KeyDigitalSystems

Operating Instructions

Manual for HD View4

HD View4: 4-channel Distribution Amplifier with cable compensation adjustments

Model#: KD-ADA4

4-Channel Component Video (YPrPb) and Left & Right analog audio, Composite Video and PCM digital audio (up to 24 channels) Distribution Amplifier with 16 adjustable outputs for compensation of cable runs up to 1000 feet

Manual for **HD View4**

Included in this package:
- One KD-ADA4 HD View4
- One external power supply
- One 75 Ohm terminator
- One Operating Manual with Warranty statement

Product Overview

The **KD-ADA4 HD View4** is a very versatile and novel Distribution Amplifier (DA) that will suit your needs for crystal-clear distribution of HDTV and SDTV Component Video (YPrPb) or Composite Video (CV) sources to Component Video "HDTV-ready" monitors, or Composite Video monitors. Signal processing circuitry permits excessive distribution cable runs of up to 1000 feet, with simple front-panel adjustments. And you can drive four component or composite monitors simultaneously. Each unit handles Left and Right stereo audio, or digital PCM audio.

HD View4 provides so much flexibility, yet will not degrade the image quality of your input signals. Each unit can be cascaded to other KD-ADA4, KD-DA6, or KD-CDA12 DA's by Key Digital Systems, to drive as many outputs as desired from one source. HD View4 has an added feature (via internal DIP-switch control) whereby you can distribute only Composite Video (CV) or digital PCM audio inputs to as many as 24 destinations.

Why do you need a Distribution Amplifier?

For installations where you need to distribute your HD and SD video and analog or digital audio to more than one destination, you need a high-quality Distribution Amplifier (DA). Perhaps you have a configuration where you need to distribute an HDTV Set Top Box output to several different display monitors. You'll want to feel confident that the DA introduces little or no degradation to your signals.

Our DA's produce crystal-clear images which do not harm your input signals, can drive long cables (typically up to 300 feet, and our ADA4 which can drive up to 1000 feet), and can be cascaded to accommodate future expansion requirements. Let us help you choose exactly the right DA for your specific installation application.

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The **KD-ADA4 HD View4** Distribution Amplifier offers versatility, convenience, and well thought-out features:

- Enables HDTV and SDTV signal distribution to up to four separate destinations:
  - Component Video (YPrPb) sources to Component Video HDTV-ready monitors
  - Composite Video (CV) sources to Composite Video monitors
  - L&R analog audio or digital PCM audio
  - All known video formats accepted
- Can drive up to four Component Video or up to four Composite Video monitors simultaneously with analog audio
- Can be configured via internal DIP switches to distribute Composite Video or digital PCM audio In, to 24 CV or digital PCM Out
- Can be cascaded to other KD-ADA4 DA's, or other Key Digital Systems Distribution Amplifiers like KD-DA6 or KD-CDA12 DA's to drive as many outputs as desired from one source
- Can drive equal-length video cables, up to 1000 feet each

KD-ADA4

Input Connectors

- There is 1 HDTV/SDTV Input Group, consisting of 6 color-coded RCA female connectors for inputting:
  - Component Video (YPrPb) with composite sync on "Y"
  - Composite Video (CV) or digital PCM audio
  - One analog audio (standard line-type Left & Right pairs)

Output Connectors

- There are 4 discrete Output Groups, and each Output Group consists of 6 color-coded RCA female connectors for outputting:
  - Component Video (YPrPb) with composite sync on "Y"
  - Composite Video (CV) or digital PCM audio
  - One analog audio (standard line-type Left & Right pairs)

KD-ADA4

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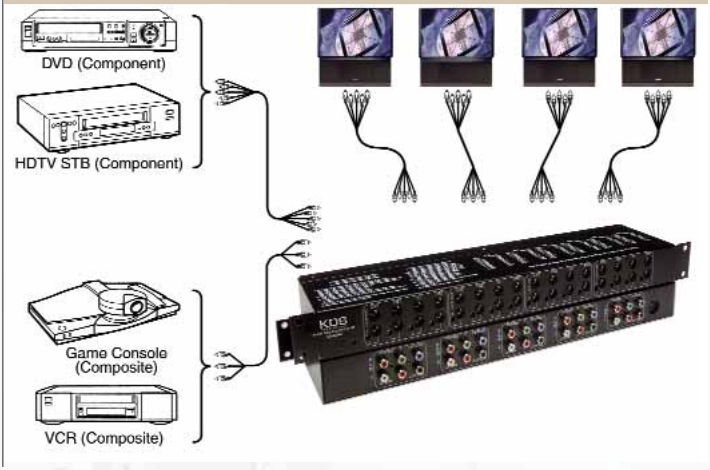
Quick Set Up

Connecting and using your KD-ADA4 HD View4 is a simple process.

