DIGITIMES Research: ICT Report – 4Q 2007

Taiwan ODD sector

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English edition: Joseph Tsai, DIGITIMES, March 2008
NOTE: Unless otherwise indicated, figures and tables refer to output from Taiwan makers.

Introduction

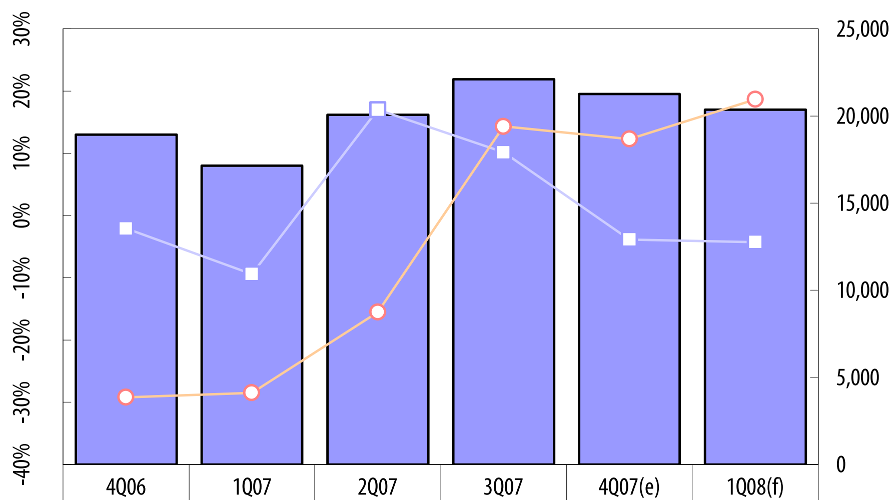
Taiwan shipped 21.3 million optical disc drives (ODDs) in the fourth quarter of 2007, down 3.8% sequentially and up 6.6% from the same period one year earlier. For the year, Taiwan shipped 80.6 million ODDs in 2007, down 7% from 2006, compared with a global growth rate of 9.7%.

ODD shipments will fall 4.3% sequentially in the first quarter of 2008, but will be up 19% from the same period in 2007.

Digitimes Research forecasts that Taiwan will ship 91.2 million ODDs in 2008, representing growth of 13.2% from 2007 and outpacing the global growth rate of 12%.

Taiwan accounted for 25% of the global ODD market in 2007 and the share is forecast to remain the same in 2008.

Chart 1: Taiwan ODD shipments, 4Q06-1Q08 (k units)



	4Q06	1Q07	2Q07	3Q07	4Q07(e)	1Q08(f)
Shipments	18,934	17,154	20,068	22,108	21,261	20,356
Q/Q	-2.1%	-9.4%	17.0%	10.2%	-3.8%	-4.3%
Y/Y	-29.2%	-28.5%	-15.5%	14.3%	12.3%	18.7%

Source: Digitimes Research, January 2008

Taiwan makers saw their H/H ODD shipments drop significantly while slim ODD orders did not show any obvious increase in the fourth quarter of 2007, so overall Taiwan shipments fell despite worldwide ODD shipment seeing quarterly growth of 15%.

The reason for the drop was that worldwide Top-2 ODD makers, Hitachi-LG Data Storage (HLDS) and Toshiba Samsung Storage Technology (TSST), are focusing more on the DVD burner market (which accounted for over 65% of their combined ODD shipment in 2007) and market demand has quickly turned to DVD burners as those two makers cut prices – thus impacting shipment of Taiwan makers, which have a lower DVD burner production ratio and usually compete on pricing themselves.

For the first quarter, due to the traditional slow season arriving, Taiwan ODD shipments will drop off 4.3% on quarter, but the shipment amount will remain above 20 million units.

Shipment breakdown

ODD types

Global DVD burner ASPs (average selling prices) have dropped quickly, as Japanese and Korean makers have pushed the segment and thus constrained shipment growth for Taiwan makers in both the CD-recordable and DVD burner segments. DVD burner shipments from Taiwan were up only 4% in the fourth quarter after rising 31% and 22%, respectively, in the previous two quarters.

