dbx by HARMAN

530

500 SERIES PARAMETRIC EQ

OWNER'S MANUAL

Warranty

1. Please register your product online at www.dbxpro.com. Proof-of-purchase is considered to be the responsibility of the consumer. A copy of the original purchase receipt must be provided for any warranty service.

2. dbx warrants this product, when purchased new from an authorized U.S. dbx dealer and used solely within the U.S., to be free from defects in materials and workmanship under normal use and service. This warranty is valid to the original purchaser only and is non-transferable.

3. dbx liability under this warranty is limited to repairing or, at our discretion, replacing defective materials that show evidence of defect, provided the product is returned to dbx WITH RETURN AUTHORIZATION from the factory, where all parts and labor will be covered up to a period of two years. A Return Authorization Number must first be obtained from dbx. The company shall not be liable for any consequential damage as a result of the product's use in any circuit or assembly.

4. dbx reserves the right to make changes in design or make additions to or improvements upon this product without incurring any obligation to install the same additions or improvements on products previously manufactured.

5. The foregoing is in lieu of all other warranties, expressed or implied, and dbx neither assumes nor authorizes any person to assume on its behalf any obligation or liability in connection with the sale of this product. In no event shall dbx or its dealers be liable for special or consequential damages or from any delay in the performance of this warranty due to causes beyond their control.

Technical Support & Service

If you require technical support, contact dbx Technical Support. Be prepared to accurately describe the problem. Know the serial number of your device – this is printed on a sticker attached to the chassis.

Before you return a product to the factory for service, we recommend you refer to this manual. Make sure you have correctly followed installation steps and operating procedures. For further technical assistance or service, please contact our Technical Support Department at (801) 566-8800 or visit www.dbxpro.com. If you need to return a product to the factory for service, you MUST first contact our Technical Support Department to obtain a Return Authorization Number.

NO RETURNED PRODUCTS WILL BE ACCEPTED AT THE FACTORY WITHOUT A RETURN AUTHORIZATION NUMBER.

Please refer to the Warranty information, which extends to the first end-user. After expiration of the warranty, 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 transportation charges to the factory. If the product is still under warranty, dbx will pay the return shipping.

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.

Table of Contents

Overview

Introduction

The 530 is a 500 series compliant 3-band parametric EQ based on the circuit used in the classic dbx 905. It provides full parametric control over each band and is equally at home on stage or in the studio.

When used after a dedicated preamp at the front end of a digital audio workstation, the 530 can be used for adding analog console-style EQ in the recording chain for tracks that are more "mix-ready". Or, if you prefer, the 530 can be used non-destructively during the mixing stage if your audio interface has a spare line-level output and input.

The 530's bands overlap for more creative sculpting of the frequency spectrum. Each band offers control of frequency, bandwidth (Q), and up to 15 dB of reciprocal cut or boost.

In situations where shelving filters are required, the 530's low and high bands can be independently switched from peaking to shelving operation using the SHELF buttons.

The feature that sets the 530 apart from other EQs is its "Infinite Notch" mode, which can be enabled independently on each band by turning the gain control fully counter-clockwise until it clicks. Infinite Notch mode can be used when extreme notch filtering is required, such as for removing offending feedback frequencies or annoying narrowband resonances.

Disengaging the "IN" switch provides a hard-wired bypass that can be used for instant comparison of the processed versus unprocessed signals.

We hope the 530 serves as an indispensable creative tool for your sound processing and music production needs. Thank you for choosing dbx.

Features

- *Based on the Classic dbx 905 Circuit*
- *3-Band Fully Parametric EQ*
- *Independently Selectable Peaking or Shelving Filters on Low & High-Frequency Bands*
- *Adjustable Q on each Band*
- *Infinite Notch Mode on each Band for Narrowband Filtering*
- *Bypass Button w/ Hard-Wired Bypass*

Installation

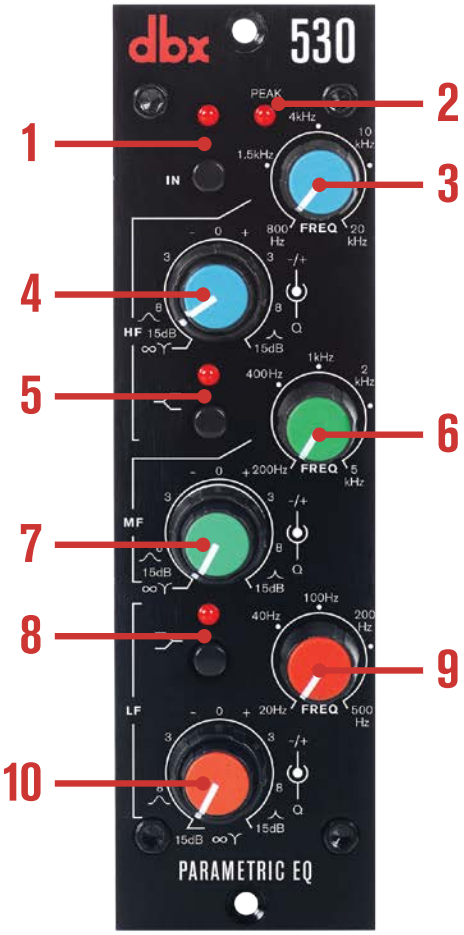
FOR 500 SERIES CHASSIS MOUNT USE ONLY!

