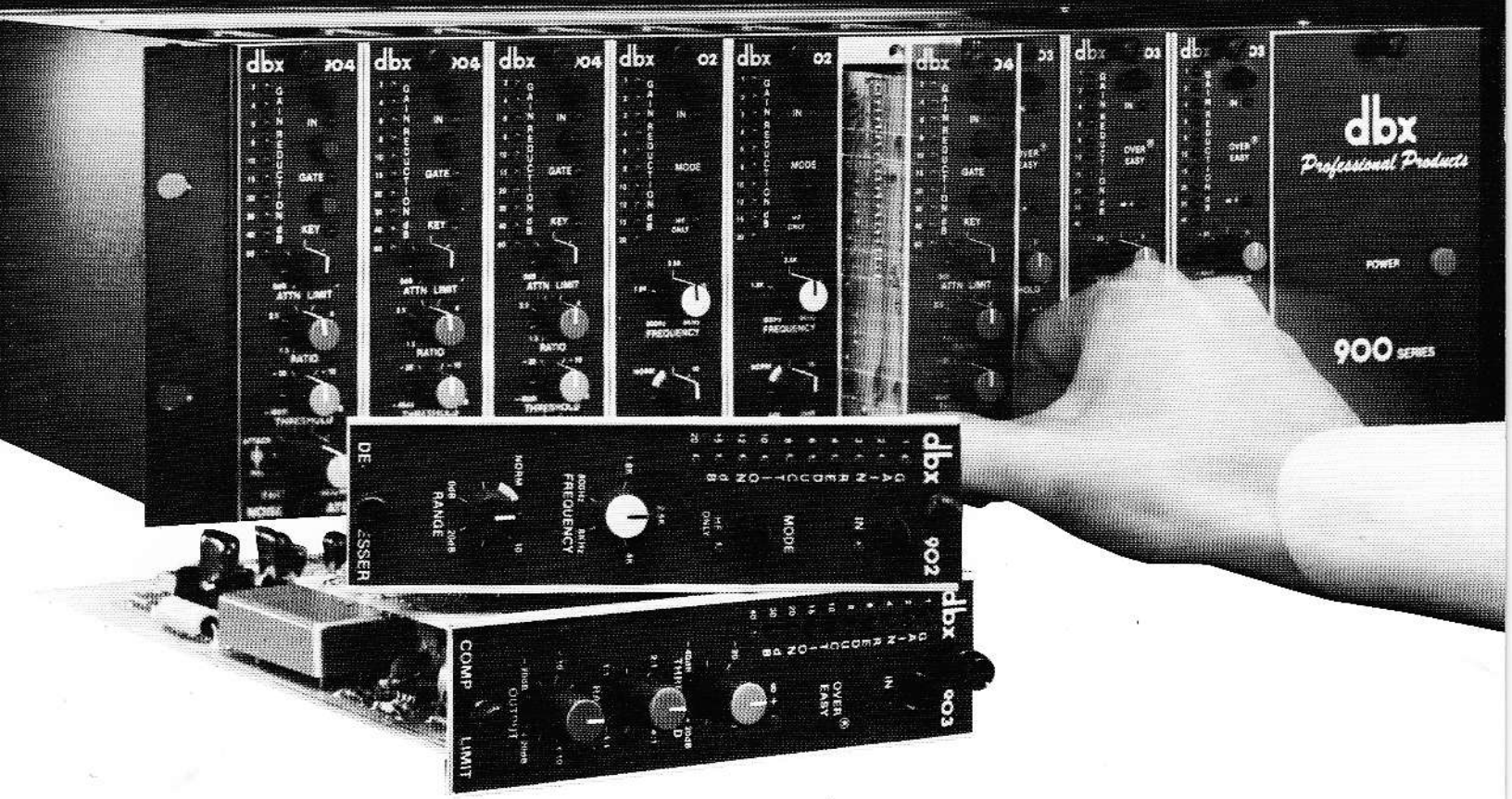
THE DBX 900 SERIES MODULAR SIGNAL PROCESSING SYSTEM.



Today signal processing plays a greater role in sound production than ever before, both in the studio and on the road. As a result, rack space is at a premium. Innovative packaging eliminates redundant power supplies, simplifies interconnects, and saves space. With this in mind, dbx has created the 900 Series Modular Signal Processing System.

The dbx 900 Series features convenience with flexibility. You can fit up to 8 sophisticated signal processing modules into a rackmount unit measuring just 5¼" high. Each 900 Series module represents a step forward in state-of-the-art technology. Installation is quick and easy to accomplish. Standard connectors enable you to wire the rack into your system like any other component. The interchangeable signal processing modules slip in and out in seconds.

