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Video Game Industry in Japan

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CONTENTS

From the Editor	1
I. Development of the Japan's Video Game Industry.....	3
II. The Success of Sony's PlayStation.....	11
III. The Present State of Japan's Video Game Industry and Recent Issues	17



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No.113



From the Editor

PCs have infiltrated into various fields, and today with the welcoming of the open network era which is focused on the internet, not only the information that distributes various media, but the materials, called contents, is also being regarded essential. Namely, compared to software that points to a quantity of information, contents are used in a broad meaning, from strips, such as one picture or one text line, to a collection of information. In this context, much of the media is digitalized, and with the arrival of the multimedia era, information is sent and received not only with software use, but at various material levels, such as the sounds and images that compose it, resulting in the shift of the information unit from software to contents.

Amid such a situation, contents are in the limelight as a new business. The contents business is roughly divided into production and distribution. In contents production, there is the traditional software develop-

ment done by conventional software vendors, but homepage production on the internet is also recently being established as a new business. Major computer vendors take account of contents as a promising new business, and are developing hardware, such as equipments and materials necessary for providing the contents, and contents as a whole. In other words, they develop the game software and edutainment software as an extension to computer software development. On one hand, the distribution of contents, such as game software, is being handled at convenience stores, gaining popularity among pupils. Distributing contents via the internet is also very prosperous nowadays.

Games are probably the most familiar type of multimedia that infiltrated into households. Up to now, many household video games have come out, but the three machines, Sony Computer Entertainment's 32-bit machine "PlayStation", SEGA's

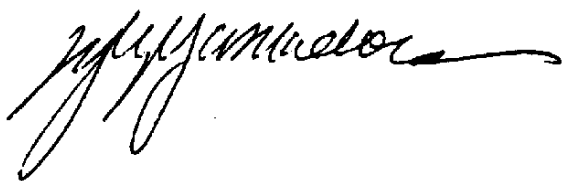
“Sega Saturn”, and Nintendo’s 64-bit machine “NINTENDO64”, and the portable “Gameboy” are the present mainstream. These game machines made remarkable progress, due to three-dimensional expression by using CD-ROMs and polygons.

Furthermore, the movement of using the network for games is accelerating with the rapid popularization of the internet. In other words, people are enjoying common games with partners other than computers, and communication with other partners that play these games is brisking up. In the future, the spreading of PCs and the magnification of networks will most likely increase the game population very rapidly. Also, the shift from CD-ROM to DVD-ROM,

the realization of 3D processing with personal computers due to the advanced research and development of 3D technology, and the progress in virtual technology will realize minute description, insertion of neat sound effects, and refined stories, making games a more realistic and real-experience thing.

This edition featured household video games. In editing, we were allowed to partially use the white paper, published by the Computer Entertainment Software Association (CESA), and we received some good advice from CESA as well. We would like to express our gratitude here.

We hope the readers find this useful.



Yuji Yamadori

Director

Research & International Affairs

I. Development of the Japan's Video Game Industry

1. Development of the Japan's Video Game Industry

Japan's video game industry is a leader in both game equipment and game software, and presently prides itself worldwide as Japan's big name industry. Here is a historical survey of the development of Japan's video game industry.

1.1. The Sales of Nintendo Family Computers (Nintendo Entertainment System)

Nintendo was not the first in Japan to sell household video game machines, but the Japanese video game market was opened up on July 15, 1983 with the "Family Computers (NES)" that were sold by Nintendo. As a long-established manufacturer of toys, Nintendo's name was famous, especially in card games, such as playing cards and Hanafuda. Although

Nintendo is still strong in such markets, the present Nintendo does not carry that kind of image anymore.

Family Computers carry an 8-bit CPU, with a maximum display of 52 colors and a maximum resolution of 240x256 dots. Overseas, these computers were sold in America in October 1985 as the "Nintendo Entertainment System (NES)". The name NES is not known in Japan, but we will use NES hereon for our non-Japanese readers.

To differ from other game equipment manufacturers, Nintendo set a low price on NES so it could be bought as a toy for children, and planned a strategy of taking first priority over popularizing the equipment as a game software platform. NES used ROM cartridges for its software media, which were produced by Nintendo on demand by game software companies. Therefore, it was considered good as long as a profit was

made out of selling these ROM cartridges. But then, the biggest provider of NES software was Nintendo itself.

Concerning the point of ROM cartridge use, NES comes of the Atari lineage. Atari is a household game machine manufacturer that made an explosive hit in America from the 1970s to the beginning of the 1980s, and their sales exceeded those of NES in North America. Atari disproved the common practice of one-software-per-machine by making it possible to play many games on one machine. Atari has disappeared from the market, but their system is inherited onto present video game machines.

The method of having all ROM cartridges produced and supplied exclusively by Nintendo has been followed, from NES down to Super Famicom (Super NES) and NINTENDO 64s. As is discussed later, Sony Computer Entertainment also is entrusted by game software companies to produce and supply all PlayStation game software CD-ROMs exclusively. Therefore, in the video game industry, Nintendo's method,

of having the company that produces the platform equipment on which the software operates produce and supply all game software media, is a firmly established business. This is a necessary income source, as collateral, for equipment manufacturers to provide their products at a low price that is nearly the cost of manufacturing, and as a result, plays a big role in expanding the game machine market. It also helps software companies concentrate on producing new games. Thus even from the viewpoint of creating Japan's game industry framework, there is great influence from Nintendo's success with NES.

