

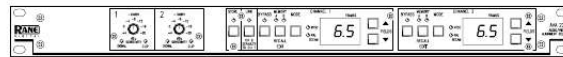


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You can read the recommendations in the user guide, the technical guide or the installation guide for RANE AVA 22D. You'll find the answers to all your questions on the RANE AVA 22D in the user manual (information, specifications, safety advice, size, accessories, etc.). Detailed instructions for use are in the User's Guide.

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RANE DATA SHEET AVA 22d AUDIO / VIDEO ALIGNMENT DELAY



General Description

The Rane AVA 22d is a fully balanced two Input, two Output Audio / Video Alignment Delay providing a range of 0.0 to 9.5 NTSC or PAL/SECAM frames on each Output. 24-bit audio converters provide excellent sound quality.

Each Output has two nonvolatile Memories (no batteries required), A and B, for easy access to previously stored Delay values. Remote Recall screw terminals on the rear accept external configuration switches, permitting independent remote recall of the Memories.

The AVA 22d features XLR Inputs and Outputs, and is CE certified for emissions. Housed in a single rack space, the unit can operate as two independent channels (dual mono), or as a stereo pair (edit both channels simultaneously using Link Mode).

A recessed rear panel switch is available for locking out front panel controls. In this mode, all of the front panel pushbuttons are disabled with the exception of the Recall buttons. The Recall buttons remain active so the user may

view the Delay values without risk of changing them. Internal jumpers are available to enable or disable Bypass while in Front Panel Lockout mode. The default setting of these jumpers *disables* Bypass in Front Panel Lockout mode. Independent bypass relays provide a fail safe, hard-wired bypass in case of power loss.

The AVA 22d is a unity gain device with Sensitivity controls to provide proper internal levels for the audio converters. If the input signal is nominally +4 dBu, set the Sensitivity control fully counter clockwise (+4 dBu). For those unable to touch a cable and determine its signal level, Signal present and Clip indicators provide visual acknowledgment that the input signal is within optimal range.

Powered from a low voltage UL listed and CSA certified remote power supply (230 VAC, supply meets LVD 73/23/EEC), the AVA 22d is exempt from safety agency requirements, and may be used in any installation mandating agency compliance.

Features

- 0 to 9.5 NTSC or PAL/SECAM Frames Delay per Channel
- Two Independent Channels (2 In - 2 Out)
- Single-Field (half-frame) Increments
- Independent Remote Memory Recall Interface on Rear
- Two EEPROM Memories per Channel (No Batteries)
- Front Panel Lockout Switch on Rear
- Fail-Safe Bypass for Each Channel
- Active Balanced XLR Inputs & Outputs
- UL/CSA/CE and 100/120/230 VAC Remote Power Supplies

Data Sheet-1



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Manual abstract:

0 to 9.5 NTSC or PAL/SECAM frames on each Output. 24bit audio converters provide excellent sound quality. Each Output has two nonvolatile Memories (no batteries required), A and B, for easy access to previously stored Delay values. Remote Recall screw terminals on the rear accept external configuration switches, permitting independent remote recall of the Memories. @@@@The Recall buttons remain active so the user may view the Delay values without risk of changing them. Internal jumpers are available to enable or disable Bypass while in Front Panel Lockout mode. The default setting of these jumpers disables Bypass in Front Panel Lockout mode. Independent bypass relays provide a fail safe, hard-wired bypass in case of power loss. The AVA 22d is a unity gain device with Sensitivity controls to provide proper internal levels for the audio converters.

If the input signal is nominally +4 dBu, set the Sensitivity control fully counter clockwise (+4 dBu). For those unable to touch a cable and determine its signal level, Signal present and Clip indicators provide visual acknowledgment that the Input signal is within optimal range. Powered from a low voltage UL listed and CSA certified remote power supply (230 VAC supply meets LVD 73/23/ EEC), the AVA 22d is exempt from safety agency requirements, and may be used in any installation mandating agency compliance. Features 0 to 9.5 NTSC or PAL/SECAM Frames Delay per Channel Two Independent Channels (2 In - 2 Out) Single-Field (half-frame) Increments Independent Remote Memory Recall Interface on Rear Two EEPROM Memories per Channel (No Batteries) Front Panel Lockout Switch on Rear Fail-Safe Bypass for Each Channel Active Balanced XLR Inputs & Outputs UL/CSA/CE and 100/120/230 VAC Remote Power Supplies Data Sheet-1 AVA 22d AUDIO / VIDEO ALIGNMENT DELAY Features and Specifications Parameter Delay Range .

.....
....Increment Size

....Readout Propagation Delay Sampling Frequency Data Conversion Input & Output Connectors Inputs: Type

....Impedance .

.....
....Headroom

....Max Level Outputs: Type

....Impedance .

.....
....Max Level Overall System Gain Output Relays LED Thresholds: Clip

....Signal Present Frequency Response THD + Noise Signal-to-Noise Ratio Dynamic Range Crosstalk Unit: Agency Listing

....120 VAC model Specification 0.