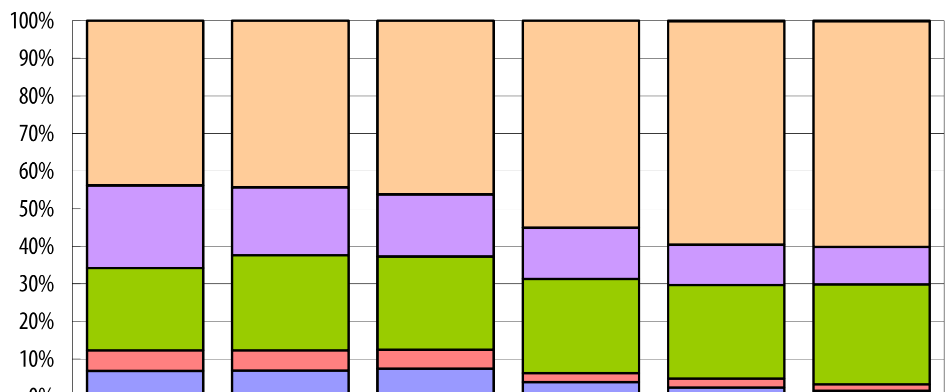
In the H/H combo segment, shipments fell 31% and in the H/H CD-ROM segment, shipments were down 40%.

The overall DVD-ROM segment lost share to the DVD burner segment while gaining share from the CD-ROM segments, so its share remained relatively stable. The segment saw a shipment decrease of 5% in the fourth quarter but shipments will rebound 2% in the first quarter of 2008.

Also in the first quarter, CD-ROM shipments will continue falling at a sequential pace of around 40%, with the DVD-ROM segment receiving those displaced orders. The CD-RW segment will take a big hit in the first quarter, with shipments falling 30%. DVD burner shipments will drop only 4% in the first quarter on seasonality.

Although Taiwan makers have started shipping blue laser ODDs, the proportion is very small and all of the shipments are for the H/H segment. Most of the BD drive only have read functionality.

Chart 2: Taiwan ODD shipments by type, 4Q06-1Q08



	4Q06	1Q07	2Q07	3Q07	4Q07(e)	1Q08(f)
BD Drive				0.0%	0.2%	0.2%
DVD RW	43.8%	44.3%	46.2%	55.1%	59.5%	60.0%
Combo	22.0%	18.0%	16.5%	13.6%	10.8%	10.0%
DVD-ROM	21.9%	25.4%	24.7%	25.1%	24.9%	26.5%
CD-RW	5.5%	5.4%	5.1%	2.3%	2.4%	1.7%
CD-ROM	6.8%	6.9%	7.4%	3.9%	2.4%	1.5%

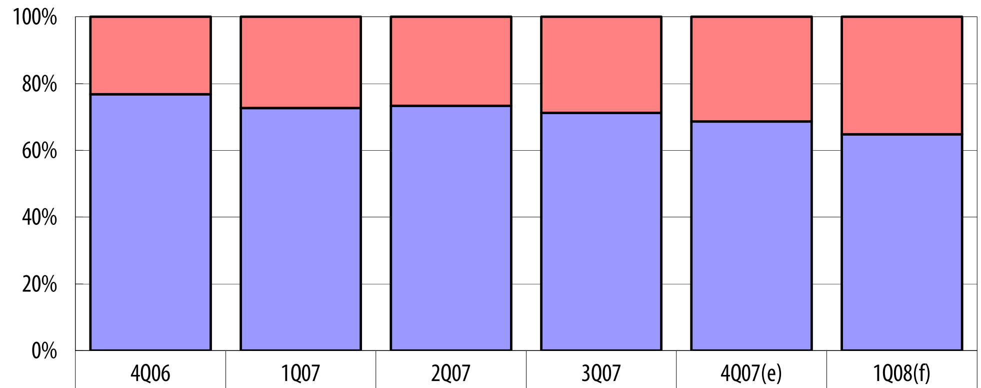
Source: Digitimes Research, January 2008

