



DIGITALINX

VALUE-ENGINEERED DIGITAL SOLUTIONS

DL-ARK Deployment Guide



Important Safety Instructions

- » Please completely read and verify you understand all instructions in this manual before operating this equipment.
- » Keep these instructions in a safe, accessible place for future reference.
- » Heed all warnings.
- » Follow all instructions.
- » Do not use this apparatus near water.
- » Clean only with a dry cloth.
- » Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- » Use only accessories specified or recommended by Intelix.
- » Explanation of graphical symbols:

◇ Lightning bolt/flash symbol: the lightning bolt/flash and arrowhead within an equilateral triangle symbol is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product enclosure which may be of sufficient magnitude to constitute a risk of shock to a person or persons.



◇ Exclamation point symbol: the exclamation point within an equilateral triangle symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.



- » **WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE AND OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHOULD NOT BE PLACED ON THIS APPARATUS.**
- » Use the mains plug to disconnect the apparatus from the mains.
- » **THE MAINS PLUG OF THE POWER CORD MUST REMAIN READILY ACCESSIBLE.**
- » Do not defeat the safety purpose polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. 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 your obsolete outlet. **Caution! To reduce the risk of electrical shock, grounding of the center pin of this plug must be maintained.**
- » Protect the power cord from being walked on or pinched particularly at the plugs, convenience receptacles, and the point where they exit from the apparatus.
- » Do not block the air ventilation openings. Only mount the equipment per Intelix’s instructions.
- » Use only with the cart, stand, table, or rack specified by Intelix or sold with the equipment. When/if a cart is used, use caution when moving the cart/equipment combination to avoid injury from tip-over.
- » Unplug this apparatus during lightning storms or when unused for long periods of time.
- » **Caution! Shock Hazard. Do not open the unit.**
- » Refer to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.



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Product Overview

The Digitalinx DL-ARK Advanced Room Kit is a multi-function A/V distribution and push button control system designed to provide audio, video and USB 2.0 data extension with complete system control all in one convenient system. Only two solid core, shielded Category 6 cables are required to connect the entire system together which consists of one HDBaseT wall plate transmitter, one HDBaseT receiver and one keypad controller. All the power needed for the keypad and wall plate transmitter is provided by the receiver via Category cable / HDBaseT.

There are two systems available in the series; the DL-ARK-3H1VC features 2 HDMI inputs and 1 VGA with audio input on the wall plate transmitter and the DL-ARK-4HC features 3 HDMI inputs on the wall plate transmitter. Both HDBaseT transmitters features a USB B host port for connection to a computer or host and a dedicated audio input that is independent of all video inputs. The DL-ARK HDBaseT receiver for both systems provides an additional HDMI input for a local A/V input, an HDMI output for a display or projector, a 3 port client USB hub for connection to interactive white board or USB mic / camera, a two port LAN switch, mic / line analog audio input, line audio analog output, 40 watt 70 volt power amplifier output and an RS232 and IR output for display or projector control either by keypad controller or web server. The DL-ARK control keypad for both systems features audio and video input selection control for all A/V inputs, variable audio control for the mic/line input, line audio output and amplified audio output from the DL-ARK receiver and can control a connected display or projectors ON and OFF status via RS232 or IR from the receiver as well.

The ARK also has built in audio ducking processing that allows a user with a microphone to 'duck' or supplant the current audio output selection so the user can 'speak-over' the audio output.

Several DL-ARK systems can be remotely managed by the DL-ARK system management software which allows centralized status view and control of a system from anywhere on the LAN.

The DL-ARK systems are UL Listed.

Product Contents

(1) DL-ARK Receiver

Accessories for Receiver

- (1) DC 24V 5A Power Adapter
- (4) AC Cables (US, UK, EU, AU)
- (1) IR 2 Wire Emitter
- (2) Phoenix Male Connectors (3.5mm, 2 Pins)
- (4) Phoenix Male Connectors (3.5mm, 3 Pins)
- (4) Phoenix Male Connector (5.08mm, 2 Pins)
- (4) Phoenix Male Connector (5.08mm, 4 Pins)
- (2) Mounting Brackets
- (4) Mounting Screws
- (4) Rubber Feet

(1) DL-ARK 3 Input HDBaseT 2.0 Transmitter Wall Plate

Accessories for Wall Plate Transmitter

- (1) Plastic Inner Plate, Right, Black.
- (1) Plastic Inner Plate, Left, Black.
- (1) 2-Gang US Plastic Decora Plates, White
- (1) 2-Gang US Plastic Decora Plate, Black
- (4) #6-32*20mm Screws, Silver
- (4) #6-32*7mm Screws, White
- (4) #6-32*7mm Screws, Black

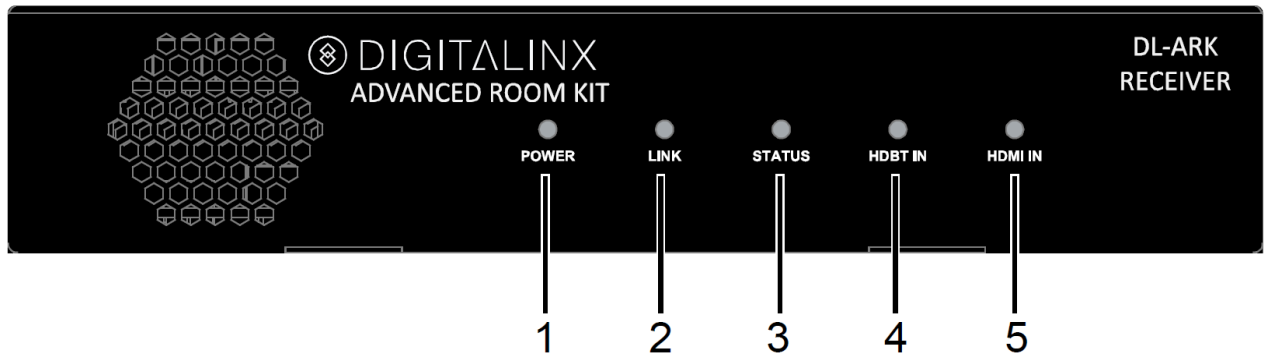
(1) DL-ARK Wall Plate Keypad Controller

Accessories for Keypad Controller

- (1) Plastic Inner Plate, Black
- (1) 2-Gang US Plastic Decora Plates, White
- (1) 2-Gang US Plastic Decora Plate, Black
- (2) #6-32*20mm Screws, Silver
- (2) #6-32*7mm Screws, White
- (2) #6-32*7mm Screws, Black
- (2) Sheet of pre-printed button labels
- (2) Volume Knob Cap, Black

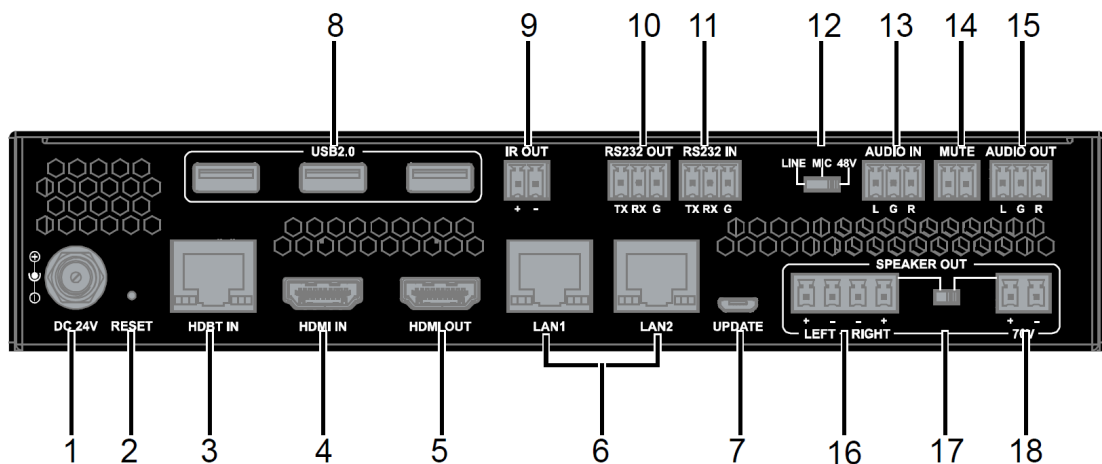
Product View

Receiver - Front



1. **POWER LED** - Illuminates solid GREEN when device is in ON
2. **LINK** - Illuminates solid GREEN when device is successfully connected to wall plate transmitter
3. **STATUS** - Illuminates solid GREEN when receiver is working properly
4. **HDBT IN** - Illuminates solid GREEN when HDBaseT input is selected
5. **HDMI IN** - Illuminates solid GREEN when HDMI input is selected

Receiver - Back



1. **DC 24V** - Locking power supply port
2. **RESET** - Factory reset button, press in and hold for 3 or more seconds to reset receiver to factory default, LED's on receiver will blink once reset has begun
3. **HDBT IN** - HDBaseT input; RJ45 connection

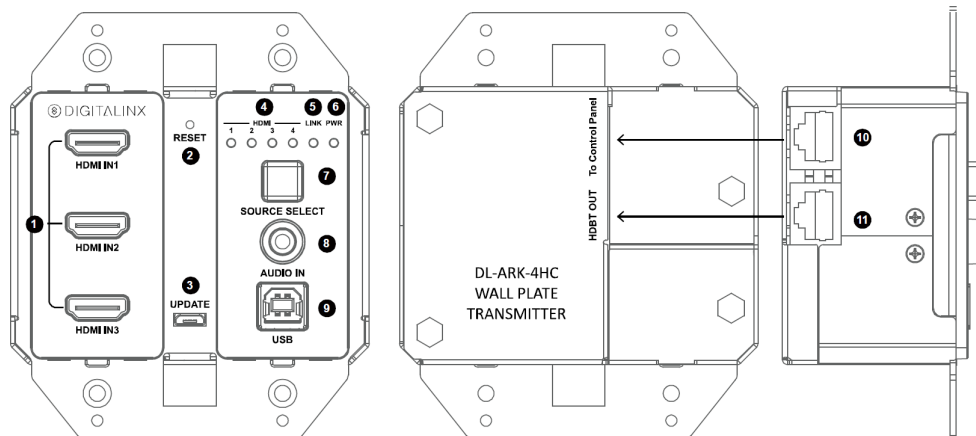
4. **HDMI IN** - HDMI input for connecting local video source
5. **HDMI OUT** - HDMI connection for connecting TV display or projector
6. **LAN 1/2** - RJ45 Connections for Ethernet connection, switch for connecting to 3rd party system control, computer for web GUI configuration / control or to connect 3rd party device to same LAN, i.e. projector or display
7. **UPDATE**- Micro USB connection for firmware updates
8. **USB 2.0** - 3 port USB 2.0 hub for client side connections
9. **IR OUT**- 2 pin phoenix connector to connect IR emitter to control 3rd party device such as a display or projector
10. **RS232 OUT** - 3 pin phoenix; output port for connection display or 3rd party control
11. **RS232 IN** - 3 pin phoenix; input for connection from 3rd party control system
12. **LINE/MIC/48V**
 - LINE - Setting for line level audio input
 - MIC - Setting for mic level audio input
 - 48V - Phantom power setting for condenser microphones



