

Equipment User Reports

# The Gear Guide

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## KIISing with the Omnia-6FM

A user report by Mike Callaghan

[Los Angeles, CA - January 2003] Frank Foti and his crew haven't been lazy in addressing the improvements Bob Orban's made to the Optimod. The latest version of the Telos Omnia, the 6FM, brings a new set of features and flexibility to FM Audio Processing.



Telos Omnia-6FM

Two display screens monitor the settings and performance. Setup is easy and intuitive, and Telos has even licensed the Dorrrough Peak Meter algorithm to help in making adjustments.

The venerable Jogwheel was retained from earlier versions, to set the unit up. Among the improvements to the design, the Omnia-6FM now has 5 bands of compression and 6 bands of limiting. Each parameter is adjustable, and while a series of presets set up some starting points, you're encouraged to experiment from there.

Unlike some processors that limit the range of controls to avoid producing 'bad audio,' the Omnia-6FM will let you get into serious trouble. However, even if you make a wrong turn, the presets will quickly get you back on safe ground.

### A Processing Education

The manual provides detailed information not only about each of the settings, but it also tells you how to combine multiple changes to obtain an overall effect. Detailed instructions explain how to interpret the different metering options, and help you to understand what's being done on a moment-by-moment basis. An important point is emphasized – make your changes in small steps and evaluate each of them over time, as opposed to just cranking away after the installation, and hoping for the best. You have the never-ending choice to make between Loudness and Quality, so it is best to read the manual and move slowly.

Many multiband processors use phase-offsets in the crossovers to provide flat response when the outputs are summed, but the Omnia uses phase linear, time aligned crossovers to retain flatness across the band. This reduces losses in phase linearity and "smearing." The result is better clarity on the air. A built-in, multi-stage phase rotator maximizes using the symmetrical limitations of FM. It can be switched out if you don't mind potentially increased distortion on certain vocals. The Omnia-6FM also includes a Schedule menu which allows for varying presets for different parts of the day.

The peak limiting and clipping algorithms will keep your modulation monitor from moving very much, but the result, off the air, is loud and full, with surprising dynamics considering the constant high level on the meter. This unit really packs a lot into 75 kHz!

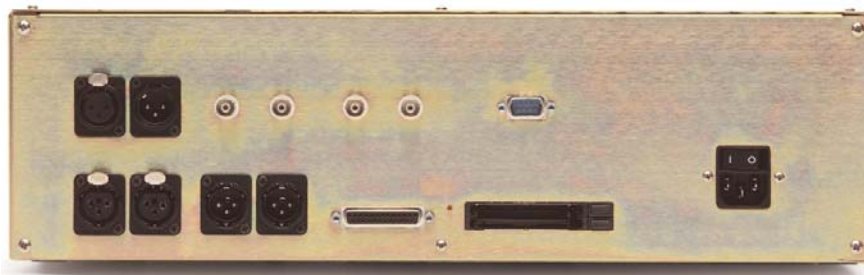
KIIS-FM in Los Angeles has been using the Omnia-6FM for just over a year, and we are very happy with the results. We did find that some CD's recorded with large amounts of inherent distortion (i.e. Creed's "My Sacrifice") could come out sounding worse than what went in, but a slight tweaking of the drive to the upper limiter bands made both input and output sound equally distorted.

### Nearly Ready for IBOC

Going IBOC will involve a second Omnia at present, the Omnia-6dab, but Telos is planning a retrofit that will also provide a HD output around the time of the NAB. It's supposed to sell for less than \$ 2,000.

Analog and AES/EBU inputs and outputs are provided. Either input will produce both styles of output. Bootup requires about 30 seconds, so some form of UPS is absolutely mandatory. The two composite outputs are individually controlled through the menus.

With its digital coding based on 96 kHz sampling and 24 bit resolution, the Omnia-6FM and its parameters can be controlled though either an RS-232 or Ethernet connection. The unit comes with a modem to provide dial-up access that fills one of two PCMCIA slots on the rear. A memory card holding the DSP code occupies the other. This can be changed to upgrade the firmware as newer and better algorithms are developed.



Omnia-6FM Backpanel

The Omnia-6FM fills three rack units itself, and as it needs ventilation both above and below, a total of five rack units of space are required. An input for an external SCA generator is provided, which mixes with the composite outputs. A 19 kHz clock output is provided if the SCA generator needs to be synced with the pilot.

The Omnia-6FM represents a solid value in maintaining quality and loudness on the air. Its inherent flexibility provides the best options in personalizing your sound to just what it takes to conquer the competition.

## Learn More About It:

Further information on the Omnia-6FM, including a series of Frequently Asked Questions, Brochures and Manuals, can be found on the Omnia website: <http://www.omniaaudio.com/o6fm/>

Mike Callaghan is the Chief Engineer for KIIS-FM, the Market Engineering Co-Manager for Clear Channel Radio Los Angeles, and a long time Southern California Radio Geek.

## Audio Processing Roster

Contact these companies for more information on additional audio processor units.

### Aphex Systems

11068 Randall St, Sun Valley, CA 91352  
Phone: 818-767-2929 Web: [www.aphex.com](http://www.aphex.com)

### Broadcast Technology

PO Box 2582, Garden City, KS 67846  
Phone: 719-688-1439 Web: [www.broadcasttech.com](http://www.broadcasttech.com)

### dBx Pro Sound

8760 South Sandy Parkway, Sandy, UT 84070  
Phone: 801-568-7680 Web: [www.dbxpro.com](http://www.dbxpro.com)

### Orban/CRL

1525 Alvarado St, San Leandro, CA 94577  
Phone: 510-351-3500 Web: [www.orban.com](http://www.orban.com)

### PreSonus Audio Electronics

7257 Florida Blvd, Baton Rouge, LA 70806  
Phone: 225-216-7887 Web: [www.presonus.com](http://www.presonus.com)

### RDL - Radio Design Labs

PO Box 1286, Carpinteria, CA 93014  
Phone: 805-684-5415 Web: [www.rdl.net](http://www.rdl.net)

### Symetrix Inc.

14926 35th Ave West, Lynnwood, WA 98037  
Phone: 425-787-3222 Web: [www.symetrixaudio.com](http://www.symetrixaudio.com)

### Telos/Omnia

2101 Superior Ave, Cleveland, OH 44114  
Phone: 216-241-7225 Web: [www.omniaaudio.com](http://www.omniaaudio.com)