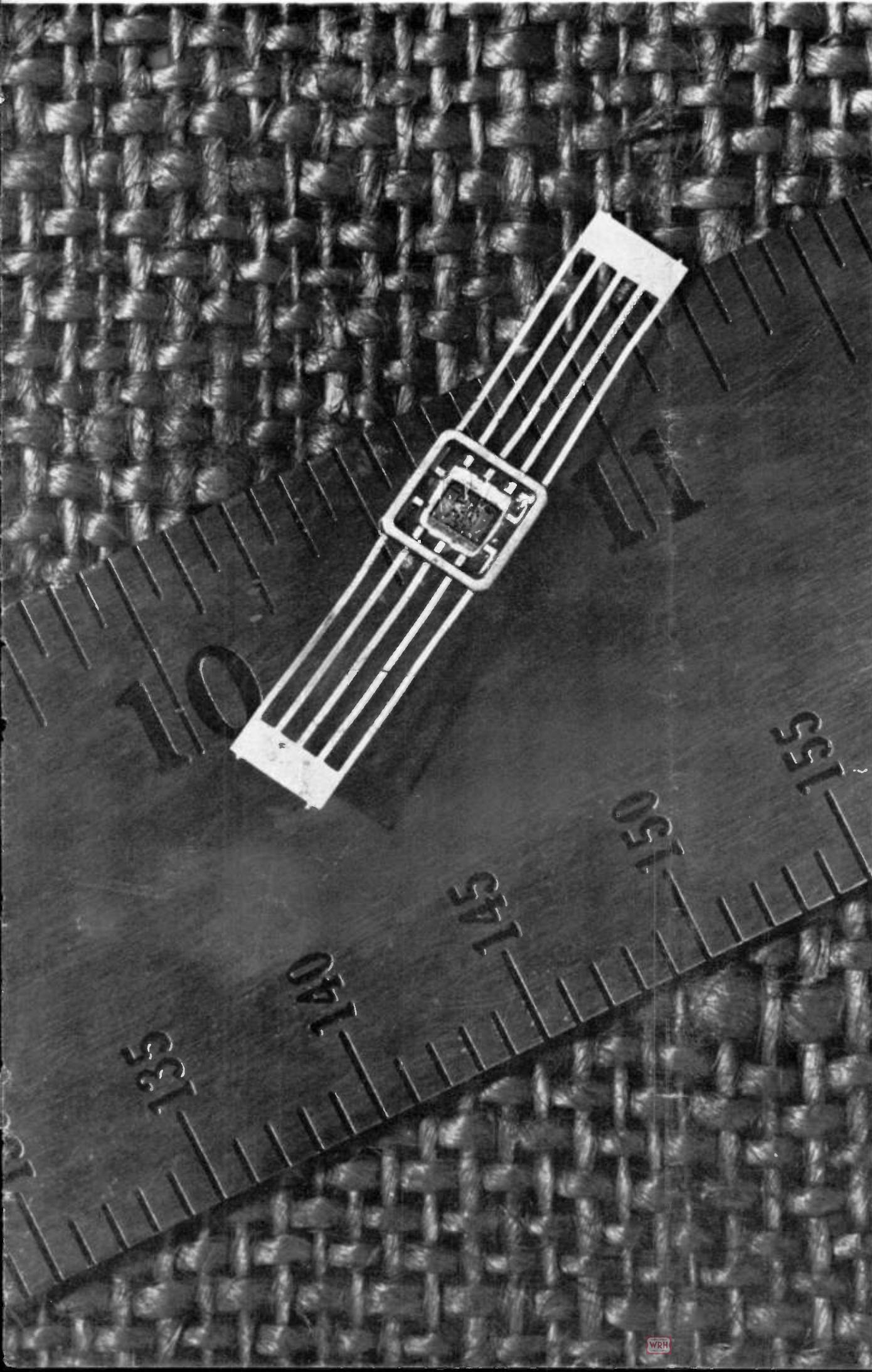


MERCHANDISING WEEK

* EDITED FOR THE APPLIANCE, CONSUMER ELECTRONICS, AND HOUSEWARES INDUSTRIES
A MCGRAW-HILL PUBLICATION/50 CENTS/VOL. 98 NO. 4/JANUARY 24, 1966



◀ □ □ □ **Color tv in turmoil:** A technological and design revolution will hit the color tv industry by the end of this year. Already on the drawing boards of the industry are plans for using more solid-state devices like the integrated circuit (shown at left). For an inside look at a revolution in the works, see.....p.13

AT PRESSTIME □

□ □ □ □ **Average retail price** of color tv last month was \$572—up \$32 from the average retail price in September (MW, 1 Nov. 65, p.1)—reports Daniel Starch and Staff, a business research organization. The average price for December, taken from a nationwide on-the-spot survey, was \$37 lower than the average price of color one year earlier. According to Starch, 51% of all tv sets sold in December were color sets and 78% of all tv dollars taken in at retail came from sales of color sets. During December, 1964, color represented 33% of all tv sales and 60% of the retail dollars brought in by tv sales.

In sales of b&w tv, the average retail price in December was \$168—down \$14 from September and \$32 below the December, 1964, price.

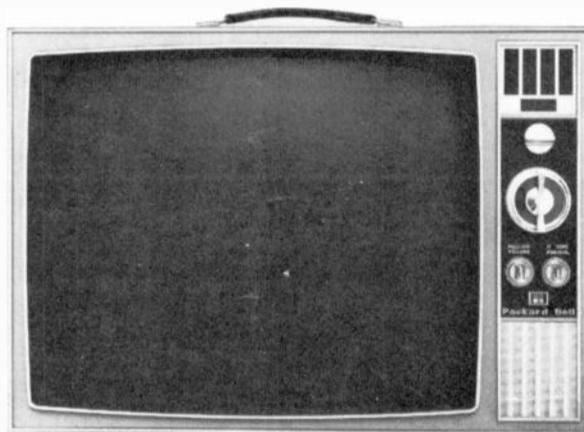
Of all color tv sales made in December, 37% came from 38 top-selling models, says Starch. Nine brands were represented among these fast movers, one of which was Japanese-made.

The Starch report is based on a weighted sample of 1,434 retail outlets across the U.S.

□ □ □ □ **Music Show changes:** Another straw in the winds of change swirling around the Music Show popped up last week; the National *continued on p.3*



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Appliance & Radio-TV Dealers Assn. decided to hold its 1967 convention in New York City. Consumer electronics manufacturers, under the banner of the Electronics Industries Assn., are on the verge of leaving the National Assn. of Music Merchants Show to set up their own Music Show in 1967. Both the set-makers and NARDA have quietly indicated a willingness to run the new show and the convention at the same time. At presstime, no date for NARDA's 1967 convention had been set.

□ □ □ □ **More Frigidaire price cuts:** The adjustments on refrigerator pricing vary according to the competitive demands of a given area, explains Frigidaire, but are being effected market-by-market on a nationwide basis. Latest cuts are New York sales zone reductions—from \$4 to \$38—on selected models in Albany, Troy, and Schenectady. The Los Angeles zone has cuts of \$4 to \$37 in its Phoenix territory.

□ □ □ □ **Sony's new color video demonstrator** may hit the U.S. market before it is distributed in Japan, reports McGraw-Hill World News from Tokyo. The unit, which can record still color pictures on a magnetic disc and project them through a color tv set, will sell for about \$1,500 as a merchandise display aid; Sony hopes eventually to develop it as a home entertainment product capable of replacing the slide projector. Price of the disc will be about \$40.

□ □ □ □ **Bidding for 25,000 Japanese color tv sets** is under way between Hayakawa Electric Co. of Japan (Sharp) and an undisclosed U.S. manufacturer, reports McGraw-Hill World News in Tokyo. The 19-inch sets, to hit the U.S. market this year if the contract goes through, would be marketed under the U.S. company's brand. In addition, Hayakawa is planning to export more than 40,000 19-inch color sets to the U.S. this year for marketing under its own Sharp label.

□ □ □ □ **Amana 22 series is up to three models**, as two new units premiere in Amana's line of 22-cu.-ft. side-by-side refrigerator-freezers. The CIMR-22 (\$599)

features an automatic icemaker that makes 148 cubes a day and shuts off when the storage bin is full. The Amana S-22 (\$539) has conventional ice trays and other features. All units come in white or two-tone coppertone. The SR-22, first unit in the line, sells for \$559. Two more 22s are coming out in June. All prices are New York fair-trade prices.

□ □ □ □ **Highlight of the Gibson-Easy '66 promotion** campaign will be two months of commercials—from May 16 to mid-July—on NBC's *Today* show. Retailers will be able to tie in for local coverage with co-op money. On June 4, a two-page color spread in the *Saturday Evening Post* will kick off the Gibson-Easy Picture Bingo contest. Seven million consumers will be mailed bingo cards that can be matched at dealer stores for prizes. Dealers will receive kits to tie in with the magazine ad and the consumer mailer. At the top of the consumer prize list: 20 all-expenses-paid jet trips to the Orient.

□ □ □ □ **A breakdown of tv sales by region** for the first three quarters of 1965 has been issued by the Electronics Industries Assn. (EIA). Total tv sales by distributors showed increases in every region of the U.S., says EIA, but b&w sales declined in three:

States that form the combined region	Type of receiver	9-month unit sales	Change from 1964
Me., N.H., Vt., R.I., Conn., and Mass.	color tv	106,434	+ 145.72%
	b&w tv	368,108	+ 6.44%
N.Y., N.J., and Pa.	color tv	327,355	+ 101.16%
	b&w tv	1,158,227	+ 3.11%
Ohio, Ind., Ill., Mich., and Wis.	color tv	414,784	+ 123.56%
	b&w tv	1,208,397	+ 10.55%
Minn., Iowa, Mo., N.D., S.D., Neb., and Kan.	color tv	124,012	+ 150.14%
	b&w tv	400,606	— .99%
Del., Md., D.C., Va., W.Va., N.C., S.C., Ga., and Fla.	color tv	208,779	+ 156.38%
	b&w tv	849,737	+ 8.04%
Ky., Tenn., Ala., and Miss.	color tv	78,292	+ 161.41%
	b&w tv	469,422	+ 5.91%
Ark., La., Okla., and Tex.	color tv	142,182	+ 164.90%
	b&w tv	469,422	+ 1.69%
Mont., Idaho, Wyo., Colo., N.M., Ariz., Nev., and Utah	color tv	60,207	+ 130.75%
	b&w tv	179,746	— 4.21%
Wash., Ore., Calif., Alaska, and Hawaii	color tv	323,874	+ 87.72%
	b&w tv	646,682	— 5.94%

OPINION:

'Color package': added riders to the retailer's bill

There is a black-and-white tv string attached to color tv orders these days. And that string is tied directly to a distributor "package": If the retailer wants one color tv set, he must buy from two to four b&w tv sets or stereo units to get it. The "package" practice apparently is quite widespread in most major markets; the ratio of other units needed to get one color set is believed to average 3-to-1.

The cause of the "color package" is threefold: distributors are faced with a shortage of color sets; they expect to sell a certain amount of dollars per month and want to maintain those sales levels; they are confronted with retailers who would virtually stockpile color sets if they could.

Distributors look at the industry's

sales record, too. They see a unit sales ratio of 8 million b&w sets to 4 to 5 million color sets. Often, they apply this over-all industry ratio in calculating the display and inventory they can expect in the individual dealer's store.

Two unpleasant alternatives result from this type of loading program, in the view of retailers: one, they can sell b&w sets unprofitably; or two, they can end up with a heavy b&w inventory.

As one dealer commented, "Why should I lose \$75 on black-and-white to make \$110 on color?"

Retailers point out that the loading method—the order "tie-in"—is not always strictly on a 3-to-1 ratio. Sometimes, the distributor figures the number of color tv dollars he can deliver, the amount of b&w dol-

lars he would like to see the retailer accept, then offers a bonus to the retailer who meets or exceeds his b&w figures.

The dangers of that method remain the same, however: an overloaded inventory, inability to liquidate. Distributors acknowledge the difficulties inherent in a heavier-than-needed dealer inventory. A retailer with capital tied up is hardly a candidate for additional orders.

And trade sources acknowledge that b&w inventory at the distributor-factory level is up by nearly 6% over the comparable period last year. (Current inventory is slightly above 1.3 million units; last year at this time, it was running just under 1.3 million units.) But most observers agree retailer b&w inventories have not reached risky proportions. They

note the 4.3% year-end sales gain in b&w sets over 1964; they also note the spread of the "coloritis" disease, which so many retailers have caught.

The observers, however, readily admit that the inventory situation at retail could quickly become touch-and-go, that it should be watched carefully, and that an overloaded dealer is a capital risk—to himself, the distributor, and the factory.

The never-ending fight goes on for display space in a retailer's store. Many distributors believe that if a retailer wants the color sets he supplies, that retailer should be willing to support his entire line. There are exceptions, of course: at least one distributor reportedly is bypassing his big dealers on color tv, to open small dealerships that will not demand volume discounts. —Mary Merris

The crush of demand for color tv sets and tubes has U.S. manufacturers looking to the Far East for a new source of supply.