To install the 530 into a 500 series chassis:

1. Turn off the power to the 500 series chassis.
2. Unpack the module and ensure the rear connector is free of debris.
3. Align and slide the module into the 500 series chassis, ensuring the connectors on the back properly seat with the connectors in the chassis.
4. Install the included screws to secure the 530 to the chassis. Both metric and standard screws are included. Use the correct screw type for your chassis.
5. Power on the chassis.
6. Enjoy!

WARNING! Do not hot swap 500 series modules! Doing so can potentially cause damage to the 500 series module or chassis. Always power down the chassis when installing or removing 500 series modules.

The User Interface

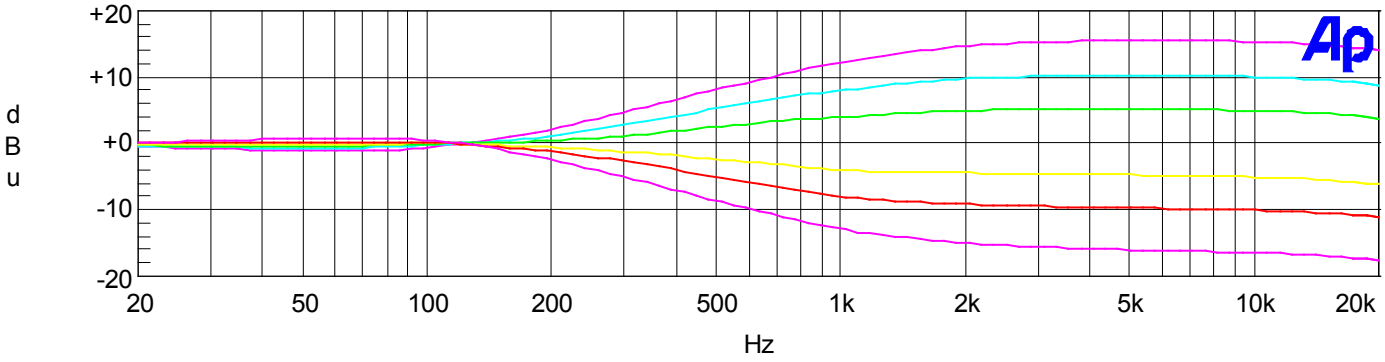


1. **IN Button & LED**
   When this button is engaged, the LED will light and the signal will pass through the 530 circuit. When disengaged, the LED will not light and the 530's circuit will be hard-wire bypassed.
2. **PEAK LED**
   This LED lights when clipping occurs at any point in the circuit. If clipping occurs, try lowering the output gain on the device feeding the 530.
3. **HF FREQ Control**
   Adjusts the center frequency of the high band.
4. **HF GAIN & Q Controls**
   This is a concentric pot. The inner pot adjusts the amount of boost or cut applied to the high band. Turning the inner pot all the way counter-clockwise until it clicks enables the Infinite Notch feature for the band. The outer pot adjusts the bandwidth (Q) of the HF peaking filter when the HF SHELF button is disengaged.
5. **HF SHELF Button & LED**
   When this button is engaged, the LED will light and the high band will act as a shelving filter. Note that the HF Q control will be disabled when this button is engaged and the shelving filter will have a fixed slope rate of 6 dB/octave. When disengaged, the LED will not light and the high band will act as a peaking filter with an adjustable Q range of 0.9-5. Note that when Infinite Notch mode is engaged on the HF band, the state of this button will be ignored and the HF band will operate as a narrow notch filter.
6. **MF FREQ Control**
   Adjusts the center frequency of the mid band.
7. **MF GAIN & Q Controls**
   This is a concentric pot. The inner pot adjusts the amount of boost or cut applied to the mid band. Turning the inner pot all the way counter-clockwise until it clicks enables the Infinite Notch feature for the band. The outer pot adjusts the bandwidth (Q) of the MF peaking filter with an adjustable Q range of 0.9-5.
8. **LF SHELF Button & LED**
   When this button is engaged, the LED will light and the low band will act as a shelving filter. Note that the LF Q control will be disabled when this button is engaged and the shelving filter will have a fixed slope rate of 6 dB/octave. When disengaged, the LED will not light and the low band will act as a peaking filter with an adjustable Q range of 0.9-5. Note that when Infinite Notch mode is engaged on the LF band, the state of this button will be ignored and the LF band will operate as a narrow notch filter.
9. **LF FREQ Control**
   Adjusts the center frequency of the low band.
10. **LF GAIN & Q Controls**
    This is a concentric pot. The inner pot adjusts the amount of boost or cut applied to the low band. Turning the inner pot all the way counter-clockwise until it clicks enables the Infinite Notch feature for the band. The outer pot adjusts the bandwidth (Q) of the LF peaking filter when the LF SHELF button is disengaged.

