



Accuphase T-100: A Superb Tuner

The Equipment: Accuphase T-100, a stereo FM/AM tuner in metal case. Dimensions: 17½ by 6 inches (front panel), 14 inches deep plus allowance for controls and connections. Price: \$700. Warranty: five years parts and labor; specifications guaranteed; includes free yearly performance check and one-way shipping costs. Manufacturer: Kenosonic Laboratory, Inc., Japan; U.S. distributor: Teac Corp. of America, P.O. Box 750, Montebello, Calif. 90640.

Comment: Behind its Clark-Kent-ish exterior, the T-100 is a super tuner. It was preceded by some advertising and performance claims that seemed extravagant, but it appears that for once the adman speaketh with unforked tongue. The T-100 meets or exceeds all of its specifications and, in some areas, may be setting records; the channel separation is the best we have ever tested.

Nobody will accuse Kenosonic of having overdesigned the front panel. It is a simple combination of a black-background slide-rule dial, brushed-chrome faceplate, and a flat, black lower panel running the width of the tuner.

There are two meters, both large for a tuner, below and toward the left end of the tuning dial, one for signal strength, and the other for channel-center indication. Centered below the tuning dial are four small but easily seen indicator lights showing whether a stereo station is being received, which of two muting thresholds is selected, and whether the unit's multiplex filter is engaged. Below the right end of the dial are four rectangular black pushbuttons for local or distant AM reception and for mono or automatic-stereo FM operation.

Behind the hinged lower front panel are a separate multipath meter, a pushbutton light switch for it, AM and FM level controls, a three-level muting switch (off, 5 microvolts, and 20 microvolts), a multiplex-filter switch, and a high/low panel light switch. In all, the T-100 is an attractive, conservative-looking tuner.

The back panel includes both fixed- and variable-output pin jacks, oscilloscope outputs, the now-familiar detector output (for future four-channel conversion), a four-voltage power selector (as long as you will have access to AC power, you can safely take this model overseas with you), binding posts for AM and FM antenna leads, and a 75-ohm coaxial jack for the latter as well.

As for performance, this is a very good tuner indeed. Monophonic IHF sensitivity is between 1.7 and 1.8 microvolts across the FM band, according to CBS test data. In stereo, the unit switches to mono operation before quieting as poor as 30 dB can be reached: The threshold is at 8 to 9 microvolts of input, for 35 to 36 dB of quieting. The 50-dB quieting point on the curves is more indicative of listenability, and the tuner reaches the 50-dB quieting point at between 4 and 5 microvolts in mono and at about 30 microvolts in stereo. These data are either exactly as Accuphase specifies or slightly better.

Interestingly, and unusually, the signal-strength meter is calibrated for both signal strength and quieting. By referring to a graph in the instruction manual a user can determine that, when the needle swings to 4 on the meter, for example, the tuner has about 450 microvolts of signal at its inputs and is capable of almost 70-dB signal-to-noise ratio at that point in stereo and nearly 80 dB in mono. Both

REPORT POLICY Equipment reports are based on laboratory measurements and controlled listening tests. Unless otherwise noted, test data and measurements are obtained by CBS Technology Center, Stamford, Connecticut, a division of Columbia Broadcasting System, Inc., one of the nation's leading research organizations. The choice of equipment to be tested rests with the editors of HIGH FIDELITY. Manufacturers are not permitted to read reports in advance of publication, and no report, or portion thereof, may be reproduced for any purpose or in any form without written permission of the publisher. All reports should be construed as applying to the specific samples tested; neither HIGH FIDELITY nor CBS Technology Center assumes responsibility for product performance or quality.

**THE THREE TUNERS that begin our reports this month
are discussed in the "supertuners" article elsewhere in this issue.**

S/N figures ignore distortion, of course, which the lab "quieting" figures do not.

As the graph shows, CBS found that total hum, noise, and distortion reaches -65.5 dB at only 1,000 microvolts' input in mono. In stereo, the unit reaches -64 dB at 1,000 microvolts. Even the best tuners often profit from the use of RF attenuators in strong-signal urban areas, and the T-100 (at least in stereo) appears to be no exception; above 1,000 microvolts of input the quieting is not quite as good, measuring -61 dB for 50,000 microvolts' input.

