Owner's Manual

UX Series

HDMI 2.0 Integrated Matrix Switcher

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*There are two ways to upload the firmware (Web UI, USB port)

Chapter 1. Introduction

1.1 Safety Precautions

- All safety instructions should be read and understood before the unit is operated.

- The owner's manual and safety instructions should be retained for future reference.

- Unplug this unit from the wall outlet before cleaning. Do not use liquid or aerosol cleaners. Use a damp cloth only.

- Keep away from wet, magnetic, and flammable surfaces or substances.

- Always use the correct external power supply (indicated on the product label) when operating this unit.

- This unit may be equipped with a 3 wire grounding-type plug - a plug having a third (grounding) pin. This pin will only fit in to a grounding type power outlet. If you are unable to insert the plug in to the outlet, contact your electrician to replace your obsolete outlet.

- Air vents should be kept clean and unobstructed at all times.

- Please refrain from using frayed power cords and damaged wall outlets.

- Do not place any heavy objects or equipment on top of the unit.

- To prevent electrical damage, TURN OFF the power to this unit before inserting or removing INPUT/OUTPUT slot cards.

If your product is malfunctioning or for assistance operating your product, please contact our technical support team.

PureLink^{TM}
Tel: 201.488.3232
Email: support@purelinkav.com

1.2 Declaration of Conformity

According to Council Directive 73/23/EEC (February 19, 1973) on the Harmonization of the Laws of Member States relating to Electrical Equipment; Council Directive 89/336/EEC (May 3, 1989) on Electromagnetic Compatibility; Council Directive 93/68/EEC (July 22, 1993)-Amending Directives 89/336/EEC (MC) and 73/23/EEC (Low Voltage Equipment Safety), and/or CPU Boards and Power Supplies used Council Directive 93/68/EEC with Matrix, Dtrovision LLC, 535 E Crescent Ave Ramsey, NJ 07446 201-488-3232, declares under sole responsibility, that the product identifies with 93/66/EEC of the Council Directive Low Voltage Equipment Safety. Each product marketed is identical to the representative unit tested and found to be compliant with the standards.

1.3 What's in the Box

- Main Frame: UX-4400 / UX-8800
- Power Adapter – DC12V, 7.5A, 60W
- RS-232C & LAN cables
- Rack Ears
- Owner's manual

1.4 Product Introduction

The UX Series 4K HDMI Matrix Switchers provide high performance distribution of audio and video resolutions up to Ultra HD/4K with advanced EDID management and HDCP 2.2 compliance. Available in fixed I/O configurations from 4x4 to 8x8, the UX Series incorporates the latest technologies in Ultra HD/4K transmission including HDMI 2.0b and CEC support. PureLink's legendary Auto-EDID system ensures compatibility across multiple display types, delivering consistent connectivity and quick, clean switching from source to display for a seamless presentation experience.

4x4 or 8x8 HDMI 2.0b Matrix Switching

PureLink's UX Series Matrix Switchers are available in the 4x4 (UX-4400) and 8x8 (UX-8800) configurations

Supported Resolutions

Video resolutions up to Ultra HD/4K

4096 x 2160 @50/60Hz (RGB 4:4:4 YCbCr 4:4:4, 4:2:2, 4:2:0)

Full 3D up to 1080p@60Hz

HDMI v2.0b Compatibility

Full 3D & 48-Bit Deep Color support, 7.1 Channel Dolby TrueHD & DTS MasterHD

HDR (High Dynamic Range)

BT2020 color representation

Control Options:

Front panel buttons

Built-in RS-232C and LAN for external control via PC, Controller, and Web UI

HDCP 2.2 Compliance on all Inputs and Outputs

1.5 Front View of UX-8800

The UX-8800 features a 19" rack mountable chassiswith function keys, push button controls, and a status display as shown in Figure 1-1.

<Front Panel>

(Figure 1-1)

POWER: Main power switch ON / OFF

DISPLAY: View menu and system mode

MENU: Navigate menu and control options

CREATE: Program inputand output channels

PREVIEW: View saved channel

ENTER: Save/select desired setting

CANCEL: Revert to previous setting

USB PORT : Firmware upload port

IN1~8: Select input channels (1~8)

OUT1~8: Select output channels (1~8)

1.6 Rear View of UX-8800

<Back Panel>

(Figure 1-2)

DC 12V: Power supply (DC +12V) input port

LAN: LAN (TCP/IP) input port

RS-232 C: RS-232 Serial Port for Control

INPUTS : HDMI v2.0b Input ports 1~8 (Female type)

OUTPUTS : HDMI v2.0b Output ports 1~8 (Female type)

1.7 Front View of UX-4400

The UX-4400 features a 19" rack mountable chassiswith function keys, push button controls, and a status display as shown in Figure 2-1.

<Front Panel>

(Figure 2-1)

POWER: Main power switch ON / OFF

DISPLAY: View menu and system mode

MENU: Navigate menu and control options

CREATE: Program input and output channels

PREVIEW: View saved channel

ENTER: Save/select desired setting

CANCEL: Revert to previous setting

USB PORT : Firmware upload port

IN1~4: Select input channels (1~4)

OUT1~4: Select output channels (1~4)

1.8 Rear View of UX-4400

<Rear Panel>

(Figure 2-2)

DC 12V: Power supply (DC +12V) input port

LAN: LAN (TCP/IP) input port

RS-232 C: RS-232 Serial Port for Control

INPUTS : HDMI v2.0b Input ports 1~4 (Female type)

OUTPUTS : HDMI v2.0b Output ports 1~4 (Female type)

1.9 Installation Guidelines

The following installation settings are recommended for optimal performance.

- Operational temperature should be 30° C or below
- Operational humidity should be 60% or below
- Operational environment should be dust-free and well ventilated
- Stabilized AC input power (AVR-based power supply) is highly advised

Chapter 2. Product Features

2.1 Features

- Full HDMI v2.0b support and HDCP 2.2 compliance

- 19" standard rack mount enclosure

- External EDID read functionsupports HDMI or DVI displays.

- Bi-directional RS232/LAN control

- Locking HDMI ports

- Ultra HD/4K support

  - Video resolutions up to 4K@50/60Hz (RGB/YCbCr 4:4:4)

  - Full 3D up to 1080p@60Hz

- Multiple control options:

    - Front panel push buttons

    - RS-232C COM port

    - Select by LAN (TCP/IP or Web UI)

- Instant noise reduction on all input and output circuits to prevent electrical interference

- Convenient firmware upgrade via USB port or PC

Chapter 3. Operational guidelines

3.1 Main Menu User Guide

Turn the power switch on

Once all channel indicator lights are on, the first step is completed.

Channel View and Input Selection

- IN / OUT indicates connection status
- Press the IN / OUT KEY to display each channel's connection status and video resolution
- Press the CANCEL KEY to return to the initial screen

Create Menu

- Press the IN / OUT KEY to set a channel
- Press the ENTER KEY to save or switch input channels
- Press CANCEL to reverse a selection and return to the previous screen

Menu

Select a Menu button to view the sub-menu

Use the Create (UP) / Preview (Down) buttons to control the sub-menu options

On the sub-menu, user can check and configure below settings;

- EDID Set
- RS-232 Set
- LAN Set
- LAN Info
- Product ID Set
- FirmwareInfo
- Factory Reset

➤ EDID Set

    i)   Internal EDID Write

- On this menu, select an EDID from the library and save it on to the Input EEPROM. UX series Matrix Switcher has 13 selectable most widely used EDID data pre-programmed.
- Select Internal EDID using UP (Create) and Down (Preview) buttons
- Select Input# where selected EDID data will be saved on to. Multiple Inputs can be selected at once.
- Push enter button to save

   * "P" will display on the LCD when EDID is successfully saved, "F" will display on theLCD when EDID is NOT successfully saved.

    ii)   External EDID Write

   - This menu is to emulate EDID data from any display devices that are connected to the
   Matrix Switcher's Output via copper cables and save it on to Matrix Switcher's Input EEPROM.

- Select Output #
- Selected Output's display device's EDID information will be displayed
- Select Input# where selected EDID data will be saved on to. Multiple Inputs can be selected at once.
- Push enter button to save.

   * "P" will display on the LCD when EDID is successfully saved, "F" will display on the LCD when EDID is NOT successfully saved.

➤ Switcher ID

   - By setting different ID to the Matrix Switcher, up to 255 units of HX series Matrix Switcher can be connected and operated in the same network either via serial or LAN communication. Switcher ID can be set between 001 ~ 255.

   * Factory default setting is 255

   Note) Switcher ID is associated with commend control Protocol; therefore, it is important to remember Matrix Switcher's current Switcher ID.

➤ RS232

   - There are four values those need to be set for serial communication; baud rate, data bits, stop bits, and parity. Click and select each value using touch screen and push enter button to save.

   Factory default (recommended) settings for serial communication are:

- Baud rate - 19200
- Data bits - 8
- Parity - none
- Stop bits - 1
- Flow control – none

and supported settings are:

Supported Baud Rate: 4800 Bps, 9600 Bps, 14400 Bps, 19200 Bps, 38400 Bps,

57600Bps, 76800 Bps, 115200 Bps

Supported Data bit: 5 bit, 6 bit, 7 bit, 8 bit

Supported Parity: Non, Even, Odd

Supported Stop bit: 1 bit, 2 bit

➤ LAN

- UX series Matrix Switcher can be controlled through the 10/100 base Ethernet port using a command line interface.

There are four values that need to be set for LAN communication; IP address, Gateway address, Subnet mask, and Mac address. Please use below button indication to configure LAN settings;

xxx.xxx.xxx.xxx

* Output #1 :   To move cursor right

* Create button: Numbers going up

* Preview button: Numbers going down

* Please use Enter button to save the setting

Note) Please contact your Network Administrator for network information to avoid any IP conflict.

Factory default settings for LAN communication are:

IP Address: 192.168.000.099

Gateway Address: 192.168.000.001

Subnet Mask: 255.255.255.000

Mac Address: Matrix Switcher has its own MAC address and that MAC address allows user to communicate with PC network solutions without any communication conflict.

