Matrox<sup>®</sup> Extio<sup>™</sup> Central Manager
User Guide

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# 1 Matrox Extio Central Manager software



Matrox Extio Central Manager software enables you to remotely manage, monitor, and configure your networked Extio 3 devices.



Note: This guide describes all Matrox Extio Central Manager features and controls. However, the support and availability of some of the Matrox features and controls detailed in this document depends on your product and software version.

### 1.1 Before you begin

To get the most out of your product:

- Make sure you connect your product before configuring Extio Central Manager software. For more information on the connection setup of your product, see the user guide for your Matrox hardware.
- Whenever you change your connection setup, make sure you're using the correct connectors and that all connectors are properly fastened. Also, don't change connections while your Extio transmitter and receiver are turned on.
- You may need administrator rights to install or uninstall certain software. For more information, see Windows documentation or contact your system administrator.
- To assign an initial IP address to your devices, a DHCP (Dynamic Host Configuration Protocol) server is required.
- Windows Server 2016 and Windows Server 2008 R2 Make sure the SSDP Discovery service, network discovery, and file sharing options are enabled.

#### 1.1.1 Software versions and mismatches

- Make sure all of your Extio 3 transmitter and receiver devices are using the latest version of the Matrox Extio 3 firmware. Also, all Extio 3 devices must use the *same version* of the firmware package.
- The version of your firmware package must match the version of your Extio Central Manager software package. If a mismatch is detected, a warning (⚠) icon appears on the device tile.

For more information on updating your firmware package, see your Matrox Extio 3 Series User Guide.

### 1.1.2 Supported operating systems

Matrox Extio Central Manager supports the following operating systems:

- Windows® Server® 2016
- Windows® 10 (64-bit)
- Windows® Server® 2008 R2
- Windows® 7

### 1.1.3 Supported Matrox hardware

Matrox Extio Central Manager supports the following Matrox hardware:

- Extio N3408 transmitter card
- Extio N3408 transmitter unit
- Extio N3408 receiver unit
- Extio N3208 transmitter card
- Extio N3208 transmitter unit
- Extio N3208 receiver unit

### 1.1.4 Obtaining Matrox Extio Central Manager

Matrox makes the latest Extio Central Manager software available on the Matrox web site (www.matrox.com/graphics/extio3sw).

## 1.2 Installing your software

To install the software for your Extio 3 product, run the installation program for your software package on any system on the network. Follow the on-screen instructions.



Note: Only one (1) instance of Extio Central Manager software needs to be installed.

# 1.3 Accessing Matrox Extio Central Manager

Windows 10/7 – To access the main interface of Extio Central Manager:

- Windows 10 Click Start → All apps\* → Matrox Extio Central Manager\* → Matrox Extio Central Manager. (\* Depending on your configuration of Windows, this part may not be necessary.)
- Windows 7 Click Start → All Programs (or Programs) → Matrox Extio Central Manager\* → Matrox Extio Central Manager. (\* Depending on your version and configuration of Windows, this part may not be necessary.)

#### 1.4 More information

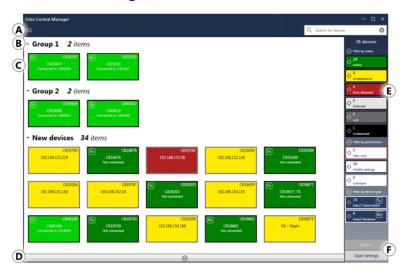
This guide assumes your Matrox product is properly connected. For more information on the connection setup of your product, see the user guide for your Matrox hardware.

Be sure to check for any last-minute release notes included with your product. Also, check the Matrox web site (<a href="www.matrox.com/graphics">www.matrox.com/graphics</a>) for the latest Matrox software, technical support, and product information.

# 2 Getting started

This section describes the main interface, main menu, and basic functions of Matrox Extio Central Manager software.

# 2.1 Extio Central Manager main interface



A	Main menu	The Extio Central Manager main menu contains options for managing users and passwords. For more information, see "2.2 - Extio Central Manager main menu", page 9.
В	Device groups	Your Extio 3 devices are depicted as colored tiles and sorted into groups. For more information, see "2.4 - Understanding your Extio devices", page 11.
С	Device tiles	Your Extio 3 devices are depicted as colored tiles. For more information, see "2.4 - Understanding your Extio devices", page 11.
D	Information dashboard	The dashboard provides information for a device (such as the device type, serial number, firmware version, name, IP address, date, time, and status). For more information, see "2.5 - Opening the information dashboard", page 13.

E	Device filtering	The devices are filtered by status, user privileges, and type. You can also choose to show more or less information on your device tiles. For more information, see "2.4.3 - Filtering your device tiles", page 12.
F	Basic functions	These buttons provide the basic functions for Extio Central Manager software. For more information, see "2.3 - Extio Central Manager basic functions", page 10.

# 2.2 Extio Central Manager main menu

The main menu of Extio Central Manager contains the following options.

Log in / Log out	Log into your Extio 3 device by entering the user type (local user or domain user), user name, and password for your Extio 3 device.
Manual device discovery	Extio Central Manager automatically detects the devices in your subnet. If devices aren't automatically detected, you can manually add these devices. For more information, see "5 - Discovering devices manually", page 20.
Connection broker	Allow connections between your Extio transmitter and receiver devices. For more information, see "6 - Using the connection broker", page 21.
Change password	Change the password for your Extio 3 Series products. For more information, see "4.3.2.1 - Changing your device password (local users only)", page 19.
Manage users	Manage the users for your Extio 3 Series products. For more information, see "7 - Managing users", page 23.
About	Provides information specific to your Extio Central Manager software (such as the version).

### 2.2.1 Extio Central Manager shortcut menu

To access the shortcut menu, right-click your device tile. The menu items available will vary depending on your product and setup. The menu items include:

Reboot	Click this to reboot your device. This keeps all of your device settings, including the IP address and password. After rebooting your device, allowed connections are restored.
Multi-device settings	Select multiple receiver device tiles ( ), then click this to see the settings for those devices. To modify your settings, enable <b>Modify settings</b> .
Attempt wake	Click this to wake up your transmitter which is asleep.
Open settings	Click this to see the settings for your device. This opens the last page accessed.
Remove lost devices	Click this to remove a device that's listed as <b>Lost</b> (dark grey) or <b>Undetected</b> (black).
Move to group	To create a new tile group, right-click a tile, select <b>Move to group</b> → <b>Create a new device group</b> , then enter a new <b>Name</b> . The tile used to create the new group moves to that new group. For more information, see "2.4.1 - Device groups", page 11.

# 2.3 Extio Central Manager basic functions

The following buttons provide basic functions for managing your Extio Central Manager software.

Reboot	Click this to reboot your device. This keeps all of your device settings, including the IP address and password.
Apply / Cancel	Click <b>Apply</b> for your changes to take effect. Click <b>Cancel</b> to discard any changes that weren't applied.
Back	Click this to return to the main interface.
Open settings	Select a device tile, then click this to see the settings for that device. This opens the last page accessed.
Multi-device settings	Select multiple receiver device tiles (  ), then click this to see the settings for those devices.
Undo changes	Click this to undo your last changes.

# 2.4 Understanding your Extio devices

In Extio Central Manager, the Extio 3 devices are depicted as colored tiles and sorted into groups. To understand the status of your devices, see "2.6 - Understanding the status of your devices", page 13.

- Group 1 2 items



- Group 2 2 items



 New devices 34 items



### 2.4.1 Device groups

When Extio Central Manager is started for the first time, or whenever a new device is detected, the device or devices are added to the **New devices** group. These devices can then be sorted into *groups*.

#### Managing your device groups

- To collapse or expand the tile list under a group, click the arrow (  $\bigcirc$  /  $\bigcirc$  ).
- To create a new tile group, right-click a tile, select Move to group → Create a new device group, then enter a new Name. The tile used to create the new group moves to that new group.
- To reorder your groups, right-click next to the group name, then select a location for that group in the group list.
- To rename a group, double-click the group name, then enter a new name for the group.
- To undo a group, drag the tiles out of that group and into a blank area.

#### 2.4.2 Device tiles

The tile provides the following information about your



A	Device type identified by icon:  Extio 3 transmitter device.  Extio 3 receiver device.
В	Device serial number.
С	Device name, device serial number, or IP address, depending on the status of the Extio 3 device. It also indicates if the device is <b>Connected to</b> a device (and the name of the connected device or user name) or <b>Not connected</b> to a device.
D	Device status (tile color and border color). For more information, see "2.6 - Understanding the status of your devices", page 13.



Note: The version of your firmware package must match the version of your Extio Central Manager software package. If a mismatch is detected, a warning (1) icon appears on the device tile. For more information, see "1.1.1 - Software versions and mismatches", page 5.

#### Managing your device tiles

- To reorder your tiles, drag a tile to a new location.
- To move a tile to a different group, drag the tile to a new group. You can also right-click the tile, and select a group.
- To access the settings of a device, select a device, then click **Open settings**.
- To rename a device, click **Open settings**, then enter a new **Name** for that device.
- To delete a device that's lost or undetected, click the **Delete** ( **S** ) icon. You can also right-click the tile, and click Remove lost devices.

### 2.4.3 Filtering your device tiles

You can filter your devices by status, privileges, and device type. The number at the top indicates the total number of devices. The number in the colored tiles indicate the number of devices with that status.



