

# 120XP

# SUBHARMONIC SYNTHESIZER

# dbx®

PROFESSIONAL PRODUCTS

## VISIONARY DESIGN

The disco boom of the 70's was fueled by the throbbing bass beat of dbx Subharmonic Synthesizers in discos around the world. During the 80's, patented dbx Subharmonic Synthesis was the secret weapon used by mobile DJ's and film and sound professionals to produce an impact unavailable from any other device—unique because the dbx process actually produces a new, Waveform Modeled™ bass note, exactly an octave below the bass in the original audio.

The dbx 120XP Subharmonic Synthesizer has been specially optimized by dbx engineers for the needs of audio professionals. Its two separate bands of bass synthesis provide the best combination of smoothness and control, and the independent Low Frequency Boost circuit is designed to get the most out of high-performance low frequency speaker systems.

Flexible system interfacing is achieved by providing main outputs which can be full range (including synthesis) or high frequency only, along with a separate subwoofer output with its own level control.

The 120XP's patented subharmonic synthesis process actually builds the synthesized waveform using the waveshape of the original bass material. Unlike other attempts at bass synthesis, the dbx process produces smooth, musical low frequencies that don't interfere with mid and high-band information, even when maximum synthesis and boost are applied. The result is a low-end punch that people really feel, even at system levels that won't destroy sound equipment or damage hearing.

## FEATURES

- Individual control for two ranges of subharmonic frequencies
  - Separate Low Frequency Boost circuit
  - Separate Subwoofer Output
  - Balanced inputs and 1/4" jacks for all connections
  - Front panel LEDs that show crossover status and synthesis activity
  - Patented circuitry ensures that mid and high frequencies are not affected
  - Built-in crossover with choice of 80Hz or 120Hz crossover point
- Enhance bass audio material for use in a variety of professional applications such as:*
- Nightclub and dance mixing
  - DJ mixing
  - Theater and Film sound
  - Music Recording
  - Live Music Performance
  - Broadcasting
  - Aerobics

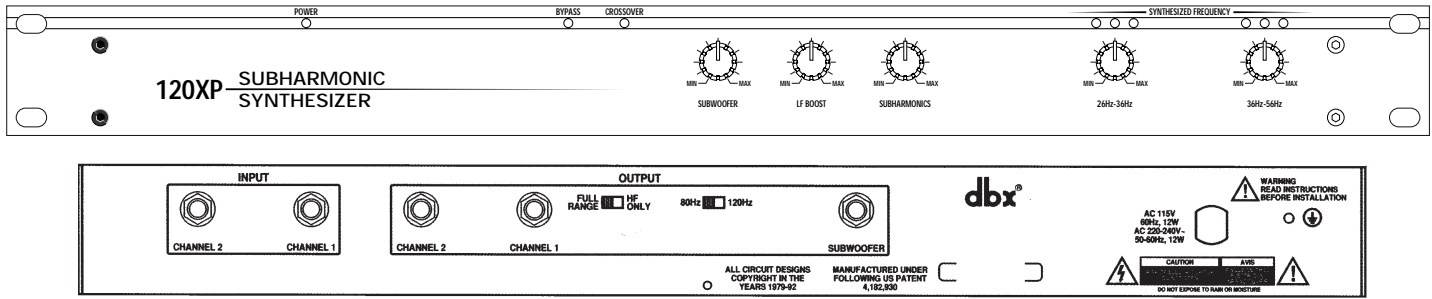
8760 S. Sandy Pkwy.  
Sandy, Utah 84070  
Phone (801) 568-7660  
Fax (801) 568-7662  
Int'l Fax (219) 462-4596  
customer@dbxpro.com  
http://www.dbxpro.com