**How to change the LAN IP address setting using the front panel key of the matrix switcher Go to front of the switcher.

1.   Press the 'Menu' button

2.   Use the 'Create' and 'Preview' buttons to shift   up and down

3.   Choose '3. LAN set ' and press Enter button

4.   Choose '1. IP Config' and press Enter button

5.   Select Static IP and press Enter button

6.   Press '2. IP Address' and press Enter button

7. Now you have the IP Address shown on the screen

8. The cursor will be located on the first set of numbers of the default IP Address

9. Use the 'Create' and 'Preview' button to change numbers

10. a. To go from left to right, use 'Out1' button

    b. To change numbers up and down, use 'Create' and 'Preview' buttons

    c. To move to the second set of numbers on the IP address, Press 'Out1' button

(Note: Data will not go higher than 255 for any of the column or it will show error screen if you go higher)

11. After configuring to the correct IP Address, press Enter button

12. Select '6 LAN Config Upload' and Press enter button twice to save the IP setting

**Use same method to change Gateway, Subnet Mask IP Address.

**Using Dynamic IP

1. Press Menu

2. Select '3.LAN Set'

3.Select '1.IP Config'

4. Press 'Create' or 'preview' button to select 'Dynamic IP(DHCP)' and Enter

5.Select '6. LAN Config Upload' and press Enter twice.

*Default IP setting for the UX is Dynamic IP

➤ Factory Reset

       Factory reset will put the general setting back to the factory default mode.

       Factory default setting value:

       RS-232 Baud rate: 19200 Bps

       IP Address: Does not change

       Gateway: Does not change

       Input/output Connection: No Connection

       Product ID: 255

- All Video/Audio switching connection becomes clear
- Serial communication setting will be restored back to the factory default

   Baud Rate: 19200, Data Bits: 8, Parity: None, Stop Bits: 1

- LAN Communication settings will not be changed from previous setting

➤ Firmware Version

- Matrix Switcher's/Web UI firmware version can be checked

EX)

UX-4400-CT-V1.1.0 - Controller(Matrix) firmware is 1.1.0

UX-4400-UI-V1.1.0 - Web UI Firmware is 1.1.0

➤ Firmware Version

Chapter 4. Communication Code Configuration

4.1 Control Programmer's Guide (Code Structure and Examples)

This section is designed for programmers who wish to create their own control programs using the command code. All PureLink digital matrix switchers provide a simple character stream control used by external control devices attached to a PureLink device. Command codes are used primarily for control, during system installation and setup, and for diagnostic purposes.

4.2 Overview

Command code is a set of alphanumeric characters that combine to form control commands. Command code strings are entered into a terminal emulation program (such as windows HyperTerminal) running on an external control device. The control device (PC, third-party controller) sends the commands to the system. Control devices must be able to send and receive ASCII or HEXA code via an RS-232 or Ethernet port.

4.3 Command Code Formats

A command code is a series of command characters and numbers used to send commands to the system. Commands include basic formulas for creating and disconnecting switches, as well as for verifying the status of switches.

In a command code, each character is either general command (e.g., C for connect) or an identifier that indicates what the following number designates (e.g., "O" and the number following it designate an "output number"). The command code *255CI01O01! Can be interested as follows: (*) Starting the command code (255) Switcher ID is 255 (C) Create connection on (I01) Input 01 to (O01) Output 01 (!) take the command.

Ack value (Acknowledge value: Response from Pure Link device) will be echoed back to the terminal screen as the unit accepts them. When a command is successfully executed, all of the characters appear containing the character "s" which stands for status. For example,

Ex 1) Command (Connect Input 1 to Output 1)

      *255CI01O01! ↵

  Ack value

      *255sC I01O01!

Ex 2) Command (Check Input connection status on Output 3)

      *255?O03! ↵

  Ack Value

      *255s? I03O03!

4.4 General Rules forCommand Codes

The commands are coded in ASCII and HEXA. Please refer to Table 3.1 on pg. 16 for detailed descriptions of keys and functions. A basic command code setup is shown below;

Ex) *255CI01O01! ↵

Start (*) + Switcher ID (255) + Command (C) + Input number (I01) + Output number (O01) + End (!) + Enter (↵)

▶ A command line allows execution of only one command. Multiple commands require execution of multiple strings; one command per string.

▶ All s begin with * (Start) byte.

▶ All s end with ! (End) byte.

▶ All s will be executed when ↵(Enter) is entered.

▶ The correct Switcher ID must be entered in a command code. Systems will not react to the command if a wrong Switcher ID is entered. The Factory Default Switcher ID is set to 255 and the universal Switcher ID is 999. Systems will react to the command whenever universal Switcher ID is entered in command code.

▶ Command codes typically are not case-sensitive.

▶ ***Audio Command is only available for MXA series product***

▶ To specify multiple inputs and outputs, enter a "," (Comma) between numbers.
(Ex., *255CI01O01,02,03! ↵: Connects Input 01 to Output 01, 02, and 03)

▶ Use - (Hyphen) for range connection.
(EX., *255CI01O01-04! ↵ : Connects Input 01 to Output 01,02,03, and 04)

Table 3.1 Command Codes Characters Table

The table below shows command code characters (keys), which are used to generate control commands, their functions, and short function descriptions.

Key		Function	Description and Example	Byte
HEX	ASCII			
0x2A	*	Start the command	Header Code	1
0x21	!	End the command	Tail Code	1
	↵	Execute the command	Execute the command	
0x43 0x63	C C	Connect (Video and Audio)	Initiates a Connect (switch) command for both Video and Audio; this must precede input and output specification	1
0x3F	?	Status	Status command; this must precede input and output specification	1
0x44 0x64	D D	Disconnect	Disconnect command for both Video and Audio; this must precede input and output specification	1
	,	Space	Separates the numbers within entries that contain multiple numbers	1
	-	Range	Specifies a range of numbers in entries containing multiple numbers	1
0x49 0x69	I I	Switcher ID check	Switcher ID check command; check switcher's current ID number	1
	?version	Firmware version check	Firmware version check command; *255?version! ↵	
0x4E 0x6E	N N	Networking setting	Network configuration setting command: - IP Setting *255NIP125.135.199.004! ↵ - Subnet Mask Setting *255NSM255.255.255.000! ↵ - Gate Way Setting *255NGW192.168.000.001! ↵ - MAC Address Setting *255NMA00.50.C2.B0.20.05! ↵ - Port Number Setting *255NPN3000! ↵ - Network Information *255NNI000! ↵	1
0x48 0x68	H H	Connection check	Switcher communication connection check command: *255H000! ↵	1

4.5 Command Ack (Acknowledge) Value Response

When command codes are entered into a terminal emulation program (such as HyperTerminal) and are accepted by the system, they respond back to the terminal screen one at a time, as noted below in the table. The complete command has executed successfully when all of the entered characters including "s" which stands for status, appear. If a command character is not accepted, a different character than the one entered appears and all or part of the command has not been executed.

Ack (Acknowledge) Value Response Table

The following table shows ack value response characters along with their descriptions and meanings, which may appear instead of the initially entered character or number. If these characters appear, all or part of the command has not been executed.

Table 3.2 Descriptions of Acknowledge (ACK) Signals

Ack value	Description
Input 1 is not connected	No information in each channel.
Command Code Error	Indicates that system has rejected all or part of the command
Switcher ID Error	Indicates that the wrong ID number was entered

Command Code Ack Value Examples

Command Code Entered	Ack Value as appears in the control program	Explanation of Result
*255CI01O01!↵	*255sC I01O01 !	The command was successfully executed
*255CO01!↵	Command Code Error	The command was not executed because the input number was not included
*255CI01O01 ↵	Command Code Error	The command was not executed because "!" (End) was not included
*300CI01O01!↵	Switcher ID Error	The command was not executed because the actual Switcher ID and entered Switcher ID did not match

4.6 Connecting Switches

A switch is an active connection between an input (source) signal and one or more output (display) devices. The signals connected in a switch command are either individual signals or groups of signals coming through the connectors on the rear of the unit.

The "C" key initiates a Connect command for routing a switch. The characters and numbers that follow the "C" command tell the system, which inputs and outputs to connect. The last character "!" is found at the end of a command code which tells the system to execute the command.

For example, the command code *255CI01O01! ↵

can be interpreted as follows: (*) Starting the command code (255) Switcher ID is 255 (C) Create connection on (I01) Input 01 to (O01) Output 01 (!) take the command. For a complete list of command characters and their functions, see examples below.

•Create settings command (UX-4400)

　　*255CI01O01,I01O02,I02O03,I04O04!↵

　　Connect both input 1 to output 1 and input 1 to output 2 , input 2 to output 3 , input 4 to output 4

　　☞ response

　　*255sCI01O01,I01O02,I02O03,I04O04!↵

•Create settings command (UX-8800)

　　*255CI01O01,I01O02,I02O03,I04O04,I05O05,I06O06,I07O07,I08O08!↵

　　　☞ response

　　*255sCI01O01,I01O02,I02O03,I04O04,I05O05,I06O06,I07O07,I08O08!↵

Examples (Connect **Video**):

Command Codes	Response
*255CI01O01! ↵	*255sCI01O01! ↵
*255CI01O08,I08O02!↵	*255sCI01O08,I08O02!↵
*255CI01O01,I02O02,I03O03!↵	*255sCI01O01,I02O02,I03O03!↵
*255CI01O01,02,03! ↵	*255sCI01O01,I01O02,I01O03! ↵
*255CI01O01-06! ↵	*255sCI01O01,I01O02,I01O03,I01O04,I01O05,I01O06! ↵

** I00 : Disconnect

Example :

　　*255CI00O01! ↵　:　output 1 disconnect

　　☞ response

　　*255sCI00O01! ↵

4.7 Disconnecting Switches

　　　　The characters and numbers in a Disconnect command tell the system which input or output to disconnect. The "D" key initiates a Disconnect command for routing a switch. The characters and numbers that follow the "D" command tell the system that inputs and outputs to disconnect. The last

character "!" is found at the end of the Command code, which tells the system to execute the command.

