

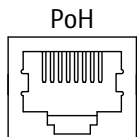
AS-2H Installation and Operation Guide

AS-2H
HDMI Auto-Switch

intelix


Firmware

    
HDCP Link HDMI 2 HDMI 1 



HDBT



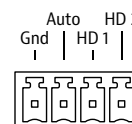
HDMI Out



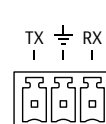
HDMI In 1



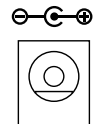
HDMI In 2



Contact




RS232




24V DC

Important Safety Instructions


1. Read these instructions – All the safety and operating instructions should be read before this product is operated.
2. Keep these instructions – The safety and operating instructions should be retained for future reference.
3. Heed all warnings – All warnings on the appliance and in the operating instructions should be adhered to.
4. Follow all instructions – All operating and use instructions should be followed.
5. Do not use this apparatus near water – The appliance should not be used near water or moisture – for example, in a wet basement or near a swimming pool, and the like.
6. Clean only with a dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized plug. A polarized plug has two blades with one wider than the other. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at the plugs, convenience receptacles, and at the point where it exits from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart or rack is used, use caution when moving the cart/ apparatus combination to avoid injury from tip-over. 
13. Unplug the apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as; the power-supply cord or plug is damaged, liquid has been spilt or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. CAUTION: Servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.
16. Do not install this equipment in a confined or built-in space such as a book case or similar unit. The equipment must remain in well ventilation conditions. Ventilation should not be impeded by covering the ventilation openings with items such as newspaper, table-cloths, curtains etc.
17. WARNING: Only use attachments/accessories (such as the battery etc.) specified or provided by the manufacturer.
18. WARNING: Refer to the information on the underside of the enclosure for electrical and safety information before installing or operating the apparatus.
19. WARNING: To reduce the risk of fire or electric shock do not expose this apparatus to rain or moisture. The apparatus shall not be exposed to dripping or splashing and objects filled with liquids, such as vases, shall not be placed on apparatus.
20. CAUTION: Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type.
21. WARNING: The battery shall not be exposed to excessive heat such as sunshine, fire or the like.
22. WARNING: The all-pole mains switch located on rear panel is used as the disconnect device, the switch shall remain readily operable.
23. WARNING: DO NOT INGEST BATTERY. CHEMICAL BURN HAZARD.
24. Keep new and used batteries away from children. If the battery compartment does not close securely, stop using the product and keep it away from children.
25. If you think batteries might have been swallowed or placed inside any part of the body, seek immediate medical attention.


26. When the apparatus is not in use or during its relocation, take care of the power cord and plugs; e.g. tie up the power cord with cable tie or similar. The tie must be free from sharp edges and the like that might cause abrasion of the power cord. When put into use again ensure the power cord and plugs are not damaged. If any damage is found the power cord and plugs should be replaced by items either specified by the manufacturer or that have same characteristics as the original items.



 27. This lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of non-insulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock.

28. **WARNING:** To reduce the risk of electric shock, do not remove cover (or back) as there are no user-serviceable parts inside. Refer servicing to qualified personnel.

 29. The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance instructions in the literature accompanying the appliance.

 30. Protective earthing terminal. The apparatus should be connected to a mains socket outlet with a protective earthing connection.

31. **CAUTION:** To prevent electric shock hazard, replace grille. (CSA 60065, clause 5.3A)

Table of Contents

Important Safety Instructions	3
Product Overview	7
Package Contents	7
Front and Rear Panels	8
<i>Front Panel</i>	8
<i>Rear Panel</i>	8
Installation Instructions	9
<i>Basic Installation</i>	9
<i>HDBaseT Cabling Requirements</i>	9
<i>Contact Closure Inputs</i>	10
Default Mode - Auto-Switching	10
Manual Switching	10
Auto-Switching with Manual Override	10
<i>Device Power</i>	11
<i>RS232 Connections</i>	11
General Operation	12
<i>Automatic Switching</i>	12
<i>Contact Closure Switching</i>	12
<i>RS232 Switching</i>	12
<i>LED Indicators</i>	12
Inputs	12
Status.....	12
<i>Firmware Port</i>	13
<i>EDID Management</i>	13
<i>HDCP Management</i>	13
<i>Low Power Mode</i>	14
No Signal.....	14
No Activity	14
Changing Low Power Mode Settings	14
<i>Display Control Functionality</i>	14
Display Control via RS232	14
Display Control Software	14
<i>Hardware Reset</i>	15

