Key Digital 4K AV over IP Encoder/Decoder Unit and System Configuration Procedure

This procedure documents building a Video over IP system using Key Digital 4K AV over IP Encoders and Decoders: KD-IP922-II, KD-IP922, KD-IP822, KD-IP1022.

A less detailed video of the setup procedure can be found HERE

Before proceeding, you must configure your network switch according to the AVoIP Verified Network Switcher Setup Guide

Setup Steps:
1. Define System with KDMS Pro System Builder
2. (Optional) Customize Unit and System Settings
3. Configure Equipment
4. Final System Verification

Needs:
1. Encoders – 1 per video source
2. Decoders – 1 per video display
3. Verified Network Switch – Configured according to VNS Setup Guide
4. PC with Key Digital Management Software (KDMS) Pro
5. USB Data Cable – Included with Encoders & Decoders
   a. KD-922-II Series: USB A to B
   b. KD-IP822, KD-IP922, KD-IP1022 Series: USB A to Micro
6. Completed Unit Configuration form or other unit IP address and naming plans
7. Video Source – at least one
8. Video Display – at least one

Configurations for each ENCODER (source) unit ☐ Use this subnet: _____ and choose IP addresses for me.

Do **NOT** use the following reserved IP addresses: 192.168.1.1, 192.168.1.50, 192.168.1.90, 192.168.1.100, 192.168.1.150, 192.168.1.200

Device Name	Group ID	Main IP Address	Video IP Address	Brand (If using KD-App Display Control)
Laptop A	1	192.168.1.5	192.168.1.6	Select
Laptop B	2	192.168.1.7	192.168.1.8	Select
DirecTV	3	192.168.1.9	192.168.1.10	DirecTV H/HR ▾

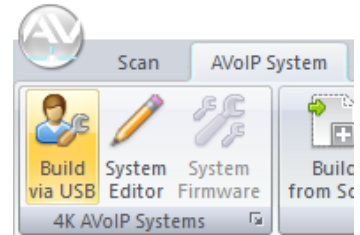**Configurations for each DECODER (display) unit**

Do **NOT** use the following reserved IP addresses: 192.168.1.1, 192.168.1.50, 192.168.1.90, 192.168.1.100, 192.168.1.150, 192.168.1.200

Device Name	Group ID	Main IP Address	Video IP Address	Included in video wall?	Brand (If using KD-App Display Control)
A - Left	1	192.168.1.11	192.168.1.12	Yes	Samsung ▾
A - Right	2	192.168.1.13	192.168.1.14	Yes	Samsung ▾
Room B	3	192.168.1.15	192.168.1.16		Samsung ▾

1. Define System with KDMS Pro System Builder
   A. Open KDMS Pro, choose AVoIP System -> Build Via USB
   B. Name System
   C. Define System Type
      1. Choose the best fit for the equipment on hand (IP922/822 OR IP1022)
   D. Define number of Inputs
   E. Define number of Outputs

   F. Pick starting Encoder IP Address
      1. IP addresses will count up from this address alternating between main and video address.
      2. Each device is also assigned a unique ID number that is used for switching purposes, which corresponds to Input number in the system
      3. Generic names are also assigned to each unit
   G. Pick starting Decoder IP Address
      1. IP addresses will count up from this address alternating between main and video address. Each device is also assigned a unique ID number that is used for switching purposes, which corresponds to Output number in the system
      2. Generic names are also assigned to each unit

2. (Optional) Customize Unit and System Settings

   A. After initial setup, device names and IP addresses can be adjusted by clicking their respective fields.

   B. For Adding Video Walls, use the section of the dialogue at the top right corner of the window.

	VW ID	DEC Start ID	Width	Height	Video Wall Name
☐					

Video Walls: Number of Video Walls: 0

   1. Use the "number of video walls" field to specify how many video walls will exist in the final system
   2. Using the device ID, enter the first Decoder included in each video wall, AKA the top-left decoder (video walls go left to right from the top down).
   3. Define the width and height of each video wall using the "Width" and "Height" fields

Video Walls: Number of Video Walls: 1

	VW ID	DEC Start ID	Width	Height	Video Wall Name
☑	1	1	2	2	Video Wall 1

C. Fields with invalid or conflicting settings will be highlighted red. Highlighted fields must be resolved before continuing.

    1. Case 1: Conflicting IP Addresses

Inputs (IP922/IP822/IP1022 Encoders):

☑	N	ID	Main IP	Video IP	Input Name
☑	1	1	192.168.001.151	192.168.001.052	Input 1
☑	2	2	192.168.001.053	192.168.001.054	Input 2
☑	3	3	192.168.001.055	192.168.001.056	Input 3
☑	4	4	192.168.001.057	192.168.001.058	Input 4
☑	5	5	192.168.001.059	192.168.001.060	Input 5

Outputs (IP922/IP822/IP1022 Decoders):

☑	N	ID	Main IP	Video IP	Output Name
☑	1	1	192.168.001.151	192.168.001.152	Output 1
☑	2	2	192.168.001.153	192.168.001.154	Output 2
☑	3	3	192.168.001.155	192.168.001.156	Output 3
☑	4	4	192.168.001.157	192.168.001.158	Output 4
☑	5	5	192.168.001.159	192.168.001.160	Output 5