Slim and H/H

The increasing trend of notebooks replacing desktops helped Taiwan slim ODD shipments grow 6% sequentially in the fourth quarter, reaching 6.75 million units and the trend will continue in the first quarter of 2008

Also in the first quarter, Quanta Storage and Lite-on IT will see their slim ODD shipments increase, and coupled with a decrease in overall H/H shipments, the slim proportion should climb to 35.2% – very close to the worldwide proportion of notebooks to PC shipments of 37% in 2007.

Chart 3: Shipments by slim and H/H, 4Q06-1Q08



	4Q06	1Q07	2Q07	3Q07	4Q07(e)	1Q08(f)
Slim	23.2%	27.3%	26.6%	28.8%	31.4%	35.2%
H/H	76.8%	72.7%	73.4%	71.2%	68.6%	64.8%

Source: Digitimes Research, January 2008

Production mode: OBM, OEM and ODM

On the one hand, the major contributor to growth in the fourth quarter was the slim ODD segment, which Taiwan makers predominantly do on an ODM/OEM basis. However, the fourth quarter is the peak season for Asustek Computer's own-brand ODD business, therefore the OBM ratio remained at a similar level than that seen in the previous quarter.

Chart 4: Shipments by production mode, 4Q06-1Q08

	4Q06	1Q07	2Q07	3Q07	4Q07(e)	1Q08(f)
ODM/OEM	79.8%	77.6%	76.6%	78.6%	78.5%	78.9%
OBM	20.2%	22.4%	23.4%	21.4%	21.5%	21.1%

Source: Digitimes Research, January 2008

Shipments by maker tier

Number two maker Quanta Storage saw its quarterly shipment grow 16% and its on-year shipments grow by over 50% in the fourth quarter, helping to push the Top-2 makers' proportion to 86.5%. Number one maker Lite-On had saw its quarterly shipments drop in both the H/H and slim segments, though.

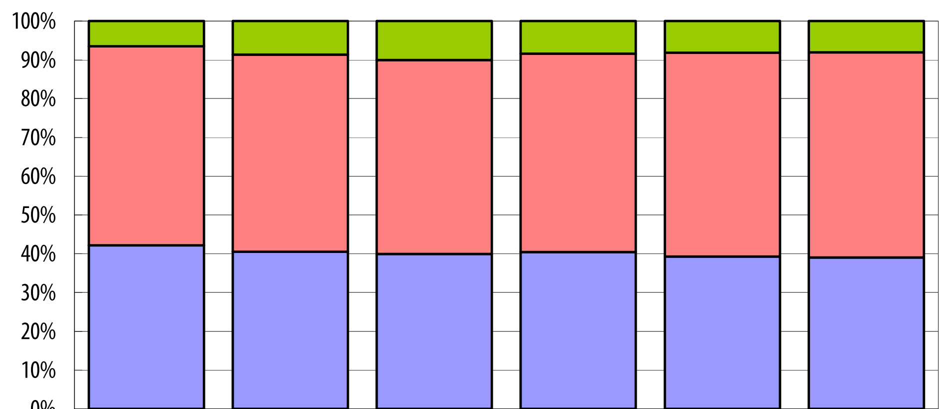
DVD burner shipments accounted for 58% of Lite-On's ODD shipments in the fourth quarter, but the percentage was still slightly lower than Taiwan's overall average of 59%. DVD burners accounted for 74% of Quanta Storage's ODD shipments, up eight percentage points from the previous quarter.

Asustek maintained a similar shipment level in the fourth quarter as it had seen in the previous quarter, but other non Top-2 makers did not perform as well, and the overall proportion of the non Top-2 makers fell to 13.5%.

