

Video Takes a Turn for The Future

By Yoshihiro Shiraishi

In the 1960s, the so-called "three sacred treasures," or "three Cs" of Japanese families were color television, cars and air conditioners. They symbolized the tremendous domestic consumption during the period of high economic growth as the ownership of these items spread rapidly among households. In 1983, the diffusion rates of the three Cs were television, 99.2%; cars, 64.8%; and air conditioners, 49.3%. In the case of TV, average ownership per household expanded to 1.7 units, indicating a trend toward individual use. TV has come to be regarded as one of the basic substances essential to human life.

Japan's electric home appliance industry expanded during the first boom period (1950s) when sales of washing machines, refrigerators, electric fans and radios soared. The industry continued to grow from the 1950s to 1960s with black-and-white TV sets, and in the 1960s to 1970s with color TVs and stereos leading the way.

At that time, the videotape recorder (VTR*) was expected to be the new industry leader, taking the crown from color television.

Success: compact size and volume production

The development of the VTR got under way in the United States in the latter half of the 1940s and in 1956, Ampex Corp. (U.S.) introduced the first model feasible for broadcasting purposes based on a four-head, two-inch tape system. From 1958 to 1960, Japanese television stations imported Ampex-manufactured VTRs. At the same time, Toshiba, Sony, Victor, Akai and Shibaden (now Hitachi Denshi Ltd.) embarked on the development of smaller two-head and one-head VTRs.

Although the basic hardware technology, as in the case of other products, was developed in the United States, Japanese manufacturers displayed superb skill in production and product development by reducing the size of the equipment and improving the quality. After much effort, Sony and Akai produced a half-inch reel-to-reel, monochromatic VTR, which was



marketed in limited quantity in the United States in 1965-66.

Half-inch format VTR brings video to the home

In 1970, the 3/4-inch cassette-type VTR (U-matic) appeared and became the model of the present basic home video system replacing the monochromatic and reel-to-reel types. It is based on the uniform format adopted by Sony, Matsushita and Victor, and is used like the 16mm films as a standard type for broadcasting and commercial purposes. But the U-matic VTR for general consumers cost ¥500,000-600,000 (\$2,000-2,400) and the 60-minute tape was priced at ¥10,000 (\$40). Since the equipment was too costly and bulky for ordinary households, its wider diffusion was unlikely.

The popularity of VTRs for home use came with the introduction of a half-inch cassette-type model: Sony's Beta system in 1975 and Victor Co. of Japan's (JVC) VHS system in 1976. Annual production, which had remained sluggish at the 100,000-unit level, soared to 288,000 in 1976 and to 762,000 in 1977 (see Table 1).

Output continued to rise at a phenomenal pace. In 1978, it surpassed one million; in 1982, 10 million; and in 1984, 27 million. Value of production also leaped from ¥1 trillion (\$4 billion) in 1981 to ¥2 trillion (\$8 billion) in 1984. Compared with the number of units produced, the

gain in the value of production was down as a result of cost reduction.

The value of VTR production has surpassed that of color television and is now the highest in the electronics home appliance industry. Compared with the production value of other electronic products, it is about the same as the total for color television, radio cassettes, general purpose computers and personal computers combined (Table 2).

VTR sales are now being used as a standard in the trend of consumption. Along with biotechnology-related products, VTR stock often becomes a stock market price leader, indicating the latter's important role in Japanese industry as a whole.

VTR as an export leader

Next to motor vehicles, VTRs are Japan's leading export item. VTRs have certain characteristics which set them apart from other products.

For example, exports account for 80% of VTR sales. Color television, formerly Japan's prime export item, was exported only after saturation of the large domestic consumer market. Automobiles continue to be Japan's foremost export product, but the ratio of domestic and export sales is about equal. In contrast, Japan monopolizes over 90% of the world production of VTRs, and started their production with the intent to export.

Japan has been able to capture such a large market share because of its wide lead over other countries in production technology needed for VTRs.

During the 1970s, VTR exports were equally divided among North America, Europe and Asia. From 1980 to 1982, there was a sharp growth of exports to the European market, but the growth came to a halt in 1983-1984. Exports have since been centered on the United States. (In fiscal 1984, 44.5% of Japan's entire VTR production was exported to North America.)

Video cameras have replaced 8mm movie cameras in growth, while videodiscs are regarded as the most promising home electronic appliance for the post-VTR period during the latter half of the 1980s. The market for videodiscs, however, is unlikely to become as large as that of VTRs (Table 3, 4).

VTR: how it's used

After its spectacular take-off in the

latter half of the 1970s, the VTR industry settled down to the steady growth that it enjoys now. The spread of VTRs on the domestic market also gives hope for continued steady growth and stability (Table 5).

Some marketing specialists express disappointment over the diffusion rate of VTRs, which they consider low when compared with the explosive popularity of color television during the past period of high economic growth. If one compares VTR diffusion rates with those of other durable consumer goods (color TV 99.2%, cameras 85.7%, radio cassettes 70.2%, stereos 58%, electric ovens 49.8%), it's apparent that unlike TV sets or refrigerators, a VTR is not considered a necessity; like other audio products, it is considered a "hobby item." For the time being, therefore, its diffusion rate is expected to remain at the 60% level.

