


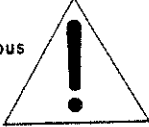


MODEL 266

C O M P R E S S O R / G A T E

dbx[®]
OPERATION MANUAL

	CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN		
ATTENTION: RISQUE DE CHOC ELECTRIQUE - NE PAS OUVRIR			
WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.			
CAUTION: TO REDUCE THE RISK OF FIRE OR ELECTRICAL SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.			
	This symbol, wherever it appears, alerts you to the presence of uninsulated dangerous voltage inside the enclosure - voltage that may be sufficient to constitute a risk of shock.		This symbol, wherever it appears, alerts you to important operating and maintenance instructions in the accompanying literature. Read the manual.

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H A Harman International Company

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INTRODUCTION

Congratulations on choosing the dbx 266 Compressor/Gate. The 266 provides traditional dbx sonic quality and performance for the working musician, DJ, studio operator or anyone who needs a friendly compressor/gate to achieve quality compression, gating and downward expansion quickly and easily. We recommend that you take a moment and read through the manual as it provides information that will assist you in using your unit to its fullest potential.

The 266's compressor is packed with just the right features to effectively reduce and control the dynamic range of your audio, add punch to flabby, loose sounds, or add sustain to instruments. The 266 begins with the classic dbx compression made famous by our 160 line of compressors - just set the 266's Attack and Release controls to 12:00 to get the same response as those units. But there's more. We scaled the program-dependent Attack and Release controls with dbx's new AutoDynamic™ circuitry, so that the 266's full range of controls produce voicings that extend from slow leveling to aggressive peak limiting.

*Common Compressor Applications:

- Fattening a Kick Drum or Snare Drum
- Adding Sustain to Guitar or Synthesizer String Sounds
- Smoothing Out a Vocal Performance
- Raising a Signal Out of a Mix
- Preventing Sound System Overload
- Digital to Analog Transfers

The 266's gate is ready to tackle all your gating needs, whether you need to remove unwanted noise or other background sounds, tighten drum sounds, or change the characteristic envelope of an instrument. The 266's gate provides more flexibility than traditional switch gates because it actually functions as a combination gate/expander. Where switch gates are generally only suitable for a limited number of uses (e.g., gating percussion), the gate on the 266 acts as a gentle downward expander at low Ratio settings (suitable for vocals, guitar, mixed program, etc.), and can effectively work as a switch gate when used at high Ratio settings.

*Common Gating Applications:

- Gating Dry Percussive Sounds (e.g., Snare Drum, Kick Drum)
- Gating Sounds That Have Longer Decay (e.g., Cymbal, Piano)
- Gating Hum or Buzz From Live Instruments or Recorded Tracks
- Downward Expansion to Reduce Noise Under Smooth Sounds (e.g., Vocals, Woodwinds)

*Refer to the following pages for suggested initial settings. These settings should suffice for traditional compressing and gating requirements. However, the 266 can accomplish many more changes to sound quality. We recommend that you experiment with the 266's controls; take our suggested settings and run with them, try totally different settings, and try unorthodox combinations of compressor and gating controls. You might be surprised at what you hear. Best of all, you may create the perfect sound quality for your needs.

INSPECTION

Verify that the 266 package contains the following:

- 266 Unit
- AC Power Cord
- Operation Manual
- Registration Card

QUICK SETUP

To get your unit up and running as quickly as possible, do the following steps. For more detailed information, refer to the specified pages.

- | | |
|---|--------|
| <input type="radio"/> Unpack and Inspect the 266 Package. | Page 3 |
| <input type="radio"/> Connect the 266 to Your System. | Page 9 |
| <input type="radio"/> Set Levels and Controls as Needed. | Page 4 |

WARRANTY

This warranty is valid only for the original purchaser and only in the United States. We warrant dbx products against defects in material or workmanship for a period of two years from the date of original purchase for use, and agree to repair or, at our option, replace any defective item, except external power transformers, without charge for either parts or labor.

IMPORTANT: This warranty does not cover damage resulting from accident, misuse or abuse, lack of reasonable care, the affixing of any attachment not provided with the product, loss of parts, or connecting the product to any but the specified receptacles. This warranty is void unless service or repairs are performed by an authorized service center. No responsibility is assumed for any special, incidental or consequential damages. However, the limitation of any right or remedy shall not be effective where such is prohibited or restricted by law.