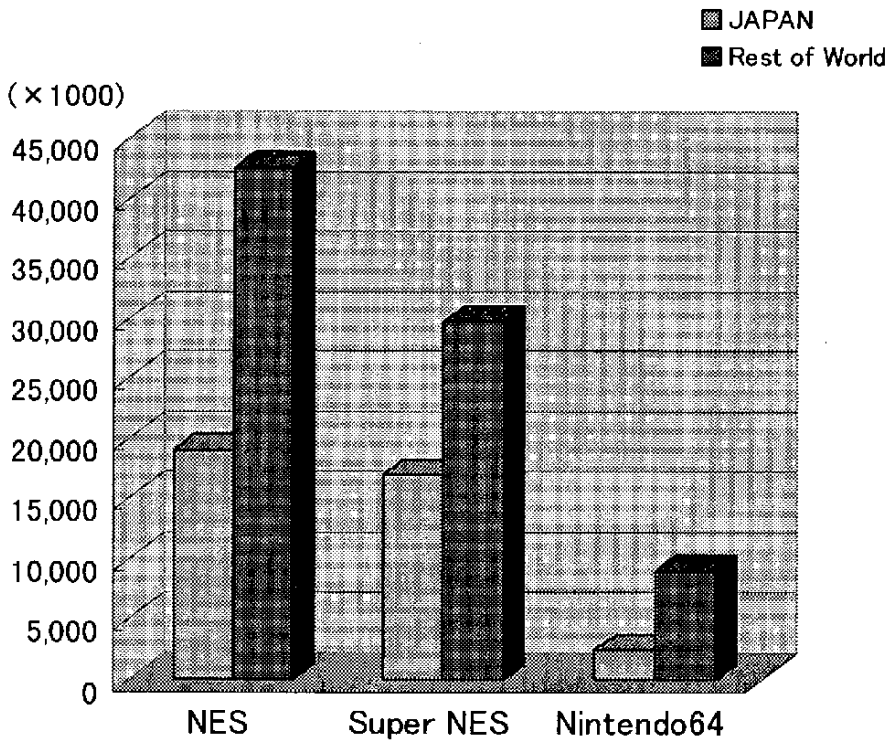
The game software "Super Mario Brothers" that starred Super Mario, one of the characters in the popular software "Donkey Kong", came out on the market in 1985 and was a great success. In 1986, "Dragon Quest" was put on the market, establishing a Role Playing Game (RPG) market in Japan. In 1987, the RPG "Final Fantasy" was introduced. These popular RPGs came out with sequels one after another, and played an important role in game market expansion.

NES, which is practically the first generation of household video game machines in Japan, obtained great success domestically and overseas, and as of September 30, 1997, the accumulated shipment totals amounted to a grand total of 61,600,000 machines; 19,040,000 in Japan and 42,560,000 overseas. According to the census taken in 1995, the number of Japanese house-

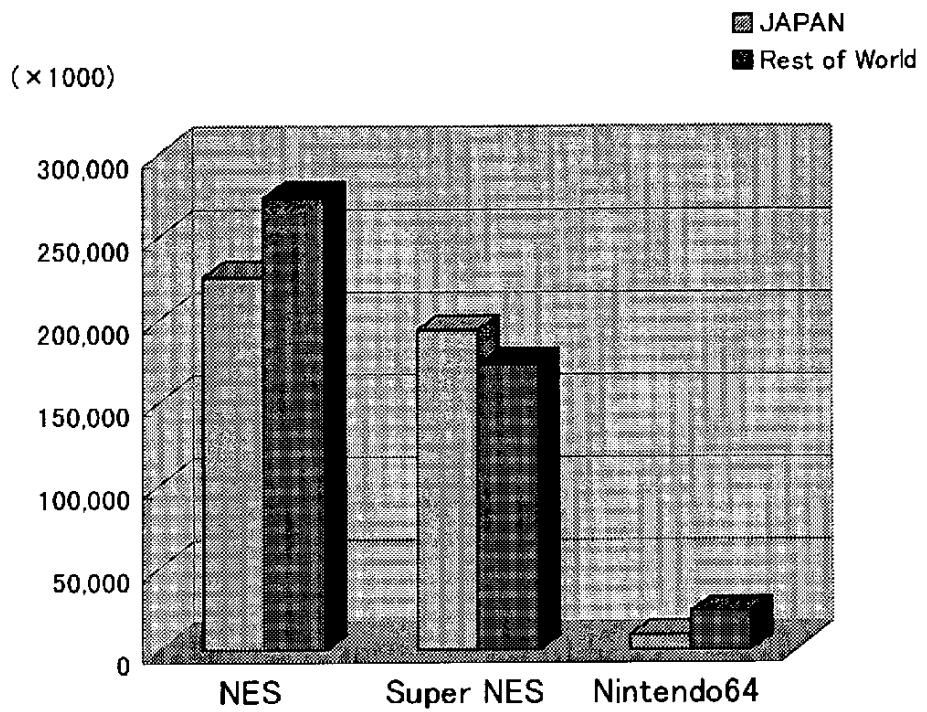
holds was 44,107,856, and when calculated, the saturation level (number of domestic shipments / number of Japanese households) of these machines was approximately 43%.

The accumulated totals of NES software as of the end of September 1997 amounted to a grand total of 500,020,000; 225,860,000 of 1,047 types domestically and 274,160,000 overseas.

I -1. Shipment of NES, Super NES and Nintendo64



I -2. Software Shipment of NES, Super NES and Nintendo64



1.2. Introduction of the 16-bit Video Game Machine

When there are striking improvements in hardware functions as a game platform, requiring a change in game software, it is a great chance for the other game machine manufacturers to drive out current manufacturers from the market to seize it for themselves. This is because the current software asset cannot be used as is, and all manufacturers are placed at the same starting point. Manufacturers who lost to Nintendo with the 8-bit machine got a head start in introducing the 16-bit machine in 1988 to tear down Nintendo's stronghold.

On November 21, 1990, Nintendo introduced Super NES as the successor to NES. Super NES carries a 16-bit CPU, with a maximum display of 32,768 colors and a resolution of 512x448 dots. Similar to NES, ROM cartridges are used for the game software media. However, NES ROM cartridges are unusable on the Super NES. SEGA Enterprises' Mega Drive also sold well, in its own way, but what became the

top brand in the 16-bit machine market was Nintendo's Super NES, as expected. After all, the Nintendo group had more attractive game software than the other game machine groups. Super NES and SEGA's Mega Drive, the two "biggies", shared the 16-bit machine market. SEGA is the greatest manufacturer of business game machines installed in game arcades, thus had the strength of transplanting their popular games into household video game machines.

