Delta Media Server

DeltaShowControlInterface

User Guide

7THSENSE

DeltaShowControlInterface : User Guide

Trademark Information

Copyright Information

Printed: December 2020

This edition is for software version DeltaShowControlInterface v.1.0
Document ref.: M291-4

E: info@7thsense.one
W: 7thsense.one

7thSense Design Ltd

2 The Courtyard, Shoreham Road
Upper Beeding
Steyning
West Sussex
BN44 3TN
UK

T: +44 (0) 1903 812299

7thSense Design LLC, Michigan

332 E Lincoln Ave
Suite 100
Royal Oak, MI 48067
USA

T: +1 248 599 2717

7thSense Design LLC, Orlando

4207 Vineland Rd
Suite M1
Orlando, FL 32811
USA

T: +1 407 505 5200

Introduction

DeltaShowControlInterface is a small utility that provides a control logic for the Advantech ADAM-6060 interface module so that Delta shows can be controlled from simple remote switches. A 'dry' digital input (switch or pulse) to the ADAM-6060 will send a UDP trigger over Ethernet to the IP of the required Delta Server to either perform a simple timeline command or trigger a Delta sequence.

There are two control logic modes [13], one to operate simple load/loop/stop timeline commands, the other to trigger prenamed Delta sequences. Any sequence can be written in Delta under a name that belongs to each input switch.

The Advantech ADAM-6060 illustrated here is a data acquisition and control module with 6 channels of digital input and 6 channels of relay outputs using Modbus TCP over Ethernet. Please refer to the specification of this unit for full details and suitability. Use the Advantech .NET utility supplied with your unit or downloaded from Advantech. Please refer also to the manual supplied with your Advantech ADAM-6060 unit.

- Advantech ADAM-6000 series User Manual (2018)

Required Components

- DeltaShowControlInterface Software v.1.0
- Advantech ADAM-6060 Interface Unit + Ethernet cable
- Adam/Apax .NET Utility

Principle

The **Advantech ADAM-6060** converts digital inputs to output commands over Ethernet.

DeltaShowControlInterface provides a control logic to convert this output to meaningful DeltaServer commands.

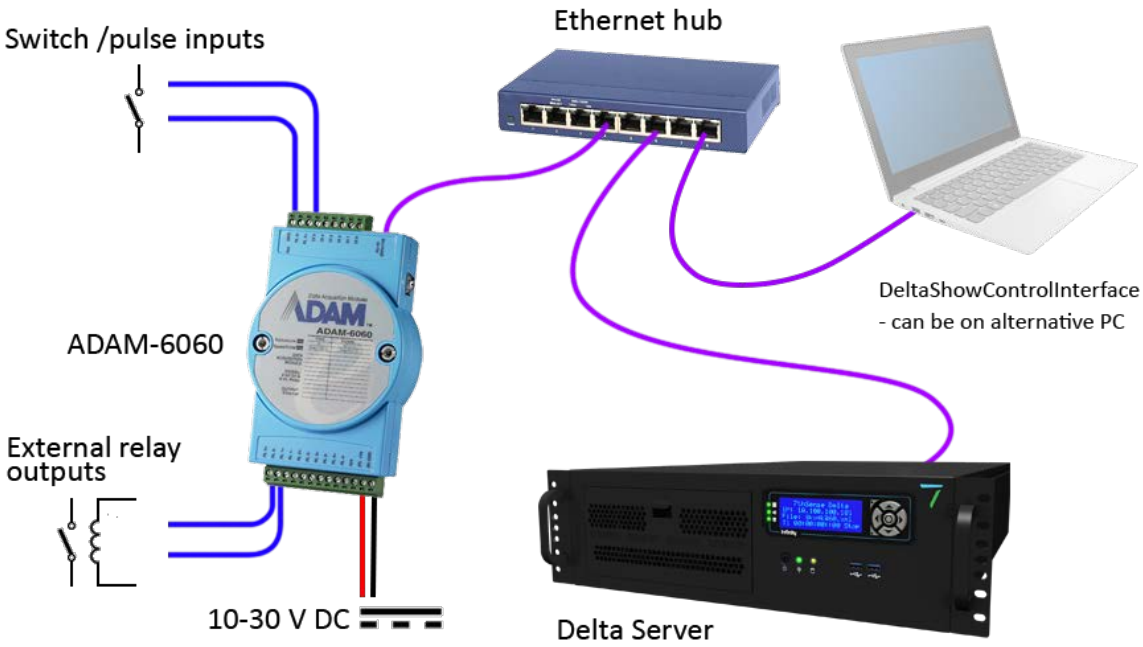
The **Adam/Apax .NET** utility enables communication between the ADAM-6060 and the Delta playback server.

