

Universal Audio FEEDBACK SUPPRESSOR

**MODEL
560
SR-60
DR-60**



Experience with narrow band notch filters has demonstrated that in a typical single-microphone sound reinforcement system, gain before "howlback" can be significantly increased and intelligibility improved by centering a narrow band-reject filter on three or four of the most prominent system resonant frequencies. The Universal Audio 560 Feedback Suppressor provides an inexpensive, convenient, compact way to achieve this result.

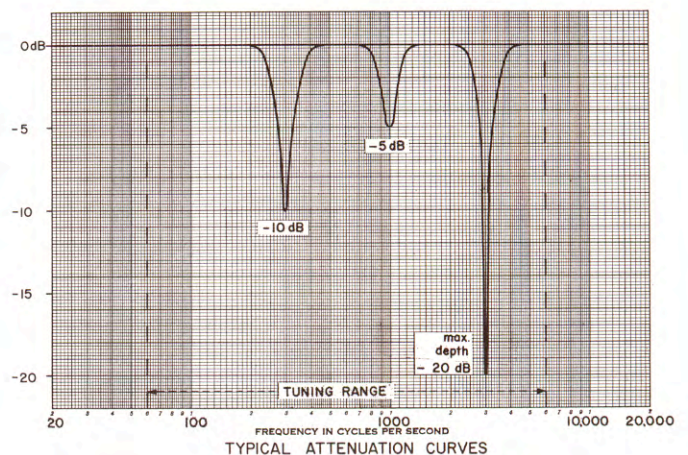
The 560 contains four active notch filters, each adjustable in notch depth from 0 to 20 dB, and adjustable in frequency from 60 Hz to 6000 Hz. Microphone preamplification is built in, permitting the 560 to be used at either microphone or line level. XLR-3 connectors allow simple connection between microphone and amplifier, and phone jacks are provided for line level input and output.

In using the 560, the system gain is slowly increased until the first feedback occurs and is sustained. One notch filter is then switched in and "tuned" until the feedback ceases. The gain is increased again, and the next resonance attenuated by the second filter. This procedure is repeated with filters 3 and 4. A typical result is an increase of 12 dB or more in actual system gain before feedback, and improved intelligibility. No undesirable changes in fidelity are produced. Used alone in this manner, the 560 will find wide application for both temporary and permanent installations in lecture halls, meeting rooms, schools and churches.

Many systems will benefit from more sophisticated broadband and/or $\frac{1}{3}$ -octave equalization, if budgets permit. The 560 can further improve these installations, providing final "tweaking" to reduce microphone proximity effects and troublesome residual resonances.

FEATURES

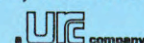
- Compact size: 2.5" x 8.5" x 10". Optional rack mounting.
- Four independently adjustable notch filters.
- Narrow notches minimize sound coloration.
- Microphone or line level inputs and outputs.
- XLR-3 and phone jacks for inputs and outputs.
- Input overload indicator.
- Built-in power supply.
- UREI Quality, of course.



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**MODEL
560
SR-60 DR-60**

TECHNICAL SPECIFICATIONS

ELECTRICAL:

- MICROPHONE INPUT** : Bridges low impedance (150-250 ohms) microphones. Transformer isolated. XLR-3 female chassis connector.
- LINE INPUT** : 20 k ohms bridging. Floating, differential.
(May be used from balanced or unbalanced sources).
Phone jack connector.
- LOW LEVEL OUTPUT** : 150 ohms, transformer isolated. 54 dB below line level output.
XLR-3 male chassis connector.
- LINE LEVEL OUTPUT** : To be loaded by 600 ohms or higher impedance.
Transformer isolated. Phone jack connector.
- GAIN** : Microphone input, 20 to 50 dB, adjustable.
Line input, 0 dB.
- FREQUENCY RESPONSE** : ± 0.5 dB, 20 Hz to 20 kHz (filters OFF).
- MAXIMUM OUTPUT** : 6.15V RMS (+ 18 dBm) into 600 ohm load
- DISTORTION** : Less than 0.5% at maximum output, 30 Hz to 15 kHz.
- EQUIV. INPUT NOISE** : Microphone input -124 dBV or less.
Line input -95 dBV or less.
- FILTERS TYPE (4)** : State variable.
- FILTER RANGES** : 60 to 6000 Hz in two ranges.
- CALIBRATION ACCURACY** : $\pm 10\%$ of indicated settings.
- FILTER BANDWIDTH** : Approx. 1/6 octave at 5 dB attenuation (3 dB points).
- FILTER ATTENUATION** : 0 to 20 dB, continuously variable.
- POWER REQUIREMENTS** : 120/230 VAC (strappable) @ 50-60 Hz. 7 watts maximum.

PHYSICAL:

- SIZE** : 2.5" high, 8.5" wide, 10" deep overall.
(63.5 x 216 x 254 mm).
- WEIGHT** : 7.5 pounds, 3.40 kg.
- SHIPPING WEIGHT** : 10 pounds, 4.54 kg.
- FINISH** : Front panel, horizontally brushed clear anodized aluminum.
Chassis, cadmium plated steel. Cover, matte black painted steel.

OPTIONAL ACCESSORIES:

- SR-60 rack adaptor for single mounting (3.5").
DR-60 rack adaptor for double mounting (3.5").

GAIN	:	Microphone Line input, 0
FREQUENCY RESPONSE	:	± 0.5 dB, 20
MAXIMUM OUTPUT	:	6.15V RMS (
DISTORTION	:	Less than 0
EQUIV. INPUT NOISE	:	Microphone Line input
FILTERS TYPE (4)	:	State variab
FILTER RANGES	:	60 to 6000
CALIBRATION ACCURACY	:	$\pm 10\%$ of i
FILTER BANDWIDTH	:	Approx. 1/
FILTER ATTENUATION	:	0 to 20 dB
POWER REQUIREMENTS	:	120/230 V

PHYSICAL:

SIZE	:	2.5" high, (63.5 x 21
WEIGHT	:	7.5 pound
SHIPPING WEIGHT	:	10 pound
FINISH	:	Front pan Chassis, c

OPTIONAL ACCESSORIES:

SR-60 ra