To filter your devices, click the appropriate tile. You can select multiple tiles to view devices with a different status. While filtering is in effect, at least one tile is highlighted.

### 2.4.3.1 Showing details

Click this to determine how much information to show on the device tile in the Extio Central Manager main interface.

To show only the device name (except when the device is selected or when hovering over it with your mouse), click Show less details. To show all device information (including the device name, serial number, and status), click Show more details.

### 2.5 Opening the information dashboard

To see the current status and information of a device, select the device, then click the ( ) at the bottom of the Extio Central Manager main interface. This opens an information dashboard.



The dashboard provides the **Details** (such as the device type and software information, telemetry, detected monitors, and inputs) of a device and streaming Statistics for each monitor connected to that device.

### 2.6 Understanding the status of your devices

Depending on the status of a device, the color of the tile changes:

Active (Green)	Device is active and working properly. It also indicates if the device is <b>Not connected</b> to a device.
Connected (Bright green)	Connection between a transmitter device and receiver device is allowed. It also indicates if the device is <b>Connected to</b> a device and the name of the device it's connected to. For more information on allowing a connection between devices, see "6 - Using the connection broker", page 21.
Unresponsive (Yellow)	Device is unresponsive.

Error detected (Red)	Device has encountered an error. The status and information of the device can't be updated by Extio Central Manager. To fix this, try rebooting your device.
Detected (Light grey)	Device is present on the network but not initialized. When a device is present on the network, the IP address appears on the tile.
Lost (Dark grey)	Device was once detected, but can no longer be detected by Extio Central Manager. When a device is no longer detected, the tile lists the last known IP address of that device.  Transmitter only – If your transmitter is Lost, and you can't reboot your device, your device may be asleep. To wake up your transmitter, right-click your device tile, then click Attempt wake.
Undetected (Black)	Device can't be detected by Extio Central Manager. When a device is no longer detected, the tile lists the last known IP address of that device.  To remove the tile of a device that's no longer needed, select the tile and click the <b>Delete</b> ( ) icon.

## 2.6.1 User access privileges

Depending on the user access privileges of a device, the color of the tile border changes.

View only (Red border)	Device can be accessed, and the settings of the device can be viewed but not modified. To modify the settings, you need a valid password and user name. Extio 3 Series devices must be configured with your user name and password.
No device administrator (Red dotted border)	Device can be accessed, and the settings of the device can be viewed, but not modified. To modify the settings, you need to take ownership of that device. For more information, see " - Take ownership of a device", page 16.
Unknown (Grey border)	Device can be accessed but no password was created. You're prompted for a password when you click <b>Apply</b> . Once a password is provided, the status becomes <b>View only</b> .
Modify settings (Black border)	Device can be accessed and the settings can be modified. A valid password is provided.

# **Setup overview**

The following section explains the basic steps needed to set up your Extio Central Manager software and devices.

### 3.1 Before you begin

- Before configuring Extio Central Manager software, make sure you connect your product and that all of your Extio 3 devices are turned on and have power. For more information on the connection setup of your product, see your Extio 3 Series User Guide.
- Make sure all of your Extio 3 transmitter and receiver devices are using the latest version of the Matrox Extio 3 firmware. Also, all Extio 3 devices on an Extio 3 network must use the same version of the firmware package. The version of your firmware package must match the version of your Extio Central Manager software package.
- Make sure latest version of Matrox Extio Central Manager software is installed on a separate system. For more information, see "1 - Matrox Extio Central Manager software", page 5.
- Make sure all of your Extio 3 devices are detected and listed in the main interface. For more information, see "5 - Discovering devices manually", page 20.

### 3.2 Basic setup

To set up your Extio 3 device:

### Log into Extio Central Manager

To modify the settings of your Extio 3 device, you need to log into Extio Central Manager. To log into Extio Central Manager:

- From the Extio Central Manager main menu, click **Log in**.
- Specify if you're a Local user or a Domain user:
  - Local user Enter your user name and password.
  - Domain user Enter your user name, the domain name of the server, and your network password.
- **c** When you're done, click **Apply**.

For more information, see "4 - Logging in and out", page 18.

#### 2 Take ownership of a device

If the status of a device is **No device administrator**, you need to **Take ownership** of that device:

- From the main interface, select the Extio 3 devices you want to manage (these devices must be without an administrator). Click the **Take ownership** (2) icon in the upper right corner of a device tile, then click Yes.
- **b** To see only these devices in the **Connection broker**, move them to one or more groups.

For more information, see "7 - Managing users", page 23.

#### Allow device connections

- a From the main menu, select Connection broker.
- **b** Make sure all of your Extio 3 devices are detected and listed in the main interface. For more information, see "5 - Discovering devices manually", page 20.
- **c** If you created a group for your Extio devices, click **Filter by group**, select the group, then click Close.
- **d** Click the (♦) icon to allow the connection between your Extio transmitter and receiver devices.
- e Click Apply.

For more information, see "6 - Using the connection broker", page 21.

#### Manage your users

- **a** From the main menu, select **Manage users**.
- **b** Click Add user, then enter a user name. Specify if it's a Local user or a Domain user.
- **c** When you're done, click **OK**.
- **d** Click the **Add** (⊕) icon for each device you want to add a user to. Adding a user to a device enables the user to log into a receiver and connect to a transmitter. To allow the connection to a transmitter, the connection must also be allowed in the Connection **broker** (see "6.2 - Allowing a connection between devices", page 21).

To view the users and connections allowed for a device, select that device next to **Display** users for when assigning privileges.

- **e** Repeat step b to step d for each user you want to add.
- **f** When you're done, click **Apply**. This creates a **Local users summary** and generates a device password for each local user.

To copy the summary to the clipboard, click **Copy to clipboard** ( $\Box$ ).

To close the dialog box, click **OK**.

For more information, see "7 - Managing users", page 23.

## 3.3 Using Quick Setup

Use the Quick Setup checklist to quickly configure your Extio software and devices.



To use the quick setup:

- 1 Quick setup launches automatically the first time you open Extio Central Manager software. You can also access the quick setup checklist from the main menu of Extio Central Manager by selecting Quick setup.
- 2 Make sure all of your Extio 3 devices are detected and listed in the main interface. For more information, see "5 - Discovering devices manually", page 20.
- 3 Once all of your devices are detected, start the setup by clicking **Show** next to the first item in the list. Once that item is configured, a black checkmark appears ( ).
- **4** Repeat step 3 for each item in the list.

# 4 Logging in and out

# 4.1 Logging into Extio Central Manager

To modify the settings of your Extio 3 device, you need to log into Extio Central Manager. To log into Extio Central Manager:

- 1 From the Extio Central Manager main menu, click **Log in**.
- 2 Specify if you're a Local user or a Domain user:
  - Local user Enter your user name and password.
  - Domain user Enter your user name, the domain name of the server, and your network password.
- **3** When you're done, click **Apply**.

For more information, see "4.3 - User access", page 18.

### 4.2 Logging out of Extio Central Manager

To log out, click **Log out** from the main menu of Extio Central Manager.

#### 4.3 User access

#### 4.3.1 Extio 3 administrator

The Extio 3 administrator:

- Creates device administrators for each Extio 3 device.
- Edits and manages user accounts ("Local users" and "Domain users"), and their privileges.
- Allows device connections between transmitters and receivers.

#### 4.3.2 Local users

Local users are defined by the Extio 3 administrator and managed through Extio Central Manager.

To obtain a local user name and device password for a local user (or if you've forgotten your user name or device password), contact your Extio 3 administrator. To change your current password, see "4.3.2.1 - Changing your device password (local users only)", page 19.

### 4.3.2.1 Changing your device password (local users only)

- Note: Don't change the password of a local user while a connection is enabled (for example, while a user is logged into the OSD). Changing a password while a connection is enabled will prevent a user from accessing and using the OSD.
- Note: Passwords are case-sensitive and must be at least 6 alphanumeric characters long.

If the status of a device is **View only**, you need to change the device password to match your current password. To update your current password, click Change password from the Extio Central Manager main menu.

To change the device password to match your current password, select the device tile and click the **Update password** (1) icon in the upper right corner of the device tile. Enter a valid device password, then click **OK**.

If the device password is successfully changed, the status of the device is updated to **Modify settings**. If the status of the device remains **View only**, contact the administrator of that device to change your user settings. For more information, see "2.6 - Understanding the status of your devices", page 13.

#### 4.3.3 Domain users

Domain users are defined by your network administrator and managed through an Active Directory® network. Extio software and hardware use Active Directory to authenticate the user name and password of domain users.

Extio Central Manager supports user groups. A domain user who's also part of a user group is granted the highest privilege available (as a user group member or as an individual user). For more information, contact your network administrator.

To obtain a user name and password for a domain user (or if you've forgotten your domain user name or password), contact your network administrator.

# **Discovering devices manually**

Extio Central Manager automatically detects new devices in the subnet. If devices aren't detected, Extio Central Manager can scan one or more specific IP addresses or a range of IP addresses for Extio 3 devices.

If Extio Central Manager doesn't automatically detect the devices, you can add them manually.

### 5.1 Scanning one or more IP addresses

- From the Extio Central Manager menu, select Manual Device Discovery.
- Select Scan a list of IP addresses.
- **3** Enter the IP address of the device you want to add, then click Add to list.
- When you're done, click **Scan list**.



