

31 October 2007

Initiate Coverage

Current S\$0.225

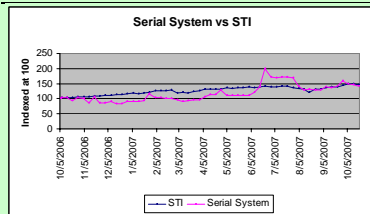
MAIN ACTIVITIES

Distribution of electronic and semiconductor components

ISSUE STATISTICS

No of shares: 373.609m
 Market cap: S\$84.1m
 Year Hi/Lo: S\$0.32/S\$0.125
 Listing Bourse: SGX- Mainboard
 Listing Date: 9 April 1997

SERIAL SYSTEM SHARE PRICE vs. STI



Source: SIAS Research

ANALYST

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Serial System Ltd

Serial Turnaround Attempts

Fully Valued

Serial System mainly trades electronic and semiconductor components in the Asia Pacific region. The company also designs consumer digital appliances, integrated circuits, and related electronic components. It has a network of offices, operations and representations in China, Hong Kong, Malaysia, Korea, Taiwan, and Thailand.

Serial System recently divested its Wintech holdings and will be distributing the proceeds to shareholders. It also acquired an interest in Bull Will, a Taiwanese company, as well as raised its holdings in Serial Microelectronics (HK) Ltd, Serial Microelectronics Inc and Tong Baek Trading this year.

The company has a turnover of above S\$300 million. However, it has been plagued by losses in four out of the past five years. In FY06, Vitelcom was responsible for its S\$5.0 million losses. Were Serial System more careful in its credit policy, it would have been profitable last year.

At the current price of 22.5 cts, we believe the shares of Serial System are fully valued. We would advise investors to wait for sustained improvement in fundamentals and for the price to be right.

We initiate coverage with a **Fully Valued** recommendation

Financial Summary

Year End Dec	2004	2005	2006	2007F
Total income	313.6	303.7	364.4	432.3
Earnings	-4.0	-6.0	-5.0	4.3
EPS – Scts	-1.33	-1.97	-1.36	1.15
Earnings Growth (%)	-227.5	N.M	N.M	-186.3
PER (x)	N.A	N.A	N.A	19.6
P/B(x)	0.8	0.7	0.9	0.9
ROE(%)	-5.1	-7.0	-6.0	4.4
Net Gearing (%)	39.6	46.7	41.3	14.3

Source: Company, SIAS Research

Refer to last page for important disclaimer

TABLE OF CONTENTS

Company	3
Industry Analysis and Outlook	6
Investment Merits and Risks	7
Financials	8
Valuations	12
Financial Tables & Ratios	14
Appendix I – Board of Directors	15
Price-Volume Chart	17
Disclaimer	17

Semiconductor and electronics distribution

3 design centres

COMPANY

Background: Serial System was established in 1988 as a distributor of electrical and electronic components with only a 1,200 sq ft office in Golden Mile Tower, Singapore. Serial System was subsequently incorporated in April 1992 and listed on SESDAQ in 1997 before being promoted to the Mainboard in July 2000. It has a network of offices, operations and representations in China, Hong Kong, Malaysia, Korea, Taiwan and Thailand.

Core business activities: Its main business operation is the distribution of semiconductors and electronic components in the Asia Pacific region. Serial System also offers value-added services such as design support, materials planning, inventory management, programming, assembly services and technology solutions.

R&D: The group has three design centres, one each in Singapore, Korea and Shenzhen. The Singapore design centre is involved in the design and development of embedded digital audio and video appliances such as entry-level LCDTV solution.

Serial System conducts its designing activities through Bona Technology, a subsidiary located in Korea. Bona focuses on developing solutions and products in the communication arena such as Voice-over-Cable Modem.

The Shenzhen design centre provides value-added design services to its customers. Among the products enhanced through their design services are USB 2.0 MP3 Flash player and Low-cost VGA Digital Still camera.