Similar to NES, Super NES increased its shipment domestically and overseas, reaching accumulated shipment totals to 16,960,000 machines in Japan and 29,740,000 overseas as of the end of September 1997. In addition, the accumulated shipment totals of Super NES game software amounted to 193,440,000 of 1,393 types domestically and 172,910,000 overseas.

1.3. To the 32-bit Machine Era

The 16-bit Super NES machine was weak in displaying 3D images. Therefore, it was expected for the next generation 32-bit machines to

be much stronger in this function, drawing a clear line between the two in game software, for a completely different and new market that did not depend on the 16-bit machine software asset. For this reason, in 1994, not only did SEGA introduce SEGA Saturn to the market, but Matsushita Electric Industrial, the household electronics manufacturer that had a sales scope that no game machine manufacturer could compete against even as a group, put out 3 DO Real to enter the game machine market. And Sony, Matsushita's rival, established a subsidiary company Sony Computer Entertainment (SCE) to enter the game equipment and software market, and introduced PlayStation. Nintendo did not develop any 32-bit machines, but proceeded at once with their development of 64-bit machines.

Matsushita dropped out quickly from the 32-bit machine market. Because they received criticism that the planned selling price of 3 DO was too expensive as a game machine, Matsushita lowered their price, but the game machine still costed too much to be reasonable and sales were sluggish. Software develop-

ment companies would not keep up with game machines that did not sell. Therefore, Matsushita Electrics canceled the sales of 3 DO and pulled out of the game machine market. This was a perfect example that showed that the common knowledge of household electronics manufacturers making a profit on equipments would not be accepted in the game machine market.

On the other hand, SCE set a low and affordable price on PlayStation (PS), and set up an environment for easy development by releasing the necessary libraries and tools for PS software development, urging powerful software companies of the Nintendo group to "transfer" to PS. Besides the fact that Nintendo did not put out a 32-bit machine, SCE's measures for winning over software companies were very effective, and powerful software companies that built a reputation with NES and Super NES shifted to the PS group one after another. And because these powerful software companies started selling sequels of popular Super NES software from the PS group, many game fans of such software shifted from Nintendo to purchase PS.

In this way, not just with the attractive 32-bit game machine software that made full use of 3D images, but by taking in strong game software companies into their group, selling low-grade machines with a partial omission of functions, and making the game software medium a CD-ROM, SCE's PS attained a high position in the game market, and their accumulated shipment totals as of February 5, 1998 reached a total of 30,000,000 machines worldwide; 10,650,000 in Japan, 10,750,000 in North America and 8,600,000 in Europe. In addition, their accumulated totals for software shipment totaled 199,000,000 as of the end of 1997, with 90,000,000 of 1,150 titles in Japan, 59,000,000 of 380 titles in North America, and 50,000,000 of 400 titles in Europe.

As for SEGA's 32-bit machine SEGA Saturn, the accumulated shipment totals as of the end of March 1998 reached roughly 5,600,000 machines, approximately half of PS. The domestic 32-bit machine market is being shared between PS and SEGA. However, the overseas sales performance of SEGA Saturn is not favorable, and they announced

recently that they were pulling out from the North American market. Competition in the game market is now seen as a battle between PS and NINTENDO64, and SEGA is now put at a great risk of dropping out of the market.

1.4. NINTENDO64

Because of the delay in the development of high-quality game software for 64-bit machines, NINTENDO64, late on the market, was finally put on sale June 23, 1996 in Japan. It was put on the overseas market in September. NINTENDO64 carries a 64-bit CPU, with a maximum display of 16,770,000 colors, and uses a ROM cartridge for their software medium. Compared to PS, which built up a firm position in the market, NINTENDO64 is struggling in Japan due to its very limited number of software, but is quite equal to PS overseas. Nintendo is taking the strategy of carefully selecting only software of the best quality, against PS's strategy of selling a huge mixture of software, whether good or bad. No conclusions can be made yet on which strategy will appeal more to the customer in the future.

NINTENDO64's accumulated shipment totals as of the end of September 1997 amounted to 2,470,000 machines in Japan and 9,030,000 overseas. Their accumulated software

shipment totals amounted to 8,640,000 of 54 types in Japan and 23,300,000 overseas.

II. The Success of Sony's PlayStation

1. Primary Factors of PlayStation's Success

The factors that lead to the success of Sony's PlayStation (PS) were Nintendo's decision not to put out a 32-bit machine, Sony's success in winning over game software companies, and their revolutionization of game software distribution. Undoubtedly, there was also dissatisfaction with Nintendo, who dominated the game industry. Here we will verify PS's success.

1.1. PlayStation Sales

Sony's subsidiary company of game equipment and software, Sony Computer Entertainment (SCE), was established on November 16, 1993 by integrating the department which was developing game software in Sony Music Entertainment (SME), a subsidiary music-related company, and a part of Sony's manufacturing department.

Sony developed the sound system of Super NES. They considered putting out a Super NES compatible machine, but did not come out with one

after all.

SCE came out with the 32-bit machine PlayStation (PS) SCPH-1000 on December 3, 1994. PS carries a 32-bit CPU, with a maximum display of 16,770,000 colors, and uses a CD-ROM as its software medium. The primary developmental concept of PS is in advanced 3D image processing. SCE sold the PS SCPH-1000 at an unbelievably low cost, and industry parties concerned said it was possible only because it was Sony. However, it still costed more than Super NES, and thus SCE announced models with an omission of functions and cheap models without accessories in rapid succession. The standard price of the PS SCPH-7000 (Refer to the picture.) that is presently being sold is 18,000 yen, roughly half that of the first model, SCPH-1000.

