



## Model 86A00-2 Home Theater Extender 2 (HTX2)

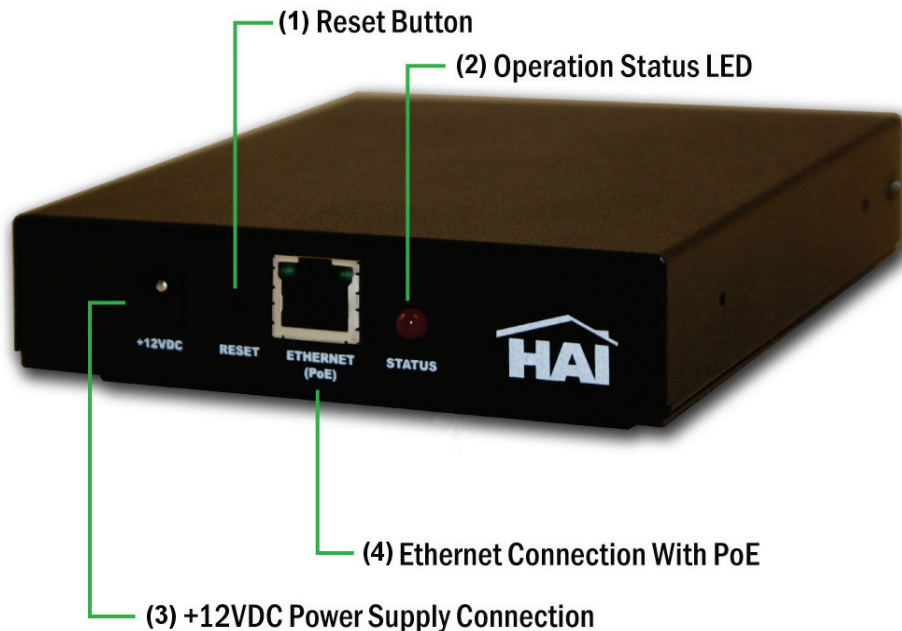
### DESCRIPTION

The Model 86A00-2 Home Theater Extender 2 (HTX2) allows you to extend your home control to the audio/video equipment in your home theater. The HTX2 communicates over Ethernet with an HAI IP-based touchscreen and Snap-Link Mobile for iPhone/iPad. The HAI IR database includes over 300,000 IR codes and has a built-in IR receiver so that additional IR codes can be learned.

The HTX2 is an IEEE 802.3af compliant Power over Ethernet (PoE) Powered Device (PD). The HTX2 may be powered via PoE or from the supplied AC Adaptor.

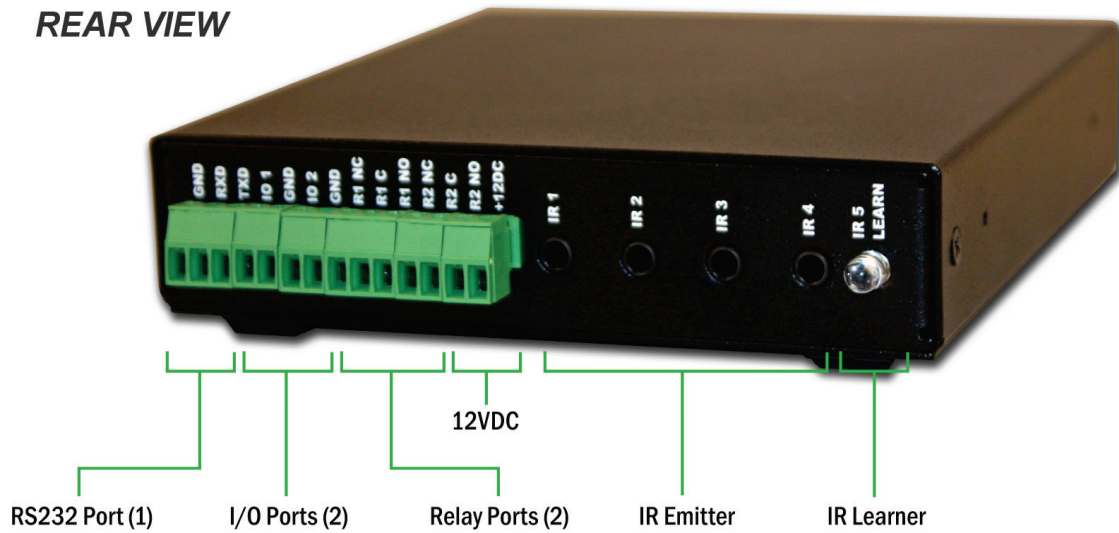
The HTX2 is equipped with serial, digital, and IR ports as well as Form-C relays to interconnect with home theater equipment. It also has a built-in web server for simple configuration from any web browser.