Technical Information

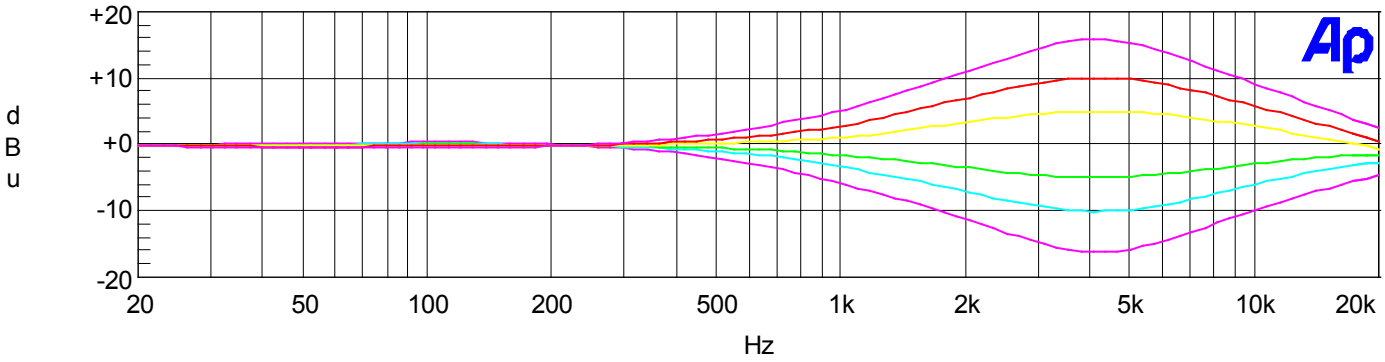
EQ Plots

HF Band Shelving Filter



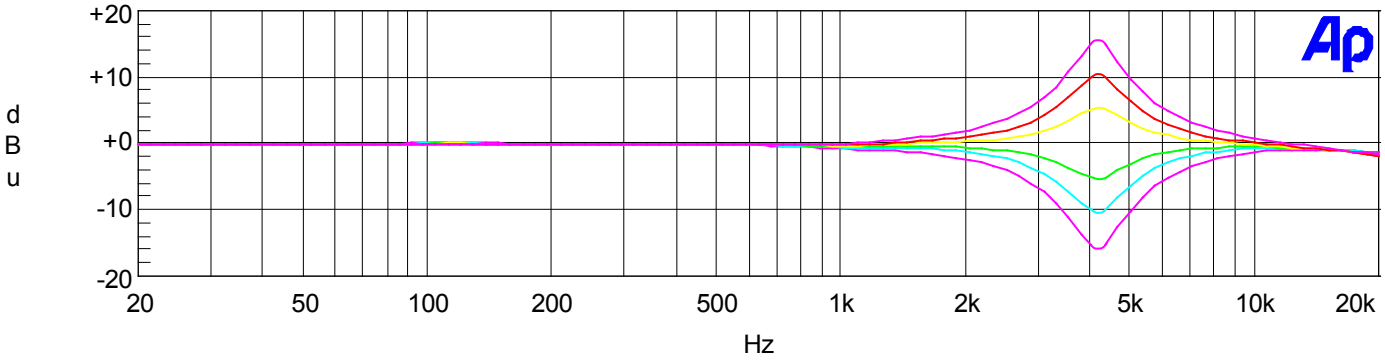
HF Shelf Button = Enabled, HF Frequency Center = 800 Hz, HF Gain = 5 dB Increments From 0 dBu

HF Band Peaking Filter (Widest Q)



