

PRESS INFORMATION

Another Quantum Leap for Recordable DVDs Forecasts for Recording Media in 2003 Global Demand and Production

Tokyo, Japan, November 25, 2002 - The Japan Recording-Media Industries Association (Chairperson : Hajime Sawabe) recently announced its forecasts for 2003 global demand, domestic production and overall Japanese manufacturers production of recording media products based on its annual statistical survey. Product categories addressed in the survey include Audio Tape, Audio MiniDisk (MD), Video Tape, Floppy Disk, Magneto-optical Disk (MO), Recordable compact discs (CD-R, CD-RW and CD-R for audio) and Recordable DVDs. The recordable DVD category is broken down into the write-once and re-writable types each of which is further split by application, audio use and data use.

Forecasts for 2003 Global Demand

Audio Media

Blank Audio Cassettes - The global blank audio cassette market in 2003 continues to contract significantly by 16 % to 644 million units, of which the domestic market accounts for 77 million units, 25 % down from 2002. The decline in demand is largely attributed to the shift to digital processing in the audio recording technology resulting in growing popularity of alternate media such as MiniDisk and CD-R for audio use.

MDs for audio - The global market for audio MDs is expected to decline by 5 % to 209 million units, of which the domestic market accounts for 152 million units, down by 4 % as compared with 2002, both showing a trend of decline after having hit a plateau in 2001. For one thing, the Mini Disk market remains to be a niche one, having established its presence primarily in Japan, accounting for 70% of the world demand; for another its growth has been hindered by the emergence of competing media such as memory cards and audio devices with built-in hard disk drive. It is also worth mentioning that young people, the primary consumer of audio products, have shifted its spending priorities toward mobile phones and game-related merchandise and services.

CD-Rs for audio use - CD-Rs for audio use continue to show healthy growth, surpassing MDs in global demand by far, reaching 295 million units world-wide, an increase of 20 % over 2002, of which the domestic market accounts for 28 million units, increased by 22 % over 2002. Growth is prominent in North America and Europe.

Video Media

Full-size Blank Video Cassettes - The global market for full-size blank video cassettes is expected to decrease in unit volume by 5 % to 1.0 billion units, of which the domestic market accounts for 193 million units, 13 % down from 2002. Despite the facts that the VCR market has matured and DVD recorders have become more and more popular, the market has been holding its ground beyond expectation though it is showing a general trend of decline. It is widely considered that the global market for full-size blank video cassettes will continue to be significant with a general trend of slight decline for some time as it will take post VCR devices such as DVD recorders some time to fully penetrate in the market.

Camcorder Cassettes - The overall global market for camcorder video cassettes (VHS-C, 8 mm and Mini DVC) is expected to show an increase of 4 % to 230 million units, of which the domestic market accounts for 45 million units, flat compared with 2002. Of the three types, Mini DVC grows by 19 % to 115 million units world-wide, and by 6 % to 36 million units in Japan. Mini DVC represents 50 % of the overall camcorder video cassette market on a world-wide basis and as high as 80% in terms of domestic demand, covering the losses incurred by the analogue media of this product category (VHS-C and 8 mm). Mini DVC has clearly gained consumer acceptance in North America and Europe. The industry is watching the markets with great excitement and expectation.

Data Media

CD-Rs for data use - Global demand for CD-Rs for data use is forecast to see high growth in 2003. It is expected to jump past the tick for 7 billion on the scale to reach 7.03 billion units in 2003, an increase of 15 % over 2002. The market will show consistent high growth for some time with the prospect of increased number of PCs pre-installed with the CD-R drive.

CD-RWs (data use and audio use combined) - Global demand for CD-RWs for both data and audio use is expected to take another leap up to 477 million units in 2003, an increase of 33 % over 2002. The success is due to the growing number of PCs pre-installed with the CD-R/RW drive. This upward trend is expected to persist in the years to come driven primarily by the US and European markets where the PC infra structure is well established.

