



# DSC OEM/ODM supply chain

## Overview

DSC

Sector Update

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### Related Research

Premier (2394 TT)	Jun 07, 2005
Asia Optical (3019 TT)	Oct 11, 2004
Kinko (6209 TT)	Set 08, 2004
Altek (3059 TT)	Aug 31, 2004

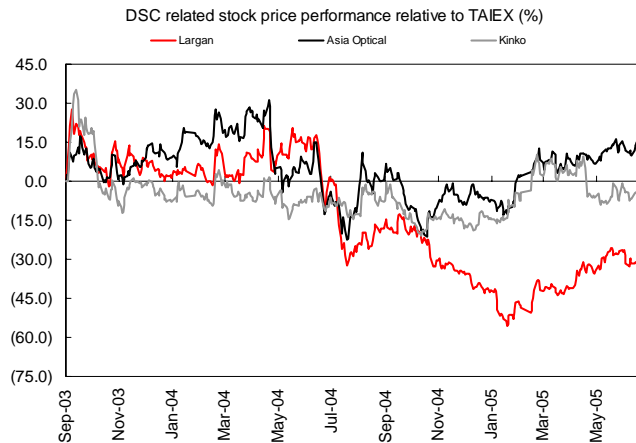
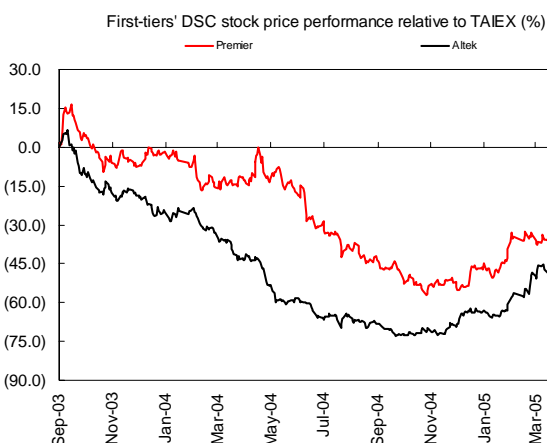
### Possible consolidation to boost big players

- **Total DSC shipment growth to slow.** Following years of sharp growths, global DSC shipments are expected to register only a 20.7% YoY growth this year. In addition, the market is expected to enter a contraction phase starting in 2007 as point-and-shoot digital camera market gets saturated. Total DSC shipments worldwide are expected to reach only 82.3 million units in 2009.
- **DSLR to dominate growth in the next few years.** Digital single lens reflex (DSLR) cameras are forecast to enjoy a whopping 101.5% YoY jump this year. Top players such as Canon, Nikon, Olympus, Pentax and Konica-Minolta will benefit.
- **2MP models to phase out next year.** Mainstream DSC models this year are 4MP and 5MP. By next year, 2MP and <2MP models should entirely phase out. Separately, 3MP DSCs will phase out by 2008, and that the mainstream DSC models in 2008 will be 7MP and 8MP models.
- **Major shipment growth to come from emerging markets.** Most growth after 2000 is largely contributed from markets outside Japan. Emerging markets, excluding Asia Pacific, will see nearly 100% shipment growth this year.
- **Kodak overtook Olympus as the third-largest DSC brand.** Kodak made an impressive comeback with the launch of EasyShare DSC product line, knocking down Olympus from the third place. Notably, eight of the top 10 companies are from Japan.
- **ASP decline to slow.** ASP fell sharply from US\$369 in 2003 to US\$246 in 2004. The decline is expected to slow this year at 5%, thanks partly to more buying interests in high-resolution models and DSLR, which commend higher price.
- **Top picks: Premier (2394 TT, NT\$37.2, BUY) and Altek (3059 TT, NT\$46.2, BUY)** Noting the gross margin erosion concern and the unfeasibility of landing DSLR orders, we believe the industry will encounter a further consolidation and wipe out second-tier assemblers, a boost to leading players such as Premier and Altek.