Set makers scout for color in Japan's mushrooming market

The situation is still unsettled, but it is possible that Japanese color tv tubes will be shipped to the U.S. in 1966, reports McGraw-Hill World News from Tokyo. However, the Japanese, now caught in a recession, are feeling their way slowly.

U.S. manufacturers who want color tubes must put their money where their mouth is, says World News. At present, Japanese manufacturers are getting \$80 to \$90 in the domestic market for 19-inch rectangular color tubes—and even at that price there is a tube shortage in Japan. U.S. buyers want the tubes for less and, understandably, have so far gotten a cold shoulder from the Japanese firms.

(To get a \$75 tube to the U.S., the Japanese would have to sell their tubes at a cut-throat price of \$62.50 f.o.b. since customs and shipping charges add about 20% to the cost of a picture tube.)

The inquiries being rejected by the Japanese are only for two- or three-year terms—in other words, only until the U.S. tube supplies are expected to loosen up. Since supplying tubes to the U.S. would require greatly expanded production facilities, the Japanese are looking for longer contracts.

The number of color tubes produced in Japan—most of them 19-inch rectangular—is nevertheless growing:

- Toshiba—which is tied in with Sears—is now producing 10,000 tubes a month, and could push production to 20,000 by the end of the year.

- Hitachi is presently making 6,000 to 7,000 tubes a month.

- Matsushita is turning out more than 6,000 tubes a month and plans to hit 10,000 a month by the middle of 1966. (The company has completely given up producing any more of its trinescope sets, both the original 6-inch and the pseudo 9-inch with magnifying glass, for consumer use.) Matsushita holds a large share of the Japanese market in color tv.

- Hitachi is talking of 10,000 tubes a month by next spring and 20,000 by the end of the year. The company is putting more effort into building up its picture tube and receiving tube business, rather than into building up its domestic set business.

- Nippon Electric will start production of color picture tubes next April, probably starting with a monthly production of 1,000 to 2,000 tubes.

- Nippon Columbia Co. has the facilities to produce perhaps 1,000 tubes a month, but at present is turning out only a small number of 11-inch round tubes.

- Sony, in the specialty field, seems to be still ironing out production problems on its 3-gun chromatron tube. Production capacity is perhaps 200 a month.

- Kobe Kogyo, manufacturer of the one-gun colornetron picture tube, has present capacity of 200 tubes a month.

Two manufacturers that have made small quantities of conventional shadowmask picture tubes, Kobe Kogyo and Mitsubishi Electric Corp., have not yet made the decision to invest in mass production lines for color tubes.

(The Japanese supplier of bulbs for color picture tubes, Asahi Glass Co., reports that it shipped 20,000 bulbs in October and had orders for 25,000 to 26,000 tubes in December. Asahi, incidentally, claims its present price is lower than Corning's price of \$20 per bulb.)

There is little chance of anything larger than 19-inchers coming from Japan for some time, says World News. Asahi Glass simply

But the pickings, they find, are slim. Not only are the Japanese hard-pressed to supply the domestic color tv market, reports McGraw-Hill World News in Tokyo, but U.S. buyers are bargaining for low prices and short contracts. The Japanese, says World News, are not willing to make the tremendous investment for greatly increased production facilities on a guarantee of only two years demand at blood-letting prices. They prefer to slowly step up production for the more profitable domestic market. Nevertheless, production is climbing steadily (see table below), and the evidence points to a bigger export push in 1966. Here is a round-up of Japan's color tv industry: its problems and plans.

Japanese Color Tv Statistics*

1964	Production		Shipments	
	sets	value	sets	value
Total	57,053	\$22,710,577	53,365	\$21,083,063
1965				
Jan.	5,716	2,286,283	5,711	2,283,741
Feb.	5,349	2,050,858	5,257	2,004,041
Mar.	5,240	2,007,850	4,532	1,739,858
Apr.	5,443	1,980,555	6,544	2,412,908
May	6,185	2,173,980	5,982	2,167,238
Jun.	8,214	3,144,711	6,652	2,499,166
Jul.	6,932	2,640,325	6,475	2,506,038
Aug.	6,632	2,604,913	6,231	2,461,625
Sep.	8,765	3,567,797	8,309	3,339,913
Oct.	10,812	3,956,161	12,720	4,815,925

*Ministry of International Trade and Industry

does not have the facilities for making larger size bulbs. And there is little interest in color tinyvision at the moment. Yaou has its 9-inch colornetron set, and may step up to a 12-inch model of the same type. Columbia has an 11-inch round set and would like to step up to 12-inch rectangular. Sony is making a small number of 12-inch monitors, but says it has no plans to make a color receiver of this size. Other companies say they are not interested in small sets at this time.

Some color tubes are being exported to the U.S., but not for use in receivers. Hitachi started selling 17-inch picture tubes for color monitors in 1962. Shipments at first were irregular, but since about a year ago Hitachi has been exporting about 100 a month. It claims these tubes are used in monitors in about 70% of U.S. tv broadcast stations. Hitachi also has had many inquiries for picture tubes for consumer use, but none, reports World News, that would pay.

What ever happened to 16-inch sets? Toshiba has developed a 90-degree 16-inch tube to compete with RCA's 15-inch tube, but it is not in production at present. (The set that Toshiba shipped to Sears has a 70-degree 16-inch tube.)

Hitachi and Matsushita have been making 90-degree tubes in the 16-inch sizes, but production is now almost at a standstill.

Since there is only a \$60 difference in retail price between the 16-incher and the 19 in Japan, sales of the smaller sets have slump-

ed. The manufacturers, in addition, are pushing the 19-inch sets.

Asahi Glass would just as soon the 16-inchers died; it could then institute more economical production in concentrating on only one—the 19-inch—size. But it will make 16-inch bulbs if it has orders, says World News.

Who is using all the color tubes? Toshiba is shipping about 5,000 sets a month to Sears. Sanyo, which supplies Symphonic, stepped up exports to about 2,000 sets a month during 1965, and says it will export about 5,000 a month in 1966.

Victor, which uses Matsushita picture tubes, will ship sets to Delmonico. Matsushita is shipping some sets to the U.S. under its own name.

Hitachi sells about 1,500 sets a month in Japan, Toshiba, Sanyo, Victor, Hayakawa, Yaou, Columbia, Nippon Electric, and Mitsubishi are selling a smaller number of color sets domestically.

Hayakawa is exporting small numbers of sets under its own label and Toshiba has announced plans to do the same. Nippon Electric will ship to Magnavox, and Columbia will ship to Olympic.

Demand for color sets in the Japanese home market, while not sensational, is picking up. The \$540 tag on a 19-inch set will have to be cut in half before demand really takes off, says World News, but there appears to be an increased willingness among Japanese consumers to buy big-ticket items. Year-end demand was especially high, and color tv sales are expected to remain at a fairly high level early this year.

Actual sales of color receivers are substantially below the Japanese tv industry's original target of 200,000 units in 1965. When the official figures are in, they will probably show that the total output for the year barely reached 100,000 units.

The Japanese feel that unless domestic sales are developed, it would be unfeasible to tool up for mass production simply on the strength of export demand in the U.S.

An indication of Japan's eagerness to get in on the U.S. color boom is the Japanese tv industry's all-out efforts for abolition of the 13% commodity tax on color sets. Japanese manufacturers, says World News, feel that unless the tax is scrapped and prices are lowered, they cannot stimulate sales in Japan.

Top executives of seven leading Japanese color receiver firms have met with the Ministry of International Trade & Industry to make the tax appeal, but so far the government shows no sign of bowing to the industry's demands.

There promises to be a push on exports of color tubes this year despite these problems, says World News. And Matsushita may be one of the first exporters. Although Matsushita's policy in color tv at present is to emphasize domestic sales at the expense of exports, its rapidly rising production will soon overtake domestic demand. At that time the company intends to move seriously into exports. It has shown that it can pump a great number of tape recorders into the U.S. and will try to repeat, on a smaller scale, with color.

Matsushita should be well fixed for picture tubes, because it controls its own supply and must share them with only one other company: its subsidiary, Victor. On the other hand, Toshiba and Hitachi between them now spread their color picture tubes among eight companies: themselves, Sanyo, Hayakawa, Yaou, Columbia, Mitsubishi, and Nippon Electric.



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**1966 FLOORCARE
SECTION ISSUES**

**1966 COOKWARE
SECTION ISSUES**

February	14	February	28
February	21	March	14
March	7	March	28
March	21	April	11
April	4	April	25
April	18	May	9
May	2	May	23
May	16	June	6
May	30	June	20
June	13	July	4
June	27	July	18
July	11	August	1
July	25	August	15
August	8	August	29
August	22	September	12
September	5	September	26
September	19	October	10
October	3	October	24
October	17	November	7
October	31	November	21
November	14	December	5
November	28		
December	19		

Note to advertisers:

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for your product advertising.**

□□□□ **Appliance dealers have escaped new taxation**—at least for the moment—as President Johnson seeks means to finance the escalating war in Vietnam. Excise tax cuts voted by Congress last year will remain in force, except for some increases in autos and long-distance telephone service.

The auto-telephone switch by the President caused considerable surprise among observers of the tax scene. It also caused immediate speculation that if the need for even more revenue arose, Johnson would ask Congress to rescind the tax cut on appliances and other items.

The Administration contends this is not necessarily true. The expectation is that if the President finds it necessary to raise taxes again, the bite will come on income taxes rather than excises.

□□□□ **Large retailers will pay more taxes** than planned in the first half of this year, however. President Johnson has asked Congress to put corporations with federal income tax bills of \$100,000 or more on a pay-as-you-go schedule—and Congress seems willing.

This would mean payments of 25% of the estimated tax bill in each quarter of the year. But under current law, a complete switch would not be possible before calendar 1970.

What Congress is considering for this year—calendar 1966—is an increase in payments due on April 15 and June 15 from 9% to 12% of the estimated tax. Corporations then would pay 25% on Sept. 15 and Dec. 15, and clean up the balance by next June 15. The total tax would be the same as at present.

□□□□ **An approach to wage-price controls** is urged by two influential members of Congress. Rep. Emanuel Celler (D-N.Y.) wants to require 60-days notice to the government on price increases planned by a major company. Rep. Henry S. Reuss (D-Wis.) would give the Congressional Joint Economic Committee authority to pass on price-wage guideposts formulated by the Administration and to hold public hearings on increases which appear to violate these guideposts.

Neither bill is given much of a chance of Congressional approval this year, chiefly because the Johnson Administration is leery—at this time—of any formal requirements that might snowball into wage and price controls.

□□□□ **The explosive problem of dual distribution** reared its head at last week's hearings of the Senate Antitrust Subcommittee. The hearings, chaired by Sen. Philip Hart (D-Mich.), were aimed chiefly at franchising problems. But they elicited broader complaints from distributors of oil, heating equipment, and office machines.

Complaints generally followed those heard earlier—that independent distributors are being undercut, in some cases, by manufacturers who sell directly to their major accounts. Hart's interest in this is far broader than just one, or even a few, industries. His subcommittee has no legislative authority, but it can recommend changes in the antitrust laws to Congress, and, through public hearings, attempt to influence the course of action taken by the Justice Department.

Shopping the big new catalogs for consumer electronics prices

Here is a comparison of pricing in the new spring-summer catalogs of Sears, Montgomery Ward, Spiegel, and Aldens.

Portable television

Sears: low is \$77.50 for an 11-inch set with telescopic antenna, ear-plug, and carrying handle. For \$99.95, Sears has a 16-inch set. Four 19-inchers begin at \$104.95 and range up to \$154.95. Three solid-state portables are also shown: a 9-inch set for \$114.95, an 11-inch for \$124.95, and a 19-inch unit for \$169.95. **Ward:** the line opens at \$77.95 for a 12-inch set without antenna and earphone. Four 19-inch portables range in price from \$104.95 to \$154.95. A 9-inch solid-state portable is priced at \$124.95. **Spiegel:** opens at \$78.95 for an 11-inch portable with earphone and antenna. A 12-inch GE set is listed at \$89.95. An 11-inch GE tv-clock-radio goes for \$139.95. A 16-inch Emerson portable lists at \$99.95. Three GE 19-inch portables range in price from \$129.95 to \$159.95. A transistorized 4½-inch Delmonico unit is priced at \$139.95. **Aldens:** has a Sharp 12-inch portable (with earphones and antenna) for \$79.95 and a GE 12-inch for \$89.95. A 16-inch Emerson lists for \$109.95. Two 19-inchers—an Admiral for \$119.95 and a Motorola for \$139.95—also appear. A GE tv-clock-radio goes for \$139.95. Aldens has two solid-state sets: a Sharp 12-inch for \$119 and a 9-inch GE, \$149.95.