The DeltaShowControlInterface configuration **.xml file** enables communication between the DeltaShowControlInterface utility and the DeltaServer application.

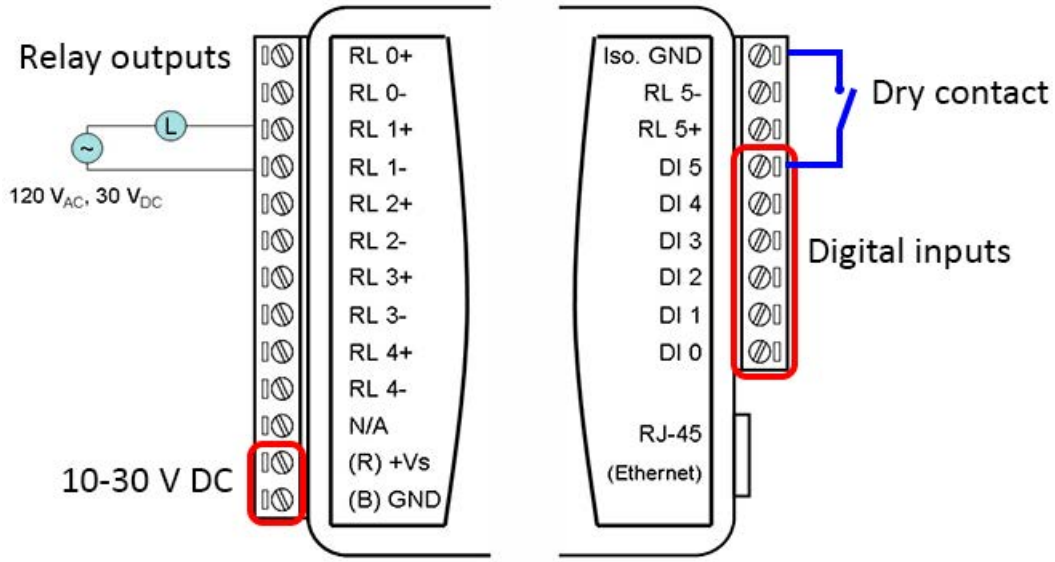
Combination switch operations into the ADAM-6060 are interpreted as playback controls, or instructions to run specifically-named sequences.

Workflow

1. Install **DeltaShowControlInterface** software on the Delta Server or another networked PC where you wish to use it.
2. Connect the Advantech **ADAM-6060** to the server Ethernet network.*



3. Connect and switch on the power supply.
4. Install and run the **Adam/Apax .NET utility** on the Delta server playing the shows to be controlled.
5. Configure the ADAM-6060 comms [6] so that the Delta server and the ADAM-6060 talk to each other.
6. Connect the switches to be used with the **Digital Inputs** on the ADAM-6060:*



7. Configure **DeltaShowControlInterface** so that DeltaServer communicates with it.
8. In **DeltaGUI**, configure the Delta show(s) to communicate with DeltaShowControlInterface, and/or create sequences with the sequential names that are integral to DeltaShowControlInterface. Which of these two modes is used is set in the Control Logic [13] of DeltaShowControlInterface.

* **Note.** The Advantech ADAM-6060 is a very versatile unit being used in a very specific way with the DeltaShowControlInterface utility to provide simple show control switching for Delta servers using the digital inputs.