For example, the command code

*255DI01O00! ↵

It can be interpreted as follows: (*) Starting the command code (255) Switcher ID is 255 (D) Disconnect on (I01) Input 01 to (O00) Output 00 (!) take the command. For a complete list of command characters and their functions, see the command list below

1. Enter the Disconnect command below. Replace the "#"s with the input and output number(s).

*255DI#O#! ↵

Examples (Disconnect **Video**):

Command Codes	Action
*255DI01O00! ↵	Disconnect both video and audio input 1 to no output (00)
*255DI00O03,04,05! ↵	Disconnects both video and audio outputs 3, 4, and 5
*255DI00O03-06! ↵	Disconnects both video and audio output 3, 4, 5, and 6
*255DALLIO! ↵	Disconnects both video and audio all inputs and outputs

Response example

*255DI01O00! ↵

☞ response

*255sDI00O01,I00O04!↵   if input 1 to output 1 , 4 connected

Hardware Checking:

User can check the Hardware status.

Example:

Command Codes	Action
*255?HARDST! ↵	Check Hardware status

Internal/External EDID Setting

L01 : 1080p , DVI

    L02 : 1080p , 2ch

    L03 : 1080p , Bitstream

    L04 : 1080p , PCM Multichannel

    L05 : 1080p , 2ch , 3D support

    L06 : 1080p , Bitstream , 3D support

    L07 : 1080p , PCM Multichannel , 3D support

    L08 : 2160p @30 , 2ch

    L09 : 2160p @30 , Bitstream

    L10 : 2160p @30 , PCM Multichannel

    L11 : 2160p 4:2:0 @60 , 2ch

    L12 : 2160p 4:2:0 @60 , Bitstream

    L13 : 2160p 4:2:0 @60 , PCM Multichannel

    L14 : 2160p 4:4:4 @60 , 2ch

    L15 : 2160p 4:4:4 @60 , Bitstream

    L16 : 2160p 4:4:4 @60 , PCM Multichannel

Internal EDID Setting Example:

Command Codes	Action
*255ESL03I01!↵	EDID load 1080p Bitstream EDID to input 1
*255ESL11I01,02,03! ↵	EDID load 2160p 2ch EDID to input 1,2,3

External EDID Setting Example:

Command Codes	Action
*255ESO01I01!↵	EDID load output 1 EDID to input 1
*255ESO02I01,02,03! ↵	EDID output 2 EDID to input 1,2,3
*255ESO00I01,02,03! ↵	External Merge EDID to input 1,2,3

EDID Status Checking

Example:

Command Codes	Action
*255?ESI01!↵	Input 1 EDID status return
*255?ESI03!↵	Input 3 EDID status return

4.8 Connection Status Check

A connection status can be checked to confirm that the switch has been correctly executed or to confirm correct routing to multiple outputs. The characters and numbers in a status command tell the system which input or output to check.

1. Enter the Connection status check command below. Replace the "#"s with the input and output number(s).

*255?I#!↵ or *255?O#! ↵

•Channel connecting information (UX-4400)

*255?C!↵

☞ response

*255s?CI01O01,I01O02,I02O03,I04O04!↵

• Channel connecting information (UX-8800)

*255?C!↵

☞ response

*255s?CI01O01,I01O02,I02O03,I04O04,I08O05,I08O06,I08O07,I08O08!↵

<u>Firmware Version Check:</u>

User can confirm switcher's current firmware version

•Web UI version

*255?VERSIONUI!↵

☞ response

*255s?VERSIONUI:UX-4400-UI-Vx.x.x!↵

•Controller version

*255?VERSIONCT!↵

☞ response

*255s?VERSIONCT:UX-4400-CT-Vx.x.x!↵

<u>Network Configuration:</u>

User can check network configuration for LAN control.

• Current network settings information (NCS00: static IP , NCS01: dynamic IP)

*255?NCS!↵

☞response

*255s?NCS00!↵   or   *255s?NCS01!↵

• Current IP address information

    *255?NIP!↵

    ☞ response

    *255s?NIP192.168.000.002!↵

• Current gateway address information

    *255?NGW!↵

    ☞ response

    *255s?NGW192.168.000.001!↵

• Current subnetmask information

    *255?NSM!↵

    ☞ response

    *255s?NSM255.255.255.000!↵

• Current Mac address information

    *255?NMA!↵

    ☞ response

    *255s?NMA00.00.C2.B0.20.05!↵

RS232 Configuration:

User can check RS232 configuration for LAN control.

•RS232 baudrate settings information

    *999?RB!↵

    ☞ response

    *999s?RB01!↵

•RS232 stopbit settings information

    *999?RS!↵

    ☞ response

    *999s?RS01!↵

•RS232 databits settings command

  *999?RD!↵

  ☞ response

  *999s?RD01!↵

•RS232 parity settings command

  *999?RP!↵

  ☞ response

  *999s?RP01!↵

Preset Command:

User can call / check saved preset.

•Preset call command

  *999PC01!↵

  ☞ response

  *255sCI01O01,I01O02,I02O03,I04O04!↵

•Preset status command

  *999?PC01!↵
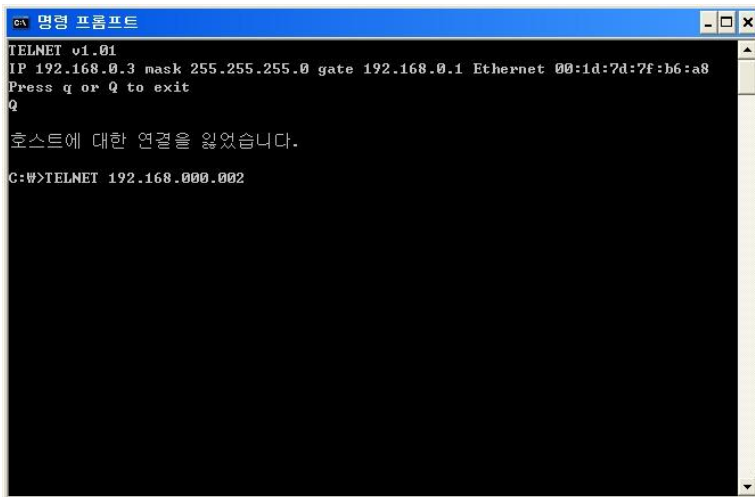
  ☞ response

  *255?sCI01O01,I01O02,I02O03,I04O04!↵

4.9 LAN CODE CONFIGURATION

Using TELNET protocol with LAN(TCP/IP)

The UX series Matrix Switcher can be controlled from remote locations through the LAN port using WINDOWS XP DOS prompts, hyper-terminal, or TELNET program (the control code is fully compliant with RS-232C).

Enter TELNET <Switcher IP Address>in the DOS prompt

Message indicating TELNET connection will appear
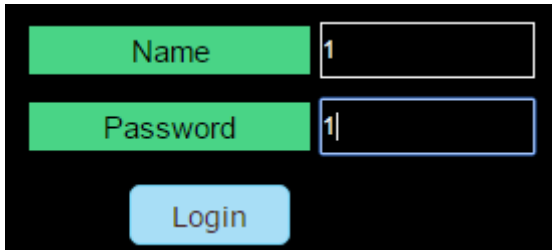
Switcher ID verification command code

Send "*255I000! "

Switcher will send response:

" *255sI Switcher ID 255"

Chapter 5. Web UIGuide

5.1 UX Web UI Guide

Google Chrome is recommended for web UI

Default log in ID and password is 1

*We recommend using Google Chrome
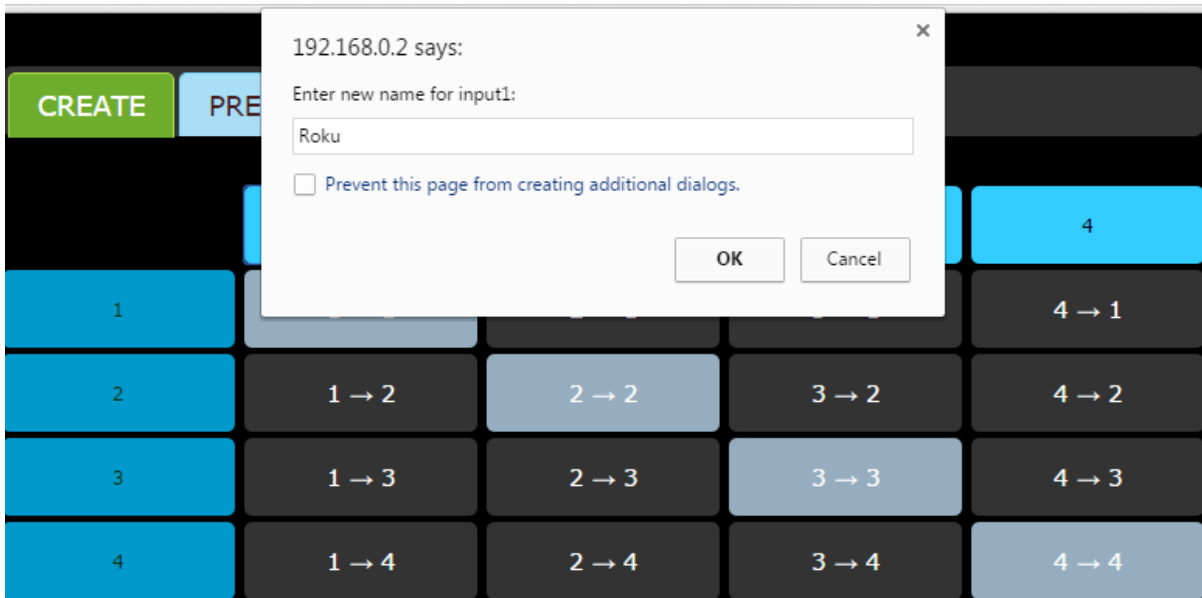
-5 Menus for the Web UI-

1) CREATE

2) PRESET

3) EDID

4) SETTING

5) INFO

1) CREATE

CREATE - Configurating the name of Input and Output

1. Click on blue buttons to set the name for both input and output(8 letters maximum).

-Example for Input.

192.168.0.2 says:

Enter new name for output1:

LG TV

☐ Prevent this page from creating additional dialogs.

OK   Cancel

				4
1				4 → 1
2	1 → 2	2 → 2	3 → 2	4 → 2
3	1 → 3	2 → 3	3 → 3	4 → 3
4	1 → 4	2 → 4	3 → 4	4 → 4

-Example for output.

