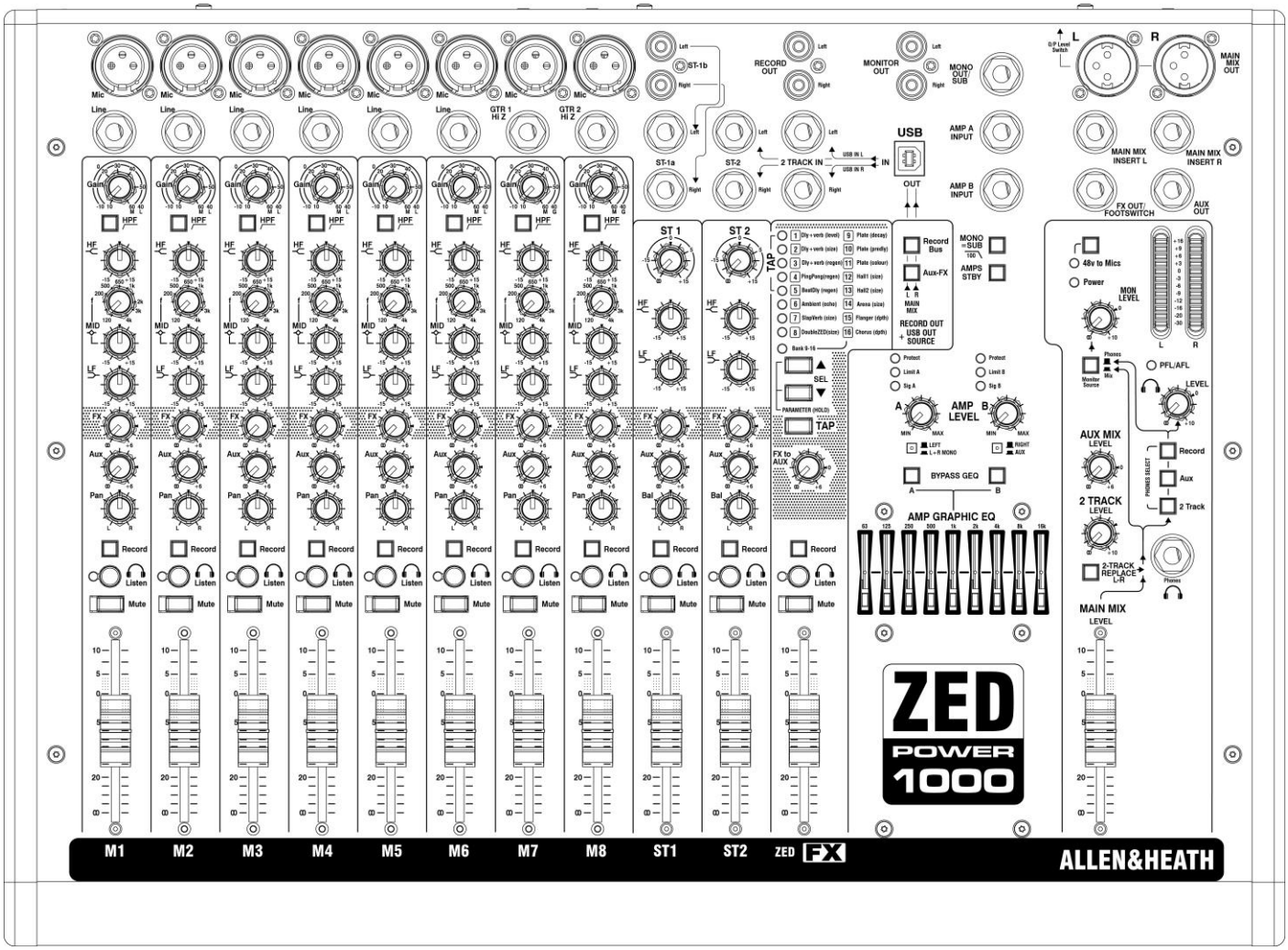
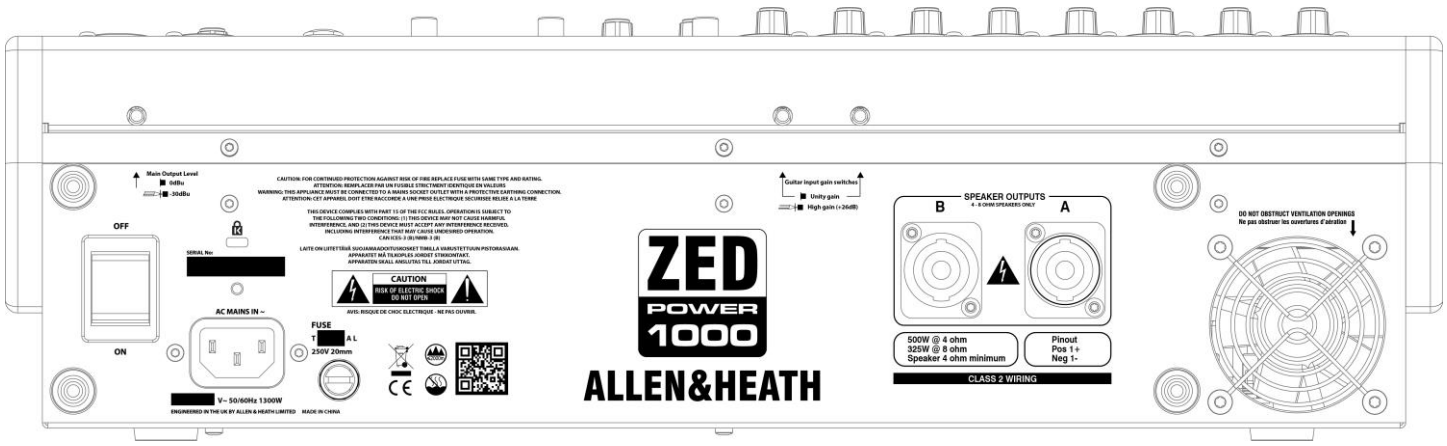
Allen & Heath Limited
Kernick Industrial Estate
Penryn, Cornwall,
TR10 9LU, UK
www.allen-heath.com