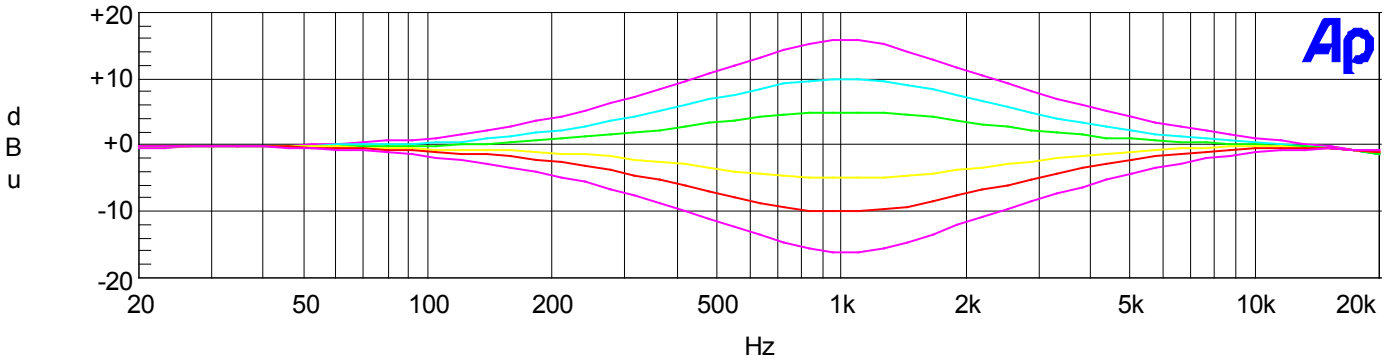
HF Shelf Button = Disabled, HF Frequency Center = 4 kHz, HF Q = Fully Counter-Clockwise, HF Gain = 5 dB Increments From 0 dBu

HF Band Peaking Filter (Narrowest Q)



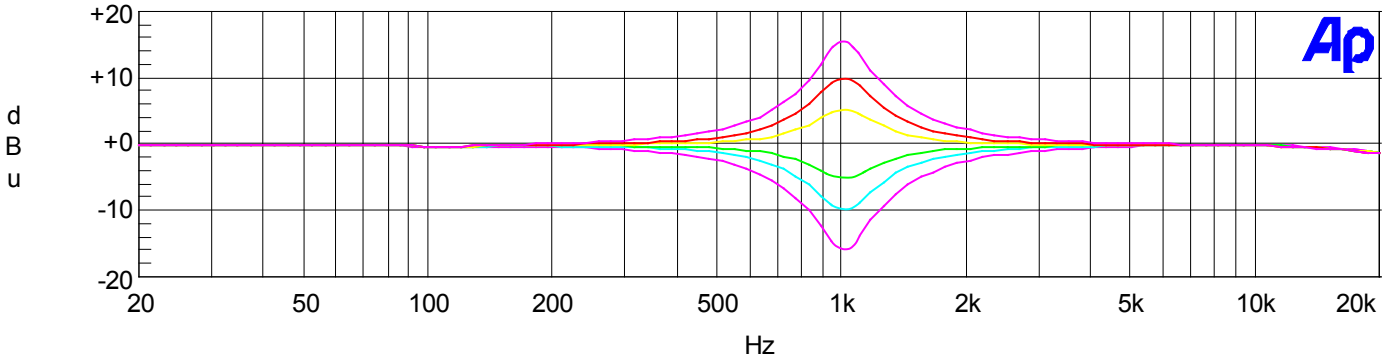
HF Shelf Button = Disabled, HF Frequency Center = 4 kHz, HF Q = Fully Clockwise, HF Gain = 5 dB Increments From 0 dBu

MF Band Peaking Filter (Widest Q)



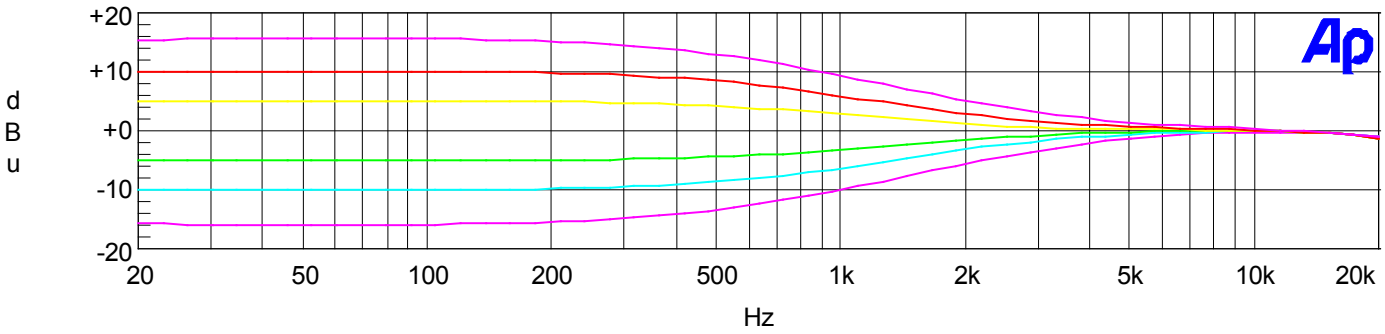
MF Frequency Center = 1 kHz, MF Q = Fully Counter-Clockwise, MF Gain = 5 dB Increments From 0 dBu