CREATE	PRESET	EDID	SETTING	INFO			
	1 Roku	2 DVD	3 PC	4 Cable
1 LG TV	1 → 1	2 → 1	3 → 1	4 → 1
2 Samsung	1 → 2	2 → 2	3 → 2	4 → 2
3 Vizio	1 → 3	2 → 3	3 → 3	4 → 3
4 Monitor	1 → 4	2 → 4	3 → 4	4 → 4
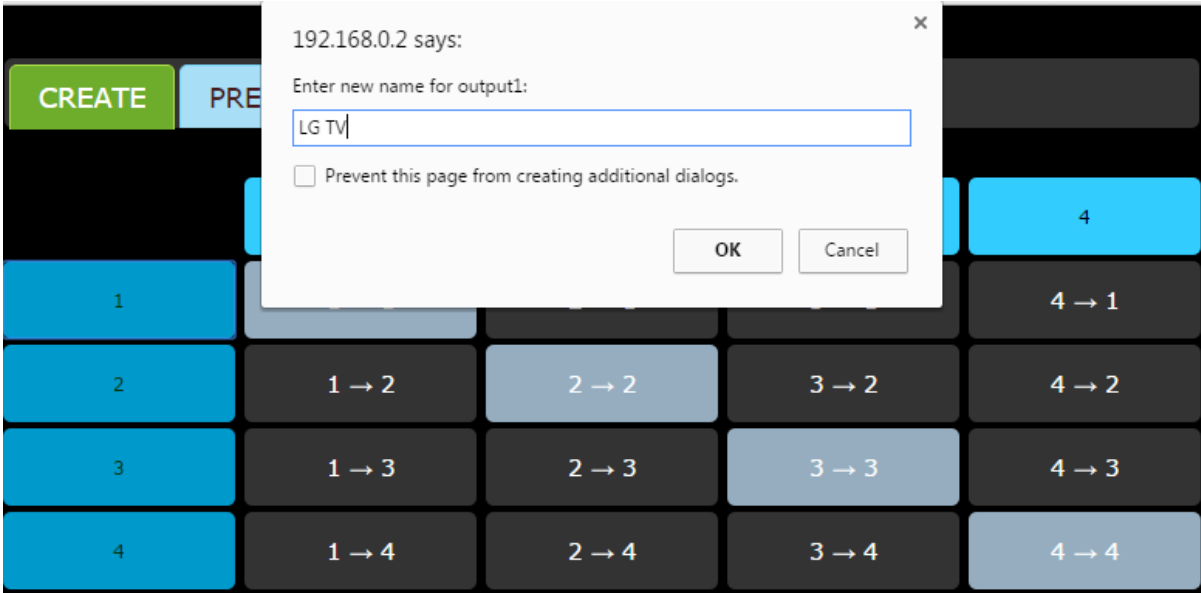
- Completion of labelingboth inputs and outputs.

CREATE - Switching Inputs and Outputs

2. Switching can be made by pressing each buttons. For example

	1 Roku	2 DVD	3 PC	4 Cable
1 LG TV	1 → 1	2 → 1	3 → 1	4 → 1
2 Samsung	1 → 2	2 → 2	3 → 2	4 → 2
3 Vizio	1 → 3	2 → 3	3 → 3	4 → 3
4 Monitor	1 → 4	2 → 4	3 → 4	4 → 4

CREATE PRESET EDID SETTING INFO

Input 1 is routed to output1, Input 2 is routed to output 2. (The color will change once the buttons are clicked)

	1 Roku	2 DVD	3 PC	4 Cable
1 LG TV	1 → 1	2 → 1	3 → 1	4 → 1
2 Samsung	1 → 2	2 → 2	3 → 2	4 → 2
3 Vizio	1 → 3	2 → 3	3 → 3	4 → 3
4 Monitor	1 → 4	2 → 4	3 → 4	4 → 4

CREATE PRESET EDID SETTING INFO

Input 3 is routed to output 3 and input 4 is routed to output 4.

Example format)

1   - >   3

Input 1   Output 3

 2   ->   4

Input 2   Output 4

** You can un-route by clicking the buttons again

2) PRESET

Preset Edit - Multiple(up to 20) preset switching commands can be pre-programmed and saved in the memory.

It can be recalled in the future for east time-saving switching.
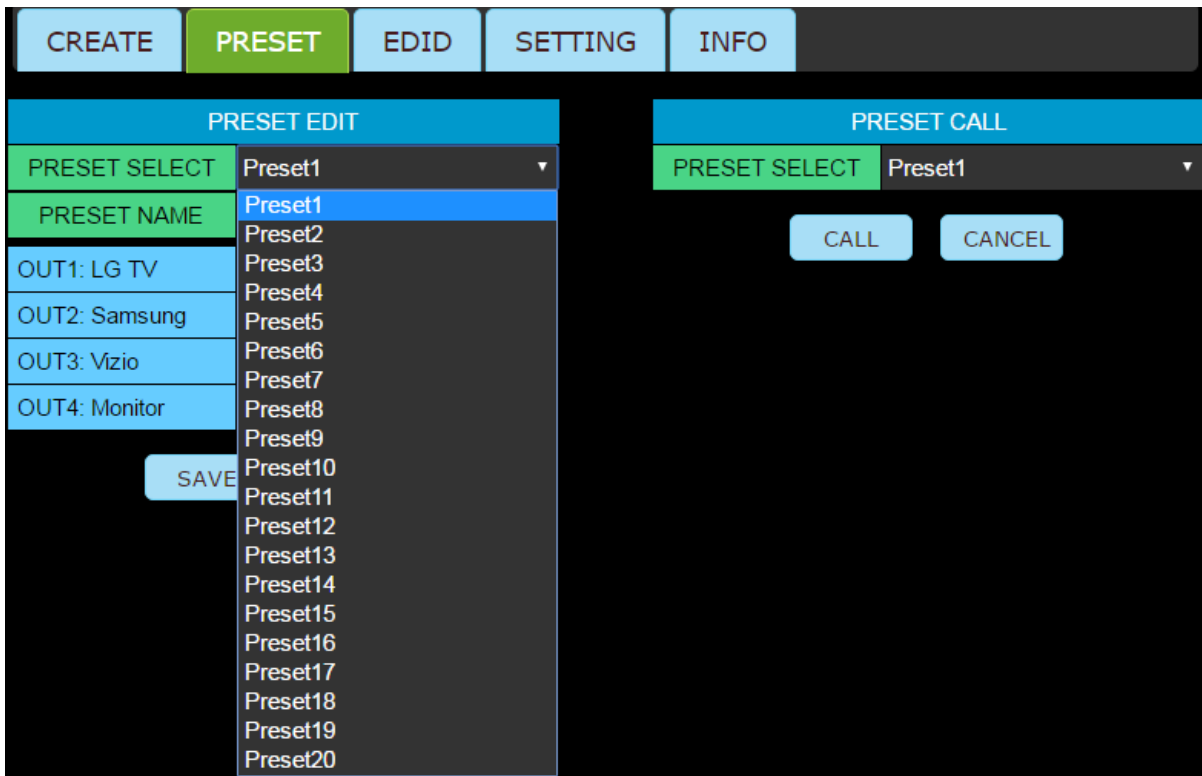
1. Select the preset from the preset select option
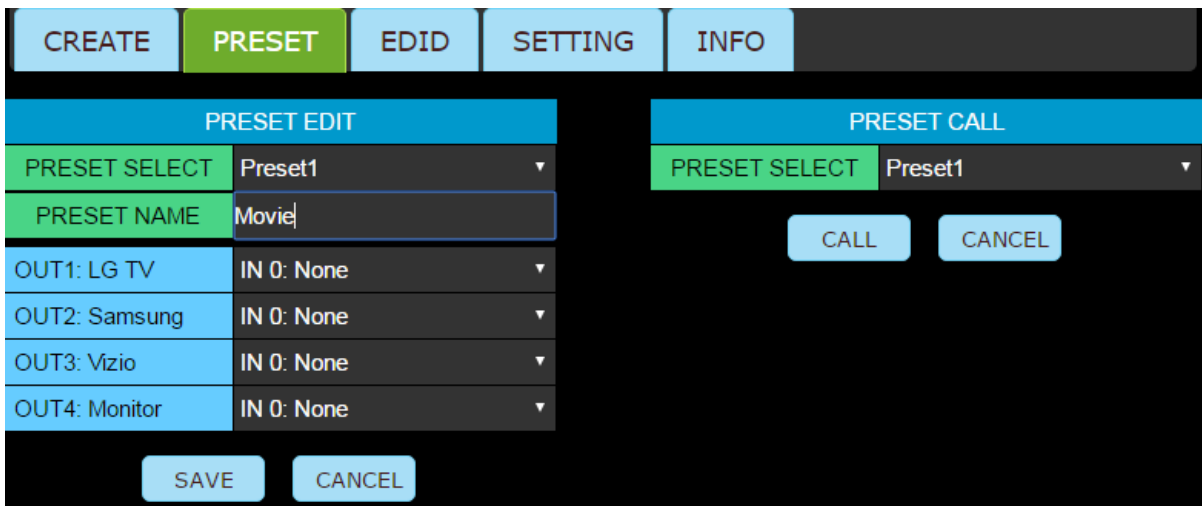
2. You are able to set the name of the preset in the preset name section. (Movie was set on the above example picture)

3. You can label each inputs to the output as seen above.

4. Press Save button to save the Preset

.