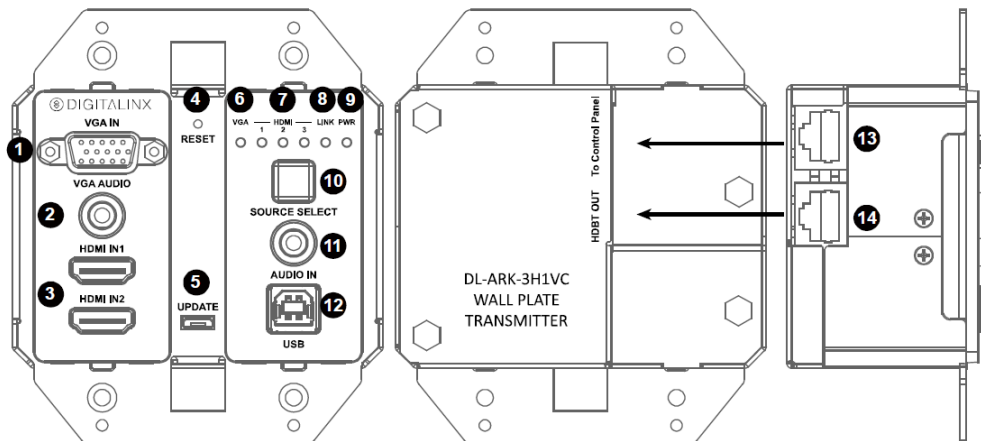
WARNING: Before the selector switch is set to position “48V”, ensure any Line in device connected to “AUDIO IN” port has been removed; otherwise, device damage may occur.

13. **AUDIO IN** - 3 pin phoenix; audio input port
14. **MUTE** - 2 pin phoenix, contact closure for muting output audio of receiver
15. **AUDIO OUT** - 3 pin phoenix; unbalanced stereo audio output port
16. **LEFT-RIGHT** - 4 pin phoenix; 8 ohm stereo speaker level output port
17. **SELECTOR SWITCH**- Switches between 8 ohm and 70v speaker output
18. **70V** - 2 pin phoenix; mono 70v speaker output port

DL-ARK-4HC Wall Plate Transmitter

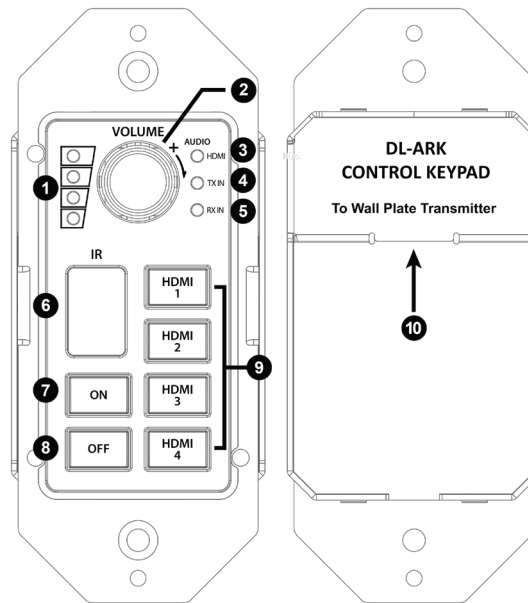


1. **HDMI IN 1-3** - HDMI inputs for connecting to HDMI video sources
2. **RESET** - Factory reset button, press in and hold for 3 or more seconds to reset transmitter to factory default, LED's on receiver will blink once reset has begun
3. **UPDATE**- Micro USB connection for firmware updates
4. **HDMI IN LEDs** - Will illuminate solid GREEN the corresponding HDMI input has been selected or is currently active
5. **LINK LED** - Illuminates solid GREEN when the HDBaseT connection to the receiver is connected properly
6. **PWR LED** - Illuminates solid GREEN when power to the transmitter is ON
7. **SOURCE SELECT** - HDMI input source selector
8. **AUDIO IN** - 3.5mm connector for dedicated line level stereo audio input
9. **USB** -USB B connector for connecting USB host such as a computer to the transmitter wall plate
10. **TO CONTROL PANEL** - RJ45 connection for connecting Category cable to external keypad wall plate controller
11. **HDBT OUT** - HDBaseT output; RJ45 connection

DL-ARK-3H1VC Wall Plate Transmitter

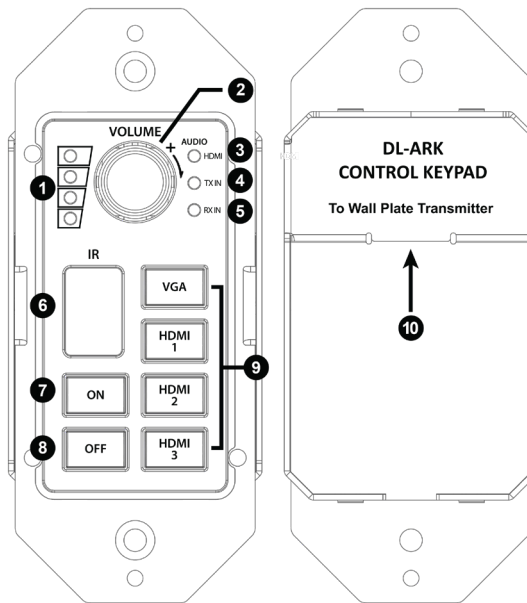
1. **VGA IN** - DB-15 connection; VGA input for connecting to VGA video source
2. **VGA AUDIO** - 3.5mm connection; stereo line level audio input to embed into VGA source content
3. **HDMI IN 1-2** - HDMI inputs for connecting to HDMI video sources
4. **RESET** - Factory reset button, press in and hold for 3 or more seconds to reset transmitter to factory default, LED's on receiver will blink once reset has begun
5. **UPDATE**- Micro USB connection for firmware updates
6. **VGA LED** - Will illuminate solid GREEN the VGA input has been selected or is currently active
7. **HDMI IN LEDs** - Will illuminate solid GREEN the corresponding HDMI input has been selected or is currently active
8. **LINK LED** - Illuminates solid GREEN when the HDBaseT connection to the receiver is connected properly
9. **PWR LED** - Illuminates solid GREEN when power to the transmitter is ON
10. **SOURCE SELECT** - HDMI input source selector
11. **AUDIO IN** - 3.5mm connector for dedicated line level stereo audio input
12. **USB** -USB B connector for connecting USB host such as a computer to the transmitter wall plate
13. **TO CONTROL PANEL** - RJ45 connection for connecting Category cable to external keypad wall plate controller
14. **HDBT OUT** - HDBaseT output; RJ45 connection

DL-ARK-4HC Wall Plate Keypad Controller



1. **VOLUME LEVEL LEDs** - Volume level LED indicator
2. **VOLUME** - Turn the volume knob clockwise to raise the volume, counterclockwise to lower the volume. Short press the volume knob to switch between audio sources
3. **HDMI AUDIO LED** - Illuminates solid GREEN when the HDMI source audio is selected. The audio selected here will correspond with the current video input selection
4. **TX AUDIO LED** - Illuminates solid GREEN when the transmitters analog input audio source is selected
5. **RX AUDIO LED** - Illuminates solid GREEN when the receivers analog input audio source is selected
6. **IR** - IR receiver window to receive IR signals from an IR remote
7. **ON** - Turns DL-ARK system ON. This button can also be programmed to turn a display or projector connected to the receiver ON either by IR, RS232 or CEC. See pg 31 under *Keypad / GUI Control Protocol Settings for a Display*
8. **OFF** - Turns DL-ARK system OFF. This button can also be programmed to turn a display or projector connected to the receiver OFF either by IR, RS232 or CEC. See pg 31 under *Keypad / GUI Control Protocol Settings for a Display*
9. **VIDEO 1-4** - Source selector buttons. Illuminates solid GREEN when a video source is selected. Video 1-3: HDMI IN 1-3 on transmitter. Video 4: HDMI IN on receiver.
10. **TO WALL PLATE TRANSMITTER** - RJ45 connection for connecting Category cable to DL-ARK wall plate transmitter

DL-ARK-3H1VC Wall Plate Keypad Controller



1. **VOLUME LEVEL LEDs** - Volume level LED indicator
2. **VOLUME** - Turn the volume knob clockwise to raise the volume, counterclockwise to lower the volume. Short press the volume knob to switch between audio sources
3. **HDMI AUDIO LED** - Illuminates solid GREEN when the HDMI source audio is selected. The audio selected here will correspond with the current video input selection
4. **TX AUDIO LED** - Illuminates solid GREEN when the transmitters analog input audio source is selected
5. **RX AUDIO LED** - Illuminates solid GREEN when the receivers analog input audio source is selected
6. **IR** - IR receiver window to receive IR signals from an IR remote
7. **ON** - Turns DL-ARK system ON. This button can also be programmed to turn a display or projector connected to the receiver ON either by IR, RS232 or CEC. See pg 31 under *Keypad / GUI Control Protocol Settings for a Display*
8. **OFF** - Turns DL-ARK system OFF. This button can also be programmed to turn a display or projector connected to the receiver OFF either by IR, RS232 or CEC. See pg 31 under *Keypad / GUI Control Protocol Settings for a Display*
9. **VGA, VIDEO 1-3** - Source selector buttons. Illuminates solid GREEN when a video source is selected. VGA; VGA Video. Video 1-2; HDMI IN 1-2 on transmitter. Video 3: HDMI IN on receiver.
10. **TO WALL PLATE TRANSMITTER** - RJ45 connection for connecting Category cable to DL-ARK wall plate transmitter

Installation Instructions

Installing the Receiver

At least 2 inches of free air space is required on both sides of the DL-ARK receiver for proper side ventilation. Avoid mounting the DL-ARK receiver near a power amplifier or any other source of significant heat.

Remove the screws on both sides of the DL-AS61U-H2, then attach the supplied mounting clips to the DL-ARK for surface or rack mounting..

Mounting the Wall Plate Transmitter

Mount the wall plate keypad controller into a US 1 gang low voltage bracket or junction box, mount the wall plate transmitter into a US 2 gang low voltage bracket or junction box. Mount

Changing Transmitters Decorator Insert Plate

The DL-ARK is supplied with black and white decorator insert plates as well as decorator style cover plates to match. To remove existing insert plate take a small screw drive and detach using one of the tabs connected to the transmitter wall plate. See example below.



Once existing insert plate is removed, attach the desired plate to the transmitter by snapping the plates into place into the tabs on the transmitter.

