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PRESS INFORMATION

The Japan Recording-Media Industries Association

## **Recordable DVD Market**

### **Enters the Era of Full-Scale Global Popularization**

#### **Forecasts for Recording Media in 2004**

#### **- Global Demand and Production -**

Tokyo, Japan, November 26, 2003 – The Japan Recording-Media Industries Association (Chairperson: Hajime Sawabe) recently announced its forecasts for 2004 global demand and production of recording media products based upon estimates for 2003. The product categories addressed in the survey are Audio Tape, Audio MiniDisk (MD), Audio CD-R, Video Tape, Floppy Disk, MO, CD-R/RW, Recordable DVD and small sized memory cards . The forecast indicates a significant demand increase for Recordable DVDs in accordance with full-scale global popularization and a startup of Mini DVC demand in Europe and the U.S. among video media. The forecast includes first-time reports about demand for small sized memory cards, though the research was limited to Japan.

(Note) Until the previous edition, the production forecast was limited to the figures in Japan or figures of Japanese manufacturers including their overseas production for some types of media. However, due to the fixation of new production patterns such as the production shift to overseas sites, OEM production consignment to overseas manufacturers, or ODM in optical disc production, the association considered that a forecast limited to Japanese domestic production does not reflect actual figures. Thus, the association decided to adopt a global production forecast as its unified standard and to obtain the figures of Japanese manufacturers including their overseas production.

### **Forecast for 2004 Global Demand and Global Production**

#### **Audio Media**

**Blank Audio Cassette** – The global blank audio cassette market in 2004 will continue to contract significantly, shrinking by 19% to 497 million units, of which the Japanese domestic market will account for 71 million units, an 18% decrease from 2003. The decline in demand is largely attributed to the growing popularity of alternate media

such as MiniDisk and CD-R for audio use, together with a decrease in recoding opportunities for younger people, the primary consumer of the products. Global production of **Audio Tapes (including software)** is expected to maintain a large figure of 1,600 million units, a 10% decrease from 2003, supported by relatively firm demand for music tapes in Latin America in the global trend of decline.

**Audio MD** – The global demand for audio MD is expected to decrease by 5% to 195 million units, of which Japanese demand accounts for 147 million units, down also by 5% compared with 2003, both showing a trend of decline after having hit a plateau in 2001. One reason is that a large market expansion cannot be expected as Japanese demand makes up 75% of world demand. In addition, its growth has been hindered by the emergence of competitive media such as memory cards and audio devices with built-in hard disk drives. Global production of audio MD will decrease by 6% to 205 million units, a move to adjust in response to the global demand. It is also expected that the Japanese manufacturers' share of global production will increase by 5% to 85%, because of the decreasing tendency of overseas manufacturers.

**Audio CD-R** - The global demand for audio CD-R will surpass the demand for audio MD, showing a continuous healthy growth of 6% to 301 million units, of which Japanese demand will be 27 million units, an increase of 4% over 2003. The demand for audio CD-Rs is expected to show a stable increase supported by high-end audio users.

## **Video Media**

**Full-size Blank Video Cassette** – The global market for full-size blank video cassettes is expected to decrease by 12% to 797 million units, of which Japanese demand will be 173 million units, a decrease by 13% compared to 2003. Due to the maturity of the VCR market and the full-scale popularization of DVD recorders, demand reduction for VCRs will accelerate. Global production of **Video tapes (including software)** will be more influenced by the emerging power of DVD equipment, and software using video tape will be shifted to software using DVD-ROM, and as a result, global production of this media is expected to make a significant decrease of 11% to 1,360 million units.

**Camcorder Cassettes** – The overall market for camcorder video cassettes (VHS-C, 8mm and Mini DVC) is expected to show an increase of 2% to 235 million units. The figures are supported by consumer acceptance of **Mini DVC**, the only growing media in magnetic tape for consumer use. Global demand for Mini DVC is expected to increase by 16% to 136 million units, of which Japanese demand will be 38 million, an increase of 6% compared to 2003. The demand share of Mini DVC in the Camcorder Cassette media is 58% worldwide and 84% in Japan. The Mini DVC market will be lead by the markets

in North America and Europe. Production of Mini DVC is expected to increase by 12% to 163 million units, and now in 8 years after its release, all production is done by Japanese manufacturers in Japan.

### **Data Media**

**CD-R for data use** – Global demand will increase by 8% to 7,510 million units and healthy growth is expected. On the other hand, Japanese demand will remain unchanged at 400 million units. The main reasons for the Japanese figures may be that compared to other countries, DVD recorders have shown a more rapid popularity growth with PC use and video use, and there has been a rapid increase of PC utilization for AV media such as high resolution DVC (digital video camera) and DSC (digital still camera) and downloading of visual information. Global production of **CD-Rs (data use and audio use combined)** will show a healthy growth of 9% to 8,680 million units, and many Japanese affiliated manufacturers will secure a stable supply to meet demand by utilizing an ODM production method.