The dbx 900 Series is the ultimate in flexibility. These modules place at fingertip control creative tools to express your unique sense of artistry in sound production.

DBX 900 SERIES SIGNAL PROCESSING MODULES

The Model 902 De-esser can be used as a conventional broadband de-esser, or for attenuating only a user-determined portion of the high frequency range of the audio signal. Gain reduction is adjustable from 0 to −20 dB. A feature unique to the 902 (not found in other de-essers) is its continuous analysis of the input signal spectrum, thereby providing the exact amount of de-essing selected regardless of signal level. The 902 does not require recalibration for signal level changes. Just set it and forget it.

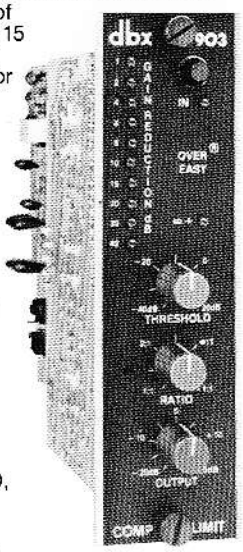
□□ Operates independently of input signal level; no threshold to set □□ Broadband or HF-only de-essing action provides flexibility □□ Range control sets amount of de-essing gain reduction □□ Frequency control sets turnover point above which excessive HF energy will activate the 902 □□ 10-LED display shows amount of gain reduction over a 20 dB range □□ Independently accessible control-voltage input and output for custom processor circuits and other special applications □□ Over Easy transition into gain reduction delivers smooth-sounding de-essing; no audible "kick-in".

Input impedance: balanced = 25 k-ohms, unbalanced = 18.5 k-ohms
Output impedance: 22 ohms, designed to drive 600 ohms or more
Maximum input level: +24 dBm
Maximum output level: +24 dBm into 600 ohms or more
Frequency response: 20 Hz-20 kHz, +0, −1 dB
Total harmonic distortion (THD): less than 0.02% at 1 kHz
Equivalent input noise: −82 dBm, 20 Hz-20 kHz bandwidth, unweighted
Attack rate: program-dependent; to achieve 63% gain reduction, 2 ms for 10 dB spectrum shift above threshold and 600 μs for 20 dB spectrum shift above threshold
Release rate: 925 dB/sec
De-essing range: operates uniformly over input of −40 to +24 dBm without requiring adjustment
Maximum "ess" attenuation: variable, 0 to greater than 20 dB
De-ess crossover point: variable, 800 Hz to 8 kHz
Filter type: 12 dB/octave low-pass, 6 dB/octave derived high-pass, phase-coherent
Gain: unity
Controls: FREQUENCY, RANGE
Switches: IN/Out, MODE (HF ONLY/normal)
Metering: LED column, 1,2,3,4,6,8,10,12,15,20 dB GAIN REDUCTION
Power requirements: ±15 V regulated at 60 mA; ±24 V unregulated at 30 mA
Dimensions: 5¼"h by 1½"w; card depth 9½"

The Model 903 Compressor gives you all the features you'd expect from dbx. And then some. For starters, you have at your command a unique new negative compression feature that actually begins reducing output volume once the threshold is exceeded. Signals are given a new and unusual sense of "punch." And the 903, like our acclaimed 165A is an Over Easy® compressor, with a soft knee threshold that increases compression ratio gradually over a range of several dB. It features true RMS level detection, continuously variable compression ratios, and a threshold that's adjustable from −40 dB to +20 dB.

□□ Over Easy threshold provides inaudible transition into compression □□ Feedforward gain control allows compression ratios from 1:1 to ∞:1 to −1:1 without gain instability □□ Infinity+ compression provides negative gain control for "dynamic-reversal" effects □□ Patented Blackmer rms detector and voltage-controlled amplifier (VCA) provide natural sound and precise, low-distortion control of audio levels over a wide dynamic range □□ Independently accessible detector input and output allow for compression preemphasis, anticipated compression, or other effects □□ 10-LED display allows monitoring of gain reduction over 40 dB range □□ Strapping capability provides dual channel tracking of two 903s, or dual rms-detected stereo compression with release gating when strapped to a 907.