Color television

Sears: opens at \$259.95 for a 16-inch console. Next up the line are a 19-inch console for \$329.95 and a 19-inch color portable—with handle—for \$399.95. A 21-inch console lists for \$379.95 and a 21-inch console comes in at \$429.95. Top of the 21-inch color line is a console for \$479.95. The 25-inchers in the color console line start at \$549.95; in a variety of styles, the six 25-inch sets range in price up to \$659.95. **Ward:** starts its color line at \$299.95 for a 21-inch table model with black metal cabinet. The 21-inch consoles start at \$399.95 for two sets with hardwood finishes; three other 21-inchers with veneered cabinets go for \$489.95 to \$499.95. In the 25-inch color line, Ward shows two sets—in maple or walnut veneer—for \$589.95. **Spiegel:** shows three color units in its catalog: a GE 21-inch console for \$449.25; a GE 21-inch table model for \$349.95; and a GE 11-inch color portable for \$249.95. **Aldens:** the GE 11-inch color portable is \$249.95.

Portable phonographs

Sears: in monaural models, Sears starts at \$13.75 for a tube-type manual portable. An automatic monaural set in luggage case comes in at \$36.95. Top of the monaural line is a tilt-out type phono for \$45.95. Sears has four stereo portable phonos, ranging in price from \$54.40 for a set with one removable speaker, to \$114.95 for a solid-state portable with four speakers. **Ward:** two manual-play phonos are priced at \$17.75 and \$23.50; two automatic monaural portables are \$36.75 and

\$46.50. In stereo, Ward has a two-speaker, tilt-down unit and a solid-state, luggage case set for \$54.50. Two four-speaker portables sell for \$89.50 and \$118.95. **Spiegel:** the leader manual monaural portable goes for \$14.95. A GE monaural automatic is priced at \$44.95. The stereo line opens at \$49.95, steps up to \$59.88 and \$64.95. At \$77.88, Spiegel has a stereo that may be converted from a console to a shelf unit. A four-speaker stereo from GE goes for \$134.95. At the top-of-the-line is a GE component-type portable for \$189.95. **Aldens:** a GE manual monaural set is priced at \$18.88; a transistorized manual monaural unit is \$19.44; and a combination manual phono with AM radio goes for \$28.88. A four-speed automatic player is \$39.95 and a transistorized automatic from Admiral is \$49.95; price of both sets includes 50 free records. The stereo line starts at \$49.77 for an Admiral model, steps up to \$59.88 for an Admiral with detachable speakers, and goes to \$84.88 for a GE set with detachable speakers. A six-speaker portable from Admiral is priced at \$69.95.

Console phonographs

Sears: consoles with AM-FM stereo radio and hardwood veneer cabinets starts at \$179.95. **Ward:** starts at \$247.95 for console with AM-FM stereo radio and veneered cabinets. **Spiegel:** has a six-speaker console with AM-FM radio for \$199.95. **Aldens:** opens at \$129 for a console with AM-FM radio.

Radios

Sears: in pocket transistors, prices range from \$5.39 to \$24.50 for AM-only models. AM-FM portables go from \$21.95 for a compact model to \$51.95 for a multi-band standard-size portable. AM table models open at \$7.45 and range up to \$24.95. AM-FM table sets start at \$21.95 and range up to \$62.95 with a wood cabinet. Two AM-FM stereo radios are priced at \$72.95 and \$89.95. In clock-radios, prices start at \$10.95 for an AM-only set and move up to \$54.95 for an AM-FM set. **Ward:** has a pocket AM radio for \$5.39; other AM radios move up to \$30.95 for a standard-sized portable. AM-FM radios run from an \$18.95 pocket model to a \$44.95 portable. Two AM-FM table radios are \$64.95 in wood cabinets. In clock-radios, Ward has a \$10.74 AM-only set, goes up to a \$74.50 wood-cabinet AM-FM model. **Spiegel:** starts at \$6.95 for a GE pocket portable; AM radios range in price to \$27.95. In AM-FM radios, prices run from \$15.95 for a pocket model to \$99.88 for a stereo AM-FM portable. In clock radios, prices range from \$15.95 for a GE unit to \$44.88 for a wood cabinet AM-FM model. **Aldens:** starts at \$7.77 for a pocket model. Top price for an AM radio is \$28.88 for a standard-size portable. In AM-FM radios, prices go from \$28.88 to \$48 for a wood cabinet model. In clock-radios, Aldens starts at \$15.98 for a GE AM-only set to \$28.88 for an AM-FM model from GE. (For major appliance prices in the catalogs, turn to p.19)

□ □ □ □ **RCA Whirlpool will add a sales division** to put its dishwasher and disposer lines in the limelight. The new Specialty Products Division will go into action Feb. 1 under general manager William Howard, who is currently merchandising manager for the Laundry Sales Division. Jack Sparks, Whirlpool's vice president, said the addition was made "to take full advantage of the growing sales importance of dishwashers and disposers" and to emphasize the market potential of these products. Dishwashers and disposers formerly had been included in the Air Conditioning Sales Division. Whirlpool's plans for the spring include groundbreaking for a new \$4-million, 131,400-sq.-ft., research and engineering complex to be completed late in 1967 near the corporation's headquarters in Benton Harbor, Mich.

□ □ □ □ **Sony will have a second video tape recorder** in time for the Music Show in July. The step-up model will come in a wooden cabinet with clock and timer and will sell for about \$1,300.

□ □ □ □ **Ampex has upped prices on some models** in its home audio recorder line: model 1165 is now \$489—up \$20; model 1160 is \$469—up \$20; model 890 is \$389—up \$20; model 865 is \$339—up \$30; model 860 is \$319—up \$30. Models 1150, 850, and all 2000 and 1000 series prices remain the same.

□ □ □ □ **Norelco is promoting Car-Mount**, its tape system for automobiles, with newspaper ads in 35 major markets, reports Wybo Semmelink, assistant vice president of North American Phillips. Participating retailers will also receive display materials.

□ □ □ □ **Mercury has cut several prices:** Its AG4126 phono, an 8-lb. transistorized unit, was cut \$10 to \$49.95. Its model TR3300, a cordless transistorized tape recorder was cut \$20 to \$39.95. Mercury cut its other tape recorder, model TR3500, by \$30 to \$59.95. Two new units are model AG4100, a 5-lb. cordless phono, AC adaptable, that lists for \$39.95; and model AG4230, a \$229.95 portable stereo in teakwood. Mercury gives retailers a special kit of \$50 worth of stereo records with every model AG4230 purchased. Mercury also is introducing \$19.95 headphones and plans to add six tape units by July.

□ □ □ □ **Muntz tv distribution zipped up 20%** in the last quarter of 1965, says Jack Simberg, Muntz vice president. He attributes the national distribution rise to a flood of new dealers—200—and Muntz's handling of at least one substantial private label. Muntz dealers, who buy directly from Muntz, now total 1,200 nationwide, Simberg said. Muntz's color supply was good and the offer of immediate color sets attracted many new dealers, he pointed out. Muntz does not demand that a dealer take the entire Muntz line. He may choose to stock only Muntz's color line, Simberg noted. New Muntz color sets for 1966 are nine 23-inch models and eight 25-inch units. There are seven consoles and 10 combinations, and, although the line carries an open list, Muntz says the leader 23-inch color console can sell for approximately \$470 with "more than a full margin of profit."

□□□□ **MARTA is moving west.** The coop buying group will establish its next chapter in Chicago some time this year; plans also call for establishing a warehouse in Chicago. The new chapter would encompass metropolitan Chicago, while the new depot would serve a larger area; for example, it would include some Michigan dealers in MARTA's North-Central chapter.

Next goal for MARTA: California. In MARTA's long-range plans: eight depots.

MARTA's expansion plans tend to bear out predictions that MARTA will ultimately be a national organization, operating along the lines of a national chain. MARTA already represents a buying power of better than \$100 million, and currently has six chapters and five depots.

□□□□ **AHLMA reports 1965 laundry sales rose 7% over 1964, with electric dryers in the lead on a 16% rise in unit sales. Gas dryer sales climbed 12%. Automatic and semi-automatic washers gained 7%, while wringer and all other models declined 11%.**

The American Home Laundry Manufacturers' Assn. presented awards to six newspapers, five magazines, and three home economists for outstanding performances in bringing consumers information on home laundering developments. MERCHANDISING WEEK and five other trade journals received Anniversary Awards as "outstanding trade publications."

□□□□ **Admiral is adding icemakers** to four Dual-Temp refrigerators introduced last August. The units, two top-mount and two bottom-mount models, come in 28- and 32-inch cabinets with capacities from 15 cu.ft. to 17.3 cu.ft.

□□□□ **Kelvinator sales scaled the charts** in the fourth quarter of 1965, rising 14.5% over that period one year ago. December sales alone were the company's highest in 10 years, according to Edmund B. Barnes, vice president and general manager of Kelvinator. The company's first-quarter refrigerator sales led the 1965 upsweep with a 34% rise, followed by a 15% jump in electric dryer sales and a 14% increase in range sales. Barnes said the Originals "have contributed substantially to retail traffic and consumer interest."

□□□□ **Components won the import growth title** during the first 10 months of 1965, according to the Electronics Industries Assn. Imported components gained 78% over the 10-month period in 1964 on a total value of \$111 million; in addition, the dollar share of the U.S. market taken by imported components rose to 3.4% in the first 10 months of 1965 from 2.1% in 1964. Tv picture tubes scored the biggest gains. Picture tubes imported during the 10-month period were valued at \$1.3 million—a rise of 163% over the same 1964 period.

Consumer electronics showed slower gains; the value of imports rose 38% to \$221 million. In the first 10 months of 1965, the imports share of the U.S. market dropped to 7.4% from 7.7% in 1964. During that period, imports of tv sets rose 72% over the previous year—to \$44 million. Transistor radios rose 30% to \$80.5 million, and tape recorders rose 19% to \$42.8 million.

From the retailing viewpoint: better ways to sell two majors

Central air conditioning systems will capture half of the air conditioning market in five to 10 years, but retailers who do not hop on the sales train to central air conditioning can still combat this trend by selling customers two or three smaller units.

This is one of the findings in a study by DuPont for Gibson, one of its customers. The appraisal by Market Facts Inc. was conducted among merchandising executives in utilities, key department stores, large discount stores, and independent retailers in six markets: Los Angeles, Chicago, Boston, New York, Dallas, and Atlanta.

The most important features sought by air conditioner customers in order of importance are: quiet operation, thermostat controls, guarantees, quick-mounting kits. Surprisingly, cost of operation is of only medium importance to the consumer, as are air filtration and automatic air circulation. Rated of little value as sales features are: unit portability, slide-out chassis (this is important for servicemen, but not customers), and fresh air conversion. Decorator fronts bring up the rear in value as sales features.

Innovations—such as decorator fronts—have no effect on increasing

unit replacement sales, according to the survey. The study noted that the replacement market will be big in the 1970's (average life of an air conditioner is from 7 to 10 years), and retailers should start cashing in on second and third unit sales potential.

The 1966 sales outlook for air conditioners is healthy. Consumers now realize that owning an air conditioner is a necessity, rather than simply a luxury. DuPont found that merchandisers expect a trend to sales of larger units; at the same time, these merchandisers predict most sales will fall in the 7,000-9,000 Btu category.

The single top-rated feature in refrigeration is no-frost. Decorator-front refrigerators appeal to the upper middle class and will influence brand sales, according to the survey. The automatic icemaker feature has had an effect on the market, but it still has to be sold; no-frost, on the other hand, brings the customers into the stores seeking units with this innovation.

Merchandisers contacted for the survey felt that consumers preferred top-mount freezer models, because of their lower prices; they indicated their feeling that side-by-side units will become a more significant sales factor.

Reaction to a growing market: tape recorders in the catalogs

Tape recorders have taken off in the consumer electronics market. The tape recorder market is steadily growing, according to the latest figures from the Electronics Industries Assn. (EIA). In 1965, total U.S. factory sales of tape recorders—including imports—rose approximately 8% over 1964, to about 4 million units.

While EIA is not forecasting any spectacular surge in tape recorder sales, the market is moving enough to have wooed nearly every non-domestic manufacturer—and more and more U.S. manufacturers.

The catalog houses—Sears, Montgomery Ward, Aldens, and Spiegel—are always good bellwether indicators of trends in the marketplace. A comparison of the prices in their new spring-summer books reveals prices coming down slightly, as well as an attempt to straddle more of the market. More middle-of-the-line prices and lower prices at the top of the line are in evidence.

The lowest price found in the four catalogs is Spiegel's \$15.95 for a 2-speed, battery-operated, compact portable. (Spiegel's lowest price in its 1965 fall-winter book was \$16.95.) Aldens has a one-speed, battery-operated tape recorder—including 10 reels of tape—for \$16.88. Ward starts its tape recorder line at \$24.95 for a battery-operated unit. (In its fall-winter catalog, Ward opened its line at \$67.95.) Sears is still steering away from the under-\$30 units; as it did in its fall-winter book, Sears starts at \$37.95 for a one-

speed recorder that operates on either AC or batteries.