### FRONT VIEW



1. Reset Button:
  - a. Quick press and release – resets the HTX2.
  - b. Press and hold until the Operation Status LED comes back on (about 5 seconds) – removes all previously stored network settings.
  - c. Press and hold until the Operation Status LED comes on and then goes back off (about 10 seconds) – will default the HTX2 to factory settings.
2. Operation Status LED:
  - a. Solid red during normal operation
  - b. Flashes during activity such as IR emitting or during discovery.
3. +12VDC Power Supply Connection:
  - a. This is the power connector for the optional +12VDC AC Adaptor.
4. Ethernet Connection With PoE:
  - a. Connects the HTX2 to a 10BaseT network.
  - b. Compatible with all 10/100 network switches.
  - c. This connection supports PoE.

## REAR VIEW



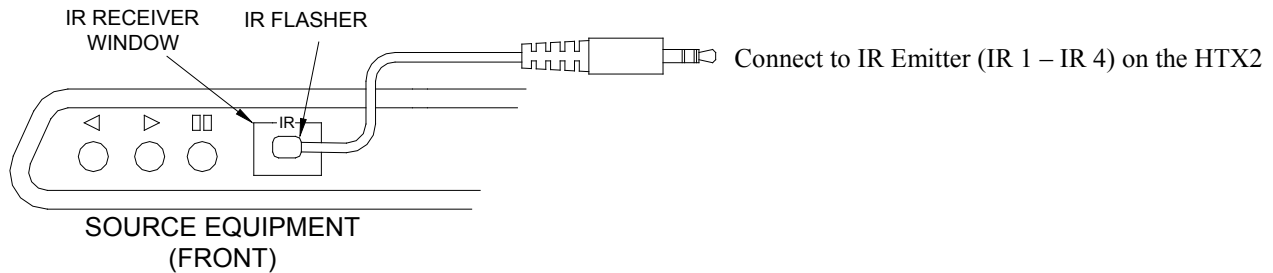
**RS232 Port:** Standard serial communications for bi-directional control. Bauds are available from 300 through 115200.

**I/O Ports:** The 2 I/O ports can be configured to act as a digital input or a digital output. For use with voltage and current sensors to detect the power state (on/off) of a device. Digital outputs are rated for 10mA at 3.3VDC.

**Relay Ports:** The 2 Form-C relays allow control of any device which requires a contact closure, like a motorized screen or blinds. They can also source and switch 12VDC for power amplifier triggers. The relays are rated at 2A at 30VDC.

**12VDC:** This is a general purpose 12VDC voltage output that can be used to power a device or sensor that is rated up to 250mA.

**IR Emitter:** Connect the 3.5mm connector for each of the supplied IR flashers to the IR Emitter jacks on the HTX2. The IR flasher is used for sending IR data to control IR equipment.



**IR Learner:** The IR Learner is a built-in IR receiver that is used to add custom IR codes to your Automation Studio IR Library.

GND	RS-232 Ground
RXD	RS-232 Receive Data
TXD	RS-232 Transmit Data
IO 1	Can be configured as a digital input or digital output
GND	Ground
IO 2	Can be configured as a digital input or digital output
GND	Ground
R1 NC	Relay 1 Normally Closed: Connected to R1 Common when Relay 1 value is “0”
R1 C	Relay 1 Common
R1 NO	Relay 1 Normally Open: Connected to R1 Common when Relay 1 value is “1”
R2 NC	Relay 2 Normally Closed: Connected to R2 Common when Relay 2 value is “0”
R2 C	Relay 2 Common
R2 NO	Relay 2 Normally Open: Connected to R2 Common when Relay 2 value is “1”
+12DC	General purpose voltage output, + 12VDC, 250mA maximum
IR 1 – IR 4	IR Emitter Ports 1-4: Accepts standard 3.5mm tip-positive IR emitters
IR 5 LEARN	IR Receiver: Infrared learner target

## CONFIGURATION

The network settings of the HTX2 can be configured by navigating to the built-in web server from any web browser. The HTX2 is shipped from the factory with DHCP enabled. The HTX2 will accept an IP address and other network parameters from a DHCP server on the network. DHCP facilitate easy first-time setup; however, we recommend that you assign the device a static IP address outside your router's DHCP range to ensure that the HTX2 will always be available at the same IP address.

Open a new browser window and type in the IP address of the HTX2 to be configured. The HTX2 Overview page will appear. This page contains information such as the device's MAC address, current firmware revision, and the number of inputs, outputs, and relays.