Asustek's production strategy was to balance its shipments between DVD burners and DVD-ROMs, and the DVD burner segment accounted for 44% of the company's shipments in the fourth quarter. In the first half of 2007 and the fourth quarter of 2006, DVD burners accounted for about a third of Asustek's shipments.

Although Taiwan ODD makers' overall shipments will be affected by the slow season in the first quarter, H/H-based shipments will be affected more than slim ODD shipments, which should help Quanta Storage increase its overall share of Taiwan's shipments.

Chart 5: Taiwan ODD shipments by maker tier, 4Q06-1Q08



	4Q06	1Q07	2Q07	3Q07	4Q07(e)	1Q08(f)
Others	11.2%	14.5%	16.8%	14.1%	13.5%	13.3%
No.1 and 2	88.8%	85.5%	83.2%	85.9%	86.5%	86.7%
No.1	72.9%	68.2%	66.5%	67.8%	64.7%	63.9%

Source: Digitimes Research, January 2008

Industry watch

Blue laser ODDs

Japanese makers have been very aggressive about developing blue laser ODDs, but while their cost and shipments have actually seen improvements, it remains difficult for their products to strongly penetrate the PC market.

There is a possibility that BD-ROM's ASP could drop below US$100, but with data burning functionality a basic need for IT-use ODDs, pure BD-ROM will not be able to reach strong market penetration among PC users. Therefore, in order for blue laser ODDs to be successful in the PC market, a blue laser-based burner with a price around US$100 is a must.

Even a US$100 blue laser-based burner will have difficulty competing against DVD burners, whose cost has dropped below US$30.

Finally, there is no purpose for using blue laser ODDs in a PC. The current CD and DVD platform already provide enough space for data storage, and even for those that wish to use BD for entertainment purposes, the volume of content is not strong.

Therefore, Digitimes research team is holding a pessimistic perspective over the penetration potential of BD in the PC market.

However, if blue laser ODDs have success in the consumer market, it could push Japanese makers, which still control the major portion of large slim ODD orders to push into the consumer BD market, while releasing orders to Taiwan makers.

Low-cost PCs

With Asustek launching the Eee PC in 2007, other notebook vendors are expected to join the market in the first half of 2008. These types of low-cost small-size notebooks mainly focus on basic office applications and Internet use, and most do not include a traditional hard drive and/or ODD. If these low-cost PC penetrate the mainstream notebook market, it could also impact overall slim ODD shipments.

2007 review and 2008 Outlook

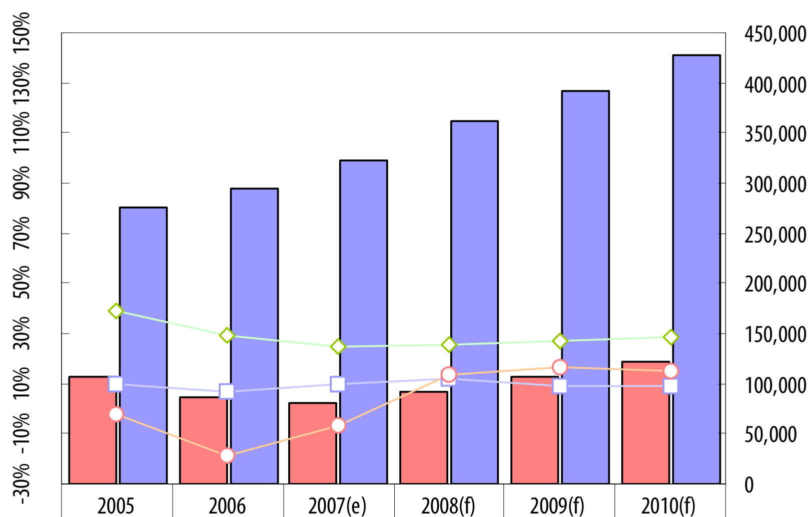
Last year was one of the worst years on record for Taiwan's ODD industry, with shipments falling for the third consecutive year to 80.6 million units.

CD-ROM and CD-RW shipments dropped by around 50% for the year and Combo shipments also suffered a drop of 32.3% on year.

