

Radio- Electronics

**BUILD YOUR OWN
SATELLITE TV RECEIVER**

\$1.25 JUNE 1982

Build this
STEREO IMAGE EXPANDER
for concert hall effects

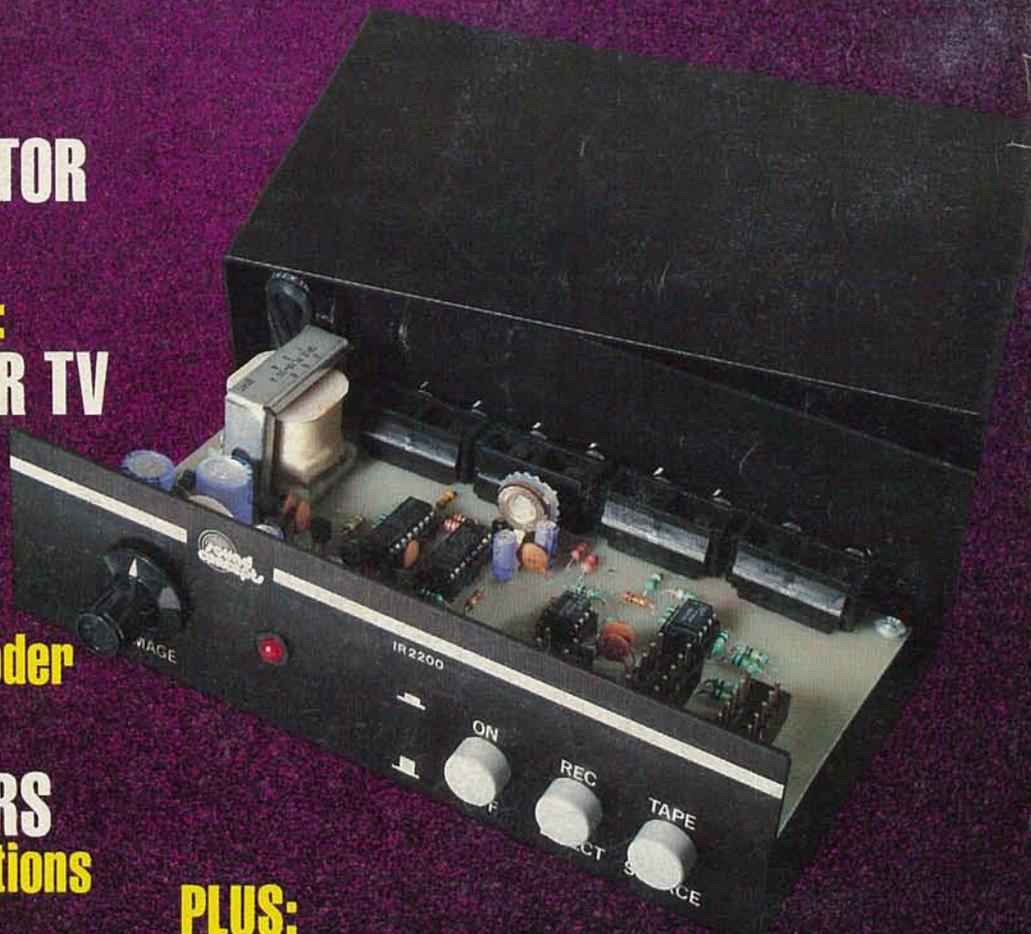
How to
DESIGN ANALOG CIRCUITS
using diodes

Build a
POCKET CALIBRATOR
for volts and ohms

Technology overseas:
STEREO AUDIO FOR TV
New German system

Build a
GATED IF AMP
for your pay-TV decoder

All about
PULSE GENERATORS
features and applications



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- ★ Communications Corner
- ★ Service Clinic
- ★ New Idea
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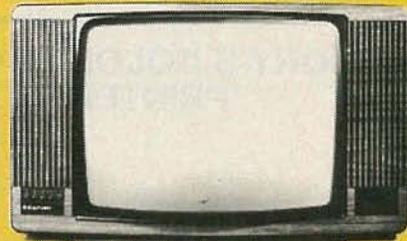
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ON THE COVER

A lot has been written recently about "sonic imagers." Those devices modify the sound reproduced by your stereo system so that it appears to come from outside of, behind, and even in front of your two speakers—in fact, the speakers almost seem to disappear. To find out how you can build your own stereo image expander for under \$100, turn to page 45.



STEREO AND BILINGUAL programs are regularly broadcast on Japanese and German TV. The German system uses a technique quite different from the former, and it may be better. Learn how it works, starting on page 58.



HOW ACCURATE is your test equipment? You can check out volt- and ohmmeters—as well as oscilloscopes—with the easy-to-build pocket-size calibrator described, beginning on page 49.

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VIDEO ELECTRONICS

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CONTRIBUTING EDITOR



SONY'S COLOR PRINTER

Sony dropped the other shoe in its crusade for electronic still photography by showing its "Mavigraph" color printer. That color printer is intended to be a companion to the Mavica magnetic-disc still camera Sony demonstrated for the first time last year. Mavica stores 50 pictures in video form on a tiny disc for playback through a TV set. The Mavigraph home printer uses a heat process to make color prints from the magnetic disc by using special dye-transfer sheets. Although a commercial version will make larger prints, the home Mavigraph will provide 3x4-inch prints, taking five minutes each to make at a cost of about 50 cents each for materials. Sony estimates the Mavigraph printer will cost \$600 to \$700 when it is introduced; that is tentatively scheduled for 1983.

VIDEO DISC SPINNING

They may not be spinning the way they're supposed to, but videodiscs are in a mad whirl following two major events reported in this column in the June 1982 issue of **Radio-Electronics**. The first was the dropout of IBM and MCA from the optical-disc race, leaving Pioneer and North American Philips as the LV format's virtually exclusive managers. The second event was RCA's reduction of \$150 in the suggested list price of its new CED player model to \$349.95, with the identical former model selling at \$299.95 and very often below.

Combined with the recent and not notably successful Japan-market debut of the laser optical system, what effect will those developments have on the as-yet-unintroduced Japanese grooveless capacitance VHD system, scheduled for introduction here at midyear, and earlier on the Japanese market? The initial signs are that they're close to devastating. VHD was designed as a sort of middle-ground system, with many of the special effects of the optical technique and a price closer to CED. But that design was based on two assumptions: (1) A highly successful market for special-effects discs, and (2) CED players selling at around the \$500 level. Those assumptions have not been born out.

JVC, the originator of the VHD system, announced the "indefinite postponement" of its Japan-market debut, blaming "stagnant consumer demand" and "the sluggish market situation." Earlier, JVC's parent Matsushita Electric (Panasonic and Quasar in the U.S.) presumably had decided to delay manufacture of VHD players. U.S. introduction of the system had been planned shortly after midyear by General Electric, Matsushita, Quasar, and Sharp. Now it seems likely that at the very least there'll be a relatively long postponement of marketing.

SPACE WARS

Videogame wars may be fun, but they're also dead serious, as a recent federal appeals court ruling showed. The appeals court in Chicago, in effect, ordered an injunction on sales of the Odyssey videogame cartridge, K.C. Munchkin, on the grounds that it might infringe on Atari's popular Pac-Man. North American Philips Consumer Electronics notified its dealers that it won't accept any more orders for Munchkin, presumably at least until the Supreme Court rules on the injunction, or the actual copyright-infringement trial is completed.

R-E