VTR can be used in three ways: 1) to view marketed videotapes—"software"***; 2) to record/reproduce televised programs; and 3) to take pictures with a video camera.

Initial VTR demand in the United States was sustained by a plentiful supply of software consisting of general audience and "adult" films. In Japan, the VTR is used mainly for recording TV programs because of the high cost of pre-recorded tapes (¥30,000-50,000 or \$120-200) as compared to the United States, where movies can be purchased for as low as \$20-30 and rented for \$4-5.

In Japan, VTR is often used for recording TV programs because of the availability of eight channels (seven VHF stations and one UHF station) in such major cities as Tokyo and Osaka, the well-rounded television networks and the fondness of the Japanese for TV-viewing.

The average VTR viewing time per day of owners is 20 minutes, which is short compared with the average TV viewing time in 1984 of 3 hours and 6 minutes. While the viewing time for TV is declining, the viewing time for VTR is expected to get longer.***

From about 1983, videotape viewing took firm root. Although video software

Table 1 Production of VTR Sets

FY	No. of sets	Compared with previous year (%)	Value (¥ million)	Compared with previous year (%)	Exports	Export value (¥ million)	Export ratio to output (in no. of sets)
1969	10,067	—	2,567	—	—	—	—
1970	49,641	493.1	10,588	412.5	—	—	—
1971	49,138	99.0	9,484	89.6	—	—	—
1972	113,898	231.8	17,453	180.4	—	—	—
1973	137,008	120.3	25,545	140.6	—	—	—
1974	124,008	90.5	28,587	111.9	—	—	—
1975	119,162	96.1	27,975	97.9	—	—	—
1976	288,027	241.7	60,717	217.0	—	—	—
1977	762,919	264.9	131,041	215.8	—	—	—
1978	1,470,859	192.8	211,277	161.2	—	—	—
1979	2,199,069	149.5	296,301	145.2	—	—	—
1980	4,441,212	201.5	562,825	190.0	—	—	—
1981	9,497,865	213.9	1,086,799	193.1	7,354,796	853,504	77.4
1982	13,134,106	138.2	1,284,987	118.8	10,652,437	1,079,411	81.1
1983	18,216,566	138.8	1,513,991	117.3	15,237,483	1,260,764	83.6
1984	27,123,587	148.9	2,019,919	133.4	22,071,257	1,620,668	81.3

Note: VTRs for broadcasting use included up to 1974.

Sources: Monthly Machinery Statistics, Ministry of International Trade and Industry; Customs Clearance Statistics, Ministry of Finance

Table 2 Production of Major Electronic Products (FY 1984)

	No. of sets	Value (¥ million)	Compared with previous year (%)
Color TV	14,961,173	755,761	110.4
Radio cassette	28,305,780	338,851	122.8
General-purpose computer	12,762	663,030	94.7
Personal computer	1,500,810	248,345	—
VTR	27,123,587	2,019,919	133.41

Table 3 Color Video Camera Production

	No. of sets	Value (¥ million)	Exports	Value (¥ million)
1981	1,212,341	142,535	861,737	113,354
1982	885,332	87,815	797,270	112,695
1983	1,097,709	108,204	940,930	127,066
1984	1,570,929	154,819	—	—

Table 4 Videodisc Player Production

	No. of sets	Value (¥ million)	Exports	Value
1984	402,714	47,697	—	—

Note: 1983 industry estimate: 180,000 sets.

Table 5 VTR Household Diffusion Rate

Year	%
1979	1.9
1980	2.0
1981	5.1
1982	7.5
1983	11.8
1984	18.7
1985	30.0 Est.

Source: Survey of Consumption Trends, Economic Planning Agency

sales are small compared to those of hardware and audio cassettes, videotapes now have a well-established market, primarily among young people. Initially, video software was a somewhat closed market centered on pornography just as in the United States, but today dramatic, musical and animated films are popular. In 1984, video software sales totaled approximately ¥82,900 million (\$332 million). Within a period of a few years, 3,000-4,000 videotape shops have been established indicating that video has a big following and is here to stay (Fig. 1).

Initially, the production of software with video cameras was encouraged by the conversion of 8mm movie camera users to video cameras. In 1982, the diffusion rate of movie cameras in Japan was 9.0%, but video cameras now occupy a dominant position. With a video camera, pictures can be taken over a longer time span and there is no need for film development. As a result of the development of smaller video cameras, their integration with the VTR, and the introduction of an 8mm video, video cameras will be used just as conventional still cameras are used.

The video industry at a turning point

Japan's VTR industry now holds a 90% share of the world market, but it faced some serious challenges in 1984-1985. Several basic factors can be mentioned.

