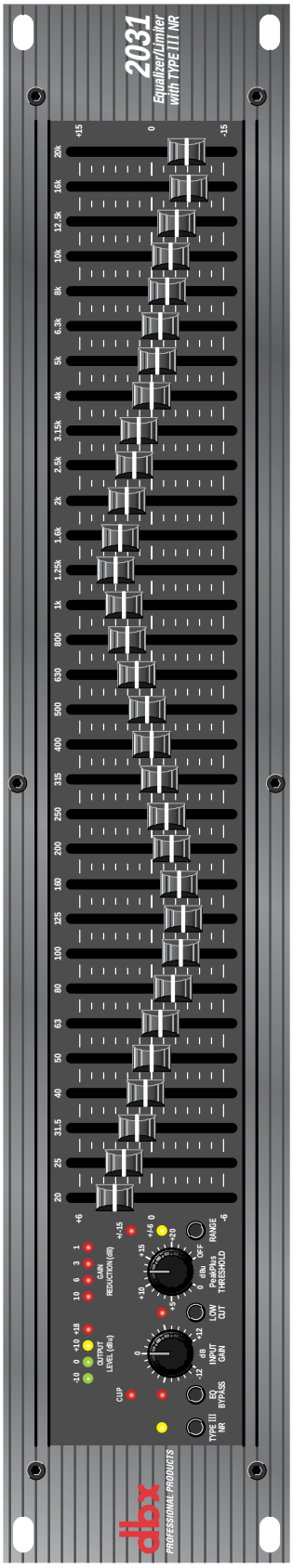
2031 SINGLE CHANNEL 31 BAND EQUALIZER / LIMITER WITH TYPE III NOISE REDUCTION

dbx PROFESSIONAL PRODUCTS



dbx TYPE III™ NOISE REDUCTION

It's amazing. One little button. So much effect. dbx Type III Noise Reduction is an entirely new concept... virtually instantaneous encode/decode within the circuitry of the box. We started out to build the finest EQs possible, boxes with the heritage and performance to rival our famous 30 Series EQs. And to no one's surprise they came out awfully darn good. (Ask to see the Audio Precision plots compared to the competition.) But then, Roger (our chief engineer, a nice guy, as far as engineers go) got the crazy idea of putting this new noise reduction stuff in the box. We listened to it and were amazed. The EQs sounded great without it but with it the performance was nothing short of incredible. Check it out yourself and see.

ULTRA QUIET EQUALIZER/LIMITER

But hey, Roger wasn't about to stop there. PeakPlus™ Limiter. Who knows more about limiting than the folks at dbx; nobody... that's who. So when the guys were developing this new series of EQs they wanted something that would be unique to these EQs. That's when Roger got another one of his bright ideas and said "I bet they'll work a lot better if there's a cool limiter built in." Next thing you know, all the guys are in the studio amazed at the new limiter Roger had designed specially for the 20 Series. Once again, hearing is believing... With a threshold range of 0dbu to plus 20dbu, the patent-pending PeakPlus™ limiter is designed to tame your program material from the subtlest nuances to the rowdiest hits. Also, the four stage LED ladder gives you a great visual indication as to what the limiter is doing.

20 Series EQs. You used to have to settle for second best in a reasonably priced EQ but not any more. With the new 20 Series from dbx Professional Products you get a great EQ circuit, a graceful yet powerful limiter and the revolutionary new design of the Type III Noise Reduction. Check out the dbx 20 Series graphic EQs at your pro audio outfitter. You'll see, with the 20 Series EQs you get MORE!!!

FEATURES

- *Revolutionary instant encode/decode Type III Noise Reduction in-circuit at the push of a button. Increases S/N ratio by up to 20dB.*
- *Patent-pending PeakPlus™ Limiter threshold range from 0dBu to +24dBu (off) can transparently tame the wildest hits or the subtlest nuances of any signal.*
- *An extremely high quality EQ, patent-pending TYPE III Noise Reduction, and the elegant new PeakPlus™ Limiter all in one great sounding box.*
- *Four segment LED bargraph for BOTH Gain Reduction AND Output Level offers the most comprehensive visual feedback available.*
- *Status LEDs offer visual feedback for all settings on the front panel.*