Technical Datasheet

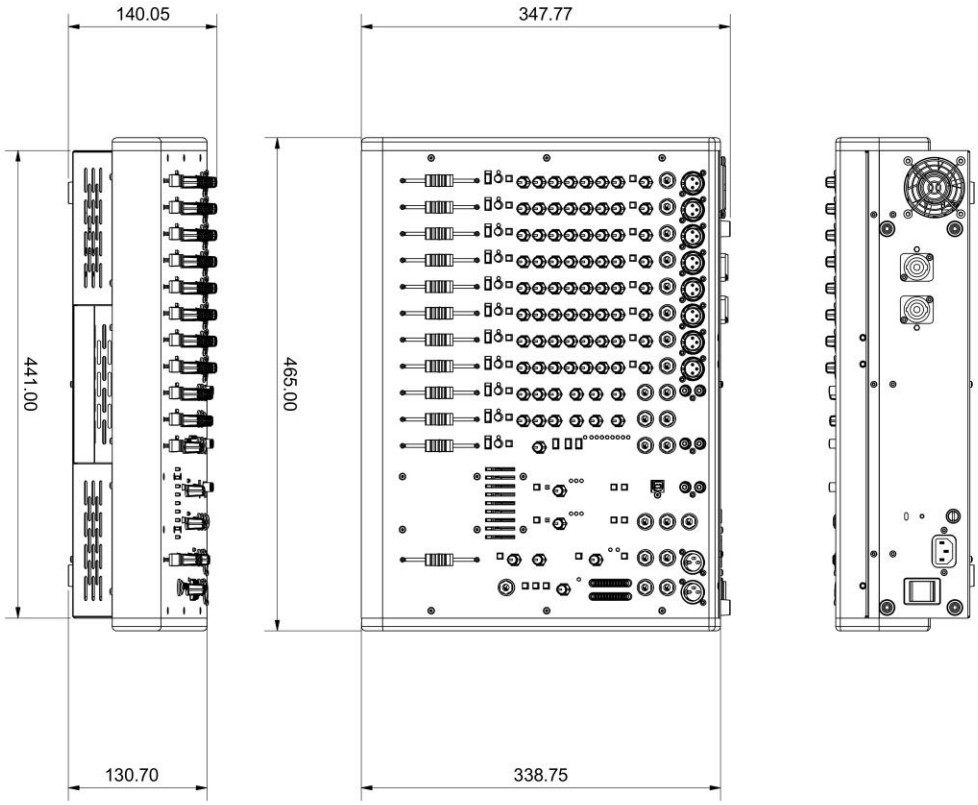
Overview

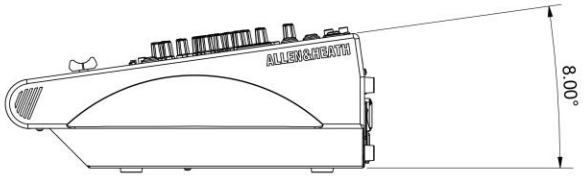
- Compact and portable powered mixer.
- Touring-Grade build quality.
- 2x 500 watt output Power Amp.
- Speakon Speaker connectors
- 8 Mic/Line Inputs.
- 3 Band British EQ with swept mid.
- 2x Hi Impedance 1/4” jack input with 26dB Gain Boost.
- 2 Stereo Inputs.
- 60mm pro quality ALPS® faders
- 1 Aux + FX Send.
- 9 Band Graphic EQ.
- Record Bus.
- 16 Studio Quality FX with Tap Tempo and parameter control.
- USB connection for Playback/Recording.
- Recessed Carry Handle.





Dimensions





A&E Specifications

ZED Power 1000 Architects and Engineers Specification.

The mixer shall be a compact and portable 2x 500 watt output powered mixer of touring grade build quality, with 8 mono and 3 stereo input channels mixing to a stereo Main Mix output. The mixer shall weigh no more than 10.3kg (24lbs).

The mixer shall have a built-in carry handle recessed into the chassis for safe and convenient portability.

The power amplifier shall be a 2 channel Class D amplifier, with output power of 500W per channel and be compatible with speakers of 4 to 8 ohms impedance. The power amplifier outputs shall use locking Speakon connectors.

Quarter-inch jack inputs overriding the Main Mix feed to the amplifier shall be available for external inputs to be connected directly into the amplification stage. There shall be a Standby switch for the amplification stage to be shut down for protection purposes or when not required. LEDs shall indicate when the amplifier circuitry is in this Standby state.

Output paths to the amplifier shall be selectable to feed L+R speakers, Mono LR + Foldback, or Mono LR + Sub. Both channels of the amplifier shall have independent controls for output level.

A 9-Band, 2 channel Graphic EQ shall be available for the amplifier outputs in order to correct the frequency response of connected speaker cabinets or to reduce feedback problems. In addition, there shall also be a Limiter built-in to the amplifier circuit to protect the speaker drivers.

XLR connectors for Line-level Stereo Main Mix Output shall be available and there shall be Insert points for the main mix using quarter-inch jack connectors.

