

AUDIO UPDATE

Some thoughts on predicting the audio future



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BEFORE WE LOOK AHEAD AT THE FUTURE of audio, let's finish up the backward look that we began in last month's column.

By 1959 a new type of component—the tuner-amplifier—had appeared and was gaining popularity; it would be several years before it was called a "receiver." Transistorized equipment also began to appear at that time. Audiophiles incautious enough to invest in the new technology found themselves with tuners having front-end overload problems and low sensitivity, and amplifiers that suffered from crossover distortion, overload, and other repeated failures.

Although a few early starters among the manufacturers had dropped out, the total number of audio manufacturers had grown significantly over a 10-year period. And, in fact, some of them were beginning to make model changes every couple of years.

The stereo sixties

I shouldn't leave the 1950's without acknowledging the introduction of the first acoustic-suspension speaker in 1955. The development by Edgar Villchur of a speaker system with remarkable bass and compact dimensions would ultimately dovetail neatly with stereo's need for two speakers. In the 1960's, the company he founded—Acoustic Research—managed to take over a third of the speaker market with various models that they were producing.

In 1963 Philips introduced their Compact Cassette system. I don't think anybody (including Philips) would have predicted that the



FIG. 1

book-size, low-fi portable unit introduced as a "sound camera" 25 years ago would one day evolve into a product that at its best would provide performance equivalent to that heard from the finest LP's—and that would virtually wipe out the home open-reel tape machine.

In 1967 the first Dolby-A mastered discs appeared. Several years later, Advent incorporated a heavily modified version of the studio A system into a cassette machine. Referred to as the B system, it ultimately became a necessary part of virtually every cassette machine. But it didn't happen instantly or easily. Ray Dolby spent years in licensing negotiations with the Japanese (and Philips, who weren't all that sure that Dolby encoding

didn't circumvent the compatibility requirement in the Philips licensing agreement). Philips ultimately gave tacit approval, and one by one the Japanese signed up.

By now I've reached a time period probably familiar to most of my readers—and I'm running out of space. One final thought: In the summer of 1970 I wrote a prophetically titled article "The Four-Channel Follies." A year later, when I followed up with "The Four-Channel Follies: Act 2", I could see the handwriting on the wall—all four of them. Quadraphonics was killed by a combination of inept promotion and marketing, the presence of three competing incompatible systems, and off-target engineering. However, when writing about the death of quad in early 1978, I predicted that multi-channel sound in some format would one day reappear. It appears that that day is now here with components such as the new Dolby Stereo sound-track processors and sound-field synthesizers such as Yamaha's DSP-1 digital processor. I'm looking forward to reconverting my system to the new formats.

Into the future

In the years that I've been playing audio oracle, my crystal ball, shown in Fig. 1, has usually provided relatively clear reception, albeit with an occasional glitch to remind me that marketplace prediction is a tricky business. When I call a wrong turn as a journalist, I'm embarrassed; but when a manufacturer misjudges the potential demand for a prod-

uct, millions of dollars and many people's jobs may be at risk.

Why are the twists and turns of the audio marketplace so hard to anticipate even by experienced marketeers? Probably because the public's reaction to a particular new format or product is based on a difficult-to-sort-out mix of elements. Those include satisfaction of a real or imagined need, personal taste, and what I call the "oh-wow!" factor. And we shouldn't overlook the importance of effective promotion and marketing know-how.

Is it possible to tell in advance what will be *hot* and what will *not*? Not infallibly; but here are some thoughts and case histories that should provide insights into the social, psychological, economic, and technical factors that determine whether a particular audio product will fly—or never get off the ground.

Taste factors

Some audio features, such as product cosmetics, are essentially a matter of taste. About 10 years ago, Yamaha bucked then-current design trends by producing a line of receivers with very clean, almost sterile looking, matte-silver

front panels. When they asked my opinion of their new look, I said that I liked it, but that I didn't think it would be attractive to an audio public conditioned to visual pizzazz. Not only was I wrong, but Yamaha's cosmetic approach established a styling trend that lasted for years. Today, black is considered beautiful. Why? Your guess is as good as mine.

Technological trends

Can an inside knowledge of upcoming technical developments be helpful in predicting product trends? Sometimes, but not always. For example: Perhaps a dozen years ago I heard about Hall-effect magnetic-sensing heads. (Unlike conventional tape heads that depend on tape movement to generate a signal, Hall-effect heads produce a signal proportional to a stationary magnetic field.) At the time, I wrote a short piece extolling the virtues of Hall-effect heads for wide-range slow-speed recording, and predicted that they would shortly be found in a large variety of home recorders. In truth, Hall-effect heads did become popular, but only for credit-card readers and similar non-audio applications. I've never

pursued the matter to find out where I went wrong, but I certainly proved to myself that a *little* technical knowledge can be terribly misleading.