Recordable DVDs - The overall global market for recordable DVDs is forecast to expand dramatically up to nearly 200 million units, comprising of 136 million units of the write-once type, showing strong growth of 196 % over 2002, and 56 million units of the re-writable type, also showing healthy growth of 147 % over 2002. As to application, data use is expected to continue to surpass video use with respect to the write-once type, 79 % of the demand is for data and the rest is for video, whereas no significant difference between them is expected with respect to the re-writable type, 57 % of the demand is for data and the rest is for video.

3.5" MO Disks - 3.5" MO continues to decline after having peaked in 2000. Domestic demand which accounts for 84 % of the world demand is forecast to decrease by 9 % to 19.3 million units. The downward trend is influenced by the constant increase of hard disk drive storage capacity and the rapid growth of alternatives such as CD-R.

5.25" MO Disks - Global demand for 5.25" MO disks is forecast to decline by 5 % to 1.95 million units. While demand for this medium seems to stay relatively small, but stable within

certain segments of the market such as CAD/CAM and file servers, it is facing increasing competition with high capacity tape storage media.

Floppy Disks - The global market for floppy disks is forecast to decrease to 1.1 billion units, 15 % down from 2002, of which the domestic market accounts for 102 million units, 15 % down from 2002. The market will continually shrink as other alternate high capacity storage media such CD-R gain popularity and various types of network systems, all storage capacity hungry, become widely used.

Forecasts for Global Demand

(1) AUDIO MEDIA

Blank Audio Cassettes Units in millions

Areas	2002 Estimates		2003 Forecasts	
	Unit Volume	% Prev. Year	Unit Volume	% Prev. Year
Japan	103	79%	77	75%
North America	149	88%	128	86%
Europe	174	76%	143	82%
Other Areas	345	87%	296	86%
Global Totals	771	83%	644	84%

MDs for audio Units in millions

Areas	2002 Estimates		2003 Forecasts	
	Unit Volume	% Prev. Year	Unit Volume	% Prev. Year
Japan	158	96%	152	96%
North America	10	111%	10	100%
Europe	39	87%	34	87%
Other Areas	12	109%	13	108%
Global Totals	219	96%	209	95%

CD-Rs for audio Units in millions

Areas	2002 Estimates		2003 Forecasts	
	Unit Volume	% Prev. Year	Unit Volume	% Prev. Year
Japan	23	128%	28	122%
North America	119	131%	139	117%
Europe	88	138%	109	124%
Other Areas	16	133%	19	119%
Global Totals	246	133%	295	120%

(2) VIDEO MEDIA

Full-size Blank Video Cassettes

Units in millions

Areas	2002 Estimates		2003 Forecasts	
	Unit Volume	% Prev. Year	Unit Volume	% Prev. Year
Japan	222	90%	193	87%
North America	344	97%	340	99%
Europe	334	98%	325	97%
Other Areas	154	99%	147	95%
Global Totals	1,054	96%	1,005	95%

Camcorder Cassettes¹ Units in millions

Areas	2002 Estimates		2003 Forecasts	
	Unit Volume	% Prev. Year	Unit Volume	% Prev. Year
Japan	45	100%	45	100%
North America	92	110%	94	102%
Europe	60	105%	62	103%
Other Areas	25	114%	29	116%
Global Totals	222	107%	230	104%

*1 : VHS-C, 8 mm and Mini DV cassettes

Mini DV Cassettes Units in millions

Areas	2002 Estimates		2003 Forecasts	
	Unit Volume	% Prev. Year	Unit Volume	% Prev. Year
Japan	34	106%	36	106%
North America	26	153%	34	131%
Europe	26	130%	30	115%
Other Areas	11	157%	15	136%
Global Totals	97	128%	115	119%

Note : Separately listed.