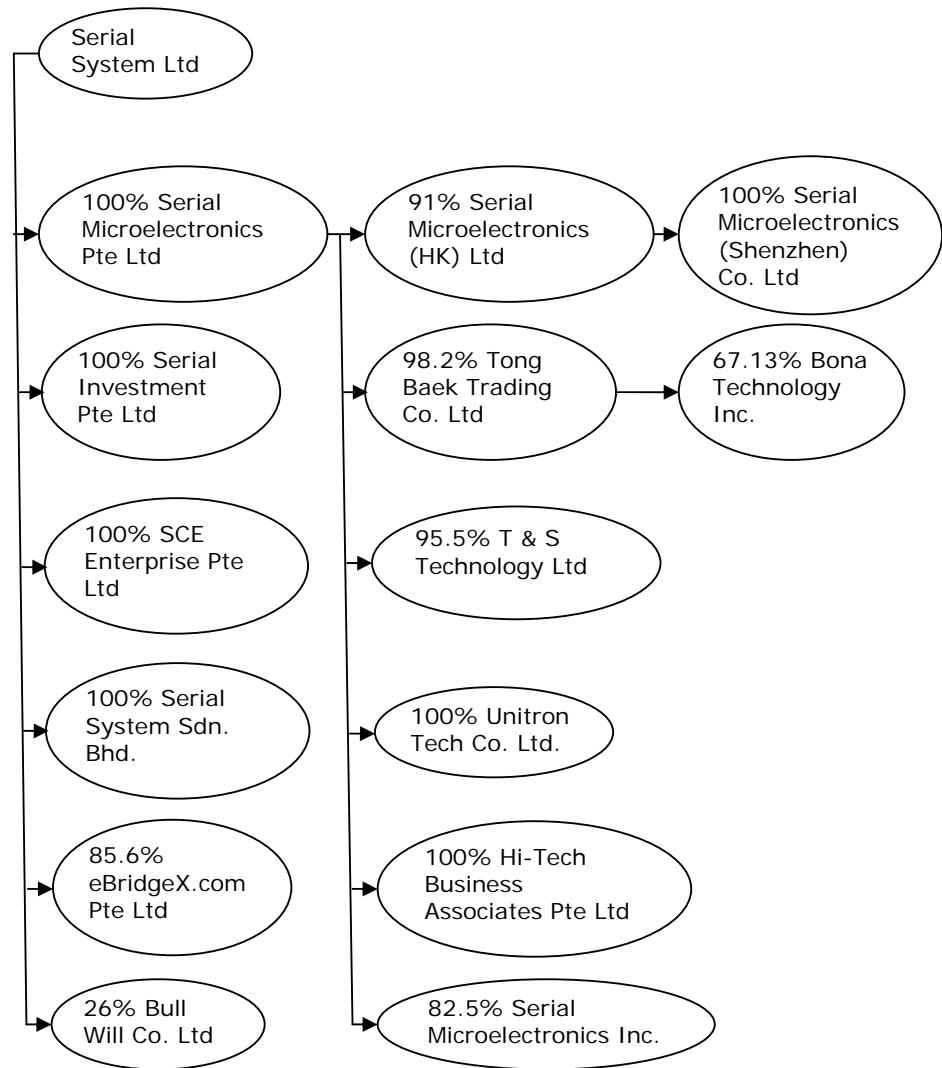


Source: Company

Suppliers: The group procures semiconductor and electronic products for distribution from a wide range of suppliers including Texas Instruments, Philips Semiconductors, TT Electronics, Analog Devices and Hitachi Global Storage Technologies.

Latest corporate structure

Figure 4: Corporate Structure



Source: Company, SIAS Research

Corporate actions

In March this year, Serial System acquired 36.2% of Bull Will Ltd for a cash consideration of S\$3.5 million (at NT\$5.18 per share). The two entities signed an MOU, in March 2007, for strategic cooperation. Bull Will is listed on the Over-The-Counter Securities Exchange in Taiwan and is in the business of distribution of electronic components. Bull Will has a 75.6% debt ratio, a Net Book value of N\$9.37 and a net loss of NT\$5.1 million as at 1Q07.