Figure 1: Taiwan IC backend firms' valuation

Ticker	Company	Rating	Target Price (NT\$)	Current Price (NT\$)	Mkt Cap (NT\$bn)	Sales 04 (NT\$bn)	Sales 05E (NT\$bn)	EPS 04 (NT\$)	EPS 05E (NT\$)	PER 04 (x)	PER 05E (x)	PBR 04 (x)	PBR 05E (x)
2394 TT	Premier	BUY	48.00	37.20	20.66	21.89	30.07	1.88	2.95	19.79	12.61	2.11	2.02
3008 TT	Largan	BUY	230.00	210.50	22.61	2.74	2.68	10.52	10.52	20.01	20.01	4.14	3.86
3019 TT	Asia Optical	BUY	240.00	222.50	44.83	27.15	33.99	12.56	14.06	17.71	15.83	11.78	11.56
3059 TT	Altek	BUY	55.00	46.20	7.79	8.13	11.51	2.48	3.09	18.63	14.95	1.01	0.98
6209 TT	Kinko	BUY	120.00	106.00	0.78	2.85	3.35	8.74	9.61	12.13	11.03	3.54	3.17

Source: Company data and MasterLink estimates



## Overview Keynotes

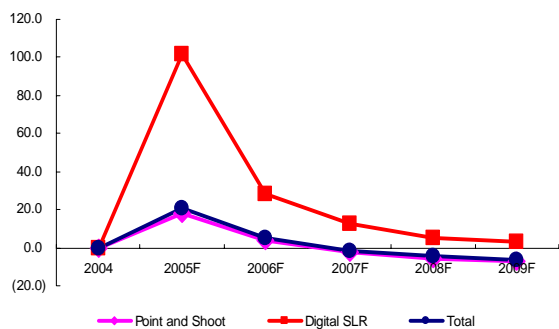
### Total DSC shipment growth to slow

Following years of sharp growths, global DSC shipments are expected to register only a 20.7% YoY growth this year, according to IDC. The market research firm expects total shipments worldwide to reach 88.94 million units compared to 73.6 million units in 2004. In addition, IDC sees the market to enter a contraction phase starting in 2007, projecting a shipment decline as point-and-shoot digital camera market gets saturated. Total DSC shipments worldwide are expected to reach only 82.3 million units in 2009.

### DSLR to dominate growth in the next few years

On the other hand, digital single lens reflex (DSLR) cameras are forecasted to enjoy a whopping 101.5% YoY jump this year. Top players such as Canon, Nikon, Olympus, Pentax and Konica-Minolta will benefit as consumers seek to buy high-end models as their second digital camera. IDC expects DSLR shipments to reach 5 million units, or about 5.6% of total DSC shipments, this year.

Figure 2: Global DSC shipment growth 2004-2009F



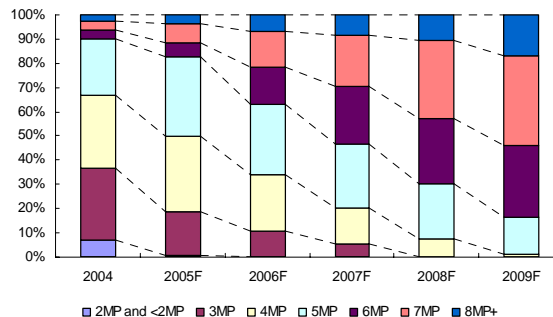
Source: IDC; MasterLink Securities

### 2MP models to phase out next year

Mainstream DSC models this year are 4MP and 5MP since many handset companies have begun to offer handsets with a 1.3MP or 2MP sensor, a move that will no doubt undercut low resolution DSC market. In Computex 2005, a Taiwanese company even showcased a camera phone equipped with a 3MP sensor. Overall, shipments of 2MP and <2MP DSCs are projected to total only 612k units this year and by next year, 2MP and <2MP models will entirely phase out. Separately, 3MP

DSCs will phase out by 2008, and that the mainstream DSC models in 2008 will be 7MP and 8MP models.

Figure 3: DSC megapixel trend 2004-2009F

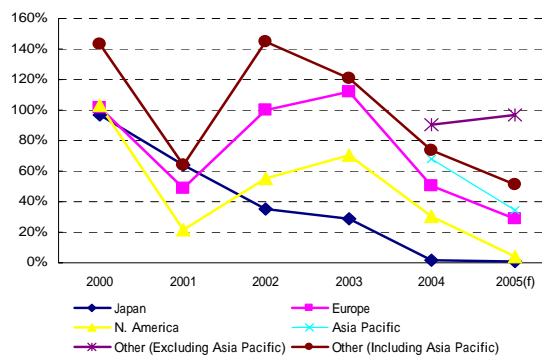


Source: IDC; MasterLink Securities

### Major shipment growth to come from emerging markets

Gadget-loving Japanese consumers have been for years the dominate force driving global DSC shipments, and that the country generated a nearly 100% YoY growth in DSC shipments in 2000. However, most growth after 2000 is largely contributed from markets outside Japan. Emerging markets, excluding Asia Pacific, will see nearly 100% shipment growth this year, according to estimates from CIPA.

