resolution that is only slightly different to a standard resolution, you can copy the closest resolution and then edit it.

CORIOdiscover saves the new custom resolution in the first available empty slot. If there are no empty slots available, choose which custom resolution to overwrite.

1. From Resolutions, find the resolution closest to the resolution you want, and select **Copy**.



#	ID	Name	Width	Height	Frequency	Pixel Clock	Actions
67	ID	1920x1080p30	1920	1080	30.000	74.250	Copy
68	ID	1920x1080p50	1920	1080	50.000	148.500	Copy

2. Edit your new custom resolution.

For full instructions, see [Creating custom resolutions](#) on page 107.

Deleting a custom resolution

You can't delete a custom resolution, but you can return it to factory default settings, which removes your custom settings.

- From Resolutions, find the custom resolution you want to delete, and select **Reset**.

Troubleshoot it

This section contains frequently asked questions and advice on troubleshooting problems with your CORIOmaster™. If you can't find the help you need, contact your distributor, and if they can't help, contact tvONE™ support. Contact details are at the back of this guide.

In this section

Checking and updating the CORIOmaster firmware	112
I can't see my CORIOmaster™ in the Discovered Devices list	114
I can't log in securely to CORIOgrapher™	116
The picture keeps coming and going	118
My Dual stream input module keeps overheating	119
The video signal from my Encoder-100 is delayed	120
I can't hear any audio	122
Transitions aren't working smoothly	130
I can't update the firmware of my Dual stream input module	131
CORIOgrapher™ can't find or connect to my Encoder-100	132
General troubleshooting checklist	133
Returning a product for repair	133
What are the minimum requirements for running CORIOgrapher? ...	134
What's the password for my CORIOmaster™?	134
Can I use HDMI extenders with CORIOmaster™ output modules?	134
How large is the internal storage on a Dual stream input module?	134
How do I find the MAC address of my Dual stream input module?	134
How fast is my connection to the Dual stream input module?	134
Which media formats can I add to a play queue?	134
Can I save my play queue?	135
How do I mute audio?	135
Where would I find the information to create a custom resolution? ...	135

Checking and updating the CORIOmaster firmware

You must be connected to your CORIOmaster™ to check and update firmware.

Find your firmware version on CORIOgrapher™ > Home. Update your firmware on CORIODiscover > Update Device.



When you update the firmware, any unsaved configuration in CORIOgrapher is deleted. Make sure you save any configurations that you want to keep before you start the updating process. You can also save a backup file on your PC.

Read about saving a backup file on page 38.

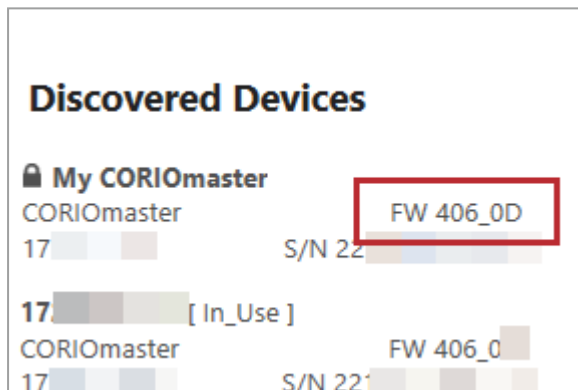
Before you start

To install the latest CORIOmaster firmware, you need CORIODiscover V1.6 or above. V1.6 of CORIODiscover is available from the CORIOmaster C3-540 page at tvone.com/firmware-updates.

Checking your firmware version and downloading new firmware

CORIODiscover warns you if you try to install firmware that is older or the same as your existing firmware. If you don't want to check your existing firmware version, skip to step 2.

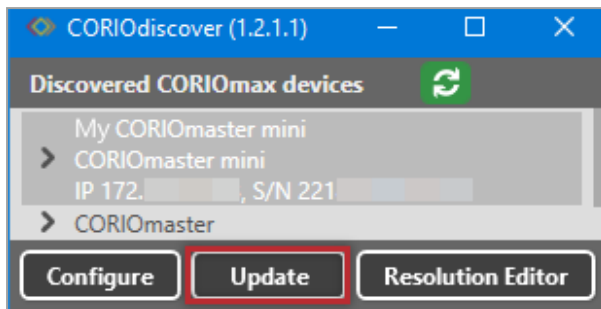
1. In CORIOgrapher > Home, find your current firmware version next to the name of your CORIOmaster.



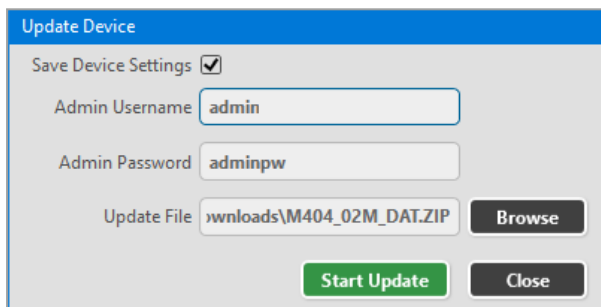
2. Check for newer firmware at tvone.com/firmware-updates.
Select your device from the list and compare the firmware version to your own.
 - If you have a CORIOmaster, select CORIOmaster C3-540.
 - If you have a CORIOmaster mini™, select CORIOmaster mini C3-510.
 - If you have a CORIOmaster micro™, select CORIOmaster micro C3-503.
3. If your firmware is out of date, download the zipped DAT file.
You don't need to extract the DAT file.

Updating the firmware

1. In CORIOdiscover, select .



2. Select your CORIOmaster from the list and select Update.
3. To save your CORIOmaster settings, select Save Device Settings.
When you save your settings, your CORIOmaster keeps all your saved configurations and video walls.
4. Enter your administrator login details.



5. Browse to the zipped DAT file that you downloaded.
6. Select Start Update.
When the update is finished, you can log in to your CORIOmaster again.

I can't see my CORIOmaster™ in the Discovered Devices list

What's the problem?

When I tried to find my CORIOmaster™, CORIOmaster mini™, or CORIOmaster micro™ in the [Discovered Devices](#) list on the Home window of CORIOgrapher™, I couldn't see it. I tried refreshing the list and it still wasn't there.

Why does this happen?

There might be a lot of CORIOmaster devices on your network and you're having trouble identifying yours.

Your CORIOmaster might be on a different network, there might be a problem with your network or firewall, or you might be in a high-security environment.

What to do

First try this

If you've got a long list of CORIOmaster devices with similar names, try these steps to find out which one is yours.

1. Write down the list or take a screenshot, and then turn off your CORIOmaster.
After a few seconds, your CORIOmaster should show as offline.
2. If nothing shows as offline, close and open CORIOgrapher.
3. Compare the list to your screenshot.
If a device is missing, it is most likely your device.
4. Turn on your CORIOmaster, wait for ten seconds, and see if that device appears again in the list.
You can now select your CORIOmaster.

Then try this

If your CORIOmaster definitely isn't in the [Discovered Devices](#) list, first check your hardware. If your CORIOmaster still isn't in the list, connect directly to your device with an RS-232 serial connection, find the IP address of your CORIOmaster, and use that IP address to log in.



You can't connect to a CORIOmaster using Ethernet and serial connection at the same time. Make sure you log out when you've finished with the serial connection.



API commands are not case-sensitive.

To check your hardware and firmware

1. Check that your CORIOmaster is turned on and the LED on the front panel is green.
2. Turn your CORIOmaster off and on again.
3. When the LED on the front panel is green, on the Home window of CORIOgrapher, select Refresh.
4. Check the Ethernet or serial connectors that connect your CORIOmaster to your computer.
5. Check that you are using the latest firmware. You might need to update your firmware.

Read about checking and updating your firmware on page 112.

