Module

for the

Matrix HDMI Switch

HKHA414SW

TABLE OF CONTENTS

Date	Initials	Comments
2012-04-30	JIS	First release

Introduction

This is a reference manual to describe the interface provided between an AMX NetLinx system and a **HKHA414SW Matrix HDMI Switch** through a serial port (R**S232)** or Ethernet **(TCP).**

This module was written using NetLinx Studio version **1.47** build **1.15.230.**

Serial Comms

These are set at the startup of the module:

Baud Rate   19200bps
Data bits   8 bits
Parity   None
Stop bits   1 bit
Flow control None

Cable need to be a straight through male to female

Implementation

To interface to the AMX **Matrix HDMI Switch** module, the programmer must perform the following steps:

An example of how to do this is shown below Serial.

```
define_device

dvDevice        = 5001:3:0   // The switch connected via serial (RS232)
vdvDevice       = 33001:1:0  // The virtual device use for
                             // communication between the program and
                             // module
...
char Maxtrix_IP[15] = '';   // this must be blank for Serial

define_module 'HKHA414SW_HDMI_Matrix' HKHA414SW( vdvDevice, dvDevice,
Maxtrix_IP );
```

An example of how to do this is shown below for TCPIP.

```
define_device

dvDevice        = 0:4:0      // Available Ethernet Port
vdvDevice       = 33001:1:0  // The virtual device use for
                             // communication between the program and
                             // module
...

char Maxtrix_IP[15] = '172.16.106.100'; Matrix Switch IP Address

define_module 'HKHA414SW_HDMI_Matrix' HKHA414SW( vdvDevice, dvDevice,
Maxtrix_IP );
```

Command Control

The UI module controls the Switch via commands (NetLinx command *send_command*) sent to the Matrix module through the virtual device. The commands supported by the switch module are listed below.

Command	Description
SW [<outputs>=<input>;]+	Switch outputs: valid range is 1 to number of outputs. Switch inputs: valid range is 1 to number of inputs. `SW 1=4;` Single switch `SW 1,2,4,7,8=4;` Multiple switch to same input `SW 1=1;2=2;7=4;8=4;` Multiple switch to different inputs Outputs 1,2,3,4,5 to input 2 `SEND_COMMAND vdvDevice, 'SW 1,2,3,4,5=2;';`
SW?	Request current status `SEND_COMMAND 33001, 'SW?';`
SW_ON	Power On switch
SW_OFF	Power Off switch
VERSION?	Returns Versions

Table 1 – Send Command Definitions

String Feedback

The UI module receives from the Switch via a string event sent out through the virtual device. The string feedback supported is listed below.

String	Description
SW [<Outputs>=<Input>;]+	Output 1 is set to input 2, output 2 to input 4. All current output settings are reported in one single string. SW 1=2;2=4;
Version = [text]	AMX module version

Table 2 - Command Feedback Definitions

TroubleShooting

Error	Description
Fail Command (in AMX Notifications)	Sending a invalid quest, example sending SW2=7 to a 4x4 switch
Unable to communicate to Matrix through Serial	• Check you are using the correct serial cable • Make sure the IP address in the define module is set to ''; • check that the serial TX and RX is lighting up on the front of the AMX NI when send commands. If it's not, the most likely case is the wrong Serial cable

Unable to communicate to Matrix through IP	• Check you are using an Ethernet port on the AMX NI example 0:4:0
	• check you have the correct IP address of the matrix (press menu twice on the matrix)
	• check you can see the matrix on your network by
	  ○ opening command prompt on windows
	  ○ ping (your matrix) 172.16.100.100
	  ○ that your received packets
	• check no-one else is using the same IP address as the matrix (that there's no IP conflicts on the network

Table 3 - Trouble shooting and answers definitions