Preset Call   - Calling the saved preset.
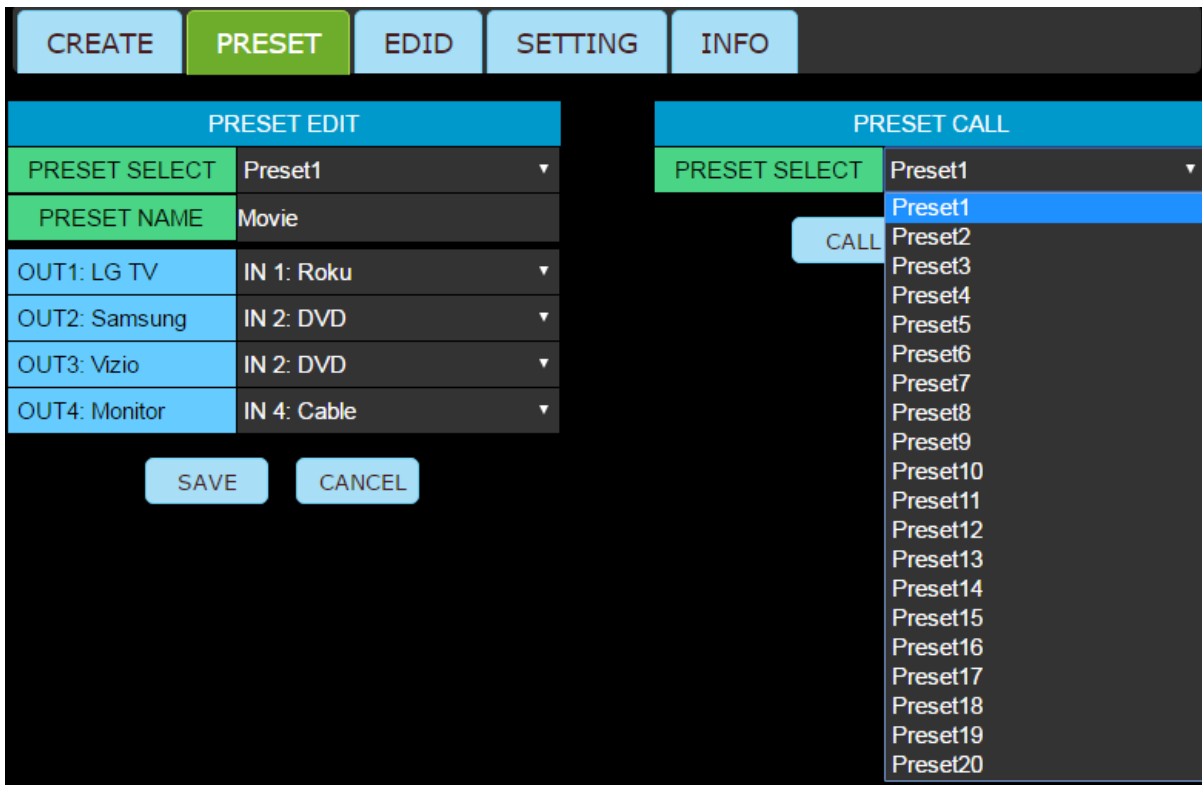
1. You can select saved presets by selecting from the preset select option under PRESET CALL.
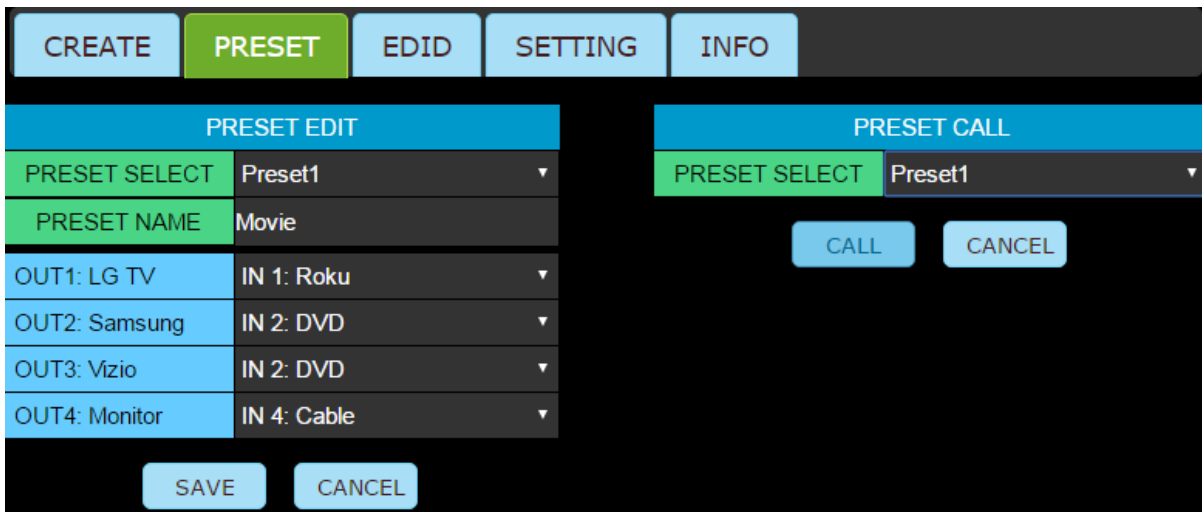
2. Once the preset is selected, press Call button to complete the switching that was saved on to the preset.

3) EDID

EDID - Configuring EDID setting (Internal and external) .

CREATE	PRESET	EDID	SETTING	INFO		
EDID						
IN1: Roku	1920x1080@60[PUR],DVI				REFRESH	LOAD
IN2: DVD	1920x1080@60[PUR],DVI				REFRESH	LOAD
IN3: PC	1920x1080@60[PUR],DVI				REFRESH	LOAD
IN4: Cable	1920x1080@60[PUR],DVI				REFRESH	LOAD
EDID EDIT LIST	14.Output port 1					▾

1. 1080p, DVI
2. 1080p, LPCM 2CH
3. 1080p, Dolby/D
4. 1080p, LPCM Multi channel
5. 1080p, LPCM 2CH 3D
6. 1080p, Dolby/D 3D
7. 1080p, LPCM Multi 3D
8. 2160p@30, LPCM 2CH
9. 2160p@30, Dolby/D
10.2160p@30, LPCM Multi
11.2160p@60, LPCM 2CH
12.2160p@60, Dolby/D
13.2160p@60, LPCM Multi
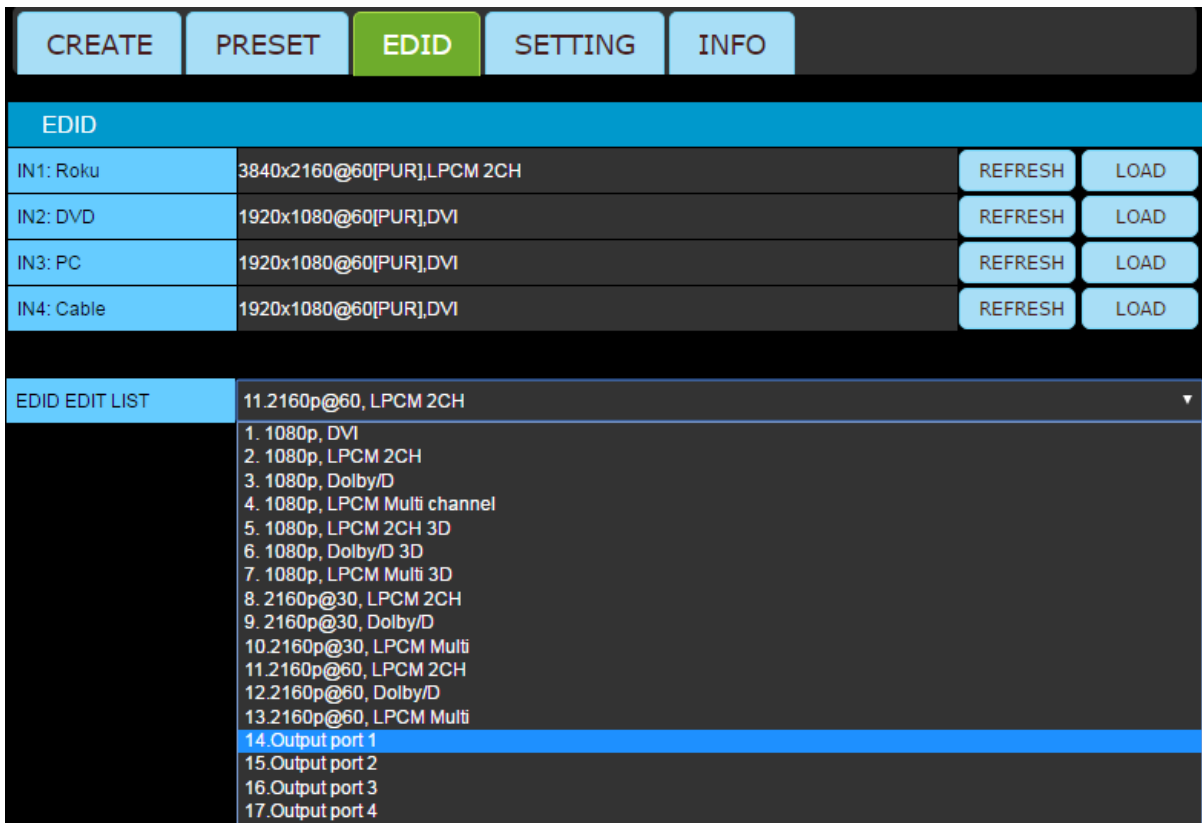14.Output port 1
15.Output port 2
16.Output port 3
17.Output port 4

1. There are 13 preloaded EDID selection on the EDID Edit list

CREATE	PRESET	EDID	SETTING	INFO		
EDID						
IN1: Roku	3840x2160@60[PUR],LPCM 2CH				REFRESH	LOAD
IN2: DVD	1920x1080@60[PUR],DVI				REFRESH	LOAD
IN3: PC	1920x1080@60[PUR],DVI				REFRESH	LOAD
IN4: Cable	1920x1080@60[PUR],DVI				REFRESH	LOAD
EDID EDIT LIST	11.2160p@60, LPCM 2CH					▾

2. Once the selection is made, pressing Load button to the selected input will save the EDID to the input.

EDID			
IN1: Roku	3840x2160@60[PUR],LPCM 2CH	REFRESH	LOAD
IN2: DVD	1920x1080@60[PUR],DVI	REFRESH	LOAD
IN3: PC	1920x1080@60[PUR],DVI	REFRESH	LOAD
IN4: Cable	1920x1080@60[PUR],DVI	REFRESH	LOAD

EDID EDIT LIST | 11.2160p@60, LPCM 2CH

1. 1080p, DVI
2. 1080p, LPCM 2CH
3. 1080p, Dolby/D
4. 1080p, LPCM Multi channel
5. 1080p, LPCM 2CH 3D
6. 1080p, Dolby/D 3D
7. 1080p, LPCM Multi 3D
8. 2160p@30, LPCM 2CH
9. 2160p@30, Dolby/D
10. 2160p@30, LPCM Multi
11. 2160p@60, LPCM 2CH
12. 2160p@60, Dolby/D
13. 2160p@60, LPCM Multi
14. Output port 1
15. Output port 2
16. Output port 3
17. Output port 4