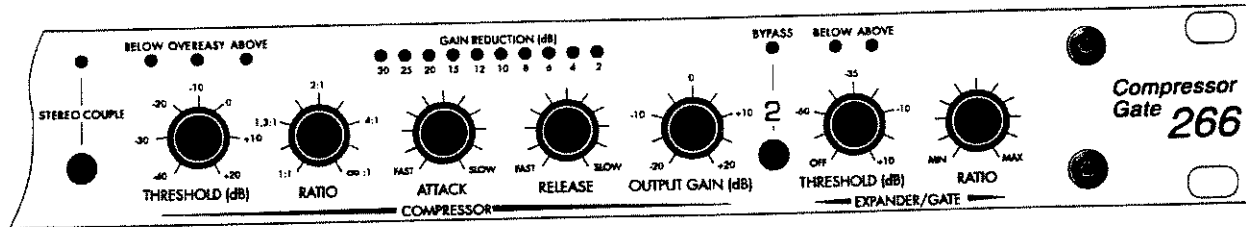
Simply take or ship your dbx product prepaid to our service department. Be sure to include your sales slip as proof of purchase date. (We will not repair transit damage under the no-charge terms of this warranty.) dbx will pay return shipping.

NOTE: No other warranty, written or oral is authorized for dbx products.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Some states do not allow the exclusion of limitations of incidental or consequential damages or limitations on how long an implied warranty lasts, so the above exclusion and limitations may not apply to you.

OPERATING CONTROLS

Front Panel



STEREO COUPLE Button and LED This button sets the 266 for Stereo or Dual Mono operation. Press the STEREO COUPLE button in for Stereo operation where Channel 1 becomes the master controller for both channels. All of Channel 2's controls, buttons, and LEDs will be disabled (except for Channel 2's GAIN REDUCTION meters), since Channel 2 is the "slave."

With the STEREO COUPLE button out, the unit functions as two separate mono compressor/gates, each with its own independent controls.

The red STEREO COUPLE LED indicates that the 266 is stereo-coupled.

BYPASS Button and LED Press this button in to bypass the front panel controls, effectively cancel the function and processing effect of the 266's compression, gating and gain settings. The input signal is still present at the 266's Output, but is now unaltered by the 266's controls. BYPASS is especially useful for making comparisons between processed and unprocessed signals. Note that with Stereo operation (STEREO COUPLE button pressed in), the Channel 1 BYPASS button controls both channels.

The red BYPASS LED lights when BYPASS is active.

GAIN REDUCTION (dB) Meter This meter displays the amount of signal attenuated from the input signal by the 266's Compressor or Expander/Gate. When the Compressor and Expander/Gate are both active, the meter displays the maximum amount of gain reduction for whichever function is greater -- Compressor or Expander/Gate.

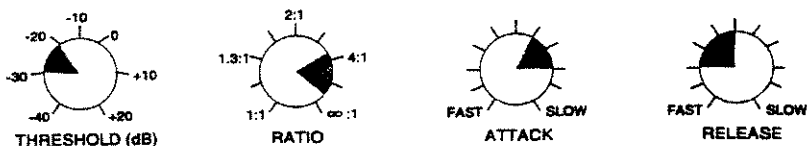
OUTPUT GAIN (dB) Control: This control sets the overall gain of the 266, from -20dB to +20dB. The OUTPUT GAIN control is especially useful to compensate for the RMS level decrease which results from the 266's dynamic processing effects. After you adjust the 266's controls for the desired amount of compression, set the OUTPUT GAIN to add the same amount of gain that is shown on the GAIN REDUCTION meters. For example, if the average amount of gain reduction shown on the meters is 10dB, then setting the OUTPUT GAIN control to +10dB will compensate for the 10dB average level reduction at the output.

Note: the 266's Compressor and Expander/Gate control settings are interactive and can affect gain -- so watch your playback levels.