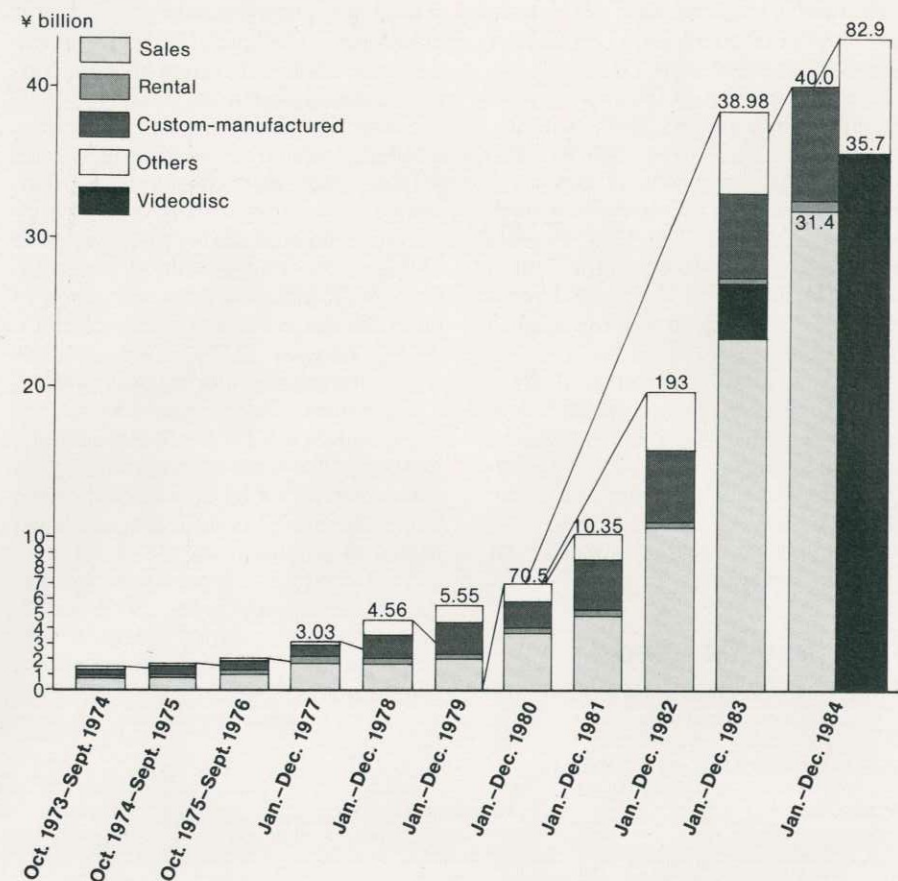
1) Overseas production: exports are expected to decline as local VTR production is stepped up in such countries as West Germany, Britain, France and the Netherlands.

2) Competition from other countries: strong competition is developing, chiefly for the American market, as a result of exports of South Korean and Taiwanese products priced much lower than those of Japanese manufacture.

3) Introduction of new formats: there are new half-inch cassette VTRs such as the Beta system developed by Sony and JVC's VHS (video home system) format. Aside from these two formats, there is Philips' VR2000 system.

4) Surplus facilities: the production of VTR and raw tape, and investments in plants and equipment for their manufacture exceed demand. As a result of a surplus of player and tape output, the per unit price has declined. For example, a half-inch VTR, which cost ¥200,000-250,000 (\$800-1,000) about the time it was developed, is now tagged at ¥100,000. Consequently, the VTR and videotape makers' profit ratios have fallen.

Fig. 1 Video Software Sales



Source: Japan Video Association

Notes: The above figures are those of the member companies of the Japan Video Association.

Actual video software sales are estimated to be twice as large.

It is believed that rentals which are recorded at ¥1.2 billion in 1984 actually exceeded ¥10 billion.

During the coming decade, various VTR technological innovations are likely, including the development of a high-definition television (a format with 1,125 scanning lines instead of 525 under the NTSC system), a high-density, direct magnetic system (making it possible to record tapes with fidelity 10-40 times greater than at present) and metal and coated film tapes.

New video culture

So far, we have discussed the video industry with an emphasis on hardware. With the popularization of VTRs, video cameras and software, a new culture different from that of movies and television, is likely to emerge. When Sony and Akai's monochromatic reel-to-reel system appeared on the American market in 1965-1966, it fostered the development of a counter-culture art within the context of conceptual art, called video art, which had not been seen previously on television.

At present, video is used in Japan mostly for taping family activities, formerly filmed with an 8mm movie

camera, and viewing prerecorded movies. However, encouraged by various software contests, new video uses are being discovered. Video is now used for store displays, in electronic media coffee shops, and as interior wall displays in place of BGM (background music). These video arts are popular among people who consider them as representative of a new type of sense-centered culture.

VTRs are now available to both the professional and the layman. They are no longer used just for taping television programs. As video creates its own myriad uses, it is creating its own culture. ●

*In the United States, VTR (videotape recorder) is referred to as VCR (video cassette recorder).

**In the United States, prerecorded cassette tapes are known as "video programming."

***The average viewing time Monday through Friday has sharply decreased from 3 hours and 43 minutes in 1975 to 3 hours and 6 minutes in 1984, according to an NHK (Japan Broadcasting Corporation) "National Survey of Audience Rating." Possible reasons, other than the diffusion of videos, include diverse outdoor activities and hobbies.