Mounting the Keypad Controller

Mount the wall plate keypad controller into a US 1 gang low voltage bracket or junction box, mount the wall plate transmitter into a US 2 gang low voltage bracket or junction box. Mount

Changing Controllers Decorator Insert Plate

The DL-ARK is supplied with black and white decorator insert plates as well as decorator style cover plates to match. To remove existing insert plate take a small screw drive and detach using one of the tabs connected to the transmitter wall plate. See example below....



Changing Controllers Keypad Labels

The DL-ARK is supplied with a variety of labels to identify a variety of specific input devices that can be used to identify input sources more easily for the room. To change the keypad labels remove existing insert plate take a small screw drive and detach using one of the tabs connected to the transmitter wall plate. See example above. Then remove the plastic LED insert from the circuit board, see example below. Then you can remove the existing labels and replace with desired label or leave blank if input is not used,



Connecting Video Sources

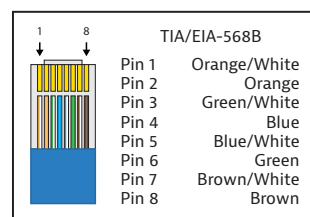
Connect source devices to the inputs on the transmitter or receiver. When using HDMI cables for source inputs, use a High Speed HDMI cable that is less than or equal to 1.5 meters in length for 4k60 signals and 5 meters for 1080p signals.

Connecting Displays

Connect the display device to the HDMI output using a High Speed HDMI cable that is less than or equal to 1.5 meters in length for 4k60 signals and 5 meters for 1080p signals.

HDBaseT Connection

Connect one end of a Category cable to the DL-ARK receiver labeled *HDBT IN*, then connect the other end of the Category cable to the DL-ARK transmitter labeled *HDBT OUT*



Twisted Pair Wiring

Use TIA/EIA-568B wiring for Category 6 connection between send and receive units.

To ensure proper performance of the DL-ARK system, it is recommended that you use solid core, shielded Category 6 F/UTP cabling at a minimum. Category 5e F/UTP may perform well up to a certain length but may not support power over HDBaseT reliably longer distances.



When using shielded category cabling **ALWAYS...**

-use shielded connectors
-properly ground the category cable

For optimized performance use the following Liberty Wire and Cable branded cabling;

Category 6 plenum; 24-4P-P-L6SH
 Category 6A plenum; 24-4P-P-L6ASH

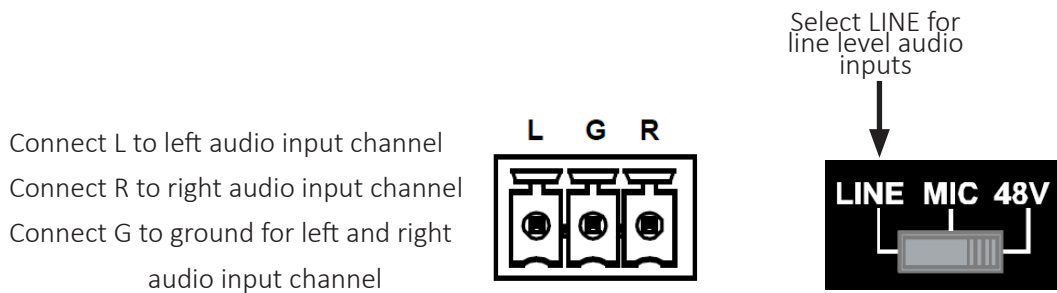
Category 6 NON-plenum; 24-4P-L6SH
 Category 6A NON-plenum; 24-4P-L6ASH

Connecting Audio Input Sources

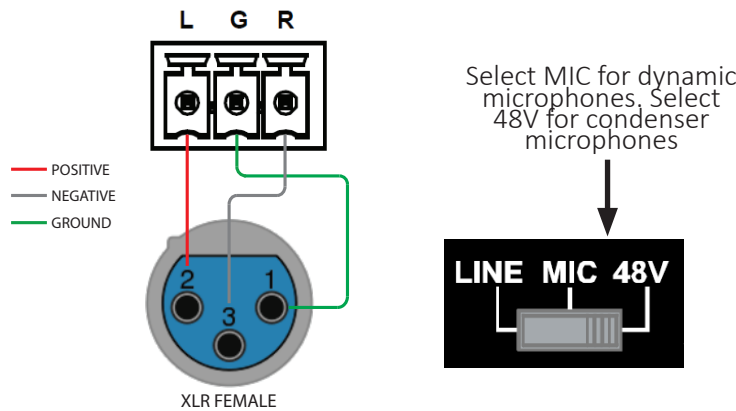
The DL-ARK-4HC transmitter has a dedicated 3.5mm stereo unbalanced audio line level input. Connect an audio source to the transmitter plate if desired.

The DL-ARK-3H1VC transmitter has two 3.5mm stereo unbalanced audio line level inputs, one to be embedded with the VGA video when the input selected and a dedicated input that requires no video input to pass. Connect an audio source to the transmitter plate if desired.

The DL-ARK-3H1VC receiver has a 3 pin phoenix stereo audio input that can be used to connect stereo unbalanced line level input source or a balanced microphone audio input. Connect an unbalanced line level audio source to the receiver with the following pin out for stereo audio, be sure to use the LINE audio option with the audio selector option.



Connect a balanced mic level audio source to the receiver with the following pin out for mic audio, be sure to use the MIC audio option with the audio selector option when using dynamic microphones and use 48V option when using condenser microphones that require phantom power.



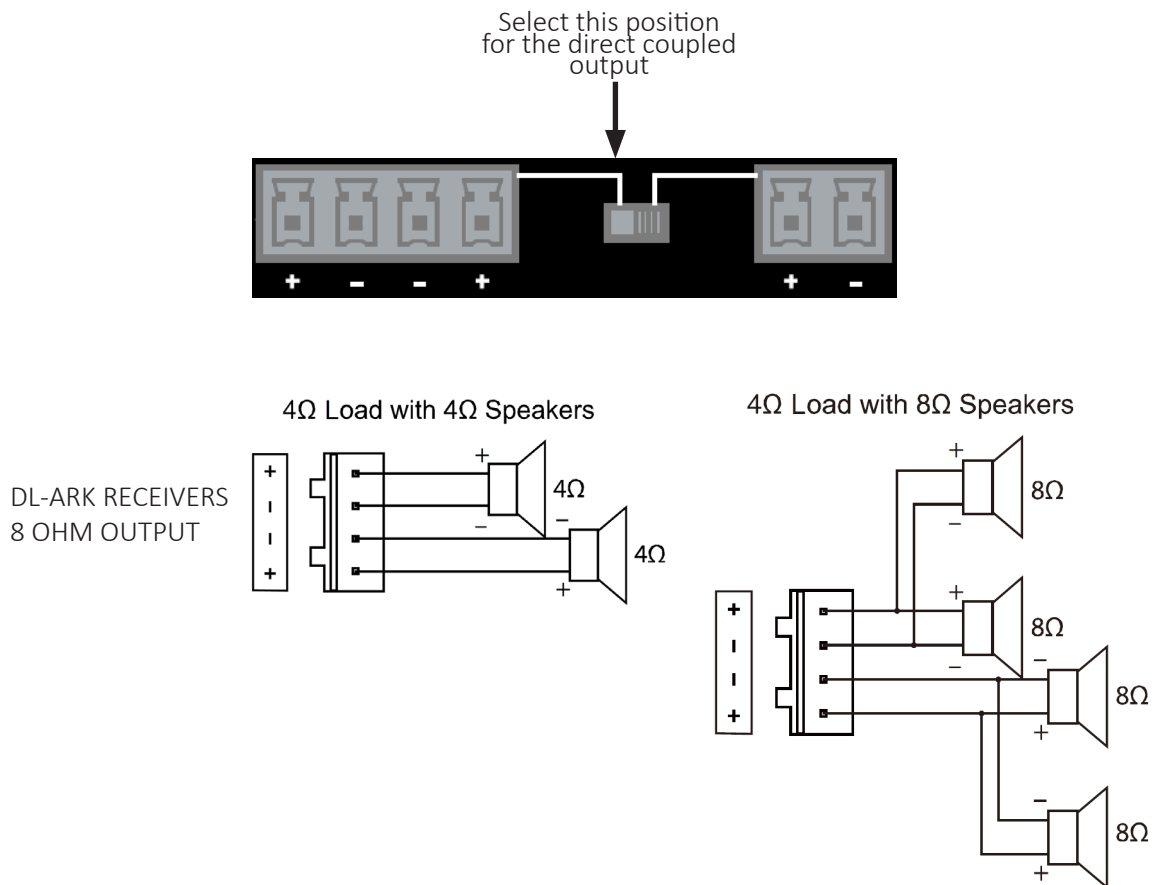
WARNING: Before the selector switch is set to position “48V”, ensure any Line in device connected to “AUDIO IN” port has been removed; otherwise, device damage may occur.

Connecting Audio Output

Direct Coupled Amplifier Output

To use the direct coupled speaker level output, connect two 4 ohm speakers, one to the left output one to the right output for a 4 ohm load per channel. Two 8 ohm speakers can also be connected to each left and round output for a 4 ohm load per channel as well. Below is the correct pinout and wiring diagram for either scenario.

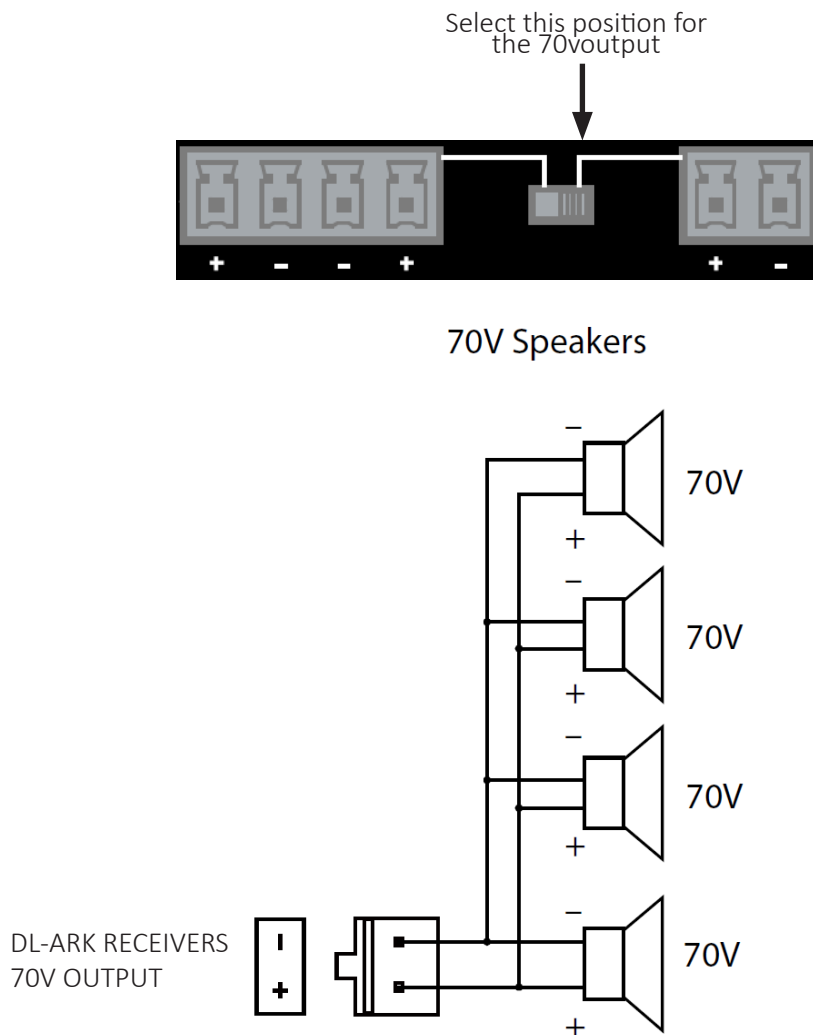
To use the direct coupled amplifier, push the speaker output selector to the LEFT



70V Amplifier Output

To use the 70V speaker level output, connect one or more 70V compatible speakers to the amplifier. Be sure the 70V speaker taps do not exceed a combined 40W watt load for proper operation. Below is the proper pinout and wiring diagram for 70V operation.