Figure 4: DSC shipments growth by region: 2000-2005F



Source: CIPA; MasterLink Securities

### Kodak overtook Olympus as the third-largest DSC brand

Canon crowned as the No. 1 DSC player in terms of shipments in 2004, with a 17.1% market share. Sony trailed closely with a 16.7% market share. Kodak made an impressive comeback with the launch of EasyShare

DSC product line, knocking down Olympus from the third place. Notably, eight of the top 10 companies are from Japan, a country long recognized for its imaging technology and heritage.

Figure 5: Global Top 10 DSC vendors

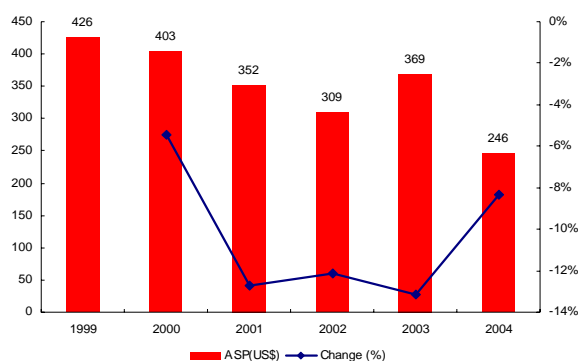
Rank	2004 shipments	Market share (%)
Canon	12,631.4	17.1
Sony	12,323.0	16.7
Kodak	8,706.7	11.8
Olympus	8,296.0	11.2
Nikon	6,883.0	9.3
FujiFilm	6,698.6	9.1
HP	3,258.3	4.4
Casio	2,868.9	3.9
Konica Minolta	2,048.5	2.8
Panasonic	2,036.0	2.8
Other	8,246.2	11.1
Total	73,996.4	100.0

Source: IDC; MasterLink Securities

### ASP decline to slow

Average selling price of a DSC fell sharply from US\$369 in 2003 to US\$246 in 2004. In 2001-2003, during which period most people purchased their first DSC, ASP posted the deepest drop, falling at an average of more than 12% yearly. It is highly unlikely that ASP will rebound to over US\$400 enjoyed during 1999-2000, however, the decline is expected to slow this year at 5%, thanks partly to more buying interests in high-resolution models and DSLR, which commend higher price. As mentioned above, DSLR is forecast to have a 101.5% YoY shipment growth this year.

Figure 6: DSC ASP (US\$, LHS) and yearly change (%), RHS)



Source: CIPA; MasterLink Securities

## Taiwan players

### Premier enjoys economies of scale

Premier (2394 TT, NT\$37.20, BUY) is Taiwan's largest DSC maker in terms of volume. The company shipped 4.5 million DSCs in 2004 and is forecast to ship 7.5 million this year. Armed with the economies of scale, Premier is likely to benefit the most from DSC outsourcing orders from Japan and the US, as brand makers seek to boost shipments while cutting costs. (For further details, please see our research report on Premier - the big gets bigger – published on June 7, 2005.)

Asia Optical (3019 TT, NT\$222.50, BUY) is the second-largest player. The lens maker aggressively branched out into DSC assembly business last year and may become a threat to Premier in future years. Other local players include Altek (3059 TT, NT\$46.2, BUY), Ability (2374 TT, NT\$17.05, NR), Nucam (unlisted) and DXG (unlisted).

Figure 7: Top 6 Taiwanese DSC makers by shipments

Ranking	4Q04	1Q05
1	Asia Optical	Premier
2	Primer	Altek
3	Ability	Asia Optical
4	Altek	Ability
5	Nucam	Nucam
6	DXG	DXG

Source: MIC; MasterLink Securities

### BOM cost breakdown

Image sensor and lens are two most costly components in a DSC. Sensor technology, particularly CCD sensor, is predominately controlled by Japanese suppliers. A handful of Taiwanese companies make CMOS sensors, such as Pixart (unlisted), TASC (unlisted) and ElecVision (unlisted). Armed with lens expertise, Asia Optical can significantly reduce assembly costs and enjoy a higher gross margin.