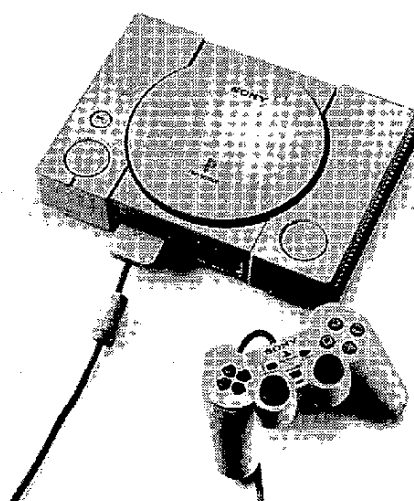
1.2. Measures for Taking In Software Development Companies

SCE, under the recognition that it was most important to provide a wide variety of software, first decided to prepare an environment for easy

software development in order to take software companies into the PS group. Besides providing software development apparatus and materials at a low cost, they supplied a great variety of libraries and tools equipped with the necessary functions for creating the games. And until then, assembler was used as the development language of game software, but PS adopted C language.

Furthermore, Nintendo limited the number of game titles per game software company so the quality of their game software would not be lowered, but SCE did not add any limits, allowing game software companies to create as many titles as desired. Nintendo made quality control on game software very harsh, using the

lesson learned from the case where the household game machine market of Atari, which made an explosive hit in America from the 1970s to the early 1980s, disappeared completely. Atari disappeared from the market because a lot of worthless software went out on the market, and consumers perceived household games as boring. Therefore, Nintendo limited software companies the annual number of titles to maintain quality. Nintendo's attitude in attaching greater importance to software quality than to quantity has become more distinct in NINTENDO64. As for SCE, a burgeoning power, they attempted to attract software companies that disliked Nintendo's control by denying Nintendo's way of doing things.



SCPH-7000

1.3. Revolutionization of Game

Software Distribution

The revolutionization of game software distribution was an essential factor for PS's success. While following Nintendo's example, they also used Nintendo as an example of what game machine companies should not be, utilizing their strongest area to the maximum.

1.3.1. Dissatisfaction With Nintendo's Software Distribution

All the ROM cartridges, on which the game software for NES, Super NES, and NINTENDO64 are stored, are manufactured and sold by Nintendo. Since the software of the ROM cartridges are printed onto an specific IC, it is said to take approximately six months, from receiving the order from the game software company and arranging the raw materials, to printing the software and actually putting the product onto the market. Manufacture of the specific IC was often delayed, leading to an insufficient stock of popular software expected to gain great sales simultaneously to its debut on the market, causing the soft-

ware to come out late on several occasions. In this way, because the making of the ROM cartridges took so much time, the schedule of production could not be changed as the occasion demanded, and there was literally no additional manufacturing. For this reason, Nintendo could not guarantee the arrival of additional orders made by the retail shops.

Furthermore, Nintendo, as a long-established manufacturer of toys, had wholesalers that over the years had become a closely-knit cooperating relationship, and Nintendo organized these wholesalers so NES and Super NES ROM cartridges passed through the wholesale group to supply the retail shops.

In this way, Nintendo built up a system to control everything, from software development to manufacture and distribution. While Super NES overwhelmingly possessed the market, it was possible to suppress the dissatisfaction of game software companies, but when the choice of SCE's PS came out, this was not possible anymore. Also, the wholesale group who assumed control over the distribution of ROM cartridges gained power, placing the retail

shops in a weak position and causing their dissatisfaction to grow.

1.3.2. SCE's Software Distribution System

Like Nintendo, SCE also manufactures and sells all the CD-ROMs stored with PS game software, but different from Nintendo, they chose the method of selling their CD-ROMs directly to the retail shops, without passing it through a wholesaler. Here, the CD-ROM used as their game software recording medium demonstrated great merit. SCE made their software recording medium the CD-ROM, not because of its great storage capacity, but because they considered the ease of making use of Sony's current production and distribution system. By using the CD-ROM, Sony could use SME's music CD production line for production, and SME's delivery and physical distribution system for supply. Furthermore, different from the ROM cartridge, the CD-ROM does not require any special components, so it can be manufactured at a low cost, and additional production according to the order received can be done easily.

SCE requested retail shops to place orders based on the actual demand, produced and shipped CD-ROMs according to the number of orders placed, and did not keep excess stock. In the case of Nintendo's ROM cartridges, Nintendo only produced an initial quantity, so prices plummeted when excess stock was left over due to miscalculations, and a used game software market formed because of product insufficiency (Existence of the used game software market is a big problem in the present Japanese video game industry, as is mentioned later.). SCE's method of contracting directly with retail shops without using wholesalers was an epoch-making thing in those days, and it was a revolution in distribution. Participating into the market anew and not having any ties with toy wholesalers were what enabled SCE to take such bold strategies.

In this way, SCE guaranteed a stable supply of software, and perfected a production and distribution system that prevented drastic price drops. Retail shops welcomed SCE, and not only toy stores, but places that did not handle game software until then entered into sales.

In addition, SCE produced all PS CD-ROMs sold overseas at Sony's local factories, and sold them there. However, since the distribution system differs according to the country, they are not using the direct distribution system used in Japan.

2. The Present Situation of PS

Due to such measures, the sales of PS machines and number of game software titles increased steadily. Here, we shall look at the accumulated shipment totals of PS hardware and software.

