166XL COMPRESSOR / LIMITER / GATE

dbx PROFESSIONAL PRODUCTS

VISIONARY DESIGN

Most compressor/gates provide less than musical compression, coupled with gating that swallows transients—or closes early, cutting off decay and reverb tails. The superb engineering in the 166XL ensures that both its compression and gating provide versatility and excellent sonic performance in situations where other compressor/gates typically produce undesirable processing artifacts.

When using the 166XL's Attack and Release controls, artists and engineers will find that the center settings deliver classic dbx compression, while the full control range produces voicings that extend from slow "leveling" to aggressive "peak" limiting.

The 166XL's advanced gate circuitry uses a completely new, program-dependent timing algorithm to produce ultra-smooth release characteristics—even with complex signals, such as voice or reverb decays. dbx engineers went on to take advantage of the wide dynamic range and high precision of the dbx V2™ VCA to design in an extra-wide threshold range and ensure top gating performance for each application.

Separate precision LED displays for gain reduction, compression threshold and gate threshold allow quick, accurate setup, while the 166XL's intuitive operation lets users easily smooth uneven levels, add sustain to guitars, squash drums or tighten up mixes. In Stereo couple mode, the Channel 1 controls become Master controls, and Channel 2 follows precisely to ensure a rock solid stereo image—even with high amounts of compression, through True RMS Power Summing™. Professionals and newcomers alike will find that the 166XL sets up rapidly and musically the first time it is used, especially with the Auto attack and release function. Advanced applications are now easy, with the 166XL's full sidechain functionality, and the ability to use either hard knee or OverEasy® compression algorithms. Add to this already impressive list of features the venerable PeakStop limiter, and you've got a strong finisher, every time.

Designed and manufactured in the USA, the dbx 166XL processor is the result of an intensive engineering and product development effort aimed at taking advantage of the latest and best advances in manufacturing technology to deliver true dbx audio performance and reliability to our customers at the lowest possible cost. The 166XL puts a completely new level of compressor/gate performance within everyone's reach.

FEATURES

- *Goof proof operation to smooth uneven levels, add sustain to guitars, fatten drums or tighten up mixes.*
- *New gate timing algorithms ensure the smoothest release characteristics.*
- *Program-adaptive expander/gates.*
- *Great sounding dynamics control for any type of program material*
- *Separate precision LED displays for gain reduction, compression threshold and gate threshold allow quick, accurate setup.*
- *Stereo or dual-mono operation.*
- *Balanced inputs and outputs on 1/4" TRS and XLR.*
- *Side Chain insert.*
- *Classic dbx "Auto" mode.*

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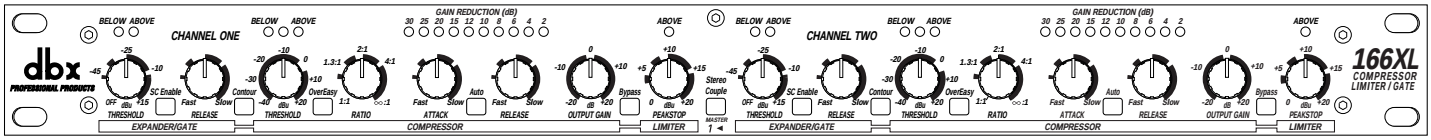
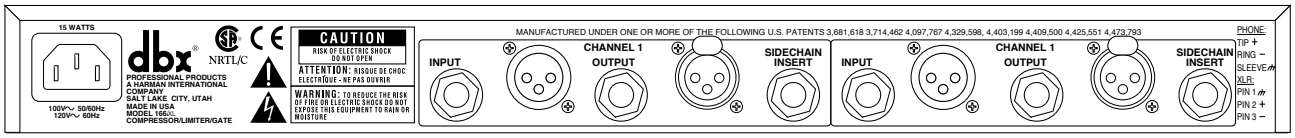
A Harman International Company