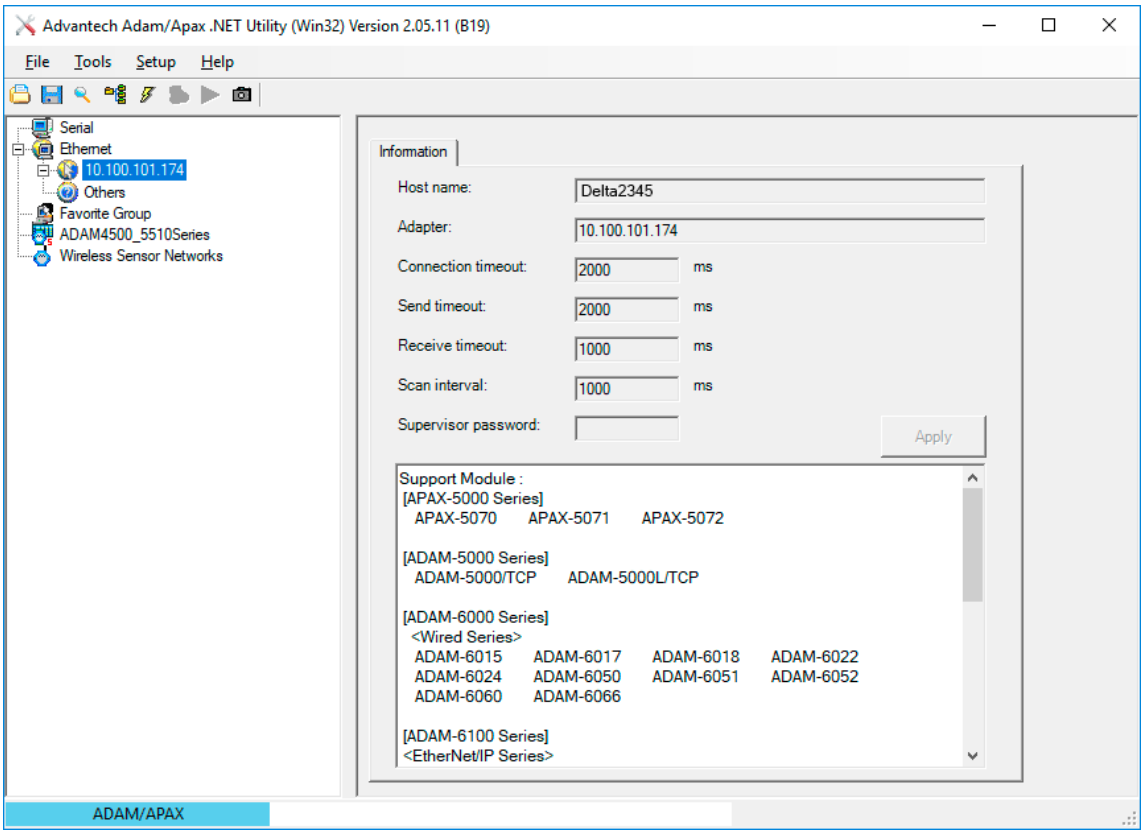
Shown here are connections that include the relay **outputs**. It is also possible to send ASCIIUDP *from* a Delta sequence to operate a relay switch for other equipment. This does not require the DeltaShowControlInterface. See Appendix: Sending ASCII to ADAM-6060 [16].

Configure the ADAM-6060 Comms

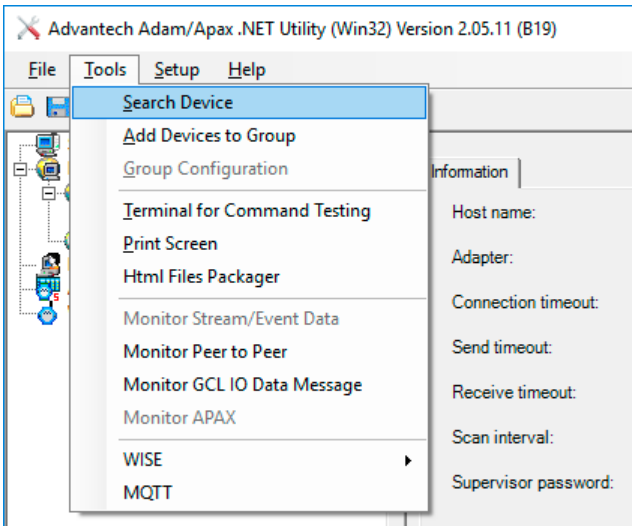
Open the Adam/Apax .NET Utility and configure the communications between the Delta server playing the show and the ADAM-6060 receiving the switch signals.

Note: Some parts of configuration use a password. The default is eight zeros: 00000000.

