

# *The LPF-100 FM Stereo Composite Low Pass Filter*



*Effectively reduces spectral noise caused by noisy STL paths, stereo generator anomalies, and aggressive processing techniques*

*Low noise means a cleaner mask - ever important in today's Digital World*

*Provides effective reduction of interference to SCAs*

*The LPF-100 FM Stereo base band low pass filter is a 10th order, linear phase electronic filter that is designed to reduce base band noise levels while not materially affecting stereo performance or modulation depth. The LPF-100 can be used when noise from studio to transmitter links, processing equipment or stereo generator anomalies interfere with SCA performance or where noise levels are high enough to induce multi path like effects in received signals. The experts will tell you that the best low pass filter is a linear phase filter that offers good step response, low ripple in the pass band and little non linear group delay in the pass band. These are essential characteristics of an FM stereo path for good stereo performance. Poor phase response results in poor stereo separation due pilot phase error. Poor amplitude balance causes cross talk between main and sub channels resulting in poor stereo separation. The LPF-100 offers minimal group delay error and good pass band amplitude response. Phase and amplitude errors are within the correction range of most modern stereo generators. Because the LPF-100 has low overshoot, it doesn't rob your station of modulation. What you get in return is reduced base band noise resulting in better SCA performance and low cross talk.*

*Minimizing noise in the stereo base band has another important benefit in today's digital broadcasting environment. Less transmitted noise from your analog transmitter means better mask performance when adding in band on channel digital broadcast carriers to an existing system. Less interaction between analog and digital signals is a plus for better digital performance.*



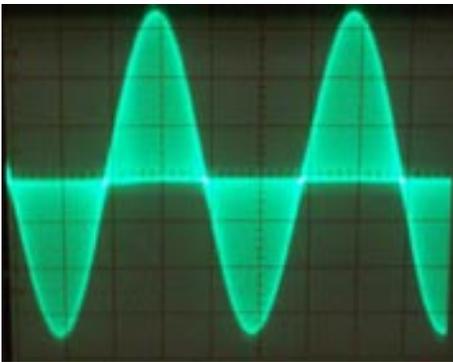
**Broadcast Devices, Inc.**

5 Crestview Avenue, Cortlandt Manor, NY 10567 Tel. (914) 737-5032 Fax (914) 736-6916

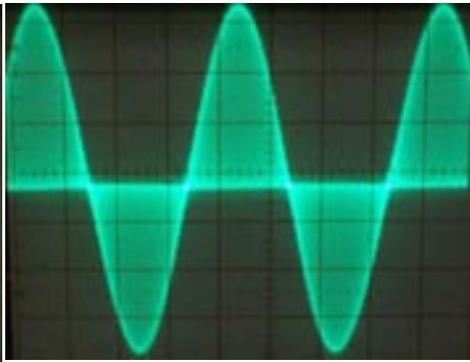
email: [Sales@Broadcast-Devices.com](mailto:Sales@Broadcast-Devices.com) Website: [www.Broadcast-Devices.com](http://www.Broadcast-Devices.com)

## Technical Specifications

<b>Input Level:</b>	<b>Composite Baseband 3.5 VPP adjustable</b>
<b>Input Impedance:</b>	<b>10Kohm or 50 ohm balanced or unbalanced</b>
<b>Output Impedance:</b>	<b>50 ohms unbalanced line driver runs open loop</b>
<b>Frequency Response:</b>	<b>10 Hertz to 40 KHz +/- 0.1 dB -1.6 dB at 50 KHz -3.0 dB at 55 KHz -12 or better dB at 67 KHz -28 or better dB at 76 KHz -50 or better dB at 100 KHz</b>
<b>Filter Settling time:</b>	<b>32 uS or better to be within 1% of input value with step input</b>
<b>Power Requirements:</b>	<b>120/240 VAC 50-60 Hz</b>
<b>Physical Size:</b>	<b>19" W X 1.75" H X 10" D EIA Rack</b>
<b>Environmental:</b>	<b>0 - 60 degrees C. Non Condensing Atmosphere</b>



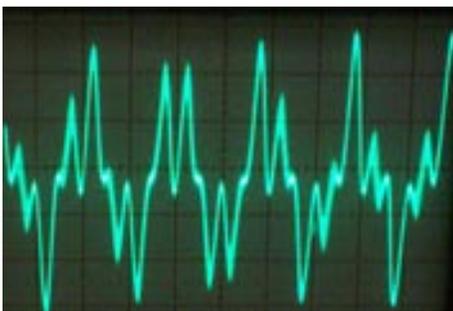
Left Only 50 Hertz - No Pilot



Left Only 500 Hertz - No Pilot



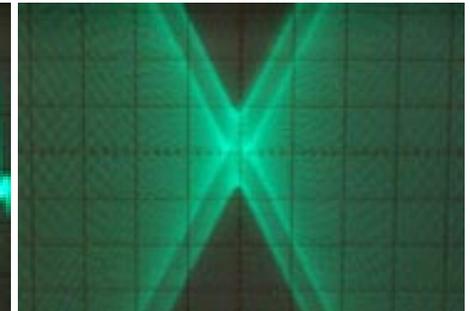
Left Only 5 KHz - No Pilot



Left Only 10 KHz - No Pilot



Left Only 15 KHz - No Pilot



L = - R 50 Hertz Pilot On

All above images captured monitoring stereo generator output with LPF-100 in line



### **Broadcast Devices, Inc.**

5 Crestview Avenue, Cortlandt Manor, NY 10567 Tel. (914) 737-5032 Fax (914) 736-6916  
email: [Sales@Broadcast-Devices.com](mailto:Sales@Broadcast-Devices.com) Website: [www.Broadcast-Devices.com](http://www.Broadcast-Devices.com)