KD-ADA4



STEP A: Configure your KD-ADA4 HD View4 Distribution Amplifier.

NOTE: Do not attempt to connect power to the unit during any of the configuration steps.

STEP A1: Determine your configuration requirements. The **KD-ADA4 HD View4** has an "ADA4 Mode" and a "PCMD4 Mode" as described below.

Typical "ADA4 Mode" applications:

• Distribution of your YPrPb and Left & Right analog or digital PCM audio inputs to as many as four separate Component Video monitors. In this case, the I/O Connectors Groups would be used as shown:

KD-ADA4

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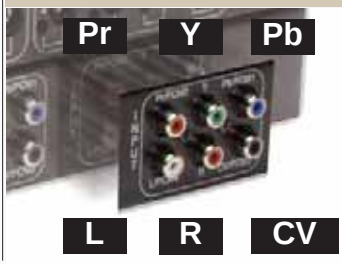
• Distribution of your YPrPb and Left & Right analog audio and Composite Video (CV) inputs simultaneously to as many as four separate Component Video and Composite Video displays. In this case, the I/O Connector Groups would be used as shown:

KD-ADA4



Typical "PCMD4 Mode" applications:

• Distribution of your YPrPb and Left & Right analog or digital PCM audio inputs to as many as four separate Component Video monitors. In this case, the I/O Connectors Groups would be used as shown:

KD-ADA4

And each of the four Output Connector Groups would be used as shown:

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• Distribution of your single Composite Video (CV) input to as many as 24 separate destinations. In this case, the Input Connector Group would be used as shown:

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And each of the four Output Connector Groups would be used as shown:

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STEP A2: Set the internal DIP switches to match the Configuration Mode you need for your application.

• Remove the front panel using a screwdriver, and find the six 8-bit DIP Switches. Be sure to configure the six 8-bit DIP Switches as shown in the table below for either the ADA4 or PCMD4 Mode:

ADA4 MODE						
BIT	SW1	SW2	SW3	SW4	SW5	SW8
1	ON	ON	OFF	OFF	OFF	ON
2	OFF	OFF	ON	ON	ON	OFF
3	OFF	OFF	ON	OFF	OFF	OFF
4	OFF	ON	OFF	ON	ON	ON
5	ON	ON	ON	OFF	OFF	ON
6	OFF	OFF	OFF	ON	OFF	OFF
7	OFF	ON	OFF	OFF	ON	OFF
8	ON	OFF	ON	OFF	OFF	OFF

PCMD4 MODE						
BIT	SW1	SW2	SW3	SW4	SW5	SW8
1	OFF	OFF	ON	ON	ON	OFF
2	ON	ON	OFF	OFF	OFF	ON
3	OFF	ON	OFF	ON	ON	ON
4	OFF	OFF	ON	OFF	OFF	OFF
5	OFF	OFF	OFF	ON	ON	OFF
6	ON	ON	ON	OFF	OFF	ON
7	ON	OFF	ON	ON	OFF	ON
8	OFF	ON	OFF	OFF	ON	ON

STEP B: Connect your KD-ADA4 HD View4 Distribution Amplifier to your Input and Output sources.

NOTE: Do not attempt to connect power to the unit during the cable hook-up.

STEP B1: Based on your configuration selection, be sure to set the DIP Switches as described in STEPS A. Use color-coded RCA cables to connect the Inputs and Outputs to the back of the **KD-ADA4 HD View4** unit. Output runs should not exceed 1000 feet. Each run of YPrPb cable MUST be of equal length per Output Group.

STEP B2: For the ADA4 Mode where less than four video outputs are distributed, be sure to use the 75 Ohm terminator (supplied) to terminate either Y, Pr, or Pb of the first unused Output Group. For example, if distributing with only Output Groups 1 and 2, then place the terminator on Y, Pr, or Pb of Output Group 3. You should use the Output Groups in sequential order.

STEP C: Apply power to the unit:

• Use ONLY the external wall-plug power supply provided with your unit, 110-240V AC, 50-60 Hz, 0.9 Amps
• Connect the 5-pin DIN external power supply connector to your unit, and plug the power supply into a power outle

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STEP D: Adjust the front-panel potentiometers to compensate for the long cable Output runs of Y, Pr, Pb, and CV (Composite Video).