To find out the IP address of your CORIOmaster

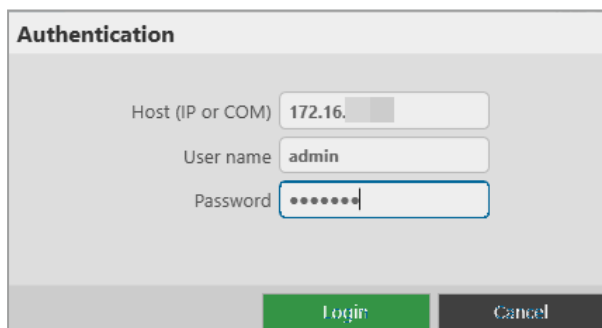
1. Connect the RS-232 port on your CORIOmaster to the RS-232 port on your computer with an RS-232 cable.
2. Open a suitable terminal application, such as puTTY or HyperTerminal.
3. Set your COM port settings to the following:

Speed (baud)	115200
Data bits	8
Stop bits	1
Parity	None
Flow control	None
4. To log in to the CORIOmaster as an administrator, enter `login (admin, adminpw)`.
Admin and adminpw are the default administrator login details. If you've changed them, use your own login details.
5. To check that DHCP is enabled, enter `System.Comms.Ethernet.DHCP` and press Return.
If the Enabled property is set to On, then go to step 6.
If the Enabled property is set to Off, then go to step 7.
6. Find the IP address of your CORIOmaster in the IP_Address property and make a note of it.
Go to step 9.
7. Enter `System.Comms.Ethernet` and press Return.
8. Find the IP address of your CORIOmaster in the IP_Address property and make a note of it.
9. Enter `logout ()` and press Return.

To log in to your CORIOmaster with an IP address

Log in to your CORIOmaster on the Home window of CORIOgrapher.

1. Select **Connect to your device**.
2. Enter the IP address that you got from the serial connection, and your administrator login details.



If that doesn't work

There might be a problem with your network or firewall. Talk to your network administrator. You might need to give your CORIOmaster a specific IP address.

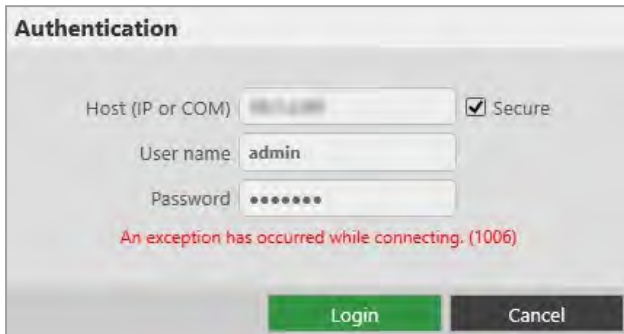
Read about changing the IP address of your CORIOmaster on page 45.

If the advice here doesn't work, first contact your distributor. If your distributor can't help, contact tvONE support at tech.usa@tvone.com, tech.europe@tvone.com or tech.asia@tvone.com.

I can't log in securely to CORIOgrapher™

What's the problem?

When I select Secure and try to log in, I get an error message.



Why does this happen?

Your CPU module might not have a Real Time Clock (RTC) installed. CORIOmaster units purchased from 2019 include an RTC.

If your CPU module includes an RTC, it might not have generated a secure certificate.

What to do

First try this

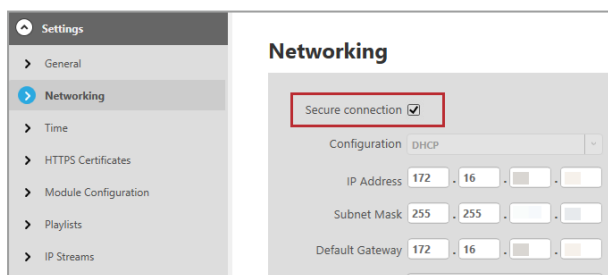
Check if you have an RTC installed.

1. Clear the Secure option and log in to CORIOgrapher.
2. Select ⚙️ > Networking.

If you see error message You cannot set the time on a device that does not have a real time clock, your CPU does not have an RTC installed.

If you do not see the error message, generate a secure certificate.

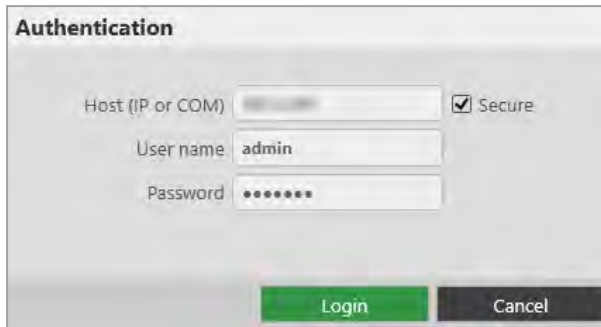
1. From Networking, select Secure connection.



2. Select Save > Save.

CORIOmaster restarts.

3. Select Secure and log in.

A screenshot of an 'Authentication' dialog box. It has a title bar with the word 'Authentication'. Inside, there are three input fields: 'Host (IP or COM)' with a placeholder '192.168.1.1', 'User name' with the text 'admin', and 'Password' with masked characters '*****'. To the right of the 'Host' field is a checked checkbox labeled 'Secure'. At the bottom, there are two buttons: a green 'Login' button and a grey 'Cancel' button.

Authentication

Host (IP or COM) ☒ Secure

User name

Password

Then try this

If your CPU module does not include an RTC, purchase a new CPU.

- If you have a CORIOmaster, ask your distributor for part number cm-c3-540-cpu-https
- If you have a CORIOmaster mini, ask your distributor for part number cm-c3-510-cpu-https
- If you have a CORIOmaster micro, ask your distributor for part number cm-c3-503-cpu-https

With your new CPU, generate a secure certificate.

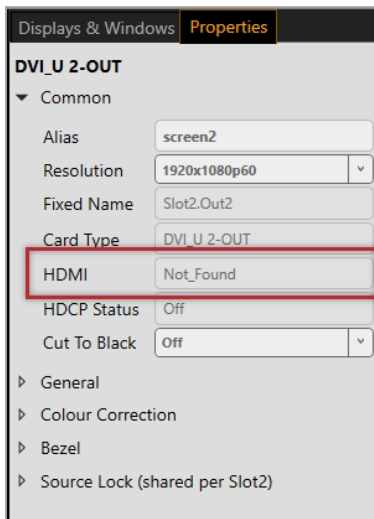
If that doesn't work

If the advice here doesn't work, first contact your distributor. If your distributor can't help, contact tvONE support at tech.usa@tvone.com , tech.europe@tvone.com or tech.asia@tvone.com.

The picture keeps coming and going

What's the problem?

The display is continually dropping the signal and attempting to reconnect. The HDMI status property of the display switches between Found and Not_Found.



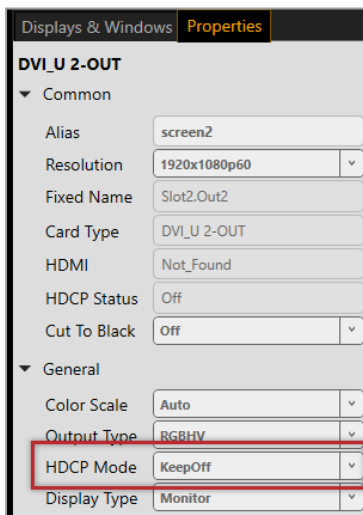
Why does this happen?

You probably have a display or output that doesn't support HDCP (High Definition Copy Protection).

What to do

First try this

1. On the Wall Editor, double-click the display.
2. Select General and set HDCP Mode to KeepOff.



If that doesn't work

If setting HDCP Mode to KeepOff doesn't work, try setting HDCP Mode to FollowSources.

If the advice here doesn't work, first contact your distributor. If your distributor can't help, contact tvONE support at tech.usa@tvone.com , tech.europe@tvone.com or tech.asia@tvone.com.

My Dual stream input module keeps overheating

What's the problem?

I keep seeing an error message that tells me my Dual stream input module is too hot, or has overheated. The performance of the module is reduced. I've tried restarting my CORIOmaster™.

Why does this happen?

If the environment around the Dual stream input module is too warm, the module runs above specification, or the fans can't do their job properly, the module can overheat. When the module becomes hot and there is a risk of overheating, the performance of the module is reduced to lower the amount of data processed.

What to do

First try this

1. Switch off your CORIOmaster.
2. Allow your CORIOmaster to cool down for at least 20 minutes.
3. Restart your CORIOmaster.

Then try this

1. Place your hand near each fan outlet in turn and check that air is flowing out of your CORIOmaster.
2. Check the environment around your CORIOmaster.
 - Is there anything covering the fan outlets?
 - Is the space large enough?
 - Is there enough ventilation or cooling? For best results, make sure the air around your CORIOmaster is a maximum of 20 °C.
 - Is there an air gap all around your CORIOmaster?
3. If there are any issues with the environment around your CORIOmaster, switch off your CORIOmaster and allow it to cool down while you fix the issues.

If that doesn't work

Is your Dual stream input module playing media items or streams that are very high resolution and/or high bitrate? Try reducing the resolution or bitrate as much as you can without losing too much quality.

