Akai Pro-1000

Test Report (*High Fidelity, May 1979 - diagrams from Popular Electronics, 1979*)

Akai Pro-1000 three-speed (15, 7½ , and 3¾ ips) half-track stereo open-reel tape deck with quarter-track stereo playback head and reel capacity to 10½ inches. in carrying cases. Dimensions: transport unit, 18 by 16¼ inches (front panel), 8½; inches deep plus head nest, etc.: electronics unit, 18 by 9 inches (front panel), 9½ inches deep plus controls; front case lids, 2¾ inches deep. Price: $1,995; RC-18 remote control: $57.75. Warranty: "limited," one year parts and labour. Manufacturer. Akai Electric Co., Ltd., Japan: U.S. distributor: Akai America, Ltd., 2139 E. Del Amo Blvd., Compton. Calif. 90220.

The distinction between "pro" and "semi-pro" is a little hazy in the 1000; in designing it, Akai seems not to have been thinking about professional studio use (though it may well be in demand for home studios of one sort or another) nor about amateur field recording (though it will be right at home in broadcast location work or on the road with a musical group). Yet it is something more than we normally associate with the semipro format.

With the two lids in place, the separate transport and electronics units are the picture of rugged utilitarianism; with the lids removed, the satiny brushed aluminium of the faceplates almost suggests that walnut cases are in order, but the "professional" controls (for the four-in. two-out mixer, for example) dominate those that make concessions to the home user (such as the switch to choose quarter-track playback). And a look at the back of the electronics package confirms the work-before-play priorities: The mike inputs are Cannon-style balanced three-pin jacks, though all the line connections are home-style (not phone) pin jacks. All four mixer inputs offer the choice of line, mike, or attenuated-mike (-20 dB) modes; only inputs 2 and 3 are fitted with pan pots, while 1 and 4 feed the left and right channels, respectively.

An interesting feature of the electronics' back panel is a pair of output jacks from the mixer section so that it can be used independently with another deck. There also is a full set of recording and playback jacks for interconnection with a noise-reduction system (Dolby, DBX. or whatever) plus a by- pass switch. We used the deck without noise reduction; we also passed up a fun-function accessory remote control that plugs into a multipin jack on the transport. Also out of the ordinary are the tape adjustments: a pair of small knobs that adjust bias in each channel (using the appropriate mode and calibration scales on the meters) and another that tweaks recording equalization above about 3 kHz (with a maximum total adjustment range of about 3 dB at 7.5 kHz and 6 dB at 12 kHz).

These controls could be "tuned" with a pink-noise generator and so on; the manual makes no mention of such procedures, relying Instead on a simple table of settings for popular tape types. As usual with imported products, tapes from American producers (except 3M) are ignored. For this and other reasons, we wish that the manual had been produced here. Though its scope is more comprehensive and its English much more comprehensible than in most Japanese manuals, the deck's complexities cry out for a yet higher order of communication. Some users doubtless will see Akai's almost total avoidance of American terms of measure as a case in point. Indeed, in most instances reels are identified without even the metric units, simply as Size 17 (17 centimetres, or 7 inches) or Size 26 (the 10½ -inch NAB size). Their sensibilities may continue to take