**CD-RW (data use and audio use combined)** – Global use is expected to increase by 8% to 353 million units. Competition due to the growing popularity of CD-RW compatible recordable DVD drives is anticipated, but stable demand for CD-RWs is expected through the co-existence of both media due to differences in recording capacity.

**Floppy Disk** – Global demand for FD will decrease by 10% to 1,130 million units, of which Japanese demand will fall from 100 million units to 90 million units, a decrease of 10% compared to 2003. With the increasing popularity of network systems, and since FD capacity of less than 2MB cannot work as Bridge Media, the demand for FD will face a rapid decline influenced by the emergence of alternate media such as CD-R. Production by Japanese manufacturers will decrease by 6% to 330 million units to comprise 19% of global production, but production patterns have been changing for the past several years, and production of both cookies and final products is rapidly moving to manufacturers in China and Southeast Asia.

**Recordable DVD** – Global demand for recordable DVD is forecast as 955 million units, 785 million units of which are write-once type, which will show strong growth of 128% over 2003, and 170 million units of which are re-writable, which will also show strong growth of 107% over 2003. Demand by region is Japan: 34%, North America: 36% and Europe: 25%, and the figures show that increases in Japanese and North American markets will lead global demand. As for the demand for video use DVD by type, demand for write-once type is 100 million units (89% increase over 2003) with a share of 64%, the demand for re-writable type is 57 million units (78% increase over 2003) with a

share of 36%. Concerning demand for data use DVDs, demand for write-once type will be 150 million units (142% increase over 2003) with a share of 91%, and re-writable type demand will be 14 million (56% increase) with a share of 9%. It is possible to say that write-once type is good for data use and re-writable is good for video use.

Global production will exceed 1 billion units, consisting of a 127% increase in production for write-once type to 862 million units, and a 108% increase in production for re-writable type to 187 million. The Japanese manufacturers' share of production will be as high as 85% for write-once type and 84% for re-writable type. Production of recordable DVDs requires advanced technologies such as high-density stamper technologies, high-density recording film technologies and high-speed recording film technologies, so Japanese manufacturers will continue to have a high share, allowing some increase in ODM production.

**3.5" MO Disks** – Global demand for 3.5" MO will decrease by 11% to 15.68 million units. Due to the slow movement toward the pre-installation of 3.5" MO Disk to PCs, and its unique market in which Japanese demand accounts for 93% of world demand, global demand is decreasing after having peaked in 2000. Global production is expected to be 17.3 million units, a decrease by 11% compared to 2003, and the share of Japanese manufacturers will remain high at 93% partly due to the withdrawal of overseas manufacturers.

**5.25" MO Disks** – Global demand for 5.25" MO Disks will rapidly decline by 19% to 1.28 million units. Though this medium is still used by certain segments of the market such as CAD/CAM and file servers, competition with large capacity magnetic tape media is increasing. Global production shows a double-digit decline by 13% to 1.52 million units.

### **Small Memory Cards**

**Small Memory Cards** – The association made forecasts for only Japanese demand for SD Memory Card, Memory Stick, Compact Flash Memory, SmartMedia and xD-Picture Card. With the increase in demand for digital still cameras and the popularization of Camera Cellphones, Japanese domestic demand for small memory cards is expected to show a strong increase of 33% to 78.2 million sheets. There is a tendency of increasing demand for SD Memory Card, Memory Stick and xD-picture Card, and decreasing demand for Compact Flash Memory and SmartMedia. With the integration of the cards to digital home electric appliances and with their usage as Bridge Media in daily life, such as in medicine or security, the formation of a large global market is much anticipated.

## Forecasts for Global Demand and Production

### (1) AUDIO MEDIA

#### Global Demand for Blank Audio Cassette

Units in millions

	2003 Estimates	2004 Forecasts
Japan	87( 81%)	71( 82%)
North America	124( 83%)	102( 82%)
Europe	127( 75%)	97( 76%)
Other areas	276( 84%)	227( 82%)
Global Total	614( 81%)	497( 81%)

( ) Comparison to the previous year  
Blank tape only. Actual figures.

#### Global Production of Audio Tape

Units in millions

	2003 Estimates	2004 Forecasts
Japanese makers	380( 82%)	300( 79%)
Overseas makers	1,400( 93%)	1,300( 93%)
Global Total	1,780( 91%)	1,600( 90%)

( ) Comparison to the previous year  
Figures include demand for software.  
Converted to quantity of C-60.

