The professional multi-channel dynamic processor

In nearly every type of audio production environment the availability of versatile dynamic gain control has become more or less mandatory.

An ever increasing diversity of mono and stereo programme source types are now being handled by higher quality signal chains and storage media. The benefits of accurate and creative dynamics processing are now relevant to a wider range of audio professionals than ever before.

BSS answers this need with a versatile 1U package comprising four-channels of advanced subtractive compressor / limiter and HF de-esser facilities, designed with the emphasis on flexibility and ease of use ... the DPR-404 4-CHANNEL COMPRESSION DE-ESSER.

Each channel includes a variable Ratio compressor / limiter that features our proprietary “progressive knee” characteristic. This gives soft-knee, over-easy musicality at low Ratios, varying gradually towards dependable, hard-limiter precision at the maximum setting. Threshold adjustment is simplified by provision of an accurately calibrated control scale and continuous display of side-chain level up to the threshold point. Gain Reduction metering is also clearly integrated with this display to provide intuitive monitoring of the system’s activity in use.

Attack and Release time constants are automatically and continually regulated by the dynamic and harmonic content of the programme material, and so require virtually no attention from the operator.

For maximum versatility, however, each can be selected to a FAST-Auto mode, allowing greater choice for creative treatment of individual sources. A gain make-up control and an output Clip indicator assist with normalisation of operating levels and overload margins.

Additionally, each channel also includes an advanced but straightforward HF De-esser. Previously only available as a dedicated mode on the acclaimed BSS DPR-402 dynamics processor, this facility gives you smooth, frequency-selective dynamic sibilance control quickly and without unpleasant side-effects or lisping. A dedicated two-led display shows you the extent of the sibilance processing, calibrated with a helpful “enough” and “too much” characteristic.

All this high performance processing power is housed in a rugged 1U 19" steel case, with high grade electronics and hardware being supported by a robust power supply featuring superior line regulation and interference suppression.

For over a decade, BSS have been manufacturing professional audio products that combine the highest levels of performance with technical excellence and proven reliability. All of this expertise and experience is encapsulated in the DPR-404 4-CHANNEL COMPRESSION DE-ESSER.

**Threshold** control sets the level at which gain reduction starts to occur.

**Below** Threshold meter displays signal level below threshold to aid set-up.

**Ratio** control sets the amount of gain reduction when signal exceeds the threshold setting. Soft knee at low ratios, hard limiting at maximum extremes.

**Gain Reduction** meter displays the degree of compressor / limiter activity occurring, in dB’S.

**Clip LED** indicates onset of channel signal overload.

**Gain** control allows the operator to restore the compressed signal to nominal operating levels.

**Link** switch allows channels 1/2 and 3/4 to be linked as pairs for stereo operation.

**Attack** and **Release** time constants are automatically programme-controlled, but may be switched between FAST and NORMAL ranges.

**De-Ess** control adjusts for the amount of de-essing required, independent of the compressor / limiter settings.

**Frequency** control tunes the dynamic HF shelf into the sibilant frequencies.
**TECHNICAL SPECIFICATIONS**

**Input Section**
- IMPEDANCE: Balanced 12k ohm differential.
- MAX. INPUT LEVEL: +20dBv.
- CMRR: > 50dB, 20Hz to 20KHz.
- CONNECTOR: XLR331 or equivalent.

**Output Section**
- IMPEDANCE: Balanced and floating to drive 600 ohm loads.
- MAX. OUTPUT LEVEL: +20dBv / 600 Ohm load.
- CONNECTOR: XLR332 or equivalent.

**System Performance**
- FREQUENCY RESPONSE: +1DB, 20Khz, ultrasonic low pass filter 3db at 32kHz, <-86dBv.
- NOISE: Measured to CCIR 4682.
- DISTORTION: THD <0.05%, 20Hz to 20KHz, <0.02%.
- SMPTE IM: <90dB, 20Hz to 20KHz.

**Operating Controls**
- DEESS FREQUENCY: Variable from 10KHz to 10KHz, dynamic HF shelf turnover frequency.
- DEESS THRESHOLD: Variable from +20dBv to 30dBv, independent of compressor/limiter settings.
- THRESHOLD: Variable between +20dBv and 30dBv.
- RATIO: Variable from 1:1 to infinity:1 (LIM IT) progressive soft to hard knee characteristic.

**ATTACK**
- Program dependent, auto time constant. Nominal 200microsec (30 microsec FAST) for 10% response, and nominal 2ms (300 microsec FAST) for 63% response.

**RELEASE**
- Program dependant, 2 part auto time constant. Nominal 10ms (2ms FAST) to 63% recovery after 4ms overdrive 10db above threshold, and nominal 1s (300ms FAST) to 63% recovery after 40ms overdrive 10dB above threshold.
- Variable from 20dB to +20dB.
- Stereo linkable in pairs 1/2 and 3/4 Channels 1 and 3 become masters.

**METERING**
- GAIN REDUCTION: 8 point LED display showing progressive gain reduction from right to left calibrated in dB’s.
- BELOW THRESHOLD: 5 points LED display showing sidechain level below and up to threshold.
- CLIP: Single LED showing onset of channel clip.

**General**
- SIZE: 482mm x 44mm x 282mm (19” x 1.75” x 11”).
- WEIGHT: 5kg (11lbs) gross shipping.
- ELECTRICITY: Switched 120/240V +10% 20% 50/60Hz.

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.