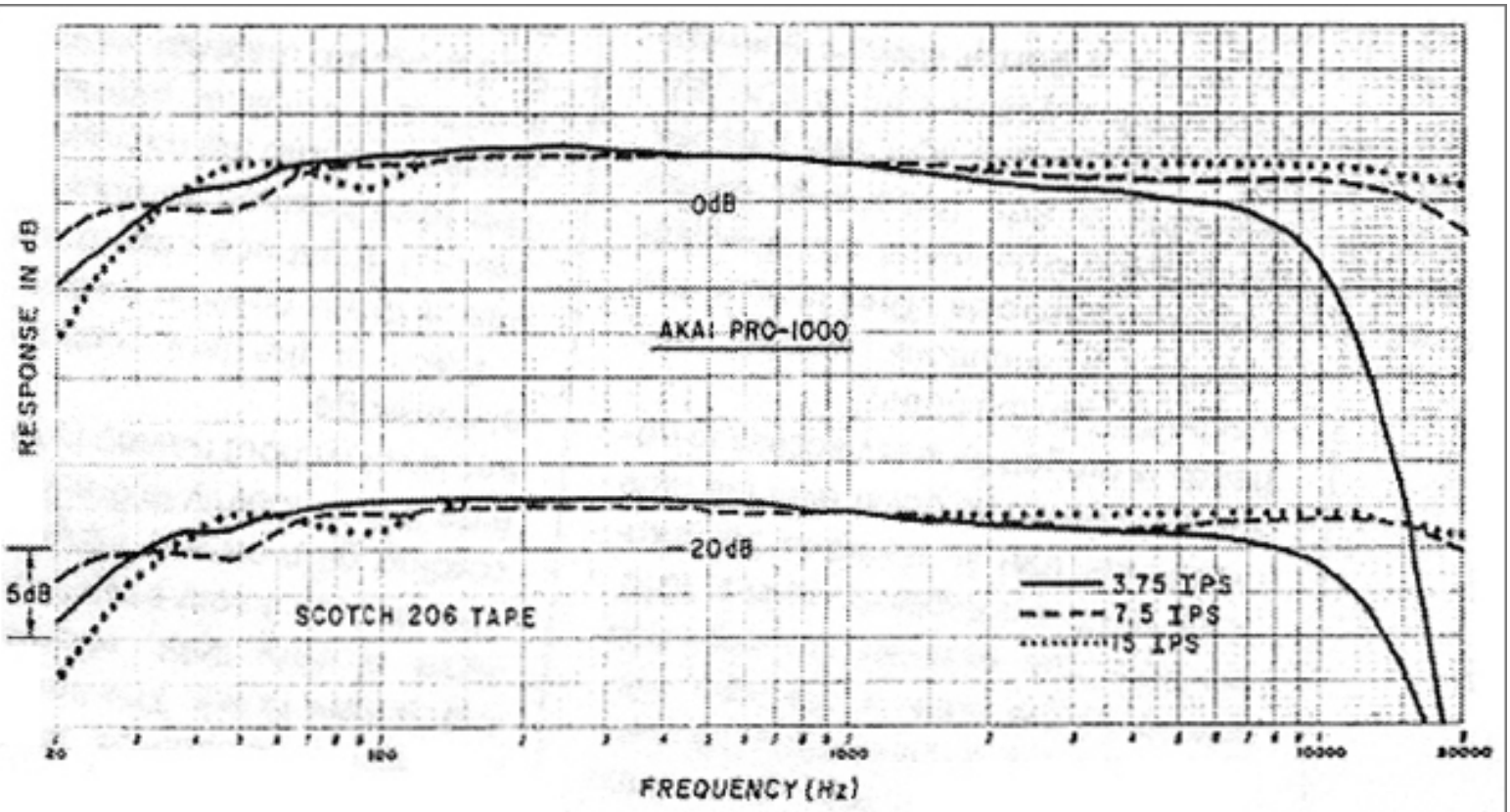
offence at the markings, but even the most doggedly anti-metric among us should assimilate the "new" designations soon enough.

The playback metering works exceptionally well. It responds to the output-level controls, which are independent in the two channels. Since both have centre detents at the "normal" position, they can be used as a reference for actual recorded levels. But when these controls are turned up or down, the meters will continue to monitor output level. If a running check on recorded level is needed in playback, the controls can be left at the detents and the listening or dubbing level adjusted elsewhere in the system. They do not control the output of the source feed through, incidentally: just the output from the playback heads. Also a nice detail is the outer-ring friction "stops" by which maximum rotation can be preset on the mixer knobs. The friction clutching allows you to twist the knob past this maximum if you want to, but with normal handling the stop is quite positive,

Among the nice touches on the transport are the CUE. button, which allows monitoring from a hand-rocked tape for editing, and the PAUSE, which delivers marginally 'faster start-up than the regular PLAY button. Both are competitive in quickness with the start-up on many cassette decks (thanks, in part, to the dual-capstan drive, no doubt), though the far greater mass of open-reel systems probably always will give the cassette format a significant edge for so-called electronic editing. Physical splicing is, of course, far easier with open reels. The Pro. 1000 aids the process with a flip-up head cover for maximum visibility of and access to the heads.

