Our experience of the audio engineer’s situation on the road and in the studio has shown us that compressor / limiters and de-esser combinations frequently prove so inflexible that they create as many problems as they solve. We have applied our audio design skills to solve these problems, and the result - the BSS DPR-402 - is much more than an ordinary compressor / limiter.

A quick look at the front panel shows that as a result each of the two channels combines a full range of signal level control facilities: a dedicated and tuneable de-esser section; a compressor section with comprehensive control of all main parameters and an AUTO mode option for general use; a fully informative LED metering section that never leaves the engineer ‘in the dark’; and finally a calibrated and variable peak limiter section.

Unlimited Uses

The double side-chain and subtractor architecture of the DPR-402 makes it predictable enough for conventional programs, and flexible enough for unlimited effects. Among the facilities, it offers: loudness control for recording, mixdown, live sound reinforcement and clubs; peak amplitude control in disc cutting; split band and peak amplitude control for broadcast feeds; dynamic sibilance control on individual mikes or even on post-mix production, where remarkable results are obtained from narrow-band de-essing.

But the DPR-402 really shows its colours when its internal filters are configured to dynamically compress OR expand individual parts of the audio band- leaving the rest of the spectrum unmodified. The endless possibilities range from low frequency expansion and narrow band resonance control to general dynamic equalisation to create enhancement effect. Further possibilities include dynamically controlled mixing, gating and ducking for new and novel sounds.

Sophisticated De-Essing

The DPR-402 provides two main de-essing options to suit different program material and means of reproduction.

Broadband de-essing adds to normal compressor performance the ability to compress the whole signal when HF signals exceed the preset de-ess threshold level, or for greater precision in demanding applications it can be set by the main compressor controls.

HF - only de-essing, the other main option, uses all the compressor control circuitry to create a dedicated, frequency-selective de-esser channel compressing high frequency signals while leaving low frequency content unmodified.

Develop new skills to do what other compressors cannot do

- Combine selective de-essing sibilance control with compression or expansion.
- Control loudness in a way suited to AM/FM broadcast processing.
- Use the frequency-selective loudness control to enhance a frequency spectrum without additional equalisation.
- Preset LF loudness to maintain club safety limits.
- Obtain automatic level-controlled mixing of program sources for special effects.
**TECHNICAL SPECIFICATIONS**

**Input Section**
- IMPEDANCE: 10KOhm, electronically balanced.
- MAX INPUT LEVEL: +20dBv.
- INPUT CMRR: > -50dB 30Hz-20Hz.
- INPUT CONNECTOR: XLR3-31 or equivalent. Wired as pin 1 o/c, pin 2 cold, pin 3 hot.

**Output Section**
- IMPEDANCE: Less than 1 Ohm unbalanced, current limited.
- MAX OUTPUT LEVEL: +20dBv into 600 ohms.
- OUTPUT GAIN: +20dB continuously variable.
- OUTPUT CONNECTOR: XLR3-32 or equivalent. Wired as pin 1 earth, pin 2 earth, pin 3 hot.

**System Performance**
- FREQUENCY: +1dB 25Hz-20kHz. Ultrasonic RESPONSE filter -3dB@ 30kHz.
- NOISE: Equiv. input noise -86dBv 22Hz -22kHz, -82dBv CCIR weighted.
- DISTORTION: Unity gain, + 10 dBm output, below threshold: THD 0.03% 20Hz-20kHz.
- IMD: 0.01% Jitter PTE, 10 dB compression. Threshold 0dB, 1kHz, 5 sec rel. time setting: 2ND HARMONIC 0.15%. 3RD HARMONIC 0.05%. IMD 0.25% Harmonic distortion in this type of equipment will increase with reduced frequency and shorter time constants.

**Crosstalk**
- < -85dB 20Hz -20kHz.

**Compressor**
- THRESHOLD: -30 to +20 dBV cont. variable.
- RATIO: 1:1 continuously variable to infinity:1.
- MAX. VCA RANGE: 30dB.
- ATTACK TIME: 11 steps 50µsec-80msec.
- RELEASE TIME: 10 steps 5ms to 5 sec and AUTO.

**De-esser**
- THRESHOLD RANGE: -30 to +20 dBV continuously variable.
- RATIO: Infinite, at and above twice the set frequency.
- FREQUENCY RANGE: 800Hz to 15kHz continuously variable.

Frequency is that at which 3dB of gain reduction occurs for 10dB of signal overdrive above threshold. 10dB of gain reduction will occur at and above twice this frequency.

**Peak Limiter**
- THRESHOLD RANGE: +4dBv to +20dBv continuously variable.
- ATTACK TIME: Fast setting 150µsec, Slow setting 750µsec.
- RELEASE TIME: Fast setting 100msec, Slow setting 500msec.

**Dimensions and Power**
- SIZE: 482 x 44 x 228mm
- WEIGHT: 4.5kg (10lbs) packed.
- ELECTRICAL SUPPLY: 120-220V +105-20% 50/60Hz 15VA.

In keeping with our policy of continued improvement, BSS Audio reserves the right to alter specifications without further notice. This product was designed developed and produced by BSS Audio, Hertfordshire, England.