If a new device is found at an IP address provided, that device is added to the **New devices** group.

### 5.2 Scanning a range of IP addresses

- 1 From the Extio Central Manager menu, select Manual Device Discovery.
- 2 Select Scan a range of IP addresses.
- **3** Enter the starting and ending IP addresses of the range you want to scan.
- **4** Enter the subnet mask to use when scanning for IP addresses. For more information on the subnet mask to use, contact your network administrator.



5 Click **Scan range**. If the starting or ending addresses are invalid, the **Scan range** button is disabled.

If a new device is found, that device is added to the **New devices** group.

#### **Using the connection broker** 6

The connection broker provides a grid view of your Extio 3 transmitter and receiver devices. Use the connection broker to allow connections between your Extio transmitter and receiver devices.



## 6.1 Understanding the icons

<b>~</b>	Connection between a transmitter and receiver is allowed.
	Devices are available, but a connection between a transmitter and receiver hasn't been allowed.
HID	Reserve USB HID (Human Interface Device). This enables you to reserve the USB port so that previously connected devices (keyboard or mouse) can connect more quickly. When this is reserved, the number of HID USB devices will be listed. The maximum number of USB reservations is 16.
HID	USB HID isn't reserved.
<b>√</b> 22	Shared connection with a guest is allowed.
9	Devices may be unresponsive, lost, or undetected.
!	Conflict between a transmitter and receiver is detected.
<b>*</b>	Fast switching between transmitters is enabled.
₿	Fast switching between transmitters isn't enabled.

### 6.2 Allowing a connection between devices

- From the main menu of Extio Central Manager, select Connection broker.
- 2 If you created a group for your Extio devices, click **Filter by group**, select the group, then click **Close** (see "6.3 - Filtering by group", page 22).
- **3** Click the (♦) icon to allow the connection between your Extio transmitter and receiver devices.
- When you're done, click **Apply** to apply your changes.

# **6.3 Filtering by group**

You can filter your devices by *group*. To filter your groups, select the groups you want to view, then click Close. To select all the groups, select Select all.

# **Managing users**

To be able to access and use a device, a user must be added to that device and given privileges.



### 7.1 Adding users

To add a user to a device:

- Click **Add user**, then enter a user name. Specify if you're adding a **Local user** or a **Domain**
- **2** When you're done, click **OK**.
- **3** Click the Add  $(\oplus)$  icon for each device you want to add a user to. Users can log into a receiver and connect to a transmitter. To be able to connect to a transmitter, that connection must also be allowed in the Connection broker (see "6.2 - Allowing a connection between devices", page 21).

When granting privileges, you can view only the users and the connections allowed for a device by selecting that device next to **Display users for**.

- **4** Repeat step 1 to step 3 for each user you want to add.
- 5 When you're done, click Apply. This creates a Summary of the local users created and generates a device password for each local user.

To copy the summary to the clipboard, click **Copy to clipboard** ( $\Box$ ).

**6** To close the dialog box, click **OK**.

### 7.2 Deleting users

To delete a user from a device:

- 1 Select the user you want to delete, then click **Delete user from device**.
- **2** When you're done, click **Apply**.

### 7.3 Overwriting a password (local users only)

To overwrite the password of a local user:

- 1 Select the user whose password you want to overwrite, then click **Overwrite password**.
- **2** Enter the new password, confirm the password entered, then click **Change**. (We recommend you take note of the new password.)
- **3** When you're done, click **Apply**.

### 7.4 Granting privileges

You can grant device **Administrator** ( ) or **User** ( ) privileges to a user.

If **Automatic login** ( ) is allowed for a device, this is also displayed (see "7.5 - Logging in automatically (local users only)", page 24).

## 7.5 Logging in automatically (local users only)

To automatically log a local user into the On-Screen Display (OSD), select the Automatic login permission.

#### **Extio 3 Transmitter (Tx) settings** 8

This enables you to view, configure, and manage the settings specific to an Extio 3 Transmitter (Tx) device.

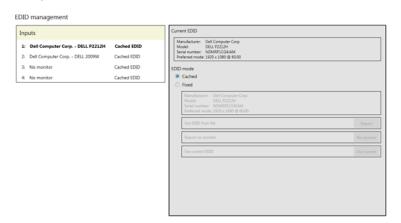
## 8.1 Sharing

Use this to select if and how to share your transmitter with a guest.

Guest connections	No guest allowed – Don't allow guest connections.     Guest allowed (without USB devices) – Allow guest connections. The first user connected to the system has control of keyboard and mouse. Guest connections can connect to the system, but don't have control of USB devices (no keyboard or mouse).     Guest allowed (with USB devices) – Allow guest connections. Guest connections have control of keyboard and mouse.
Show name of connected user	Show the name of the user who's connected to the device.
Show previews in OSD when a user is connected	Show a monitor preview in the On-Screen Display (OSD) when a user is connected to the selected receiver.

## **8.2 EDID**

EDID management features enable you to select which EDID settings are used by the input connectors on your Extio 3 transmitter device.



#### 8.2.1 Using a cached EDID

If a monitor is connected to an output connector on the receiver, your transmitter will use the EDID settings of that monitor.

If a monitor isn't connected to an output connector on the receiver (for example, if your monitor was disconnected), your transmitter uses the EDID settings of the monitor that was last connected to that output connector.

#### 8.2.2 Using a fixed EDID



**Note:** To avoid unwanted changes to the source system, we recommend using a fixed EDID on all transmitter inputs (including inputs not connected to the system).

If a monitor is connected to an output connector on the receiver, your transmitter uses the EDID settings of that monitor. If a monitor isn't connected to an output connector on the receiver, no EDID is applied.

You can use the EDID from a file or disable the EDID information.

## 8.3 Using the EDID from a file



Note: You must export your EDID settings before you can import them. For information, see "9.2.2.3 - Exporting EDID settings to a file", page 34.

- **1** From the list, select the monitor (output) you want to use.
- **2** Make sure the output is set to use a **Fixed** EDID.
- 3 Next to Use EDID from file, click Import.
- **4** Browse to the location where you saved your EDID file, and open your EDID file (.bin).
- **5** Click **Apply** for your changes to take effect.

### 8.3.0.1 Reporting no monitor

When using the following resolutions, make sure your transmitter reports only the monitor supported.

Resolution	Number of monitors supported
3840 × 2160 @ 60 Hz	1 (connector 4)
3840 × 2160 @ 30 Hz	2

1920 × 1200 @ 60 Hz	3
1920 × 1080 @ 60 Hz (or lower)	4

Your transmitter must report the other monitors as disconnected (no monitor). To configure your transmitter to report the monitors that are disconnected:

- From the list, select the monitor (output) that's not used by your transmitter. Make sure the output is set to use a **Fixed** EDID.
- 2 Next to Report no monitor, click No monitor.
- **3** Repeat steps 1 to 3 for each monitor (output) that's not used by your transmitter.
- **4** Click **Apply** for your changes to take effect.

#### 8.3.0.2 Using the current EDID

- From the list, select the monitor (output) whose EDID you want to use.
- **2** Make sure the output is set to use a **Fixed** EDID.
- 3 Next to Use current EDID, click Use current.
- **4** Click **Apply** for your changes to take effect.

### 8.4 Streaming

This contains the streaming and encryption settings for your device.

Encrypt A/V stream	Secure your stream. This option is enabled by default.
Encoding quality	Set the quality value for your encoding (Low, Typical, High, or Very high). The default is Typical.
Routing scheme	<ul> <li>Unicast – When selecting unicast, you can specify the destination IP address of the stream.</li> <li>Multicast – Enter the Multicast address of the stream. Using multicast may require additional network configuration to</li> </ul>
	support the transmission protocol (some network switches and routers can block multicast signals). This is the default. For more information, contact your network administrator.
Multicast address	If <b>Multicast</b> is selected, enter the <b>Multicast address</b> (for each port) of the stream.

#### Selecting a routing scheme

- Unicast Unicast establishes a direct connection between a transmitter and a receiver.
- Multicast A single stream is received by all the receivers connected to the same multicast address. When transmitting to multiple receivers, a transmitter that's properly configured for multicast transmission uses less bandwidth.

#### 8.4.1 Exporting your Extio stream addresses (for display wall)

To use your Extio product with a display wall product, you need to export your Matrox Extio stream addresses. This enables your display wall to connect to your Extio transmitter device.

To export your Extio stream addresses:

- 1 Click Export Extio stream addresses.
- **2** Browse to the location where you want to save your file.
- **3** When prompted, enter a **File name**, then click **Save**.

#### 8.5 Network

This contains the network settings (LAN 1 and LAN 2) for the connection and IP address of your device.



Note: When the IP address or the method of assigning an IP address to a device changes, you need to reboot the device for the changes to take effect.

### 8.5.1 Enabling link redundancy



Note: Before enabling this option, make sure your Extio 3 devices are on the same subnet and connected to a switch. If you're using multiple switches, your switches must be connected to each other. For more information on connecting your Extio 3 device, see "14 - Appendix A – Setting up link redundancy", page 51.

Enable the **Enable link redundancy** option to ensure network availability in case of network cable or switch failure. In the case of a network cable or switch failure, your device will automatically switch to a secondary network path. Depending on your network, switching may take up to 5 seconds.

This option must be enabled on both your transmitter and receiver devices.