If the advice here doesn't work, first contact your distributor. If your distributor can't help, contact tvONE support at tech.usa@tvone.com , tech.europe@tvone.com or tech.asia@tvone.com.

The video signal from my Encoder-100 is delayed

What's the problem?

I am streaming an HDMI™ signal from my Encoder-100. The video is delayed.

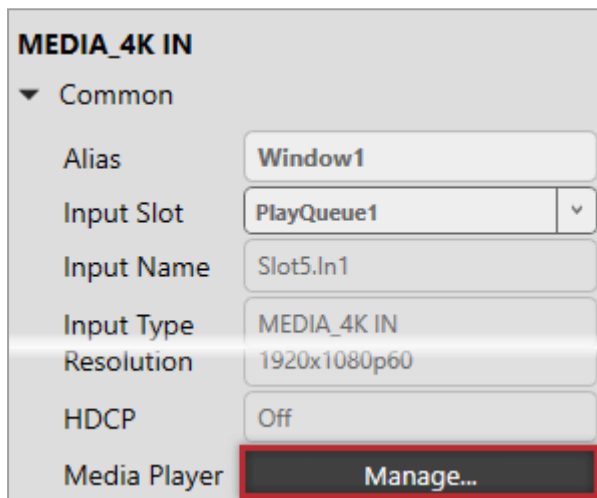
Why does this happen?

- If there's no embedded audio in the HDMI signal, but you selected HDMI as your audio source, the video can be delayed.

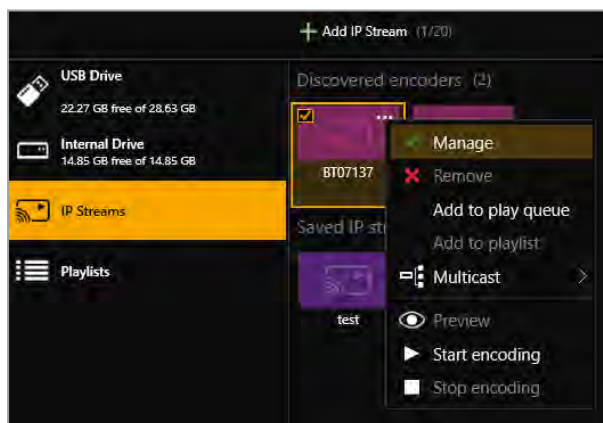
What to do

First try this

1. Double-click a window playing streaming media, and select (Media Player) Manage.



2. Select IP Streams, select your Encoder-100, and select Manage.



3. Select Capture.

The screenshot shows a software window titled "Manage encoder [My_Encoder100] - Encoding". On the left is a sidebar with tabs: "Status", "Capture", "Encode", "Stream", "Network", and "System". The "Capture" tab is active. The main content area is titled "Capture" and contains the following settings: "Video: 1920x1080p60", "Audio: Analog" (with a dropdown arrow), and "Sample rate: 48.0 kHz" (with a dropdown arrow). At the bottom right of the window are two buttons: "Apply" and "Close".

4. Select None or Analog from Audio.

If that doesn't work

If the advice here doesn't work, first contact your distributor. If your distributor can't help, contact tvONE support at tech.usa@tvone.com , tech.europe@tvone.com or tech.asia@tvone.com.

I can't hear any audio

What's the problem?

I am trying to play audio but I can't hear it, or the sound is poor.

Why does this happen?

General problems with audio:

- Audio is disabled for the input or output.
- The audio source is muted.
- The audio output is muted.
- The canvas or output is cut to black. Cut to black also mutes audio.
- The input audio level is turned down low, or the output volume is turned down low.
- The audio source was changed by a preset.
- The source device or output device might be muted.
- There might be a loose connection, mislabeled cables, or problem with your audio device.
- The audio source is not compatible with your CORIOmaster.
 - Your CORIOmaster only plays embedded audio in uncompressed PCM format.
 - Your CORIOmaster only plays audio with a frequency of 48 kHz.

If you're trying to play audio with the S/PDIF and analog audio module:

- You might have your audio device connected to the wrong output.
Each output is associated with a single canvas. Output 1 is associated with canvas 1, and so on.
Read more about the S/PDIF and analog audio module on page 10.

If you're trying to play audio with the Dual stream input module:

- You might be trying to listen to a stream with low latency. CORIOmaster automatically mutes streams with low latency.
- The audio from a media item might not be compatible with your Dual stream input module.

If you're trying to play audio using the S/PDIF output of a CORIOmaster micro:

- You might be listening to the wrong window.

What to do

General problems with audio	123
Audio from the Dual stream input module	127
Audio from the S/PDIF output of a CORIOmaster micro ..	128
If that doesn't work	129

General problems with audio

- *Check if audio is disabled for sources or outputs, page 123*
- *Check if sources are muted, page 124*
- *Check if input audio level or volume are too low, page 124*
- *Check if canvasses or displays are cut to black and muted, page 124*
- *Check if displays or windows are muted, page 125*
- *Check your presets, page 126*
- *Check the format of your media items, page 126.*

Check if audio is disabled for sources or outputs

1. Select Settings > Slot Status.
2. Check that Audio Enabled is selected for each source and output that you want to use.

Input Slots		
Slot	Name	Audio Enabled
Slot1.In1	stream1	☐
Slot1.In2	stream2	☒
Slot2.In1	camera1	☒

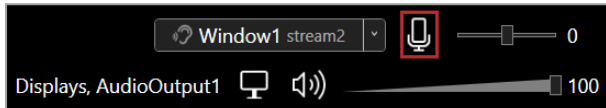
Output Slots		
Slot	Name	Audio Enabled
Slot16.Out1	Screen1	☒
Slot16.Out2	Screen2	☒
Slot16.Out3	Screen3	☒
Slot16.Out4	Monitor	☐

Check if sources are muted

1. From Wall Editor, open the list of audio sources.

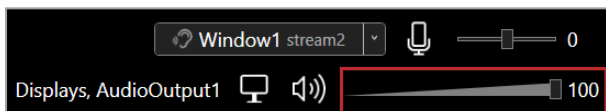


2. If the source you want to hear is muted, select the source and then select .



Check if input audio level or volume are too low

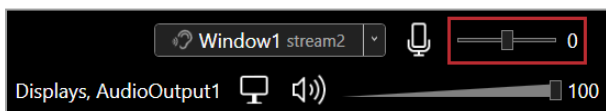
1. On the wall editor, check the output volume.



2. Open the list of audio sources.



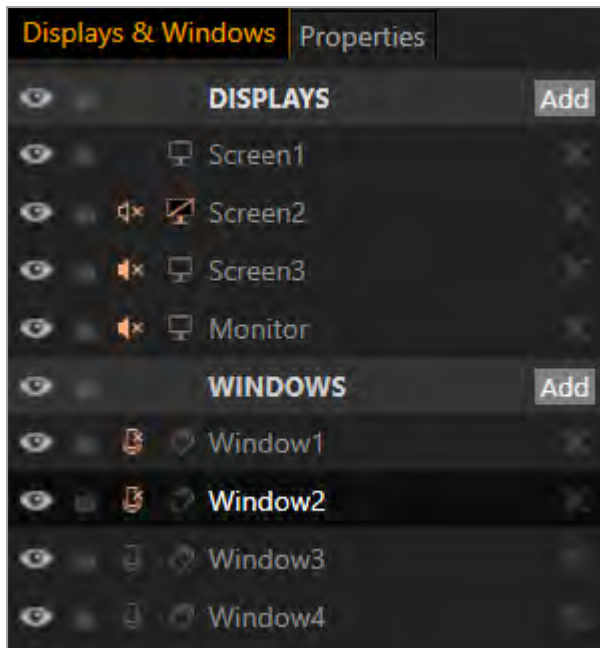
3. Select each source in turn and check the input audio level.



Check if canvasses or displays are cut to black and muted

1. Select Dashboard.
2. If a canvas is cut to black and muted, restore it.
 - To cut a display to black and mute it, select 
 - To restore a display, select 
3. Select Wall Editor > Displays & Windows.

