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Delta Media Server DeltaShowControlInterface

User Guide





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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 <u>control logic modes</u>⁽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. <u>Configure the ADAM-6060 comms</u>⁽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.
- 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 <u>Control Logic</u>⁽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 <u>Appendix: Sending ASCII to ADAM-6060</u>⁽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.

🔀 Advantech Adam/Apax .NET Utility (Win32)	/ersion 2.05.11 (B19)	_		×
<u>F</u> ile <u>T</u> ools <u>S</u> etup <u>H</u> elp				
Serial Serial Serial Serial Serial Serial ADAM4500_1510Series Wireless Sensor Networks	Information Host name: Delta2345 Adapter: 10.100.101.174 Connection timeout: 2000 ms			
	Send timeout: 2000 ms Receive timeout: 1000 ms Scan interval: 1000 ms Supervisor password:	Apply		
	[APAX-5000 Series] [APAX-5070 APAX-5071 APAX-5072 [ADAM-5000 Series] ADAM-5000/TCP ADAM-5000L/TCP [ADAM-6000 Series] <wired series=""> ADAM-6015 ADAM-6017 ADAM-6018 ADAM-6022 ADAM-6024 ADAM-6050 ADAM-6051 ADAM-6052 ADAM-6066 [ADAM-6100 Series] <ethernet ip="" series=""></ethernet></wired>	~		
ADAM/APAX			-	.::

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.

🔀 Advantech Adam/Apax .NET Utility (Win32) V	ersion 2.05.11 (B19)		– 🗆 X
<u>F</u> ile <u>T</u> ools <u>S</u> etup <u>H</u> elp			
Serial Behemet 10.100.101.174 Construction C	Information Network F Network Setting MAC Address: IP Address: Subnet Address: Default Gateway: Host Idle (Timeout):	RS-485/WDT Stream Password Firmware Peer t 00-D0-C9-A9-4E-8A	o Peer/Event Access Control
ADAM-6060:			

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:

🔀 Advantech Adam/Apax .NET Utility (Win32) Ve	rsion 2.05.11 (B19)	– 🗆 X
<u>F</u> ile <u>T</u> ools <u>S</u> etup <u>H</u> elp		
🕒 🔜 🤊 🏥 🖋 🐌 🕨 🚳		
Serial Ethemet 10.100.101.174 6060 6060 Favorite Group ADAM4500_5510Series Wireless Sensor Networks	Information Network RS-485/WDT Stream Password Fimmwa Controlled By IP address MAC address Security IP/MAC Setting Enable/Disabl I 0 101 10 100 10 101 11 10 10 0 3. 0 0. 0 4. 0 5. 0 6. 0 7. 0	re Peer to Peer/Event Access Control Refresh Apply Apply Apply all Apply Apply Apply Apply Apply Apply Apply Apply Apply Apply
ADAM-6060:		.::

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:

🔀 Advantech Adam/Apax .NET Utility (Win32) Version 2.05.11 (B19) —) X
<u>File T</u> ools <u>S</u> etup <u>H</u> elp	
Internet Internet Internet 10100.101.174 Internet 10100.101.174 Internet 10100.101.174 Internet AddMs500_5510Series Internet AddMs500_5510Series Internet Internet Internet Internet <td>ontrol]</td>	ontrol]
ADAM-6060:	.:

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**.

DeltaShowCont	rollnterface				×
ADAM-6060 My IP Address	10.100.101.174	Port 5168	Connected	j⊽ Data ff	Set
Delta	10 100 101 174	a . [22		_	
IP Address	10.100.101.174	Port 23	Connected	V	Set
Shows :	Show1 Show2 Show3 Show4 Show5 Show6				-
Last Change :	None				
Last Message :	None			Minimise to t	ray on start 「
Exit	7	THSE	NSE		Hide

• 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 O	DI 1	DI 2	DI 3	DI 4	DI 5
Stop Show		Р				
Loop Show			On			
Load Show 1	Р					
Load Show 2	Р			On		
Load Show 3	Р				On	
Load Show 4	Р			On	On	
Load Show 5	Р					On
Load Show 6	Р			On		On
Load Show 7	Р				On	On
Load Show 8	Ρ			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)

A	
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	lan 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

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