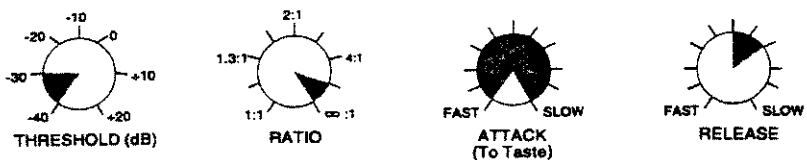
COMPRESSOR Section

Note: Setting the Compressor RATIO to 1:1 will turn the Compressor off, regardless of the setting of the Compressor THRESHOLD control and BELOW/OVEREASY/ABOVE LED status. Setting the Compressor THRESHOLD control to +20dB will prevent all but the highest level peaks from being compressed.

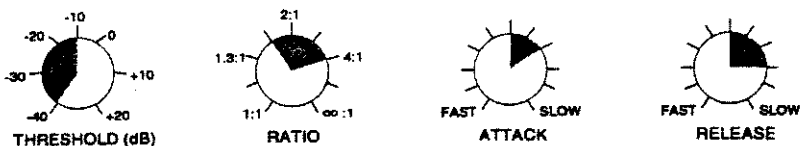
Suggested Initial Compressor Settings:



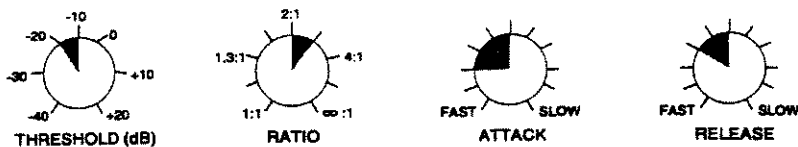
Fattening a Kick Drum or Snare Drum



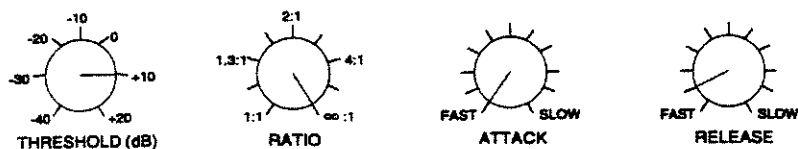
Adding Sustain to Guitar or Synthesizer String Sounds



Smoothing Out a Vocal Performance



Raising a Signal Out of a Mix



Preventing Sound System Overload

Compressor THRESHOLD Control and LEDs (BELOW/OVEREASY/ABOVE): Adjust this control to set the threshold of compression from -40dB to +20dB. The threshold of compression is the point at which dbx's OverEasy® circuit begins to compress the dynamic range of the signal.

The three THRESHOLD LEDs indicate the relationship of the input signal level to the threshold of compression. The green LED lights when the signal is BELOW threshold, the red LED lights when the signal is above threshold, and the amber LED lights when the signal is in the OVEREASY range.

The 266's OverEasy compression permits extremely smooth, natural sounding compression, without artifacts, due to the gradual change of compression around the threshold (instead of the abrupt compression caused by many "Hard Knee" compressors). With OverEasy compression, input signals begin to gradually activate the 266's internal gain change circuitry as they approach the THRESHOLD reference level. They do not get fully processed by the RATIO, ATTACK and RELEASE controls until they have passed somewhat above the THRESHOLD reference level. As the signal passes the THRESHOLD level, processing increases until it is fully processed to the extent determined by the control settings.

Note: Even though no input signal is being applied, it is normal for the LEDs to flicker on when the power is applied or removed.

Compressor RATIO Control: Adjust this control to set the amount of compression applied to the input signal. Clockwise rotation of this control increases the compression ratio from 1:1 (no compression) up to ∞ :1 (where the compressor can be considered to be a full-fledged peak limiter, especially with faster ATTACK settings).

When an input is above the THRESHOLD setting reference level, the RATIO setting determines the number of decibels by which the input signal must increase in level to produce a 1dB increase in the signal level at the output of the 266. A setting of 2:1 indicates an input/output ratio wherein a 2dB increase in signal (above threshold) will produce a 1dB increase in output signal. A setting of ∞ :1 indicates that an infinite increase in input level would be required to raise the output level by 1dB.

Compressor ATTACK and RELEASE Control: The ATTACK control sets the amount of time it takes the 266 to begin compressing a signal once the detector has sensed a signal above threshold. The ATTACK range is from FAST (for a tighter and more noticeable compression effect with very little overshoot) to SLOW (for more delayed, gradual compression). A very fast ATTACK setting will cause the 266 to act like a peak limiter even though RMS detection circuitry is used. Slower ATTACK settings cause the 266 to act like an RMS or averaging detecting compressor/limiter.