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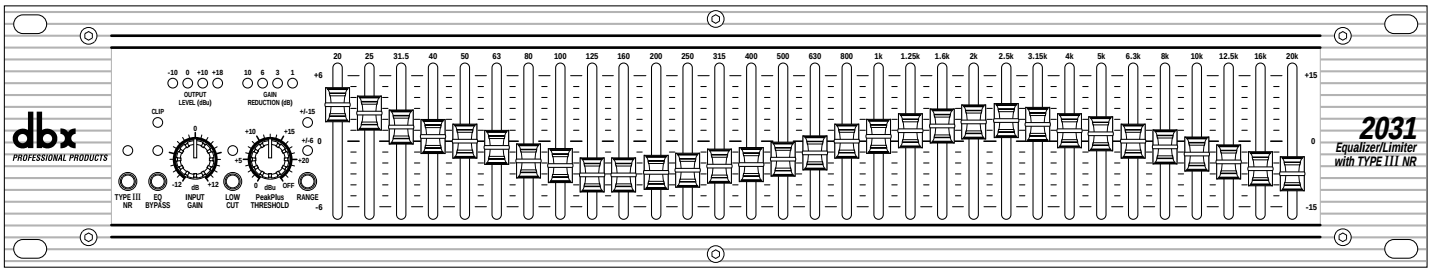

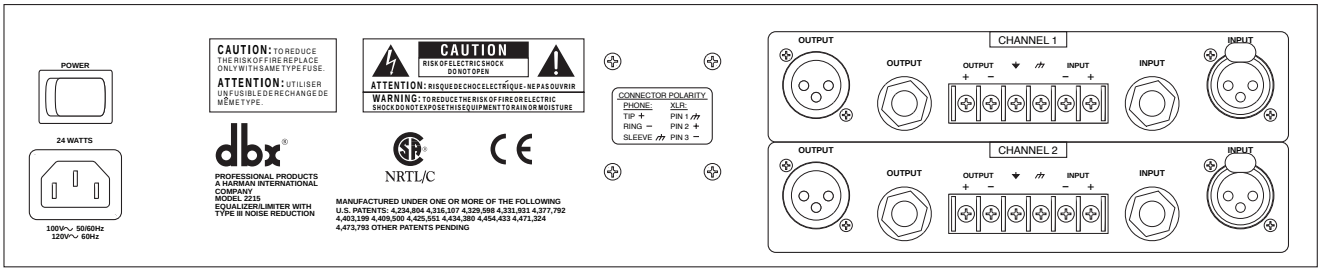

ARCHITECTS' AND ENGINEERS' SPECIFICATIONS

The graphic equalizer shall be a mono 31-band type with frequency centers on standard ISO one-third octave frequencies ranging from 20Hz to 20kHz. The boost/cut range shall be switchable via a recessed front panel switch to either +/-6dB or +/-15dB and the selected range shall be indicated on the front panel by either of two LEDs. Low-noise equalization sliders having a 45mm travel shall be utilized having center detents at 0dB. The equalizer shall have a front panel 41-detent rotary input gain control having a +/-15dB range. Bypassing the equalizer section of the signal path shall be accomplished via a front-panel switch having a corresponding LED to indicate when it is bypassed. A 40Hz low-cut Bessel filter with 18dB/octave slope shall be insertable in the signal path via a front panel recessed switch and shall have an LED to indicate when the filter is active.

The graphic equalizer shall incorporate dbx Type III™ Noise Reduction providing up to 20dB of broadband noise reduction, having a front panel switch to enable the noise reduction and an LED to indicate when it is active. The equalizer shall also be equipped with a dbx PeakPlus™ limiter system having a front panel 41-detent rotary limiter threshold control varying from 0 to +24dBu (off) and a four-LED gain reduction bar graph calibrated to read 0, 3, 6, and 10dB. Output level shall be monitored on a four-LED peak-reading bar graph calibrated to read -10, 0, +10, and +18dBu.

Electronically balanced/unbalanced inputs shall include 1/4" TRS, female XLR, and screw terminal barrier strip, while servo-balanced/unbalanced outputs shall include 1/4" TRS, male XLR, and screw terminal barrier strip shared with the input. A circuit/chassis ground lift jumper shall be strapped across circuit ground and chassis ground screw terminals and shall be removable by the user. Inputs shall be electronically balanced/unbalanced and RF filtered having a nominal input impedance not less than 40kΩ balanced and 20kΩ unbalanced, and shall accept maximum signal levels of not less than +21dBu. Outputs shall be servo-balanced/unbalanced and RF filtered having a nominal output impedance of not more than 200Ω balanced and 100Ω unbalanced, and shall be capable of driving not less than +21dBu into 2kΩ or greater and not less than +20dBm (into 600Ω) continuously.