2.1. PS Shipment Totals

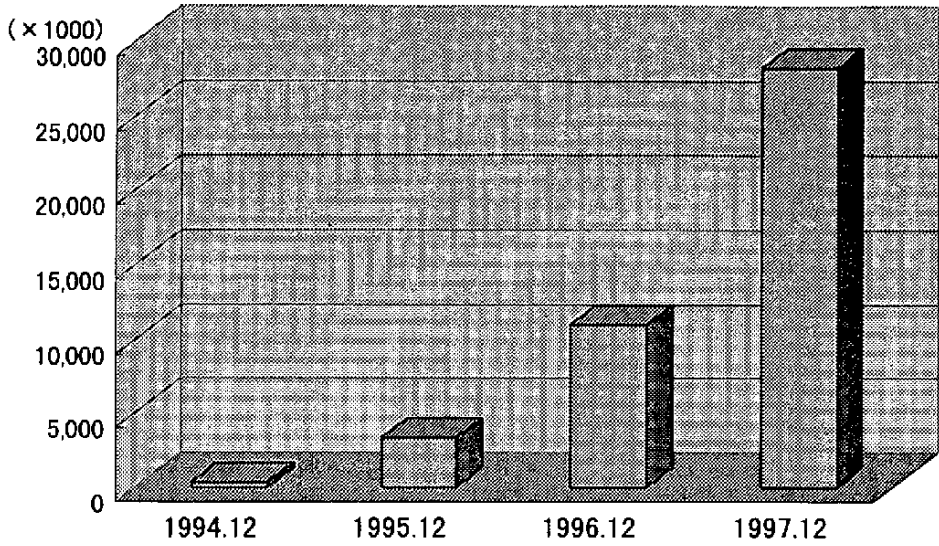
PS, which came out on December 3, 1994 in Japan, also debuted in North America and Europe in September 1995. By the end of 1995, roughly one year after its debut, the accumulated shipment totals showed a total of 3,400,000 machines; 2,000,000 in Japan, 800,000 in North America, and 400,000 in Europe. By the end of 1996, the totals reached a total of 11,000,000 machines; 5,000,000 in Japan, 3,600,000 in North America, and 2,400,000 in Europe, and showed a record 223.5% compared to the

year before. By the end of 1997, the comparison ratio showed an approximate 100% increase from 1996 at 10,050,000 machines in Japan, a 187.5% increase at 10,350,000 in North America, and a 225% increase at 7,800,000 in Europe. The accumulated sales totals in North America exceeded those in Japan, and the grand total showed a 156.4% increase from the year before, at 28,200,000 machines. On February 5, 1998, the accumulated shipment totals worldwide broke the 30,000,000 mark; 10,650,000 machines in Japan, 10,750,000 in North America, and 8,600,000 in Europe (Refer to Figures II-1 and II-2.).

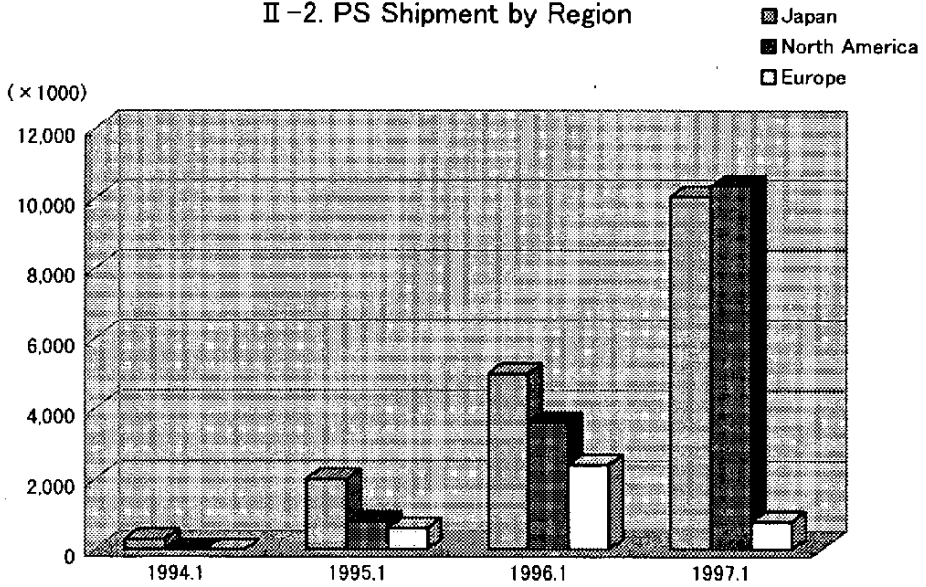
2.2. Number of PS Software Titles and Accumulated Shipment Totals

The number of PS software titles as of the end of December 1997 is 1,150 in Japan, 380 in North America, and 400 in Europe. The accumulated shipment totals of software are 90,000,000 in Japan, 59,000,000 in North America, 50,000,000 in Europe, reaching a grand total of 199,000,000 (Refer to Figures II-3 and II-4.).