#### 8.5.2 Dynamic IP addressing

By default, Dynamic IP address (DHCP) is used. Extio Central Manager automatically detects all the Extio 3 devices in the same subnet as your controller system through the UPnP (Universal Plug and Play) protocol.

### 8.5.3 Static IP addressing

Once Extio Central Manager has detected a device, you can manually assign a static IP address to your device through the **Network** settings of your Extio 3 product.

You must specify the following:

IPv4 address	An IP address between 192.168.0.0 and 192.168.255.255 (recommended). Also, we recommend you assign an IP address within the subnet of your network.
IPv4 netmask	The netmask defining group of IP addresses in your subnet. By default, the subnet mask is 255.255.255.0.
IPv4 gateway	The gateway is often the same as your IP address, but the last byte may be 0 or 1.
DNS servers	The address of your DNS (Domain Name System) server or servers. If multiple addresses are entered, separate each address with a space.

For more information on assigning a static IP address, contact your network administrator.

#### 8.6 Date and time

Use this to update the date, time, and time zone of your Extio 3 device. For more information, see "11 - Adjusting the date and time of your device", page 43.

# 8.7 More options



Note: Depending on your Matrox Extio 3 Series product, certain options may not be

	T
Power recovery policy	<ul> <li>Set up your Extio device to start up after a power loss.</li> <li>Never start – Never turn on your Extio device after a power loss.</li> <li>Always start – Always turn on your Extio device after a power loss.</li> <li>Restore last state – Always turn on and restore the last state of your Extio device after a power loss.</li> </ul>
Power button control	To prevent your device from being manually shut down, enable the <b>Disable shutdown</b> option.
Reboot control	To remotely force a reboot of your device if it stops responding, enable the <b>Enable force reboot</b> option.
Wake-on-LAN control	To remotely wake up an Extio device, enable the <b>Enable Wake-on-LAN</b> option.
Advanced display modes	Extio N3408 devices only – Enable the <b>Enable advanced display modes</b> option to support the following display modes:  • 1× 3840×2160@60Hz + 1× 1920×1080@60Hz  • 1× 3840×1440@60Hz + 1× 1920×1080@60Hz  • 4× 2560×1600@60Hz  • 4× 1920×1200@60Hz
Logs	Download device logs – Download the log files. This file contains information on your Extio devices. This information is used by Matrox Technical Support for debugging purposes.     Erase device logs – Erase the log files created for your Extio devices.
Audits	Download the audit file. This file contains information on the user interactions with your Extio devices. This information is used by your Extio administrator.

Troubleshooting	The following options are useful for troubleshooting your devices:  Audio – To disable the audio on your Extio 3 device, enable the Disable audio option. Your device will reboot for this change to take effect.  Debug configurations – Get help and troubleshooting information for your configuration. For more information, contact Matrox Technical Support.
Locate transmitter card	Transmitter card only – To see where your Extio 3 transmitter card is located, enable the <b>Enable LED to locate card</b> option. The card can be identified by a red LED light on the bracket of the card.

# **Extio 3 Receiver (Rx) settings**

This enables you to view, configure, and manage the settings specific to an Extio 3 receiver (Rx) device.

#### 9.1 Connection

This enables you to remotely connect a receiver to a transmitter, to disconnect a transmitter, and to switch connections.



#### 9.1.1 Connection status of the receiver

This shows the name and IP address of the transmitter device connected to the receiver. Depending on the connection settings of the transmitter, this may also show the name of the user connected to the transmitter device (see "8.1 - Sharing", page 25).

To stop this connection, click **Disconnect**.

### 9.1.2 Connection settings for the transmitter

This shows the transmitter devices that are avilable to be connected to the receiver, based on the connections specified in the connection broker.

For information on setting an allowed connection between a receiver device and a transmitter device, see "6 - Using the connection broker", page 21.

Switch	If you're <i>already</i> connected to a transmitter, select the transmitter you want to connect to, then click <b>Switch</b> .
Connect	If you're <i>not</i> connected to a transmitter, select the transmitter you want to connect to, then click <b>Connect</b> .

#### 9.1.2.1 Selected outputs

Select the monitors to use when connecting to a transmitter.

The outputs represent the physical connections on your transmitter. For example, to use a 4K resolution, disable outputs 1, 2, and 3, and select only output 4 (connector 4).

If you don't want to use an output, click that output. When the output is disabled, the monitor icon ( ) turns black ( ). A disabled output means that monitor won't be used when connecting to a transmitter.

### 9.2 Monitors

This lists the monitors currently connected to your transmitter device. This also enables you to export the EDID settings of your monitors to a file.

### 9.2.1 Monitor power saving

Enable Allow monitors to enter power saving mode to turn off the display after X minutes of inactivity. When you're done, click Apply.

#### 9.2.2 Monitor connections

#### 9.2.2.1 Optimizing video mode compatibility

Different monitor models can support different video parameters (such as resolutions, formats, or EDID). In a setup with multiple displays, the image quality or performance of different displays may vary. The Optimize video mode compatibility with monitors option can improve image quality of your displays and optimize monitor compatibility with your device. This option is enabled by default.

### 9.2.2.2 Aggregator mode: Behavior of unused monitors

Aggregator mode only - Select how to manage the monitors that are part of your layout but not in use (for example, if your monitor layout is made up of 4 monitors, but only 2 monitors are currently being used). You can choose to keep your unused monitors awake or force them into standby mode.

Put monitors in standby	Force all monitors not used in the monitor layout into standby mode.
Keep monitors awake	Keep all monitors not used in the monitor layout awake.

#### 9.2.2.3 Exporting EDID settings to a file

- 1 Choose the monitor whose EDID you want to export, then click **Export**.
- **2** Save your EDID file (.bin).
- When prompted, click **OK**.

For more information, see "8.2 - EDID", page 25.

#### 9.3 **USB**

USB device management options enable you to authorize and view which USB devices can connect to your Extio 3 receiver.



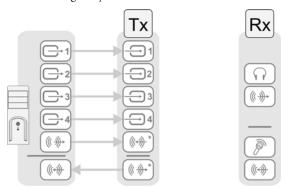
### 9.3.1 Authorizing USB devices

To authorize all HID (Human Interface Devices) USB devices, enable Authorize all HID USB devices. To authorize all non-HID USB devices, enable Authorize all non-HID USB devices.

A USB device that's authorized is identified as ( ). It also indicates if a USB device is currently Connected or Disconnected. You can manually block a USB device from being connected. To manually block a USB device, disable the option, then click the () icon next to the selected device. A device that's blocked is identified as  $(\bigcirc)$ .

### 9.4 Audio

This contains the audio settings for your device.



<sup>\*</sup> N3408 device with four video sources from system and unique transmitter connection shown. The Line In and Line Out connectors aren't present on Extio 3 transmitter cards.

### 9.4.1 Preventing changes through the OSD

Users can also configure audio settings through the on-screen display (OSD). To prevent this, enable Prevent the user from modifying the following audio settings using the OSD.

### 9.4.2 Configuring audio settings

Depending on your connection type (to a unique transmitter or to multiple transmitters), select your audio setting:

- **Headphone audio source** Select the audio source (for your headphone) from the transmitter.
- Line Out audio source Select the audio source (for your Line Out device) from the transmitter.
- Microphone or Line In audio source Select the input audio source (for your Microphone or Line In device ) from the receiver.

For more information on selecting the proper audio settings for your configuration, see "15 -Appendix B – Configuring your audio settings", page 53.

### 9.5 Transmitter discovery

This enables you to detect and connect to devices that are on multiple subnets, a WAN network, or a unicast-only network.

#### 9.5.1 Discovery status of transmitters

This shows the name and IP address of the transmitter device connected to the receiver.

#### 9.5.2 IP address to scan

Enter the IP address for the device you want to scan. When you're done, click **Add to list**  $\rightarrow$  **Apply**.

#### 9.5.3 Network to scan

Enter the CIDR (Classless Inter-Domain Routing) subnet mask for the network to scan. When you're done, click Add to list  $\rightarrow$  Apply.

#### 9.6 Network

This contains the network settings (LAN 1 and LAN 2) for the connection and IP address of your device.



Note: When the IP address or the method of assigning an IP address to a device changes, you need to reboot the device for the changes to take effect.

### 9.6.1 Enabling link redundancy



Note: Before enabling this option, make sure your Extio 3 devices are on the same subnet and connected to a switch. If you're using multiple switches, your switches must be connected to each other. For more information on connecting your Extio 3 device, see "14 - Appendix A – Setting up link redundancy", page 51.

Enable the **Enable link redundancy** option to ensure network availability in case of network cable or switch failure. In the case of a network cable or switch failure, your device will automatically switch to a secondary network path. Depending on your network, switching may take up to 5 seconds.

This option must be enabled on both your transmitter and receiver devices.

### 9.6.2 Dynamic IP addressing

By default, Dynamic IP address (DHCP) is used. Extio Central Manager automatically detects all the Extio 3 devices in the same subnet as your controller system through the UPnP (Universal Plug and Play) protocol.

## 9.6.3 Static IP addressing

Once Extio Central Manager has detected a device, you can manually assign a static IP address to your device through the **Network** settings of your Extio 3 product.