- RS232 Control**..... 16
 - Switching Commands*..... 16
 - Power Management* 16
 - HDCP Compliance* 17
 - Device Baud Rate* 17
 - Device Information*..... 17
 - Factory Reset*..... 17
 - EDID Configuration* 18
 - Display Control Settings* 19
 - Display Control Queries*..... 20
 - Display Control Hex Commands*..... 20
- Troubleshooting** 21
 - Device does not power on*..... 21
 - Cannot view 4K (UHD) content* 21
 - Cannot hear surround sound audio* 21
 - No video from HDBaseT output* 21
 - Device does not respond to RS232 commands*..... 21
- Technical Specifications** 22

Product Overview

The Intelix AS-2H is an under table mounted switcher designed to be the primary PC interface for classrooms, boardrooms, and conference centers. It features two HDMI inputs.

The AS-2H utilizes HDBaseT technology to extend the digital output up to 70 meters away using solid core shielded Category 5e or greater cable. This transmitter device is compatible with several Intelix HDBaseT receivers, but is designed to work primarily with the DIGI-HD60C-R. The unit features multiple EDID modes to eliminate user confusion, and incompatible video formats. An HDMI output is available for use to connect to a local display.

The AS-2H can be powered from the rear panel or by Power over HDBaseT (PoH), including midspan injectors that support Power over Ethernet (PoE) Alternative A. The AS-2H may also power compatible HDBaseT receivers. Built-in surge protection and diagnostic LEDs ensure hassle-free and robust installations. The AS-2H also features a customizable power management system, which will put the unit into a low power state after no video for 30 minutes or being inactive for 3 hours by default.

The AS-2H will detect which input has an active video input, and switch to that input – if both inputs are active, the “last in” will be selected. There are additional contact closure inputs provided on the rear of the unit to allow third party control. RS232 control of the AS-2H can be accomplished by connecting to the RS232 port on a compatible receiver, such as a DIGI-HD60C-R, or through a direct connection on the RS232 input of the device.

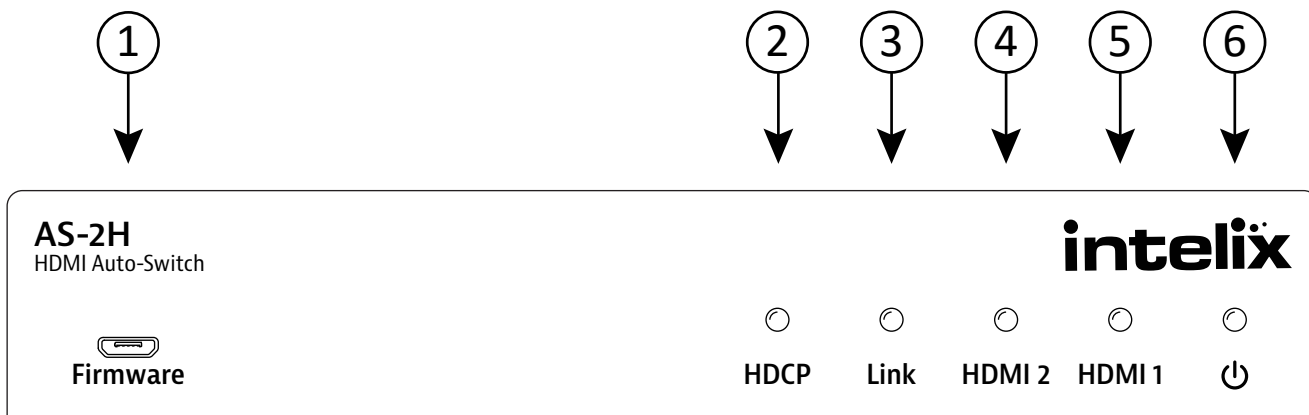
The AS-2H can be programmed to control the connected display. The display manufacturer’s RS232 commands can be entered into the AS-2H with the use of Intelix Display Control software. This allows display power and input to be automatically controlled based on video activity, eliminating the need for a third party control system in many installations.

