



AD22S

2-Channel Audio Alignment Delay

The Rane AD22S is a fully balanced two-input, two-output Audio Delay unit designed for multiple applications, including speaker array synchronization and precision audio-to-video alignment. With two distinct modes, the AD22S offers the functionality of dedicated devices within a single rack unit.

The AD22S can operate as two independent channels or as a linked or stereo pair. Front panel controls let you choose settings for each channel that can be stored into two nonvolatile memory locations for quick and easy access at any time. Bypass relays for each channel automatically connect should the device lose power. Your settings are always saved into working memory and restored upon power up. Rear terminals let you connect standard switches to recall settings remotely.

The AD22S's balanced XLR inputs and outputs offer the Rane standard of audio quality, with 24-bit processing and delay precision down to 0.01 ms. With the ability to provide unity gain up to a maximum input level of 24 dBu, the unit can be used with standard high-impedance devices or in a mixed environment using 600 Ω equipment. LEDs on the front panel indicate signal presence and alert when the signal is nearing the maximum input level.

Features

- Display in milliseconds, feet, or meters with 0.01 ms resolution
- 2.00 to 999.99 ms Delay Range per channel
- Calculates temperature compensation to the speed of sound
- Video Mode
- Display in frames per second or milliseconds
- Compatible with NTSC and PAL / SECAM frame rates
- 0.5 frame resolution up to 23.5 frames

| Parameter | Specification | Limit | Units | Conditions / Comments |
|--|------------------------------|-------------|----------|--|
| Delay Range | 2.0 to 999.99 | 1% | ms | |
| Distance Increment | 0.01 and 1.00 | | ms | Each channel independent |
| Video Increment | | | | |
| | 0.5 | | frames | Each channel independent |
| NTSC (North America, Philippines, Japan) | 23.976, 24, 29.97, 59.94, 60 | | fps | |
| PAL/SECAM (Europe, Australia, China, Brazil) | 25.00, 50 | | fps | |
| Sampling Frequency | 50,000 | | Hz | |
| Data Conversion | 24 | | bit | |
| Audio Connectors | XLR | | | Pin 2 (+) |
| Inputs | | | | |
| Type | Active Balanced | | | |
| Impedance | 20k | 1% | Ω | Balanced, line to line |
| Max Level | 24 | ± 0.5 | dBu | |
| Outputs | | | | |
| Type | Active balanced | | | |
| Impedance | 50 | ± 10 | Ω | Balanced, line to line |
| Max Level | 24 | +0/-0.6 | dBu | |
| Output Relays | Yes | | | Auto-bypass on power loss |
| LED Thresholds | | | | |
| Clip | 3 before converter overload | 1 | dB | +22dBu @ 1kHz |
| Signal Present | -47 below Clip LED | 1 | dB | -25dBu @ 1kHz |
| Frequency Response | 20Hz-22kHz | +0/-3 | dB | +4dB, 20Hz to 20kHz |
| System Gain | | | | |
| High-Impedance Load | 0 | ± 0.5 | dB | Load = 10k Ω balanced, +4dBu, 20Hz to 22kHz |
| 600 Ω Load | 0 | +0/-1 | dB | Load = 600 Ω balanced, +4dBu, 20Hz to 22kHz |
| THD + Noise | | | | |
| THD + Noise | 0.006 | ± 0.002 | % | +4dBu, 20Hz to 20kHz, 30kHz BW |
| Signal-to-Noise Ratio | 86 | ± 2 | dB | +4dBu, 20Hz to 20kHz |
| Dynamic Range | 108 | ± 1 | dB | +24dBu, 20Hz to 20kHz, A-weighted |
| Crosstalk | -90 | | dB | +4dBu, 20Hz to 20kHz |
| Propagation Delay | 2 | 1% | msec | Bypass off |
| Power Supply Requirement | 100 to 240V AC, 50/60 Hz | | | 7W |
| Unit: Conformity | CE, FCC, cULus | | | |
| Unit | | | | |
| Construction | All Steel | | | |
| Size | 1.75"H x 19"W x 5.25"D (1U) | | | (4.4cm x 48.3cm x 13.3cm) |
| Weight | 4lb | | | (1.8kg) |
| Shipping | | | | |
| Size | 4.25" x 20.3" x 13.75" | | | (11cm x 52cm x 35cm) |
| Weight | 10lb | | | (4.5kg) |

Note: 0dBu = 0.775 Vrms