The RELEASE control sets how fast the compression circuit returns the input to its original level. The RELEASE rate is from FAST (where compression follows the envelope of the program material very tightly) to SLOW (for very smooth compression).

There is no absolute "right" way to set the ATTACK and RELEASE controls. However, in general, you will want them set slow enough to avoid "pumping" or "breathing" sounds caused when background sounds are audibly modulated by the dominant signal energy, yet the release must be fast enough to avoid suppression of the desired signal after a sudden transient or loud note has decayed. For low tones (e.g., bass guitar), set RELEASE and ATTACK to 2:00 or slower.

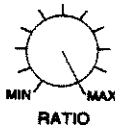
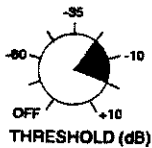
Note: If you are familiar with the dbx 160A or 166A compressors, and you want the same program-dependent response as those units, set these controls to 12:00.

Note: ATTACK and RELEASE controls operate together and in conjunction with the RATIO control. Changing one control may necessitate changing another setting.

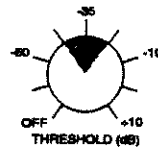
EXPANDER/GATE Section

NOTE: The Expander/Gate is off when the Expander/Gate THRESHOLD is set to OFF.

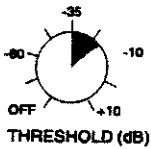
Suggested Initial Gate Settings:



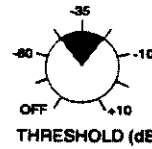
**Gating Dry Percussive Sounds
(e.g., Snare Drum, Kick Drum)**



**Gating Sounds That Have Longer Decay
(e.g., Cymbal, Piano)**



**Gating Hum or Buzz From Live
Instruments or Recorded Tracks**



**Downward Expansion to Reduce Noise Under
Smooth Sounds
(e.g., Vocals, Woodwinds)**

Expander/Gate THRESHOLD Control and LEDs (BELOW/ABOVE): Adjusting this control sets the level at which the gate will open and allow the signal at the input to pass through to the output. Turning the knob fully counterclockwise (to OFF) allows the gate to pass all signals unattenuated, effectively bypassing the gate. Turning the knob fully clockwise causes the gate to attenuate input signals below +10dBu. The depth of attenuation depends on the setting of the Expander/Gate RATIO control.

The two Expander/Gate LEDs indicate the relationship of the input signal level to the threshold setting. The red LED lights when the signal is BELOW threshold, the green LED lights when the signal is above threshold.

Expander/Gate RATIO Control: This control sets the amount of attenuation applied to the input signal once it is below the threshold, from gentle downward expansion (appropriate for mixed program, vocals, etc.), to a hard gating effect (which can be useful for percussion). Fairly low RATIO (and higher Expander/Gate THRESHOLD) settings work best for downward expansion, whereas higher RATIO settings (clockwise towards MAX) work best for gating. If a setting produces undesirable "pumping," readjust the Expander/Gate RATIO or THRESHOLD setting.

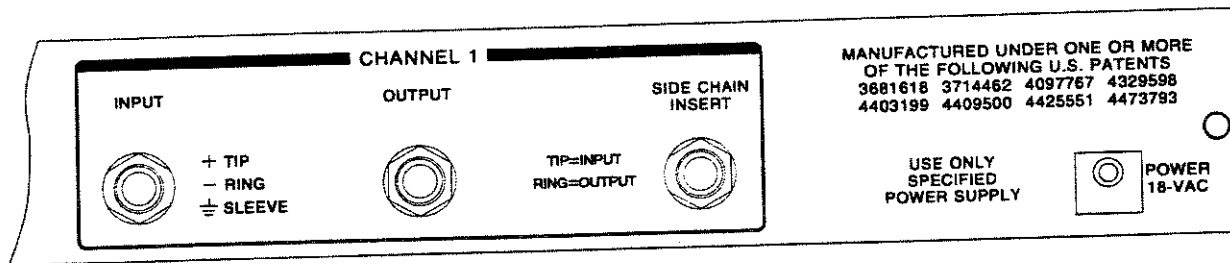
OPERATING CONTROLS

dbx PROFESSIONAL PRODUCTS

Note: The attack and release rate of the Expander/Gate are program-dependent - very fast for transient material (e.g., percussion) and slower for material with slow attack (e.g., vocals).