Package Contents

1. Installation Guide
2. 24V DC Power Supply
3. Mounting Brackets with Screws
4. 4-pin Removable Screw Terminal
5. 3-pin Removable Screw Terminal
6. RS232 cable (3-pin to DE9)
7. Rubber Feet

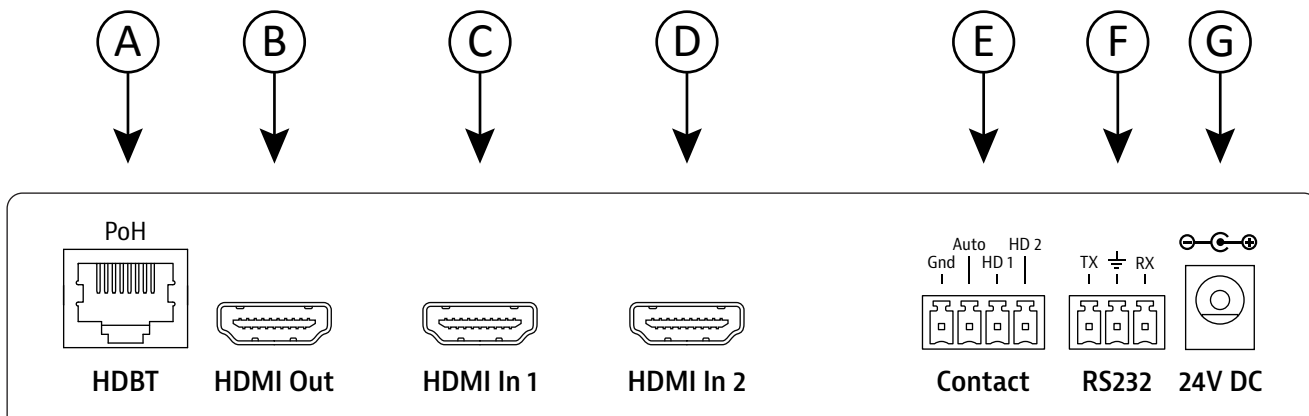
Front and Rear Panels

Front Panel



1. Micro USB port for firmware updating
2. HDCP status LED
3. HDBaseT Link status LED
4. HDMI 2 input status LED
5. HDMI 1 input status LED
6. Power LED

Rear Panel



- A. HDBaseT output with PoH support
- B. Local HDMI output
- C. HDMI 1 input
- D. HDMI 2 input
- E. Contact closures
- F. RS232 connection
- G. 24V DC power input

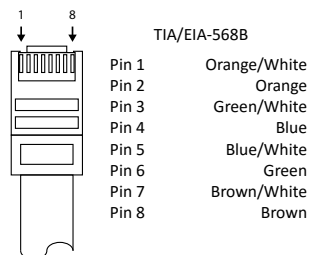
Installation Instructions

Basic Installation

1. Turn off power and disconnect the audio/video equipment by following the manufacturer's instructions.
2. Connect shielded Category 5E or greater twisted pair cable with the TIA/EIA-568B crimp pattern between the transmitter (AS-2H) and the HDBaseT receiver.
3. If the HDBaseT receiver cannot provide power to the AS-2H or the receiver requires remote power, connect the included power supply to the 24V DC power input of the device.
4. Connect an HDMI cable between the display and the HDBaseT receiver per the manufacturer's instructions.
5. If a local display is part of the installation, connect an HDMI cable between the display and the HDMI output port on the AS-2H.
6. Power on attached audio/video devices.
7. Apply power to the HDBaseT receiver.
8. If the HDBaseT receiver cannot provide power to the AS-2H or the receiver requires remote power, connect the power supply going to the AS-2H to an AC outlet.
9. Connect HDMI sources.

HDBaseT Cabling Requirements

For all HDBaseT cabling, the EIA/TIA-568B crimp pattern must be used on Category 6 or greater cable. In areas with large amounts of electromagnetic (EM) or radio frequency (RF) interference, a shielded variety of Category 5e or greater cable is recommended with shielded connectors on both ends of the selected cable.

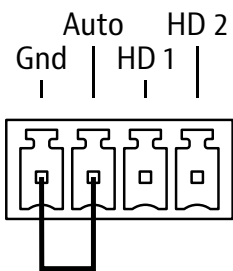


Contact Closure Inputs

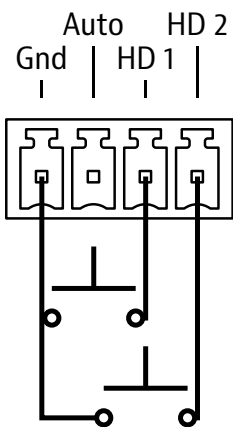
The AS-2H includes dry contact closure inputs to allow different types of manual switching. These contact closure inputs are intended to be connected directly to relays or switches. To activate, simply short the associated terminal to the "GND" terminal. Normally open, momentary switches should be used.