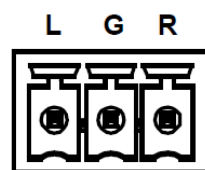
To use the 70V amplifier, push the speaker output selector to the RIGHT



Line Level Output

To use the unbalanced stereo line level output, use the following pinout to connect to an external audio amplifier if additional sound reinforcement is required.

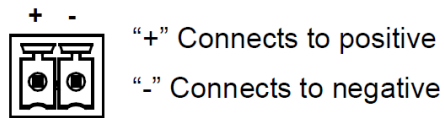
- Connect L to left audio output channel
- Connect R to right audio output channel
- Connect G to ground for left and right audio output channel



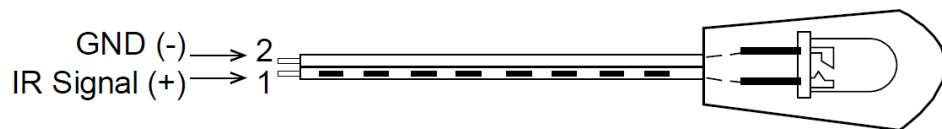
Connecting External IR Display Control

If IR control is required to control connected display or projector, connect the supplied IR emitter to the 2 pin phoenix IR connector using the follow pin out diagram.

DL-ARK RECEIVERS
IR OUTPUT



IR Emitter Wiring



Connecting RS232 Control

Connect a control system to the DL-ARK RS232 input port on the receiver to control the DL-ARK via 3rd third party control.

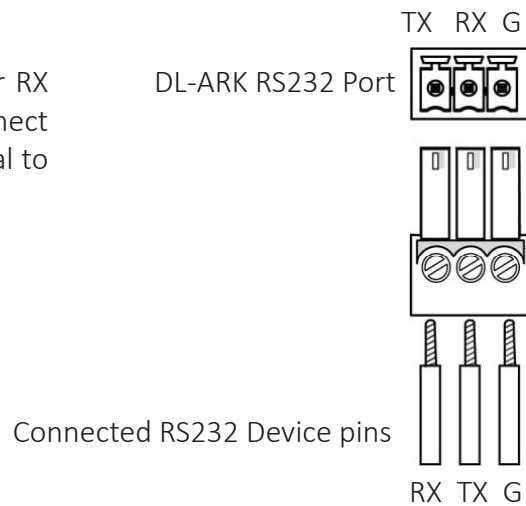
Connect a display or projector to DL-ARK RS232 output port to control display using web GUI, keypad controller or ARK Manager software program.

RS232 Wiring

Connect the display / system controller RX signal to TX on the DL-ARK, then connect the display / system controllers TX signal to RX.

Default RS232 Input Settings:

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



Connecting Ethernet

The DL-ARK features a 2 port network switch that can be used to control the DL-ARK system via 3rd party control system, share a network connection to a LAN with another networked device such as a display or projector or access the built in web GUI using a computer using a web browser.

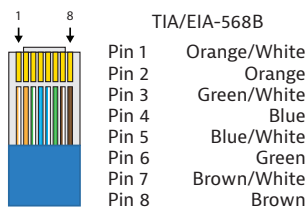
IP Addressing

By default the DL-ARK is assigned an IP address when it is connected to a LAN with a DHCP server which is typical of any network router. If the DL-ARK does not receive an IP address from a LAN because there is no router connected or the DHCP server fails, the DL-ARK will be assigned an automatic IP using the Automatic Private IP Addressing protocol (APIPA) which will default to the 169.254/16 Network ID range.

The DL-ARK supports an On Screen Display (OSD) option meaning it will highlight the assigned IP address on the display or projector the DL-ARK is connected to when it initially boots. See example below.



Connecting to a Router



The TCP/IP ports of the DL-ARK requires a standard straight-through Category 5e or greater cable with the TIA/EIA-568B crimp pattern for optimal operation.

Connect the Ethernet cable between to the LAN1 and a router with a straight-through cable.

Web Browser and TCP/IP Control

The DL-ARK system features a web GUI interface that can configure and control the DL-ARK system using a standard web browser on a computer connected to the same LAN. Once an IP address has been assigned enter the IP address of the DL-ARK into a web browser, the default user name and password for web GUI control is *user*, the default user name and password for GUI configuration for the DL-ARK for the web GUI is *admin*.

The IP address assigned to the DL-ARK can be used for telnet control at port 23.

Applying Power

Connect the included power supply to the DL-ARK and lock the power supply to the power connector by twisting the locking collar clockwise.

Keypad Control and Configuration

Control Operations

Audio Output Volume

The volume knob on the keypad controller can be used to adjust the volume level of the line level and speaker level audio output of the DL-ARK receiver.

To control the volume level of the line level and speaker level audio output, simply turn the volume knob clockwise to increase volume level and turn knob counter-clockwise to decrease volume level. The LED's to the left of the volume knob will illuminate the relative volume level of the audio outputs.

NOTE: The volume knob on the keypad cannot control the embedded HDMI audio output of the DL-ARK receiver.

Audio Input Selection

The volume knob on the keypad controller can also be used to select from the three audio input options. Press the volume knob IN repeatedly to select or cycle through the audio input channels. Below is a explanation of each audio input option.

HDMI - Selects embedded HDMI audio of the selected A/V input

TX IN - Selects the wall plate transmitter audio input (3.5mm)

RX IN - Selects the receivers audio input (3 pin phoenix; mic or line)

Video Input Selection

The video input keys labeled VGA, VIDEO 1-4 are video input switching options that can be selected when desired. A key will illuminate solid green when the corresponding video input has been selected.

NOTE: In order to reduce user error for video input switching, only active video inputs can be chosen on the keypad. Example; if there are two HDMI sources plugged into HDMI inputs 1 and 2, you will only be able to make video switches between those two inputs on the keypad, HDMI inputs 3 and 4 in this example cannot be chosen.

Display ON/OFF

By default the DL-ARK keypad can control the ON or OFF status of a connected display or projector via IR. The DL-ARK keypad controller can learn and save the ON and OFF IR code from the display / projector remote.

The keypad can also control a display using RS232 or CEC control if preferred, see page 31 under *Keypad / GUI Control Protocol Settings for a Display* to change default control protocol of keypad controller.

IR Learning Mode Instructions

Press and hold the Video 1 button (VGA button for the DL-ARK-3H1VC) on the keypad controller for three seconds to enter IR learning mode. The ON and OFF buttons will both illuminate solid green

To learn and save the POWER ON IR code of the display or projector, press the ON button on the keypad controller. The ON button will start to flash. Point the display remote at the keypad's IR sensor window and press the POWER ON button of the display remote. The ON button on the keypad controller will stop flashing when the IR code has been learned and saved.

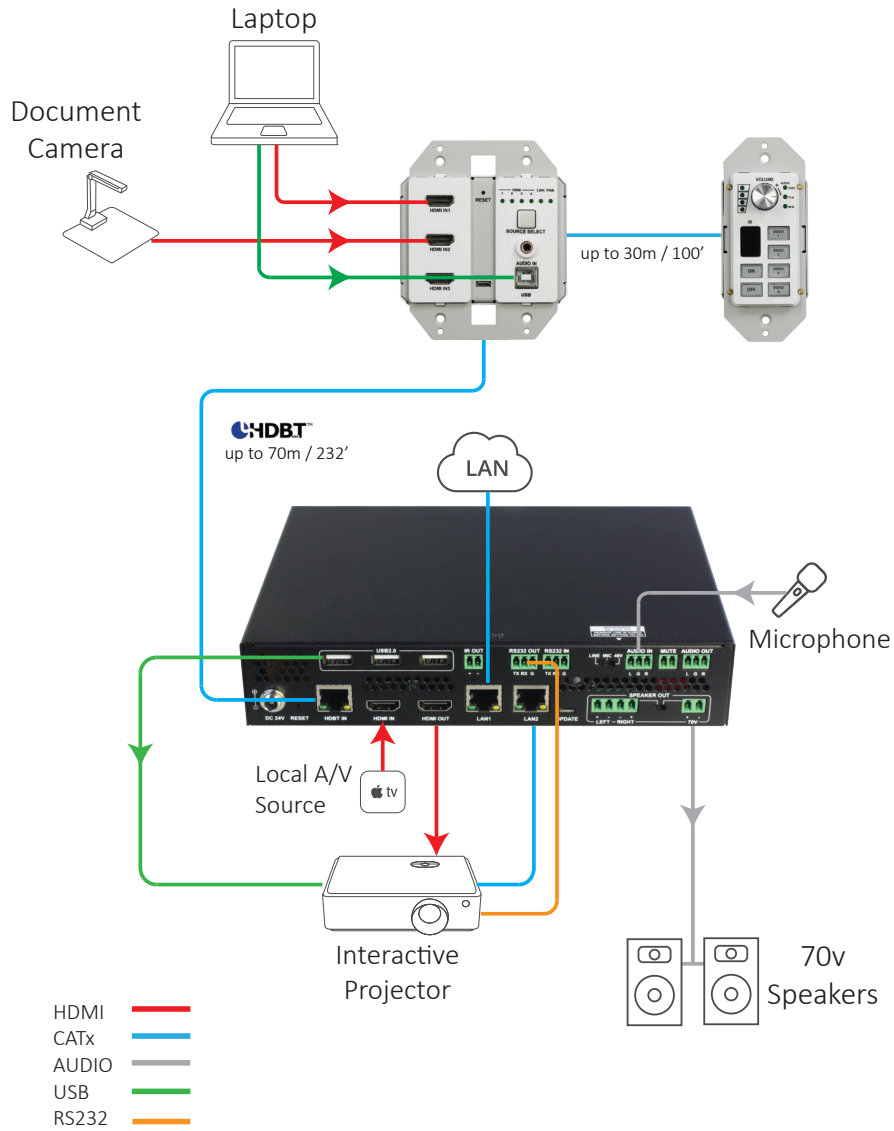
To learn and save the POWER OFF IR code of the display or projector, press the OFF button on the keypad controller. The OFF button will start to flash. Point the display's remote at the keypad's IR sensor window and press the POWER OFF button on the display remote. The OFF button on the keypad controller will stop flashing when the IR code has been learned and saved.