4. If a display is cut to black and muted, restore it.

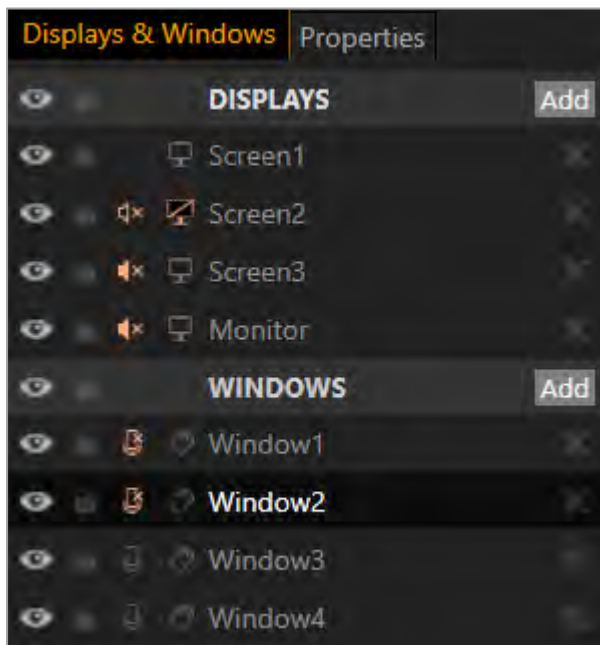


- To cut a display to black and mute it, select .
- To restore a display, select .

! Only administrators and power users can restore individual displays. If a display is black and you can't hear audio, ask an administrator to check if it is cut to black and muted.

Check if displays or windows are muted

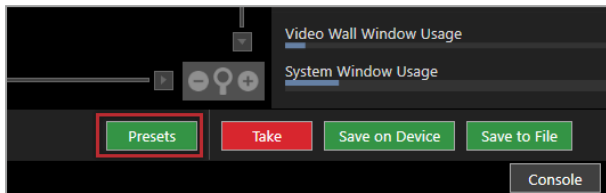
1. Select Wall Editor > Displays & Windows.
2. If the display or window is muted, unmute it.



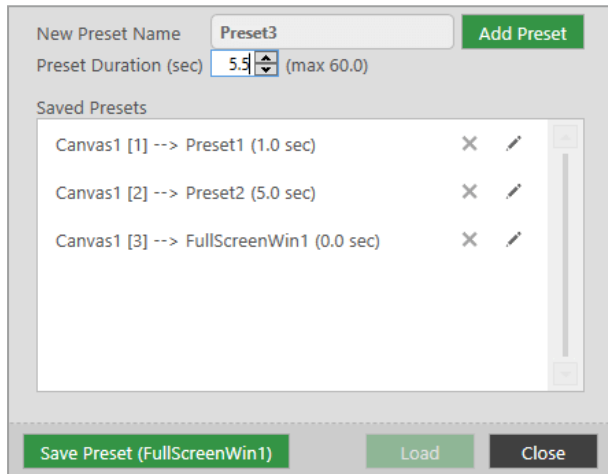
- To mute audio, select  or .
- To unmute audio, select  or .

Check your presets

1. Select Wall Editor > Presets.



2. Select and load a preset from the list.



3. Check which windows and sources appear in the preset.
4. Repeat for all presets.
Read more about best practice for using presets on page 53.

Check the format of your media items

- Your CORIOmaster only supports two-channel audio, in uncompressed PCM format, at 48 kHz.
- Your CORIOmaster does not support surround sound.
- The Dual stream input module only supports .mp3 and .aac formats.
- If you have a media player connected to your S/PDIF and analog audio module, check that it can provide audio in uncompressed PCM format.
- If your media items are not supported, consider converting them.

Then try this

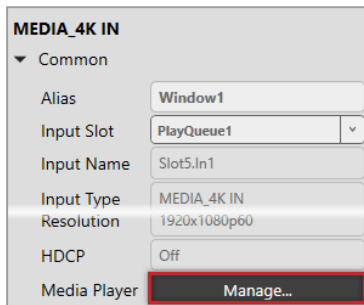
1. Restart your CORIOmaster.
2. Check all hardware connections.
3. Check that your audio device is working. Try plugging in another source.
4. Make sure you are running the latest firmware and software.
Download the latest version of CORIOgrapher from tvone.com/software.
Read about updating your firmware on page 112.

Audio from the Dual stream input module

- To access the media player, page 127
- Check the format of your media items, page 127
- Check if your stream is playing with low latency, page 127

To access the media player

1. In CORIOgrapher, double-click the window you wish to play media or streams, and select (Media Player) Manage.

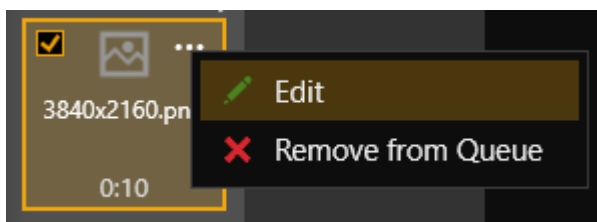


Check the format of your media items

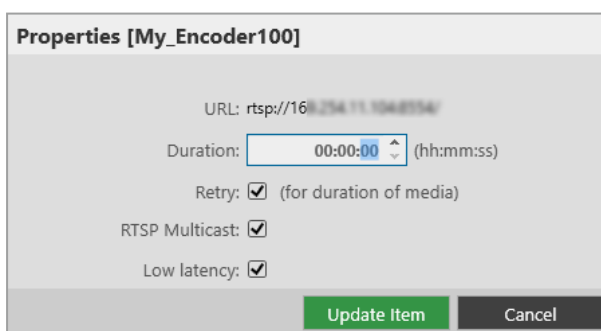
- The Dual stream input module only supports .mp3 and .aac formats, at 48 kHz.
- If your media items are not supported, consider converting them.

Check if your stream is playing with low latency

1. In the play queue, select the stream.
2. Select ... > Edit.



3. Check if Low latency is selected.



If you want to listen to audio from your stream, clear Low latency.

Then try this

1. Restart your CORIOmaster.
2. Check all hardware connections.
3. Check that your audio device is working. Try plugging in another source.
4. Make sure you are running the latest firmware and software.
Download the latest version of CORIOgrapher from tvone.com/software.
Read about updating your firmware on page 112.

Audio from the S/PDIF output of a CORIOmaster micro

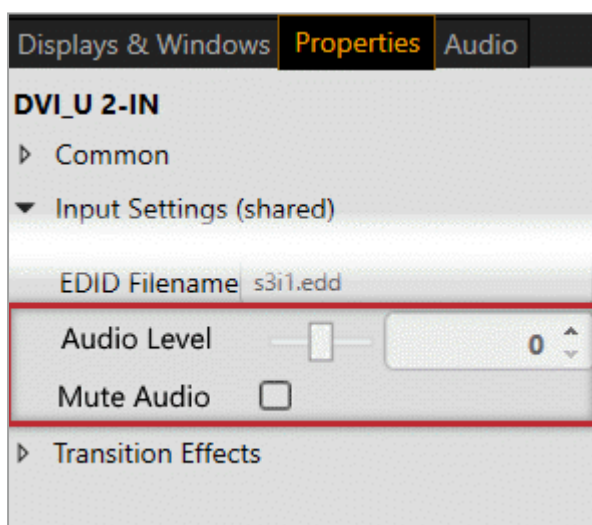
- *Check which window is active, page 128*
- *Check if the source is muted or the input audio level is turned down, page 128*
- *Check if the output is muted, page 129*
- *Check that the button you pressed is mapped to the correct window, page 129*

Check which window is active

- On the front panel of your CORIOmaster micro, press and hold the button that corresponds to the window you want to hear, until it flashes red.

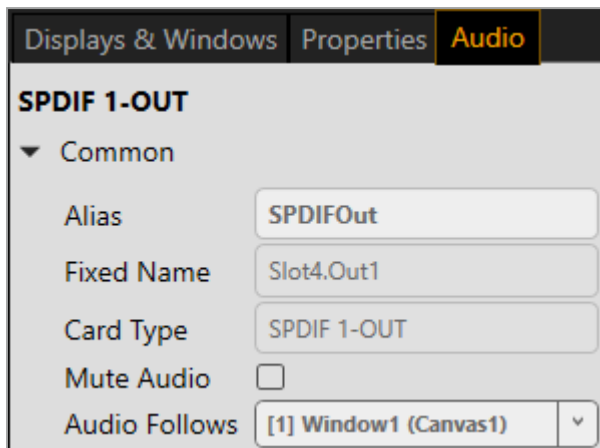
Check if the source is muted or the input audio level is turned down

1. In CORIOgrapher™, select Wall Editor.
2. Double-click the window playing the source you want to hear.
3. In **Properties**, check the position of the Audio Level slider.
4. Make sure the Mute Audio option is cleared.



Check if the output is muted

1. From the wall editor, select Audio.



2. Make sure the Mute Audio option is cleared.

Check that the button you pressed is mapped to the correct window

1. In CORIOgrapher, select ⚙️ > (Front Panel) Button Mapping.
2. In Window, check which window is mapped to the button you pressed.
3. If the window mapped to that button is not correct, you can choose a different window, or press a different button on the front panel.