#### Global Demand for Audio MD

Units in millions

	2003 Estimates	2004 Forecasts
Japan	154( 97%)	147( 95%)
North America	8(100%)	8(100%)
Europe	33( 83%)	29( 88%)
Other areas	11(100%)	11(100%)
Global Total	206( 94%)	195( 95%)

( ) Comparison to the previous year  
Actual figures

#### Global Production of Audio MD

Units in millions

	2003 Estimates	2004 Forecasts
Japanese makers	175( 99%)	174( 99%)
Overseas makers	43( 80%)	31( 72%)
Global Total	218( 95%)	205( 94%)

( ) Comparison to the previous year  
Actual figures

#### Global Demand for Audio CD-R

Units in millions

	2003 Estimates	2004 Forecasts
Japan	26(113%)	27(104%)
North America	179(123%)	192(107%)
Europe	61(100%)	60( 98%)
Other areas	19(119%)	22(116%)
Global Total	285(116%)	301(106%)

( ) Comparison to the previous year  
Actual figures

## (2) VIDEO MEDIA

### Global Demand for Full-size Blank Video Cassette

Units in millions

	2003 Estimates	2004 Forecasts
Japan	199( 85%)	173( 87%)
North America	304( 91%)	267( 88%)
Europe	274( 91%)	243( 89%)
Other areas	126( 92%)	114( 90%)
Global Total	903( 90%)	797( 88%)

) Comparison to the previous year

Blank tape only. Actual figures.

### Global Production of Video Tape

Units in millions

	2003 Estimates	2004 Forecasts
Japanese makers	434( 86%)	360( 83%)
Overseas makers	1,100( 92%)	1,000( 91%)
Global Total	1,534( 90%)	1,360( 89%)

) Comparison to the previous year

Production includes demand for software.

Converted to quantity of T-120.

### Global Demand for Movie Tape

Units in millions

	2003 Estimates	2004 Forecasts
Japan	45(100%)	45(100%)
North America	93(102%)	93(100%)
Europe	63(107%)	65(103%)
Other areas	29(116%)	32(110%)
Global Total	230(105%)	235(102%)

) Comparison to the previous year

Includes VHS-C, 8 mm and Mini DVC

Actual figures

### Global Production of Movie Tape

Units in millions

	2003 Estimates	2004 Forecasts
Japanese makers	249(105%)	258(104%)
Overseas makers	0	0
Global Total	249(105%)	258(104%)

) Comparison to the previous year

Actual figures

### Global Demand for Mini DVC

Units in millions

	2003 Estimates	2004 Forecasts
Japan	36(106%)	38(106%)
North America	30(125%)	37(123%)
Europe	35(130%)	40(114%)
Other areas	16(145%)	21(131%)
Global Total	117(122%)	136(116%)

) Comparison to the previous year

Actual figures

### Global Production of Mini DVC

Units in millions

	2003 Estimates	2004 Forecasts
Japanese makers	146(125%)	163(112%)
Overseas makers	0	0
Global Total	146(125%)	163(112%)

) Comparison to the previous year

Actual figures

### (3) DATA MEDIA

#### [CD-R/RW]

##### Global Demand for CD-R for Data

Units in millions

	2003 Estimates	2004 Forecasts
Japan	400(101%)	400(100%)
North America	2,510(116%)	2,720(108%)
Europe	2,800(119%)	2,990(107%)
Other areas	1,230(124%)	1,400(114%)
Global Total	6,940(118%)	7,510(108%)

( ) Comparison to the previous year

Actual figures

##### Global Production of CD-R

Units in millions

	2003 Estimates	2004 Forecasts
Japanese makers	2,344(128%)	2,340(100%)
Overseas makers	5,646(115%)	6,340(112%)
Global Total	7,990(118%)	8,680(109%)

) Comparison to the previous year

Production includes CD-R for data and audio.

Production includes ODM. Actual figures.

##### Global Demand for CD-RW

Units in millions

	2003 Estimates	2004 Forecasts
Japan	28(117%)	30(107%)
North America	132(115%)	140(106%)
Europe	127(114%)	136(107%)
Other areas	40(121%)	47(118%)
Global Total	327(116%)	353(108%)

) Comparison to the previous year

Actual figures

#### [Floppy Disk]

##### Global Demand for Floppy Disk

Units in millions

	2003 Estimates	2004 Forecasts
Japan	100( 83%)	90( 90%)
North America	390( 86%)	340( 87%)
Europe	360( 91%)	320( 89%)
Other areas	400(116%)	380( 95%)
Global Total	1,250( 95%)	1,130( 90%)

( ) Comparison to the previous year

Actual figures

##### Global Production of Floppy Disk

Units in millions

	2003 Estimates	2004 Forecasts
Japanese makers	350( 98%)	330( 94%)
Overseas makers	1,550( 90%)	1,390( 90%)
Global Total	1,900( 92%)	1,720( 91%)

) Comparison to the previous year

Based on completed products. Actual figures.

