



# AMX modules for tvONE CORIOmatrix

## Integration Guide

## 1 – Summary

This document will assist AMX programmers and installers with the integration of this module into their AMX program.

The module was designed to control a tvONE CORIOmatrix.

## 2 – Resources and Assumptions

### 2.1 – Supported Systems

The module has been designed for use with an AMX control system with Ethernet capability. A Demo project is provided. This project is not intended for end users, but is provided so that all features of the module can be demonstrated and exercised.

### 2.2 – Software and Firmware

This module was developed using the following firmware and software versions. Ensure you are using the same version or newer.

AMX NetLinx Studio : 3.2.0.418

tvONE CORIOmatrix firmware V1.300B34

### 2.3 – Assumptions

It is assumed that you already have a good understanding of AMX Programming and integration. Knowledge of TCP/IP networking would also be beneficial.

It is assumed that the tvONE CORIOmatrix is installed and functioning correctly and that you have a thorough understanding of its current configuration and switching capabilities. The CORIOmatrix must be connected to the same LAN as the AMX processor for TCP/IP control.

## 3 – AMX Modules

### 3.1 – Module Format

The tvONE project module has been provided in a zip package called “tvONE\_CORIOmatrix\_AMX\_[version].zip”. Copy the “tko” file to your project folder and add it in to your project. A demo file has been provided for demonstration / evaluation of the module and is not intended for direct integration into your project.

### 3.2 – Module Features

The module supports the functions listed in the table below. Please consult your tvONE device documentation to check which functions are supported by your device, and for the maximum preset value allowed.

Function	Notes
SET-VIDEO	Command for switching video
SET-AUDIO	Command for switching audio
LOAD PRESET X	Load a preset where X is the preset number from

	1 to 56.
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### 3.3 – Using the module in your program

Copy the “tvONE\_CORIOmatrix.tko” file from the zip file to your AMX project folder and add it to your project. Next, add parameter definitions and a define\_module line to your matrix source file, similar to the following:

```
define_device
    dvTvONE_CORIOmatrix = 0:4:0
    vdvTvONE_CORIOmatrix = 33001:1:1
    dvTP = 10001:1:1

define_variables

char

TvONE_CORIOmatrix_IP[15] = '172.16.105.3',
TvONE_CORIOmatrix_USERNAME[100] = 'admin',
TvONE_CORIOmatrix_PASSWORD[100] = 'adminpw';

integer

TvONE_CORIOmatrix_PORT = 10001;

define_module 'tvONE_CORIOmatrix' TVONE_CORIOMATRIX(
    vdvTvONE_CORIOmatrix,
    dvTvONE_CORIOmatrix,
    TvONE_CORIOmatrix_IP,
    TvONE_CORIOmatrix_PORT,
    TvONE_CORIOmatrix_USERNAME,
    TvONE_CORIOmatrix_PASSWORD)
```

The module parameters are as follows:

Parameters	Details
<code>vdvTvONE_CORIOmatrix</code>	The virtual device used for communication between the program and the switcher module. Define a device in the virtual device range.
<code>dvTvONE_CORIOmatrix</code>	The physical device for the switcher. Define a device in the IP device range.
<code>TvONE_CORIOmatrix_IP</code>	The IP address of the CORIOmatrix.
<code>TvONE_CORIOmatrix_PORT</code>	The TCP/IP port of the CORIOmatrix (default port = 10001).
<code>TvONE_CORIOmatrix_USERNAME</code>	The username required to access the CORIOmatrix (default = “admin”).

<code>TvONE_CORIOmatrix_PASSWORD</code>	The password required to access the CORIOmatrix (default = "adminpw").
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### 3.4 – Testing the modules using the supplied test harness

The supplied demo test harness may be used to test the module. The test harness includes a UI module which controls the CORIOmatrix with commands sent via the virtual device. The commands are sent to the module using **send\_command**. For instance:

**send\_command vdvTvONE\_CORIOmatrix, 'SET-VIDEO\_s16o1=s1i1';**

...switches output 1 of the video output card in slot 16 to input 1 of the video input card in slot 1 (where **s16o1** = slot 16, output1, and **s1i1** = slot 1, input 1).

**send\_command vdvTvONE\_CORIOmatrix, 'SET-AUDIO\_s14o1.AudOutA=s14i3.AudInA;**

...switches output 1 of the audio card in slot 14 to input 3 of the same audio card in slot 14 (where **s14o1.AudOutA** = slot 14, output 1, and **s14i3.AudInA** = slot 14, input 3). Note the requirement to define all inputs/outputs as "A" on an audio card.

**send\_command vdvTvONE\_CORIOmatrix, 'SET-AUDIO\_s16o1.AudOutC=s1i1.AudInB;**

...switches audio output C of video output 1 of the video card in slot 16 to audio input B of video input 1 of the video card in slot 1 (where **s16o1.AudOutC** = slot 16, video output 1, audio output C and **s1i1.AudInB** = slot 1, video input 1, audio input B).

**send\_command vdvTvONE\_CORIOmatrix, 'SET-AUDIO\_s16o1.AudOutC=s14i1.AudInA;**

...switches audio output C of video output 1 of the video card in slot 16 to input 1 of the audio card in slot 14 (where **s16o1.AudOutC** = slot 16, video output 1, audio output C and **s14i1.AudInA** = slot 14, input 1). Note the requirement to define all inputs/outputs as "A" on an audio card.