Then try this

1. Restart your CORIOmaster micro.
2. Check all hardware connections.
3. Check that your audio device is working. Try plugging in another source.
4. Make sure you are running the latest firmware and software.
Download the latest version of CORIOgrapher from tvone.com/softwares.
Read about updating your firmware on page 112.

If that doesn't work

If the advice here doesn't work, first contact your distributor. If your distributor can't help, contact tvONE support at tech.usa@tvone.com, tech.europe@tvone.com or tech.asia@tvone.com.

Transitions aren't working smoothly

What's the problem?

When I transition from one preset to another, I see or hear a snippet of the wrong source at the wrong time.

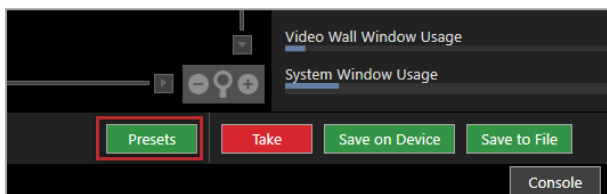
Why does this happen?

- Your transition time is set to 0 seconds. For best results, use a minimum transition time of 0.1 seconds.

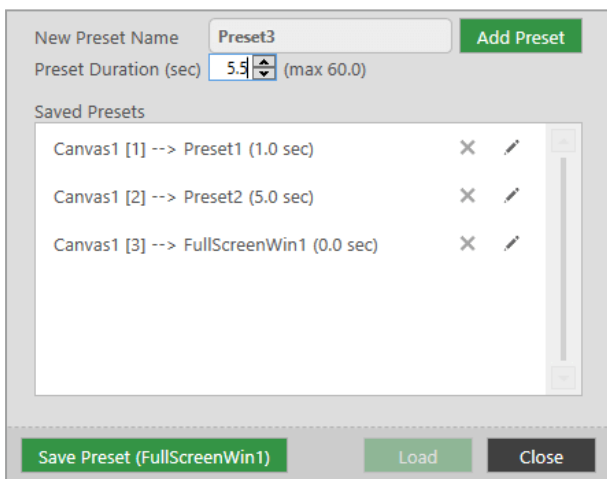
What to do

First try this

1. Select Wall Editor > Presets.



2. Select a preset from the list.



3. Check the preset duration.
If it is set to 0 seconds, increase the time to 0.1 seconds.
4. Repeat for all presets.
Read more about best practice for using presets on page 53.

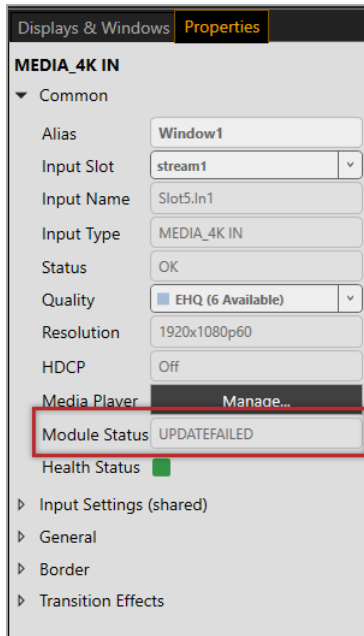
If that doesn't work

If the advice here doesn't work, first contact your distributor. If your distributor can't help, contact tvONE support at tech.usa@tvone.com , tech.europe@tvone.com or tech.asia@tvone.com.

I can't update the firmware of my Dual stream input module

What's the problem?

1. In CORIOdiscover, I have an error message that tells me one or more of my Dual stream input modules failed to update.
2. In CORIOgrapher™ I have an error message that tells me the firmware of my Dual stream input module failed to update. The module status is UPDATEFAILED.



Why does this happen?

- There was an error when you updated the firmware of your CORIOmaster™.
- The firmware download might be corrupted.
- There is a problem with a module.

What to do

First try this

1. Restart your CORIOmaster.
2. In CORIOgrapher, select ⚙️ > Module Configuration.
3. For each Dual stream input module, select ⋮ > Configure and check the status.

Then try this

1. Download the firmware update again.
Make sure you download the correct version for your CORIOmaster, CORIOmaster mini, or CORIOmaster micro.

2. Repeat the firmware update.

Read more about updating your firmware on page 112.

If that doesn't work

If the advice here doesn't work, first contact your distributor. If your distributor can't help, contact tvONE support at tech.usa@tvone.com , tech.europe@tvone.com or tech.asia@tvone.com.

CORIOgrapher™ can't find or connect to my Encoder-100

What's the problem?

1. I tried to find my Encoder-100 in **Media Browser > IP Streams**, but it wasn't in the list. I tried to add it manually with an IP address, but that didn't work either.
2. I can see my Encoder-100, but can't connect to it, or stream media.

Why does this happen?

- Your Encoder-100 might not be on the same network as the PC running CORIOgrapher. For example, the Encoder-100 is set to use DHCP and the PC has a static address in a different IP range, or they are on separate physical networks.
- Your Encoder-100 is behind a router that does not allow UPnP (Universal Plug and Play) or API commands to pass through.

What to do

First try this

1. Restore the factory default settings of the Encoder-100.
Read about restoring factory default settings on page 1.
2. Change the network settings of the PC running CORIOgrapher so that it uses DHCP.
3. Check that the PC running CORIOgrapher and your Encoder-100 are on the same physical network.

Then try this

If the PC running CORIOgrapher and your Encoder-100 are on different physical networks deliberately, for example, if you have a dedicated video network, then follow these steps:

1. Put the Encoder-100 and the PC running CORIOgrapher on the same network temporarily, and configure the Encoder-100.
Configure the Encoder-100 with a static IP address.
Read about configuring your Encoder-100 on page 1.
2. Write down the IP address of the stream.
3. Return the Encoder-100 and the PC running CORIOgrapher to their original networks.
4. Manually add an IP stream with the IP address you wrote down in step 2.
Read about manually adding streams on page 79.

If that doesn't work

Check that your network settings are correct.

For more help, contact your network administrator.

If the advice here doesn't work, first contact your distributor. If your distributor can't help, contact tvONE support at tech.usa@tvone.com , tech.europe@tvone.com or tech.asia@tvone.com.

General troubleshooting checklist

If specific troubleshooting advice isn't helping, or your product has stopped working, go through the points below. If your product still doesn't work, you might need to return it for repair.

Read about returning your product on page 133.

1. Make sure your product is set up correctly, as shown in this guide.
2. Check that your cables and equipment are all connected firmly.
3. Check that your product is connected to an electrical outlet that is switched on.
Can you see LED lights on the front of your product?
4. Test your sources by connecting them directly to a display.
5. Test your display by connecting it directly to a source.
6. Test each cable.
7. Try restoring your product to factory default settings.
Note: during factory reset your custom settings are deleted.
8. Try updating your firmware.
Note: during a firmware update your custom settings are deleted.

Returning a product for repair

You can request to return your product to tvONE™ for repair. When you contact tvONE support, have the following information ready.

- Product type
- Serial number of the faulty unit (this is on the underside of the unit)
- Full details of the issue
- Invoice number (if available)

Contact tvONE support for your area.

- Customers in North, Central, and South America (NCSA), email tech.usa@tvone.com.
- Customers in Europe, the Middle East, and Africa (EMEA), email tech.europe@tvone.com.
- Customers in Asia, email tech.asia@tvone.com.

EMEA and Asia

Customers in EMEA and Asia receive an RMA Request form from tvONE support. Complete the form and return it to tvONE support for your area.

All customers

tvONE support decides if your product needs to return for repair, and, if needed, provide a return authorization number.

Send your product to tvONE by insured carrier or registered mail. Write your return authorization number on the outside of the packaging, and on any documents you send with your product.

You must arrange and pay for shipping and insurance. Products in transit are your responsibility. tvONE does not accept responsibility for products lost in transit.



Do not return a product for warranty repair without a return authorization number. tvONE will not repair your product.

What are the minimum requirements for running CORIOgrapher?

The minimum requirements for running CORIOgrapher are:

- PC running Windows® 7 or 10
- Windows® .NET 4.6
- 600 MB of disc space during installation
- Approximately 50 MB of disc space after installation
- To use the preview feature, the PC must have Windows® Media Player installed, and it must have been launched at least once before being used with CORIOgrapher

CORIOgrapher does not work with touch-screen-only devices, including tablets and phones.