The volume market has traditionally been for the under-\$700 tape recorders: Sears shows two units in this range (\$37.95 and \$76.95) and three units for more; Ward has three under-\$100 units (\$24.95, \$67.95, and \$87.95), and two units over \$100. Spiegel offers eight tape recorders \$15.95 to \$98.75) for under \$100, two for more; and Aldens has nine tape recorders (\$16.88 to \$99.95) for under \$100, and three tape recorders for more than \$100. Aldens includes two GE battery-operated portables: \$22.77 for a one-speed unit; \$39.95 for a two-speed set.

Stereo tape recorders start at \$139.95 in Spiegel's book, \$138.88 (for a Symphonic unit) in Aldens', \$189.95 in Ward's. Sears offers only one stereo unit—its top tape recorder—at \$284.95 for a six-speaker set; in its fall-winter catalog, Sears' top price was \$359.95.

Cartridge tape recorders have crept into the catalogs in only one instance: Spiegel offers a Norelco cartridge unit "about the size of a book," for \$98.75.

A tape recorder in a combo appears in the Aldens book: it offers a Delmonico console combination phono, AM-FM multiplex radio, and a 4-track, 2-channel tape recorder for \$289.

One of the fancy features found in the new catalogs: Sears has a monaural, 2-speed recorder with automatic slide projector synchronization for \$114.95.

MERCHANDISING WEEK

VOL. 98 NO. 4

A MCGRAW-HILL MARKET-DIRECTED® PUBLICATION



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PUBLISHER Dale Bauer

below. Publisher reserves the right to refuse non-qualified subscriptions.

EXECUTIVE, EDITORIAL, CIRCULATION AND ADVERTISING OFFICES: McGraw-Hill Building, 330 West 42nd Street, New York, N.Y.-10036. Telephone 971-3333.

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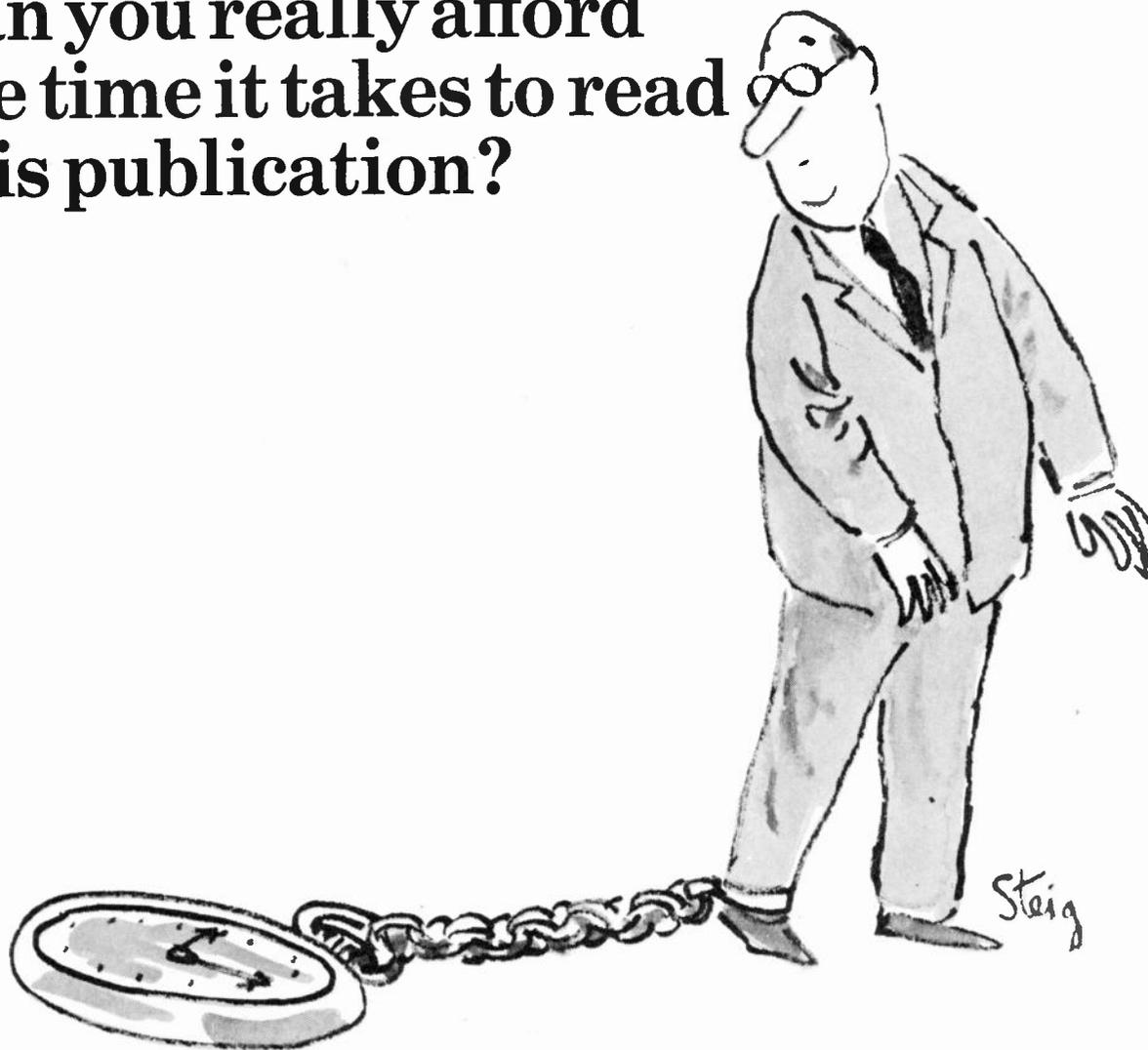
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the time it takes to read
this publication?



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MERCHANDISING WEEK

In Color TV Admiral dealers

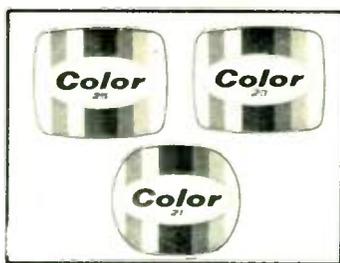


25"! The FINLANDIA, SMH6531, Color Stereophonic Theatre in Danish Modern. Walnut veneers, 80-watt solid-state stereo, 8 speakers, FM/AM, FM stereo multiplex radio, record space. Sliding doors.



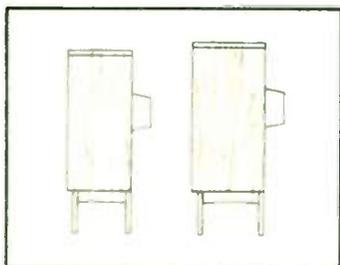
25"! The DANTESSQUE, LH6523, in Spanish Provincial styling. Finished in genuine oak veneers, with selected hardwood solids. Two quality Admiral speakers. Tilt-Out Control Center tuning.

And Admiral "Exclusives"



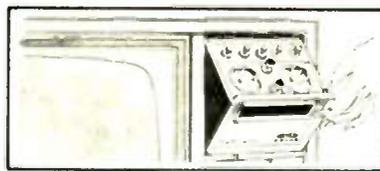
Biggest screen sizes in Color TV!

The big new rectangular screen sizes your customers want . . . Admiral has them! New super-bright 23", and 25" rectangular tubes with rare earth phosphor . . . plus the popular 21-inch size . . . Admiral has them all!



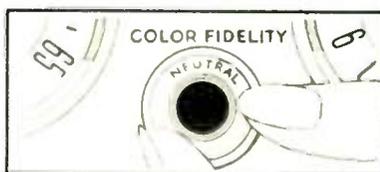
Slimmed-down handcrafted cabinets!

Thanks to the new rectangular 25" and 23" tubes, the new Admiral Color TV handcrafted cabinets in Danish, Italian, Early American, Spanish and French styles are slimmer, trimmer. Admiral has them!



Exclusive Admiral Tilt-Out Control Center!

Every control is hidden in this disappearing panel. Tilt out to tune. Tilt in for the beauty look of fine furniture. Only Admiral has it!



Exclusive Admiral Color Fidelity Control!

Dials unbelievably beautiful color realism (new black-and-white warmth, too). Demonstrates a visual difference of Admiral Color TV. Only Admiral has it!



Exclusive Admiral Automatic Degausser!

Totally corrects the effects of magnetic interference from every source. Works every time set is turned on (after being off for a few minutes.). Admiral has it!

Sell what they want . . . sell

sell the "Exclusives"!



23"! The WHITNEY, LH5345, in Early American styling. Genuine maple veneers and selected hardwood solids. Big Admiral quality speaker for lifelike sound. Slide-rule dial tuning on UHF.

23"! The FLORENTINE, LH5341, in Italian Provincial styling. Genuine walnut veneers and selected hardwood solids. An exquisite period piece! Slide-rule dial tuning on UHF.

answer customer wants!

Independent research told Admiral what people want in Color TV. And see how the Admiral "Exclusives" fill those wants:

People want color quality! Exclusive Admiral Color Fidelity Control, exclusive Admiral Automatic Degausser, plus Admiral precision-crafted dependability assure it!

People want ease of tuning! The exclusive Admiral Tilt-Out Control Center is the easiest to tune, most convenient, and most beautifying invention ever on Color TV!

People want long trouble-free use! Admiral precision-engi-

neering, new horizontal chassis and strict quality control make Admiral the most dependable and finest quality Color TV ever! And every Admiral Color TV features 26,000 volts of picture power!

People want new rectangular pictures, slimmer cabinets! Admiral has the big new rectangular screens . . . 25" and 23" . . . and in slimmed-down, trimmer, fine-furniture cabinets.

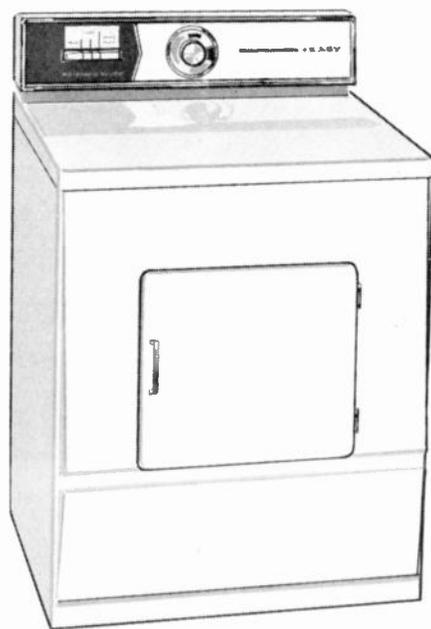
Call your Admiral Distributor now. Since exclusive means "Only Admiral has it", only Admiral Dealers can cash in on the Color TV line with the features your customers want!

Admiral Color



MARK OF QUALITY THROUGHOUT THE WORLD

Most washers protect clothes with porcelain while they're washing. Easy pampers clothes with porcelain in the dryer, too.



What kind of sense does this make? Every washer maker, on almost every automatic model, provides a glassy-smooth porcelain tub to hold clothes while they're washing. Even though the clothes are cushioned by water as they wash, held motionless against the side as they spin. Yet in the dryer, where clothes are constantly rubbing against the drum as they dry, *where* is the clothes-pampering protection of porcelain? *On every Easy clothes dryer, that's where!* Want a short, sweet, simple dryer line . . . gas and electric models . . . and porcelain? *The answer is Easy!*

The answer is

EASY

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Color tv: a revolution in the works

An engineering and styling revolution will hit the color television market this December, and the impact of drastic technical innovation will alter color tv merchandising.

Fourteen producers of color sets are working on receiver designs using more solid-state devices than vacuum tubes. What the transistor did for hi-fi and radio will be repeated in color tv. These new sets—engineers call them *hybrids* are half transistor, half vacuum tube. They will be twice as reliable, half as large, and cost from \$20 to \$80 more than comparable all-tube color sets when they first appear.

One, possibly two, of the hybrids will use miniscule integrated circuits, kicking off still another big upheaval in color tv. Integrated circuits could cut a bulky tube-packed chassis to the size of a book of matches. The result—in cabinet size and styling—should bring gasps from distributors, retailers, and consumers alike.

A revolution nobody wants

Publicly, all but two of the major set makers are against the revolution—while secretly pushing designs to meet next winter's drop-in deadlines. Industry executives give three reasons for the delaying action:

1. Booming all-tube set sales, coupled with a widespread set shortage, make a seller's market that doesn't need the sales stimulus of innovation.

2. The models that have just been introduced feature slimmer cabinet design and rectangular picture tubes, but the circuitry is almost identical to older models.

3. The industry-wide struggle to increase all-tube set production is half fought; supply should catch demand in the second half of this year. Production line changes for the new designs only increase present problems.

The technological revolt is being led by firms close to, but not at the top of the sales ladder—companies betting on innovation to increase their slice of the market pie.

First into hybrid color tv was Philco Corp. The Ford Motor Co. subsidiary announced plans for a 19-inch hybrid last June (MW, 14 Jun. 65, p.18). Already in production, the set uses 10 transistors, 22 diodes and only 16 vacuum tubes.

Industry reaction was a blase "nice."

Then the all-tube-status-quo-bubble burst as the industry learned that Admiral Corp. planned to unveil 19- and 15-inch hybrid sets this December (MW, 1 Nov. 65, p.1). The 15-inch model will use an integrated circuit, a major first in television.