However, DVD burner shipments were up 17.7% on year.

Digitimes Research forecasts that by 2009 overall shipments will have a chance to rebound to 106 million units, while in 2010 shipments will increase to 120 million units, and the region will account for 29% of the global market, though still far away from the 44% share it held in 2004.

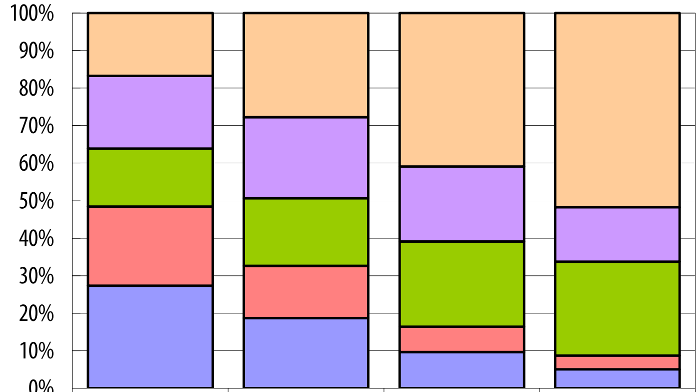
Chart 6: Taiwan and worldwide ODD shipments, 2005-2010 (k units)



	2005	2006	2007(e)	2008(f)	2009(f)	2010(f)
Worldwide shipments	275,351	294,125	322,800	361,500	392,700	428,400
Taiwan shipments	106,637	86,718	80,591	91,217	106,429	122,542
Worldwide growth	10.0%	6.8%	9.7%	12.0%	8.6%	9.1%
Taiwan growth	-2.4%	-18.7%	-7.1%	13.2%	16.7%	15.1%
Taiwan market share	38.7%	29.5%	25.0%	25.2%	27.1%	28.6%

Source: Digitimes Research, January 2008

Chart 7: Taiwan ODD shipments by type, 2004-2007



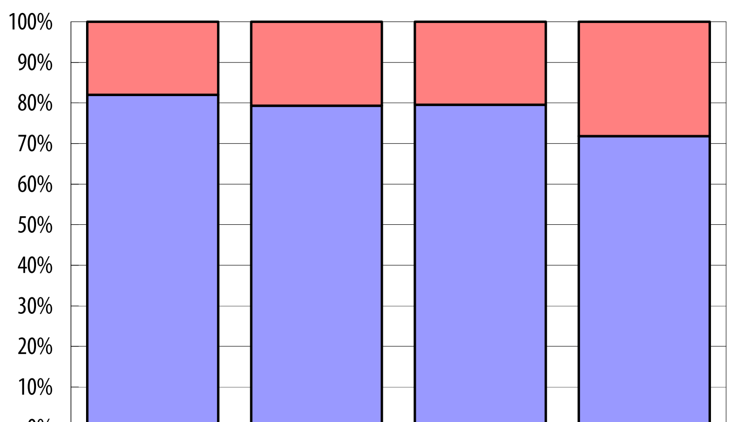
	2004	2005	2006	2007(e)
BD Drive	0.0%	0.0%	0.0%	0.0%
DVD RW	16.8%	27.8%	40.9%	51.8%
Combo	19.3%	21.6%	19.9%	14.5%
DVD-ROM	15.5%	18.0%	22.7%	25.0%
CD-RW	21.0%	13.9%	6.8%	3.7%
CD-ROM	27.4%	18.7%	9.6%	5.0%

Source: Digitimes Research, January 2008

Taiwan makers remain conservative about growth in the H/H ODD market in the future, but while makers are more optimistic about the slim ODD market, only Lite-On and Quanta Storage have the ability to develop slim ODDs. Japanese makers still have a technology leadership in the segment, so overall growth will be more difficult for Taiwan makers to come by.

In 2007, both Lite-On and Quanta Storage had 40-45% on-year growth in their slim ODD shipments, and overall slim ODD shipment were up 27.8% on year.