**[Recordable DVD]**

**Global Demand for Write-once Type DVD**

Units in millions

	2003 Estimates	2004 Forecasts
Japan	115(397%)	250(217%)
North America	128(557%)	293(229%)
Europe	87(544%)	200(230%)
Other areas	15(750%)	42(280%)
Global Total	345(493%)	785(228%)

) Comparison to the previous year

Actual figures

**Global Production of Write-once Type DVD**

Units in millions

	2003 Estimates	2004 Forecasts
Japanese makers	296(630%)	733(248%)
Overseas makers	83(277%)	129(155%)
Global Total	379(492%)	862(227%)

) Comparison to the previous year

Production includes ODM. Actual figures.

**Global Demand for Re-writable DVD**

Units in millions

	2003 Estimates	2004 Forecasts
Japan	41(241%)	71(173%)
North America	18(300%)	50(278%)
Europe	20(400%)	42(210%)
Other areas	3(300%)	7(233%)
Global Total	82(283%)	170(207%)

) Comparison to the previous year

Actual figures

**Global Production of Re-writable DVD**

Units in millions

	2003 Estimates	2004 Forecasts
Japanese makers	80(286%)	158(198%)
Overseas makers	10(333%)	29(290%)
Global Total	90(290%)	187(208%)

) Comparison to the previous year

Actual figures

**Japanese Demand for Video DVD**

Units in millions

	2003 Estimates	2004 Forecasts
Write-once DVD	53(312%)	100(189%)
Percentage	62%	64%
Re-writable DVD	32(320%)	57(178%)
Percentage	38%	36%
Total	85(315%)	157(185%)

) Comparison to the previous year

Actual figures

**Japanese Demand for DVD for Data**

Units in millions

	2003 Estimates	2004 Forecasts
Write-once DVD	62(517%)	150(242%)
Percentage	87%	91%
Re-writable DVD	9(129%)	14(156%)
Percentage	13%	9%
Total	71(374%)	164(231%)

) Comparison to the previous year

Actual figures

**[MO]**

**Global Demand for 3.5" MO**

	Units in thousands	
	2003 Estimates	2004 Forecasts
Japan	16,200( 83%)	14,600( 90%)
North America	250( 71%)	200( 80%)
Europe	455( 70%)	360( 79%)
Other areas	745( 54%)	520( 70%)
Global Total	17,650( 81%)	15,680( 89%)

) Comparison to the previous year

Actual figures

**Global Production of 3.5" MO**

	Units in thousands	
	2003 Estimates	2004 Forecasts
Japanese makers	18,000( 81%)	16,100( 89%)
Overseas makers	1,400( 82%)	1,200( 86%)
Global Total	19,400( 81%)	17,300( 89%)

( ) Comparison to the previous year

Actual figures

**Global Demand for 5.25" MO**

	Units in thousands	
	2003 Estimates	2004 Forecasts
Japan	160( 89%)	130( 81%)
North America	710( 89%)	575( 81%)
Europe	580( 89%)	470( 81%)
Other areas	130( 90%)	105( 81%)
Global Total	1,580( 89%)	1,280( 81%)

) Comparison to the previous year

Actual figures

**Global Production of 5.25" MO**

	Units in thousands	
	2003 Estimates	2004 Forecasts
Japanese makers	1,565( 89%)	1,370( 88%)
Overseas makers	175( 88%)	150( 86%)
Global Total	1,740( 89%)	1,520( 87%)

( ) Comparison to the previous year

Actual figures

**[Small Memory Cards]**

**Japanese Demand for Small Memory Cards**

	Units in thousands	
	2003 Estimates	2004 Forecasts
SD Memory Card	18,000(290%)	31,300(174%)
Memory Stick	16,500(190%)	22,400(136%)
Compact Flash	12,500(107%)	11,000( 88%)
SmartMedia	4,700( 64%)	2,800( 60%)
xD-Picture Card	7,300(562%)	10,700(147%)
Total Japan	59,000(168%)	78,200(133%)

( ) Comparison to the previous year

Actual figures

<p><b>For more information, please send fax to:</b>  <b>Japan Recoding-Media Industries Association</b>  <b>Fax.No. 03-3501-0630</b>  <b>No telephone response is available</b></p>
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