(3) DATA MEDIA

Optical Media

CD-Rs for data Units in millions

Areas	2002 Estimates		2003 Forecasts	
	Unit Volume	% Prev. Year	Unit Volume	% Prev. Year
Japan	420	127%	510	121%
North America	2,270	121%	2,610	115%
Europe	2,565	121%	2,885	112%
Other Areas	865	126%	1,025	118%
Global Totals	6,120	122%	7,030	115%

CD-RWs² Units in millions

Areas	2002 Estimates		2003 Forecasts	
	Unit Volume	% Prev. Year	Unit Volume	% Prev. Year
Japan	27	159%	35	130%
North America	142	151%	189	133%
Europe	143	149%	191	134%
Other Areas	47	162%	62	132%
Global Totals	359	152%	477	133%

*2 : Including disks for audio use.

Recordable DVDs³ Units in thousands

Types	2002 Estimates		2003 Forecasts	
	Unit Volume	% Prev. Year	Unit Volume	% Prev. Year
Write-once	46,000	622%	136,000	296%
Re-writable	22,700	311%	56,000	247%
Global Totals	68,700	467%	192,000	279%

*3 : Including disks for video use.

Write-once DVD Units in thousands

Areas	2002 Estimates		2003 Forecasts	
	Unit Volume	% Prev. Year	Unit Volume	% Prev. Year
Video use	9,000	600%	29,000	322%
Data use	37,000	627%	107,000	289%
Global Totals	46,000	622%	136,000	296%

Re-Writable DVD Units in thousands

Areas	2002 Estimates		2003 Forecasts	
	Unit Volume	% Prev. Year	Unit Volume	% Prev. Year
Video use	10,700	306%	24,000	224%
Data use	12,000	316%	32,000	267%
Global Totals	22,700	311%	56,000	247%

Magnetic & Magneto Optical Media

3.5" MO Disks Units in thousands

Areas	2002 Estimates		2003 Forecasts	
	Unit Volume	% Prev. Year	Unit Volume	% Prev. Year
Japan	21,240	90%	19,330	91%
North America	440	92%	410	93%
Europe	1,330	91%	1,190	89%
Other Areas	1,980	98%	1,970	99%
Global Totals	24,990	91%	22,900	92%

5.25" MO Disks Units in thousands

Areas	2002 Estimates		2003 Forecasts	
	Unit Volume	% Prev. Year	Unit Volume	% Prev. Year
Japan	230	96%	210	91%
North America	1,050	95%	1,000	95%
Europe	630	95%	600	95%
Other Areas	150	94%	140	93%
Global Totals	2,060	95%	1,950	95%

Floppy Disks Units in millions

Areas	2002 Estimates		2003 Forecasts	
	Unit Volume	% Prev. Year	Unit Volume	% Prev. Year
Japan	120	87%	102	85%
North America	456	82%	388	85%
Europe	395	86%	333	84%
Other Areas	345	89%	300	87%
Global Totals	1,316	85%	1,123	85%

Forecasts for 2003 Production

Domestic Production

Audio Cassettes - Domestic production of audio cassettes is expected to drop significantly to 137 million C60 equivalent units, 22 % down as compared with 2002. The negative trend is influenced by the shrink of the demand for blank audio cassettes and pre-recorded music cassettes as a result of the analog to digital technology shift. This declining trend is evident not only with domestic production. The worldwide production is also forecast to fall down at an accelerated rate to 1.28 billion units, a drop of 30% as compared with 2002.

MDs - Domestic production of MDs is forecast to decrease by 6 % to 160 million units (all types). While the market as a whole is shrinking, the efforts made by the manufacturers to reduce inventory in the distribution since early 2002 are taking effect. The industry is expecting that the continued efforts will improve the business environment in 2003. Japanese manufacturers continue to be a dominant factor holding 82 % of the world-wide production.