- The front panel of the KD-ADA4 HD View4 unit has four groupings, labeled Output 1 through Output 4, which match the physical distribution Output Groups 1-4.
- You will need an Ohmmeter set in the range of 75 Ohms. You will need to perform the following procedure for each signal (CV, Pb, Y, Pr) for each Output Group (1-4).
- For the PCMD4 Mode distribution of PCM digital audio, be sure to set all KD-ADA4 Resistance values to 75 Ohms in the following procedures.

NOTE: POWER MUST BE TURNED OFF FOR THE KD-ADA4 AND ALL OTHER UNITS CONNECTED TO THE I/O CABLES WHEN PERFORMING THESE STEPS AND DIP SWITCHES SET TO ADA4 MODE.

STEP D1: Determine the resistance of each cable at the KD-ADA4 HD View4 end, when the cable is terminated at its destination. Use your Ohmmeter to measure the resistance of the cable, by removing the cable from the back of the KD-ADA4 HD View4 unit. This measurement is from the center point of the RCA jack to the outside of the RCA jack. Make note of this resistance value, called "Rload".

STEP D2: Determine the resistance of the KD-ADA4 HD View4. It is a simple calculation, KD-ADA4 Resistance = 150 Ohms - Rload.

STEP D3: Set the KD-ADA4 HD View4 resistance. First, insert the Ohmmeter cables into the top and bottom test sockets on the front of the KD-ADA4 HD View4 for the signal corresponding to the cable you measured. Using a small, slotted screwdriver or other implement, set the corresponding potentiometer (to the lower left of each signal's Ohmmeter test socket) to the value calculated above for KD-ADA4 Resistance by comparing the Ohmmeter value to the desired value for KD-ADA4 Resistance.

STEP D4: Repeat the above procedure in its entirety for each output cable.

Technical Specifications

Inputs (on back panel):

- There is 1 HDTV/SDTV Input Group, consisting of 6 color-coded RCA female connectors for inputting:
  - Component Video (YPrPb) with composite sync on "Y"
  - Composite Video (CV) or digital PCM audio
  - One analog audio (standard line-type Left & Right pairs)

Outputs (on back panel):

- There are 4 discrete Output Groups, and each Output Group consists of 6 color-coded RCA female connectors for outputting:
  - Component Video (YPrPb) with composite sync on "Y"
  - Composite Video (CV) or digital PCM audio
  - One analog audio (standard line-type Left & Right pairs)

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Signal Properties:

- All known video formats are accepted
- Output scanning format is always the SAME as the input scanning format
- Component Video
- Bandwidth -3 dB at 120 MHz, linear-phase passband
- Unity-gain, 1 volt p-p, terminated to 75 ohms
- Composite sync on "Y" channel
- Audio
- Bandwidth flat 20 Hz to 50 MHz
- Analog (standard line-type Left & Right pairs) or digital PCM audio
- Digital PCM audio

Modes of Operation:

- You must set the six 8-bit DIP Switches as described in the Operation Manual to the desired Operating Mode
- **ADA4 Mode:**
- Distribution of your YPrPb and Left & Right analog or digital PCM audio inputs to as many as four separate Component Video monitors
- Distribution of your YPrPb and Left & Right analog audio and/or Composite Video (CV) inputs simultaneously to as many as four separate Component Video and Composite Video displays
- **PCMD4 Mode:**
- Distribution of your single digital PCM audio input to as many as 24 separate destinations
- Distribution of your single Composite Video (CV) input to as many as 24 separate destinations

Adjustments (on front panel):

- Independent gain control adjustment provided for all four Output Groups for all video signals (YPrPb & Composite Video) to compensate for excessive cable lengths up to 1000 feet
- Sixteen, front-panel adjustment potentiometers
- Adjustment procedure is based on measured output cable resistance
- Each run of YPrPb cable must be the same length per output

Mechanical

- Easy to install and integrate -- Custom Installer's dream
- Connectors and cables are all located on the rear of the unit
- All video and audio inputs and outputs have color-coded RCA female connectors
- 5-pin DIN power connector
- Cable compensation adjustment potentiometers are on the front of the unit
- Rack mountable: 1U
- Size: 17" x 8" x 1.5"
- Weight: 4 lbs.
- Enclosure type: Metal
- Input Power: External power supply provided, 110-240V AC, 50-60 Hz, 0.9A

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