The AS-2H ships from the factory with a jumper in place between the "AUTO", and "GND" terminals; this should remain in place if you wish the unit to switch automatically when a video signal is present.

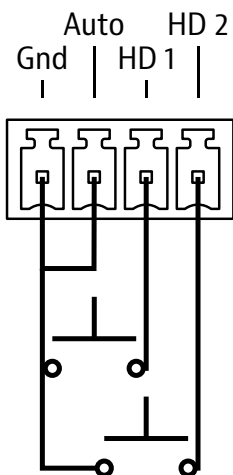
Default Mode - Auto-Switching



Manual Switching



Auto-Switching with Manual Override



Device Power

The AS-2H supports two types of power input: PoH (Power over HDBaseT) and rear panel input.

When using PoH, a compatible HDBaseT receiver can power the AS-2H by inserting power onto the twisted pair cable. When using a compatible HDBaseT receiver, there is no need to use the rear panel power input.

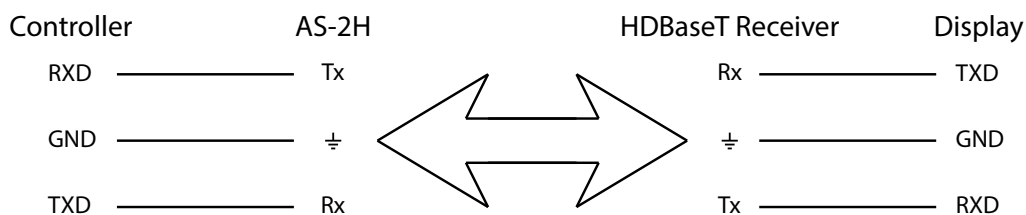
If using a different receiver that does not supply power or the receiver requires remote power, you must connect power to the rear power input. Using this method, the included 24V DC 1.25A power supply must be used.

RS232 Connections

The AS-2H can be controlled via RS232 by connecting to a computer's serial port or third party control system via the connected HDBaseT receiver. The AS-2H may also be directly controlled via the RS232 connection on the rear of the wall plate. Additionally, a third party device connected to the local RS232 port may communicate directly to the display via RS232 through the HDBaseT receiver.

To use the RS232 extension capabilities of the AS-2H, connect the TX, ground, and RX control signal wires to the removable 3-pole terminal block. Consult the manual of the control device(s) to determine which pins the TX and RX signals are carried on. Be sure to always connect TX to RX and RX to TX.

With the built-in Display Control functionality, the AS-2H can automatically turn on and turn off the display when a source is connected or removed from the device. Please see page 14 for more information.



The default settings for the RS232 connections are:

- 9600 baud
- 8 Data Bits
- 1 Stop Bit
- Parity = none

General Operation

Automatic Switching

By placing a jumper between the “Auto” and “Gnd” terminals on the back of the AS-2H, the unit will switch inputs by sensing an active video signal.

The AS-2H will switch automatically to the “last in” connected input. For example, if an HDMI signal is currently displayed on input 1, and then connect another HDMI source, the unit will switch to HDMI input 2. When the HDMI source is removed, the unit will switch back to HDMI input 1.

Contact Closure Switching

By connecting momentary switches to the contact closure inputs (see p.9) you can create push-button control of the input selection on the AS-2H.

When using “Auto-switching with manual override”, the unit will function as described in the “Auto” section above, but pressing one of the override buttons will cause the unit to switch to the selected input. If there is no video signal connected to the selected input, you will experience a black video screen.

When using “Manual switching mode”, the unit will only switch when the button that corresponds to the input selection is pressed. If no video is present on the selected input, you will experience a black video screen.

RS232 Switching

By connecting the RS232 port of the HDBaseT receiver to a third party control system, serial commands can perform switching functions, as well as provide greater information about the units status. RS232 control can be used simultaneously with Auto and Contact Closure operation, but not when using the Display Control functionality.

LED Indicators

Inputs

The AS-2H has two bi-color LEDs to provide switching status.