    2. Case 2: Invalid Video Wall (IE: overlapping video walls, or video walls that are specified to use decoders that don't exist in the system)

Video Walls: Number of Video Walls: 1

☑	VW ID	DEC Start ID	Width	Height	Video Wall Name
☑	1	5	2	2	Video Wall 1

Outputs (IP922/IP822/IP1022 Decoders):

☑	N	ID	Main IP	Video IP	Output Name
☑	1	1	192.168.001.151	192.168.001.152	Output 1
☑	2	2	192.168.001.153	192.168.001.154	Output 2
☑	3	3	192.168.001.155	192.168.001.156	Output 3
☑	4	4	192.168.001.157	192.168.001.158	Output 4
☑	5	5	192.168.001.159	192.168.001.160	Output 5

3. Configure Equipment
   A. After confirming all fields match the system design and that all invalid fields are resolved, click the "Start" button in the bottom right corner of the window.

IP1022/IP922/IP822 Switcher Configuration Tool

1.Switcher Name: SYSTEM NAME	2.Switcher Type: KD-IP922/IP822 ˅	
3.Number of Inputs: 5	4.Number of Outputs: 5	
5.Starting Encoder System ID: 1	6.Starting Decoder System ID: 1	
7.Starting Encoder IP Address: 192.168.001.051	8.Starting Decoder IP Address: 192.168.001.151	

Video Walls: Number of Video Walls: 0

☐	VW ID	DEC Start ID	Width	Height	Video Wall Name

Work with Existing File:

SYSTEM NAME.asc   [Import System] [Save Changes]

Inputs (IP922/IP822/IP1022 Encoders):

☑	N	ID	Main IP	Video IP	Input Name
☑	1	1	192.168.001.051	192.168.001.052	Input 1
☑	2	2	192.168.001.053	192.168.001.054	Input 2
☑	3	3	192.168.001.055	192.168.001.056	Input 3
☑	4	4	192.168.001.057	192.168.001.058	Input 4
☑	5	5	192.168.001.059	192.168.001.060	Input 5

Outputs (IP922/IP822/IP1022 Decoders):

☑	N	ID	Main IP	Video IP	Output Name
☑	1	1	192.168.001.151	192.168.001.152	Output 1
☑	2	2	192.168.001.153	192.168.001.154	Output 2
☑	3	3	192.168.001.155	192.168.001.156	Output 3
☑	4	4	192.168.001.157	192.168.001.158	Output 4
☑	5	5	192.168.001.159	192.168.001.160	Output 5

[Cancel Remaining] [Exit and Re-Scan]

☐ One to One   [Start] [Cancel]

Note the check boxes next to each line. Selected check boxes will be configured when clicking "Start". When building a new system, ensure all boxes are checked.

   B. Follow the instructions as they appear onscreen. One-by-one, the software loads to each unit in your system.
   C. Devices can be powered on individually via POE or power supply. Only one device needs to be active at a time, as all configuration is completed over USB. All devices are set up sequentially, with all Encoders first, followed by all Decoders.
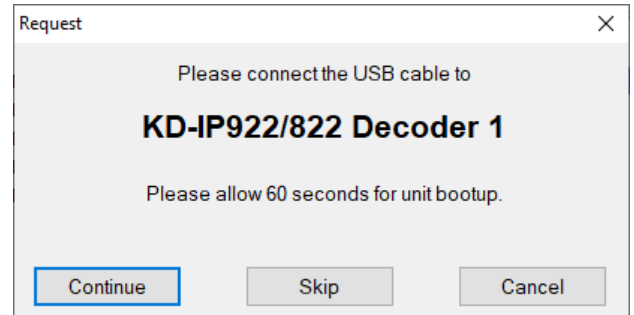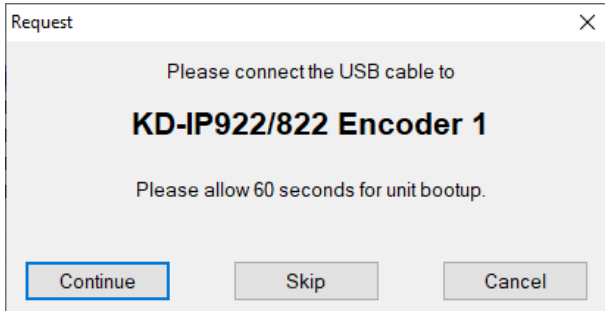
4. Final System Verification
   A. If onsite, and the network switch is configured, after each device is configured, they may be installed.
   B. Once all devices are configured and installed, the system should be running. Use the "Exit and Rs-Scan" button in the system builder window to run a standard KDMS scan.

Or, If KDMS Pro has been closed and re-opened since configuring the system, you may connect the computer to the network switch, open KDMS Pro, and choose SCAN > NETWORK SCAN

   C. Use the "All Outputs" button in the control GUI to verify successful video feed for each Encoder / Decoder combination.