A Mono Output with quarter-inch jack connector and a switch enabling a Low Pass Filter for connection of a Subwoofer shall be available.

The mixer shall allow the signal from an input channel to be sent to a mono Auxiliary output. This signal shall be sourced pre-fader and shall be independent of the level being sent to the main L-R Mix. There shall be a master level control for this Aux output. A Monitor Output using RCA phono connectors shall be available for stereo monitoring and the source of this shall be switched to match the headphone monitor source or the main stereo mix.

A separately switched stereo bus shall be available to route selected channels to a recording bus, monitoring bus or stereo clean feed output. This record bus shall have its own stereo output using RCA connectors

There shall be a Type-B USB 1.1 compliant connection to allow for stereo, bi-directional audio streaming playback and recording via a computer, capturing a high-quality stereo recording of selected sources from the mixer at sample rates of 32, 44.1, or 48 kHz. The sources for this USB channel shall include Main Mix Left + Right, Aux + FX bus and Record Bus Left + Right. USB Playback return shall be routed to either a dedicated playback channel or a stereo input channel.

12-LED bar meters on the surface shall indicate the Main Mix buss levels, and the PFL/AFL signal shall override the LR meters accompanied by a PFL/AFL active indicator.

A default Mains to Listen (PFL) sub-mix shall be provided with a quarter-inch jack socket for PFL/AFL headphones output, with an analogue output level control, and a source select for this headphones output shall enable the selection of different sources to be sent to the headphones and the monitor output.

Each mono input channel shall have an XLR Microphone connector, and Line level quarter-inch jack connector and shall be equipped with High Pass Filter and 3-band equaliser circuit with swept mid frequency section.

Stereo input channels shall use quarter-inch jack connectors, and shall have a fixed 2-band EQ. The primary stereo input shall also have RCA phono connectors.

All XLR Microphone inputs shall have the ability to power Condenser Microphones requiring 48 Volt Phantom Power. This shall be switchable and have a red LED to indicate activation.