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# 120XP

## SUBHARMONIC SYNTHESIZER



### ARCHITECTS' AND ENGINEERS' SPECIFICATIONS

The Subharmonic Synthesizer shall have a frequency response of 25Hz-20kHz  $\pm 0.5$ dB and 15Hz to 90kHz +0, -3dB. The unit shall have 1/4" phone jack electronically balanced inputs with an impedance of not less than 18.5k $\Omega$  and a maximum input level of not less than +20dBu for each of two channels. The unit shall have 1/4" phone jack outputs with an impedance of not more than 47 $\Omega$  and the maximum output level shall be not less than +20dBu into 600 $\Omega$ . The unit shall have a single 1/4" phone jack output for signal to be sent to a subwoofer. The Subharmonic Synthesizer shall have a total harmonic distortion level (no synthesis) of 0.05% and an intermodulation distortion level (IHF or SMPTE, no synthesis) of 0.05%. The equivalent input noise shall be no more than -93dBu and the output noise (either output) shall be no more than -88dBu with controls set to maximum. The unit shall be equipped with the following front-panel controls: 26-36Hz and 36-56Hz Band Synthesis Level, Subharmonics, Low Frequency Select, Crossover in/out. The unit shall have Crossover, Synthesis, Power and Bypass indicators. The dynamic range shall be not less than 113dB and the synthesis frequency range shall be 26-56Hz (from 54-110Hz input signal). The crossover shall be 12dB/octave high pass (-3dB @ 80Hz or 120Hz); 6dB/octave derived low pass, phase-coherent (unity-sum). The power requirement shall be 96-125VAC; 50/60Hz. The size of the unit shall be 1.75"x19"x6.2" (4.5cm x 48.3cm x 15.75cm) with a net weight of 4.75 lbs (2.2kg) and a shipping weight of 8 lbs (3.7kg.) The Subharmonic Synthesizer shall be a dbx 120XP.

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

**dbx** PROFESSIONAL PRODUCTS

### SPECIFICATIONS

<b>Frequency Response:</b> (no synthesis, full-range mode)	25Hz-20kHz $\pm 0.5$ dB, 15Hz-90kHz +0, -3dB	<b>Metering:</b>	Synthesis activity (3 LEDs per band) 113dB
<b>Input Impedance:</b> Balanced or Unbalanced	$\geq 18.5k\Omega$	<b>Dynamic Range:</b>	113dB
<b>Maximum Input Level:</b>	+20dBu	<b>Synthesis Frequency Range:</b>	26-56Hz (from 54-110Hz input signal)
<b>Output Impedance:</b>	47 $\Omega$	<b>Crossover:</b>	12dB/octave high pass (-3dB @ 80 Hz or 120Hz); 6dB/octave derived low pass. Phase-coherent (unity-sum)
<b>Maximum Output Level:</b>	+20dBu into 600 $\Omega$	<b>Power Requirements:</b>	96-125VAC; 50/60Hz DO Version, 180-250VAC; 50/60Hz EU Version
<b>Connector Type:</b>	1/4" TRS Phone Jack	<b>Dimensions:</b>	1.75"x19"x6.2" (4.5cm x 48.3cm x 15.75cm)
<b>THD:</b> (no synthesis, either output)	0.05%	<b>Rack Space:</b>	1 Rack Unit
<b>Intermodulation Distortion:</b> (no synthesis, either output) (IMD) IHF or SMPTE	0.05%	<b>Weight: Net/Shipping:</b>	4.75 lbs/8 lbs 2.2kg/3.7kg
<b>Equivalent Input Noise:</b>	-93dBu, unweighted		
<b>Output noise:</b> (full range output)	-88dBu, controls@max.		
<b>Front Panel Controls:</b>	26-36Hz and 36-56Hz Band Synthesis Level, Subharmonics, Low Frequency Boost, Subwoofer Output		
<b>Rear Panel Controls:</b>	Crossover Frequency Select, Crossover in/out Power, Crossover, Bypass		
<b>Indicators:</b>			

#### FOR MORE INFORMATION CONTACT:

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