NOTE: If the display or projector's ON/OFF IR code is a power toggle and does not have a separate ON and OFF IR code, it is acceptable to save the power toggle IR code in each ON and OFF keypad button operation.

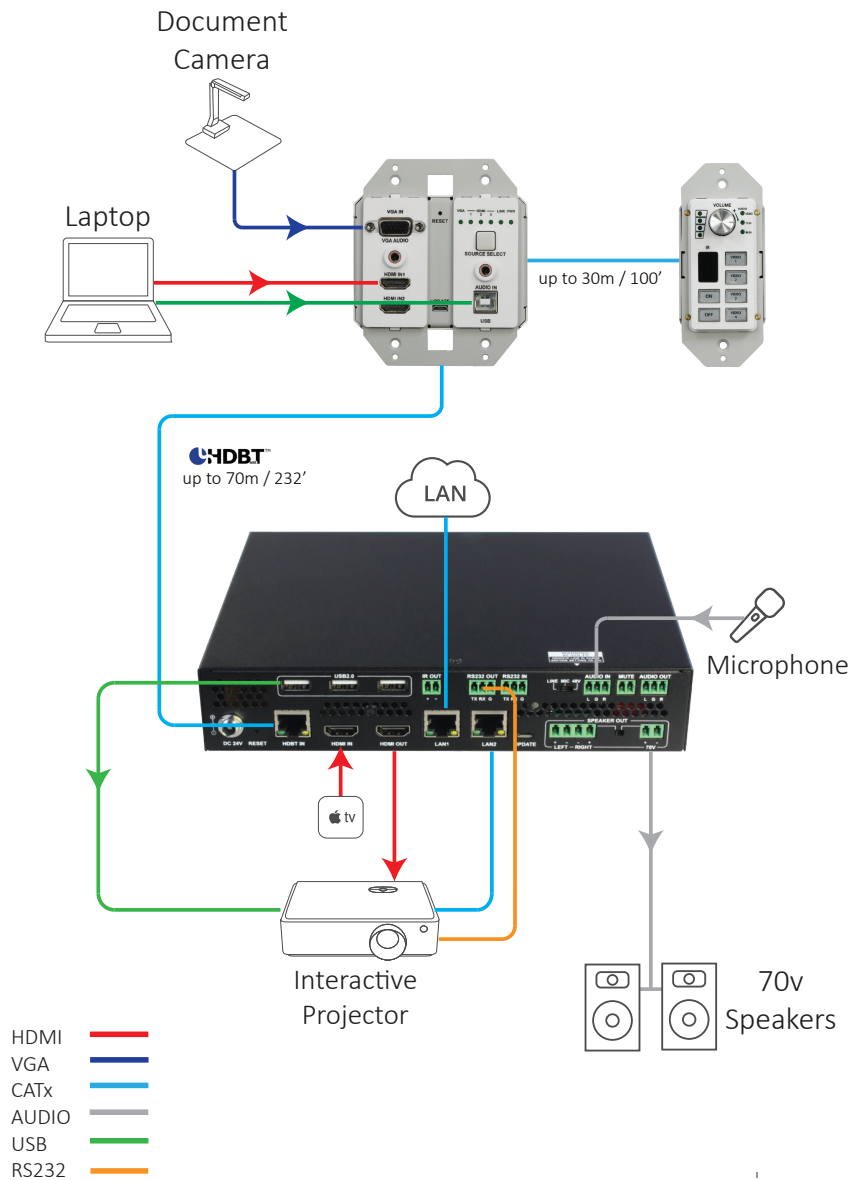
To exit IR learning mode, press and hold the Video 4 (VIDEO 3 in DL-ARK-3H1V1C) button on the keypad controller for three seconds. The ON and OFF buttons on the keypad controller will go dark.

A/V Diagram

DL-ARK-4HC



DL-ARK-3H1VC



Web Browser Control and Advanced System Configuration

GUI System Controller

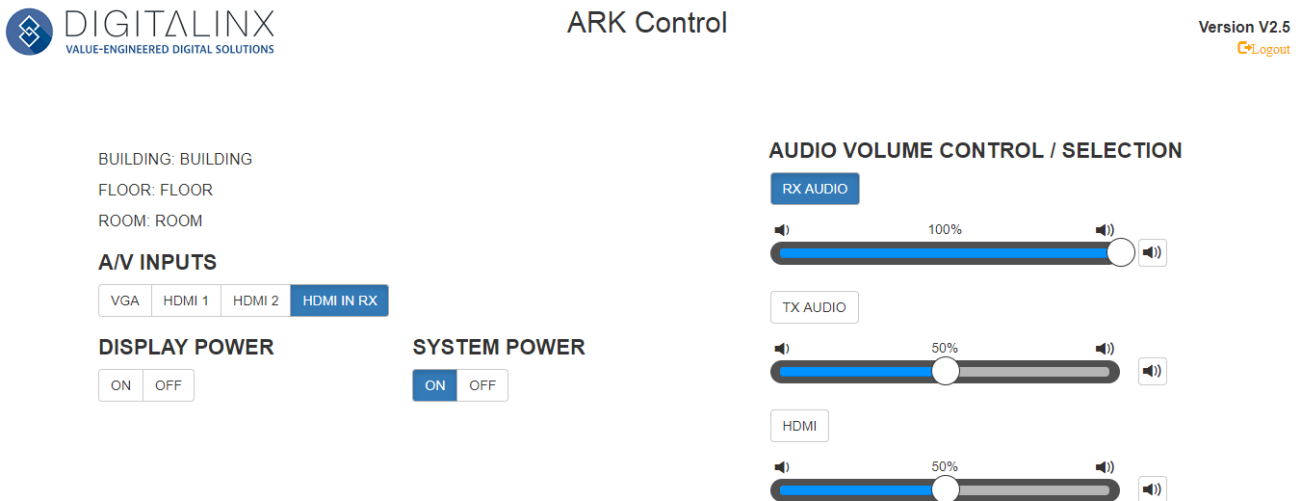
Open a web browser on a PC that is connected to the same LAN as the DL-ARK and type in IP address of the DL-ARK system and press enter.

NOTE: The IP address of the DL-ARK is determined when the system is connected to a LAN with a DHCP server (router) by default. See page 21 for finding / configuring the IP address of the DL-ARK under *IP Addressing*.

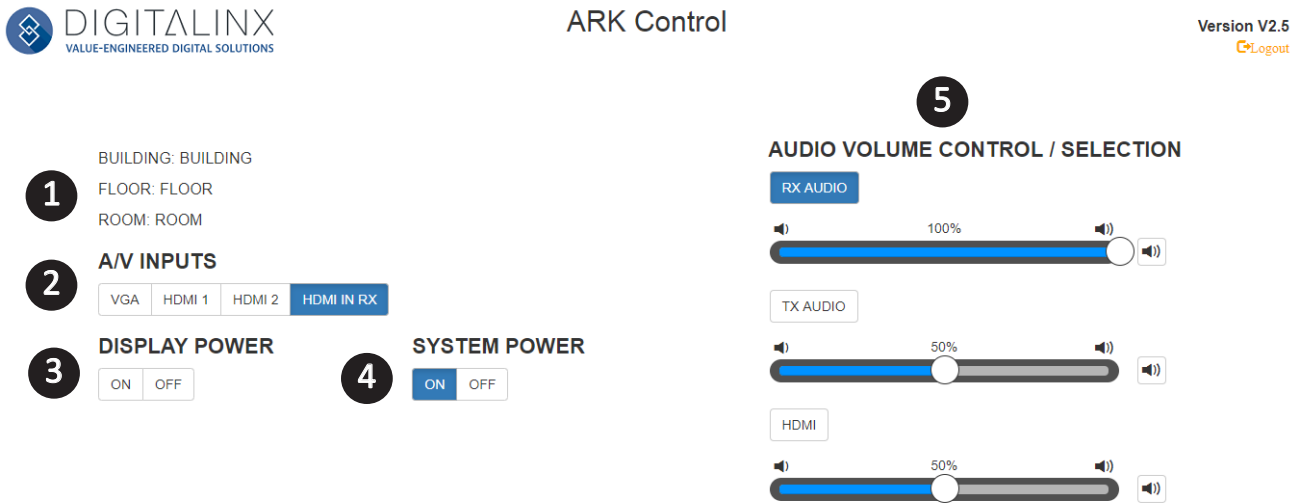
The login screen will appear. The default user name and password to access the web GUI controller is *user*



After logging in, the following screen will appear



Below is a numbered explanation of the GUI control screen.



- 1. Device Location** - Display the DL-ARK device's location per building, floor and room. This can be defined in the devices advanced settings menu when logging in as an administrator.
- 2. A/V Inputs** - Selects the A/V input. By default the inputs are set to auto switching by default, this can be changed in the advanced settings menu if desired.
- 3. Display Power** - Turns connected display ON or OFF. The advanced settings menu can determine how the display is controlled, either by CEC, IR or RS232.
- 4. System Power** - Turns the DL-ARK system ON or OFF
- 5. Audio Volume Control / Selection** - Selects audio input and adjusts / mutes or unmutes volume output for each audio input.

Advanced System Settings

Open a web browser on a PC that is connected to the same LAN as the DL-ARK and type in IP address of the DL-ARK system. The IP address of the DL-ARK is determined with the system is connected to a LAN with a DHCP server (router). See page 21 for finding / configuring the IP address of the DL-ARK under *IP Addressing*.