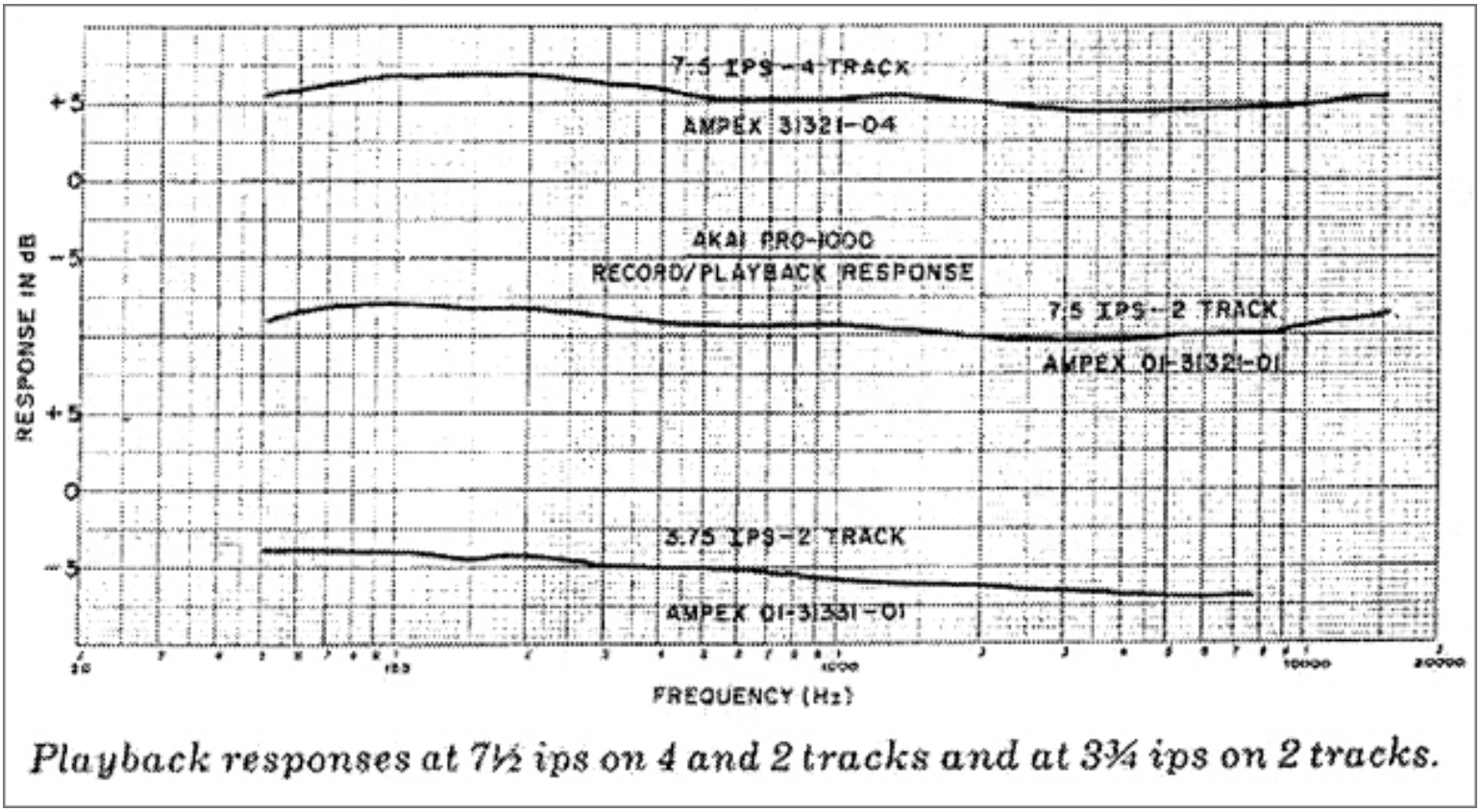
There are four stereo heads: from the left. quarter-track play-back. half-track erase, half-track recording, and half-track playback. (Unlike most decks-pro or home-of a decade ago. it has no provision for independent operation of the two channels in any mode: mono recordings must perforce be put on both tracks of the stereo pair, using up as much tape as stereo recordings of the same speed) Operation is, mechanically and electrically, very quiet. The open reel format's much greater headroom above the reference 0 VU gives about 10 to 15 dB more dynamic range (depending on the tape) than cassette decks of comparable S/'N ratio figures, and even with the tape running the sounds emitted by the transport normally are swamped by ambient room noise within a few feet of the deck.

Response, measured with Scotch 206 tape for the record/play curves, is more than adequately flat in all speeds and about par in band pass. Speed accuracy is well controlled at 3¾ and 7½ ips, though it is about 1% (our arbitrary dividing line between excellent and good) at the top speed. The latter, however, exhibits the best wow measurements; the two slower speeds are, again, merely good.



Frequency responses at 0 and −20 dB for Scotch 206 tape at three speeds.

Playback quality at all three speeds and with either head delivers audibly fine reproduction within the limitations of the chosen format. (Remember that half track stereo intrinsically offers about 3 dB more dynamic range than quarter-track stereo-all other things, as they say. being equal) With average-quality source material, both 7½ and 15 ips offer ear-perfect replication; the slowest speed, predictably, introduces some audible hiss, but the subtle tradeoffs of the higher speeds are unappreciable without super quality input signals, if then.



Playback responses at 7½ ips on 4 and 2 tracks and at 3¾ ips on 2 tracks.

The bias/EQ adjustments and metering options are genuine aids in optimising recorded quality, though the speed with which the meters must move over the long scale (-40 to + 5dB) in the peak mode makes their action difficult for the eye to follow at first. Our initial impression was that slower decay would help in this mode; perhaps it would, but in only a few hours of use we learned to cope quite well with the hair-trigger needle and eventually abandoned the relative sluggishness of the conventional VU action for most purposes.

Viewed among the many open-reel decks that we have considered in these pages over the years, the Pro 1000 has two capabilities that particularly impressed us: the ease with which splice editing can be done on it, and the degree to which the transport-with its dual capstans and dual tension arms- tames the problems of playing very old tapes that are no longer truly flat. These may seem like esoteric problems to some users, but the deck's success with them is, to us, an index of good intrinsic design. They are, moreover, tests that many otherwise good home or semipro decks frequently flunk Response and distortion numbers (and the Akai's are good) are by no means the end of the story; in overall design. Akai has, in our opinion, thought through the problems and priorities of this genre to a very satisfactory solution.