Overview	<b>Overview</b>
Status	MAC Address: 00:50:C2:87:A0:50
Configuration	Version: v1.053
Help	Build Date: Feb 16 2009 13:51:43
	IR Outputs: 5
	Serial Ports: 1
	Relays: 2 SPDT
	GPIO: 2



Select the Configuration button on the menu bar to configure the network settings and serial port settings. The configuration page is protected with the following credentials:

User name: admin  
Password: homeauto



Overview	<b>Configuration</b>
Status	Enter new settings:
Configuration	
Help	

Device Name:

Enable DHCP

IP Address:

Gateway:

Subnet Mask:

Primary DNS:

Secondary DNS:

Serial Port:  TCP Port:

TCP (Telnet) Port:

UDP In Port:

UDP Out Port:

1. You can give a custom name to the HTX2 so that it can be easily identified.
2. To configure a static IP address, disable DHCP by removing the check from the "Enable DHCP" checkbox.
3. Enter the static IP address.
4. Enter the Gateway.
5. Enter the Primary DNS.
6. Enter the Secondary DNS.
7. If used, enter the baud rate for the Serial Port.
8. When all of the settings have been entered, click the "Save Config" button.

**Note:** An HTX2 can be discovered on the network by using HAI Automation Studio and HAI HTX2 Mobile Designer software.

To view the status of inputs, outputs, and relays, select the Status button.



- Overview
- Status**
- Configuration
- Help

## Status

**Version:** v1.053  
**Build Date:** Feb 16 2009 13:51:43

<b>Counter:</b>	0			
<b>Temp C:</b>	22			
<b>Temp F:</b>	72			
<b>I/O</b>	<b>Value</b>	<b>Min</b>	<b>Max</b>	<b>Type</b>
1	4	0	6	2
2	4	0	7	2
Relay 1	0			
Relay 2	0			

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## PROGRAMMING

You can program actions of the HTX2 by using HAI Automation Studio and HAI HTX2 Mobile Designer software. Actions give you the ability to issue IR codes, Serial commands, Relay commands, macros, and much more.

Also for the IR or Serial actions, a conditional selection is optionally allowed that is based on the specified state of a digital input.

For additional information, visit the HAI Automation Studio Learning Center at <http://www.homeauto.com/training/automationstudio>.

## SPECIFICATIONS

Network Connectivity:	10-Base-T
Protocols:	TCP, UDP, HTTP
Power:	802.3af Compliant PoE or 12VDC 500mA external
Configuration:	HAI Automation Studio, HAI HTX2 Mobile Designer, Web Browser
LED indicators:	Status, Link, Activity
Enclosure:	20ga Steel, keyhole slots for wall mounting
Dimensions:	4.5" x 5" x 1" (115mm x 127mm x 25.5mm)

# HTX2 GUI Quick Start

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1



Create your audio/video GUI pages using the HTX2 Mobile Designer Software. Save the project.

2



Import the project into PC Access.

3



Using PC Access, write configuration to the HAI Controller.

4



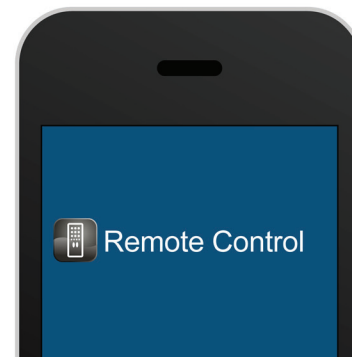
Using Snap-Link Mobile, retrieve setup from the HAI controller.

5



Using Snap-Link Mobile, retrieve GUI pages from HTX2 Mobile Designer.

6



Access the "Remote Control" GUI pages.