What's the password for my CORIOmaster™?

The default administrator username and password for your CORIOmaster are `admin` and `adminpw`.

Can I use HDMI extenders with CORIOmaster™ output modules?

Yes. You can use HDMI extenders that draw up to 100 mA directly with DVI-I and DVI-U output modules. If you want to use an HDMI extender that draws more than 100 mA, use an external power supply.

See our range of HDMI extenders at tvone.com/signal-extension-systems.

How large is the internal storage on a Dual stream input module?

There are two models of Dual stream input module. One comes with 16 GB of internal storage, the other comes with 128 GB.

How do I find the MAC address of my Dual stream input module?

You can find the MAC address in Networking. Select  > Module Configuration, find the module, and select  > Configure.

How fast is my connection to the Dual stream input module?

You can find the connection speed in Networking. Select  > Module Configuration, find the module, and select  > Configure.

Which media formats can I add to a play queue?

You can add media streams, video clips, and still images to a play queue. For the full list of supported formats, see the specifications.

Read the specification sheet for the Dual stream input module on page 144.

Can I save my play queue?

If you add media items or streams to a play queue and select *Save on Device* from the wall editor, then when you restart your CORIOmaster™, the items and streams remain in the play queue.

You can save all your settings, including your play queue, to a backup file on your CORIOmaster. If you want to load the same play queue at a later date, you can restore your settings from the backup file.

Note: you will lose any work that you have done since creating the backup file.

From CORIOgrapher™ V2.4 onwards, you can save your play queue as a playlist.

How do I mute audio?

If it's an emergency, the fastest way to mute everything is to use the emergency button for mute and cut to black.

In CORIOgrapher, select *Dashboard*.

- To cut to black and mute all displays and outputs, select .

- To restore all displays and outputs, select .

If it's not an emergency, there are several other ways to mute audio. You can:

- Mute a source.
Read more on page 66.
- Mute a display.
Read more on page 68.
- Disable a source or display.
Read more on page 60.
- Cut a display to black, which also mutes the audio.
Read more on page 69.

Where would I find the information to create a custom resolution?

You can use CORIODiscover to create custom resolutions. You need information from the manufacturer of your source or display to create a custom resolution.

Information you need from the manufacturer includes:

- Pixel clock
- Active pixel area
- Front porch
- Back porch
- Sync pulse
- Polarity

Read about creating custom resolutions on page 103.

More

In this section

What's new in CORIOgrapher™ V2.7	136
Product specifications	137
CORIOmaster™ C3-540 specifications	137
CORIOmaster mini™ C3-510 specifications	139
CORIOmaster micro™ C3-503 specifications	141
Dual stream input module specifications	144
Encoder-100 specifications	145
End user license agreement for CORIOgrapher	145
Regulatory compliance for CORIOmaster™, CORIOmaster mini™, CORIOmaster micro™, Encoder-100, and all modules	148
Contact us	149

What's new in CORIOgrapher™ V2.7

CORIOgrapher V2.7 supports:

- Playing audio on a CORIOmaster™, CORIOmaster mini™, and CORIOmaster micro™.
Read more on page 60.
- New modules: the S/PDIF and analog audio module, and the Quad HDMI scaled output module.
Read more on page 7.
- Encrypted communication between CORIOgrapher and your CORIOmaster.
Read more on page 28.
- Playing streams with low latency with the Dual stream input module.
Read more on page 77.
- New emergency stop button available from the dashboard cuts all displays to black and mutes all audio, including the S/PDIF output of the CORIOmaster micro

CORIOdiscover V1.6 supports:

- Faster discovery of and connection to your devices.
- Encrypted communication.



Firmware version M406 does not support Genlock. If you need to use Genlock, do not upgrade to this firmware version.

For the full list of new features and things we've fixed, see the release notes.

Release notes are available at tvone.com/software.

Product specifications

Specifications contain all the details about our products.

In this section

CORIOmaster™ C3-540 specifications	137
CORIOmaster mini™ C3-510 specifications	139
CORIOmaster micro™ C3-503 specifications	141
Dual stream input module specifications	144
Encoder-100 specifications	145

CORIOmaster™ C3-540 specifications

Video processing power

Parrallel Processing Architecture	Yes	Display Size Compensation	Yes, different sizes in video walls
CORIO™3 Video Processing	Yes	Output Rotation	Yes for any outputs and windows
Real Time Video Quality	Yes	Projector Edge Blending	Yes
Up/Down/Cross Conversion	Yes	HDCP Key Handling	Yes
Number of canvasses	4		

Computer input

Digital DVI	Up to 28 via Universal DVI (HDMI™ and HDCP compliant)	Scan Rate Detection	Automatic
Analog	Up to 28 via Universal DVI	Analog Signals	PC to 1920x1080, HD to 108 p60
Analog Format	RGBHV, RGBS, RGsB, YPbPr	DVI Signals	PC to 1920x1200, HD to 1080p60
Analog Sync	TTL Level, 10 KΩ, Pos or Neg	Max Horiz Scan Rate	150 kHz
RGB Level Range	0.5-2.0 Vp-p		

Computer outputs

DVI-I Signals	Up to 28 via DVI-I (HDMI and HDCP compliant)	Settings Memory	Non-Volatile
Analog	Up to 28 via DVI-I	Conversion Technology	Proprietary – CORIO™3
Analog format	RGBHV, RGBS, RGsB, YPbPr	Color	RGB 24-bit 4:4:4, YPbPr 20-bit 4:2:2, SDI 20 bit 4:2:0
R-G-B Level	0.7 Vp-p	Max. Sampling Rate	162 MHz

DVI Signals	PC to 1920x1200, HD to 1080p60 w/EDID	Firmware Memory	Upgradeable via download
Analog Signals	PC to 1920x1080, HD to 1080p60	Video Comb Filter	Adaptive
Size and Position	User Adjustable	Video Adjustments	Contrast, Brightness, RGB Gamma

HD Video Resolutions supported (DVI, YPbPr, SDI)

720p(1280x720)	23.98, 24, 25, 29.97, 30, 50, 59.94, 60 Hz	1080p(1920x1080)	23.98, 24, 25, 29.97, 30 Hz
1035i(1920x1035)	59.94, 60 Hz	1080p(1920x1080)	50, 59.94, 60 Hz
1080i(1920x1080)	50, 59.94, 60 Hz		

4K Video Input Resolutions supported (via HDMI)

3840x2160	4:4:4 23.98/24/25/29.97/30 Hz 8-bit	3840x2160	4:2:0 50/59.94/60 Hz 8-bit
4096x2160	4:2:0 50/59.94/60 Hz 8-bit		

4K Video Output Resolutions supported (via HDMI)

3840x2160	4:4:4 23.98/24/25/29.97/30 Hz 8-bit		
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Video inputs

Television Standards	NTSC, PAL	SD-SDI/HD-SDI	Up to 56 via BNC
Composite Video	Up to 28 via DVI	SD-SDI/HD-SDI/3G-SDI	Up to 28 via BNC
YC (S-Video)	Up to 28 via DVI	HDBaseT™	Up to 28 via RJ45
YUV/YPbPr	Up to 28 via DVI	4K	Up to 28 via HDMI

Video outputs

YUV/YPbPr	Up to 28 via DVI-I	HDBaseT	Up to 28 via RJ45
SD-SDI/HD-SDI/3G-SDI	Up to 28 via BNC	4K	Up to 14 via HDMI

3G/HD/SD-SDI

SMPT259M-C	270Mbps < 0.1 UI jitter	(HD-SDI Video)	720p, 1035i, 1080i, 1080p
(SD-SDI Video)	525/625Line	SMPT2424M	2.97/2.967 Gbps < 0.3 UI jitter
SMPT292M	1.485/1.4835 Gbps < 0.2 UI jitter	(3G-SDI Video)	1080p60/59.94

Control Methods

RS-232	via D9 Female Connector	IP Interface	RJ45 Connector
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Dimensions

Size (H x W x D) mm	178 x 482 x 334	Weight (Net), including redundant PSU, kg	15
Size (H x W x D) inches	7.0 x 19.0 x 13.1	Weight (Net), including redundant PSU, lbs	33

Environmental

Operating Temperature	0 °C to 40 °C (32 °F to 104 °F)	Storage Temperature	-10 °C to 70 °C (14 °F to 158 °F)
Operating Humidity	10% to 85%, non-condensing	Storage Humidity	10% to 85%, non-condensing
MTBF	Approximately 50,000 hours	BTU	1024 BTU/hr