Chart 8: Shipments by slim and H/H, 2004-2007

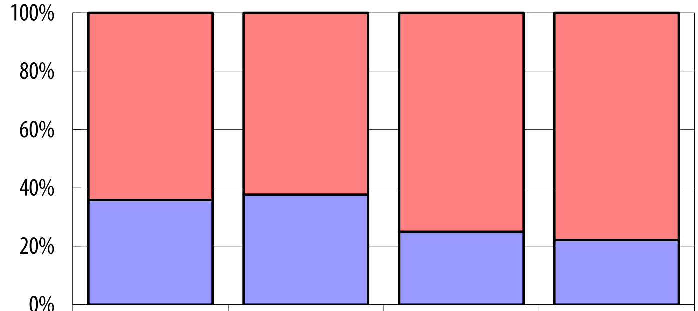


	2004	2005	2006	2007(e)
Slim	18.0%	20.7%	20.5%	28.2%
H/H	82.0%	79.3%	79.5%	71.8%

Source: Digitimes Research, January 2008

Shipments in the OBM segment in 2007 dropped 17.8% due to BenQ selling its branded ODD business to Lite-On in the later half of 2006 plus the increase of focus on the slim ODD segment (all ODM/OEM based).

Chart 9: Shipments by production mode, 2004-2007



	2004	2005	2006	2007(e)
ODM/OEM	64.2%	62.3%	75.0%	77.9%
OBM	35.8%	37.7%	25.0%	22.1%

Source: Digitimes Research, January 2008

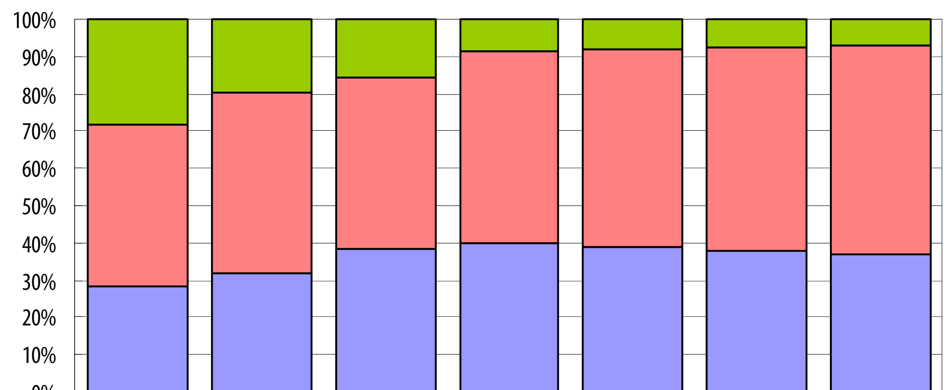
Although the number one maker Lite-On had almost no shipment growth in 2007, the maker's proportion of Taiwan shipments increased by about 5 percentage points due to an overall drop in shipments of 7% on year.

Quanta Storage benefited from the shift to slim ODDs, and the maker's shipments in 2007 were up 34.3% on year.

For other makers, Asustek did benefit from a shipment increase of 30% on year. However, with BenQ selling its ODD segment to Lite-On, Quanta Storage moved up to become the number two player, which shifted more of the market to the Top-2 players.

With Taiwan makers being more conservative about expanding their H/H ODD capacity and only the Top-2 players focusing on the slim segment, Digitimes Research forecasts that the Top-2 makers have a chance to challenge for 90% of the market in 2010.

Chart 10: Taiwan ODD shipments by maker tier, 2004-2010



	2004	2005	2006	2007(e)	2008(f)	2009(f)	2010(f)
Others	39.2%	28.7%	25.3%	14.7%	12.9%	11.9%	11.0%
No.1 and 2	60.8%	71.3%	74.7%	85.3%	87.1%	88.1%	89.0%
No.1	39.9%	47.1%	61.9%	66.8%	64.1%	60.5%	57.9%

Source: Digitimes Research, January 2008