Now, six additional producers confirm tentative hybrid unveilings this coming winter. Six others refuse to comment—"it would reveal our plans to the competition."

While all have plans, the designs are anything but final. After Admiral's plans were uncovered, the industry went into convulsions. Every producer is now hastily revising thinking on solid-state color tv. Marketing and sales promotion programs are being drastically revised.

Distributors and retailers will see the result of this uproar in sales pitches next winter. Manufacturers will hit them with masses of laudatory adjectives and mountains of technical terms.

What hybrid tv will mean to the market is best understood in terms of the technical controversy now raging in engineering circles. According to Philco, the only companies now selling hybrids, technical education of sales personnel is the real force that will sell hybrid color tv.

The controversy

Admiral is for throwing out all vacuum tubes except those in the high-voltage deflection circuits and the picture tube. Zenith is opposed to any transistorization. General Electric, Sylvania, and Westinghouse see no sense in half measures or the status quo either. They are backing complete transistorization.

"Using transistors where economically possible," says Admiral's manager of color-tv engineering, Leonard Dietch, "doubles set reliability, shrinks package size and cuts power consumption."

"Not so," counters Zenith's vice president for engineering and research, J. E. Brown: "All you'll get is a degraded picture, or degraded set performance starting with the tuner."

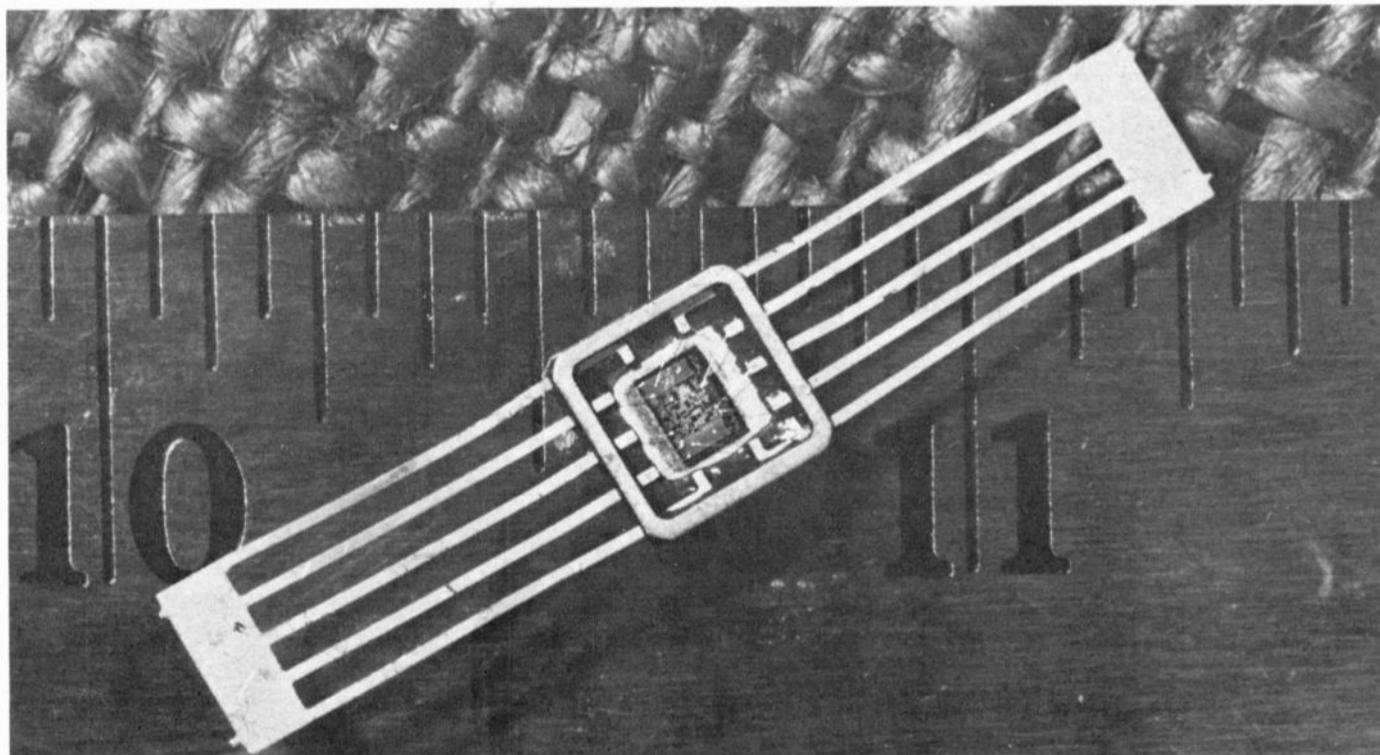
Setchell-Carlson's chief engineer Fred G. Melius agrees: "Transistorized tuners have too many signal interference problems at present. Radio-frequency transistor performance is not on par with the vacuum tubes to be replaced."

The industry's largest tv-tuner supplier, Oak Electronics Corp., flatly disagrees. Raymond L. Osborn, director of tuner engineering, says, "We've produced over 100,000 transistorized color-tv tuners since the second quarter of 1965. Every set producer has at least samples. Noise

By Louis S. Gomolak,
Chicago news bureau

Cover photo
by Hans Basken

A picture of the revolution



Typical of the look that ultimately will develop in home electronics is this Westinghouse integrated circuit. It contains, on a single silicon chip, a phonograph audio amplifier, pre-amp,

power output stage, and a feedback circuit. The five-watt amplifier contains 16 signal and two power transistors, four Zener and three biasing diodes plus 14 resistors; it replaces

over 100 individual components necessary in a comparable vacuum-tube unit. Even now, tv set makers are buying units like this one for evaluation as they prepare for the future.

Color tv: a revolution in the works continued from p.13

figure is competitive, gain is slightly behind if behind at all, compared to all-tube tuners."

Oak's marketing vice president, Paul W. Wheaton, adds, "We supply the tuners to Admiral, Magnavox, Philco, and Sylvania. Price-wise they are competitive with all-tube tuners."

Deflection circuits

Of the companies MERCHANDISING WEEK talked with, all but three said transistorization of high-voltage deflection circuits was impossible—now. (Deflection circuits control, or move, the beam of electrons that paint the picture on the viewing screen.)

Wells-Gardner Electronics' vice president for engineering, Chad B. Pierce, summed up the deflection problem. "There's nothing on the transistor market that can do the job. If you cannot eliminate the biggest heat-producers, the most unreliable tubes in the set, why transistorize?"

Wells-Gardner supplies tv to W. T. Grant, J. C. Penney, and Western Auto.

Device unavailability was confirmed by Warren C. Letsinger, customer assistant manager for General Motors' Delco Radio Division: "There is no single device that can handle the 25,000 volts [needed for deflection] economically. One experimental transistor could, but it costs \$100."

A sales engineer for one of the major transistor producers explained the problem this way: "We're lucky to get one out of 1,000 high-voltage transistors to work properly."

But General Electric, Sylvania and Westinghouse disagree.

Peter Humeniuk, engineering man-

ager of GE's television receiver department, states, "From tuner to deflection stages, the entire set can be transistorized. All the semiconductors are available. They cost more, but that's to be expected."

W. D. Schuster, engineering manager of the entertainment products division of Sylvania, says, "We're now working on the design of a completely transistorized color receiver. It makes more economic and performance sense than just going half way."

Westinghouse's Davis Sillman, engineering manager of the tv-radio division, argues, "Hybrids don't offer any advantage other than you can say the set is partially solid-state. As things stand right now, we could go completely transistorized and never make a hybrid receiver."

As of the moment, the semiconductor industry is working hard to come up with a cheap transistor that will do the job. Texas Instruments, Motorola Semiconductor, and Delco are all in the race, with Delco thought to be the closest to announcing such a device.

Westinghouse, Magnavox, and Sylvania have completely transistorized large-screen black-&-white tv on the market. The deflection circuits are solid-state, but the voltage used is only 20,000 volts. The 25,000 volts required in color tv will need a larger capacity transistor.

Manufacturers fears

Even though they admit hybrid sets will soon be here, engineers express off-the-record fears of transistor shortages and possible set-production problems.

"If the industry goes en masse to

transistors, there may be a huge shortage," said one engineer.

A Philco spokesman estimated 10 million transistors would be used in color sets this year, maybe more, but saw no approaching supply shortage.

Production may cause some problems, particularly for manufacturers who use hand wired techniques. But even Zenith, with its emphasis on quality and handcrafted wiring is planning to build hybrid sets for introduction later this year or early in 1967.

Where the transistors are

All the firms interviewed agreed some transistorization was possible—the argument is to what extent.

"The best spots for transistors," thinks Muntz TV's assistant chief engineer, Theodore S. Zelazo, "are in the sound amplifier and synchronization circuits."

"All low-level signal circuits can be transistorized," says Hoffman Products' manager of color tv and advanced research, Christ J. Dumas. "Reliability will at least double," he adds. Hoffman Products, based in Chicago, supplies sets under the Airline label to Montgomery Ward, and also sells to Firestone, Sonora, Western Auto Supply, and its parent, Hoffman Electronics Corp.

Three points for success

Admiral feels transistorization is a must to keep its progressive image in the consumer marketplace.

"That market," says color-tv engineering manager Dietch, "demands full picture performance in a compact, highly styled cabinet at a low

price." To meet these three points, he said, "Use transistors wherever economically possible."

Transistors, he points out, are just coming into massive use in tv because prices are now competitive with the vacuum tubes being replaced. He points to price tags marked 65 cents for video (picture) amplifier transistors or tubes.

Another reason for the transistor trend is the hope of automated production, and subsequent labor-cost reductions. Cost reductions on materials would not be too great, says Dietch.

A typical all-tube color tv that a manufacturer would sell for \$400 uses a picture tube costing \$130 and this would still be there in the hybrid set. The electronics package now costs about \$60; semiconductors are the same price as tubes, so this cost would remain the same. The wood cabinet costs about \$75; no change here either. But faster, automated production of the circuits and chassis would substantially cut labor costs.

Slashing heat buildup

Transistors and diodes offer other advantages: "They double set reliability, and almost halve power requirements and heat built-up inside the cabinet." By reducing the heat that slowly deteriorates resistors, transformers, and capacitors set life will be greatly prolonged, according to Dietch. Repair bills would also, presumably, be less. (Sol Polk, president of Polk Bros. Inc., says that the average color tv buyer is looking for a set that will last eight to 10 years with a minimum of repairs.)

Dietch draws the following chart to show just how much power consumption will be cut, as also will heat buildup, in the 19-inch hybrid Admiral will unveil later this year.

19-inch color sets

Power Consumption	Hybrid	All-Tube
Filament power	none	40w
B-plus power	20w	85w
Deflection circuit needs	140w	140w
Total Power Needed	160w	265w

A low-priced, somewhat lower performance 19-inch hybrid is being designed for the low-end of the hybrid line. It will need 45 watts less than the hybrid total above.

Philco's power requirement figures are slightly more than Admiral's, power needed has been cut 25%, and so has heat generated.

The price is???

What will the consumer pay for these new color television sets?

According to a General Electric marketing study, "anything over \$15 above the price of an all-tube set will be by-passed by the public." Although this was for black-&-white, solid-state sets, industry executives say it's true for solid-state color, too.

Philco says otherwise: "Education is the important thing. We're educating our own sales force, and those of our retailers on what solid-state tv means. They're finding out that they really have something new and different to sell. And the public will

An example of the revolution's first stage

"Designing a hybrid color tv means paying attention to details in each of four major design steps," says Harris O. Wood, director of engineering for Philco Corporation's Consumer Electronics Division.

The first step:

"We studied the entire receiver design to pick the most logical places to use transistors and diodes—circuits where solid-state devices pay off in better and more reliable performance."

Circuits picked: The tuner, intermediate-frequency and video amplifiers, and the automatic-gain control.

Criteria for selection: How reliable will the circuit be? Will performance improve? What will it cost?

The second step:

"We intensively investigated available solid-state devices, what family of transistors, and of diodes work best in the circuits selected."

A family of devices is used so one component will compliment the next-down-the-line's characteristics.

The third step:

"We designed new circuits, *tailored* is a better word, around specific transistors and diodes."

Tailoring means two things: the circuit must take full advantage of the device's operating features; it must also provide a safe environment for the device. Temperature during operation should be low. Voltages placed on the device should be low. Noise interference should be non-existent. Power consumption should be low.

Low temperatures and voltage mean greatly prolonged set lifetime. "Reliability increased several times over that of all-tube sets," comments Wood.

No noise interference means a good-looking picture all the time.

Low power consumption (typical is a cut from 410 down to 325 watts) means lower cost to operate the set.

The fourth step:

"We finally matched associated components, such as capacitors, resistors and coils, to the specific device and individual circuit."

A unique change in consumer design procedure. For all-tube sets, the engineer designs his circuit first and then finds a tube to fit. In solid-state designing, the device is chosen that is best for a certain function, as amplifying, and the circuit is then designed around that device.