LED State	Description
Off(both)	Unit is in low power mode
Off (one)	Unit is on – no signal detected on input, input not selected
Green	Input selected
Amber	Input has active video, input not selected

Status

The AS-2H has two LEDs to provide connectivity status.

LED State	Description
Link On	Connected to active HDBaseT receiver
Link Off	Not connected to active HDBaseT receiver or in low power mode
HDCP Solid	Encrypted HDCP signal to display
HDCP Flashing	Non-encrypted HDCP signal to display
HDCP Off	No HDCP link between source and display or in low power mode

Firmware Port

A separate document will provide usage instructions once a new firmware update is available.

EDID Management

An essential part of operation is the EDID table, which is transmitted to the source from the AS-2H input.

The AS-2H features a pass through EDID mode for both HDMI inputs. The preferred native timing of the display will be transmitted to the source. If the resolution of the TV connected to the output is 1080p, then the switcher will request the source to output 1080p. The benefit of this method is that the video output by the source will be formatted perfectly for the display.

In addition to the default EDID pass-through mode, there are many built-in EDID settings to define the source video output resolution. The built-in EDID tables range from XGA (1024x768) up to UHD/30 (3840x2160 at 30 Hz). Changing the EDID is performed via RS232, and the commands can be found on page 18.

HDCP Management

The AS-2H offers advanced HDCP management to allow greater compatibility with other devices. The output will always be encrypted or unencrypted, following the status of the source content. If the content is encrypted, the output of the HDBaseT receiver will be encrypted; if the content is unencrypted, the output of the HDBaseT receiver will be unencrypted.

The AS-2H ships with the HDMI inputs set to “HDCP compliant”. This will work for most applications; however, the AS-2H allows you to set the input to “Not HDCP compliant”. This is important for systems using not-compliant sinks (such as a video conferencing or recording system). To set the unit to “Not HDCP compliant”, simply connect via RS232 and send the RS232 command as described on page 17.

Low Power Mode

The AS-2H has a low-power or standby mode that it will automatically return to, based upon input signal and switching activity.

No Signal

If the AS-2H detects no video on either HDMI input for a set amount of time, the AS-2H will go into low-power mode. The default time is 30 minutes, which can be adjusted by using the Display Control Software or sending an RS232 command. The timeout clock is accurate to +/-4%.

No Activity

If the unit does not switch inputs (auto or contact closure) or communicate via RS232 for a set amount of time, the AS-2H will go into low-power mode. The default time is 3 hours, which can be adjusted by using the Display Control Software. The timeout clock is accurate to +/-4%.

Changing Low Power Mode Settings

The No Signal and No Activity timeouts can be changed using the Display Control software or by sending the unit different timeout commands via RS232.

If sending RS232 commands, the Turn Display Control OFF command (DFG0) command needs to be sent first. To disable the timeout, the next two commands to send to the unit would be Disable the “No Signal” Timeout (DNS000) and Disable the “No Activity” Timeout (DNA000). These commands are found on page 19.

Display Control Functionality

The AS-2H may be used to control power and input status of the LCD or Projector connected to an HDBaseT receiver. When the AS-2H is “woken up from low-power mode, it will send the preprogrammed “Power On” command, followed by the “Input Select” command. When the AS-2H times out due to lack of video or activity, it will send the preprogrammed “Power Off” command. This will effectively synchronize the power states of the display and the AS-2H, eliminating the need for a third party control system in many installations.

Display Control via RS232

The Display Control functionality may be set up through RS232 commands direct to the AS-2H or via HDBaseT through a compatible receiver. The AS-2H can store commands up to 25 characters (25 hex bytes) long.

Display Control Software

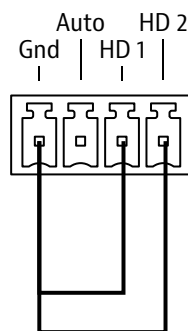
The Display Control Software is available on the AS-2H product page on libav.com and includes an installation and operation guide. The Display Control software interface can transmit commands up to 20 characters (20 hex bytes) long.

Hardware Reset

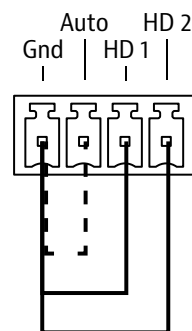
A hardware reset will reset the AS-2H to the factory default setting. This procedure may be necessary if the device RS232 settings have been changed.

