FiiO K13 R2R DAC

FiiO, a company with expertise in portable and desktop high-fidelity audio solutions, announces the launch of the K13 R2R, a desktop DAC/amp engineered to redefine performance in its category. Packing the latest discrete resistor ladder decoding technology, an ultra-low noise architecture, and desktop-class driving power, the K13 R2R brings flagship sound quality into a compact, versatile and future-proof unit. And yes, you can look through a window at the top of the unit to see the full chipset configuration...

Offering a true hi-fi sound for your laptop, tablet or phone, the K13 R2R is at home on a desk, bedside table or tucked within an existing hi fi set up. Add the FiiO DM13 CD player and SP5 speakers for a full hi-fi set up. At the heart of the K13 R2R lies a fully discrete resistor ladder DAC - a painstakingly designed array of precision resistors configured for true multibit conversion. R2R decoding delivers a more natural, organic sound.

The K13 R2R’s resistor network is paired with FiiO’s proprietary error correction algorithm, ensuring precise matching, linearity and ultra-low distortion. The result is a sonic presentation that combines technical accuracy with a sense of warmth and natural flow, ideal for both analytical listening and long musical sessions. To fully unlock the potential of the discrete R2R ladder, the K13 R2R integrates an FPGA + DSP system that manages digital signal processing, clocking and oversampling. The unit supports up to PCM 1536 kHz and DSD1024, ensuring full compatibility with

today’s hi-res formats.

Measurements:

- THD+N: as low as 0.00037%
- Dynamic range: 124 dB
- Noise floor: –124 dB

The K13 R2R boasts 2400 mW of power. Whether driving sensitive IEMs or demanding full-size planars, the K13 R2R provides the headroom and control enthusiasts demand. Selectable gain levels allow users to fine-tune the output for different headphones, ensuring whisper-quiet backgrounds for sensitive monitors while having more than enough muscle for 600-ohm headphones.

Connectivity:

- Balanced XLR and 4.4mm headphone outputs
- Single-ended 6.35mm headphone jack
- Balanced and single-ended line outs for active monitors such as the SP5 or external amps

This flexibility makes the K13 R2R the centrepiece of any desktop or home setup, from minimalist headphone set ups in any room to full audiophile systems. With the K13 R2R, FiiO has built not just a DAC, but a platform. Equipped with XMOS XU316 USB receiver, it supports USB, optical, coaxial, and I²S inputs, making it compatible with PCs, streamers, CD transports and more. An OLED display with intuitive UI ensures effortless control of input selection, gain, filters, and output modes.

Audiophile standard engineering:

- Low-noise LDO regulators and dual-independent power supplies guarantee isolation and stability.
- Premium film capacitors and precision resistors deliver consistency in the R2R ladder.
- All-aluminium chassis with precision CNC machining ensures both durability and heat dissipation.

Even the knurled volume knob has been engineered for precise, tactile control: small details that reinforce the K13 R2R’s identity as a product for serious listeners. Despite its cutting-edge internals, the K13 R2R has been designed with usability in mind. The display and intuitive menu system give instant feedback on input, sample rate, and filter settings. A full suite of digital filters allows users to tailor the sound to their preference: whether smoother roll-off for relaxed listening or sharp filters for maximum accuracy. The FiiO Control app allows full control and access to PEQ control so users can create their own sound profiles.

The FiiO K13 R2R will be available through authorised retailers in September 2025

at £279, $319, €319.

Technical Specifications:

- Color: Black, Silver
- Main control chip (MCU): ESP32-S3
- USB chip: XMOS XU316
- DAC: Fully differential true 24Bit R2R DAC resistor arrays
- Volume control chip: NJW1195AV
- R2R and LPF op-amp: OPA1642*4
- LO buffer op-amp: LTA8092*2
- Headphone amplifier: OPA1642*2+TPA6120A *2
- USB input: 384kHz/32bit, DSD256
- Coaxial input: 192kHz/24bit, DSD64
- Optical input: 96kHz/24bit
- USB connector: Dual Type-C
- Bluetooth 5.4
- Display: Custom LCD
- Power input: AC 100-240V 50/60Hz; DC 12V/2.5A
- Dimensions: About 210x188x42mm (including feet)
- Weight: 980g
- Single-ended power output 1: L+R=1220mW +1220mW (32O, THD+N<1%) (32O/SE/high gain)
- Single-ended power output 2: L+R=150mW+150mW (300O, THD+N<1%) (300O/SE/high gain) ?
- Balanced power output 1: L+R=2400mW+2400mW (32O, THD+N<1%) (32O/balanced/high gain)
- Balanced power output 2: L+R=600mW+600mW (300O, THD+N<1%) (300O/balanced/high gain)
- Frequency response: 20Hz~80kHz: Attenuation<2.9dB
- SNR: =116dB (A-weighted)
- Noise floor: PO<9uV (A-weighted); BAL<18uV (A-weighted)
- Output impedance: PO<0.7O (32O load); BAL<1O (32O load)
- THD+N: About 0.0173% (1kHz/-6dB@32O)

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