Transistors also offer an advantage vacuum tubes never had. Every time a tube is operated, its lifetime is that much shortened. Almost the opposite is true with solid-state devices. Operating them affects them so little that, in reality, transistors and diodes have an infinite lifetime.

One example of better performance resulting from solid-state design in Philco's 19-inch hybrid color tv is the automatic-gain-control circuit. Transistorized, its selectivity was increased 25% over a comparable automatic-gain-control circuit using vacuum tubes.

What this means to the customer: when switching from a strong-signal channel to a weak-signal, picture contrast will be almost constant; less fussing with the adjustment knobs is necessary.

"We decided to build our hybrid line for three reasons," said Wood, summing up. "We wanted better performance. We got it. We wanted a definite improvement in reliability. We have it. We wanted engineering and manufacturing experience on products leading toward complete transistorization. This is the way of the future. We're getting it."

step up from all-tube to hybrid. The initial reaction from the field swamped our production capacity. In 1965, hybrid sales were 15 percent of total color sales. So far this year, hybrids account for 40 percent of all our color tv sales."

Philco is recommending a retail tag of between \$440 and \$460 for the 19-inch hybrid, versus \$369.95 for an all-tube 21-inch color set. Philco figures the reliability, compactness and styling are worth the extra \$70-\$90.

"The magic pulling power of the word *transistor* is worth \$30 or more in the marketplace," says Muntz's Selazo.

John H. Schumacher, head of electrical design for Warwick Electronics Inc., figures "between \$15 and \$25 retail." Warwick builds tv sets for Sears Roebuck and Co.

Admiral's Dietch, GE's Humeniuk, Pierce of Wells-Gardner, and Setchell-Carlson's Melius generally agree that price "should be competitive with all-tube sets, if not a stand-off. At maximum, only 5% to 10% more. It all depends on the design."

Zenith's Brown thinks \$50 to \$60 is more realistic; and, compared with Philco's experience, this seems to be correct at the present time.

Brown sees better styling, as a result of smaller package size, supporting the higher price tag. "But," he adds, "I just don't know. The industry has wrestled with this problem of 'which comes first, reliability or styling.' Nobody knows which the public prefers."

But Brown sees prices dropping once the first hybrids are unveiled and on the market. "Initially the price will be high—it's a new design. But by redesigning subsequent models the costs should drop quickly."

Preference for 19-Inchers

Most set manufacturers plan to unveil 19-inch color hybrids.

One industry executive privately explained why: "This size set isn't too expensive to produce, will have an attractive price tag, and will hit the largest market segment. If the 19s sell, the electronics package, with minor modifications, can be used in both the more expensive larger and smaller sets."

Hoffman Products, Setchell-Carlson, and Wells-Gardner are planning 19-inch models. Admiral will show 19- and 15-inch sets. Philco is already producing 19- and 23-inch models and has a 25-inch hybrid in limited production.

Muntz, Warwick, and Zenith are considering the 19-inch as well as other sizes. "You need a line, not just one," explained one executive.

General Electric refused to confirm, or deny, industry rumors of designs for both hybrid and completely transistorized versions of its 11-inch all-tube color set.

Motorola Consumer Products refuses any comment. All group director of engineering Garth J. Heisig would say was, "No devices at the prices." Industry speculation has a 19-inch color hybrid on the drawing boards.

Magnavox also refused to confirm or deny reports of 19-inch and possibly 21-inch hybrids.

RCA is expected to announce two hybrids, 15- and 19-inch versions.

Sylvania's Schuster is for complete transistorization. But the company is reportedly working on a 19-inch hybrid set.

Westinghouse says it is watching the field closely, but would probably

come out with a completely transistorized receiver before it would introduce a hybrid.

While the front offices try to fight off talk of hybrids, integrated circuits in color sets have the industry in a real uproar. No one wants to miss the boat on this real technological innovation.

IC-tv: how soon?

Integrated circuits (IC) are tiny paper-thin chips of material, such as silicon. With the right kind of production equipment, entire amplifiers can be deposited (or integrated) almost atom-by-atom, on such a chip. Such an amplifier is about the size of a match head (cover picture).

Until Admiral's move, everyone thought integrated circuits were far off in the future. Now complete lines of thinking are being revamped with marketing executives asking the engineers, "What are they? How do they work? When can they be used in tv?"

"They can be used profitably right now," says Admiral's Dietch.

"Very good possibilities," admits Hoffman Products' manager of color tv and advanced research Christ Dumas, "of a color set using a lot of IC by 1968."

Zenith's Brown, however, echos the general thinking: "A minimum of three, but more likely five, years."

Philco sees 1972 as the big year for IC-tv. A spokesman says, "We estimate six to eight integrated circuits will be used in each set. By 1972 some 20 to 25 million IC's will be needed to meet production needs."

The spokesman would not venture a guess as to what dollar volume the circuit volume represents, "because

the same wild pricing that affected transistors has now engulfed integrated circuits."

Where the ICs are

Some of the most ambitious thinking on use of IC is going on at Hoffman Products. Dumas says, "Any low-level signal circuit, handling from 20 to 50 volts, can be converted to integrated circuits right now."

Dumas says this includes the video I-F amplifiers, color demodulator, sound stages, FM amplifier, synchronizing-signal processing and amplifying circuits, the horizontal automatic-frequency-control, vertical integrator, and automatic-gain-control stages.

Admiral zeroed in on the color demodulator for its first IC-using set "because the frequency range is low, and one IC replaces two compactron-type tubes (all-tube sets) or five transistors (hybrid sets) at the same cost, but with greater reliability."

Another advantage of both IC and transistors is smaller cabinet size. Admiral figures the total size of its 15-inch hybrid will be less than the present 10½ by 18½ by 10½ inches of GE's all-tube color portable with 11-inch picture tube.

Admiral is not worried about repairs to the color demodulator, the set will probably be thrown out before the tiny integrated circuit would ever fail.

But Zenith's J. E. Brown, vp for engineering and research, is concerned: "We won't use integrated circuits until we can assure ourselves that the serviceman has a supply on his shelf. Then, and only then, might we design integrated circuits into our color tv."

The language of the revolution

Automatic gain control—Circuit that controls how much signal is used by the tv set. In strong signal areas, AGC limits the signal to workable strengths. In weak signal areas, AGC eliminates itself so all the signal is used. AGC helps keep the picture constant when you switch from one channel to another.

B-Plus power—The voltage applied to the plate of a vacuum tube so the plate will attract electrons.

Capacitor—A device that can transfer electronic signals, or be used to store signals, or power, or be used as a timing device in a circuit.

Color demodulator—Circuit that separates (demodulates) the color signal from the video signal. The color signal determines how much of each color appears on the viewing screen of the receiver.

Compactron—A vacuum tube having one glass envelope with two or more individual vacuum-tube functions combined inside. Where three tubes normally might be used, one compactron with three functions will do the same job, and, in addition will take less space.

Deflection circuit—Circuit that controls, or deflects from side-to-side (horizontal) or up-and-down (vertical) the beam of electrons that light-up (paint the picture) on the viewing screen of a tv set.

Filament power—In a vacuum tube, the filament is a tiny wire used to heat the cathode to proper operating temperature. Semiconductors do not need to be warmed up, hence have no filaments. Current and voltage supplied to the filament is filament power.

Frequency range—The frequencies within specified limits. The normal hearing frequency range is from about 50 to 15,000 cycles per second.

Gain—A number indicating how much a signal will be amplified when passed through an amplifier. A signal of 2 would be amplified five times in a unit rated with a gain of 10.

Hybrid—A tv receiver combining many semiconductors and some vacuum tubes in its design.

Integrated circuit—A tiny, thin chip of material on which is deposited, almost atom-by-atom, entire circuits,

such as an amplifier. Micron-sized (millionth-of-an-inch) particles of different materials are used for transistors, diodes, resistors, capacitors.

Noise figure—A number indicating how much noise, or interference, is present in a circuit or device. On a 1 to 10 scale, 2 would mean little noise, 10 would be terrible.

Radio-frequency transistor—A transistor that amplifies radio signals at frequencies above the sound level (above 20,000 cycles per second).

Resistor—A device of a resistive material, such as carbon, used to decrease voltage or limit current in a circuit.

Signal circuit—Any circuit that amplifies a signal or modifies it.

Semiconductor—A solid material whose resistance (to electric current) is half way between a conductor (example, copper wire) and an insulator (example, glass). Transistors and diodes are semiconductors.

Solid-state receiver—A tv (using semiconductors) with no vacuum tubes other than the picture tube.

Synchronization circuit—Picks the signals, from the total tv signal, that time, or synchronize, the operation of the various circuits in a television receiver.

Tuner—first stage in a tv set. The tuner selects (or tunes in) one signal of many being picked up by the tv antenna, which signal is controlled by the channel-selector knob's position.

Vertical integrator—Circuit that gathers, or integrates, the vertical control signals for use in the vertical deflection circuits.

Video amplifier—Circuit that amplifies the weak video picture signal picked up by the antenna, into a signal powerful enough to be used to form a picture on the viewing screen.

Video I-F—After the radio-frequency signal picked up by the antenna has been converted to a lower frequency (easier to work with), this intermediate frequency (I-F) is then amplified. Before the picture appears on the screen, the I-F is converted to a still lower frequency (back to the original signal generated by the tv camera in the studio).

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BOSTON, MASS. JAN. 26-27-28	DAYTON, O. Imperial House FEB. 3	INDIANAPOLIS, IND. JAN. 25-26	Miami, Florida DuPont Plaza FEB. 19-20-21	Howard Johnson Motel JAN. 25-26-27	Wichita, Kansas JAN. 23-24
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GENERAL ELECTRIC
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HOUSEWARES SALES

The window washer ballyhoo: only the product is missing

The automatic window washer has been pre-sold to the housewares industry—sight unseen. Never has a new product idea caught the imagination of the trade—manufacturers, distributors, and retailers alike—so early in the development stage.

The idea has caught on. Many a housewares buyer apparently is convinced that it will sell—provided, of course, that the product performs as promised: washes windows automatically and conveniently—and, equally important, washes them both inside and outside.

When **MERCHANDISING WEEK** carried an exclusive report last fall (MW, 4 Oct., '65, p.41) that the automatic window washer was in the development stage, only a few manufacturers were known to be looking at the product. Since then, the number has multiplied to the point where many electric housewares manufacturers are now actually working on it, and many more are waiting in the wings to knock it off.

The importance of market research is underscored by the automatic window washer; it is a product being born out of such research. A number of market research programs conducted by housewares manufacturers seemed to turn up the same finding: women hate to wash windows and want an easier way of doing it. Regina Corp. is believed to be the first producer to show a prototype; eventually word leaked out.

Another marketing fact-of-life in today's housewares industry also is pointed up by the window washer: electric housewares manufacturers increasingly are developing new products that compete with very inexpensive products that perform the same jobs. The window washer will compete against 69¢ liquids and sprays. The slicing knife competes with less expensive cutlery. The automatic toothbrush competes against

39¢ toothbrushes. And GE's new cordless clothes brush faces competition from lint rollers and old-fashioned clothes brushes, not to mention the low-end Japanese imports that work off flashlight batteries.

Price is a very real concern; therefore, most manufacturers would like to come in under \$20, or, if cordless, under \$25. (And, after all, even \$20 will buy a lot of Windex.)

Product design is a problem, too, but apparently a solution is well on the way, judging from the comments of those manufacturers willing to discuss the product. Several pointed to the need to design a washer that will work effectively both inside and outside the house; and, of course, water cannot be tossed around as carelessly inside the house as it can outside. On electric models, Underwriters' Laboratory (UL) safety requirements must be worked out; several manufacturers said they have had discussions with UL.

What will the product look like? Some manufacturers describe their approach as "wand-like," while others say the appearance is similar to a portable vac and an upholstery shampooer.

Some of those working on it: Osrow, Endura, Regina, Waring, Sunbeam, Shetland, and Eureka-Williams.

When will it be available? A good bet is that initial test marketing could get under way by this spring. Although many manufacturers would like to be out first, most are approaching the project cautiously, preferring to be right rather than first, as Sunbeam's sales vice president B. H. Melton puts it.

A battery-operated car window washer was introduced at the Housewares Show by Osrow Products. The unit plugs into the cigarette lighter. But it is not exactly what the industry—or even Osrow—has in mind for the near future.

KEY MOVES

Braun—Arthur B. Butlien has been appointed national sales mgr.

Hamilton Beach—Former White House chef Rene Verdon has joined the company as culinary consultant. Verdon will act as a demonstrator in key retail outlets.

GE—Allan N. Stewart has been named merchandising mgr for the distribution component of the Housewares Division.

Northern Electric—Dudley J. Woodman has been appointed to the newly created post of marketing vp, and Maurice F. Moriarty assumes Woodman's former position as sales vp.

Ekco—Julian Brown has been named mid-Atlantic zone sales mgr.

Bissell—Edward R. Kohler is named district sales mgr, Los Angeles area.

Mirro—Brad L. Sershon has been appointed assistant sales mgr of the Chicago office.

Waring—Roy L. Swanke has been named to the newly created position of operations vp.