1. Short the HD 1 and HD 2 contact closures to Ground for 10 seconds.
2. Without removing the shorted HD 1 and HD 2 contact closures, short the Auto contact closure to Ground for 3 seconds. The input LEDs will flash to indicate the reset was performed correctly.

10 seconds



3 seconds



RS232 Control

Default RS232 Settings: 9600 baud, 8 Data bits, 1 Stop bit, Parity = None

<CR> = Carriage return (Hex 0D)

<LF> = Line Feed (Hex 0A)

Switching Commands

Description	Command	Response
Select HDMI input 1	SET HDMI1<CR><LF>	SET HDMI1!<CR><LF>
Select HDMI input 2	SET HDMI2<CR><LF>	SET HDMI2!<CR><LF>
Get selected input	GET IN<CR><LF>	GET IN!<CR><LF> <i>AND</i> HDMI1 1!<CR><LF> <i>OR</i> <i>This response indicates HDMI input 1 is selected</i> HDMI2 1!<CR><LF> <i>This response indicates HDMI input 2 is selected</i>
Get HDMI 1 video status	GET HDMI1<CR><LF>	HDMI1 1!<CR><LF> <i>OR</i> <i>This response indicates video present on HDMI input 1</i> HDMI1 0!<CR><LF> <i>This response indicates no video present on HDMI input 1</i>
Get HDMI 2 video status	GET HDMI2<CR><LF>	HDMI2 1!<CR><LF> <i>OR</i> <i>This response indicates video present on HDMI input 2</i> HDMI2 0!<CR><LF> <i>This response indicates no video present on HDMI input 2</i>
Get Auto-switching state	GET AUTO<CR><LF>	AUTO ON!<CR><LF> <i>OR</i> AUTO OFF!<CR><LF>

Power Management

In addition to going to a low-power mode when using the Display Control functions, the AS-2H can also be set to this mode via RS232.

Description	Command	Response
Enter low-power mode	STANDBY<CR><LF>	STANDBY!<CR><LF>
Exit low-power mode	WAKE<CR><LF>	WAKE!<CR><LF>

HDCP Compliance

Description	Command	Response
HDCP Compliance ON	HDCP ON<CR><LF>	HDCP ON!<CR><LF>
HDCP Compliance OFF	HDCP OFF<CR><LF>	HDCP OFF!<CR><LF>
Get HDCP Compliance status	GET HDCP<CR><LF>	HDCP ON! <CR><LF> <i>OR</i> HDCP OFF!<CR><LF>

Device Baud Rate

The default baud rate for the AS-2H is 9600. This can be changed to accommodate various installation needs: 2400, 4800, 9600, 19200, 38400, 57600, 115200.

If the baud rate has been changed, but the rate is unknown, a hardware reset (see page 15) must be performed on the device.

Description	Command	Response
Change device baud rate (xxxx = new baud rate)	SET xxxx<CR><LF>	baud rate is set to xxxx<CR><LF>
Get device baud rate	GET BAUD<CR><LF>	baud rate is set to xxxx<CR><LF>

Device Information

Description	Command	Response
Get device model	MODEL?<CR><LF>	AS-2H!<CR><LF>
Get firmware revision	REV?<CR><LF>	V1.0.5<CR><LF>

Factory Reset

The factory reset command will reset every setting to the factory defaults. EDID, HDCP, scaling, and Display Control settings will all be reset to the original settings. Use extreme caution when the device is used in a live environment.

Description	Command	Response
Factory Reset	RST<CR><LF>	<i>No response for 7 seconds until device power cycles</i>

EDID Configuration

The EDID settings listed below will be passed to both HDMI inputs.

Description	Command	Response
UHD/30	EDID UHD<CR><LF>	EDID UHD!<CR><LF>
1080p	EDID FHD<CR><LF>	EDID FHD!<CR><LF>
720p	EDID HD<CR><LF>	EDID HD!<CR><LF>
1920x1200	EDID WUXGA<CR><LF>	EDID WUXGA!<CR><LF>
1360x768	EDID WXGA2<CR><LF>	EDID WXGA2!<CR><LF>
1280x800	EDID WXGA<CR><LF>	EDID WXGA!<CR><LF>
1600x1200	EDID UXGA<CR><LF>	EDID UXGA!<CR><LF>
1400x1050	EDID SXGAP<CR><LF>	EDID SXGAP!<CR><LF>
1024x768	EDID XGA<CR><LF>	EDID XGA!<CR><LF>
EDID from display	EDID PT<CR><LF>	EDID PT!<CR><LF>
Get EDID setting	GET EDID<CR><LF>	EDID PT!<CR><LF>