Note: Fast gating of sustained low frequency signals can result in "chattering." To eliminate any "chattering," simply adjust the RATIO control. The proper THRESHOLD setting will also minimize false triggering and "chattering."

Rear Panel



INPUT Jacks (CHANNEL 1 and 2): Use 1/4" phone plugs to connect these inputs to your source. The 266's INPUT jacks accept either balanced or unbalanced signals. Nominal input level is +0dBu and clipping level is +20dBu. Input impedance is 100k Ω .

OUTPUT Jacks (CHANNEL 1 and 2): The OUTPUT jacks accept 1/4" phone plugs. Nominal output signal level is +0dBu into 600 Ω , and typical maximum output signal level is +20dBu into 600 Ω . Output impedance is 49.9 Ω . The outputs are single-ended, Tip Hot.

SIDE CHAIN INSERT Jack: This jack accepts 1/4" TRS phone plugs and provides a connection to the 266 detector path. The RING acts as an output, carrying a buffered version of the signal present at the 266 INPUT jack, at an impedance of 2k Ω . The TIP acts as an input for equipment to feed the 266's detector circuitry, such as an equalizer for de-essing or frequency-sensitive gating/compression. You can also drive the 266 Side Chain input with the output of most equipment, by using a 1/4" mono phone plug. Input Impedance is greater than 10k Ω .

Note: When a cable is plugged into this jack, it automatically breaks the connection from the INPUT jack to the 266's detection circuitry.

AC Power Supply Jack Plug the AC Power Supply (shipped with your unit) into this jack and an appropriate AC power source. Note that the 266 does not have a power button. It is recommended that the 266 be "On" at all times. Power consumption is low. If you do not plan to use the 266 for an extended period of time, unplug it.

WARNING: Be sure to verify your actual line voltage is the same as the voltage level printed on the power supply. Connection to an inappropriate power source may result in extensive damage which is not covered by the warranty.



CONNECTING THE 266 TO YOUR SYSTEM

Basic Connection

The 266 can be used with any line-level device. Some common examples include mixing consoles, electronic musical instruments, patch bays, and signal processors.

For all connections, refer to the following steps:



- 1. Turn Off all equipment before making any connections.**
- 2. Mount the 266 in a 1U rack space (optional).**

Note: Avoid over-tightening of rackmounting screws as this could damage the front panel.

Caution: Never remove the cover. There are no user-serviceable parts inside.

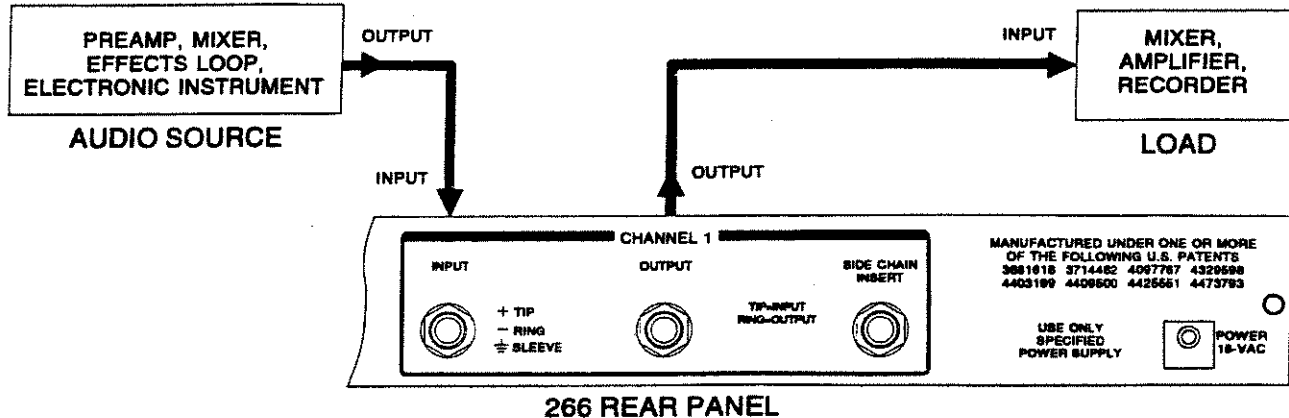
The 266 requires one rack space (height) and 1 rack space (width). It can be mounted above or below anything that doesn't generate excessive heat, since it requires no special ventilation. Ambient temperatures should not exceed 113°F (45°C) when equipment is powered.