0 to 9.5 1 field (half-frame) 2 digit LED 1.42 50k 24 XLR Active balanced 25k 16 above Sensitivity setting 20 Active balanced cross-coupled 200 22 (>2k ohm); 20 (>600 ohm) 0 Yes 4 before converter overload -34 below Clip LED 20 Hz - 20 kHz 0.05 85 101 >90 Class 2 Equipment UL & CSA Certified FCC

Part 15J Limit 1% Units frames frames 1% msec Hz bit Conditions/Comments 33.3 msec/frame, NTSC 40 msec/frame, PAL/SECAM Independently controllable 1% 2 ohms dB dBu ohms dBu dB dB dB % dB dB dB balanced 20 Hz - 8 kHz 1 kHz with Sensitivity at +4 dBu balanced 1 kHz with Sensitivity at +4 dBu 600 ohm balanced load Auto-bypass with power loss 1 kHz 1 kHz +4 dBu, Sens@+4 +4 dBu, Sens@+4, 20-20k, 30k Hz BW +4 dBu, Sens@+4, 20 Hz - 20 kHz +4 dBu, Sens@+4, 20-20k, A-weighted 20-20 kHz, +4 dBu, Sens @ +4 dBu National Electrical Code Exempt Class 2 equipment Class B Device File no.

E88261 File no. LR58948 EMC directive 89/336/EEC LV directive 73/23/EEC Rane RS 1 RMS current from remote supply (4.4 cm x 48.3 cm x 21.6 cm) (2.7 kg) (11 cm x 52 cm x 35 cm) (4.5 kg) 1% ±1 1 1 +0/-0.5 .01 2 2 ..

.....230 VAC model Power Supply: Agency Listing ..

.....

...120 VAC model UL CSA ..

.....230 VAC model CE-EMC CE-Safety Power Supply Requirement 18 VAC w/center tap ..

.....Maximum Current 650 Unit: Construction All Steel ..

.....

...Size 1.75"H x 19"W x 8.

5"D (1U)

Weight 6 lb (w/o power supply) Shipping: Size 4.25" x 20.3" x 13.75"

..Weight 10 lb Note: 0 dBu=0.775 Vrms 0.1 Vrms mA Data Sheet-2 AVA 22d Block Diagram CH.

1 SHOWN, CH. 2 IDENTICAL R BYPASS SIGNAL G R CLIP SIGNAL/CLIP SENSE INPUT 2 1 3 + RFI FILTER 0dB +12dB A/D D/A +12dB 0dB SENSITIVITY OUTPUT 3 1 2 BYPASS RELAY 2 CH MEM RECALL 2 CH BYPASS GND LOCKOUT REMOTE DSP Application Information FRONT PANEL CONTROLS PROM AND EEPROM DELAY MEMORY The AVA 22d provides a cost-effective solution to the problem of aligning audio to video in broadcast. Modern video processing creates unavoidable time delays between audio and video signals. Accumulated delays can run as high as several frames, creating objectionable synchronization problems. Audio preceding video by even one frame is detectable by some people.

@@@@The AVA 22d operates as either a dual mono or stereo device. @@@@The AVA 22d supports both NTSC and PAL/SECAM broadcast modes. @@@@ (0 dBu = 0.7746 Volts). @@@@ @ @ @ @ 2. 3. 4. 5. 6. 7.

8. @ @ Sams, 1990, pp. @ @ @ @ @ Many pieces of equipment can be driven from one output without the use of distribution amplifiers and with no concern for matching or level changes. Better reliability resulting from less heat generation due to less power drawn from the output stage. In the event that a 600 ohm load termination is used the delivered voltage will only drop by about 1 dB (20 log [R1/(R1+RS)]). Greater signal voltage swing as 6 dB of signal is not lost in the (600 ohm) source impedance. Smaller currents reduce inductive coupling and crosstalk between cables. Data Sheet-3 AVA 22d AUDIO / VIDEO ALIGNMENT DELAY Rear Panel Architectural Specifications The digital audio delay unit shall be a single rack space, two input, two output configuration. The delay adjustment range shall be from 0.0 to 9.

5 NTSC or PAL/SECAM frames, adjustable via increment/decrement pushbuttons, in field (half-frame) increments. Independent remote recall terminals shall

be provided for external stereo bypassing and recall of stored configuration memories, two per channel. A two (2) digit LED display shall indicate delay values in frames as well as software revision level. Bypass status, current memory, channel, and display modes shall be indicated with individual indicators. A recessed rear-panel switch shall disable the front panel, yet still allow viewing of delay values.

Independent input-output sensitivity controls shall be included to allow calibration of the input signal for maximum performance. The inputs and outputs shall be active balanced with XLR connectors. @@@RFI filters shall also be provided. @@The AVA 22d shall comply with EMCD 89/336/EEC (CE approved).

@@The unit shall be constructed entirely from cold-rolled steel.

*The unit shall be a Rane Corporation AVA 22d. ©Rane Corporation 10802 47th Ave. W., Mukilteo WA 98275-5098 TEL (425)-355-6000 FAX (425)-347-7757
WEB <http://www.rane.com> Data Sheet-4 All features & specifications subject to change without notice. DOC 103732 PN 10940 1-00 .*



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