The login screen will appear. The default user name and password to access advanced settings is *admin*



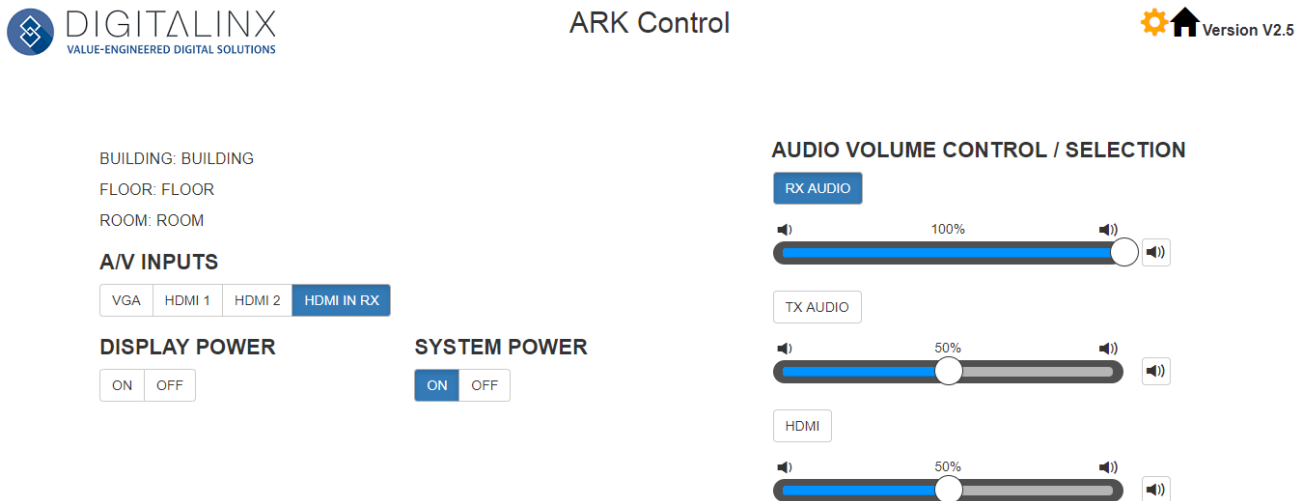

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User Name

Password

Login

After logging in as an administrator, the following screen will appear which is the web GUI controller. To access advanced settings, click on the cog wheel in the upper right hand corner of the controller



ARK Control Version V2.5

BUILDING: BUILDING
 FLOOR: FLOOR
 ROOM: ROOM

A/V INPUTS
 VGA | HDMI 1 | HDMI 2 | **HDMI IN RX**

DISPLAY POWER **SYSTEM POWER**
 ON | OFF **ON** | OFF

AUDIO VOLUME CONTROL / SELECTION

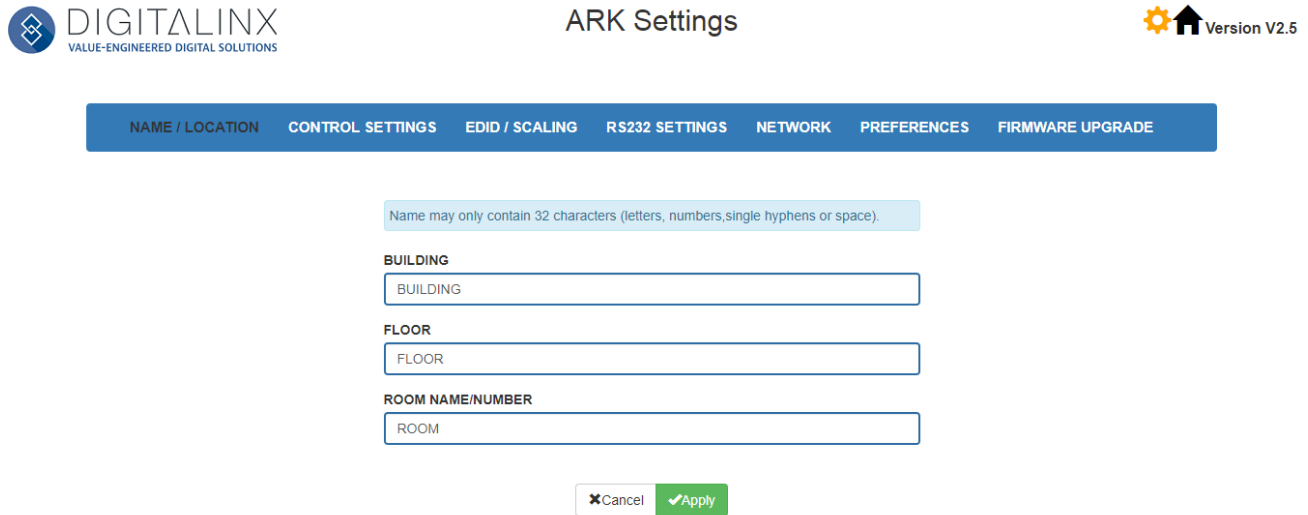
RX AUDIO
 100%

TX AUDIO
 50%

HDMI
 50%

Configuring Device Name and Location

Once you enter the advanced settings menu, the sub menu NAME / LOCATION will be highlighted.



In this menu the device can be organized into a building, floor and room naming convention. Enter in the desired building, floor and room identification and click *APPLY*.

The names given to the building, floor and room for the device will populate on the web GUI controller screen as well as the ARK Manager management software.

Audio Ducking

The menu labeled AUDIO MIX in the web GUI will allow you to set the audio ducking settings as desired.

NOTE: The ARK firmware update version 2.7 is required for this functionality, if you do not see the AUDIO MIX menu below in your GUI, please update your unit according to instructions for the update. The firmware update is located online at the DL-ARK product page.

MIXING ENABLED: Click the button to set audio mixing function to ON/OFF. The default setting is OFF.

NOTE: When *MIXING ENABLED* is set to OFF, all the sliders and buttons are grey and cannot be set. When *MIXING ENABLED* is set to ON, you can set the following items.

DUCKING MASTER SELECT: Click the button to select one *AUDIO INPUT* as a ducking master from TX IN and RX IN. The default setting is RX IN.

MIXER SETTINGS:

RX IN/TX IN: Click the corresponding button to select/deselect one AUDIO input to mix.

Note: The selected ducking master audio input cannot be deselected.

RX IN/TX IN/HDMI IN: Use the slider to adjust the volume of the three signals in mixed audio separately. The default settings of the three signals are all 50%.

DUCKING SETTINGS:

ATTACK TIME: Use the slider to adjust the attack time after ducking master threshold is passed. The default setting is 500ms.

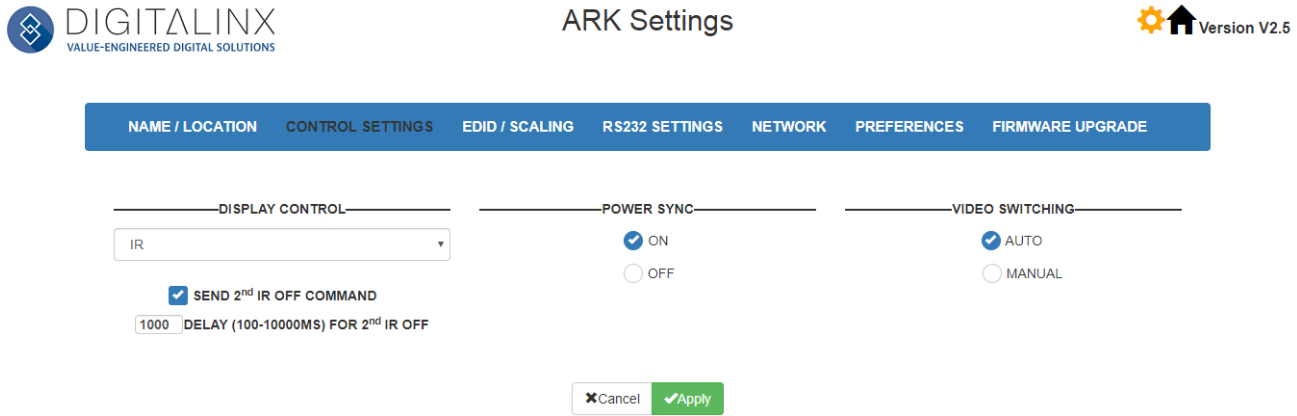
RELEASE TIME: Use the slider to adjust the release time after ducking master threshold is not exceeded. The default setting is 500MS

DUCKING TRIGGER LEVEL: Use the slider to adjust the trigger level of ducking. The lower the level is set, the easier the ducking is triggered.

DUCKING LEVEL: User the slider to set the volume ratio of the master audio and other audio inputs in mixed audio. The larger the ratio is set, the lower the volume of other audio inputs when the main master audio input.

Keypad / GUI Control Protocol Settings for a Display

The CONTROL SETTINGS sub menu can configure how the keypad controller and web GUI controller can control a connected display



DISPLAY CONTROL - Determines what control protocol the DL-ARK will use to control a display, the choices are CEC, RS232 and IR. By default the system is set to IR for display control. Choose an control option by selecting one of the choices in the drop down menu and click *APPLY*.

Note Concerning IR Control: When sending an IR OFF command to a projector, it is common that the projector will ask the user to send the OFF IR command again to confirm the operation. A 2nd IR OFF command can be programmed here by checking the *SEND 2ND IR OFF COMMAND* option, you can then set the delay time in milliseconds for the 2nd command. This will simplify IR control of a display if desired so the user will not have to press the OFF IR command again after the initial OFF request has been made.

Note Concerning RS232 Control: When choosing RS232 for display control use the *RS232 SETTINGS* menu to configure display control commands on the next page.

POWER SYNC - Determines if the DL-ARK system and display will be powered off simultaneously or separately. Power sync is ON by default. Choose the ON or OFF option and click *APPLY*.

When choosing the POWER SYNC ON option, both display and DL-ARK will power ON or OFF simultaneously by pressing the keypad ON or OFF button with a single quick press.

When choosing the POWER SYNC OFF option, the display and DL-ARK will power ON or OFF separately. In this mode a quick press of the ON/OFF key on the keypad turns the display ON or OFF and a long press of the ON/OFF key turns the DL-ARK system ON or OFF.

Setting RS232 Commands for Display and ARK Manger Control

The RS232 SETTINGS sub menu allows you to enter in the desired command strings for a connected display so the keypad controller can control the display.



ARK Settings



NAME / LOCATION	CONTROL SETTINGS	EDID / SCALING	RS232 SETTINGS	NETWORK	PREFERENCES	FIRMWARE UPGRADE
DISPLAY BRAND/MODEL			DISPLAY ON COMMAND <input type="checkbox"/> HEX			POWER STATUS COMMAND <input type="checkbox"/> HEX
BAUD RATE	115200		DISPLAY OFF COMMAND <input type="checkbox"/> HEX			LAMP HOURS COMMAND <input type="checkbox"/> HEX
COMMAND ENDING (ASCII ONLY)	NONE		DISPLAY INPUT COMMAND <input type="checkbox"/> HEX			INPUT DELAY (1-120 Seconds)
						10
<input type="button" value="Cancel"/> <input type="button" value="Apply"/>						

The following is instructions / explanations of each field in the RS232 settings menu

DISPLAY BRAND / MODEL - Enter in the display brand and model number here if desired and click *APPLY*. This field will populate in the ARK management software so a display brand / model can be identified in a room.

BAUD RATE - Use the drop down menu to choose the displays baud rate setting for serial communication and click *APPLY*. The displays baud rate settings can be found in the displays owners manual typically. The keypad controller and the ARK Manager software will use this setting to communicate to a connected display via RS232.

COMMAND ENDING (ASCII ONLY) - Use the drop down menu to choose the displays serial string terminators for ASCII formatted strings, then click *APPLY*. This is not required for HEX formatted serial strings and will not apply when HEX formatted codes are transmitted in the system. The displays serial string terminators are typically called out in displays owners manual documentation.

