

## EXTENDER & EDID MGR GUI Model EMX-DVI

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INFORMATION

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## 1. EMX-DVI Windows™ Software Installation

### 1.1. General

The EMX-DVI graphical user interface (GUI) is a software-based solution capable of configuring any setting on one or more EMX-DVI devices connected to the Windows PC via a valid USB connection(s).

All of the device features, and more, are accessible from the GUI. EDID files can be exported or imported. The device is also capable of writing custom EDID data back to compatible display devices.

### 1.2. Installation Prerequisites

- A PC with Windows XP™ OS or later
- USB port
- Microsoft™ .NET Framework 2.0 or later (most recent OS including Windows 7 and 8 typically include this and no action is required). If .NET Framework 2.0 or later is not installed on your PC, the Microsoft™ website has free downloads available.

### 1.3. Software Installation

- If an earlier version of this particular software was previously installed, UNINSTALL the program first from either the Add/Remove Programs section of the control panel or by running the previous installation's SETUP.EXE and selecting "remove application".
- Install the software by executing the SETUP.EXE program from the installation source directory
- Accept the default settings, but if you want to specify a particular installation directory other than the default, you may do so.
- Once the VR-DVI software installation has completed, either click the desktop icon or navigate the Start Menu to **Start -> Programs -> Hall Research -> EMX-DVI Extender**



## 2. Using the Software

### 2.1. General

In most installations the use of the software is not needed as most functions can be performed using the push-buttons as described in the users manual.

You can use the software to import/export EDID files from the device. Custom EDID data can also be written to devices connected to the output if they support that function.

You can connect more than one VR-DVI to the PC (using several USB ports of the PC). The same instance of the software detects all connected devices and allows control from the same interface.

### 2.2. USB Device Detection

The EMX-DVI software uses standard Windows® drivers to automatically configure the USB port after connection and does not require any special USB drivers to be installed.

The first time you connect the extender to the PC, you may experience a short delay and a windows notification pop-up message may be shown.

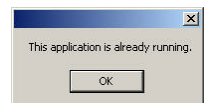
*This detection and auto installation only occurs once. Thereafter, reconnected devices are detected with no delay or message.*

2.2.1. The software scans the EMX-DVI settings continuously in real time, so all changes are immediately reflected on the screen.

2.2.2. If no EMX-DVI device is attached to the system, the on-screen fields are disabled (grayed out)



2.2.3. Only one instance of the GUI program can run at a time. Executing the application more than once will result in an error message.



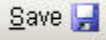
2.3. Tool Bar Menu

2.3.1. RESTORE



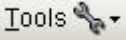
Restore device settings from file  
Used to select previously saved files

2.3.2. SAVE



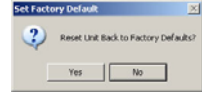
Save device settings to a file  
Save file to any location on the PC.

2.3.3. TOOLS



**Factory Defaults**

Restore the device to factory default settings.  
The user must confirm the action.



**Import EDID**

Import an EDID (256-byte binary or XML file) into the unit.

**Export EDID**

Save the current EDID as a 256-byte binary file  
This file can be edited using third party software and reloaded using the 'Import EDID' tool selection.

**Write EDID**

Writes the current 256-byte EDID to the current output device. This option is not available on systems with older firmware.



The user must confirm the action and take all necessary precautions to prevent loss of data. Hall Research is not responsible for any damage that may occur from the user attempting to modify the EDID.

**Firmware Update**

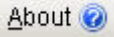
Allows users to field upgrade the device application firmware. Application firmware that does not support this function will disable this option. Only valid firmware files can be uploaded into the EMX-HD-AUD.

2.3.4. EXIT



Exits the application

### 2.3.5. ABOUT

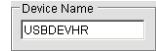


Displays screen with software versions, website link, legal disclaimer and copyright information. The Serial # information displayed is a time/date stamp referenced to GMT (Greenwich Mean Time) and has no reference to the serial number sticker on the actual device.



### 2.4. Device Name

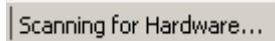
Assigns a descriptive name to the EMX-DVI device that is a maximum of 8 characters long. Changing the device name with multiple devices connected is not allowed. The FACTORY DEFAULT name is USBDEVHR.



### 2.5. Status Bar

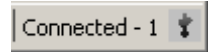
The bottom bar of the screen shows the current USB status as follows:

“Scanning for Hardware...”



The GUI software is looking for EMX-DVI devices.  
Screen controls are disabled until EMX-DVI device attached

“Connected – XX”



Where XX is the number of EMX-DVI devices connected to the PC.

## 2.6. CONTROLS

### VIDEO EDID

Clicking these controls selects to either PASS-THRU or EMULATE the EDID.

PASS-THRU uses the SINK EDID while EMULATE uses the internal EDID saved in the EMX-DVI.

PASS-THRU is the FACTORY DEFAULT setting.



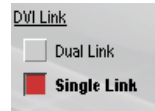
### **Learn EDID**

Clicking this control will extract the EDID from device connected to the output connector and save it in the unit. The user must confirm the action.



### DVI LINK

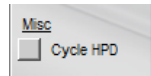
Clicking these controls selects either DUAL-LINK or SINGLE LINK modes of operation.



### Misc

#### **Cycle HPD**

Clicking this control sends a 500 mS Hot Plug Detect signal to the video source. This indicator is 'filled' when the source is connected.

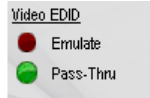


## 2.7. STATUS

### Video Input

#### Emulate

Indicates the system is using the internally stored EDID. In this mode the HPD to the source is asserted since the source should be able to read valid EDID from the EMX-DVI.



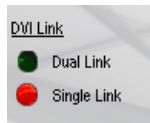
#### Pass-Thru

Indicates the system is using the connected SINK EDID. If nothing is connected to the output, then the EMX-DVI will not assert its HDP to the source. The color of the "Cycle HPD" button (under "Misc") indicates the state of HPD.

### DVI LINK

#### Dual Link

Indicates Dual Link operation enabled



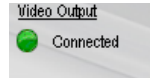
#### Single Link

Indicates Single Link operation enabled

### Video Output

#### Connected or Disconnected

Indicates the state of the device connected to the EMX-DVI OUTPUT. When a display is detected the button will be green and the word Connected will be shown next to it. When no display is detected (or the display is not sending an HPD signal), then the indicator on the screen changes to a dark red color and the word Disconnected will be shown next to it.





## 2.8. EDID Data Display

The data shown in the EDID table is periodically scanned to ensure that the checksums for each block are valid.

The image shows a screenshot of an EDID data table. The table has 16 columns labeled 00 through 0F and 16 rows labeled 00 through 0F. The data in the table is as follows:

	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
00	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
01	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
02	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
03	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
04	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
05	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
06	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
07	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
08	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
09	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
0A	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
0B	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
0C	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
0D	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
0E	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
0F	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F

A red diagonal line is drawn from the top-right corner (row 00, column 0F) to the bottom-left corner (row 0F, column 00), indicating an invalid checksum.

When wrong checksums are detected, the invalid checksum byte is highlighted in RED.

If an action is performed that affects the EDID such as initiating a "learn" process, The checksum field might momentarily flash 'RED' during the this process, but should go back to normal once the entire table is updated.

**NOTE**

*You cannot "LEARN" an EDID that has an invalid checksum. If you try to learn an EDID that has a checksum error, the PASS-THRU and EMULATE LEDs on the unit will alternately flash 5 times to indicate the error.*

*However, the GUI software can import and upload to the EMX-DVI, EDID's that contain invalid checksum*







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