Figure 8: DSC BOM cost breakdown

Component	BOM
Sensor	15-20%
Lens	20-40%
Backend IC and MCU	10%
TFT LCD Panel	10-15%
Memory	5-15%
Other ICs	3%
Others (PCB, case)	10-15%

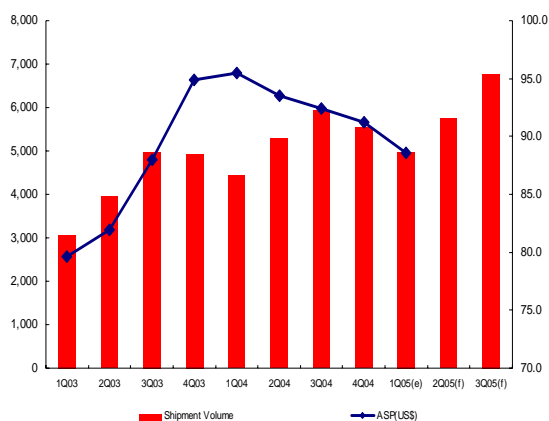
Source: Altek; MasterLink Securities

**Assembly ASP below US\$90**

Taiwan DSC makers shipped a total of 21.2 million DSCs in 2004, contributing 29% to global shipments. According to MIC, Taiwanese makers shipped 4.98 million DSCs in 1Q05 and are forecasted to ship 5.7 million and 6.8 million units in 2Q05 and 3Q05, respectively, thanks largely to outsourcing orders from Japan and the US. We thereby project shipment percentage from Taiwan to rise to over 30% this year.

However, despite rising shipment volume, ASP may continue to decline amid rising OEM orders, the overall ASP downtrend and impossibility of getting high-priced DSLR orders. Based on MIC's figure, ASP fell to US\$88.6 in 1Q05 from US\$91.2 in 4Q04. We forecast ASP to decline to below US\$90 for the full year, down from US\$93.15 in 2004. In comparison, global DSC ASP pegged at US\$246 during the same year.

Figure 9: Taiwan DSC shipments (k units, LHS) and ASP (US\$, RHS)



Source: MIC; MasterLink Securities

**Recommendation**

Noting the gross margin erosion concern and the unfeasibility of landing DSLR orders, we believe the industry will encounter a further consolidation and wipe out second-tier assemblers, a boost to leading players such as Premier and Altek.

**Premier (2394 TT, NT\$37.20, BUY)**

We are positive on Premier given its leading position in the industry and its cost-down capability. The short-term price catalysts for Premier include 1) positive guidance for 2H05, and 2) improving product mix in 5+MP products. Due to some new ODM orders (we believe mostly from Olympus), the company now guides its 2005 DSC shipment to reach 8 mn units, better than our assumption of 7.3 mn units. In addition, we also notice that its product mix is improving now, with 70+% in 5+MP products in 2Q05, much better than 60-65% in 1Q05. We therefore maintain our BUY rating for the play, with a target price of NT\$48, 16.27x our revising-up forecast 2005 EPS of NT\$2.95.

**Altek (3059 TT, NT\$46.20, BUY)**

We also hold our positive view on Altek, due to its increasing sales momentum. Altek is now ranked 2<sup>nd</sup> in 1Q05 among Taiwan DSC makers, up from 4<sup>th</sup> in 4Q04. The company's DSC shipment is also picking up now, from 800K units in 1Q04 to possibly 130K in 2Q05, up 62.5% QoQ. In 3Q05, the company could possibly reach another 40-50% QoQ growth, according its current order visibility. We thus have a BUY rating for Altek, with a target price of NT\$55, 17.80x our 2005E EPS of NT\$3.09.

**MasterLink Securities – Stock Rating System**

**BUY:** Total return expected to appreciate 10% or more over a 3-month period.

**HOLD:** Total return expected to be between 10% to –10% over a 3-month period.

**SELL:** Total return expected to depreciate 10% or more over a 3-month period.

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Additional Information Available on Request

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