MF Band Peaking Filter (Narrowest Q)



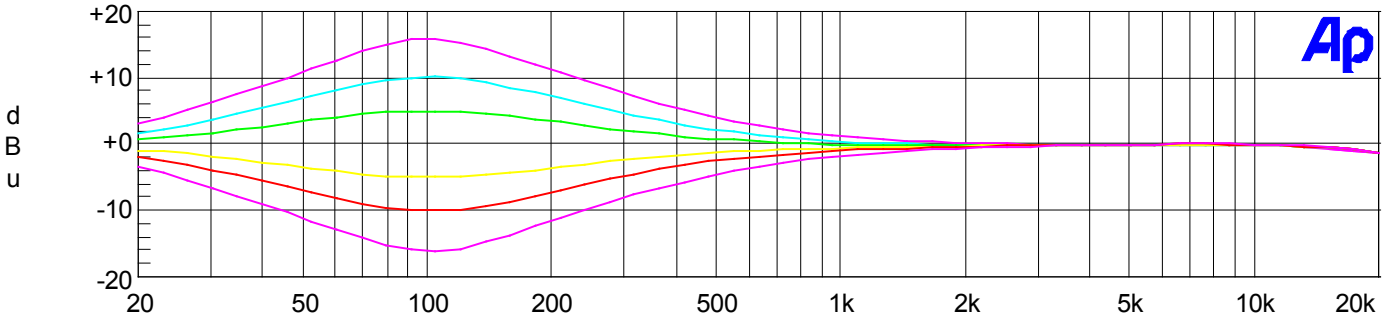
MF Frequency Center = 1 kHz, MF Q = Fully Clockwise, MF Gain = 5 dB Increments From 0 dBu

LF Band Shelving Filter



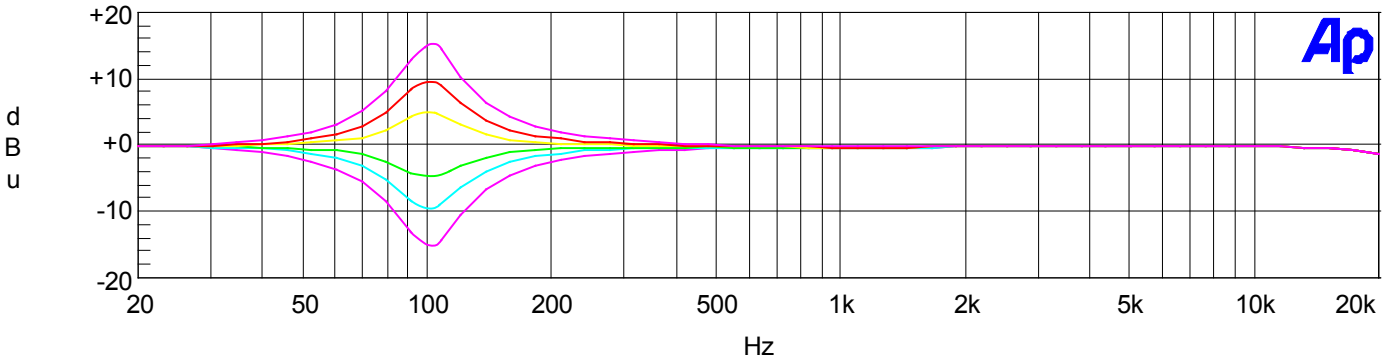
LF Shelf Button = Enabled, LF Frequency Center = 500 Hz, LF Gain = 5 dB Increments From 0 dBu

LF Band Peaking Filter (Widest Q)