It should be obvious that this is a very quiet tuner, and distortion is low as well. All the figures measured at CBS Technology Center (and shown in the Additional Data table) are excellent—and are lower than specified. IM distortion is very low at 0.08%. Thus tuner noise and distortion will be just about inaudible with any run-of-the-mill signal. Much of this excellence is due to the fine suppression of 19-kHz pilot and 38-kHz subcarrier frequencies. (Note that the latter is suppressed by something more than 75 dB.) Until the availability of phase-locked-loop technology, which the Accuphase puts to good use, tuners were plagued by "high-frequency garbage" as the 19-kHz pilot beat against audio frequencies. This could lend a raspy quality to violin sound, for example, or a generally overbright quality to music. At its worst, it might add a cloud of hisslike noise to the high end. There are no such problems with the T-100, as the very low 10-kHz THD figures document.

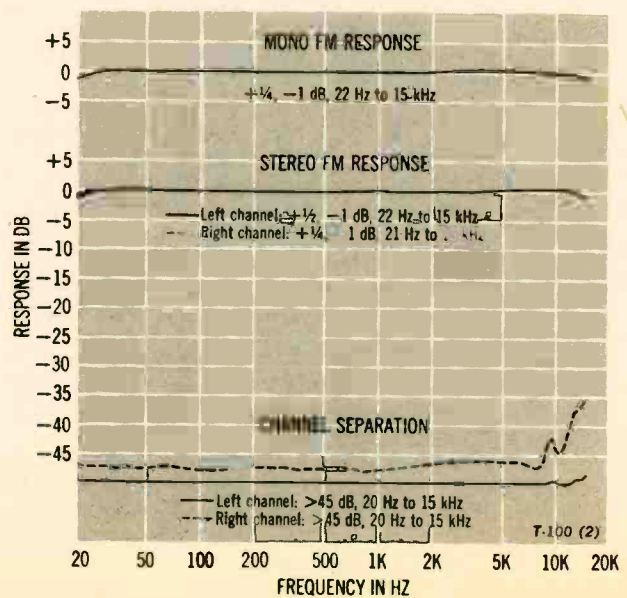
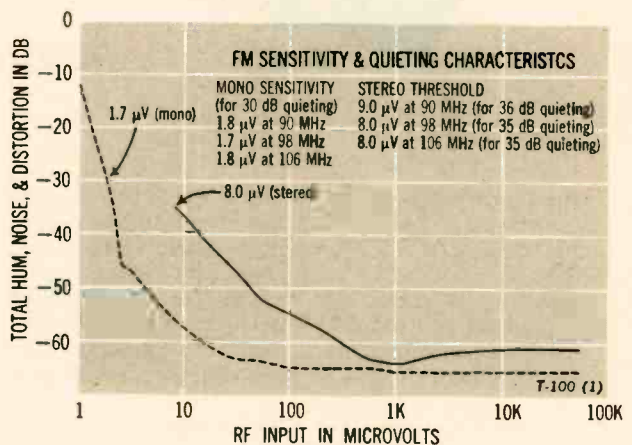
Frequency response is just about ruler flat in both mono and stereo. Separation is unqualifiedly excellent. The left-channel separation ran off the lab's strip recorder, which is calibrated to -50 dB, until it reached the tiny peak (-49½ dB) at 10 kHz; a spot check at 1 kHz confirmed the -50-dB reading, however, and we have arbitrarily drawn the curve at that level. But values at other frequencies may be even better.

Not only are the separation figures excellent, but unlike many other tuners the T-100 essentially has as much separation at low frequencies as it does in the midband. And high-frequency separation is almost as good. Separation curves normally have a drooping profile with best-case fig-

ures (often at about 1 kHz) commonly approaching those for this model; toward the frequency extremes, however, precious few tuners come even within hailing distance of this superb separation performance.

Finally a word about the multipath meter. A separate meter may seem like an extravagance, but here it is not. This multipath meter is very sensitive and extremely useful in rotating an antenna for minimum multipath—even challenging oscilloscopes for utility in this respect. And in a tuner with such fine sensitivity, quieting, and distortion characteristics, multipath may well be the limiting performance factor, particularly in urban areas. A good idea, well executed. Kenonic has done itself proud with the Accuphase T-100.

CIRCLE 141 ON READER-SERVICE CARD



Accuphase T-100 Additional Data

Capture ratio	1.5 dB		
Alternate-channel selectivity	77 dB		
S/N ratio	76 dB		
THD	Mono	L ch	R ch
80 Hz	0.05%	0.16%	0.16%
1 kHz	0.05%	0.05%	0.05%
10 kHz	0.15%	0.23%	0.35%
IM distortion	0.08%		
19-kHz pilot	-73½ dB		
38-kHz subcarrier	-75 dB or better		