Full-size Blank Video Cassettes - Domestic production of full-size blank video cassettes is expected to level at 97 million T120 equivalent units, whereas worldwide production is down by 10 % to 1.61 billion units. Worldwide production is likely to be more susceptible than domestic production. While the growth of the DVD video system causes a strong negative impact on pre-recorded vide software sales, video duplication is no major business segment for any of the Japanese manufacturers, causing no significant influence on domestic production of full-size blank video cassettes.

Camcorder Cassettes - Domestic production of camcorder cassettes is forecast to increase by 8 % to 200 million units (all types), 63 % of which is for Mini DVCs accounting for 125 million units(all types), an increase of 17 % over 2002. As Mini DVC clearly took off in North America and Europe in 2002 the industry looks forward to its continuing healthy growth. The most prominent aspect of Mini DVC is that all products are solely manufactured in Japan.

MO Disks - As for MO disks, the 3.5" format is forecast to decrease by 8 % to 22 million units (all types) and the 5.25" format will also drop by 11 % to 1.7 million units (all types). The ratio of domestic production to overseas production is 88 % for the 3.5" format and 81 % for the 5.25" format respectively.

Japanese Manufacturers' Production (inclusive of overseas production)

CD-Rs - Japanese manufacturers' production worldwide is expected to increase by 19 % to 1.85 billion units (all types) which accounts for 25% of overall global production, 7.5 billion units (increased by 9 % as compared with 2002). Contrary to the past trend, the number of Japanese manufacturers' production shows an upward swing. It is due to the new rule introduced in this years survey that the figures include the volume have-manufactured overseas on an ODM basis.

DVDs - Of the two formats discussed, the write-once type is expected to grow at a rate of 157 % to 122 million units (all types) while the re-writable type grows up to 56.1 million units, 148% up from 2002, both reflecting the quantum leap of demand. The ratio of production by Japanese manufacturers to non-Japanese will continue to remain high, 75 % for the write-once type and 85 % for the re-writable type respectively.

Floppy Disks - Japanese manufacturers' production worldwide is expected to decrease by 15 % to 385 million units (all types) which accounts for 21% of overall global production. As reported previously, domestic production of finished products ceased in 2001. Japanese manufacturers are shifting their focus to higher-value products, causing production volume of floppy disks in China and other South East Asian countries grow considerably bigger.

*For more information: Please send facsimile to
Japan Recording-Media Industries Association
Fax : 03-3501-0630
No Telephone response is available.*

Forecasts for 2003 Production

Domestic Production

Items	Unit		2002 Estimates		2003 Forecasts ^{*4}	
			Unit Volume	% Prev. Year	Unit Volume	% Prev. Year
Audio Cassettes^{*5}	C60 equivalents	Millions	175	85%	137	78%
MDs for audio	All types	Millions	171	91%	160	94%
Full-size Blank Video Cassettes^{*5}	T120 equivalents	Millions	97	93%	97	100%
Camcorder Cassettes^{*6}	All types	Millions	185	108%	200	108%
Mini DV Cassettes^{*7}	All sizes	Millions	107	130%	125	117%
3.5" MOs^{*5}	All types	Thousands	24,000	92%	22,000	92%
5.25" MOs^{*5}	All types	Thousands	1,900	95%	1,700	89%

*4 : Including domestic production volume for export shipments.

*5 : Including products for pre-recorded software.

*6 : Including Mini DV Cassettes.

*7 : Separately listed.

Japanese Manufacturers' Production

Items	Unit		2002 Estimates		2003 Forecasts	
			Unit Volume	% Prev. Year	Unit Volume	% Prev. Year
CD-Rs^{*8}	All types	Millions	1,560	125%	1,850	119%
Write-once DVDs^{*9}	All types	Thousands	47,500	511%	122,000	257%
Re-writable DVDs^{*9}	All types	Thousands	22,600	269%	56,100	248%
Floppy Disks	All types	Millions	460	79%	385	84%

*8 : Combined total (audio use and data use).

*9 : Combined total (video use and data use).

*8 & *9 : Including have-made products on an ODM basis.