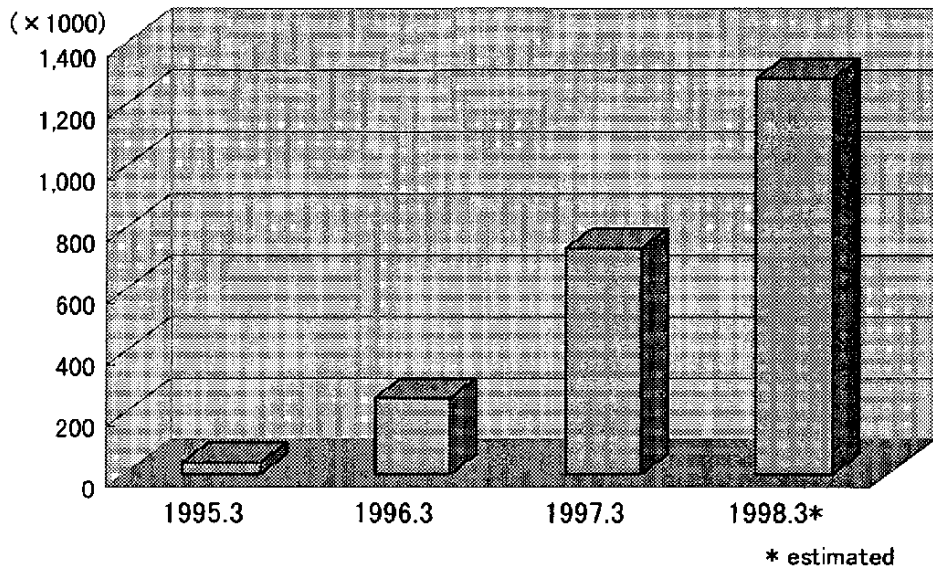
II-1. PS Shipment Worldwide



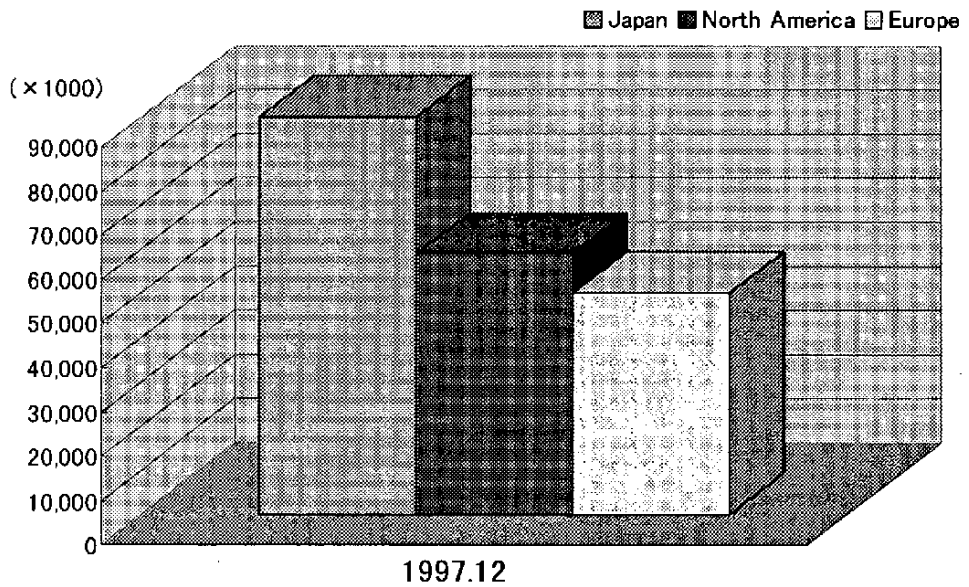
II-2. PS Shipment by Region



II-3. Number of PS software Titles in Japan



II-4. PS Software Shipment



3. The Fair Trade Commission Charges SCE with Software Price Control

SCE's software distribution system that used Nintendo's bad example to build and acquire great success also was no different from Nintendo in the way they controlled all processes from manufacturing to sales. Therefore, they are in the position to add pressure to the retail shops. In January 1998, the Fair Trade Commission charged SCE for having retailers and wholesalers sell to customers at the manufacturer-suggested retail price and stop used software sales. FTC demanded SCE to stop resale price control and binding deal, which are prohibited by the Antitrust Law. Because SCE flatly denied the Fair Trade Commission's notice on this, that their notice was against the facts, the judgment process begun in March.

SCE, from the viewpoint of not possessing excess stock, regulates their production and distribution, and if SCE's control of game software production and distribution is denied by the Fair Trade Commission, SCE

would receive great impact, and the system for software distribution will also change drastically. However, the direct sales system that was formed by SCE, which denied Nintendo's distribution system, is still being supported by many retail shops.

4. Future PS Strategies

There are many guesses to what SCE is considering for the next generation PS machine, but they are not giving out any comments, including whether they are in the development stage or not, and it seems they are presently concentrating on further PS sales. Along with the fact that PS software was not passed through existing toy wholesalers, the software was sold not only at specialized toy stores, but at volume sellers of household electronics and CD shops as well, and therefore had a large class of adult purchasers compared to Nintendo, but were rather weak in the market for children.

SCE does not think they have done all that should have been done with PS, and is thinking there is still room for development, such as in markets centered on children and women.

This is because the market scale of the game industry is still very small compared to the other industries, and the pie itself is not getting bigger. Most persons who play games already have Super NES and PS, and it is said that the game population is on the stagnant side now.

However, SCE thinks the game population will grow depending on the software. A good example is "Derby Stallion" that came out in the end of July 1997. This is a popular software with sales that reached 1,500,000 in two weeks after its debut. It is a simulation game in which a derby horse is given birth, trained, and entered for a race, and

many customers of this class purchased PS hardware together with the software. Furthermore, in the end of 1997 came out "Densha de GO!", a game software for the virtual experience of train operation. This game stimulated adults who wanted to be a train driver when they were a child, and so far has reached the sales of approximately 800,000, and the software-exclusive control device which looks exactly like the real handle used in train operation is also selling well.

PS has no rivals in Japan now, but the present opinion of SCE is to enlarge the game market pie.

III. The Present State of Japan's Video Game Industry and Recent Issues

This chapter introduces the statistical data of Japan's video game industry, and gives a general survey on the present state and future of the video game industry.

1. The Present State of Japan's Video Game Industry in Statistics

Although household game machines are generally known by their abnormal growth, and are becoming an everyday item, there was no collection of statistical data concerning hardware or software up to now. The "1997 CESA Game White Paper", released in July 1997 by the Computer Entertainment Software Association (CESA), is the first and only collection of statistical data on the household video game industry. CESA was established in August 1996 with the purpose of promoting Computer Entertainment Software

and contributing to the steady growth of Japan's industry and the improvement of the life of the people, by doing study and research, and familiarizing and educating on household Computer Entertainment Software.

CESA is made up of cooperations and individuals engaged in the development of computer entertainment software and in the manufacture and distribution businesses, and most of the major computer entertainment software dealers participate in it.

CESA executes specific work on the following matters.