The following is an explanation of each option in the drop down menu

/r = Carriage Return

/n = Line Feed

/r/n = Carriage Return + Line Feed

NONE = No carriage return or line feed terminator will be added

DISPLAY ON COMMAND - Enter in the displays serial string for display ON in this field, click *APPLY* to save. The default format for serial string in this field is HEX, to define ASCII formatted string uncheck the HEX option in the field before saving the command is saved. The displays ON serial command string can be found in the displays owners manual documentation. The keypad controller, ARK web GUI and the ARK Manager software will use this command to turn display status to ON.

DISPLAY OFF COMMAND - Enter in the displays serial string for display OFF in this field, click *APPLY* to save. The default format for serial string in this field is HEX, to define ASCII formatted string uncheck the HEX box before saving the command. The displays OFF serial command string can be found in the displays owners manual documentation. The keypad controller, ARK web GUI and the ARK Manager software will use this command to turn display status to OFF.

DISPLAY INPUT COMMAND - Enter in the displays serial string for the desired INPUT in this field, click *APPLY* to save. The default format for serial string in this field is HEX, to define ASCII formatted string uncheck the HEX option in the field before saving the command is saved. The displays INPUT serial command string can be found in the displays owners manual documentation.

NOTE: The ARK keypad controller will use this command string to define the preferred input on the display or projector after the **DISPLAY ON** command has been issued by the keypad controller to turn the display / projector ON. Use the **INPUT DELAY** field in the web GUI to define the number in seconds in which the INPUT command will be initiated after the ON command has been issued to the display / projector.

POWER STATUS COMMAND - Enter in the displays serial string for the device ON/OFF status in this field, click *APPLY* to save. The default format for serial string in this field is HEX, to define ASCII formatted string uncheck the HEX option in the field before saving the command is saved. The displays ON/OFF status serial command string can be found in the displays owners manual documentation. The ARK Manager software will exclusively use this command string to determine power status of a display or projector in a room.

LAMP HOURS COMMAND - Enter in the projectors serial string for LAMP HOUR status in this field, click *APPLY* to save. The default format for serial string in this field is HEX, to define ASCII formatted string uncheck the HEX option in the field before saving the command is saved. The projectors LAMP HOURS serial command string can be found in the projectors owners manual documentation. The ARK Manager software will exclusively use this command string to determine power status of a projector in a room.

Changing Auto / Manual Switching Modes

The CONTROL SETTINGS sub menu can determine preferred video switching method.

The screenshot shows the ARK Settings web interface. At the top left is the DIGITALINX logo with the tagline 'VALUE-ENGINEERED DIGITAL SOLUTIONS'. At the top center is the title 'ARK Settings'. At the top right is a gear icon and the text 'Version V2.5'. Below the title is a blue navigation bar with the following tabs: NAME / LOCATION, CONTROL SETTINGS (highlighted), EDID / SCALING, RS232 SETTINGS, NETWORK, PREFERENCES, and FIRMWARE UPGRADE. The main content area is divided into three sections: DISPLAY CONTROL, POWER SYNC, and VIDEO SWITCHING. The VIDEO SWITCHING section is highlighted with a red rectangular box. It contains two radio button options: 'AUTO' (which is selected) and 'MANUAL'. Below the VIDEO SWITCHING section are two buttons: 'Cancel' and 'Apply'.

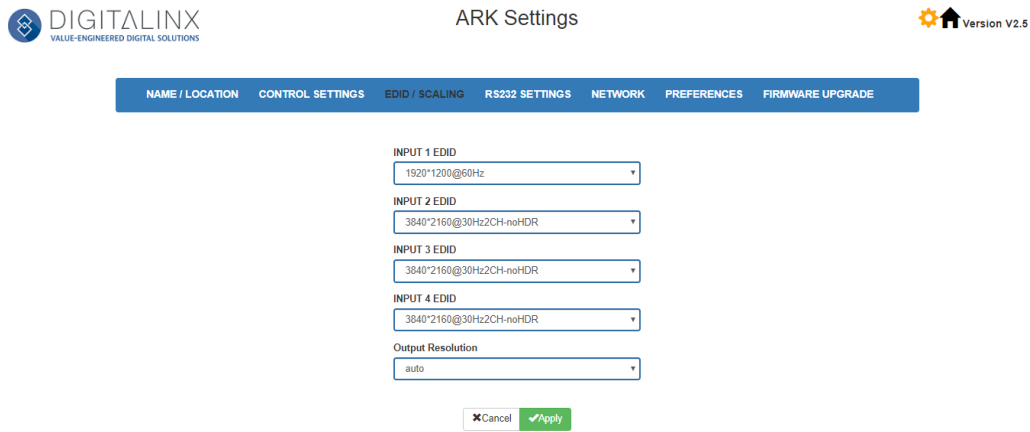
VIDEO SWITCHING - Determines the switching method for the DL-ARK A/V inputs, by default this is set to AUTO.

Once preferred settings have been made, click *APPLY* to save.

Note: when using manual switching mode the keypad controller will only switch between video sources that are currently connected to the system. This avoids user error in selecting video inputs with no active input or nothing connected physically to the input.

Setting Input EDID / Output Scaling

The EDID / SCALING SETTINGS sub menu can configure input EDID for all four inputs separately as well as configure the output scaling setting,



INPUT 1 - 4 EDID - Use the drop down menu corresponding with each input to define the input EDID settings. This will be the preferred resolution that a PC or computer will see when connecting to the ARK system.

OUTPUT RESOLUTION - Use the drop down menu to set the desired scaled resolution of the HDMI output.

When all settings have been chosen in this menu click *APPLY* to save.

Adjusting Network Settings (IP, Subnet, Gateway)

The NETWORK sub menu allows you to enter in the desired IP address mode for the ARK as well as setting the IP Address, Subnet and Gateway for a static assigned IP address.

NOTE: The DL-ARK system defaults to DHCP mode. To obtain the IP address of the ARK system connect the ARK systems LAN port to a router or Level 3 network switch with a DHCP server. Once an IP address has been assigned to the ARK system, it will be displayed on the display when the device reboots. If the ARK is not connected to DHCP server after 1 minute, it will issue an AUTO IP address using the 169.254/16 network ID range.

The screenshot shows the 'ARK Settings' interface with the 'NETWORK' tab selected. The settings are as follows:

- MAC ADDRESS:** 34:1b:22:80:9a:0f
- IP ADDRESS:** 10.10.1.116
- SUBNET MASK:** 255.255.255.0
- GATEWAY:** 10.10.1.254
- Mode:** DHCP (selected) / STATIC
- Buttons:** Cancel, Apply

The following is an explanation of each field in the NETWORK settings menu

MAC ADDRESS - This displays the ARK's MAC address, this cannot be changed

DHCP / STATIC - Choose the desired IP mode for the ARK and click APPLY.

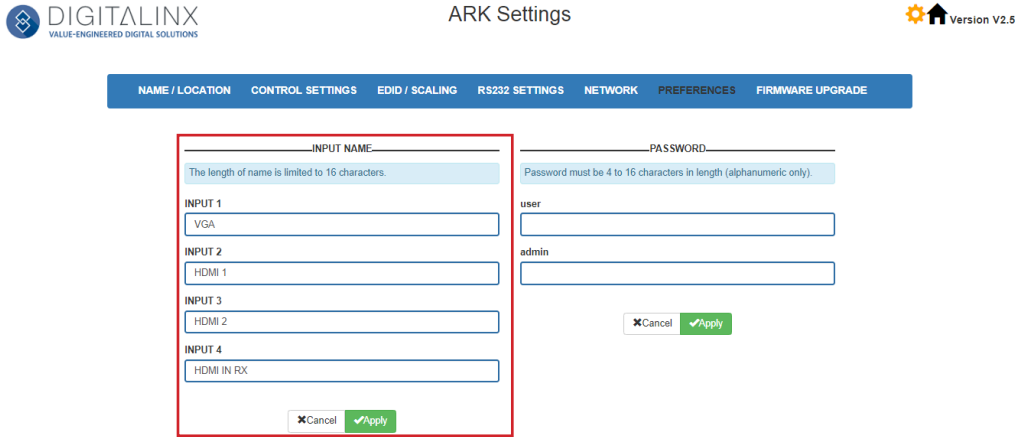
IP ADDRESS - Enter in the desired static IP address for the ARK and click *APPLY*. This cannot be changed unless the ARK network settings for IP mode has been changed to **STATIC**

SUBNET MASK - Enter in the desired subnet for the ARK and click *APPLY*. This cannot be changed unless the ARK network settings for IP mode has been changed to **STATIC**

GATEWAY - Enter in the desired gateway / router IP address for the ARK and click *APPLY*. This cannot be changed unless the ARK network settings for IP mode has been changed to **STATIC**

Renaming Device A/V Inputs

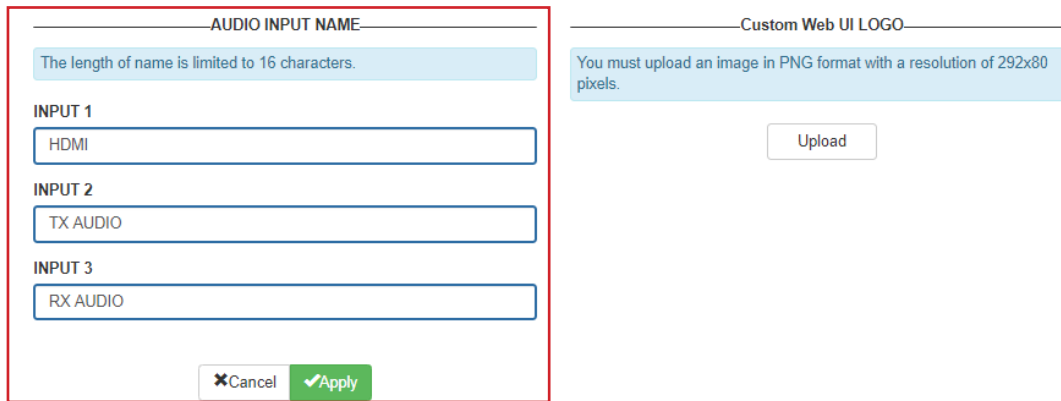
The PREFERENCES sub menu allows you to change the names given to the audio and video inputs on the DL-ARK system.



The following is an explanation of each field in the PREFERENCES settings menu

INPUT NAME / INPUT 1-4 - Enter in the desired input name for the corresponding VGA/HDMI inputs on the DL-ARK system here, then click *APPLY*.

Scroll down in the PREFERENCES menu to access the audio input naming options.



AUDIO INPUT NAME / INPUT 1-3 - Enter in the desired input name for the corresponding audio inputs on the DL-ARK system here, then click *APPLY* to save. Below is an explanation of the audio inputs.

- INPUT 1 = Selects the HDMI embedded audio for the selected ARK video input
- INPUT 2 = Selects 3.5mm audio input on the ARK wall plate transmitter
- INPUT 3 = Selects the mic/line audio input of the ARK receiver

Changing ARK web GUI Passwords

The PREFERENCES sub menu allows you to change the passwords for the *user* and *admin* web GUI login.