There shall be 2 high-impedance jack inputs on mono channels, which can handle a normal line level or a low level input directly from a guitar pickup, allowing instruments such as guitars to be plugged straight into the mixer without the need for a DI box. These inputs shall emulate the input circuitry of a classic guitar preamp for added definition and sonic character, and shall include a switch to boost the channel gain by 26dB for instruments with very low level output. This switch shall be located on the rear of the mixer, away from the channel to prevent accidental operation.

The mixer surface shall include a fader for each input channel, the FX return channel and the Main Mix Level. Each channel shall have a dedicated FX Send, Aux Send, and Pan / Balance control and also Record, Listen (PFL), and Mute buttons with LED indicators.

There shall be a stereo FX engine, with 16 studio quality time-delay FX, Tap Tempo button and parameter control and a dedicated channel for return of effects to the Main Mix. The FX type and parameter amount shall be selected using up/down buttons and indicated by a bank of 9 LEDs.

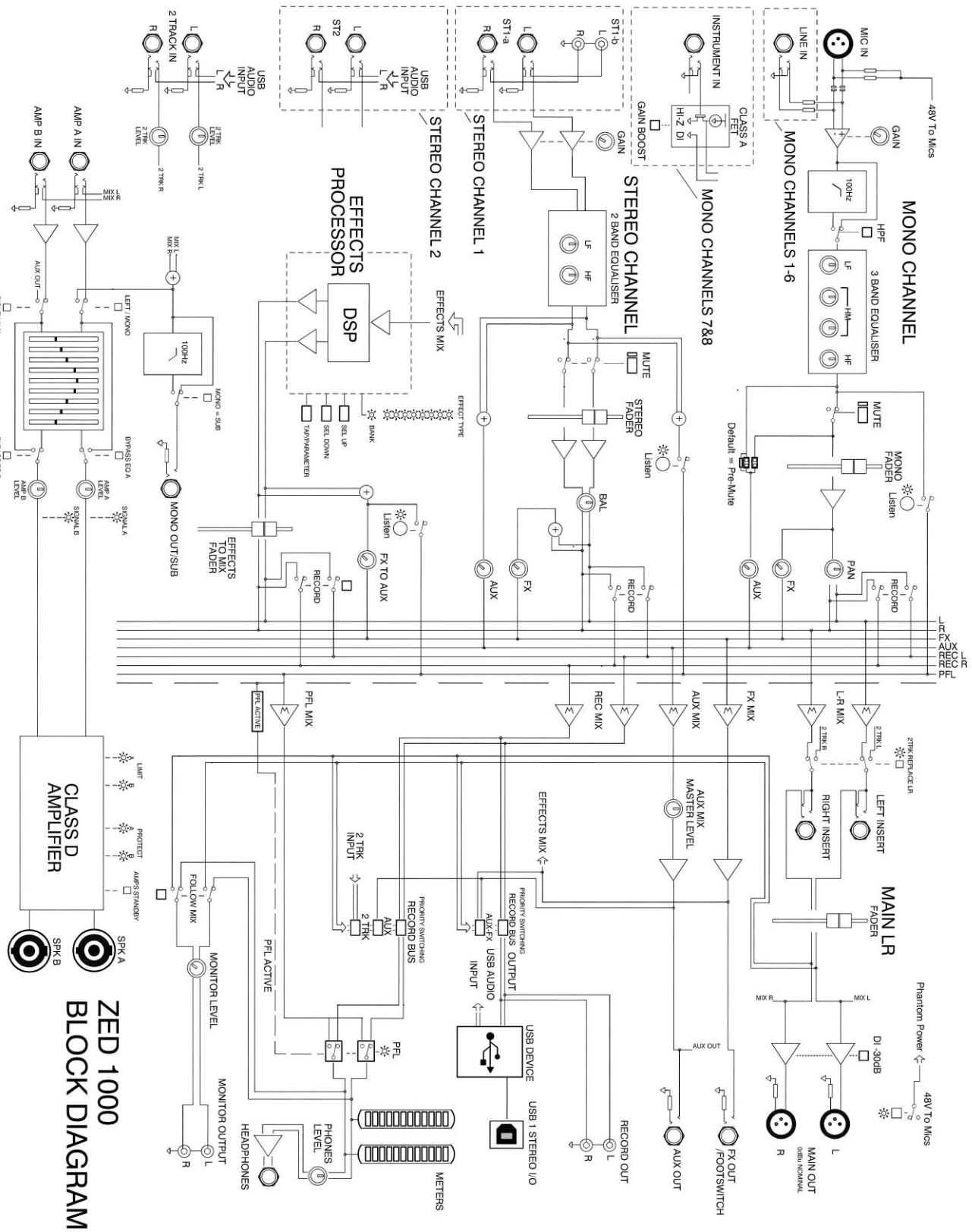
There shall also be a connector on the mixer to route FX sends to an external FX processor, and this connector shall also be compatible with a latching footswitch to mute the internal effects processing.