- (1) Study and research on Computer Entertainment Software
- (2) Popularization and education on Computer Entertainment Software
- (3) Holding exhibitions, training seminars, and study meetings on Computer Entertainment Software

- (4) Exchange and cooperation with related domestic and foreign organizations on Computer Entertainment Software
- (5) Other related work

The white paper was published as a part of this project, and we shall introduce a part of it below. Now, this is the first ever, and thus cannot be compared with anything of the past.

1.1. The Market of the Entire Video Game Industry

The market scale of the entire 1996 video game industry of both hardware and software is 858,099 million yen, and the total amount of domestic shipment accounts for 59.6% of this total at 507,369 million yen, and overseas exports occupy 40.4% at 344,630 million yen (Refer to Figure III-1.).

1.2. Hardware Shipments

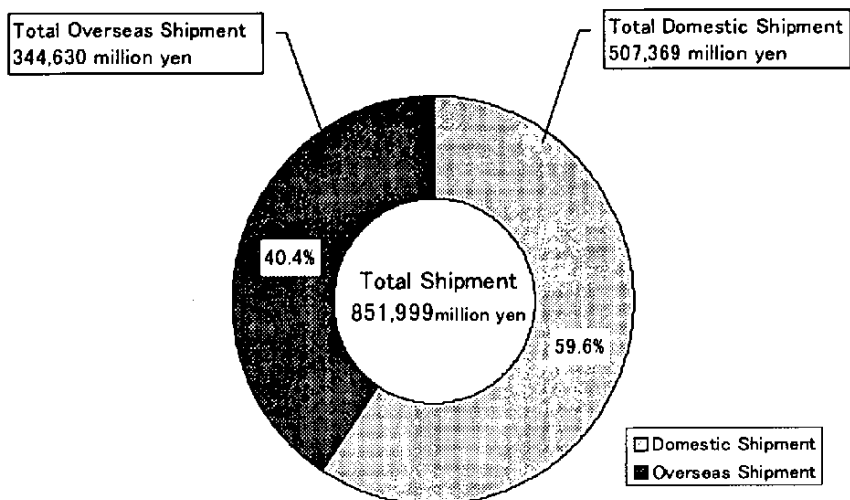
Hardware shipment in 1996 amounted to 379,095 million yen in total. Japan occupies 41.5% the total at 157,201 million yen, and overseas exports occupies 58.5% at 221,894 million yen (Refer to Figure III-2.).

1.3. Software Shipments

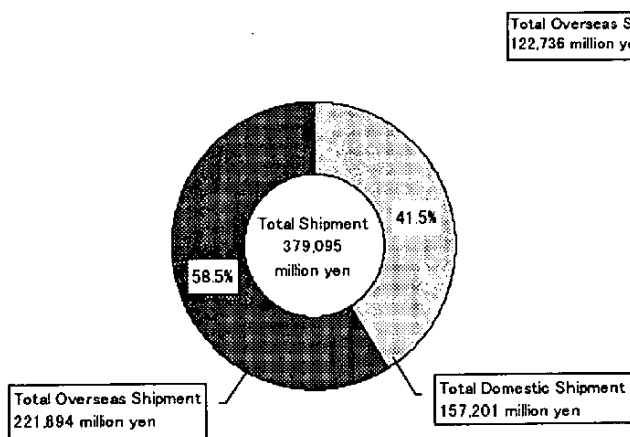
Software shipment in 1996 reached 472,904 million yen in total, 350,168 million yen in Japan, and 122,736 million yen overseas (exports). Japan accounts for 74.0% of the total, and overseas exports account for 26.0% (Figure III-4.).

Looking into the shipment per software type, the software shipment for hardware of 32-bit and higher amounts to 293,680 million yen, occupying 62.1% the total, 30.4% for software for 16-bit machines at 143,648 million yen, and 7.5% for software for 8-bit machines at 35,576 million yen (Refer to Figure III-4.).

