Look and Listen

News, comment, and opinion from the world of home-entertainment electronics

By C. P. GILMORE

The sound of fun

A few weeks ago I received an invitation to see and operate a new electronic synthesizer called the Synthi AK, built by Electronic Music Studios, a British firm. The music synthesizer (pictured above) is basically a complicated combination of oscillators, wave shapers, switches, keyboards, and other parts that can produce any kind of sound you can imagine. All packed in one compact suitcase (the picture shows two identical units).

The device, at a hefty $1,000, is still far cheaper than anything else available that does anywhere near the same job. The company originally designed the synthesizer for professional users—electronic-music composers and jazz musicians. But oddly enough it's catching on with hi-fi buffs who have apparently run out of other equipment to buy. So a team has been traveling around the U.S. talking hi-fi stores into stocking the synthesizer.

Ordinarily, I wouldn't predict brisk sales for such a far-out item, particularly at that price. But after fooling with a synthesizer for a half hour, I'm not so sure. Coaxing sounds from this electronic-music machine is absolutely fascinating. If your local hi-fi store has one, by all means try it.

High fidelity—a new definition?

The music business is changing. And high-fidelity equipment changes with it. Yet the more it changes, the more it stays the same. Let me explain.

When I built my first high-fidelity amplifier in 1946, the game in speakers was efficiency. Low-distortion power was expensive, and the speaker had to make the most of the limited electrical energy available.

But as time passed, amplifiers were developed that could crank out lots of clean audio. That led to the Age of the Acoustic-Suspension Loudspeaker. The new speaker produced really low bass and smooth frequency response from a small box. It was inefficient, but with the powerful new amplifiers that didn't matter much.

But a few holdouts continued to preach the virtues of the high-efficiency speaker, including one of the oldest and most respected names in speaker making, James B. Lansing.

And that brings me to the point of this story. I recently spent a day as the guest of JBL at the Record Plant, a magnificently equipped studio in midtown Manhattan where many of today's top hit records are produced by a fantastically complex process.

During the day, I witnessed the evolution of Don McLean's new record, "American Pie." First I heard the original two sound tracks—one McLean's voice, the other his guitar. They had been taped with two mikes, on separate tracks of a 24-track recorder.

Later groups of musicians had been brought into the studio and, listening to the guitar and voice tracks on headphones, had played along in sync and recorded drum, piano, string, horn, and other parts on other tape tracks.

Then the real work began. The recording engineer and the producer of the record began playing back the tracks one by one. With a 24-channel control board, they shaped each instrumental sound—for instance, filtering out highs from the bass drum and lows from the snare to increase their sense of separation. Adding echo to the tambourine. Brightening the guitar sound.

With a marvelous device called a pan pot, they moved each instrument from left to right until they found just the right spot for it in the stereo perspective. Special tricks were added to perk up aural interest even more: The piano was mixed so that when the pianist runs up the keyboard and back down, the sound zooms from left to right and back. This is typical of how records are made these days.

All of this may not seem to have much to do with speaker efficiency, but it does. In fact, said Larry Phillips of JBL, this blend of art and technology leads to an entirely new definition of high fidelity. (If you sense a commercial on the way, you're right.)

In the early days, the primary goal of high fidelity was to reproduce the original sound of a performance as faithfully as possible. And to the high-fidelity industry, the only music worth taking note of was music performed by a symphony orchestra, opera company, string quartet, or the like.

The acoustic-suspension speaker was well suited to recreating this classical music in the living room. But today, only three percent of the U.S. record business is in classical music. Most of the rest of the money spent goes for records of the sort I saw being assembled.

The product produced is the music of visceral involvement. Physiological tests show that sounds of the type produced by guitars, bass drums, and other instruments at commonly used playback levels produce sound-pressure levels that dilate capillaries, increase heart rate, and have other physical effects. Listening to such music is a *feeling* as well as *hearing* experience.

Mr. Phillips claims that low-efficiency—and particularly air-suspension—speakers simply can't produce either the transient response or the sound levels to satisfy these requirements. And then he made this powerful claim: According to Mr. Phillips, every major recording studio in the world except one uses JBL speakers as monitors. That one is Columbia. And, he says, Columbia is now switching to JBL.

That leads to the new definition of high fidelity now being promoted by JBL. The sound of 97 percent of currently produced records never existed in nature. That sound, as shown so clearly in the demonstration I witnessed, is as much a manufactured product as the speaker over which it is played.

The only "original sound" was the one shaped on the control-room loudspeakers—not the collection of actual sounds heard in the studio. So the goal of playback equipment is not to reproduce the original sound of the instruments, but to reproduce the sound heard on the control-room speakers.

The argument has a large element of internal logic. And JBL is now beginning an aggressive advertising campaign to sell this story. It will be some time before its full effect can be judged. But it is at least possible that we will see a strong new trend in the high-fidelity field—back to high-efficiency speakers.

As I said, the more things change, the more they remain the same.

Four-channel progress?

The big question about four-channel sound has been this: Can we develop a standard matrix system, or will there be a long, bloody battle that will confuse prospective purchasers and set back the whole four-channel movement?