166XL

COMPRESSOR / LIMITER / GATE





ARCHITECTS' AND ENGINGEERS' SPECIFICATIONS

The compressor/limiter/gate shall have two identical channels, each with an audio frequency response of 5Hz-40kHz, +0, -0.5dB, a balanced input impedance of not less than 40kΩ, with a maximum input level of not less than +21dBu and a 1/4" TRS input connector. The output impedance shall be no more than 50Ω unbalanced, 100Ω balanced with a maximum output level of not less than +20dBu, a minimum load impedance at not more than 600Ω and the connector type shall be 1/4" TRS. Total Harmonic Distortion shall be less than 0.2% with any amount of compression at 1kHz, and Intermodulation Distortion shall be less than 0.2%. The unit shall have an output noise level of not more than -93dBu unweighted, and a dynamic range not less than 114dB. Outputs shall be gain adjustable in the amount of ±20dB from nominal gain via front-panel Output Gain controls, and all outputs shall be capable of driving a short circuit indefinitely with maximum input applied. The compressor attack and release times shall be scalable and program dependent. The gate attack time shall be <100μsec. The compression threshold shall range from -40 to +20dB. The gate threshold range shall be from -60 to +10dBu. The compressor/gate shall have a stereo coupling switch as well as the following controls for each channel: Compressor Threshold, Compressor Ratio, Attack, Release, Auto switch Output, Gain, Expander/Gate Threshold, Expander/Gate Ratio, Bypass. The following metering LEDs shall exist for each channel: Compressor Threshold (Below, At Above), Gain Reduction and Gate Threshold (Above and Below). The unit shall operate from a power source of 100 VAC 50/60 Hz to 120 VAC 60 Hz for a domestic unit and 230 VAC 50 Hz for a european unit via IEC type AC cable and shall consume no more than 15 W. The net weight shall be 7lbs. (3.2kg). The unit shall be a dbx 166XL Compressor/Gate.

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

SPECIFICATIONS

Inputs (1/4" TRS Phone and XLR)	Floating Balanced; XLR: Pin 2 and TIP HI,
Impedance	>50kΩ balanced, >25kΩ unbalanced
Maximum Level	+24dBu, Balanced or Unbalanced
CMRR	>40dB at 1kHz, typically >55dB
Sidechain Insert (1/4" TRS Phone)	Normalled: Ring = Output (send); Tip = Input (return)
Impedance	Tip = >10kΩ (Input) Ring = 2kΩ (Output)
Maximum Level	+24dBu
Outputs (1/4" TRS Phone and XLR)	Floating Balanced; XLR: Pin 2 and TIP HI
Impedance	120Ω balanced, 60Ω unbalanced
Maximum Level	+21dBu,>+20 dBm into 600Ω, balanced or unbalanced
Frequency Response	20Hz - 20kHz; +0, -0.5dB,Typical 3dB points are 0.35Hz and 110kHz, unity gain
Noise	<-90dBu, 22Hz to 22kHz, no weighting, unity gain
THD+ N	Typically <0.04%; Any Amount of Compression Up to 40dB@1kHz
SMPTE IMD	Typically <0.08% @ +10dBu (15dB Gain reduction)
Compressor	
Threshold Range	-40dBu to +20dBu
Threshold Characteristic	Selectable OverEasy or Hard Knee
Compression Ratio	Variable; 1:1 to Infinity:1; 60dB Maximum Compression
Attack Time	Variable program-dependent; 3ms to 340ms for 15dB gain reduction
Release Rate	Variable program-dependent; 200dB/Sec to 3dB/Sec
Expander/Gate	
Threshold Range	OFF to +15dBu
Expansion Ratio	10:1
Maximum Depth	>60dB
Attack Time	<500μs (from Maximum Depth)
Release Time	Adjustable, 30ms to 3sec (to 30dB attenuation)
PeakStop® Limiter	
Threshold Range	0dBu to +20dBu
Gain Adjustment Range	Variable; -20dB to +20dB
Interchannel Crosstalk	<-80dB, 20Hz to 20kHz
Dynamic Range	>115 dB
Stereo Coupling	True RMS Power Summing™
Operating Voltage	100 VAC 50/60Hz; 120VAC 60Hz 230 VAC 50/60 Hz
Power Consumption	15 Watts Maximum
Operating Temperature	0˚C to 45˚C (32˚F to 113˚F)
Dimensions (H x W x D)	1.75" x 19" x 6.75" (4.45 cm x 48.2 cm x 17.15 cm)
Rack Space	1 Rack Unit (1U High)
Weight	Net weight: 5.05 lb (2.29 kg) Shipping weight: 7.20 lb (3.27 kg)

Note: 0dBu =0.775Vrms.

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