## **Step 1: Create your Audio/Video GUI Pages using the HTX2 Mobile Designer Software. Save the Project.**

- a. HAI has provided a licensed graphics and templates software package with the HTX2. When used with the HAI HTX2 (in accordance with license agreement), these graphics and templates can be used in HAI HTX2 Mobile Designer software projects that you create. There are two templates: one for the iPad (named “GUI\_GROUP\_HAI iPad.grl”), and one for the iPhone and iPod Touch (named “GUI\_GROUP\_HAI iPhone.grl”).
  - In the HTX2 Mobile Designer, right-click on the “GUIs” tab in the Project tree and select “Import GUI Group” from the context menu. Browse to the folder where the template files were installed and select the template that you want to import.
  - Once the template is imported, the buttons on each GUI Page can be assigned navigations and/or actions (such as IR commands, relay commands, serial commands, macros, and much more).
  - Entire pages of commands can be populated by dropping a Device node from the Project tree onto the GUI page background. You will be prompted to choose which command types to populate.
  - You can also drag/drop Devices onto GUI Groups and Pages inside the Project tree. This allows you to populate pages quickly, without even needing to open the page in the GUI Editor. Dropping a device onto a single page will populate only that page. Dropping onto a GUI Group will populate the entire Group. This is especially useful for volume commands.
- b. When creating GUI Pages, it is suggested that you create a “landing” page for each room that allows the user to access all of the devices in selected room. The name of the “landing” page in the HAI templates is “Home”. If you have multiple rooms that are being controlled, you can create multiple landing pages, such as “Living Room”, “Bedroom”, and “Theater”, each with access to the devices that will be controlled within that room.
- c. The Home page in the HAI templates gives the user access to all available devices. From each device page, it is suggested that you create a button that brings the user back to the landing (or in this case the “Home”) page. In the HAI templates, there is a green “House” button on each device page that will bring the user back to the Home page.
- d. When creating GUI Pages, at least one page must have a button with the “Exit GUI” navigation assigned to it. The Exit GUI navigation is used to go back to the previous list in Snap-Link Mobile. On the Home page in the HAI templates, the green “House” button will bring the user back to the previous list in Snap-Link Mobile. It is suggested that that you place a button with the “Exit GUI” navigation on each landing page.
- e. If you have multiple GUI Groups (for example you have similar designs for both an iPad and an iPhone), you must name the “landing” GUI Pages (the GUI Pages that will be selected from within Snap-Link Mobile) in each GUI Group with the same name. For example, in the HAI templates you will see that the GUI Group for the iPad has the same name for the pages in the GUI Group for the iPhone. The GUI Group for the iPhone does have some additional pages that the GUI Group for the iPad doesn’t have; however, those additional pages shouldn’t be configured as a landing page that will show up in Snap-Link Mobile.
- f. When complete, save the project.

## **Step 2: Import the Project into PC Access.**

- a. Open a PC Access Account file.
- b. Under “Extended Setup”, highlight “GUI Pages” and click on the green + icon at the top on the toolbar.
- c. Browse to the HTX2 Mobile Designer project file (the one that was saved in Step 1) and double-click it. Note that the HTX2 Mobile Designer project will have the file extension of “.bwe”.
  - The “Select GUI” dialog is displayed. Select the GUI Group that will be used.
  - You will be given a choice of which GUI Pages will be displayed in Snap-Link Mobile. Select all of the pages that the user can access from Snap-Link Mobile.
    - In most cases if there is only one HTX2 in the installation, only one page (the landing page) will be selected. However, the installation might support multiple HTX2 units, so multiple landing pages (one for each room) may be selected.
    - If there is only one device in a room, you can add the GUI Page for that device so that you go directly to that GUI Page when the “Remote Control” button is pressed in that room.

- d. If there are rooms configured in the HAI controller, then you can add a device to the room. For example, the user only has a television in the bedroom, so when the device is being used in the bedroom, it will go directly to the GUI Page for the television.
  - o To configure a GUI Page for a room, under “Extended Setup”, click on “Rooms”.
    - Click the “Add Item to Room” button next to an existing room (or add a new room).
    - Select the “GUI Page” from the dropdown.
    - Click the arrow in the Item column to select the GUI Page from the dropdown.
- e. When complete, save the PC Access account file.

### **Step 3: Using PC Access, Write Configuration to the HAI Controller.**

- a. Connect to the HAI controller.
- b. Select “Communications” and then “Write to Controller”.
- c. Select “Extended Setup” from the list of configuration items. You can quickly select only Extended Setup, if desired, by right-clicking in the check box. Then select “OK”.

### **Step 4: Using Snap-Link Mobile, Retrieve Setup from the HAI controller.**

- a. Start HAI Snap-Link Mobile on the iPad, iPhone, or iPod Touch.
- b. Press the “Settings” button at the top-right.
- c. Press the arrow next to the account that you want to configure.
- d. First, press “Retrieve Setup” under “Setup”. When the retrieval process is complete, press “OK” in the message box.

### **Step 5: Using Snap-Link Mobile, Retrieve GUI Pages from HTX2 Mobile Designer.**

- a. Next, on the Snap-Link Mobile “Settings” page, press “Retrieve GUI Pages” under “Setup”. Snap-Link Mobile will display a page indicating it is ready to receive GUI Pages.
- b. Using the HTX2 Mobile Designer, right-click on the GUI Group that you want to load, and then select “Upload Group to HAI App”.
- c. A “GUI Downloader” message box is displayed in Snap-Link Mobile. Press “Yes” to start the process.
- d. Once the process is complete, you will return to the configuration page for the Snap-Link application. Press the “Save” button at the top-right.

### **Step 6: Access the “Remote Control” GUI Pages.**

- a. Press the account that you just configured.
- b. Press “Remote Control” to display a list of the available GUI Pages.
  - o If you only configured one GUI Page, when you press “Remote Control” you will go straight to that GUI Page.