Input impedance: balanced = 25 k-ohms, unbalanced = 18.5 k-ohms
Output impedance: 22 ohms, designed to drive 600 ohms or more
Maximum input level: +24 dBm
Maximum output level: +24 dBm into 600 ohms or more
Frequency response: 20 Hz-20 kHz ±1 dB
Distortion: at infinite-compression, 1 kHz, 0 dBm, typically 0.05% 2nd harmonic and 0.2% 3rd harmonic
Equivalent input noise: −88 dBm, 20 Hz-20 kHz, unweighted
Attack rate: program-dependent; to achieve 63% gain reduction, measured in the infinite-compression region of the Over Easy curve, 15 ms for 10 dB above threshold and 5 ms for 20 dB above threshold
Release rate: 120 dB/sec
Threshold: variable from −40 to +20 dBm (7.75 mV to 7.75 V)
Compression ratio: variable from 1:1 through ∞:1 to −1:1
Output gain: variable, −20 to +20 dB
Detector input impedance: balanced = 250 k-ohms, unbalanced = 185 k-ohms
Controls: THRESHOLD, RATIO, OUTPUT
Switches: IN/Out
Metering: LED column, 1,2,4,6,8,10,15,20, 30,40 dB GAIN REDUCTION
Power Requirements: ±15 V regulated at 60 mA; +24 V unregulated at 30 mA
Dimensions: 5¼"h by 1½"w; card depth 9½"

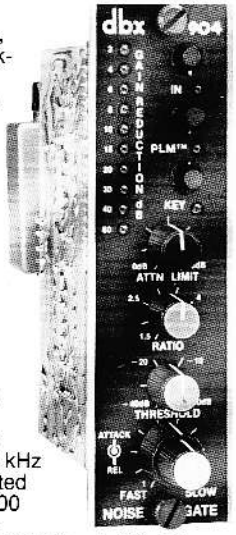


The Model 904 Noise Gate is the ultimate noise gate, with a combination of features not found on any other noise gate, at any price. It features adjustable attack and release rates, threshold adjustment from −40 to +10 dB, attenuation limit adjustment from 0 to 60 dB, with dbx Over Easy® downward expansion for a smooth sound. It also features a KEY input that allows gating of one instrument by another.

The special PLM mode of the 904 allows users without automated consoles to put threshold programmed muting on solo channels. After the user sets the correct solo level on the console, the 904 will automatically keep the channel muted, eliminating spurious signals which frequently precede the solo itself. When the solo begins, the 904 will un-mute the channel, allowing the solo into the mix at the pre-set level.

□□ Over Easy threshold provides smooth-sounding downward expansion □□ Adjustable attack and release rates, threshold control, and ratio control enable the flexible parameter settings needed for optimum gating □□ Adjustable attenuation-limit control lets you choose the maximum amount of gain reduction for any application □□ PLM (Programmed Latch Mode) circuit provides automatic threshold-programmed unmuting of solo channels □□ KEY mode permits gating action to be controlled by a separate audio signal, allowing gating of one instrument by another □□ 10-LED display allows monitoring of gain reduction over a 60 dB range □□ Independently accessible control-voltage input and output permit custom processing circuits, external gain-reduction control, and other special applications.

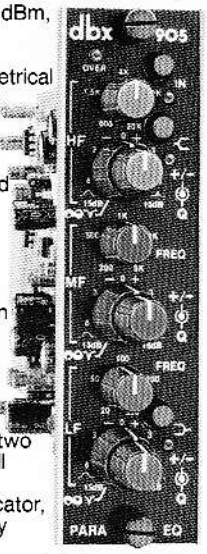
Input impedance: balanced = 25 k-ohms, unbalanced = 18.5 k-ohms
Output impedance: 22 ohms, designed to drive 600 ohms or more
Maximum input level: +24 dBm
Maximum output level: +24 dBm into 600 ohms or more
Frequency response: 20 Hz-20 kHz (+0, −1 dB)
Total harmonic distortion (THD): less than 0.02% at 1 kHz
Equivalent input noise: −82 dBm, 20 Hz-20 kHz bandwidth, unweighted
Attack rate: variable, 500 dB/ms to 2.5 dB/ms
Release rate: variable, 2.5 dB/ms to 22 dB/sec
Threshold: variable, −40 to +10 dB (7.75 mV to 2.5 V)
Expansion ratio: variable, 1.5:1 to 5:1
Maximum attenuation: more than 60 dB
KEY input impedance: balanced = 250 k-ohms, unbalanced = 185 k-ohms
Controls: ATTeNuation LIMIT, RATIO, THRESHOLD, ATTACK, RELEASE
Switches: IN/Out, PLM, KEY
Metering: LED column, 2,4,6,8,10, 15,20,30,40,60 dB gain reduction
Power requirements: ±15 V regulated at 60 mA; ±24 V unregulated at 30 mA
Dimensions: 5¼"h by 1½"w; card depth 9½"