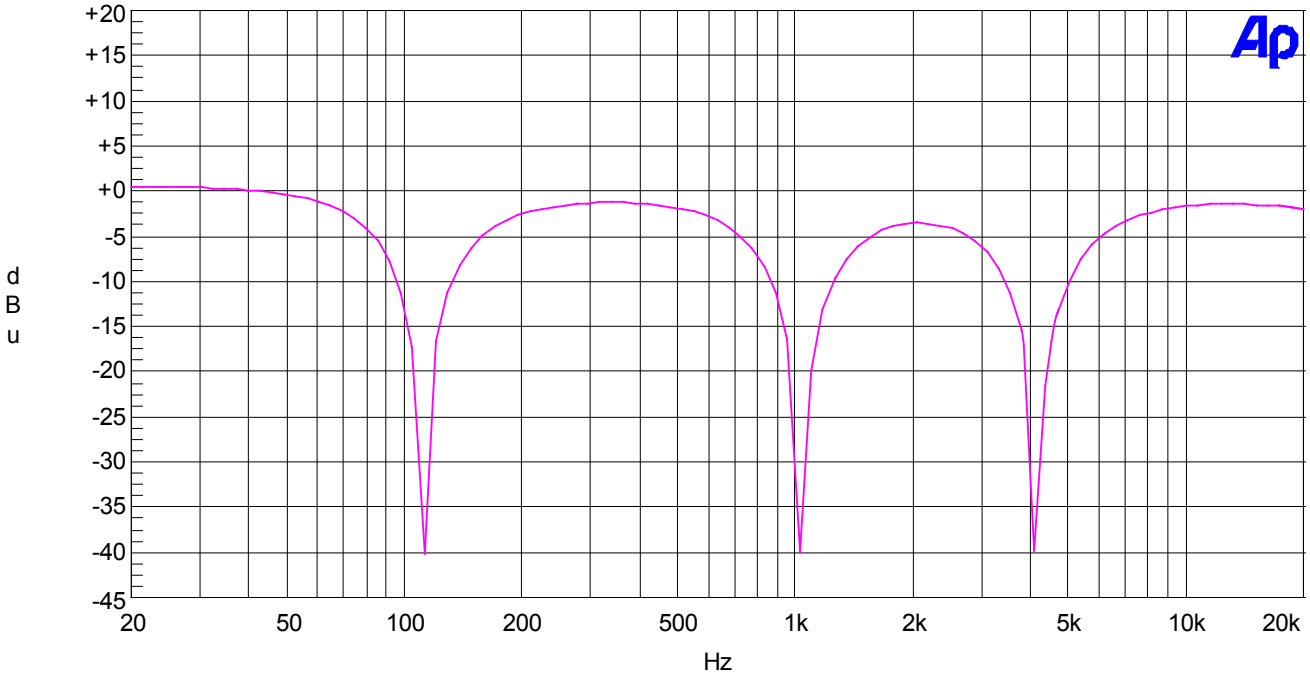
LF Shelf Button = Disabled, LF Frequency Center = 100 Hz, LF Q = Fully Counter-Clockwise, LF Gain = 5 dB Increments From 0 dBu

LF Band Peaking Filter (Narrowest Q)



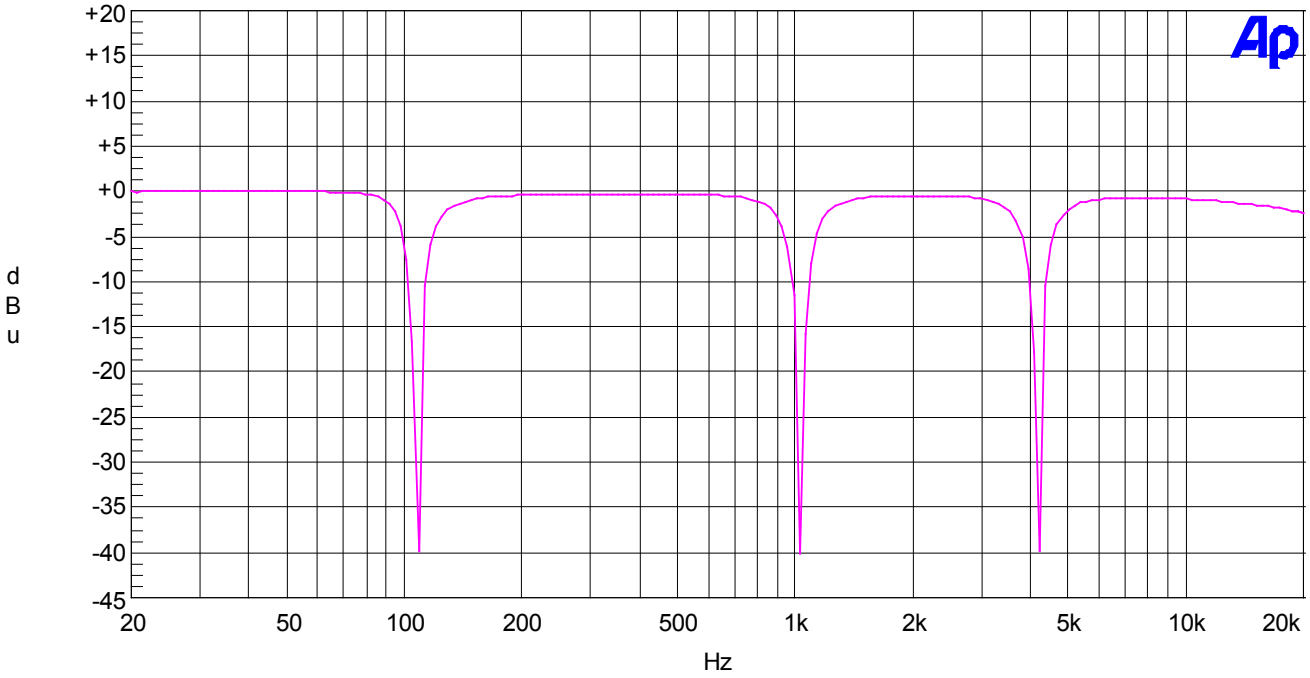
LF Shelf Button = Disabled, LF Frequency Center = 100 Hz, LF Q = Fully Clockwise, LF Gain = 5 dB Increments From 0 dBu