Toro—Two vps, Robert W. Gibson and E. S. Conover, have been appointed to newly created positions as executive vps. Gibson is now responsible for marketing, research, and agronomy, and is product project mgr. Conover is responsible for finance, engineering, operations, and quality control.

White—Ray W. Richards has been named sales vp for White, Elna, Domestic, and Hilton sewing machines. Arthur J. Kovac has been named sales mgr for White and Hilton-Tessler sewing machines.

Ingraham—Robert A. Wieland, Jr., has been appointed manufacturing vp; Daniel J. Donovan has been appointed field sales mgr for the clock and watch division, and Delmar Relja has been named Pittsburgh district sales mgr for the same division.

□□□□ The way buyers rate new products may be a bit different than the approach taken by industrial designers. But for the record, here is a list of products buyers singled out as impressive among the new introductions at the Housewares Show.

In blenders: The Westinghouse and Rival units with solid-state controls; the Ronson Cook 'N Stir blender, although some buyers were wary of the \$75 list price the unit carries. Ronson's countertop "food preparation center" also was mentioned, but often qualified by that lingering concern about merchandising multi-purpose appliances.

In clocks: buyers liked Westclox' new competitive pricing in electric alarms and kitchen clocks; and Spartus gained considerable comment—both good and bad—for having combined clocks with reproductions of original oil paintings; one example: a painting that includes a church, with the clock movement placed in the church steeple. ("Just gimmicky enough that it might go," said a catalog buyer.)

In cookware: Sterno's entry into the field with its Country Cookery enameled-steel line; Revere's Perma-Loc process for Teflon on stainless steel; the Ekco and Copco shop merchandising programs.

In floor care: Shetland's decorator line of canister vacs, the Fashionables, were cited favorably by Show buyers.

In personal care electrics: GE's rechargeable clothes brush; Ronson's hair brush; Owen Frank and Meteor's electric combs ("They need a demo," buyers agreed); Norelco's first rechargeable cordless shaver, a belated entry into the field; and Hanovia's new sunlamp line.

In other electrics: Dominion's colorful new Teflon-coated frypan; Westinghouse's polished non-stick iron soleplate, among the variety of new Teflon-coated irons; Rival's new low-priced can opener; Cory's new hassock fan, and GE's five-bladed models, among general praise for new fan lines; Panasonic and Oster's new juicers; GE's Permatel coffeemaker, a pickup from Universal, and E. R. Wagner's electric clothes dryer.

Other new products singled out: Dorothy's Dean's campy, feathery bath accessories; a variety of kitchen shelf organizers, a la Rubbermaid; canisters from Ransburg, Mort Marton, and Loma; Twin-Z's self-adhesive vinyl with backing that can be used as a shelf liner; and the generally bright colors in bath goods and laundry supplies.

□□□□ Ekco will gain new exposure for gadgets thanks to its comical carding (see photo right) introduced at the Housewares Show in Chicago. Ekco's approach received favorable comment from housewares buyers, who view it as a clever idea, as well as a good device to take the customer's mind off price. But the biggest benefit for Ekco is expected to come from the additional exposure it will receive at retail. Jack B. Blane, president of Ekco housewares, points out that the firm has been pitching the comical-carded line—even to stationery departments and stores—with considerable success.



Ekco comic-card

□□□□ **More portable clothes dryers** are planned for the July Housewares Show, judging from manufacturer interest and comment on E. R. Wagner's portable unit introduced this month. Oster is one good bet to get into the portable dryer market, and others clearly are eyeing the field. Wagner's clothes dryer—styled like a tv set—probably was the product most shopped by competing manufacturers at the Show. Buyers liked it, too, especially the styling. Some buyers feel the Wagner unit, which will retail at under \$35, could be a sales sleeper and a sales stealer. One chain buyer said: "It's the first one designed with the woman in mind."

□□□□ **A new buying group for drug wholesalers**, Drug Merchandisers Associates Inc., has been formed in New York City. The group, headed by Jack Osterweil, will provide marketing and merchandising service—including pooled buying—in sundries, housewares, and other non-drug product categories handled by drug retailers, but generally not carried by drug wholesalers. The goal is to make independent drug wholesalers a one-stop shopping source for retail drug accounts.

On the national level, McKesson & Robbins has moved to broaden its role in sundries and housewares. Many independent drugstores now are serviced in housewares and other non-drug product categories by rack jobbers, tobacco jobbers, traditional housewares wholesalers, and others. Osterweil said a dozen independent wholesalers have been signed up so far. Osterweil's background is in the chain drug field. He formerly was associated with United Whelan.

□□□□ **More housewares exhibits at NAHHIC's show** reflect the search for a marketing route through the house-to-house installment credit field. Corning Glass Works and Ronson Corp. are among the housewares firms exhibiting at the show, which opened over the weekend and runs through Wednesday at the Hotel New Yorker, in New York City. They join a wide array of housewares, electric housewares, and general merchandise exhibitors at the show, which is sponsored by the National Assn. of House-to-House Installment Companies.

□□□□ **Endura Appliance is expanding**, having lined up a larger plant in Freeport, Long Island, N.Y., where the firm was founded less than two years ago. Robert Freedman, president of Endura, said the new plant offers additional space for production of new products.

An automatic window washer is high on the firm's planning list, Freedman said. Endura has lined up a second promotion on its cordless knife, in addition to the free stay in Miami it is offering consumers (MW, 10 Jan., p.57). Endura will offer a \$2 consumer refund on its knife, pegging it to five years of free electricity for recharging the unit.

□□□□ **GE names its first woman salesman**—Miss Ann O'Brien—who will become a district sales representative in the Chicago area for GE's independent distributor sales component, effective Feb. 1. Miss O'Brien has been a field home economist in the Chicago area since 1960; she joined GE in 1951 as a secretary.

New look in decorator clocks: cordless, but is it art?

Clock manufacturers are beginning to ride the cultural wave that is inundating the country. Spartus Corp. took the all-decorative non-functional look in decorative wall clocks to its logical extreme at the Housewares Show, where it introduced its new "art look": a line of cordless clocks placed in framed reproductions of oil paintings.

Buyer reaction to the art line by Spartus ranged all the way from "a show-stopper" to "early Howard Johnson;" but none of the retailers were shying away from the \$39.95 price tag. GE used the Show to push the international flavor of its six-model line of clocks—each designed in the style of a different country, each \$35.

Decorator clocks are gaining an ever increasing share of the clock market; most decorators are cordless. Industry sources estimate that while only 12% of all electric clocks were cordless in 1965, 40% of all electric wall models and 70% of all decorator electric wall models were cordless. In line with that trend, Syroco introduced a \$30 cordless decorator clock as the first model in its new Country Collection, and Spartus added four new Spanish-motif sunburst clocks to its line. But most other manufacturers were putting their money on contemporary styling, rather than last year's Spanish or Early American styles.

A clock for every room has been the recent motto of the clock industry. Manufacturers have been making occasional clocks for the study, decorator wall clocks for the living room, promotional alarms for the bedroom, electric decorators for the kitchen, and 8-day nursery models.

The next big market for cordless clocks looms as the bathroom. Even though the bathroom trend is still fairly new—and most manufacturers are selling many models as bathroom clocks—the big market for bathroom clocks is only a few years away.

"Most people could use some kind of clock in the bathroom to help them get out of the house on time," explained a Westclox spokesman. "And since the one outlet in the bathroom is for the man's electric razor, the clock should be cordless."

Cordless clocks will probably stay in the living room and bathroom for a while, since women prefer an electric clock in the kitchen. "Cordless clocks appear to be more decorative than functional," said one manufacturer, "and women still feel electric clocks are more accurate."

Alarms will probably continue chiefly in keywound and electric versions. Westclox has introduced an alarm—in both keywound and electric—that can be turned off with a touch. And most manufacturers have added new promotional alarms to their lines.

New metal storage shed lines: no stopping to conquer space

Fancy, feature-packed storage sheds are climbing into the Great Society's back yard with bigger sizes and bigger sales than ever before.

Sheds have been stepped up rapidly from the ugly metal-box stage. Now, they are frequently used as poolside cabanas, children's playrooms, and screened porches, as well as for storage of all the products the affluent suburbanite has bought but has no place for.

Affluence and status consciousness are credited with the trend to fashion and features, "just like in the automobile industry," explained Murray Fischel of Arrow Metal Products.

Manufacturers estimate that sales of prefabricated home storage sheds have doubled each year since the products' introduction in 1957. Total sales volume for last year may have reached \$50 million at retail, according to trade estimates.

Predictions for 1966 sales range from a 30% to 75% increase over last year, with department stores accounting for that bulk of business not done by Sears. The retailing kingpin reportedly does a major share of its shed business through catalog orders.

The most popular storage shed size in 1965, according to manufacturers and buyers, was the 6-by-6-foot (floor area) unit. The same sources expect this year's top seller to be even bigger: probably 6-by-8-foot models.

Prices are generally unchanged from last year at the retailing and manufacturing levels, although the accent this season will be placed on more expensive goods.

Arros is promoting a wide array of colors and its use of gable roofs. Shepeco is touting its woodgrain vinyl on cold rolled steel as the "million-dollar finish." Conax says its shed with interchangeable screens is the only "convertible" on the market.

Roll-up doors are a popular feature. I. Levy Sons (Ibson brand), the pioneer home storage-shed manufacturer, introduced roll-up doors this year on "popular-priced" models. An aluminum 5-by-6-foot shed (door height is 6 ft. on all models) retails under \$100.

"Sheds are helping get the car back in the garage," said Irv Gaipman, sales manager for the William Heller Co. Heller has dubbed its sheds Porta/Rooms, "a new concept in outer space."

Quick assembly for the consumer, and quick inexpensive delivery to the retailer are being talked up by manufacturers. Sheds can now be assembled with a minimum of time and tools needed, producers say. Capitol Products says only a screwdriver is needed to assemble any of its buildings. Regional warehouses, trucking by manufacturers, and "piggy-back" freighting are cited as reasons for faster and cheaper delivery costs than before.

Pricing major appliances: a look at four new catalogs

Here is a look into some major appliance sections of the new spring-through-summer catalogs of four giants: Sears, Montgomery Ward, Spiegel, and Aldens.

Compact refrigerators

Sears: two Kenmore compressor models are offered: a 2-cu.-ft. unit with two removable shelves at \$97.95; a 1.5-cu.-ft. unit at \$78.95. A 1.4-cu.-ft. portable is \$97.50. **Ward:** a 6.7-cu.-ft. undercounter unit is \$154.95. Two electric portables—in .37- and 1.1-cu.-ft. capacities—are \$52.95 and \$109, respectively. An electric 2-cu.-ft. compact is \$145. In gas-electrics, a 3-cu.-ft. unit is \$195 and a 4-cu.-ft. model is \$249. **Spiegel:** a 3-cu.-ft. three-shelf unit is \$99.88. A 5.2-cu.-ft. countertop model is \$147.88. Both units have matching freezers. A 2-cu.-ft. model is \$89.94. **Aldens:** a 4.6-cu.-ft. table-top compact refrigerator is \$99.95. A 2.3-cu.-ft. unit is \$79.95.

Standard single-door refrigerators

Sears: an 11-cu.-ft. manual defrost unit with 1.3-cu.-ft. top freezer is \$149.95. **Ward:** a 9.1-cu.-ft. model, with 1.3-cu.-ft. top freezer is \$169.95. **Aldens:** in its first expanded majors line, Aldens offers a 12-cu.-ft. unit with 50-lb. top freezer at \$169.94. A \$249.95 unit, with 14-cu.-ft. capacity, has a 103-lb. top freezer.

All-refrigerators

Sears: a 15.4-cu.-ft. unit, with icemaker and small freezer, is \$299.95. **Ward:** a 12.8-cu.-ft. unit with 1.1-cu.-ft. freezer is \$269.95.

Two-door top-mount refrigerators

Sears: a 16.5-cu.-ft. unit with 3.9-cu.-ft. freezer and icemaker is \$369.95. A 14-cu.-ft. model, with icemaker and 3-cu.-ft. freezer, is \$309.95. A 12.3-cu.-ft. unit, with icemaker and 3-cu.-ft. freezer, is \$259.95; without icemaker, \$229.95. A 12.3-cu.-ft. unit with 3-cu.-ft. freezer is \$199.95. All of the Sears' units are no-frost models. **Ward:** a 13.5-cu.-ft. unit, with icemaker and 4.5-cu.-ft. freezer, is \$409.95. A 12.2-cu.-ft. unit, with icemaker and 3.9-cu.-ft. freezer, is \$379.95; without icemaker, \$349.95. A 10.5-cu.-ft. unit, with icemaker and 3.5-cu.-ft. freezer is \$319.95; without icemaker, \$289.95. A 10.5-cu.-ft. unit with 3.5-cu.-ft. freezer is \$269.95. All are no-frost models. A 11.8-cu.-ft. unit with 2.8-cu.-ft. freezer is \$199. A 12.2-cu.-ft. unit with 3.4-cu.-ft. freezer is \$233. **Aldens:** a 14-cu.-ft. no-frost refrigerator with 103-lb. freezer is shown at \$249.95.