The Model 905 Parametric Equalizer offers a unique degree of equalization flexibility in a high density format without sacrificing true, fully parametric operation of all three filter bands. The overlapping bands each offer control of frequency, bandwidth (Q), and up to 15 dB of reciprocal cut or boost to provide exact, complementary filter action for most equalization needs. For problem situations requiring the removal of spurious signals, each of the bands can be independently switched into "infinite notch" mode without affecting the operation of the others. In situations where a shelving equalizer will produce better results than a peaking one, the 905's high and low bands can be independently switched from peaking to shelving operation. The entire unit may be switch bypassed for instant before/after comparisons. The 905 is the complete equalizer package right at your fingertips.

□□ Three bands of EQ in one package permit exceptional flexibility, allow precise shaping of frequency curve □□ Each band has controls for reciprocal boost/cut (up to 15 dB), bandwidth (Q), and frequency center □□ "Infinite" notch switch on each band lets you remove unwanted narrow-band signals without affecting adjacent frequency information □□ Peak/shelf switch on high and low bands gives great flexibility in shaping the ends of the curve □□ Panel layout allows easy access to all critical controls □□ Multipoint overload sensing helps you eliminate clipping by showing when overload occurs at any point in the unit.

Input impedance: balanced = 25 k-ohms, unbalanced = 18.5 k-ohms
Output impedance: 22 ohms, designed to drive 600 ohms or more
Maximum input level: +24 dBm
Maximum output level: +24 dBm into 600 ohms or more
Frequency response: 20 Hz-20 kHz, +0, −1 dB
Total harmonic distortion (THD): under any boost or cut condition, less than 0.03% at 1 kHz
Equivalent input noise: −88 dBm, 20 Hz-20 kHz bandwidth, unweighted
Filter type: each band symmetrical peak/dip; each switchable to notch mode; high and low bands switchable to symmetrical shelving
Center frequencies: low band = 20-500 Hz; middle band = 200-5 kHz; high band = 800-20 kHz
Range: ±15 dB, peak or shelved
Notch attenuation: more than 40 dB at maximum Q, greater at minimum Qs (typically −70 dB)
Controls: FREQuency, Q, boost/cut (each band)
Switches: IN/Out, Shelving (two bands), "Infinite" notch (all bands)
Metering: LED overload indicator, monitors all critical circuitry points
Power requirements: ±15 V regulated at 100 mA, ±24 V unregulated at 30 mA
Dimensions: 5¼"h by 1½"w; card depth 9½"

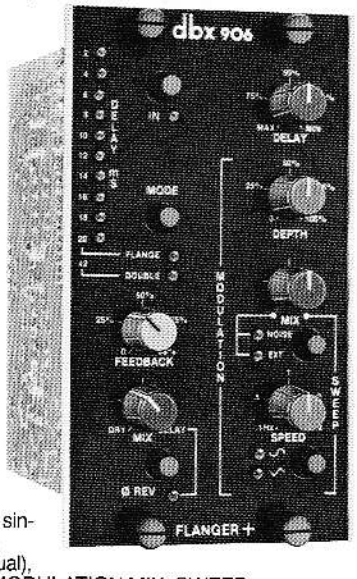


The Model 906 Flanger + answers the need for an electronic system that achieves precise, predictable control of the flanging effect while providing the signal quality, 100:1 frequency sweep, and low noise previously obtained in the studio by using matched tape machines. But this is only the beginning, because the 906 is also a high quality doubler. Both of these basic operating modes can be controlled 1) manually, 2) by the internal sweep generator which offers variable sweep speed and a choice between two different sweep waveforms, 3) by the internal random noise source or, alternatively, an external source such as another 900 Series module's control voltage output, a synthesizer or automation system or 4) any of the many possible blends of these control sources. The complex results of the control voltage combinations are simply and clearly indicated by the continuously updated LED display.

The 906 has been designed with real applications in mind, and the control ranges are carefully tailored so that the user is not forced to get all his favorite effects within a narrow adjustment "window" on a control. The user is provided with control of delay feedback, dry/effect mix (including phase reverse), flange/double mode selection and effect bypass. The 906 also features stereo outputs for obtaining a spacious, stereo effect from mono sources. The model 906 Flanger + not only offers true "tape flanging" sound with unprecedented control, it provides a vast range of flanging and doubling effects. All in a compact package which can be plugged directly into any dbx 900 Series module frame.