**send\_command vdvTvONE\_CORIOmatrix, 'LOAD-PRESET\_4';**

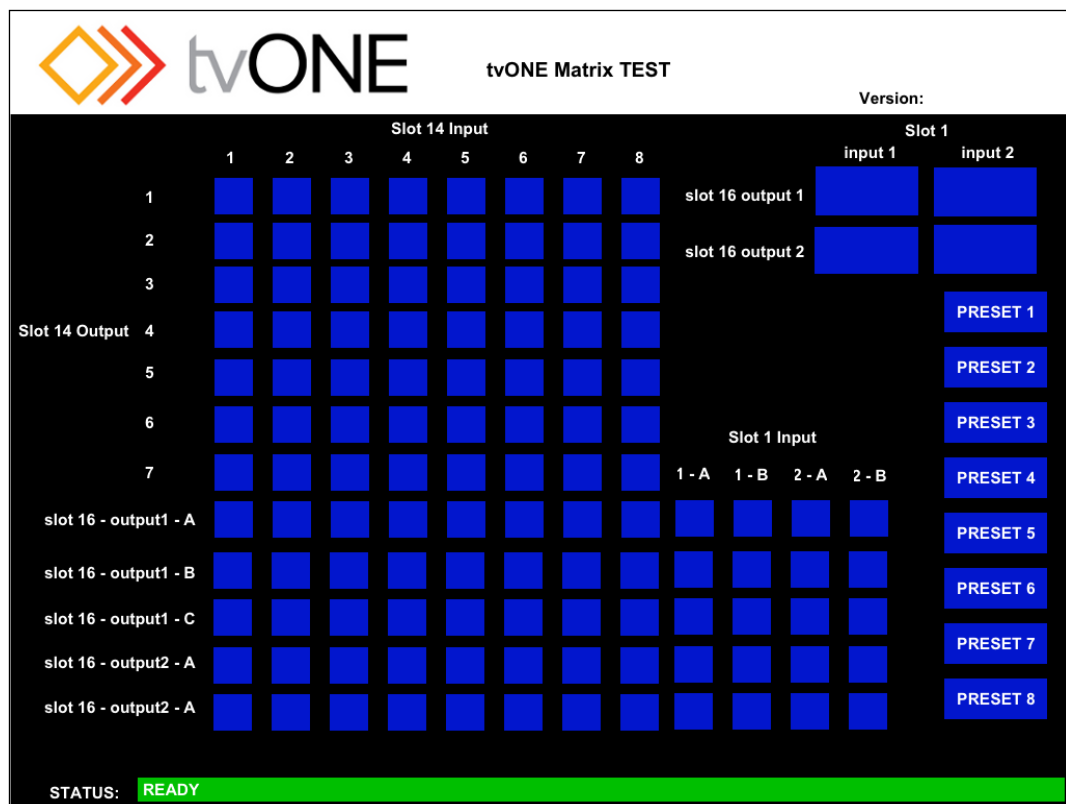
...loads preset number 4.

All commands supported by the module are listed below.

Command	Details
<code>SET-VIDEO_s&lt;OutputSlotNumber&gt;o&lt;OutputNumber&gt;=s&lt;InputSlotNumber&gt;i&lt;InputNumber&gt;;</code>	<p>Switches a particular video output to a particular video input.</p> <p><b>OutputSlotNumber</b> = slot in which the video output card is located</p> <p><b>OutputNumber</b> = output number on video output card</p> <p><b>InputSlotNumber</b> = slot in which the video input card is located</p> <p><b>InputNumber</b> = input number on video input card</p>
<code>SET-</code>	Switches a particular audio output to a particular audio input.

<pre>AUDIO_s&lt;OutputSlotNumber&gt;o&lt;OutputNumber&gt;.AudOut&lt;AudioOutput&gt;=s&lt;InputSlotNumber&gt;o&lt;InputNumber&gt;.AudIn&lt;AudioInput&gt;;</pre>	<p><b>OutputSlotNumber</b> = slot in which the audio or video output card is located</p> <p><b>OutputNumber</b> = output number on video or audio output card</p> <p><b>AudioOutput</b> = output letter on video or audio output card (A,B,C,D)</p> <p><b>InputSlotNumber</b> = slot in which the video or audio input card is located</p> <p><b>InputNumber</b> = input number on video or audio input card</p> <p><b>AudioInput</b> = input letter on video or audio input card (A,B,C,D)</p>
<pre>LOAD-PRESET_&lt;number&gt;;</pre>	<p>Loads a preset defined by number. The preset number must be within the range supported by the device (e.g. 1 – 50).</p>
<pre>GET-VERSION_?;</pre>	<p>Requests the module version</p>
<pre>GET-STATUS_?;</pre>	<p>Requests the current status of the module</p>

The test harness supplied allows the user to switch video and audio inputs and outputs, select presets and also requests status:



## 4 – Feedback from the module

The following table contains feedback received by the module:

Command	Details
<code>VERSION &lt;value&gt;;</code>	Module version
<code>STATUS &lt;number&gt;=&lt;explanation&gt;;</code>	The current status of the device. <b>Number</b> = 1 (Good and waiting for commands) <b>Number</b> = 2 (Processing commands. Any commands sent will be queued) <b>Number</b> = 3 (There's a problem. Most likely a bad command or connection)
<code>PERSETNAME &lt;number&gt;=&lt;name&gt;;</code>	<b>Number</b> = present number <b>Name</b> = preset name

## 5 – Troubleshooting and tips

### 5.1 – Communication failure

Check the IP address of the CORIOmatrix is correctly entered in the module.

If the commands sent to the CORIOmatrix do not seem to be working, check that you can ping the device from a pc.

The CORIOmatrix does not support multi-users and therefore can only support one connection at a time. If the module is failing to connect to the device, check no other systems are currently connected.

After resetting the device or a communication failure, it may take 15 – 30 seconds for the connection to be re-established.

If the source requested is not selected, check that the configuration of the CORIOmatrix supports the selected input number.

If the preset requested is not selected, check that the preset exists on the CORIOmatrix by manually selecting it.