Display Control Settings

Description	Command	Response
Turn Display Control ON	DFG1	DFG1!<CR><LF> Display Control On<CR><LF>
Turn Display Control OFF	DFG0	DFG0!<CR><LF> Display Control Off<CR><LF>
Store the ON command for Display Control (xx = up to 25 characters)	DONxx <i>Example:</i> DONpwron	DON!<CR><LF> pwron<CR> <CR><LF>
Store the OFF command for Display Control (xx = up to 25 characters)	DOFxx <i>Example:</i> DOFpwroff	DOF!<CR><LF> pwroff<CR> <CR><LF>
Store the input select command for Display Control (xx = up to 25 characters)	DISxx <i>Example:</i> DIShdmi1	DIS!<CR><LF> hdmi1<CR> <CR><LF>
Store the time between power on and input select commands (xxx = time in seconds – 3 characters)	DDCxxx <i>Example for 5 sec.:</i> DDC005	DDC!<CR><LF> Input Delay Time: 10 S<CR><LF>
Store the “No signal” timeout value (xxx = time in minutes – 3 characters)	DNSxxx <i>Example for 30 min.:</i> DNS030	DNS!<CR><LF> No Signal Time: 30 M<CR><LF>
Disable the “No signal” timeout	DNS000	DNS!<CR><LF> No Signal Time: 0 M<CR><LF>
Store the “No activity” timeout value (xxx = time in hours – 3 characters)	DNAxxx <i>Example for 4 hours:</i> DNA004	DNA!<CR><LF> No Activity Time: 4 H<CR><LF>
Disable the “No activity” timeout	DNA000	DNA!<CR><LF> No Activity Time: 0 H<CR><LF>
Display baud rate 115200	DBR1	DBR!<CR><LF> Baudrate : 115200<CR><LF>
Display baud rate 57600	DBR2	DBR!<CR><LF> Baudrate : 57600<CR><LF>
Display baud rate 19200	DBR3	DBR!<CR><LF> Baudrate : 19200<CR><LF>
Display baud rate 9600	DBR4	DBR!<CR><LF> Baudrate : 9600<CR><LF>
Display baud rate 38400	DBR5	DBR!<CR><LF> Baudrate : 38400<CR><LF>
Display baud rate 4800	DBR6	DBR!<CR><LF> Baudrate : 4800<CR><LF>
Display baud rate 2400	DBR7	DBR!<CR><LF> Baudrate : 2400<CR><LF>

Display Control Queries

The query responses will be identical to the Display Control commands entered into the device.

Description	Command	Response
Display Control state?	DFG?	DFG1<CR> <i>OR</i> DFG0<CR>
Display On command?	DON?	DONpwron<CR>
Display Off command?	DOF?	DOFpwroff<CR>
Display input command?	DIS?	DIShdmi1<CR>
Display command delay?	DDC?	DDC005<CR>
No signal timeout?	DNS?	DNS030<CR>
No activity timeout?	DNA?	DNA004<CR>
Display baud rate?	DBR?	DBR4<CR>

Display Control Hex Commands

Below are the DON, DOF, and DIS commands in hexadecimal. These may be necessary for displays that require hex commands instead of ASCII.

Description	Command
Store the ON command for Display Control (xx = up to 25 bytes)	44 4F 4E xx <i>Example:</i> 44 4F 4E 54 68 69 73 20 69 73 20 4F 4E
Store the OFF command for Display Control (xx = up to 25 bytes)	44 4F 46 xx <i>Example:</i> 44 4F 46 54 68 69 73 20 69 73 20 4F 46
Store the input select command for Display Control (xx = up to 20 bytes)	44 49 53 xx <i>Example:</i> 44 49 53 54 68 69 73 20 69 73 20 49 4E

Troubleshooting

Device does not power on

- » Apply an active video signal; the unit may be in standby mode.
- » Transmit the WAKE command via RS232.
- » If using a receiver with PoH, verify that the receiver is powered.
- » If using a receiver without PoH, you must use the included power supply power input on the device.