On the other hand, I correctly predicted that the well-publicized and well-promoted Elcassette-tape format would fail. The projected audience were those who found open-reel tapes too inconvenient and regular cassettes too low in fidelity. It was clear to me—if not to the manufacturers—that the targeted market was just too small. The Elcassette turned out to be a very expensive fiasco for a number of major Japanese recorder and tape manufacturers.

At the press conference where Sony introduced their *Walkman* format, I judged it an instant winner based on the excited "Oh wow!" reactions of the normally blase magazine editors that were present. And it didn't hurt the *Walkman's* sales that at about the time it was introduced, pre-recorded cassettes were on the verge of outselling LP's.

The Japanese influence

There are several factors, aside from the particular technologies involved, that make it difficult to

redict the success or failure of Japanese audio innovations. For example, their marketing plans in the U.S. are sometimes inappropriately based on early enthusiastic reactions in Japan. And when things do not go according to plan, Japanese companies will usually persist in their marketing efforts long after the usual U.S. company would have thrown in the towel. Sources of capital in Japan are much more supportive than in the U.S., and the tendency is to invest for the long haul rather than fast return for stockholders. In that regard, it's instructive to contrast RCA's videodisc pullout with JVC's continuing support of their VHD disc format in Japan and Pioneer's ongoing backing of the LaserDisc both here and in Japan.

The Japanese tendency to support a format or product, despite disappointing initial sales, sometimes appears to be based on ego or face-saving, and at other times is the direct result of their enlightened business/social philosophy. For example, when times are tough, the upper executives of major Japanese companies are likely to take a salary cut and reduce profit margins—sometimes to the break-even level or below—in order to avoid layoffs and keep the factory wheels turning. How in-American can you get!

The CD situation

During a series of annual trips to Japan, I had an opportunity to closely monitor the technical development of the compact-disc format from its very beginnings. I was terribly impressed both by the complexity of the technology and by the sonic potential. But I felt that the format was inherently too expensive to be widely popular and that the price of CD units would not readily come down because of the astronomical development costs.

I guessed that perhaps 50,000 machines would be snapped up by those well-heeled first-on-the-block U.S. buyers who will go for any new and apparently improved format. But after the supply caught up with the initial demand, I expected sales to plummet—and then take considerable time to recover. I was right about the

post-50,000 depression, but I was very wrong about the recovery time. I forgot that Japanese companies are willing to go for the long haul, operating from the supportive ground rules previously mentioned.

As soon as player sales began to fall, so did the prices. And obviously when a CD player is available for a price that's the same or lower than that of a reasonable turntable and phono cartridge, then a new and larger group of mainstream audio consumers will become instantly interested in the product. However, after that new group is saturated, and the initial 50,000 have traded in their first players for new and improved high-end models, I see another slowdown in CD-player sales, perhaps occurring as you read this. CD sales are still being moderated by the relatively high cost of discs, and the hard-to-face fact that the general public is not terribly concerned with ultimate sonic quality.

Consider this: Several years ago, prerecorded-cassette sales for the first time exceeded those of LP's, even though most LP's had better fidelity and lower noise than cassettes. To me that meant that the major concern of the mass consumers of music were convenience and durability, *not* fidelity. If I'm right, that will certainly have bearing on the progress of the CD format. Automobile CD players won't make it since they are less convenient than cassettes, and the sonic virtues of a CD will almost all be obscured by road noise. In fact, the wide dynamic range of CD is an annoyance rather than an advantage in a car. (Soft passages will be lost in the road noise unless the volume is turned up, in which case the loud passages will be *much* too loud.) If I'm right about the importance of the convenience factor, cassettes will continue to win out for car use.

The DAT dilemma

Here's a chance to really stick my neck out. It seems to me that the new Digital Audio Tape (DAT) format is a technological tour-de-force that is the answer to a question no one has asked. When DAT finally comes to market, I expect

that—at best—it will go through the same 50,000 sales and subsequent plummet experienced by CD's. But unlike CD's, I don't expect a strong recovery even if the price comes down, simply because the mainstream audio consumers won't be sufficiently interested to stimulate demand.

And, if I'm right about convenience being a stronger buying motivation for the mass market than fidelity, DAT has no advantage over cassettes except its near-instant program access and a somewhat longer playing time. Offsetting that small advantage is the fact that prerecorded DAT tapes in automobile use will suffer from the same excessive dynamics as CD's, unless the player manufacturers provide built-in switchable compression circuits.

Today it's possible to copy a CD with sufficient fidelity on a top-model cassette deck that even an audiophile would have difficulty telling the dub from the original during playback. Given that fact, I think that it's going to be very difficult to convince even sound-conscious consumers that the extra cost of the DAT format buys advantages they simply *must* have. It seems to me that the major accomplishment of the Japanese in introducing the DAT format has been to confuse the high-end CD and cassette marketplace. In light of all that, the current brouhaha about the installation of copy-prevention circuits in DAT machines is pure silliness.

A year from now, or less, we will all know to what extent I'm right, or wrong.