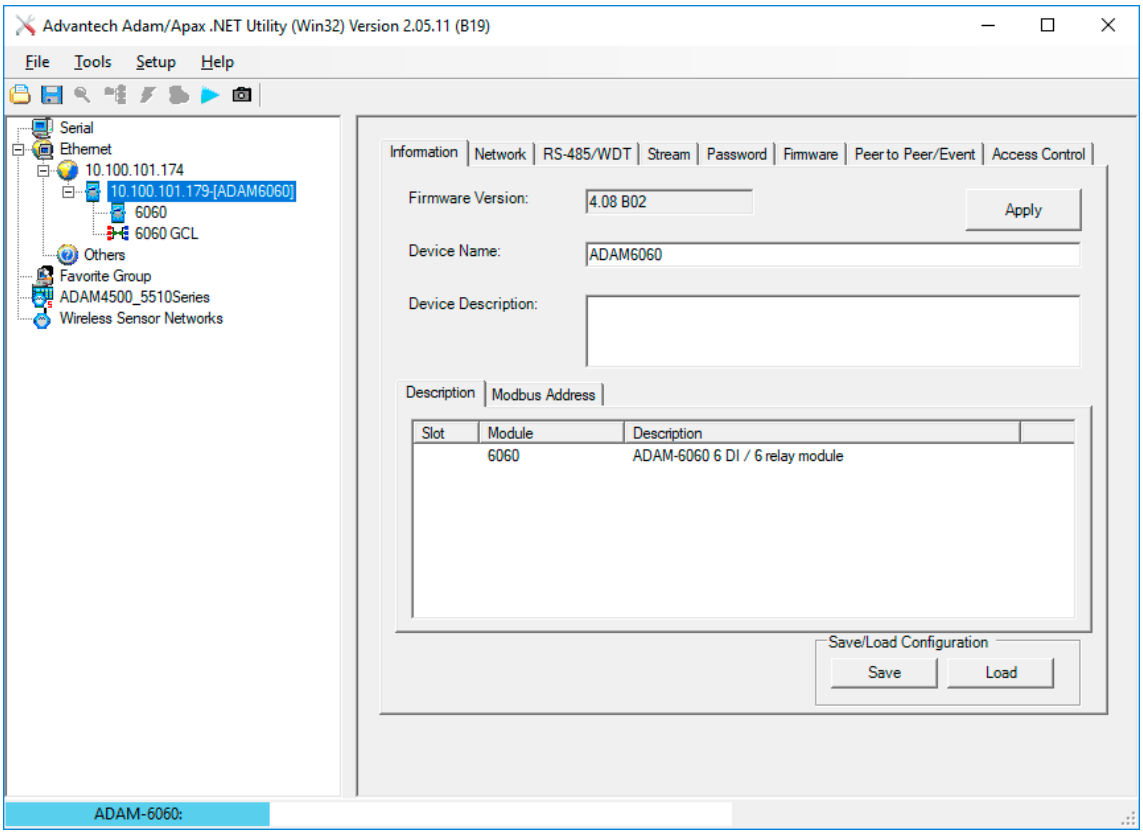
Identify the Delta server NIC (IP) to receive the control from the ADAM-6060 (example: 10.100.101.174) and click on it.



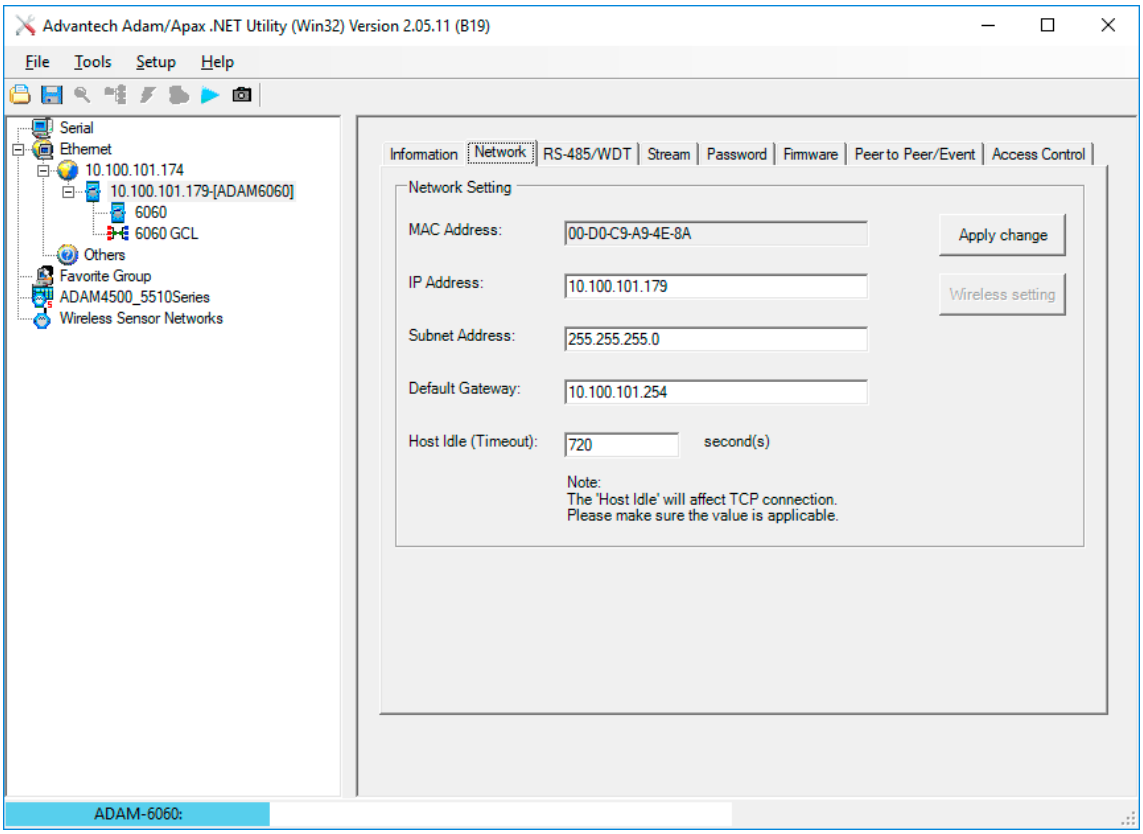
From the top menu, click on *Tools* > *Search* to find the connect ADAM-6060 module:



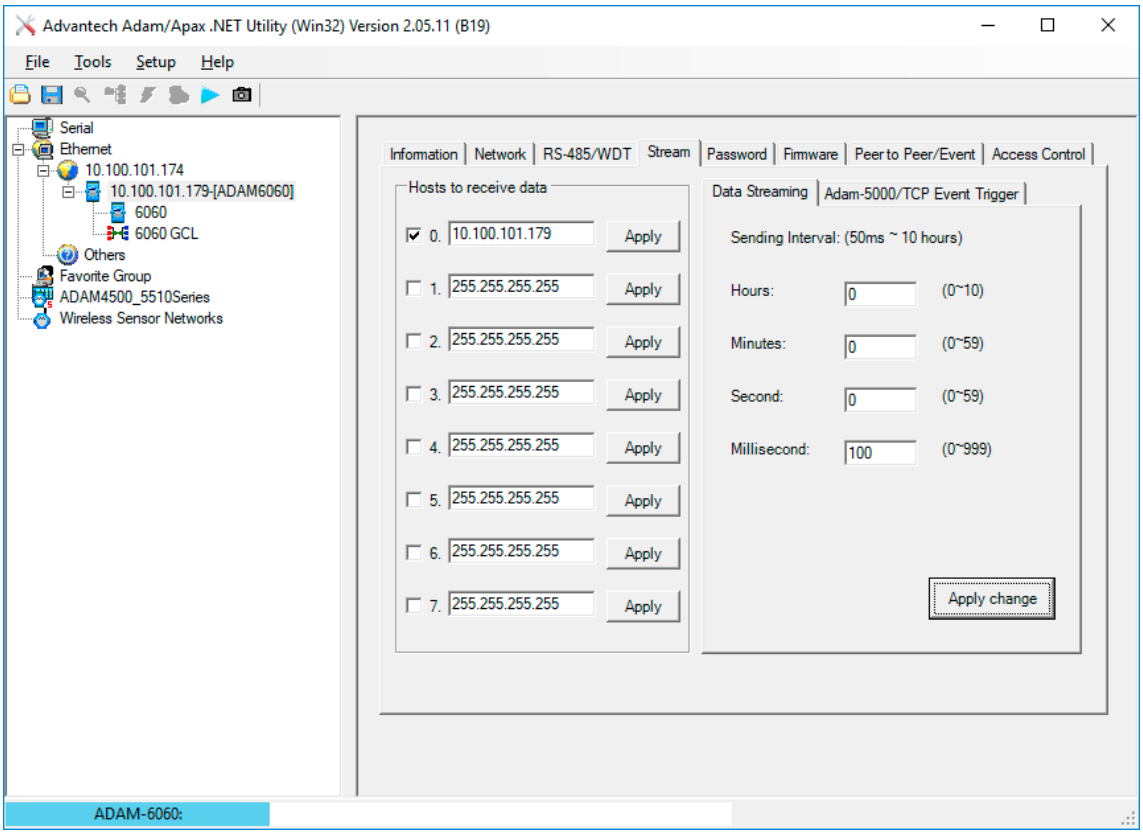
This will find the unit. Click on it to show the configuration tabs:



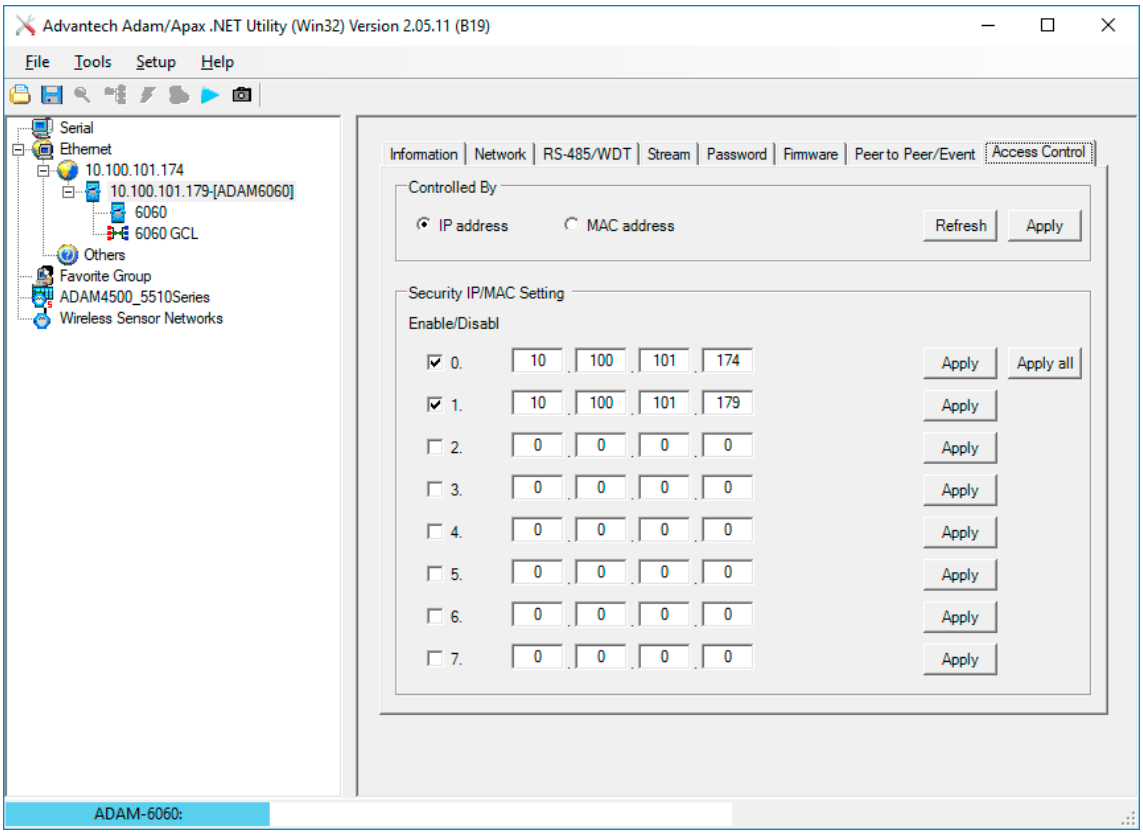
Select the **Network** tab and note or change the ADAM-6060 IP address as required (example: 10.100.101.179). The ADAM-6060 must be on the same subnet range as the Delta server.



Select the **Stream** tab, where the module IP address needs to be a Host to receive data:

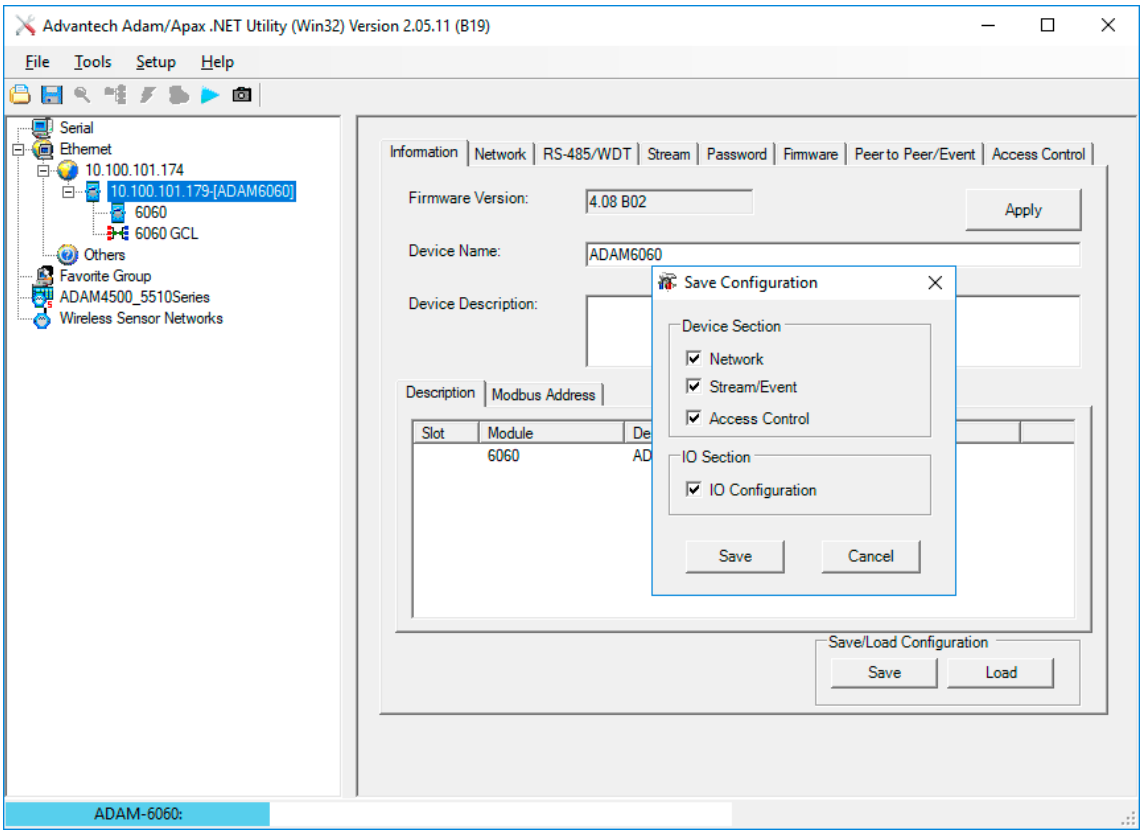


Next go to the **Access Control** tab, where the ADAM-6060 IP address and that of the Delta server it links to, should be listed and enabled:



In the **Password** tab, the default password of 00000000 (eight zeros) can be changed, but for our purposes here, there is no need to do so.

Go to the **Information** tab and Save the configuration:



The ADAM unit is now configured to communicate with the Delta PC.

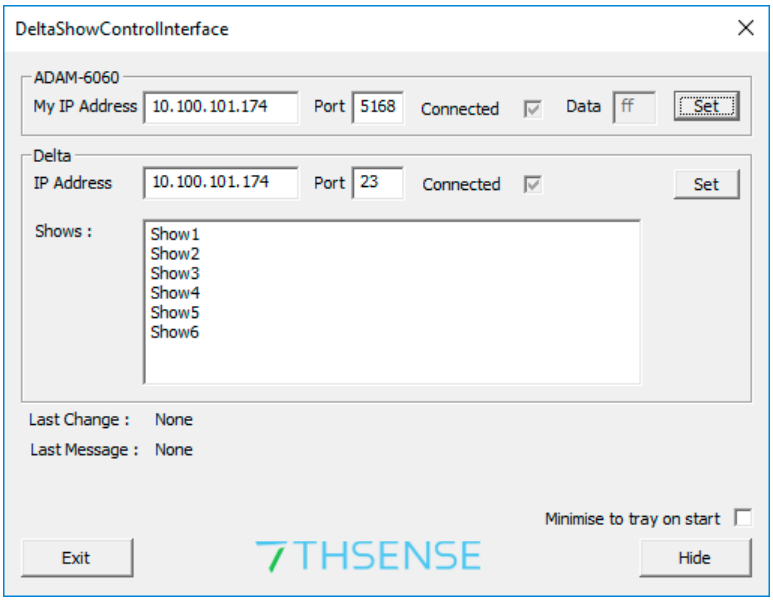
Close the Adam/Apax .NET utility.

Configure DeltaShowControlInterface

Open the **DeltaShowControlInterface** software. This will link its control logic with DeltaServer.

ADAM-6060

- In the 'My IP address' box, type in the IP address of the Delta server (or other PC) on which you are currently using the **DeltaShowControlInterface**.



- Click the 'Set' button on the right. You should now see the checkbox ticked to show you are connected to the Delta port to receive the ADAM-6060 commands.

Delta

- In the Delta 'IP Address' box, type in the IP address of the Delta Server playing the show (this can be the same as above), and press the 'Set' button on the right. If DeltaServer is currently running, you should now see the 'Connected' checkbox ticked.
- Type the file names of your Delta shows into the 'Shows' box. Up to 8 can be added. The names Shows1-6 are used here just for example.
- Press the Set button to save the newly-typed show names.

Press the hide button to minimise it to the system tray.

Control Logic for Direct Control (Mode=0)

DeltaShowControlInterface has a configuration xml file:

C:\7thSense\Software & Drivers\Delta\Utilities\DeltaShowControlInterface.xml

which features a Mode switch. When set to Mode=0, it will use Delta load, loop, and stop timeline commands. When set to Mode=1, it will trigger Delta sequences. For clarity, the connection for the DeltaShowControlInterface server (or PC) is shown in green, the Delta server (playback) in orange, and the mode is in red. The Shows section is populated when **DeltaShowControlInterface** show names are added.