□□ Greater than 200:1 frequency sweep range covers entire audio spectrum and delivers extremely wide flanging effect □□ Extensive modulation control over flanging and doubling is possible □□ Low-noise and low-distortion circuitry ensure extremely clean sound □□ The internal random-noise source can be blended with the delay control voltage to provide a more natural double-tracking effect □□ 10-LED display indicates the delay time resulting from the control-voltage combination in use.

Input impedance: balanced = 25 k-ohms, unbalanced = 18.5 k-ohms
Output impedance: 22 ohms, designed to drive 600 ohms or more
Maximum input level: +24 dBm
Maximum output level: +24 dBm into 600 ohms or more
Frequency response: 20 Hz-16 kHz, +0, −3 dB, typical program material
Total harmonic distortion (THD): At 1 kHz, less than 0.5%
Equivalent input noise: −85 dBm, 20 Hz-20 kHz bandwidth, unweighted
Delay range: flange mode = 100 μs to 20 ms, double mode = 4 ms to 40 ms
Modulation frequency: 0.1 Hz to 10 Hz
Modulation waveforms: sine, "Trianguloid"
Random modulation: filtered white noise, f_c = 1 Hz
Modulation depth: 0-100%
Feedback: 0-99%
Auxiliary (stereo) output: +20 dBm into 600 ohms or more
Control-voltage output/input: output mode = 600-ohms output impedance; input mode balanced = 250 k-ohms, single-ended = 185 k-ohms
Controls: DELAY time (manual), MODULATION DEPTH, MODULATION MIX, SWEEP SPEED, FEEDBACK, audio MIX
Switches: IN/Out, MODE (FLANGE, DOUBLE), Ø (phase) REVerse, NOISE/EXTernal source for MODULATION MIX, modulation waveform (sine, "Trianguloid")
Metering: LED column, 2,4,6,8,10,12,14,16,18,20 and x 2) ms delay
Power requirements: ±15 V regulated at 100 mA, ±24 V unregulated at 30 mA
Dimensions: 5¼"h by 3"w; card depth 9½"



The Model 907 Stereo Gated Compressor Slave, when combined with the Model 903 compressor, provides a powerful new signal-processing tool for the broadcaster, studio, or production facility. To the 903's Over Easy performance (for inaudible transition into compression) the 907 adds a high-speed release gate and true-rms-detected stereo compression. Release gating prevents short-term signal drops from causing the limiter to modulate background noise. The audible benefits are substantial with both musical and spoken-word programs, especially when compression levels are high or the source material noisy. When the short-term rms value of an input signal falls below the front-panel-selectable gating threshold, the 903/907 "freezes" at its most recent amount of gain reduction, which is held until the signal returns to a level above the setting. There is also a calibrated release-rate trim on the 907 circuit board.

Dual matched rms detectors provide proper compression response for all stereo input signals regardless of phase relationships, and Blackmer voltage-controlled amplifiers (VCAs) enable accurate stereo tracking over a 60-dB range. The user can install his or her own detector-preemphasis networks in space provided on the circuit board.

Although each control of the 903/907 pair acts on both stereo channels, each channel individually can be hardwire-bypassed. For multi-band limiting, provision has been made on the 907 circuit board for tying the gate functions of all bands, which prevents the unnatural harmonic alterations caused by indepedent-gate operation during multi-band use. You can also defeat the gate for operation as a stereo limiter and configure the unit as a mono compressor/limiter with release gating.

□□ Used with a 903, a 907 creates a true stereo Over Easy compressor/limiter with precision release gating □□ Dual true-rms detection provides accurate stereo response regardless of signal phase relationships □□ Short-term rms analysis of the input signal provides superior gating action, which eliminates audible "pumping" □□ Internal adjustable gate-mode release rate allows you to determine how long the 907 "holds" its gain reduction when the signal level is below the gating threshold □□ Strapping capability allows multiple gates to be tied together for use in multi-band operation