You must specify the following:

IPv4 address	An IP address between 192.168.0.0 and 192.168.255.255 (recommended). Also, we recommend you assign an IP address within the subnet of your network.	
IPv4 netmask	The netmask defining group of IP addresses in your subnet. By default, the subnet mask is 255.255.255.0.	
IPv4 gateway	The gateway is often the same as your IP address, but the last byte may be 0 or 1.	
DNS servers	The address of your DNS (Domain Name System) server or servers. If multiple addresses are entered, separate each address with a space.	

For more information on assigning a static IP address, contact your network administrator.

### 9.7 Date and time

Use this to update the date, time, and time zone of your Extio 3 device. For more information, see "11 - Adjusting the date and time of your device", page 43.

### 9.8 RS232

Enable this to virtualize an RS232 (or serial) connection.



### 9.8.1 Enabling RS232 virtualization

To enable RS232, enable the **Enable RS232** option, then click **Apply**.

### 9.8.2 Configuring your RS232 settings

Baud rate	The speed, in bits per seconds (or baud), used for the RS232 connection. The default is 115200.	
Data bits	The number of bits per block of data transmitted. The default is 8.	
Parity	The type of parity bits ( <b>None</b> , <b>Odd</b> , or <b>Even</b> ) used for the data transmitted. The default is <b>None</b> .	
Stop bits	The number of bits used to identify the end of a data block. The default is 1.	
Flow control	The signal type ( <b>None</b> or <b>RTS/CTS</b> ) used to pause and resume data transmission. The default is <b>None</b> .	

## 9.8.3 Aggregator mode: RS232 destination

Aggregator mode only – Choose the transmitter you want to control through RS232.

## 9.9 Keyboard shortcuts

Keyboard shortcuts provide a way to quickly switch to a transmitter by pressing a few keystrokes.



Note: A standalone key must be used with a modifier key (Alt, Shift, or Ctrl).

# 9.9.1 Accessing the on-screen display (OSD)

To assign a key combination for accessing the on-screen display (OSD):

1 Next to **Keyboard shortcut**, click the edit box.

- **2** Press a key combination (for example, [Ctrl]+[F10]).
- 3 Click Apply.

### 9.9.2 Aggregator mode: USB switching

Aggregator mode only – By default, you can use your mouse to switch between sources while using aggreagtor mode.

You can also use keyboard shortcuts to switch sources. By default, keyboard shortcuts for switching are assigned. To change a key combination for USB switching:

- 1 Next to Switch USB to Display X, click the edit box.
- 2 Press a key combination (for example, [Left Ctrl]+[Left Shift]+[F10]). Repeat this for each Display (for example, 1, 2, 3, 4) in your monitor layout.
- 3 Click Apply.

To use only the keyboard shortcuts (no mouse) to switch sources, enable Use only keyboard shortcuts for USB switching.

## 9.9.3 Switching transmitters

To assign a key combination for switching to a transmitter:

- **1** From the list of transmitters, select a transmitter.
  - Note: You can filter your devices by group. To filter your groups, select the groups you want to view, then click **Close**. To select all the groups, select **Select**
- 2 Next to the list of transmitters, click the edit box.
- **3** Press a key combination (for example, [Ctrl]+[F10]).
- 4 Click Apply.

### 9.9.4 Removing keyboard shortcuts

To remove a keyboard shortcut, click the **Delete** ( $\otimes$ ) icon. You can also click the edit box and press [Backspace] or [Delete].

# 9.10 More options



**Note:** Depending on your Matrox Extio 3 Series product, certain options may not be available.

Power recovery policy	Set up your Extio device to start up after a power loss.  Never start – Never turn on your Extio device after a power loss.  Always start – Always turn on your Extio device after a power loss.  Restore last state – Always turn on and restore the last state of your Extio device after a power loss.	
Power button control	To prevent your device from being manually shut down, enable the <b>Disable shutdown</b> option.	
Reboot control	To remotely force a reboot of your device if it stops responding, enable the <b>Enable force reboot</b> option.	
Wake-on-LAN control	To remotely wake up an Extio device, enable the <b>Enable Wake-on-LAN</b> option.	
OSD (on-screen display) control	<ul> <li>Wake-on-LAN option.</li> <li>Select the level of control a user has for managing information in the on-screen display (OSD):</li> <li>Full control – Allows a user to connect to or disconnect from a transmitter through the on-screen display (OSD) or keyboard shortcuts. Also, it allows a user to create or change layouts in aggregator mode.</li> <li>Full control, less details – Allows a user to connect to or disconnect from a transmitter through the on-screen display (OSD) or keyboard shortcuts. Also, it allows a user to change layouts in aggregator mode. Less details are provided in the OSD.</li> <li>No control – Gives a user no control in the on-screen display (OSD). Less details are provided in the OSD.</li> <li>If you want to hide the overlay messages but keep the monitor information in the top left-hand of the display, enable the Hide</li> </ul>	
Default OSD keyboard settings	Select the language of the <b>Keyboard</b> connected to your receiver. This sets the default keyboard language to use in the on-screen display (OSD).	

Logs	Download device logs – Download the log files. This file contains information on your Extio devices. This information is used by Matrox Technical Support for debugging purposes.     Erase device logs – Erase the log files created for your Extio devices.  If a receiver is connected to multiple transmitters, you can download the device logs of the receiver and all of its connected devices.	
Audits	Download the audit file. This file contains information on the user interactions with your Extio devices. This information is used by your Extio administrator.  If a receiver is connected to multiple transmitters, you can download the device logs of the receiver and all of its connected devices.	
Troubleshooting	The following options are useful for troubleshooting your devices:  • Audio – To disable the audio on your Extio 3 device, enable the Disable audio option. Your device will reboot for this change to take effect.  • Debug configurations – Get help and troubleshooting information for your configuration. For more information, contact Matrox Technical Support.	

# 10 Importing and exporting device settings

This enables you to back up (export) and restore (import) the settings specific to an Extio 3 transmitter or receiver.



## 10.1 Exporting



Note: You need to export your device settings *before* you can import them.

To export your device settings:

- Click Export settings.
- Browse to the location where you want to save the .backup device file.
- **3** When prompted, enter a **File name**, then click **Save**.

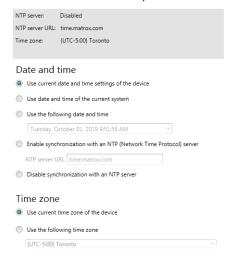
## 10.2 Importing

To import your device settings:

- Click Import settings.
- **2** Browse to the location where your device backup file file was saved.
- **3** Select the device file (.TX.backup for a transmitter or .RX.backup for a receiver) you want to import, then click Open.

# 11 Adjusting the date and time of your device

Use this to update the date, time, and time zone of your Extio 3 device.



The box at the top lists the current time settings. Extio Central Manager updates this information every two (2) seconds.



Note: After applying new settings, it may take some time for the changes to take effect.

## 11.1Setting the date and time

Select how to set the date and time for your device.

Use current date and time settings of the device	Keep the current date, time, and NTP (Network Time Protocol) synchronization settings for your devices. This is the default.	
Use date and time of the current system	Use the date and time of your controller system to update your devices. This setting uses the time zone of the controller system. If your controller system and your device are using different time zones, the date and time will differ. This setting disables synchronization with an NTP server.	
Use the following date and time	Use the date and time specified to update your devices. This setting doesn't use the time zone of your controller system. You can use the arrow keys to change the date and time specified. This setting disables synchronization with an NTP server.	

Enable synchronization with an NTP server	Use an NTP server to update the date and time for your device regular intervals. You must provide a server URL, even if one already stored on your device. For more information on using NTP, contact your network administrator.	
Disable synchronization with an NTP server	Stop using an NTP server to update the date and time for your device. Disabling NTP keeps the current date and time of the device, but it won't update the devices at regular intervals.	

# 11.2Setting the time zone

Select the time zone to use for your device. When using an NTP server, we recommend setting the time zone of your device.

Use current time zone of the device	Use the time zone currently set for your devices. This is the default.	
Use the following time zone	Change the time zone for your devices to the one selected. Changing the time zone may adjust the date and time for a device.	

# 12 Notes and limitations

### 12.1 General

■ Windows Server 2016 and Windows Server 2008 R2 – Make sure the SSDP Discovery service, network discovery, and file sharing are enabled.

### 12.2 Network

- When transmitting in multicast, we recommend using a router with multicast addressing support and switches with IGMP v2 support.
- Slow response from certain routers may cause a slow device detection in Extio Central Manager.
- Windows 10/7 If your controller system doesn't have access to a DNS (Domain Name System) server, or if response from its DNS server is slow, Extio Central Manager may take a long time to start up (several minutes). To avoid this delay, configure your controller system to use a fixed IP address (such as local host 127.0.0.1) as its DNS server.

## 12.3 Advanced display modes

■ The Advanced display modes feature is supported only on Extio N3408 devices. If Advanced display modes is enabled, and your Extio 3 Series setup is made of Extio N3408 devices and Extio N3208 devices, you may encounter limitations.

### 12.4 Date and time

 Extio Central Manager updates the date and time information of your device every two (2) seconds.

# 13 Troubleshooting

# 13.1What to do if you have a problem

If you experience problems with your Matrox product:

- Make sure you're using the correct connectors, and that all connectors are properly fastened. For more information on the connection setup of your product, see the user guide for your Matrox hardware.
- Review the documentation provided with your Matrox product, including the information in this section, to see if your problem is already addressed. For information on Matrox Extio 3 Central Manager software features and options, see the help file included with your Extio 3 Central Manager software.