3. External EDID can be selected from the EDID list. (Outputs 1-4 for UX-4400, Outputs 1-8 for UX-8800)

EDID			
IN1: Roku	3840x2160@30[PUR],LPCM 2CH	REFRESH	LOAD
IN2: DVD	1920x1080@60[PUR],DVI	REFRESH	LOAD
IN3: PC	1920x1080@60[PUR],DVI	REFRESH	LOAD
IN4: Cable	1920x1080@60[PUR],DVI	REFRESH	LOAD

EDID EDIT LIST | 14.Output port 1
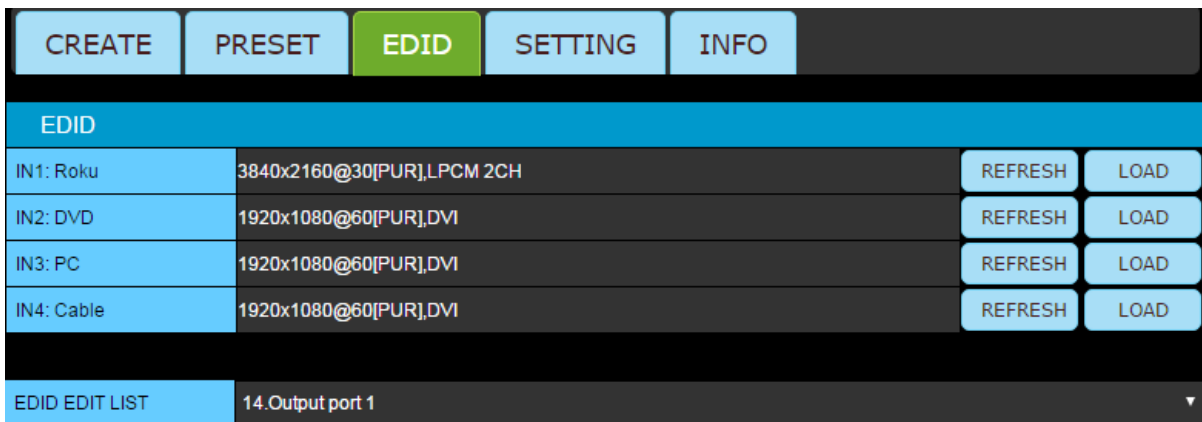
4. Select the Output port and press LOAD to bring and save the EDID from the display to the selected

input.(EDID from output port 1 was saved to IN1:Roku on example picture above)

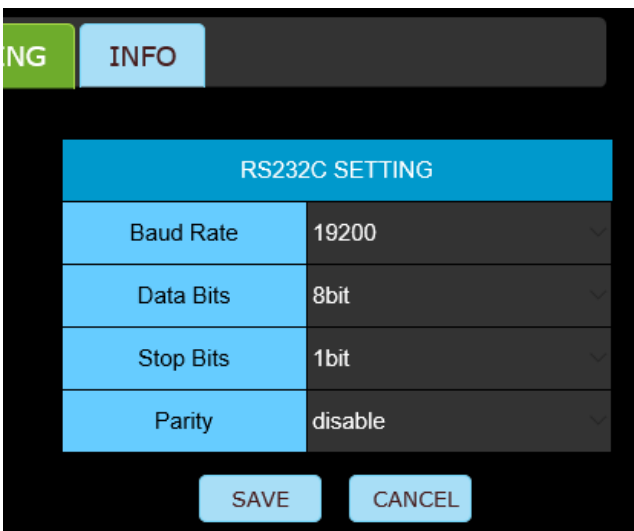***Refresh buttons shows the EDID that is currently used/saved on the input.**

4) SETTING

SETTING - Change the Network setting /   Rs-232 setting / User ID and Password / Upload firmware

CREATE	PRESET	EDID	SETT

NETWORK SETTING		
DHCP	On	Off
IP Address		
Subnet		
Gateway		

SAVE   CANCEL

CREATE	PRESET	EDID	SETT

NETWORK SETTING	
DHCP	On Off
IP Address	192 . 168 . 0 . 2
Subnet	255 . 255 . 255 . 0
Gateway	192 . 168 . 0 . 1

SAVE   CANCEL
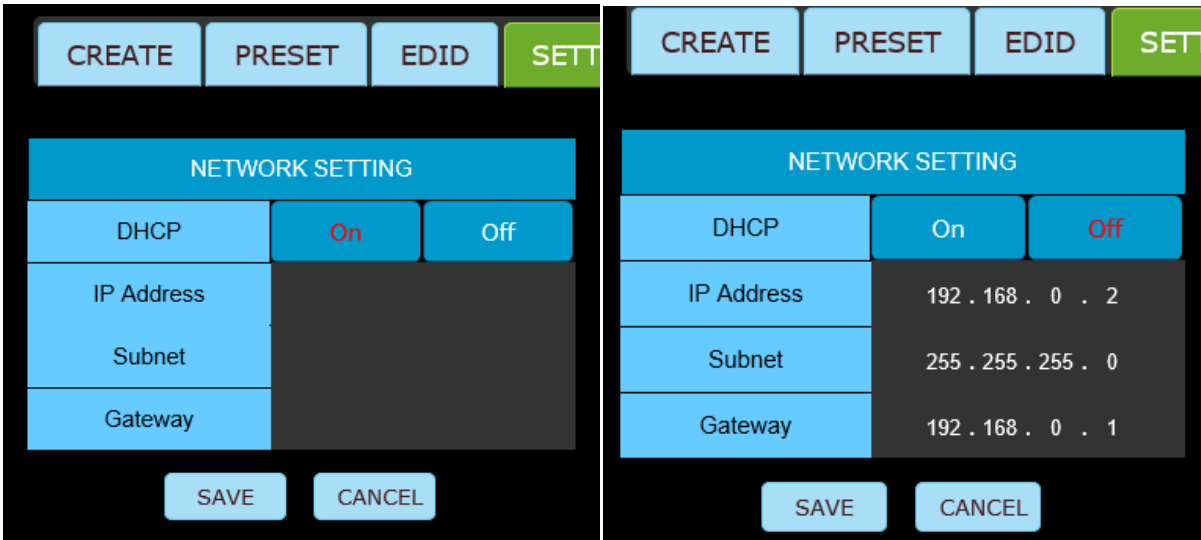
IP Address

1. Selecting On in DHCP will assign the IP address by the network.(Dynamic IP Address)

2. The IP settings can be manually set with DHCP Off.(Static IP Address)

NG	INFO	

RS232C SETTING	
Baud Rate	19200
Data Bits	8bit
Stop Bits	1bit
Parity	disable

SAVE   CANCEL

RS232

3. RS232C Setting can be changed by selecting each option. Press save button to save the changes made.

user1:name/pass	1	1
user2:name/pass	2	2
user3:name/pass	3	3

SAVE   CANCEL

4.User ID and password can be modified up to 3 users. Press save button to save the changes made.

5.2Firmware Upload (Web UI)
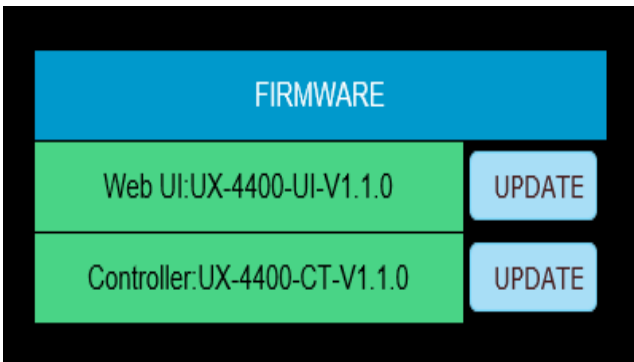
Google Chrome is recommended

1. There are 2 types of firmware that may be required to be upload.

UX-4400-UI-V1.1.0 - Web UI Firmware is version 1.1.0

UX-4400-CT-V1.1.0 - Controller(Matrix) firmware is version 1.1.0

*Confirm the proper firmware type is selected
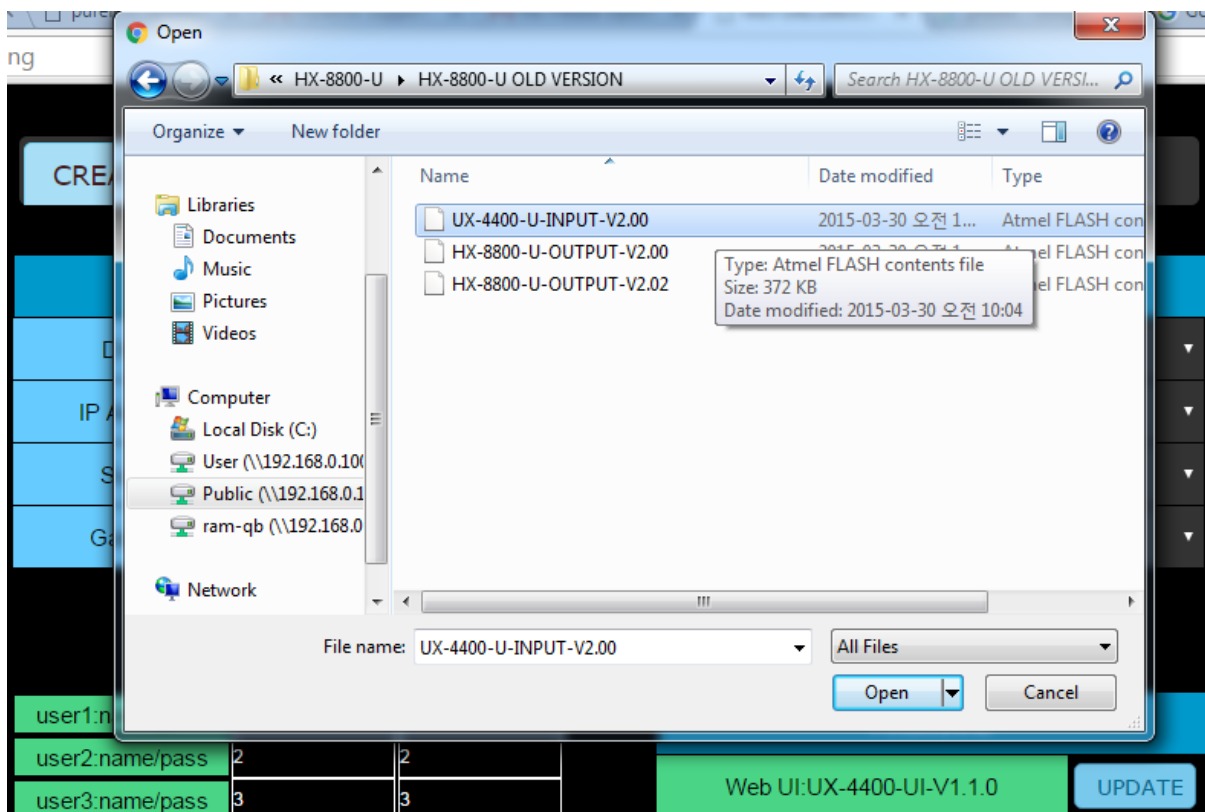
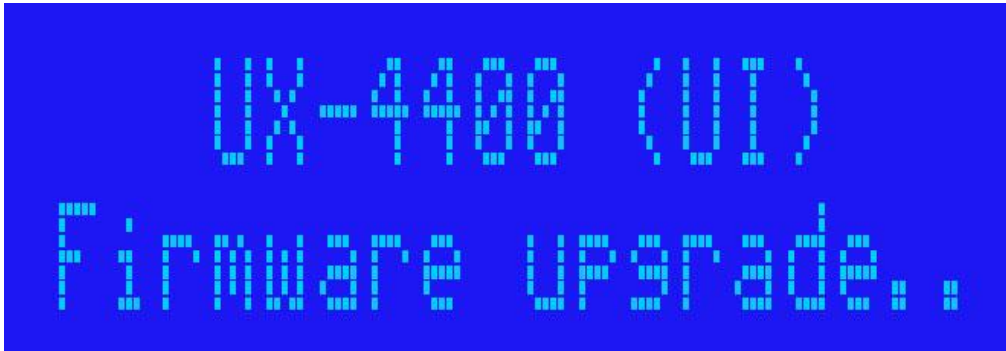**2**. Once update is selected, search for the proper firmware,