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<DELTA_SHOWCONTROL_INTERFACE_CONFIG>
<COMMENT>Copyright(c) 2010 - 7thSense Design Ltd.  :
DeltaShowControlInterface</COMMENT>
<DATE>28.11.2018  17:8:12</DATE>
<VERSION>3516868</VERSION>
<WINDOW>
<MinimiseOnStart>0</MinimiseOnStart>
</WINDOW>
<DIGITAL_INPUT>
<MyIP>10.100.101.174</MyIP>
<AdamPort>5168</AdamPort>
</DIGITAL_INPUT>
<DELTA_ETHERNET>
<IP>10.100.101.174</IP>
<Port>23</Port>
</DELTA_ETHERNET>
<DELTA_SHOWS>
<Shows>Show1
Show2
Show3
Show4
Show5
Show6
Show7
Show8
</Shows>
</DELTA_SHOWS>
<MODE_OF_OPERATION>
<Mode>0</Mode>
</MODE_OF_OPERATION>
</DELTA_SHOWCONTROL_INTERFACE_CONFIG>
```

Mode=0, Direct Show Control

The software control is configured using the logic table (DI = digital inputs) below:

DI 0 (pulsed)	= load show
DI 1 (pulsed)	= stop show
DI 2 (on)	= loop show
DI 3-5 (on)	= show selection

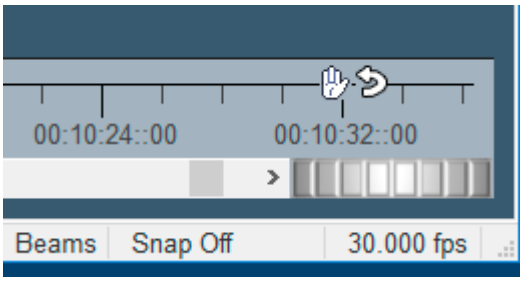
Note: P = Pulsed

Which show (up to 8) is addressed depends on the binary array of DI 3 to DI 5:

Input no.	DI 0	DI 1	DI 2	DI 3	DI 4	DI 5
Stop Show		P				
Loop Show			On			
Load Show 1	P					
Load Show 2	P			On		
Load Show 3	P				On	
Load Show 4	P			On	On	
Load Show 5	P					On
Load Show 6	P			On		On
Load Show 7	P				On	On
Load Show 8	P			On	On	On

Enabling the show to listen to show control

To use this mode requires adding a ‘Stop’ and a ‘Loop’ Control resource to each show that is to be controlled:



Control Logic for Sequences (Mode=1)

Delta sequences can be written and saved to the filenames shown below. The name is addressed and the sequence is run.

The software control is configured using this logic table (DI = digital inputs):

DI 0 (pulsed)	= load sequence “digitalinput_b0_s1” (on) = load sequence “digitalinput_b0_s0” (off)

DI 1 (pulsed)	= load sequence “digitalinput_b1_s1” (on) = load sequence “digitalinput_b1_s0” (off)
DI 2 (pulsed)	= load sequence “digitalinput_b2_s1” (on) = load sequence “digitalinput_b2_s0” (off)
DI 3 (pulsed)	= load sequence “digitalinput_b3_s1” (on) = load sequence “digitalinput_b3_s0” (off)
DI 4 (pulsed)	= load sequence “digitalinput_b4_s1” (on) = load sequence “digitalinput_b4_s0” (off)
DI 5 (pulsed)	= load sequence “digitalinput_b5_s1” (on) = load sequence “digitalinput_b5_s0” (off)

Appendix: Sending ASCII to ADAM-6060

It is also possible to send an ASCII UDP command to an Advantech ADAM-6060 to address a relay output.

This is not part of DeltaShowControlInterface.

A typical string would be:

SENDASCIIUDP [IP_Address] [Port] [ASCII_Command]\x0D

Example:

SENDASCIIUDP 10.100.101.179 1025 **#011001**\x0D

#01 identifies that we are addressing an ADAM-6000 series device.

10 is which of the 6 channels (relay outputs) to address: the first digit should always be 1, the second digit is the channel 0-5 (base 0), so ‘channel 4’ is 13.

01 is the on/off trigger: 00 = Off; 01 = On

\x0D is the carriage return to send the command

Document Information

Date	Document edition	Software version	Revision Details	Author/Editor
April 2010	1	1.0	New release	Ian Macpherson
October 2017	2	1.0	Updated and revised	Luke Wilmer
November 2018	3	1.0	Rewritten and reillustrated	Andie Davidson
July 2020	4	1.0	Revised server terminology	Andie Davidson

A

D

T

E: info@7thsense.one
W: 7thsense.one

7thSense Design Ltd

2 The Courtyard, Shoreham Road
Upper Beeding
Steyning
West Sussex
BN44 3TN
UK

T: +44 (0) 1903 812299

7thSense Design LLC, Michigan

332 E Lincoln Ave
Suite 100
Royal Oak, MI 48067
USA

T: +1 248 599 2717

7thSense Design LLC, Orlando

4207 Vineland Rd
Suite M1
Orlando, FL 32811
USA

T: +1 407 505 5200