All Bands – Infinite Notch Filters (Widest Q)



All Bands Gain = Infinite Notch Mode Enabled, All Bands Q = Fully Counter-Clockwise, LF Frequency Center = 100 Hz, MF Frequency Center = 1 kHz, HF Frequency Center = 4 kHz

All Bands – Infinite Notch Filters (Narrowest Q)



All Bands Gain = Infinite Notch Mode Enabled, All Bands Q = Fully Clockwise, LF Frequency Center = 100 Hz, MF Frequency Center = 1 kHz, HF Frequency Center = 4 kHz

Specifications

INPUT

Type:	Electronically balanced/unbalanced, RF filtered
Impedance:	40 kΩ balanced, 20 kΩ unbalanced
Maximum Input Level:	+22 dBu
CMRR:	>40 dB; typically >55 dB at 1 kHz

OUTPUT

Type:	Electronically balanced/unbalanced, RF filtered
Impedance:	Balanced 30 Ω, unbalanced 15 Ω
Maximum Output Level:	+22 dBu

PERFORMANCE

Frequency Response:	20 Hz – 20 kHz, +0/-1 dB <10 Hz – 30 kHz, +0/-3 dB
Noise:	-90 dBu, Unweighted (22 Hz – 22 kHz)
THD+N:	<0.006% typical, 20 Hz – 20 kHz, 0 dBu out
Dynamic Range:	112 dB

EQ

Filter Type:	Each band symmetrical peak/dip, each band switchable to Infinite Notch mode, high and low bands switchable to symmetrical shelving
Center Frequencies:	Low band = 20 Hz – 500 Hz, mid band = 200 Hz – 5 kHz, high band = 800 Hz – 20 kHz
Range:	±15 dB, peak or shelved
Infinite Notch Attenuation:	Typically > 40 dB

POWER

Requirements:	+/- 16V DC
Current Draw:	85 mA per power rail
Power Draw:	2.72 watts

PHYSICAL

Rack System:	500 Series Compatible Power-frame
Rack Space:	1 Slot
Dimensions (H x W x D):	5.25" x 1.5" x 6" (13.34 cm x 3.81 cm x 15.24 cm)
Weight:	1.3 lbs (0.59 kg)
Shipping Weight:	1.7 lbs (0.77 kg)

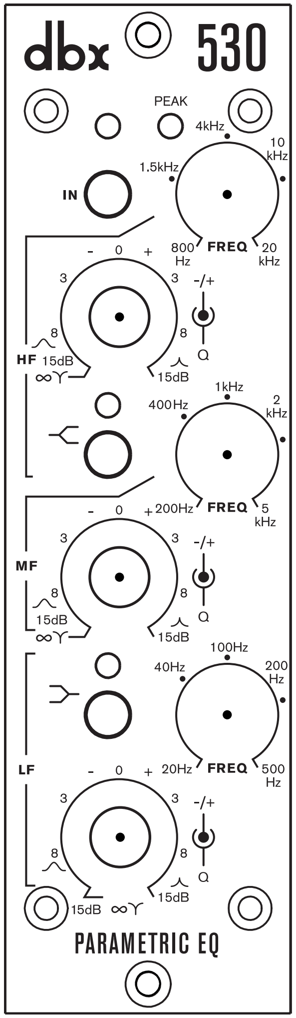
Notes: Noise and frequency response specifications are at unity gain.
0 dBu=0.775V rms

Specifications are subject to change without notice.

530 RECALL SHEET

DATE:

PROJECT:



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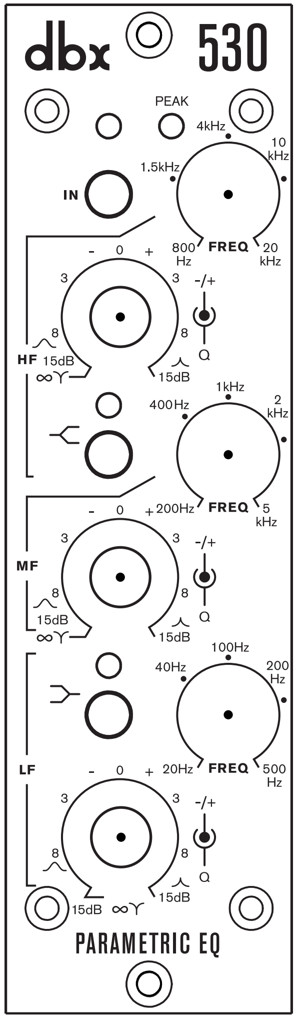