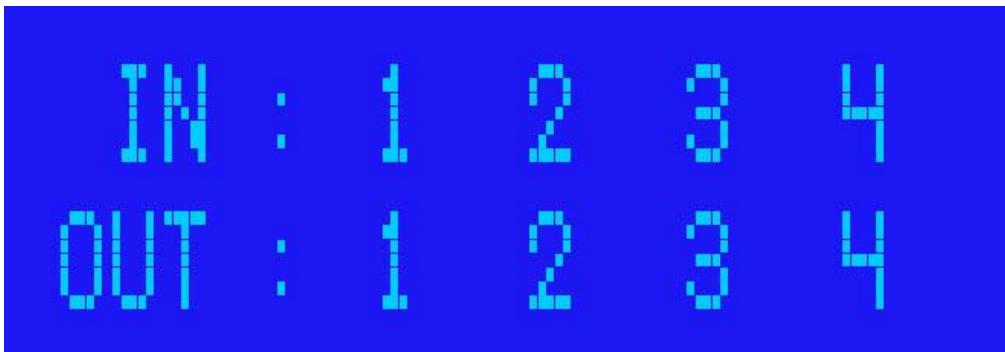***Please confirm the firmware version is the correct firmware.**
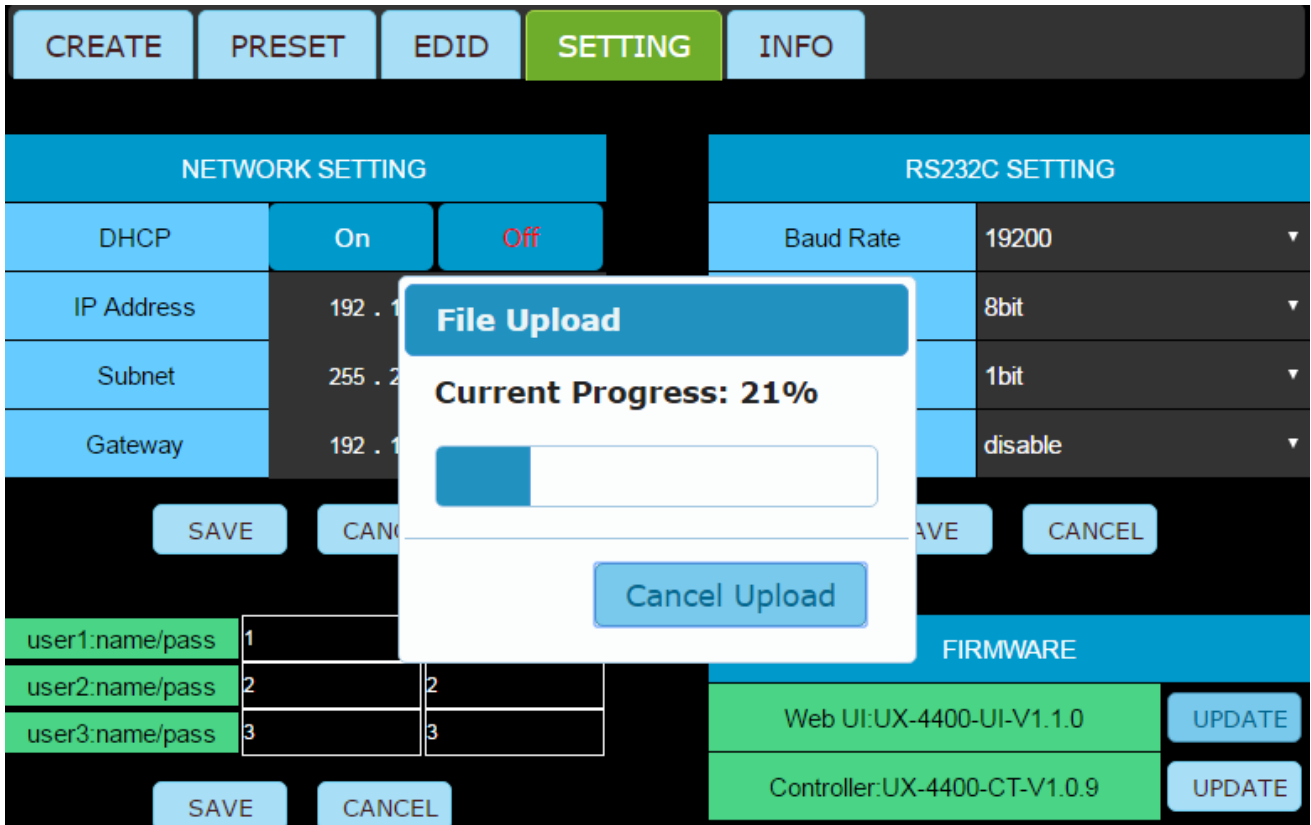
3. Select and open the firmware to load the firmware.
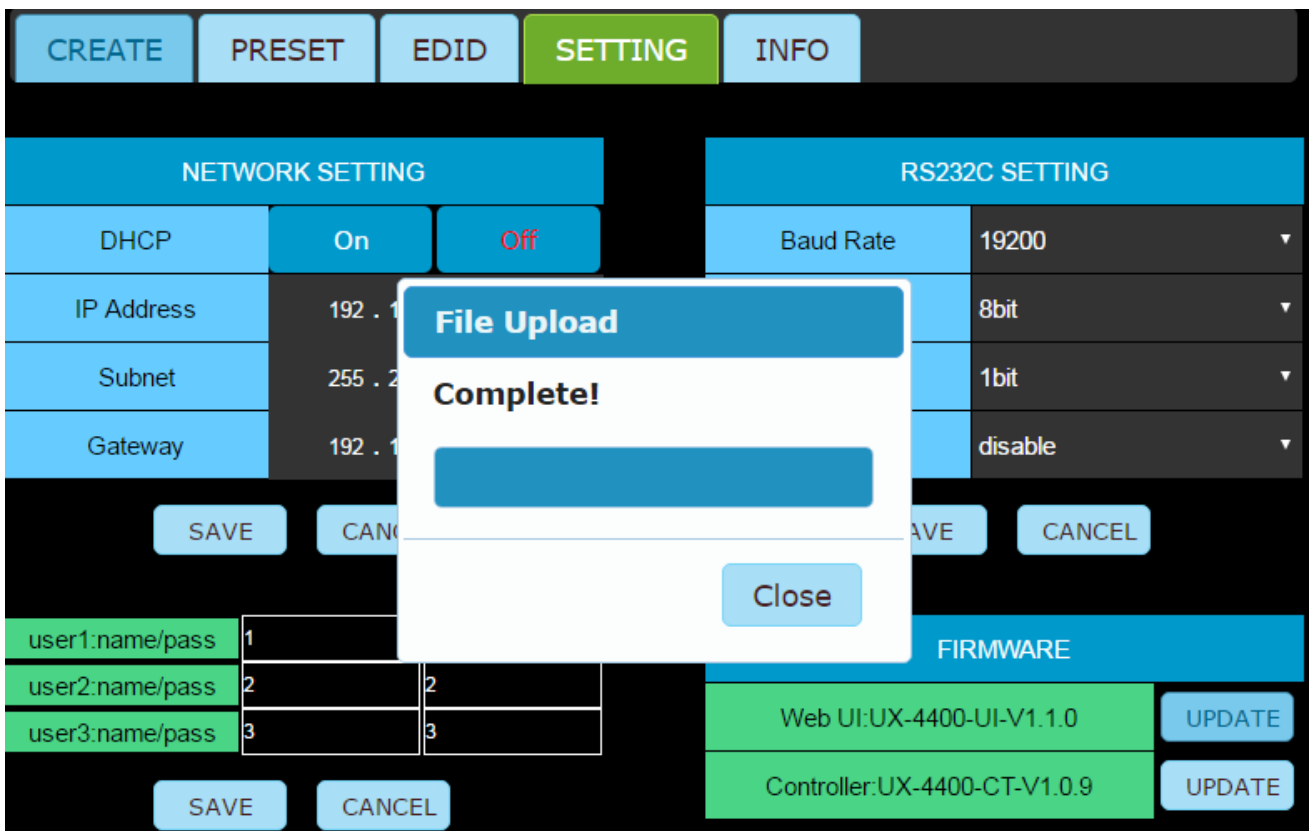
4. Once the firmware upload is completed, check the front of the LCD panel of the matrix.