The mixer shall have a built in power supply accepting AC mains voltages of 100~240V, 50/60 Hz, (depending on model / territory) 1300W max via an earthed 3-pin IEC male connector mounted on the rear chassis. A rocker switch shall be provided near the mains inlet to isolate the mixer from the incoming mains supply.

Recommended operating temperature for the mixer shall be 5 to 35 degrees Celsius.

The mixer shall be the Allen&Heath ZED Power 1000 Powered Mixer.

Block Diagram



Mixer Specification

Operating Levels

Input

Mono channel (XLR) Input	-10 to –60dBu for nominal (+11dBu in max)
Mono channel Line Input (Jack socket)	+10 to –40dBu (+31dBu maximum)
Stereo Input (Jack or phono sockets)	0dBu nominal (control = Off to +15dB)

Output

L/R Outputs (XLR) Normal/DI out	0dBu/-30dBu +21dBu/-9dBu maximum.
Aux & FX Outputs (Jack sockets)	0dBu nominal. +21dBu maximum.
Record & Monitor Outputs (phono sockets)	0dBu nominal. +21dBu maximum.

Frequency Response

Mic in to Mix L/R Out, 30dB gain	+0.5/-1dB 10Hz to 30kHz.
Line in to Mix L/R out 0dB gain	+0.5/-1dB 10Hz to 25kHz
Stereo in to Mix L/R out	+0.5/-1dB 10Hz to 30kHz

THD+n

Mic in to Mix L/R Out, 10dB gain 1kHz +10dBu out	0.002%
Mic in to Mix L/R Out, 30dB gain 1kHz +10dBu out	0.006%
Line in to Mix L/R out 0dB gain 1kHz +10dBu out	0.003%
Stereo in to Mix L/R out 0dB gain 1kHz +10dBu out	0.007%
Gtr Input to Mix L/R Out, 0dBu, Boost OUT	0.015%
Gtr Input to Mix L/R Out, 0dBu, Boost IN	2% Second Harmonic

Headroom

Analogue Headroom from nominal (0Vu)	21dB
USB in & out headroom from nominal (0Vu)	14dB

Noise

Mic Pre EIN @ max gain 150R input Z 22-22kHz	-127dBu
Mix L/R out, L/R faders = 0, Levels min, 22-22kHz	-93dBu

USB Audio CODEC (Coder/Decoder)

USB Audio In/Out	USB 1.1 compliant 16bit.
Sample Rate	32, 44.1, or 48kHz

Amplifier specification

Amp	Class D 500W + 500W with toroidal linear PSU.
	9 band 2 channel graphic EQ.
Speaker impedance	4 to 8 ohms
Protection	Amp thermal shutdown, Transformer resettable thermal fuse, Over and under voltage shutdown, DC offset shutdown, Backup crowbar protection, Over current protection.
Cooling	60mm fan

Performance

Frequency response both channels, 200W RMS 1kHz sine wave, 4 ohm loads	12Hz to 30kHz (-1/+1 dB)
THD both channels, 200W RMS 1kHz sine wave, 4 ohm loads	0.30%
Music power with 40% duty cycle, 1kHz sine into single/dual 4 ohm load, <1% distortion	500W / 450W
Music power with 40% duty cycle, 1kHz sine into single/dual 8 ohm load, <1% distortion	285W / 265W

Operating Temperature Range	0 deg C to 35 deg C (32 deg F to 95 deg F)
Mains Power	100-240V AC, 50/60Hz (depending on model / territory).
Power Consumption	Maximum power 1300W
	Nominal power 40W

Dimensions & Weight	Width x Depth x Height
Desk mounted	465 x 348 x 140 mm (18.3" x 13.7" x 5.5")
Packed in shipping box	600 x 485 x 280 mm (23.6" x 19.1" x 11.0")
Unpacked Weight	10.30kg (30 lb)
Packed Weight	13.75kg (22 lb)