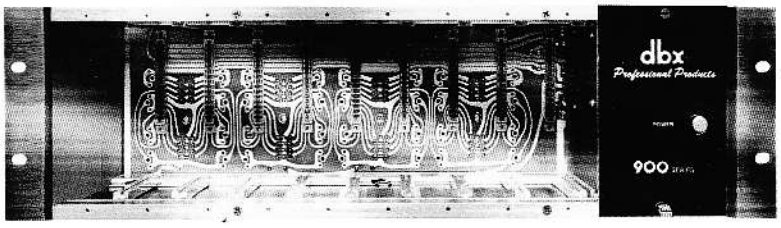
Input impedance: balanced = 25 k-ohms, unbalanced = 18.5 k-ohms
Output impedance: 22 ohms, designed to drive 600 ohms or more
Maximum input level: +24 dBm
Maximum output level: +24 dBm into 600 ohms or more
Frequency response: 20 Hz-20 kHz ±1 dB
Distortion: at infinite compression, 1 kHz, 0 dBm, typically 0.05% 2nd harmonic and 0.2% 3rd harmonic
Equivalent input noise: −85 dBm, 20 Hz-20 kHz, unweighted
Release gate threshold: variable from −40 to +10 dB
Release rate, gated mode (internal trim): 0.05 dB/sec to 20 dB/sec
Controls: RELEASE GATE THRESHOLD
Switches: SLAVE CHANNEL IN/Out, RELEASE GATE IN/Out
Power requirements: ±15 V regulated at 60 mA; +24 V unregulated at 30 mA
Dimensions: 5¼"h by 1½"w; card depth 9½"
Note: the 907 must be used with a model 903, which controls the 903/907 combination's compressor attack rate, release rate, threshold, compression ratio, and output gain (see 903 specifications).

The F-900 Powered Frame accommodates eight operational and one spare module in just 5¼" of rack space. At home in the studio yet tough enough to withstand the rigors of the road, it is also flexible enough to let you reconfigure your system quickly and easily just by changing modules. Its heavy-duty power supply provides trouble-free operation. Wide double-sided gold-plated contact areas and bifurcated edged connectors ensure positive connection between PC board and motherboard and provide an extra measure of reliability even when modules are plugged and unplugged frequently. The factory-installed connector wiring and busing eliminates solder connections to the motherboard. Hookups are made through standard professional barrier-strip connectors, which are economical, reliable, and easy to use.

□□ Eight operational modules fit in just 5¼" of rack space □□ Heavy-duty power supply means trouble-free operation □□ Screw-in fasteners hold modules in the frame and ensure positive retention even on the road □□ Barrier-strip connectors are reliable and easy to use □□ Module connections and signal busing are on the motherboard, which eliminates solder connections □□ Extremely rugged steel and extruded-aluminum construction stands up to the heaviest use.

This frame is also available as the F900U, an unpowered version. Note that using a single ±15 V dc power supply in place of the ±24 V supply specified will reduce headroom and LED brightness.

Power requirements: 100, 120, 220, 240 V ac, 50/60 Hz ±10%, externally switchable at rear panel
Power consumption: 40 watts nominal
Connectors: input/output, barrier terminal; power output and input, 6-pin Jones female, ±24, ±15 V
Module capacity: 8 operational bays, 1 spare
Power supply current capacity: >1.0 A, ±15 V dc regulated, >0.5 A, ±24 V dc unregulated
Switches/indicators: illuminated power switch
Weight: 16.6 lbs
Dimensions: 5¼"h by 19"w by 14"d



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MODEL	DESCRIPTION	SUGGESTED RETAIL VALUE	
	COMPRESSOR/LIMITERS		
160X	Mono compressor/limiter, selectable "Over Easy" or "hard-knee" threshold	$420.00	
163	Mono compressor/limiter with Over Easy" action, one-knob control	$210.00	
RM-163	Two model 163s in rack-mount assembly	$420.00	
164	Stereo compressor/limiter with "Over Easy" action, one-knob control	$420.00	
165A	Compressor/limiter with "Over Easy" threshold, PEAKSTOP soft clipper, auto or manual attack/release rates	$670.00	
	900 SERIES MODULAR SIGNAL PROCESSORS		
F900	Powered frame for 900 Series modules	$525.00	
F900U	Unpowered frame for 900 Series modules	$400.00	
902	De-esser module	$350.00	
903	Compressor/limiter module	$350.00	
904	Noise-gate module	$350.00	
905	Three-band parametric-equalizer module	$370.00	
906	Flanger+ module	$750.00	
907	Stereo gated-compressor slave module for use with the 903	$290.00	
	(941, 942, and 411 modules are compatible with the 900		
	EQUALIZER		
610	Computerized room equalizer; automatically EQs a room to flat or user-chosen curve	$1,900.00	$1
	SOUND ENHANCERS		
500	Professional subharmonic synthesizer	$290.00	
503	Professional three-band dynamic-range expander	$510.00	
3BX-R	Remote control for 503	$169.00	