5. The screen above will appear on the front LCD panel.

6. It will return to the original state once the firmware upload is fully completed.

7. Power cycle the matrix.

*Procedures of uploading firmware for both controller and Web UI are identical.
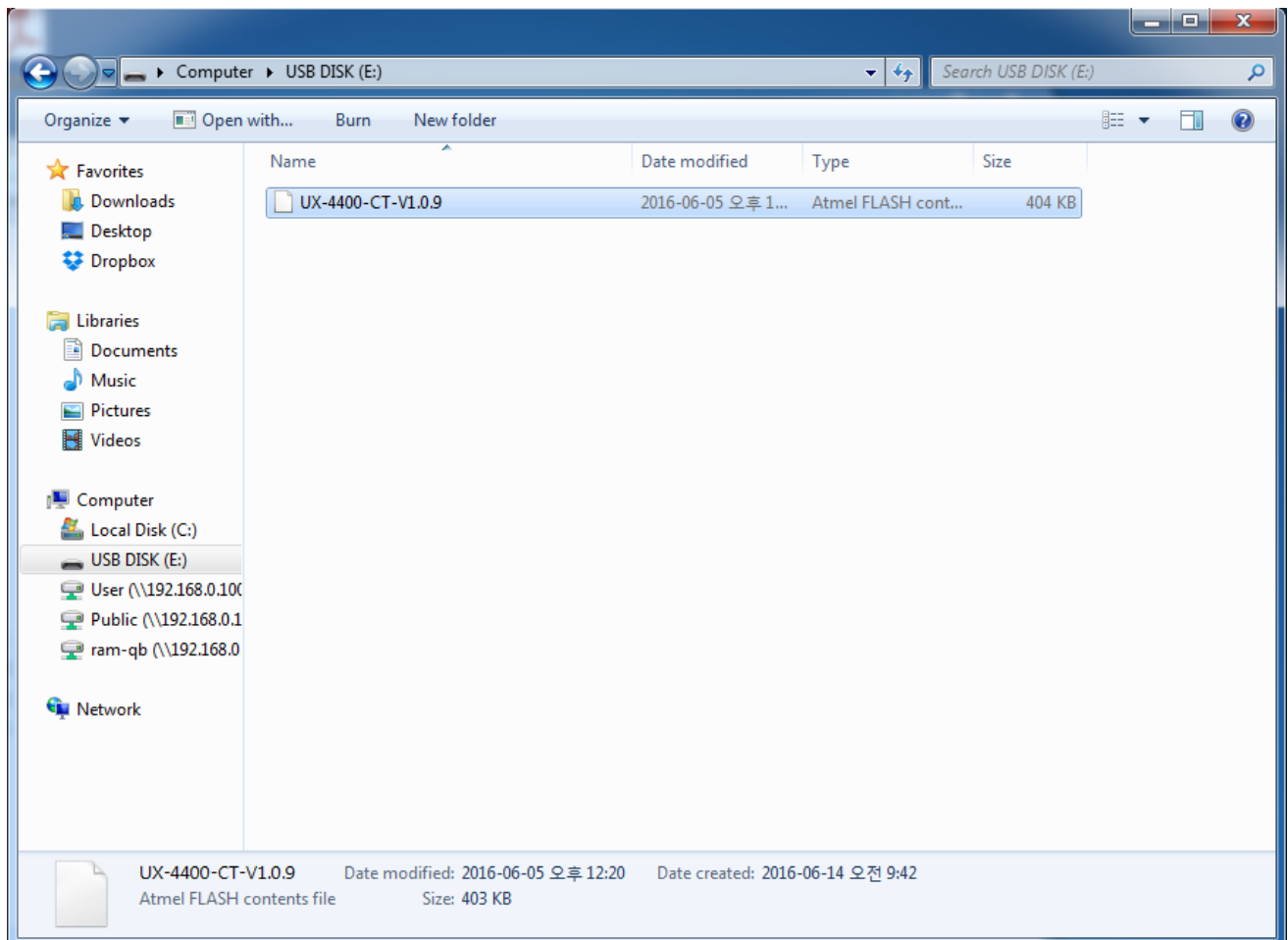
5) INFO

1. Information of both input and output can be found on the Info page.
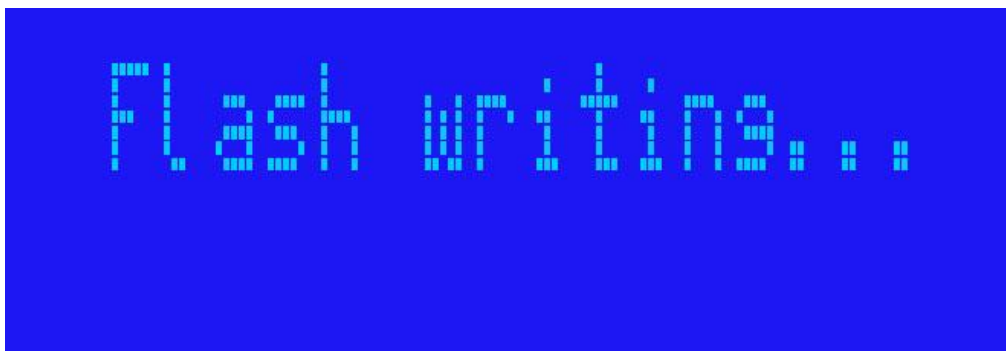
5.3 Firmware Upload (USB)
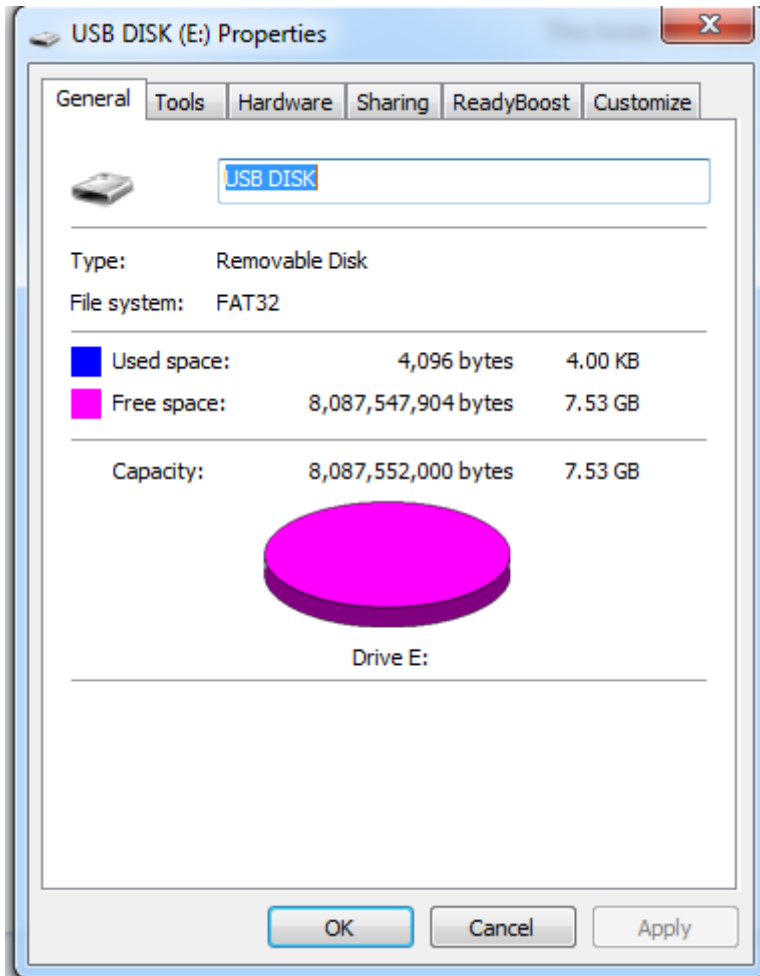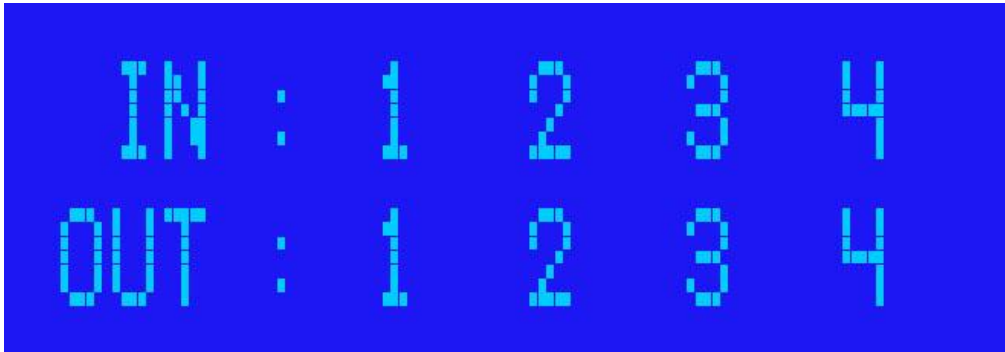

1. Confirm the USB file system is FAT32.

*USB Disk is not included in the package

2. Confirm only the firmware is in the USB disk.

3. Insert the USB disk in to the USB port in the front.

4. Power cycle the Matrix while the USB is inserted.

5. Once the upload start, you will see the Flash writing on the front LCD panel.

6. Once the upload is completed, UX will return to its original state.

7. Remove the USB disk and power cycle the matrix once the firmware upload is completed.

Chapter 6. Additional Information

6.1 Manufacturer's Warranty (3-Year)

PureLink warrants this UX Series HDMI Integrated Matrix Switcher to be free from defects in workmanship and materials, under normal use and service, for a period of three (3) year from the date of purchase from PureLink or its authorized resellers.

If the product does not operate as warranted during the applicable warranty period, PureLink shall, at its option and expense, execute one of the following as necessary:

1. Repair the defective product or part
2. Deliver to customer and equivalent product or part to replace the defective item
3. Refund to customer the purchase price paid for the defective product

All products that are replaced become the property of PureLink. Replacement products may be new or reconditioned.Repaired or replacement products or parts come with a 90-day warranty or the remainder of the warranty period. PureLink shall not be responsible for any software, firmware, information, or memory data loss of contained in, stored on, or integrated with any products returned to PureLink for repair under warranty.

6.2 Customer Service

Any customer service inquiries can be submitted electronically through the Q&A form on our website (www.purelinkav.com).

For immediate assistance please contact us at (201) 488-3232 to reach our customer care or tech support team.