If your problem persists, contact Matrox. For more information, see "17 - Customer support", page 60.

## 13.2Common problems and solutions

This section addresses common problems that could prevent you from using your devices.

#### Problem Extio Central Manager not starting or Extio device not discovered on the network

Cause Your Matrox product may not be properly connected or may be on a different subnet.

Solution Verify the connection and status LEDs on your Matrox product. Also, make sure your Matrox product is properly connected and that all connectors are properly fastened. For more information, see your Matrox Extio 3 Series User Guide.

Cause Windows Server 2016/2008 R2 only – The Windows SSDP Discovery service may be disabled on your system.

Solution Make sure the SSDP Discovery service is enabled on your system.

- 1 Windows Server 2016/2008 R2 From the Start screen, click All Programs → Administrative Tools → Services\*. (\* You may need administrator rights to access Windows services.)
- 2 Double-click SSDP Discovery.
- 3 Next to Startup type, select Manual or Automatic.
- Click OK.

Cause Network discovery and file sharing may not be enabled on your system.

Solution Enable network discovery and file sharing on your system.

Windows 10/7 -

1 Windows  $10 - \text{Click Start} \rightarrow \text{Settings} \rightarrow \text{Network & Internet} \rightarrow \text{Ethernet}$ .

Windows 7 – Click Start  $\rightarrow$  Settings\*  $\rightarrow$  Control Panel  $\rightarrow$  Network and Internet\*. (\* Depending on your version and configuration of Windows, this part of the step may not be necessary.)

- 2 Click Network and Sharing Center → Change advanced sharing settings. (\* Depending on your version and configuration of Windows, this part of the step may not be necessary.)
- **3** Under your current profile, make sure the following options are selected:
  - Turn on network discovery
  - Turn on file and printer sharing
- 4 If you make changes to your current profile settings, click Save changes.
- Cause You may not be using the latest version of Matrox Extio 3 Central Manager software, or your Matrox firmware may be out of date.
- Solution Make sure all Matrox software is up to date.
  - Cause The firewall for your controller system or for your network may be enabled and may prevent communication with your Extio devices.
- Solution Make sure your firewall is properly configured to allow the necessary communication between your controller system and your Extio devices. For more information, see "16 -Appendix B – Firewall requirements", page 56.

#### Problem Can't access Extio device through Extio 3 Central Manager (listed as 'View only')

Cause The device may be a recent addition to your environment and has no password.

Solution Try changing the password for that device (see "7 - Managing users", page 23).

Solution Contact your Extio 3 administrator to obtain your device password, then change the device password. For more information, see "7 - Managing users", page 23.

### Problem No picture or output at all

Cause Your monitor may not be properly connected (the connectors aren't properly fastened or the monitor power cable isn't firmly in place) or may have been disconnected.

Solution Make sure you're using the correct connectors, that all connectors are properly fastened, and that all power cables are firmly in place.

#### Problem Extio 3 Central Manager may be slow to start (several minutes)

Cause Your controller system may not have access to a DNS (Domain Name System) server.

Solution Configure your system to use a fixed IP address (such as local host – 127.0.0.1) as the DNS server.

Windows 10/7 -

- Windows  $10 \text{Click Start} \rightarrow \text{Settings} \rightarrow \text{Network & Internet} \rightarrow \text{Ethernet}$ . Windows 7 – Click Start  $\rightarrow$  Settings\*  $\rightarrow$  Control Panel  $\rightarrow$  Network and Internet\*  $\rightarrow$ **Network and Sharing Center.** (\* Depending on your version and configuration of Windows, this part of the step may not be necessary.)
- 2 Click Change adapter settings.
- 3 Double-click the icon for your network adapter (such as Local Area Connection or Ethernet).
- **4** Click **Properties** → **Yes**\*. (\* Depending on your version and configuration of Windows, this part of the step may not be necessary.)
- 5 Double-click Internet Protocol Version 4 (TCP/IPv4).
- 6 Select Use the following DNS server addresses.
- 7 Next to Preferred DNS server, enter 127.0.0.1.
- 8 Click  $OK \rightarrow OK \rightarrow Close$ .

#### Problem Extio 3 Central Manager stops responding

Cause Your Extio 3 Central Manager software or Extio 3 device may have encountered an error.

Solution Try closing, then restarting Matrox Extio 3 Central Manager software.

Solution Restart your controller system. **Problem** Extio 3 device tile is listed as unresponsive (yellow device tile)

Cause Your network may be slow, causing a delay in the response time from your Extio 3 device.

Solution Wait a few minutes, then make sure the status of the device was properly updated.

Cause Your Extio Central Manager software or device may have encountered an error.

Solution Try closing, then restarting Matrox Extio Central Manager software.

Solution If your device status is still listed as initializing, click **Reboot** to reboot your device.

Solution Try a configuration reset of your device. For more information, see your Matrox Extio 3

Series User Guide.

Problem Poor image quality or display flickering occurs

(skipping or dropping frames)

Cause High network traffic may be degrading the quality of your stream.

Solution Make sure your network equipment supports the bandwidth required.

**Problem** No sound or sound is distorted

Cause The audio source connector on your device may be disabled.

Solution Enable your audio source. For more information, see "9.4 - Audio", page 35.

Cause Audio cables may be loose, or the audio output device may not be properly connected.

Solution Make sure you're using the correct connectors, all connectors are properly fastened, and that

all power cables are firmly in place. For more information, see your Extio 3 Series User Guide.

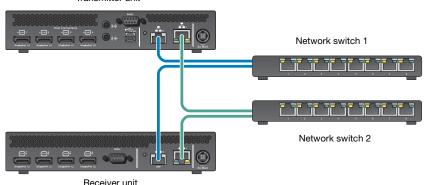
# 14 Appendix A - Setting up link redundancy

Link redundancy ensures your Extio 3 devices continue to work in case of a network cable or switch failure.

## 14.1 Connection setup guidelines

The following provides a basic outline for how to connect your Extio 3 transmitter and receiver to support link redundancy.





- Note: Link redundancy is supported only on the following hardware: Extio N3408 transmitter units, N3208 transmitter units, N3408 receiver units, and N3208 receiver units. Extio N3408 and N3208 transmitter cards aren't supported.
- Note: For information on setting up your network infrastructure and configuring your network switch, contact your network administrator.
  - Make sure your Extio 3 units are all on the same subnet.
  - Connect each Extio 3 transmitter and receiver unit to a managed network switch pair. Make sure to connect **LAN1** to network switch 1 and connect **LAN2** to network switch 2.
  - Make sure the **LAN1** and **LAN2** connectors are connected before enabling the **Link** redundancy feature.

## **Enabling link redundancy**

To enable link redundancy:

- 1 Connect the second network cable to your device (see "Connecting your Extio 3 devices", page 16).
- **2** Enable the **Enable link redundancy** option in your Matrox software:
  - Networked mode In Extio Central Manager software, select your Extio device, click Network, and then enable the Enable link redundancy option. For more information, see your Matrox Extio Central Manager User Guide.
  - Point-to-point mode In the OSD, click More options, and then enable the Enable link redundancy option (see "Input and output information", page 50).
- For the changes to take effect, your devices will automatically reboot.

## **Disabling link redundancy**

To disable link redundancy:

- Disconnect the second network cable (see "Connecting your Extio 3 devices", page 16).
- Make sure your devices are detected on the network.
- Disable the **Enable link redundancy** option in your Matrox software:
  - Networked mode In Extio Central Manager software, select your Extio device, click **Network**, and then disable the **Enable link redundancy** option. For more information, see your Matrox Extio Central Manager User Guide.
  - Point-to-point mode In the OSD, click More options, and then disable the Enable link redundancy option. For more information, see "Input and output information", page 50.

# 15 Appendix B - Configuring your audio settings



 $\textbf{Note:} \ We \ recommend \ you \ review \ your \ system's \ Windows @ \ audio \ settings \ to \ know \ which \ DisplayPort$ output is configured to use audio.

# 15.1 Receiver output

Audio source from	Standard mode	Aggregator mode	
transmitter	When receiver connects to a unique transmitter unit	When receiver connects to multiple transmitter units	
No audio	No audio available on the receiver output.	No audio available on the receiver output.	
Digital audio 1*	Audio originates from the audio portion of the A/V signal of <b>DisplayPort</b> 1 on the transmitter unit.	Audio originates from the digital A/V signal displayed on <b>monitor 1</b> of the receiver.	
Digital audio 2*	Audio originates from the audio portion of the A/V signal of <b>DisplayPort 2</b> on the transmitter unit.	Audio originates from the digital A/V signal displayed on <b>monitor 2</b> of the receiver.	
Digital audio 3*	Audio originates from the audio portion of the A/V signal of <b>DisplayPort 3</b> on the transmitter unit.	Audio originates from the digital A/V signal displayed on <b>monitor 3</b> of the receiver.	
Digital audio 4*	Audio originates from the audio portion of the A/V signal of <b>DisplayPort</b> 4 on the transmitter unit.	Audio originates from the digital A/V signal displayed on <b>monitor 4</b> of the receiver.	
Analog audio (Follows USB)†	Audio originates from the <b>Line In</b> connector of the transmitter.	Audio originates from the <b>Line In</b> connector of the transmitter unit where the keyboard and mouse are active.	
Analog audio, Line In 1	Audio originates from the <b>Line In</b> connector of the transmitter.	Audio originates from the Line In connector of the transmitter unit providing the video stream for monitor 1 on the receiver unit.	
Analog audio, Line In 2	Audio originates from the <b>Line In</b> connector of the transmitter.	Audio originates from the Line In connector of the transmitter unit providing the video stream for monitor 2 on the receiver unit.	