Power

Internal Power Supply	110 to 240 V, auto-detecting	Consumption	300 W maximum (fully populated chassis)
Redundancy	Optional Internal PSU		

CORIOmaster mini™ C3-510 specifications

Video processing power

Parallel Processing Architecture	Yes	Display Size Compensation	Yes, different sizes in video walls
CORIO™3 Video Processing	Yes	Output Rotation	Yes for any outputs and windows
Real Time Video Quality	Yes	Projector Edge Blending	Yes
Up/Down/Cross Conversion	Yes	HDCP Key Handling	Yes
Number of canvasses	4		

Computer input

Digital DVI	Up to 10 via Universal DVI (HDMI™ and HDCP compliant)	Scan Rate Detection	Automatic
Analog	Up to 10 via Universal DVI	Analog Signals	PC to 1920x1080, HD to 1080p60
Analog Format	RGBHV, RGBS, RGsB, YPbPr	DVI Signals	PC to 1920x1200, HD to 1080p60
Analog Sync	TTL Level, 10 KΩ, Pos or Neg	Max Horiz Scan Rate	150 kHz

RGB Level Range	0.5-2.0 Vp-p
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Computer outputs

DVI-I Signals	Up to 10 via DVI-I (HDMI and HDCP compliant)	Settings Memory	Non-Volatile
Analog	Up to 10 via DVI-I	Conversion Technology	Proprietary – CORIO™3
Analog format	RGBHV, RGBS, RGsB, YPbPr	Color	RGB 24-bit 4:4:4, YPbPr 20-bit 4:2:2, SDI 20 bit 4:2:0
R-G-B Level	0.7 Vp-p	Max. Sampling Rate	162 MHz
DVI Signals	PC to 1920x1200, HD to 1080p60 w/EDID	Firmware Memory	Flash, upgradeable via download.
Analog Signals	PC to 1920x1080, HD to 1080p60	Video Comb Filter	Adaptive
Vertical refresh rate	Any to 250 Hz	Video Adjustments	Contrast, Brightness, RGB Gamma
Size and Position	User Adjustable		

HD Video Resolutions supported (HDMI, DVI, YPbPr, SDI, and HDBaseT™)

720p(1280x720)	23.98, 24, 25, 29.97, 30, 50, 59.94, 60 Hz	1080i(1920x1080)	50, 59.94, 60 Hz
1035i(1920x1035)	59.94, 60 Hz	1080p(1920x1080)	23.98, 24, 25, 29.97, 30, 50, 59.94, 60 Hz

4K Video Input Resolutions supported (via HDMI and HDBaseT)

3840x2160	4:4:4 23.98/24/25/29.97/30 Hz 8-bit	3840x2160	4:2:0 50/59.94/60 Hz 8-bit
4096x2160	4:2:0 50/59.94/60 Hz 8-bit		

4K Video Output Resolutions supported (via HDMI)

3840x2160 4:4:4	23.98/24/25/29.97/30 Hz 8-bit
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Video inputs

Television Standards	NTSC, PAL	SD-SDI/HD-SDI/3G-SDI	Up to 8 via BNC
Composite Video	Up to 10 via DVI	HDBaseT	Up to 8 via RJ45
YC (S-Video)	Up to 10 via DVI	4K30	Up to 8 via HDMI
YUV/YPbPr	Up to 10 via DVI	4K60	Up to 4 via HDMI
SD-SDI/HD-SDI	Up to 16 via BNC		

Video outputs

YUV/YPbPr	Up to 10 via DVI-I	HDBaseT	Up to 10 via RJ45
SD-SDI/HD-SDI/3G-SDI	Up to 10 via BNC	4K	Up to 5 via HDMI

3G/HD/SD-SDI

SMPTE259M-C	270 Mbps < 0.1UI jitter	(HD-SDI Video)	720p, 1035i, 1080i, 1080p
(SD-SDI Video)	525/625Line	SMPTE424M	2.97/2.967 Gbps < 0.3 UI jitter
SMPTE292M	1.485/1.4835 Gbps < 0.2 UI jitter	(3G-SDI Video)	1080p 60/59.94

Control Methods

RS-232	D9 Female Connector	IP Interface	RJ45 Connector
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Dimensions

Size (H x W x D) mm	45 x 482 x 336	Weight (Net), including redundant PSU, Kg	5
Size (H x W x D) inches	1.77 x 19.0 x 13.25	Weight (Net), including redundant PSU, lbs	11.03

Environmental

Operating Temperature	0-40 °C (32-104 °F)	Storage Temperature	-10-70 °C (14-158 °F)
Operating Humidity	10% to 85%, non-condensing	Storage Humidity	10% to 85%, non-condensing
MTBF	Approximately 50,000 hours	BTU	427 BTU/hr

Power

Internal Power Supply	110 to 240 V, auto-detecting	Consumption	125 W maximum (fully populated chassis)
Redundancy	not available		

CORIOmaster micro™ C3-503 specifications

Video processing power

Parallel Processing Architecture	Yes	Display Size Compensation	Yes, different sizes in video walls
CORIO™3 Video Processing	Yes	Output Rotation	Yes for any outputs and windows
Real Time Video Quality	Yes	Projector Edge Blending	Yes
Up/Down/Cross Conversion	Yes	HDCP Key Handling	Yes

Number of canvasses	2
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Audio

Output	S/PDIF	Supported sample rates	DVI and HDMI sources: 48 kHz Streams and media items in media player: 32 kHz, 44.1 kHz, 48 kHz
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Computer input

Digital DVI	Up to 4 via Universal DVI (HDMI™ and HDCP compliant)	Scan Rate Detection	Automatic
Analog	Up to 4 via Universal DVI	Analog Signals	PC to 1920x1080, HD to 1080p60
Analog Format	RGBHV, RGBS, RGsB, YPbPr	DVI Signals	PC to 1920x1200, HD to 1080p60
Analog Sync	TTL Level, 10 KΩ, Pos or Neg	Max Horiz Scan Rate	150 kHz
RGB Level Range	0.5-2.0 Vp-p		

Computer outputs

DVI-I Signals	Up to 4 via DVI-I (HDMI and HDCP compliant)	Settings Memory	Non-Volatile
Analog	Up to 4 via DVI-I	Conversion Technology	Proprietary – CORIO™3
Analog format	RGBHV, RGBS, RGsB, YPbPr	Color	RGB 24-bit 4:4:4, YPbPr 20-bit 4:2:2, SDI 20 bit 4:2:2
R-G-B Level	0.7 Vp-p	Max. Sampling Rate	162 MHz
DVI Signals	PC to 1920x1200, HD to 1080p60 w/EDID	Firmware Memory	Flash, upgradeable via download
Analog Signals	PC to 1920x1080, HD to 1080p60	Video Comb Filter	Adaptive
Vertical refresh rate	Any to 250 Hz	Video Adjustments	Contrast, Brightness, RGB Gamma

HD Video Resolutions supported (HDMI, DVI, YPbPr, SDI, and HDBaseT™)

720p(1280x720)	23.98, 24, 25, 29.97, 30, 50, 59.94, 60 Hz	1080i(1920x1080)	50, 59.94, 60 Hz
1035i(1920x1035)	59.94, 60 Hz	1080p(1920x1080)	23.98, 24, 25, 29.97, 30, 50, 59.94, 60 Hz

4K Video Input Resolutions supported (via HDMI and HDBaseT)

3840x2160 4:4:4	23.98/24/25/29.97/30 Hz 8-bit	3840x2160 4:2:0	50/59.94/60 Hz 8-bit
4096x2160 4:2:0	50/59.94/60 Hz 8-bit		

4K Video Output Resolutions supported (via HDMI)

3840x2160 4:4:4	23.98/24/25/29.97/30 Hz 8-bit
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Video inputs

Television Standards	NTSC, PAL	SD-SDI/HD-SDI/3G-SDI	Up to 4 via BNC
Composite Video	Up to 4 via DVI	HDBaseT	Up to 4 via RJ45
YC (S-Video)	Up to 4 via DVI	4K30	Up to 4 via HDMI
YUV/YpBPr	Up to 4 via DVI	4K60	Up to 2 via HDMI
SD-SDI/HD-SDI	Up to 8 via BNC		

Video outputs

YUV/YpBPr	Up to 4 via DVI-I	HDBaseT	Up to 4 via RJ45
SD-SDI/HD-SDI/3G-SDI	Up to 4 via BNC	4K	Up to 2 via HDMI

