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: Kenison 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 superb 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 Kenisonic 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 IFH 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...
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 overtight 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-