Analog audio, Line In 3	Audio originates from the <b>Line In</b> connector of the transmitter.	Audio originates from the Line In connector of the transmitter unit providing the video stream for monitor 3 on the receiver unit.
Analog audio, Line In 4	Audio originates from the <b>Line In</b> connector of the transmitter.	Audio originates from the <b>Line In</b> connector of the transmitter unit providing the video stream for <b>monitor 4</b> on the receiver unit.

In aggregator mode, the AV signal may come from a transmitter input other than the monitor on which it's displayed (for example, monitor 1 shows a stream that comes from input 3 of a transmitter).

# **15.2 Receiver input**

Audio source from	Standard mode	Aggregator mode	
receiver	When receiver connects to a unique transmitter unit	When receiver connects to multiple transmitter units	
No audio	No audio available on the <b>Line Out</b> connector of the transmitter.	No audio available on any of the <b>Line Out</b> connectors of the transmitter.	
Microphone	Audio from the <b>Microphone</b> connector of the receiver unit is sent to the <b>Line Out</b> connector of the transmitter unit.	The <b>Microphone</b> signal from the receiver unit is sent to a transmitter following the destination option chosen (see "Receiver audio destination").	
Line In	Audio from the <b>Line In</b> connector of the receiver unit is sent to the <b>Line Out</b> connector of the transmitter unit.	The <b>Line In</b> signal from the receiver unit is sent to a transmitter following the destination option chosen (see "Receiver audio destination").	
Automatic detection	Audio from the Microphone connector of the receiver unit is sent to the Line Out connector of the transmitter unit. If no cable is present on the Microphone connector of the receiver unit, but a cable is present on the Line Out connector, the signal of the Line Out connector is sent to the Line Out connector of the transmitter unit.	Audio from the <b>Microphone</b> connector of the receiver unit is used. If no cable is present on the <b>Microphone</b> connector of the receiver unit, but a cable is present on the <b>Line In</b> connector, the signal of the <b>Line In</b> connector is used. The signal is then sent to a transmitter following the destination option chosen (see "Receiver audio destination").	

<sup>†</sup> In aggregator mode, the audio source switches from one transmitter to another when the mouse moves to a monitor showing an image from a different transmitter.

# 15.3 Receiver audio destination

Receiver audio	Standard mode	Aggregator mode	
destination	When receiver connects to a unique transmitter unit	When receiver connects to multiple transmitter units	
Monitor 1	Audio from the selected audio source of the receiver ( <b>Microphone</b> or <b>Line In</b> ) is sent to the <b>Line Out</b> connector of the transmitter.	Audio from the selected audio source of the receiver (Microphone or Line In) is sent to the Line Out connector of the transmitter unit that provides the video stream to monitor 1.	
Monitor 2	Audio from the selected audio source of the receiver (Microphone or Line In) is sent to the Line Out connector of the transmitter.	Audio from the selected audio source of the receiver (Microphone or Line In) is sent to the Line Out connector of the transmitter unit that provides the video stream to monitor 2.	
Monitor 3	Audio from the selected audio source of the receiver (Microphone or Line In) is sent to the Line Out connector of the transmitter.	Audio from the selected audio source of the receiver (Microphone or Line In) is sent to the Line Out connector of the transmitter unit that provides the video stream to monitor 3.	
Monitor 4	Audio from the selected audio source of the receiver (Microphone or Line In) is sent to the Line Out connector of the transmitter.	Audio from the selected audio source of the receiver (Microphone or Line In) is sent to the Line Out connector of the transmitter unit that provides the video stream to monitor 4.	

# 16 Appendix B - Firewall requirements

The following are the firewall requirements for your Extio 3 device.

# **16.1 Extio Central Manager software**

The following are the firewall requirements for your controller system.

Network Port	Type	Inbound	Outbound	Functionality
53	TCP	_	✓	DNS: DNS requests
443*	TCP	_	✓	HTTPS: Central Manager commands
1900 <sup>*</sup>	UDP	✓	✓	<b>UPnP</b> : Microsoft SSDP for discovery of UPnP devices
				Note: ICMP must be enabled (ping).

<sup>\*</sup> Minimum requirements.

# 16.2 Firmware updater

The following are the firewall requirements for a system running the Matrox Firmware Updater.

Network Port	Type	Inbound	Outbound	Functionality
20,21	TCP	_	✓	FTP: File upload
22 <sup>*</sup>	TCP	✓	✓	SSH: Firmware update
443*	TCP	_	✓	HTTPS: Authentication
1900*	UDP	✓	✓	<b>UPnP</b> : Microsoft SSDP for discovery of UPnP devices

<sup>\*</sup> Minimum requirements.

### 16.3 Extio 3 devices

The following are the requirements for a network firewall present on a network with an Extio 3 environment.

Network Port	Туре	Inbound	Outbound	Functionality
20,21	TCP	✓	_	FTP: File download (firmware)
22 <sup>*</sup>	TCP	✓	✓	SSH: Firmware update
69	UDP	_	✓	DHCP: DHCP client
123	UDP	✓	✓	NTP: Network Time Protocol
161	UDP	✓	✓	<b>SNMP</b> : Network management (public community string)
443 <sup>*</sup>	TCP	✓	_	HTTPS: Extio Central Manager commands and Firmware Updater Authentication
1900 <sup>*</sup>	UDP	✓	✓	<b>UPnP</b> : Microsoft SSDP for discovery of UPnP devices
Ephemeral*	UDP	✓	✓	RTP/RTCP: Audio and video streams and control
12000	TCP	✓	✓	RS232: RS232 virtualization

<sup>\*</sup> Minimum requirements.

# 16.4 Accessing your Windows Firewall settings



Note: You may need administrator rights to modify your Windows Firewall settings. For more information, see Windows documentation or contact your system administrator.

To access your Windows Firewall settings:

Windows 10/7 -

1 Windows 10 − Click Start → Settings → Network & Internet → Ethernet → Windows

Windows 7 – Click Control Panel → Network and Internet\* → Network and Sharing **Center.** (\* Depending on your configuration, these steps may be unnecessary.)

2 Windows 10 – In the left panel, click Advanced Settings.

Windows 7 – In the left panel, click Windows Firewall  $\rightarrow$  Advanced Settings.

# 16.5 Adding rules to your Windows Firewall settings



Note: You may need administrator rights to modify your Windows Firewall settings. For more information, see Windows documentation or contact your system administrator.

#### Windows 10/7 -

- Windows  $10 \text{Click Start} \rightarrow \text{Settings} \rightarrow \text{Network & Internet} \rightarrow \text{Ethernet} \rightarrow \text{Windows}$ Firewall.
  - Windows 7 Click Control Panel → Network and Internet\* → Network and Sharing **Center**\*. (\* Depending on your configuration, these steps may be unnecessary.)
- 2 Windows 10 In the left panel, click Advanced Settings. Windows 7 – In the left panel, click Windows Firewall  $\rightarrow$  Advanced Settings.
- Click Inbound Rules.
- In the **Actions** panel, click **New Rule**. Configure the new rule with the following settings:
  - Rule Select Custom.
  - Program Select All programs.
  - Protocol and Ports Next to Protocol, select TCP. Next to Local port, select Specific ports. For the port number, enter 445. Next to Remote port, select All Ports.
  - Scope Under the remote IP address, add the IP range you want to use for your transmitter. You can use a range (such as 192.168.1.0/24) or a single IP address (such as 192.152.168.62).
  - Action Select Allow the connection.
  - **Profile** Select the network location of your system (**Domain**, **Private**, or **Public**).
  - Name Enter the name for your rule (such as *Extio 3 TCP rule*).
- 5 In the Actions panel, click New Rule. Configure the new rule with the following settings:
  - Rule type Select Custom.
  - Program Select All programs.
  - Protocol and Ports Under Protocol type, select ICMPv4.
  - Scope Under the remote IP address, add the IP range you want to use for your transmitter. You can use a range (such as 192.168.1.0/24) or a single IP address (such as 192.152.168.62).
  - Action Select Allow the connection.

- **Profile** Select the network location of your system (**Domain**, **Private**, or **Public**).
- Name Enter the name for your rule (such as *Extio 3 ICMPv4 rule*).

For more information on configuring your Windows firewall, see your network administrator.

# 17 Customer support

### 17.1 Matrox web

Our web site has product literature, press releases, technical material, a sales office list, trade show information, and other relevant material. Visit the Matrox Graphics Web site at www.matrox.com/graphics.

## 17.2 Technical support

Matrox values your business and offers professional support for your Matrox product.

If your product was purchased through a Matrox dealer, contact your dealer for product support. This is the quickest and most effective method of technical assistance. Your dealer is familiar with your complete system.

If your product was purchased through Matrox, contact your Matrox representative or visit our technical support Web site at www.matrox.com/graphics/support.