Cannot view 4K (UHD) content

- » Set EDID to UHD or pass-through.
- » Verify display is 4K (UHD) compatible.
- » Verify source device can output 4K (UHD) content.
- » Verify twisted pair cable does not exceed 40 meters.

Cannot hear surround sound audio

- » Set EDID to pass-through.
- » Verify output can broadcast surround sound audio.
- » Verify source content contains surround sound audio.

No video from HDBaseT output

- » Verify the link LED on the device is lit solid.
- » Verify the twisted pair cable is not damaged.

Device does not respond to RS232 commands

- » Double check RS232 wiring (see page 11).
- » Verify baud rate matches those of the device.
- » Perform a hardware reset to restore the device to the factory settings (see page 15).

Technical Specifications

Input/Output Connections	
HDMI Inputs	Two (2) HDMI Type A Receptacle
HDBaseT Port	One (1) 8P8C port (Shielded RJ45)
HDMI Output	One (1) HDMI Type A Receptacle
Power	One (1) 5.5 mm OD, 2.6 mm ID Threaded Barrel
RS232 Port	One (1) 3-pin Removable Terminal Block Connector
Contact Closures	One (1) 4-pin Removable Terminal Block Connector
Firmware Port	One (1) USB Type B Micro Receptacle
Supported Audio, Video and Control	
Video Resolutions	SMPTE: 480i, 480p, 576i, 576p, 720p, 1080i, 1080p, UHD/30 VESA: Resolutions up to 1920x1200 Color Depth: 24, 30, 36, 48bit
Maximum Video Compatibility at 70 m	Deep Color 36/30/24 Bit at 1080p
Maximum Video Compatibility at 40 m	Deep Color 48 Bit at 1080p, 3D (HDMI Input), UHD/30
Video Compliance	HDMI 1.4 and HDCP 1.4
Embedded Audio	Up to PCM 8 channel, Dolby Digital TrueHD, and DTS-HD Master Audio
Analog Audio	Analog stereo line-level (Converted to 2ch 24bit PCM 48kHz)
ARC (Audio Return Channel)	No
HEC (HDMI Ethernet Channel)	No
CEC (Consumer Electronics Control)	Yes (HDMI Pass-through Only)
Baud Rate (Wall plate control)	2400, 4800, 9600 (default), 19200, 38400, 57600, 115200
Supported Baud Rates (Display Control)	2400, 4800, 9600, 19200, 38400, 57600, 115200
HDBaseT Signal Characteristics	
Maximum Distance	70 m (229 ft)
Cable Requirements	Continuous solid core Category 5e or greater with TIA/EIA-568B crimp pattern (no couplers in-line)
Bandwidth	10.2 Gbps
HDBaseT Chipset	VS010TX
Chassis and Environmental	
Construction	Black Aluminium
Dimensions (H x W x D)	30 mm x 172 mm x 84 mm (1.18 in x 6.77 in x 3.31 in)
Shipping Weight	0.68 kg (11.5 lbs.)
Operating Temperature	0° to +40° C (+32° to +104° F)
Operating Humidity	20% to 90%, Non-condensing
Storage Temperature	-10° to +60° C (+14° to +140° F)
Storage Humidity	20% to 90%, Non-condensing
Power and Regulatory	
Power Input	24V DC 1.25A or 48V DC PoH (Power over HDBaseT)
Power Output	48V DC PoH (Power over HDBaseT)
Power over Ethernet (PoE) Compatibility	802.3af Alternative A
Power Consumption	10 watts
Default Automatic Standby Mode	30 minutes no signal
ESD Protection	16kV
Regulatory	CE, RoHS
Other	
Warranty	2 years
Diagnostic Indicators	HDCP, Link, HDMI 1, HDMI 2, and Power
Included Accessories	Installation Guide, Power Supply, Mounting Brackets with Screws, 4-pin Removable Screw Terminal, 3-pin Removable Screw Terminal, RS232 cable (3-pin to DE9), Rubber Feet
HDBaseT Receiver (A/V, PoE, Control) Compatibility	DIGI-HD60C-R, DIGI-HDX-R, FLX-64
HDBaseT Receiver (A/V, Control) Compatibility	FLX-BI4
HDBaseT Receiver (A/V and PoE) Compatibility	DIGI-HD60-R

Distances and picture quality may be affected by cable grade, cable quality, source and destination equipment, RF and electrical interference, and cable patches.

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