The screenshot shows the ARK Settings web GUI. At the top, there is a navigation bar with the following tabs: NAME / LOCATION, CONTROL SETTINGS, EDID / SCALING, RS232 SETTINGS, NETWORK, PREFERENCES, and FIRMWARE UPGRADE. The PREFERENCES tab is selected. Below the navigation bar, there are two main sections. The left section is titled 'INPUT NAME' and contains four input fields labeled INPUT 1, INPUT 2, INPUT 3, and INPUT 4. The right section is titled 'PASSWORD' and contains two input fields labeled 'user' and 'admin'. A red box highlights the PASSWORD section. At the bottom of the page, there are two buttons: 'Cancel' and 'Apply'.

PASSWORD - Enter in the desired password for the user and admin login and click *APPLY* to save.

NOTE: If the ARK's password is forgotten, the ARK must be reset to factory default to access the web GUI with the default user name and password.

Adding Custom Logo to web GUI Login

The PREFERENCES sub menu allows you to add a custom logo that will appear in the web GUI login. Scroll down when the PREFERENCES sub menu has been selected to find the logo upload option.

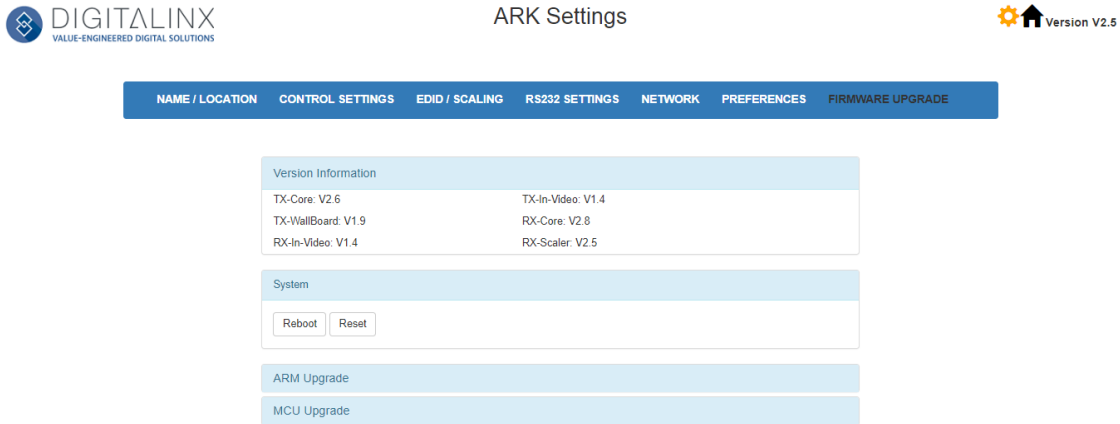
The screenshot shows the ARK Settings web GUI. At the top, there is a navigation bar with the following tabs: NAME / LOCATION, CONTROL SETTINGS, EDID / SCALING, RS232 SETTINGS, NETWORK, PREFERENCES, and FIRMWARE UPGRADE. The PREFERENCES tab is selected. Below the navigation bar, there are two main sections. The left section is titled 'AUDIO INPUT NAME' and contains three input fields labeled INPUT 1, INPUT 2, and INPUT 3. The right section is titled 'Custom Web UI LOGO' and contains an 'Upload' button. A red box highlights the 'Upload' button. At the bottom of the page, there are two buttons: 'Cancel' and 'Apply'.

CUSTOMER WEB UI LOGO - Click the *UPLOAD* button under this option to find and select a logo picture to on your local computers drive.

NOTE: PNG is the accepted image format for the logo and the resolution of the logo cannot exceed 292x80 pixels

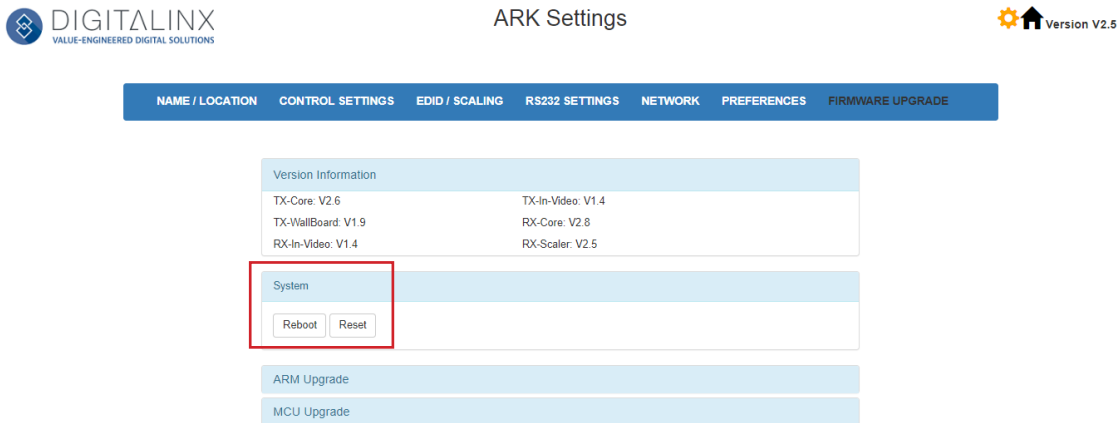
Updating Firmware

The FIRMWARE UPGRADE sub menu allows you to upgrade the DL-ARK’s firmware. This menu will also display all the current firmware versions for the keypad controller, wall plate transmitter and receiver.



Resetting / Rebooting System using web GUI

The FIRMWARE UPGRADE sub menu allows you to reset the DL-ARK to factory default or reboot the power of the DL-ARK device.



To reset the DL-ARK to factory default settings click the RESET button under SYSTEM settings. The device will reset to factory default settings and will reboot automatically.

To reboot the DL-ARK click the REBOOT button under the SYSTEM settings. The device will reboot automatically.

Technical Specifications

Video	
Video Inputs	<i>Transmitter (DL-ARK-3H1VC); (1) VGA, (2) HDMI Transmitter (DL-ARK-3H1VC); (3) HDMI Receiver; (1) HDBaseT, (1) HDMI</i>
Video Input Connectors	<i>Transmitter (DL-ARK-3H1VC); (1) DB-15 (2) HDMI Type A Female Transmitter (DL-ARK-3H1VC); (3) HDMI Type A Female Receiver; (1) RJ45, (1) HDMI Type A Female</i>
Input Resolution Support	<p><i>VGA (Transmitter):</i></p> <p>VESA: 800x600, 1024x768, 1280x720, 1280x768, 1280x800, 1280x960, 1280x1024, 1360x768, 1366x768, 1440x900, 1600x900, 1600x1200, 1680x1050, 1920x1200</p> <p><i>HDMI (Transmitter):</i></p> <p>VESA: 800x600, 1024x768, 1280x768, 1280x800, 1280 x960, 1280x1024, 1360x768, 1366x768, 1440x900, 1600x900, 1600x1200, 1680x1050, 1920x1200</p> <p>SMPTE: 1280x720, 1920x1080, 3840x2160@60Hz 4:2:0 / 8 bit deep color</p> <p><i>HDMI (Receiver):</i></p> <p>VESA: 800x600, 1024x768, 1280x768, 1280x800, 1280x960, 1280x1024, 1360x768, 1366x768, 1440x900, 1600x900, 1600x1200, 1680x1050, 1920x1200,</p> <p>SMPTE: 1280x720, 1920x1080, 3840x2160@60Hz 4:2:0 / 8 bit deep color</p>
Video Outputs	<i>Transmitter (DL-ARK-3H1VC); (1) HDBaseT Transmitter (DL-ARK-3H1VC); (1) HDBaseT Receiver; (1) HDMI</i>
Video Output Connectors	<i>Transmitter (DL-ARK-3H1VC); (1) RJ45 Transmitter (DL-ARK-3H1VC); (1) RJ45 Receiver; (1) HDMI Type A Female</i>
Output Resolution Support	<p>VESA: 800x600, 1024x768, 1280x768, 1280x800, 1280x960, 1280x1024, 1360x768, 1366x768, 1440x900, 1600x900, 1600x1200, 1680x1050, 1920x1200</p> <p>SMPTE: 1280x720, 1920x1080, 3840x2160 @60Hz 4:4:4 / 8 bit deep color</p>
Standards	Compliant with HDMI 1.4, HDCP 2.2 and CEC
Bandwidth	<i>HDMI IN, HDBT OUT on transmitter & HDBT IN on receiver: 10.2Gbps HDMI IN & HDMI OUT on receiver: 18Gbps</i>

Technical Specifications - Continued

Audio	
Audio Inputs	<i>Transmitter:</i> (1) Unbalanced Stereo Analog <i>Receiver:</i> (1) Unbalanced / Balanced Stereo Analog
Audio Input Connectors	<i>Transmitter:</i> (1) 3.5 mm TRS <i>Receiver:</i> (1) 3 Pin Phoenix
Supported Input Formats	<i>Analog:</i> (Transmitter) 2 channel stereo <i>Analog:</i> (Receiver) Line level 2 channel stereo, mic level mono <i>HDMI Embedded:</i> (Receiver) 2 channel
Audio Outputs	Unbalanced Stereo Analog Constant Voltage @ 70V Direct Coupled (4/8 Ohm)
Audio Output Connector	<i>Analog:</i> 3 pin Phoenix <i>70V:</i> 2 pin Phoenix <i>4/8 Ohm:</i> 4 pin Phoenix
Maximum Rated Power Output (8ohm / 70V)	40 Watts
Frequency Response	120Hz-20KHz
Control	
Control Port / Connector	(1) 3 Pin Phoenix for RS232 output, (1) 3 Pin Phoenix for RS232 input, (2) RJ45 for TCP/IP control / LAN pass through, (1) IR output port for IR emitter
Chassis and Environmental	
Dimensions (WxHxD)	<i>Transmitter:</i> 89mm x 105.6mm x 43mm / 3.5" x 4.16" x 1.69" <i>Receiver:</i> 215mm x 42mm x 160.2mm / 8.46" x 1.65" x 6.31" <i>Control Panel:</i> 45mm x 105.6mm x 28.7mm / 1.77" x 4.16" x 1.13"
Product Weight	Transmitter: 0.30kg / 0.66lb Receiver: 1.43kg / 3.15lb Control Panel: 0.16kg / 0.35lb
Operating Temperature	0° to +45° C (+32° to +113° F)
Operating Humidity	10% to 90%, Non-condensing
Storage Temperature	-20° to +70° C (+14° to +158° F)
Storage Humidity	10% to 90%, Non-condensing
Power, ESD, and Regulatory	
Power Supply Input	100V-240VAC / 50-60 Hz
Power Supply Output	24VDC / 5A
Power Consumption	81 watts (max)
ESD Protection	15kV
Product Regulatory	UL, FCC, CE, RoHS
Power Supply Regulatory	UL, CE, RoHS
Other	
Standard Warranty	5 years

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