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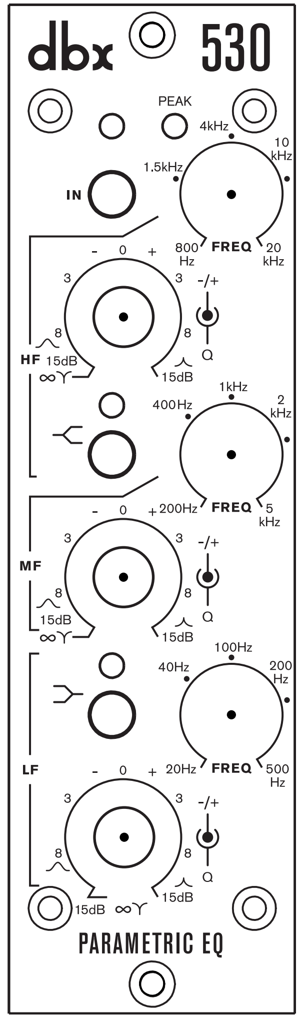

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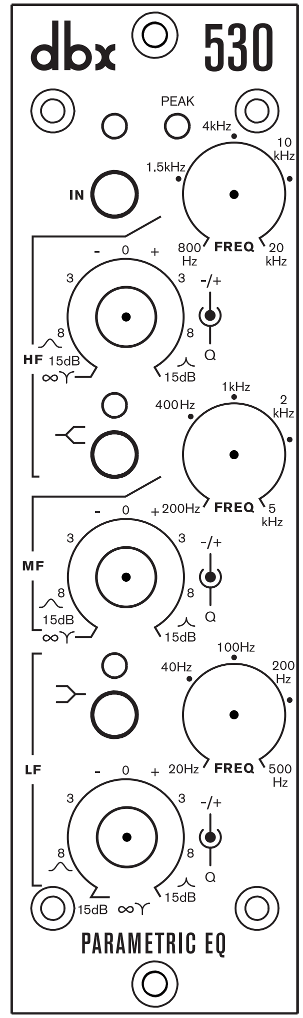

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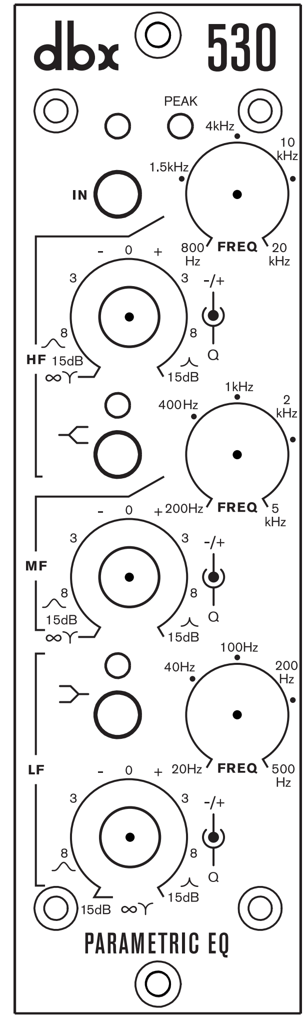

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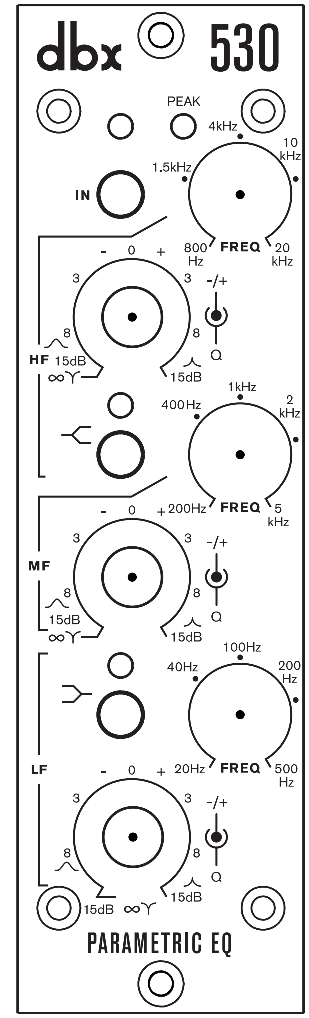

SOURCE:

NOTES:

Phone: (801) 566-8800
Website: dbxpro.com
Support: dbxpro.com/en-US/support

530 Owner's Manual
Rev A