



Tone2 Pro Specifications

Model	Tone2 Pro	
Overview	Professional Hi-Fi DAC & Headphone Amplifier	
Highlights	Mini desktop DAC with built-in headphone amplifier	
	World's first balanced RCA line-out	
	MQA & DSD playback, bit-perfect audio transmission	
Finish	Black, Red, Blue	
Materials	Enclosure/Volume Knob: Aircraft-Grade Aluminum	
	Bottom Cover: ABS	
	Foot Pad: Silicone	
DAC Performance ^[1]	Balanced RCA:	
	THD+N	0.000126% (-118dB)
	THD+N, A-Weighted	0.000112% (-119dB)
	SINAD	118dB
	Noise	3.5uVrms
	Noise, A-Weighted	2.75uVrms
	SNR	121dB
	DNR	121dB
	DNR, A-Weighted	123.5dB
	Crosstalk, 200K Ω	> 120dB
	Output, 200K Ω	4.0 Vrms
	Output Impedance	200 Ω
	Frequency Response, 20Hz~20KHz	$\pm$ 0.15dB
	RCA (Single End):	
	THD+N	0.000158% (-116dB)
	THD+N, A-Weighted	0.000141% (-117dB)
	SINAD	116dB
	Noise	2.0uVrms
	Noise, A-Weighted	1.6uVrms
	SNR	119dB
	DNR	119dB
	DNR, A-Weighted	122dB
	Crosstalk, 100K Ω	> 118dB
	Output, 100K Ω	2.0 Vrms
	Output Impedance	100 Ω
	Frequency Response, 20Hz~20KHz	$\pm$ 0.15dB
Headphone Amplifier Performance ^[1]	4.4 Headphone:	
	Output Impedance	< 0.3 Ω
	THD+N, 1KHz, 300 Ω	0.000158% (-116dB)
	THD+N, 1KHz, 150 Ω	0.000158% (-116dB)
	THD+N, 1KHz, 32 Ω	0.000282% (-111dB)
	THD+N, 1KHz, 16 Ω	0.000398% (-108dB)
	Noise	< 4.2uVrms
	SNR	121dB
	DNR	121dB
	Max Output @300 Ω	83mW (5.0Vrms)
	Max Output @150 Ω	167mW (5.0Vrms)
	Max Output @32 Ω	211mW (2.6Vrms)
	Max Output @16 Ω	123mW (1.4Vrms)

	Crosstalk, 32Ω	> 117dB
	Frequency Response, 20Hz~20KHz	±0.15dB
	3.5 Headphone:	
	Output Impedance	< 0.3Ω
	THD+N, 1KHz, 150Ω	0.000200% (-114dB)
	THD+N, 1KHz, 32Ω	0.000282% (-111dB)
	THD+N, 1KHz, 16Ω	0.000398% (-108dB)
	Noise	< 2.4uVrms
	SNR	119dB
	DNR	119dB
	Max Output @150Ω	35.3mW (2.3Vrms)
	Max Output @32Ω	125mW (2.0Vrms)
	Max Output @16Ω	114mW (1.35Vrms)
	Crosstalk, 32Ω	> 69dB
	Frequency Response, 20Hz~20KHz	±0.15dB
Sampling Rate	USB Input: PCM 768KHz 32bit	
	USB Input: DSD 512 (Native)	
	Coaxial Input: 192KHz 24bit	
Audio Formats	MQA, AAC, FLAC, APE, WMA, WAV, OGG, MP3 ...	
Processor	XMOS XU216, 16 Real-time Logical Cores	
Coprocessor	STM8S003, Programmable	
DAC Chipset	ESS ES9038Q2M 32-Bit Stereo Mobile Audio DAC	
Apple MFi	MFi 3.0 [2]	
Amplifier Chipsets	I/V Stage: TI OPA1612 x2	
	LPF Stage: TI OPA1612 x2	
	Buffer Stage: RT6863D x3	
Ultralow Noise LDOs	1x ESS ES9311Q, 1.3uVrms (10Hz-100KHz)	
	5x ADI ADP151, 9uVrms (10Hz-100KHz)	
	1x ADI ADP7118, 11uVrms (10Hz-100KHz)	
	1x ADI ADP7182, 18uVrms (10Hz-100KHz)	
Jitter Filter Technology	Built-in Intel Altera MAX V CPLD, Pre-shaping Technology	
	Accusilicon AS318-B Series Professional Audiophile Crystal Oscillator	
High Precision	0.1% Film Resistors	
	5% Film Capacitors	
PCB Board	Stackup: 6 Layers	
	Glass Transition Temperature (Tg Rating): 170 °C	
Knob	Hybrid Digital Volume Control	
	Rotate/Push Operation	
LEDs	Side: White, Pink	
	Knob: RGB Light Ring	
Connectivity	USB Port: USB-C 2.0	
	I2S Port: USB-C with I2S Pinout, Linear Power Supply	
	Balanced RCA (Orange): Coaxial Input	
	Balanced RCA (White): Left Channel Line-out	
	Balanced RCA (Red): Right Channel Line-out	
	4.4 mm Headphone Jack (Balanced)	
	3.5 mm Headphone Jack (Single End)	
O/S Compatibility	Windows 7, 8, 10, 11 (Khadass USB ASIO driver required)	
	macOS	
	Linux (with UAC2 compliant kernel)	
	Android (supports OTG function)	

	iPadOS
	iOS
Rated Voltage	DC 5V
Power Consumption	Power off: 8mA
	Standby: 380mA
	DSD256: 450mA (max)
	PCM384: 450mA (max)
	DSD512: 510mA (max)
	PCM768: 620mA (max)
Compliances	RoHS, CE, FCC, PSE, KC
Size	17.0mm(h) x 88.0mm(w) x 61.5mm(l) / 68.0mm (with RCA)
Weight	100 grams
Warranty	1 Year Limited Hardware Warranty
In the Box	Tone2 Pro
	USB-C Cable (C to C, 1 meter)
	User Manual
	Warranty Card

[1] Performance tests were based on USB input, coaxial input will exhibit slight differences.

[2] iPhone support requires the USB-C to Lightning OTG (Apple C78-USBH) cable, normal Lightning charging cables will not work.