- 3. Make connections via 1/4" phone jacks according to your requirements.**

Typical patch points include: a mixer's channel or subgroup inserts when using the 266 on individual instruments or tracks; the mixer's main outputs when mixing; an instrument preamp's effects loop when using the 266 for guitar or bass; main outs of a submixer (i.e., keyboard mixer) as the signal is sent to main mixer; between a DAT's output and an analog cassette input. When using a chain of processors, the 266 may be placed either before or after effects or dynamics processors. We recommend you use common sense and experiment with different setups to see which one provides the best results for your needs.

- 4. Connect the AC power supply (shipped with the unit) to the 266's rear panel POWER jack and an appropriate AC power source to power on the unit.**

Note: Check the line voltage (printed on the power supply) and verify that it is correct.



TECHNICAL SUPPORT, FACTORY SERVICE

Technical Support, Factory Service

The 266 is an all-solid-state product with components chosen for high performance and excellent reliability. Each 266 is tested and calibrated at the factory and should require no internal adjustment of any type throughout the life of the unit. We recommend that your 266 be returned to the factory only after referring to the manual and consulting with Customer Service.

Our phone number, Fax number and address are listed on the inside front cover. When you contact dbx Customer Service, be prepared to accurately describe the problem. Know the serial number of your unit - this is printed on a sticker attached to the rear panel.

Note: Please refer to the terms of your Limited Two-Year Standard Warranty, which extends to the first end-user. After the warranty expires, a reasonable charge will be made for parts, labor, and packing if you choose to use the factory service facility. In all cases, you are responsible for shipping charges to the factory. dbx will pay return shipping if the unit is still under warranty.

Shipping Instructions: Use the original packing material if it is available. Mark the package with the name of the shipper, and with these words in red: DELICATE INSTRUMENT, FRAGILE! Insure the package properly. Ship prepaid, not collect. Do not ship parcel post.

Registration Card and User

Feedback

We appreciate your feedback. After you have an opportunity to use your new 266, please complete the Registration Card and return it.

SPECIFICATIONS

Note: 0dBu = 0.775Vrms

Specifications are subject to change.

Frequency Response	
Flat	20Hz - 20kHz, +0, -0.5dB
Bandwidth	0.35Hz - 90kHz, +0, -3dB
Input (Balanced or Unbalanced)	
Impedance	100k Ω
Max Level	+22dBu
Output (Impedance Balanced)	
Impedance	49.9 Ω
Max Level	+20dBu into 600 Ω
Side Chain Insert	
Input Impedance	>10k Ω
Output Impedance	\leq 2k Ω
Max Level	+22dBu
THD+ Noise	<0.2%; any amount of compression at 1kHz
Intermodulation Distortion	<0.2% SMPTE
Noise	<-93dBu, unweighted (20Hz - 20kHz, Bandwidth only)
Dynamic Range	113dB, unweighted
Crosstalk	<-93dBu @ 1kHz
Common Mode Rejection	>40dB (Any Frequency)
Stereo Coupling	True Power Summing
Threshold	
Compressor	OverEasy; -40 to +20dB
Expander/Gate	-60 to +10dB
Ratio	
Compressor	1:1 to Infinity:1
Expander/Gate	1:1 to 4:1
Attack Time	
Compressor	Scalable Program-Dependent
Expander/Gate	<100 μ Sec
Release Time	
Compressor	Scalable Program-Dependent
Expander/Gate	Program-Dependent
Power Requirements	AC provided by external power supply included with unit
Operating Temperature	0°C to 45°C (32°F to 113°F)
Dimensions (H x D x W)	1.75" x 4" x 19" (4.5cm x 10.16cm x 48.5cm)
Weight, Net Weight:	5 lbs (2.3 kg); Shipping Weight: 7 lbs (3.2 kg)