### 17.2.1 Information we need

Please give a complete description of the problem, and include:

- Matrox product serial number, model number, revision number, and firmware number.
- Source specifications.
- Control system (system running Extio Central Manager) specifications.
- Specific Extio Central Manager or OSD (On-Screen Display) options and features used.

# 17.3 View your warranty information

Matrox makes warranty information available on the Matrox site (www.matrox.com/graphics/en/support/warranty/).

# 17.4 View the third party software notices

Matrox makes third party software notices and/or additional terms and conditions available on the Matrox site (https://thirdpartylicenses.matrox.com).

# 17.5 Register your Matrox product

Please register online (www.matrox.com/graphics/en/registration) to be eligible for customer support, new product announcements, and information on special offers and upcoming events. Hot surface Allow hot surfaces to cool before touching your Matrox unit.

Surface chaude Laissez refroidir les surfaces chaudes avant de toucher votre appareil Matrox.



**Battery replacement** The battery is non replaceable. To dispose of your product, see <a href="https://www.matrox.com/environment/weee">www.matrox.com/environment/weee</a>.

Remplacement des piles La pile n'est pas remplaçable. Pour se défaire du produit, voir www.matrox.com/environment/weee.

#### USA

### **FCC Compliance Statement**

Remark for the Matrox hardware products supported by this guide This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

**WARNING** Changes or modifications to this unit not expressly approved by the party responsible for the compliance could void the user's authority to operate this equipment. The use of shielded cables for connection of the monitor to the card is required to meet FCC requirements.

#### CANADA

### (English) Innovation, Science and Economic Development Canada

Remark for the Matrox hardware products supported by this guide These digital apparatus does not exceed the Class A limits for radio noise emission from digital devices set out in the Radio Interference Regulation of Industry Canada.

#### (Français) Innovation, Sciences et Développement économique Canada

Remarque sur les produits matériels Matrox couverts par ce guide Ce present appareil numérique n'émet aucun bruit radioélectrique dépassant les limites applicables aux appareils numériques de Classe A prescrites dans le Règlement sur le brouillage radioélectrique édicté par Industrie Canada.

#### JAPAN

### **VCCI Compliance Statement**

Remark for the Matrox hardware products supported by this guide This is a Class A product based on the standard of the Voluntary Control Council for Interference by Information Technology Equipment (VCCI). If this equipment is used in a domestic environment, radio disturbance may occur, in which case, the user may be required to take corrective actions.

この装置は、クラスA情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。 VCCI-A

### KOREA

### A 급 기기 (업무용 방송통신기자재)

이 기기는 업무용(A급)전자파적합기기로서 판 매자 또는 사용자는 이 점을 주의하시기 바라 며, 가정외의 지역에서 사용하는 것을 목적으로 합니다.

#### **EUROPE**

#### (English) European user's information - Declaration of Conformity

Remark for the Matrox hardware products supported by this guide These devices comply with EC Directive 2014/30/EU for a Class A digital device. They have been tested and found to comply with EN55032/CISPR32 and EN55024/CISPR24. In a domestic environment these products may cause radio interference in which case the user may be required to take adequate measures. To meet EC requirements, shielded cables must be used to connect the monitor and other peripherals to the card. These products have been tested in a typical class A compliant host system. It is assumed that these products will also achieve compliance in any class A compliant system.

#### (Français) Informations aux utilisateurs Européens - Déclaration de conformité

Remarque sur les produits matériels Matrox couverts par ce guide Ces unités sont conformes à la directive communautaire 2014/30/EU pour les unités numériques de classe A. Les tests effectués ont prouvé qu'elles sont conformes aux normes EN55032/CISPR32 et EN55024/CISPR24. Le fonctionnement de ces produits dans un environnement résidentiel peut causer des interférences radio, dans ce cas l'utilisateur peut être amené à prendre les mesures appropriées. Pour respecter les impératifs communautaires, les câbles de connexion entre le moniteur ou autres périphériques et la carte doivent être blindés. Ces produits ont été testés dans un système hôte typique compatible classe A. On suppose qu'ils présenteront la même compatibilité dans tout système compatible classe A.

#### (Deutsch) Information für europäische Anwender - Konformitätserklärung

Anmerkung für die Matrox Hardware-Produktunterstützung durch dieses Handbuch Diese Geräte entsprechen EC Direktive 2014/30/EU für ein digitales Gerät Klasse A. Sie wurden getestet und entsprechen demnach EN55032/CISPR32 und EN55024/CISPR24. In einer Wohnumgebung können diese Produkte Funkinterferenzen erzeugen, und der Benutzer kann genötigt sein, entsprechende Maßnahmen zu ergreifen. Um EG-Anforderungen zu entsprechen, müssen zum Anschließen des Monitors und anderer Peripheriegeräte an die Karte abgeschirmte Kabel verwendet werden. Diese Produkt wurden in einem typischen, der Klasse A entsprechenden, Host-System getestet. Es wird davon ausgegangen, daß diese Produkte auch in jedem Klasse A entsprechenden System entsprechend funktionieren.

#### (Italiano) Informazioni per gli utenti europei - Dichiarazione di conformità

Nota per i prodotti hardware Matrox supportati da questa guida Questi dispositivi sono conformi alla direttiva CEE 2014/30/EU elativamente ai dispositivi digitali di Classe A. Sono stati provati e sono risultati conformi alle norme EN55032/CISPR32 e EN55024/CISPR24. In un ambiente domestico, questi prodotti possono causare radiointerferenze, nel qual caso all'utente potrebbe venire richiesto di prendere le misure adeguate. Per soddisfare i requisiti CEE, il monitor e le altre periferiche vanno collegati alla scheda grafica con cavi schermati. Questi prodotti sono stati provati in un tipico sistema host conforme alla classe A. Inoltre, si dà per scontato che questi prodotti acquisiranno la conformità in qualsiasi sistema conforme alla classe A.

### (Español) Información para usuarios europeos - Declaración de conformidad

Observación referente a los productos de hardware de Matrox apoyados por este manual Estos dispositivos cumplen con la directiva de la CE 2014/30/EU para dispositivos digitales de Clase A. Dichos dispositivos han sido sometidos a prueba y se ha comprobado que cumplen con las normas EN55032/CISPR32 y EN55024/CISPR24. En entornos residenciales, estos productos pueden causar interferencias en las comunicaciones por radio; en tal caso el usuario deberá adoptar las medidas adecuadas. Para satisfacer las disposiciones de la CE, deberán utilizarse cables apantallados para conectar el monitor y demás periféricos a la tarjeta. Estos productos han sido sometidos a prueba en un típico sistema anfitrión que responde a los requisitos de la clase A. Se supone que estos productos cumplirán también con las normas en cualquier sistema que responda a los requisitos de la clase A.

### EUROPE

# (English) European user's information – Directive on Waste Electrical and Electronic Equipment (WEEE)

Please refer to the Matrox Web site (www.matrox.com/environment/en/weee) for recycling information.



# (Français) Informations aux utilisateurs Européens – Règlementation des déchets d'équipements électriques et électroniques (DEEE)

Se référer au site Web de Matrox (www.matrox.com/environment/en/weee) pour l'information concernant le recyclage.

### (Deutsch) Information für europäische Anwender – Europäische Regelungen zu Elektround Elektronikaltgeräten (WEEE)

Bitte wenden Sie sich an der Matrox-Website (www.matrox.com/environment/en/weee) für Recycling-Informationen.

# (Italiano) Informazioni per gli utenti europei – Direttiva sui rifiuti di apparecchiature elettriche ed elettroniche (RAEE)

Si prega di riferirsi al sito Web Matrox (www.matrox.com/environment/en/weee) per le informazioni di riciclaggio.

#### FRANCE

### Avertissement sur l'épilepsie

À lire avant toute utilisation d'un jeu vidéo par vous-même ou votre enfant Certaines personnes sont susceptibles de faire des crises d'épilepsie ou d'avoir des pertes de conscience à la vue de certains types de lumières clignotantes ou d'éléments fréquents dans notre environnement quotidien. Ces personnes s'exposent à des crises lorsqu'elles regardent certaines images télévisées ou qu'elles jouent à certains jeux vidéo. Ces phénomènes peuvent apparaître alors même que le sujet n'a pas d'antécédent médical ou n'a jamais été confronté à une crise d'épilepsie.

Si vous-même ou un membre de votre famille avez déjà présenté des symptômes liés à l'épilepsie (crise ou perte de conscience) en présence de stimulations lumineuses, veuillez consulter votre médecin avant toute utilisation.

Nous conseillons aux parents d'être attentifs à leurs enfants lorsqu'ils jouent avec des jeux vidéo. Si vous-même ou votre enfant présentez un des symptômes suivants: vertige, trouble de la vision, contraction des yeux ou des muscles, perte de conscience, trouble de l'orientation, mouvement involontaire ou convulsion, veuillez immédiatement cesser de jouer et consultez un médecin.

Précautions à prendre dans tous les cas pour l'utilisation d'un jeu vidéo Ne vous tenez pas trop près de l'écran.

• Jouez à bonne distance de l'écran de TV et aussi loin que le permet le cordon de raccordement. • Utilisez de préférence les jeux de vidéo sur un écran de petite taille. • Évitez de jouer si vous êtes fatigué ou si vous manquez de sommeil. • Assurez-vous que vous jouez dans une pièce bien éclairée. • En cours d'utilisation, faites des pauses de dix à quinze minutes toutes les heures.

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