3G/HD/SD-SDI

SMPTE259M-C	270 Mbps < 0.1 UI jitter	(HD-SDI Video)	720p, 1035i, 1080i, 1080p
(SD-SDI Video)	525/625Line	SMPTE424M	2.97/2.967 Gbps < 0.3 UI jitter
SMPTE292M	1.485/1.4835 Gbps < 0.2 UI jitter	(3G-SDI Video)	1080p 60/59.94

Control Methods

RS-232	D9 Female Connector	IP Interface	RJ45 Connector
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Dimensions

Size (H x W x D) mm	44 x 217 x 244	Weight (Net), including CPU, Kg	1.3
Size (H x W x D) inches	1.77 x 8.54 x 9.61	Weight (Net), including CPU, lbs	2.87

Environmental

Operating Temperature	0-40 °C (32-104 °F)	Storage Temperature	-10-70 °C (14-158 °F)
Operating Humidity	10% to 85%, non-condensing	Storage Humidity	10% to 85%, non-condensing
MTBF	Approximately 50,000 hours	BTU	205 BTU/hr

Power

External Power Supply	110-240 V, auto-detecting	Consumption	60 W maximum (fully populated chassis)
Redundancy	not available		

Dual stream input module specifications

Dual stream input module

Modules available	CORIOmaster™: up to 5 CORIOmaster mini™: up to 2 CORIOmaster micro™: up to 2	Color Depth	4:2:0, 4:2:2
Interface	1x GbE Ethernet port per module	Supported IP Resolutions	Configurable to 1920x1080p @60 Hz
IP Video Decoding	H.264 (CBP, Main, High), H.265/HEVC1 (Main)	Unicast Streams	RTSP, RTMP, HTTP, MPEG-TS
IP Bit Rates	2x streams per module, up to 25 Mbs per stream	Multicast Streams	RTSP, MPEG-TS

Media/Images

Interfaces	1x USB 3.0, internal storage, network per module	Multimedia container formats	.mp4, .mov, .mkv, .m4v, .ts, .mts, .m2ts, .mt2
Video Codecs	H.264 (CBP, Main, High), H.265/HEVC1 (Main)	Playback Bit Rates	Single stream to 100 Mbs (per module), Dual Streams to 40 Mbs (per module)

Audio

Audio formats	.mp3, .aac
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File Playback Resolutions Supported

Up to 4096x2160 @30 Hz	1 per module	Up to 1080p60 @60 Hz	2 per module
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Media Handling

External	1x USB 3.0 interface per module	Internal	High speed storage at 16 or 128 GB per module
Supported devices	Flash file systems FAT, FAT32, ext3, ext4, NTFS	Remote	File transfer supported

Still image support

Up to 7680x4320	Rendered to 4K	Supported file types	JPEG, PNG, BMP
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Encoder-100 specifications

Encoder

Video Input:	HDMI w/ L-PCM audio	Audio Support:	L-PCM audio via HDMI
Resolutions:	■ up to 1920x1080p60 ■ 1920x1200	Audio Line-In:	3.5 mm analog stereo audio
Video Output (loop out):	HDMI w/ L-PCM audio,	Audio Line-Out (loop out):	3.5 mm analog stereo audio
Preview mode:	w/ optional scaling; HDMI™ and VGA	Network Connector:	RJ45
Bit Rates:	100 Kbps to 20 Mbps	Compression Standard:	H.264/Mpeg4 Part 10 (AVC)
Channels:	1		

Dimensions

Size (H x W x D) mm	30 x 220 x 107	Weight (Net), Kg	0.75
Size (H x W x D) inches	1.2 x 8.7 x 4.2	Weight (Net), lbs	1.65

Environmental

Operating Temperature	0-45 °C (32-113 °F)	Storage Temperature	-40-55 °C (-40-131 °F)
Operating Humidity	20% to 80%, non-condensing	Storage Humidity	5% to 95%, non-condensing
MTBF	Approximately 1,118,000 hours at 40 °C		

Power

Power in	100-240 V AC	Power connector	15 W DIN4 locking power connector
Power out	5 V DC		

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11.8 *Right to Update Terms*. Licensor may update the terms of the Agreement without prior notice to you in order to, among other things, reflect changes in laws, regulations, rules, technology, industry practices, patterns of system use, and availability of content.

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Contact us

If you have any questions about this Agreement, or want to contact Licensor for any reason, please direct all correspondence to:

tvONE Limited Legal Department

621 Wilmer Avenue

Cincinnati

OH 45226

For customer support please contact:

tech.usa@tvone.com or tech.europe@tvone.com

Regulatory compliance for CORIOmaster™, CORIOmaster mini™, CORIOmaster micro™, Encoder-100, and all modules

This product has been tested for compliance with appropriate FCC and CE rules and regulations. The power adapter and supply has been tested for compliance with appropriate UL, CUL, CE, PSE, GS, rules, regulations and/or guidelines. This product and its power adapter is RoHS compliant.

WEEE directive



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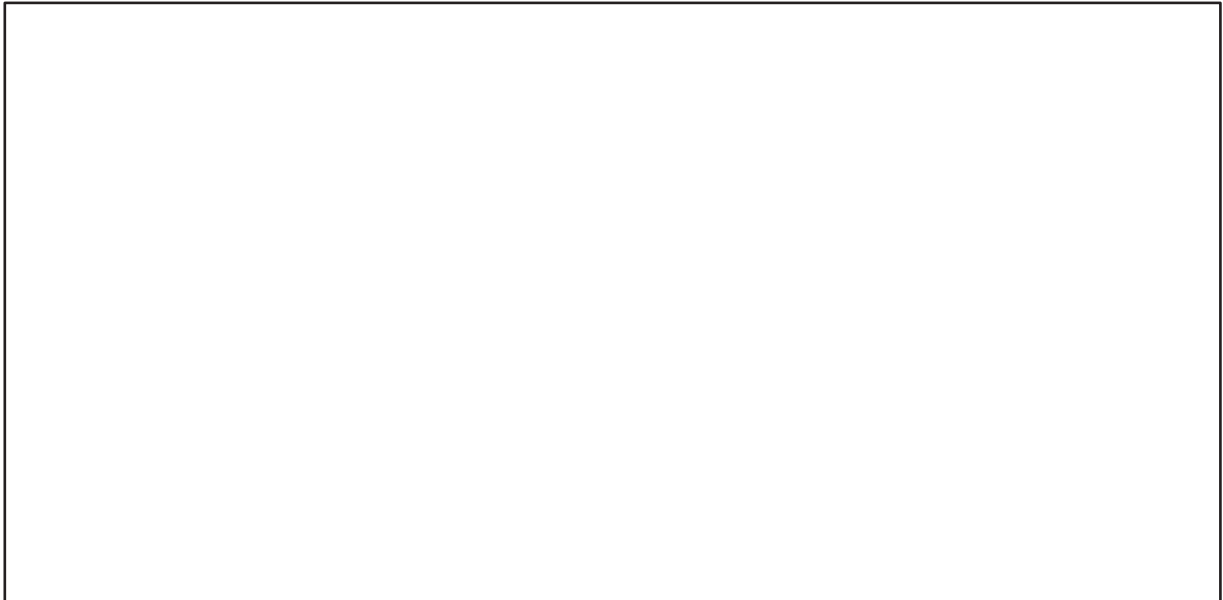
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Video Wall Worksheet

A large, empty rectangular box with a thin black border, intended for the user to draw a picture showing what kind of wall they have in mind, including displays and video windows.

What is my display layout? In the space above, draw a picture showing what kind of wall you have in mind. Show both the displays you have in mind as well as the video windows that you would like to show.

What am I trying to accomplish with this video wall? _____

What are the sizes of the displays? _____

How many displays or outputs are needed? _____

How many monitors are needed? _____

How many projectors are needed? _____

How many LED walls are needed? _____

Is edge blending required? _____

What is the blending overlap size? _____

What are the bezel sizes for the monitors? _____

What are the native resolutions of the displays? _____

How many source signals or inputs are required?

What are the source signal types? _____

What are the source resolutions? _____

What are the frame rates of the inputs?

Will the signal feeds be available at all times that the video wall is in operation? _____

Is there any switching or processing before the signal enters the video wall processor? _____

How many windows will be required for the video wall? Include all windows even windows that are not active at all times. _____

What level of quality is required for each window? Not all windows can have the highest quality in most cases. _____

Are presets (video switching, source transitions, window movement) required for the video wall?

What type of control system will operating the wall, if any? _____

In the spaces below, draw your preset destinations with window and transition attributes noted.