



ISA 220: Session Pack

The ISA 220 Session Pack provides all the audio precision tools required to infuse your session with Focusrite's renowned sonic performance. It features many of the original circuits of the flagship ISA 430 MKII Producer Pack, and also includes some new facilities of its own. It also features the same digital output option as the original ISA 430, providing you with a high quality digital route direct from the ISA 220 into your digital recording system.



- Classic Focusrite transformer-based Mic pre
- New Focusrite EQ featuring elements of the original ISA 110 EQ circuit
- Hi and Lo pass filters
- Precision VU metering of input level or compressor gain reduction (switched)
- Proprietary Focusrite discrete Class A VCA Compressor design for better distortion and noise figures
- Order of compressor and EQ modules in the signal path can be switched from the front panel
- New Blend feature allows uncompressed dynamics to be merged with the compressed signal path
- De-esser design based on optical technology for lower distortion and transparency
- De-esser listen for independent monitoring of isolated sibilant signals
- Frequency-adaptive limiter to prevent critical digital overloads
- Optional Stereo A/D – 24 bit 96 KHz Delta Sigma converter running at 128KHz over-sampling – Dithers down to 20 or 16 bit

The ISA 220's input stage features a precise VU meter, switchable to allow the user to monitor either input level or compressor gain reduction. Situated above the VU meter is a 32 LED digital meter for monitoring both the 'internal' input and the rear panel 'external' input (the latter routes directly to the second channel of the optional high quality stereo A/D card). A global bypass switch is located to the right of the digital meter to allow for instant A/B comparisons.

Mic, Line and Instrument inputs allow interfacing to any input device, and are all transformer-based, the cornerstone of the focusrite signature sound clear yet warm, with incredibly low noise figures and a THD below 0.001% on the mic input! Switching between these input options is available on the front fascia with LED's indicating the active input.

The Mic Pre is the classic Focusrite transformer-based design as featured in the ISA 110 with illuminated switches for phantom power and phase reverse, all immediately available on the front fascia.

Further front panel switchable controls allow control over the Digital output option and in/out selection for each of the processors. An instrument jack is provided on the front panel for quick 'plug and play' access.

The EQ featured on the ISA 220 is similar to the ISA 430 MK II and ISA 110, except that the Shelving EQ features four frequency selections rather than six or eight. Whether fattening-up bass, foregrounding or trimming middle, or adding airy top, this EQ can handle anything.

Next to the Compressor section (which utilises the same compressor circuit as the ISA 430 MK II) the ISA 220 features a 'Compressor Pre EQ' switch. This allows the user to place the Compressor either pre or post-EQ. A new feature in the compressor section alongside the auto release is the Blend control, a unique ISA feature, allowing smoother compression at more extreme settings. When switched in, 'Blend' allows you to mix the uncompressed signal with the compressed, thus retaining the power of the dynamics from the original source.

The ISA 220 also includes the same De-esser as the ISA 430 MK II, based on a low distortion optical technology design, letting you transparently remove excessive sibilance from a vocal performance. The output section of the ISA 220 features the same frequency adaptive limiter as the ISA 430 MK II, a design which uses three separate stages of optical-based circuits, each of which has different limiting properties to give true distortion-free limiting.

Fast limiters tend to have problems dealing with complex signals that contain sustained low and mid frequency information and thus "chop holes" in the audio when HF transients trigger the limiting. To overcome this, the ISA 220's frequency adaptive limiter has three frequency bands with different attack times as follows: LF slow, MF quick and HF ultra-quick, the latter designed to catch fast transients. The Limit-in LED illuminates when the limiter is active. An upper threshold is fixed at +20dBu to prevent overload of the internal (or an external) A/D converter.

"When you unpack any box with the Focusrite logo on its side you know you are in for a treat, and the ISA220 proved the rule once again. This is a well-thought-out professional product which will enhance any recording session or facility."

Hugh Robjohns SOS review March 2002



"If you're looking for an all-in-one input channel that can also be put to work Eqing, compressing and de-essing signals during mixdown, the Session Pack should top your list. The unit sounds great, is flexible and covers everything you might need to get signal in to your recorder, whether analogue or digital."

Mitch Gallagher, EQ, June 2003

Finally, a variable control adjusts the module output level between -60dB and +6dB ensuring optimum output levels.

The optional A/D card can be purchased with the unit, or retrofitted at a later date. At the heart of the A/D card is a high quality 24bit 96KHz Delta Sigma converter running at 128KHz over-sampling for maximum conversion performance. Focusrite proprietary designs are used for all internal clocking and phase lock loop circuits to guarantee the absolute minimum jitter possible, whether free-running or locked to wordclock.

ISA 220 SPECIFICATIONS

Inst. Hi Z I/P

Noise: -96dBu
THD: 0.003% with 0dBu

Mic

Noise: 123dB EIN with 150Ω input resistance at 60dB of gain
THD: 0.0008%

Compressor

Threshold Range: -28dB to +12dB
Ratio: 1.5:1 to 10:1
Slope: Soft knee
Attack: 500μS to 25mS
Release: 100mS to 4S, variable or auto (program dependent)

De-Esser

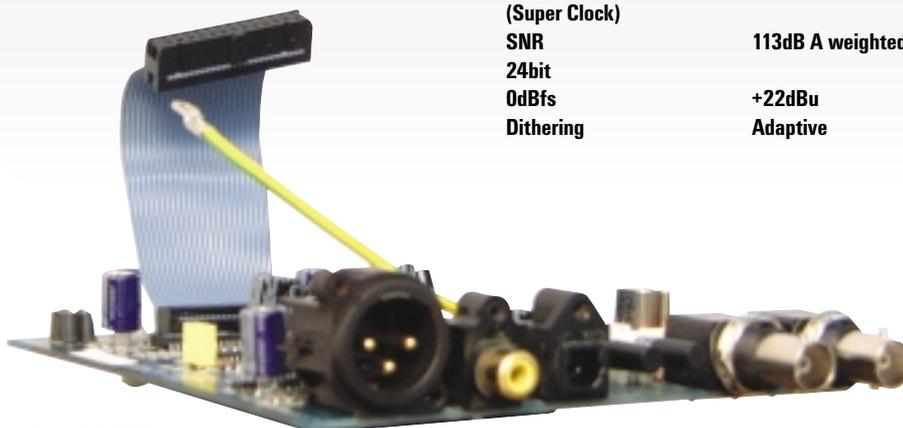
Threshold Range: 22dB
Frequency Range: 2K2 to 9K2
Ratio at Centre Frequency: 2:1

Limiter

Threshold Range: 20dBu
Ratio: infinite (Brick Wall)
Attack: Frequency dependent

96KHZ A/D SPECIFICATIONS

AES/EBU: XLR
S/PDIF: RCA Phono
ADAT Lightpipe: Optical
Bit depths: 16, 20 or 24 bit
Frequency options: 44.1, 48, 88.2 & 96kHz,
Clock options (Super Clock): Standard or '256 x'
SNR: 113dB A weighted @ 24bit
OdBfs: +22dBu
Dithering: Adaptive



The ISA 220's optional A/D is stereo and allows for inputs from internal (post-processing) and external sources simultaneously giving a clean, protected, high-quality path to stereo digital media.

Thus, with the Stereo A/D card installed, the ISA 220 can be used as a high quality mono/stereo tracking converter, or at mix

down as a stereo converter channel for routing complete mixes to digital media.

Two ISA 220 Session Packs can take full advantage of the one A/D converter, with one ISA 220 acting as the master and the other as the slave.