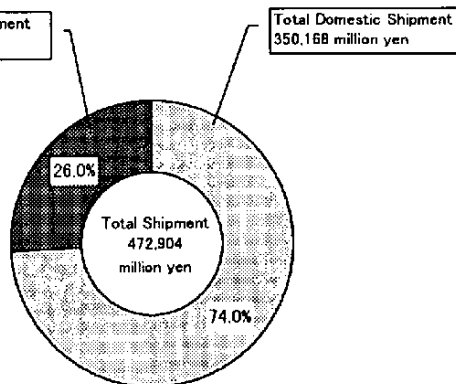
III-1. Hardware + Software



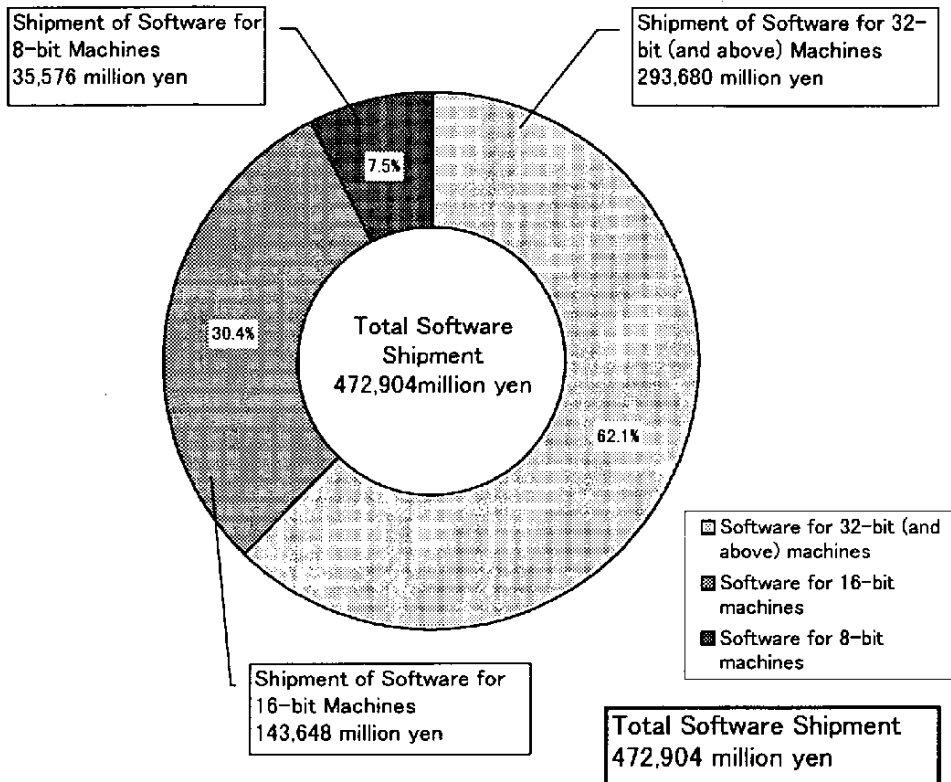
III-2. Hardware



III-3. Software



III-4. Scope of Software Shipment by Type of Household Video Game Equipment



2. The Game Software Industry vs. Retail Shops Over the Sales of Used Game Software

Sales of used game software is an attractive business for retail shops because of the big profit margin they would get. However, this disables game software companies from receiving the profit they usually would be getting, and thus cannot be ignored. Especially, in addition to high-function game machines, the development of software that use 3D images costs much more than before. Software companies have been prohibiting retail shops from selling used software, but this has not been improved at all.

So from January 1998, the game software companies, with CESA at the core, began a campaign to wipe out used software sales. According to the prospectus, game software companies are losing the sales opportunity of over 313,000 million yen due to the sales of used software, without receiving any returns, and it is concluded that if such a situation continues into the future, enough

funds for development would not be collected, delaying the development of new titles, and unconsented sales and purchases of secondhand software would noticeably retard substantial growth of the game industry.

According to the claim made by the game software companies, game software are applicable to "screen rights" ("Represents the use of visual and audio effects, similar to movie effects, and includes work that is in material form") in the Japanese Copy Right Law. Furthermore, movies are different from books in the way that the distribution rights of "work" are exclusively owned by the copyright owner, and sales from screening and videos is on the precondition that these distribution rights exist, and this also applies to the sales of secondhand videos. Therefore, it would be illegal to sell used game software without the consent from the copyright owner.

Game software is digital work and is not degraded even as used software, so the game software company's complaint is reasonable. However, most of the game users are children, and the price of new software is not

cheap to them. It is very attractive to be able to purchase used software for a discounted price. In addition, the customer's money that is gained from selling used products can be allotted for the purchase of new software, so we can also understand the claim from retail shops that the existence of the used game software market is not always unprofitable to software companies.

SCE made a distribution system to supply only the necessary number of new software so there would be no need to sell used software. If the profit margin of new software is greater than that of used software, retail shops would not need to sell used software. However, with the increase in PS software titles, the sales per title is falling, and compared to expectations, there is an increase in leftovers. Since software cannot be returned, the average profit margin of supplied new software as a whole is minimized. Therefore, retail shops that followed SCE's policy and did not handle used software up to now began to venture upon used software sales.

3. The Pocket Monsters Incident and Game Software

In December 1997, during the broadcast of the children's animation program "Pocket Monsters", 685 viewers got sick and had to be treated at the hospital. This was caused by bright colors blinking rapidly for several seconds. In this respect, game software also uses a lot of stimulating images. The possibility of the same thing to occur again cannot be denied, but no problems of such kind have occurred yet. Because game software companies test their products many times until completion, any symptom that occurs during the testing stage is fixed, and it can be said that such problems practically will not occur even if rules, especially on the method of image expression, are not made.

4. Violent Contents and Game Software

There are many fighting games among popular game software, and many brutal games as well. There is criticism that such games are driving young boys and girls to

commit crimes. Especially during these few years, software games are under severe criticism because of the atrocious crimes committed one after another by young boys and girls. As is seen in the legal obligation to install V-chips into television sets in America, there is a future possibility of being pressed into dealing with this problem in some way. Since it is not evident that there is a causal relationship between violent, stimulating images and juvenile crimes, the game software industry for the time being is not making any industry-unified rules on self-imposed restraint in particular, and each company is dealing with this problem on its own judgment. CESA provides ethical code up to a point, but it has no penalty, and thus, no practicality.

Game software companies create software with the license from the platform game machine vendors. The game machine vendor inspect the software, based on the license agreement. SEGA, under their stipulated code, inspects software for SEGA Saturn, classifying them into three types, "For all ages", "18 and over", and "Includes violent material", and puts a seal on the software

to display the type. SCE does not have any stipulated code, and upon an overall judgment, puts on the seal "The contents of this software contain violent scenes and grotesque expressions". SCE only has this one type of seal. And Nintendo, since they have the policy to make no such types of games from the beginning, has no code for inspection.

5. The Future of the Video Game Industry

The competition between video game machines and PCs is often talked about, but from the viewpoint of playing games, SCE does not see PCs as a rival to game-exclusive machines. We do not know which direction the household PC will proceed in the future, and one day, there may be a convergence into one thing. However, considering the failure of all the game machines that contain PC functions due to the weakness of functions, it is more a reality for PCs to have the image processing function of game-exclusive machines and to be standard-equipped with a game control pad. But then, the cost would be a problem.

From the viewpoint of the competition of contents, games are not the only rival. Multi-channel digital TV broadcasting is also a threat. And lately, from the viewpoint of time possession, there is also the opinion that mobile telephones and PHS phones are the rival.

From now on, it is thought that games, such as online fighting games, that are linked to the internet and data broadcasting, and utilize this interactivity, will acquire the market more or less. Nintendo and SCE are both entered in the satellite broadcasting business, and are ready for the games of the next generation, but Sony's underlying strength in the multimedia business from hardware to software may be displayed in the future.

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