A short time ago, I began detecting clues that cooperation might be near. Instead of harping on the differences among various matrixes, I heard several company spokesmen emphasize similarities instead. The general message: Most matrix decoders are more alike than different; most are largely compatible. The one exception is the relatively incompatible CBS system.

Now, on top of all this friendly talk comes a new development. Larry LeKashman, president of Electro-Voice, has announced a new super decoder that he says will automatically decode any

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Four-function unit adds, subtracts, multiplies, and divides. At right, a wooden mockup. Major components include a 40-pin, two-chip ceramic package, an eight-digit liquid-crystal display, and a keyboard with associated printed-circuit board.

Look—A $100 Mini-Calculator!

A pushbutton bombshell is scheduled to explode this month: a compact, fully automatic electronic calculator priced around $100. The 2¾-by-⅞-by-3½-inch, eight-ounce calculator should be the first "personal-use" unit priced low enough to tap the huge market of students, salesmen, technicians, housewives, and income-tax payers. To date, calculators with similar capabilities have been discounted to about $200 [PS, June '71, p. 74].

At Ragen Precision Industries (9 Porete Ave., North Arlington, N.J. 07032) two months ago, I held the calculator's electronics in my hand; some components were still being engineered for the production line. But RPI's president, I. I. Lopata, was confident that announced deliveries of 20,000 calculators to Alexander's, a New York department-store chain, could begin in January.

The 7/32-by-5/32-inch liquid-crystal readouts [PS, Oct. '71, p. 73] will show the first eight significant digits in the answer, with the floating decimal point automatically placed. Later models may have a switch to display eight additional digits—separately—which the 0.2-inch-square, large-scale-integration chips compute anyway.

How do they shrivel both size and price? RPI's semiconductor division will make both the displays and complementary metal-oxide semiconductor (C/MOS) chips. This combination needs only a minute trickle of current (10 micro-amps), so the calculator can operate one year on two tiny, specially designed six-volt batteries—the only major component not made by Ragen. You'll know it's time for new batteries when you push the CLEAR key and don't get all zeros. Assembling the parts will apparently be a simple operation. This should be the first application of C/MOS for a consumer product.—*J. R. Free*

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kind of program material, *including* CBS four-channel discs. An integrated-circuit chip will soon be available to manufacturers so they can build the new circuit into their equipment.

Hard to predict the impact of this announcement, but it just may end the compatibility squabble for good.

On the record

I recently received six cassettes from the Musical Heritage Society, and they are a pleasure to listen to. Good sound, well recorded on premium TDK SD tape. Performances by various European soloists, conductors, and orchestras. All Dolbyized except the Beethoven, and it makes a big difference.

The recordings I heard: Beethoven's Symphonies 8 and 9 (MHC 2020, 2021); Haydn's Symphonies 103 and 104 (MHC 2140); four Vivaldi Concerti (MHC 2036); an album of lute and guitar music (MHC 2023); and a cassette called "History of Spanish Music in Sound" (MHC 2024), a collection of lovely and unusual vocal and instrumental songs.

Other cassettes this month—

● JANACEK: *Sinfonietta, Taras Bulba.* Bavarian Radio Symphony, Rafael Kubelik, cond. DGG 3300 104.

Spirited performance, fine sound.

● RESPIGHI: *The Fountains of Rome. The Pines of Rome.* Philadelphia Orchestra, Eugene Ormandy, cond. Columbia MT 30829 (Dolbyized).

Columbia is now releasing all cassettes in Dolbyized form, and it is a welcome change. Sympathetic readings by Ormandy; recorded sound big and rich and right for these lush scores.

● HOLST: *The Planets.* London Philharmonic, Bernard Herrmann, cond. London/Ampex M94049.

Lots of pyrotechnics to show off your rig in this flashy, dramatic score.

● *Mantovani in Concert.* London/Ampex M57174 (Dolbyized).

Vintage lush Mantovani sound; splendid, clean recording.

And an assortment of new discs, reviewed by Arthur Fisher—

● J. STRAUSS: *Waltzes, Polkas, Marches.* Berlin Philharmonic, Herbert von Karajan, cond. DGG 2530 027.

A virtuoso conductor and orchestra radiating so much Viennese *gemütlichkeit* you'll have to mop the whipped cream out of the grooves. Solid sound.

● SCRIABIN: *Poem of Ecstasy*; TCHAIKOVSKY: *Romeo and Juliet.* Boston Symphony, Claudio Abbado, cond. DGG 2530 137.

Soul music—Russian soul, that is, and not everyone's cup of *tchai.* Stunning sound, impassioned performances.

● G. P. TELEMANN, G. TORELLI, L. MOZART, F. J. HAYDN: *Trumpet Concerti.* Pierre Thibaud, trumpet; Bamberg Symphony, Otto Gerdes, cond. DGG 2530 138.

Beautiful music, and a new standard for trumpet recordings: Sonic and musical balance between orchestra and soloist is first-rate. Thibaud is spendid, but some may find his lush playing too Harry Jamesian in the baroque works. PS