Two-door bottom-mount refrigerators

Sears: an 18.2-cu.-ft. unit, with icemaker and 5.3-cu.-ft. freezer, is \$469.95; in six decorator fronts: \$499.95. An 18.5-cu.-ft. unit, with icemaker and 5.3-cu.-ft. freezer, is \$429.95. A 16.4-cu.-ft. unit with icemaker and 5.3-cu.-ft. freezer, is \$399.95. A 14-cu.-ft. unit, with icemaker and 4.6-cu.-ft. freezer, is \$339.95. All are no-frost. **Ward:** an 18-cu.-ft. unit, with icemaker and 5.1-cu.-ft. freezer, is \$489.95. A 16.1-cu.-ft. unit, with icemaker and 4.4-cu.-ft. freezer, is \$409.95; without icemaker, \$379.95. A 13.6-cu.-ft. unit with 4.3-cu.-ft. freezer, is \$289.95. A 14-cu.-ft. refrigerator with 4.7-cu.-ft. freezer is \$238. All are no-frost units.

Compact freezers

Sears: two Kenmores—2-cu.-ft. and 1.5-cu.-ft. models—are \$104.95 and \$88.95, respectively. **Ward:** a 6.4-cu.-ft. undercounter unit, in white or coppertone, is \$149.95. **Spiegel:** a 3-cu.-ft. undercounter unit is \$99.88. A 4-cu.-ft. countertop unit is \$147.88. Both have matching refrigerators. **Aldens:** a 4.2-cu.-ft. unit is \$99.95; a 1.9-cu.-ft. unit is \$79.95.

Free-standing gas ranges

Sears: a 30-inch double oven, eye-level range, is \$389.95; with single oven, \$284.95. A 30-inch, double-oven, eye-level range with Teflon-coated griddle is \$289.95. A 30-inch range with eye-level oven is \$189.95. A 39-inch range with side-by-side ovens is \$329.95. Ten standard models range in price from \$79.95 to \$249.95. **Ward:** a 30-inch, double-oven, eye-level range with warmer oven is \$279.95; with no warmer oven, but top controls, \$279.95. A 30-inch (gas or electric) range with single eye-level oven is \$219.95. The Ward line goes from \$89.95 for a 20-inch range to \$259.95 for a 30-incher with top controls.

Free-standing electric ranges

Sears: a 30-inch, two-burner, double-oven, eye-level range is \$330.95; with single oven, \$234.95. A two-oven, eye-level range with upper oven shutoff timer is \$389.95; with single oven, \$284.95. A 39-inch range with side-by-side oven is \$349.95. Sears' line goes from \$109 for a 20-inch unit to \$249.95 for a 36-inch range with two ovens. **Ward:** a 30-inch double-oven, eye-level range with warmer oven is \$329.95. Ward's line goes from \$119.95 for a 20-incher to \$259.95 for a 40-inch double-oven unit.

Built-in and portable dishwashers

Sears: a 4-cycle unit washes and rinses at 180 degrees, \$219.95; at 150 degrees, \$209.95. A 4-cycle Kenmore, built-in or portable in white or coppertone, is \$189.95. A 4-cycle Lady Kenmore portable, in white, doeskin, or coppertone, is \$219.95. A 2-cycle portable is \$149.95. Two 1-cycle portables are \$149.95 and \$124.95. **Ward:** an 8-cycle built-in is \$219.95; a 3-cycle unit is \$179.95. A portable is \$129.95; a larger version is \$159.95. A 160-degree rinse portable is \$189.95; in coppertone, \$199.95. **Spiegel:** a 5-cycle GE unit is \$149.94.

Automatic washers

Sears: a 6-cycle 2-speed unit is \$219.95; a 2-speed unit is \$189.95. A 1-cycle unit is \$149.95. A 3-cycle 2-speed unit is \$159.95. Two 1-speed, 1-cycle units are \$129.95 and \$159.95. **Ward:** a 16-lb. solid-state unit is \$339.95. Five 16-lb. units are from \$129.95 to \$269.95. **Spiegel:** a 2-cycle unit is \$179.94; a 3-cycle unit is \$199.94; a 3-cycle model in copper-tone is \$228.88. **Aldens:** a 16-lb. unit is \$204.88.

Dryers

Sears: a Lady Kenmore unit is \$179.95. A 5-model line goes from \$79.95 to \$179.95. **Ward:** five 16-lb. models go from \$84 to \$229.95. **Spiegel:** three units go from \$139.94 to \$179.94 with matching washers. **Aldens:** two spin-dryers are \$149.95 and \$159.95; a 4-setting unit is \$159.88.

INDUSTRY TRENDS

An up-to-the-minute tabulation of estimated industry shipments of 18 key products. **New figures this week in bold-face type.**

	date	1965	1964	% change
FLOOR CARE PRODUCTS				
floor polishers	November	120,074	108,729	+ 10.43
	11 Months	1,083,783	1,086,603	- .26
vacuum cleaners	November	543,542	409,557	+ 32.71
	11 Months	4,675,553	4,134,343	+ 13.09
HOME LAUNDRY				
dryers, clothes, elec.	November	153,011	135,137	+ 13.23
	11 Months	1,228,958	1,066,907	+ 15.19
dryers, clothes, gas	November	81,459	64,257	+ 26.77
	11 Months	628,910	564,796	+ 11.35
washers, auto. & semi-auto.	November	327,349	286,767	+ 14.15
	11 Months	3,453,812	3,266,947	+ 5.72
wringer & spinner	November	43,085	47,006	- 8.34
	11 Months	536,168	606,553	- 11.60
OTHER MAJOR APPLIANCES				
air conditioners, room	October	112,200	99,200	+ 13.10
	10 Months	2,617,900	2,360,900	+ 10.89
dehumidifiers	October	3,300	2,000	+ 65.00
	10 Months	197,700	198,800	- .55
dishwashers, portable	October	64,500	43,500	+ 48.28
	10 Months	323,700	245,200	+ 32.01
dishwashers, under-counter, etc.	October	66,000	65,600	+ .61
	10 Months	657,300	575,400	+ 14.23
disposers, food waste	October	123,300	124,000	- .56
	10 Months	1,137,200	1,087,200	+ 4.60
freezers, chest	October	43,100	33,400	+ 29.04
	10 Months	393,300	372,700	+ 5.53
freezers, upright	October	70,600	50,200	+ 40.64
	10 Months	597,000	576,900	+ 3.48
ranges, elec., free-standing	October	112,000	98,600	+ 13.59
	10 Months	1,040,000	938,100	+ 10.86
ranges, elec., built-in	October	62,000	66,400	- 6.63
	10 Months	642,600	673,400	- 4.57
ranges, gas, total	November	188,000*	172,500	+ 8.99
	11 Months	2,047,000	1,998,300	+ 2.44
refrigerators	October	430,400	368,100	+ 16.92
	10 Months	4,067,600	3,829,300	+ 6.22
water heaters, elec. (storage)	October	90,600	85,200	+ 6.34
	10 Months	916,200	839,100	+ 9.19
water heaters, gas (storage)	October	236,630	260,450	- 9.15
	10 Months	2,168,020	2,333,540	- 7.09
CONSUMER ELECTRONICS				
phonos, port.—table, distrib. sales	Dec. 31	50,040	81,062	- 38.27
	52 Weeks	3,988,586	3,417,614	+ 16.71
monthly distributor sales	October	452,779	489,062	- 7.42
	10 Months	2,840,257	2,316,713	+ 22.60
phonos, console, distrib. sales	Dec. 31	41,479	32,270	+ 28.54
	52 Weeks	1,704,597	1,738,675	- 1.96
monthly distributor sales	October	175,381	187,742	- 6.58
	10 Months	1,252,881	1,296,781	- 3.39
radio (ex auto), distrib. sales	Dec. 31	156,533	107,136	+ 46.11
	52 Weeks	13,277,597	10,771,276	+ 23.27
monthly distributor sales	October	1,546,218	1,158,890	+ 33.42
	10 Months	10,289,387	8,139,735	+ 26.41
b&w television, distrib. sales	Dec. 31	120,916	106,725	+ 13.30
	52 Weeks	8,014,408	7,684,960	+ 4.29
monthly distributor sales	October	880,822	759,970	+ 15.90
	10 Months	6,492,461	6,162,271	+ 5.36
color television, distrib. sales	Dec. 31	72,825	36,575	+ 99.11
	52 Weeks	2,747,827	1,366,301	+101.11

*November total includes 132,500 conventional free-standing ranges, 20,500 high-oven models, 21,200 built-ins, and 13,800 set-ins. Sources: NEMA, AHLMA, GAMA, EIA, VDMA.

Philco's solid-state portables are really rolling.

Demands for Philco's solid-state portables are so overwhelming, we're doing everything we can to keep up with the swift pace. And we're doing it. We're really rolling.

Philco solid-state portables are available right now—when you need them. These are the portables that don't wear out or burn out—they just sell out. Because they have transistors and diodes replacing many of the tubes for peak performance and reliability.

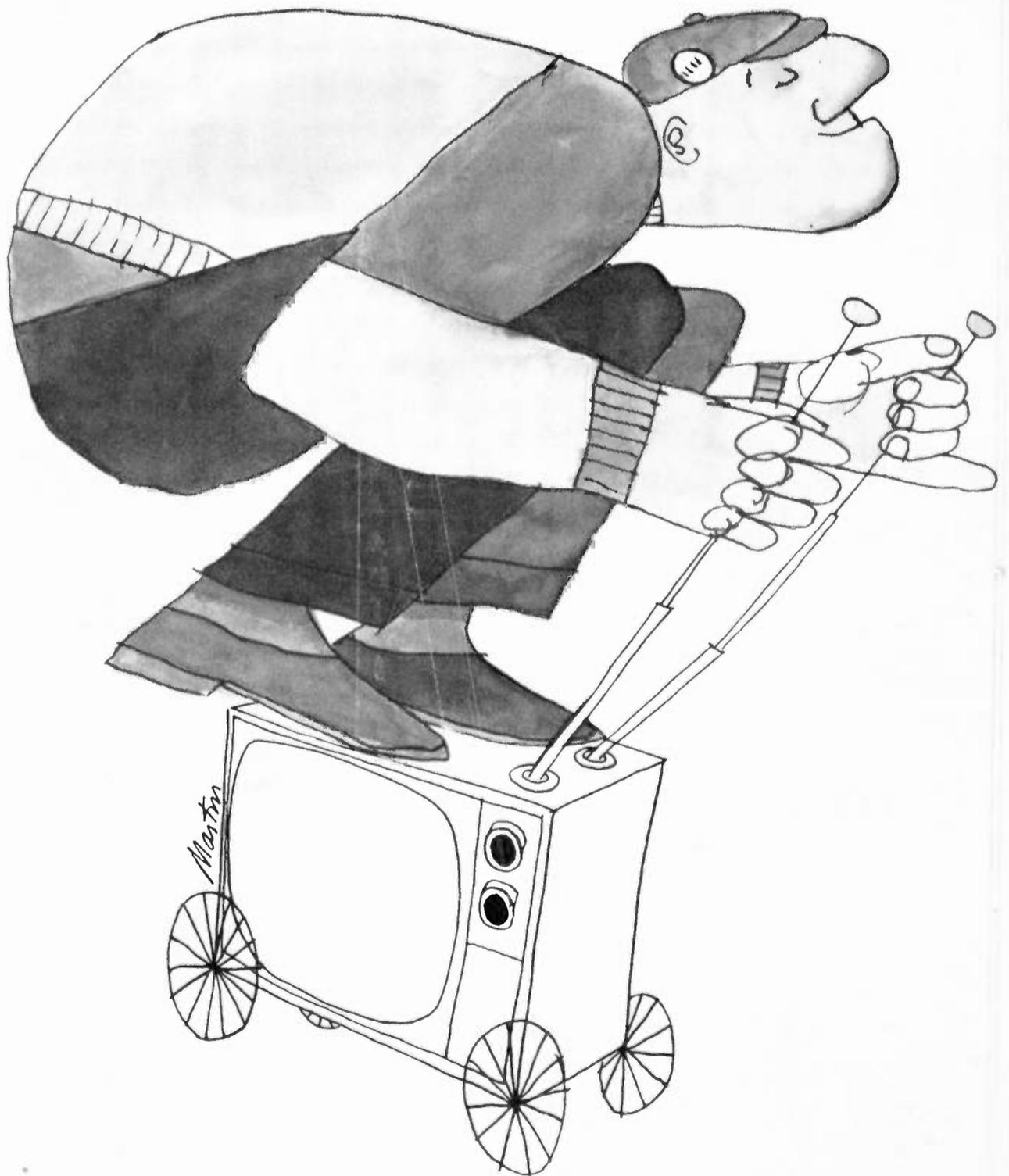
And they give you the kind of profit you dream about. Only you're not dreaming. There's real money to be made with Philco solid-state portables. Here are sets you can move without giving the store away. And the quicker you see your Philco distributor, the quicker you can start rolling.

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Philco's really moving!