Frequency response shall be better than 10Hz to 50kHz, +0.5/-3dB. Signal-to-noise ratio shall be greater than 90dB, referenced to +4dBu, in either boost/cut range with noise reduction disabled and shall be greater than 102dB with noise reduction enabled. THD+Noise shall be less than 0.04% with a 1kHz signal at +4dBu.

The internal power supply shall be constructed using a thermally-fused transformer mounted in a low hum orientation and shall be magnetically isolated from equalizer circuitry by means of a mu-metal shield. The power cord shall be detachable from an international standard IEC 320 power inlet receptacle. Unit shall be constructed to meet or exceed all applicable international safety and regulatory agencies. Domestic unit shall be powered from 100VAC 50/60Hz, 120VAC 60Hz, while international unit shall be powered from 230VAC 50/60Hz. Unit shall consume no more than 12W. Housing shall be of all steel/aluminum construction and shall be rack-mountable in an IEC standard 19" rack and shall occupy a 2U (3.5") rack space. The unit shall be a dbx 2031 Equalizer/Limiter with Type III Noise reduction.

dbx engineers are constantly working to improve the quality of our products. Specifications are, therefore subject to change without notice.

SPECIFICATIONS

Inputs

Connectors:	1/4" TRS, female XLR (pin 2 hot), and barrier terminal strip
Type:	Electronically balanced/unbalanced, RF filtered
Impedance:	Balanced 40kΩ, unbalanced 20kΩ
Max Input Level:	>+21dBu balanced or unbalanced
CMRR:	>40dB, typically >55dB at 1kHz

Outputs

Connectors:	1/4" TRS, male XLR (pin 2 hot), and barrier terminal strip
Type:	Impedance-balanced/unbalanced, RF filtered
Impedance:	Balanced 200Ω, unbalanced 100Ω
Max Output Level:	>+21dBu balanced/unbalanced into 2kΩ or greater >+18dBm balanced/unbalanced (into 600Ω)

System Performance

Bandwidth:	20Hz to 20kHz, +/-0.5dB
Frequency Response:	<10Hz to >50kHz, +0.5/-3dB
Noise Reduction In (+/-6 and +/-15dB range):	
Signal-to-Noise:	>102dB, unweighted, ref: +4dBu, 22kHz measurement bandwidth
Dynamic Range:	>120dB, unweighted
Noise Reduction Out: (+/-6dB range):	
Signal-to-Noise:	>94dB, unweighted, ref: +4dBu, 22kHz measurment bandwidth
Dynamic Range:	>112dB, unweighted
Noise Reduction Out: (+/-15dB range):	
Signal-to-Noise:	>90dB, unweighted, ref: +4dBu, 22kHz measurement bandwidth
Dynamic Range:	>108dB, unweighted
THD+Noise:	<0.04%, 0.02% typical at +4dBu, 1kHz
Noise Reduction:	Up to 20dB of dynamic broadband noise reduction

Function Switches

Type III NR:	Activates dbx Type III Noise Reduction
EQ Bypass:	Bypasses the graphic equalizer section in the signal path
Low Cut (recessed):	Activates the 40Hz 18dB/octave Bessel high-pass filter
Range (recessed):	Selects either +/- 6dB or +/- 15dB slider boost/cut range

Indicators

Output Level Meter:	4-LED bar graph (Green, Green, Yellow, Red) at -10, 0, +10, and +18dBu
Gain Reduction Meter:	4-LED bar graph (all Red) at 0, 3, 6, and 10dB
Type III NR Active:	Yellow LED
EQ Bypass:	Red LED
Clip:	Red LED
Low Cut Active:	Red LED
+/-6dB range:	Yellow LED
+/-15dB range:	Red LED

Power Supply

Operating Voltage:	100VAC 50/60Hz, 120VAC 60Hz 230VAC 50/60Hz
Power Consumption:	12W
Mains Connection:	IEC receptacle

Physical

Dimensions:	3.5" H X 19" W X 7.9" D (8.9cm x 48.3cm x 20.1cm)
Weight:	8.5 lbs. (3.9 kg)
Shipping Weight:	9.5 lbs. (4.3 kg)

Note: Specifications subject to change.

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