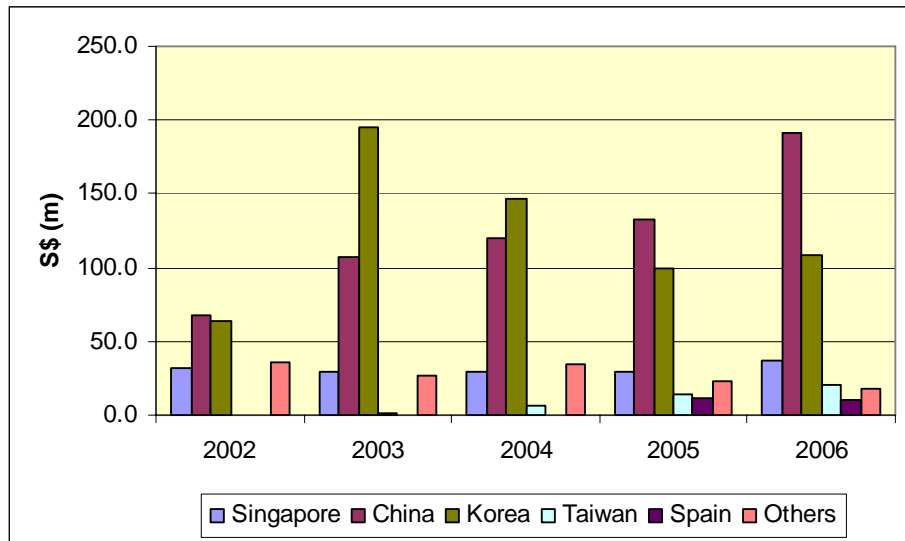
Subsequent to the March acquisition, ownership in Bull Will dropped to 26% following fund raising activities. While Bull Will shares is trading in the region of NT\$12 (S\$0.54), Serial System plans to acquire further shares in Bull Will at NT\$5.08, enabled by its MOU, bringing its stake to 70%.

**Revenue
breakdown by
countries**

**Growing
Chinese
market**

In September 2007, Serial System proposed to acquire 11%, 7.5% and 2.7% of the issued and paid up share capital of Serial Microelectronics HK Ltd (SMHK), Serial Microelectronics Inc (SMI) and Tong Baek Trading Ltd (TBT) respectively. After the acquisition, worth S\$4.3 million, Serial System now owns 91%, 82.5% and 98.2% in SMHK, SMI and TBT. The purchases will be financed with the recent issuance of 15.4 million new shares, priced at 28 cents a share.

Figure 5: Revenue by geographical segment



Source: Company, SIAS Research

Serial System draws most of its revenue from the Asia-Pacific region. Although business from Singapore has been fairly consistent over the past five years, the same cannot be said about the other geographical sectors.

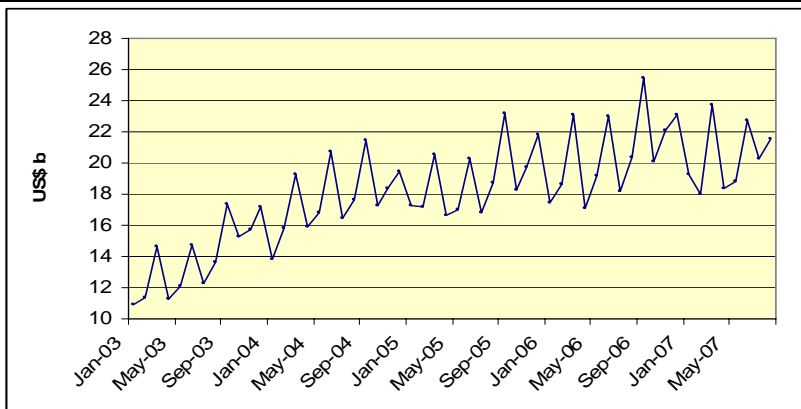
While contribution from China, including Hong Kong, has been on a nice uptrend, the Korean performance has been more erratic. It saw a sudden surge in 2003 and a gradual decline in the following two years, before experiencing a mild recovery in 2006. Taiwan started generating modest revenues as from 2004 whereas Spain chipped in from 2005.

INDUSTRY ANALYSIS AND OUTLOOK

Semiconductor Industry

Worldwide semiconductor sales rose by 4.9% year-on-year in August 2007 to reach US\$21.5 billion. The August numbers were 4.5% higher than July. August is usually the beginning of the holiday season inventory build by electronics manufacturers.

Figure 6: Worldwide semiconductor sales



Source: Semiconductor Industry Association, SIAS Research

Semiconductor stated to grow 2.3%

The global semiconductor market is expected to grow 2.3% to US\$253b this year and 10.2% in 2008 according to the Semiconductor Industry Association (SIA).

Electronics Industry

IT market to grow by 10%

Credit Suisse and Gartner have revised their growth forecasts of personal computer (PC) sales from 11% to 13 % for 2007. PCs account for 40% of semiconductor sales. According to SIA, unit sales of cell phones in 2007 will be up 15%, instead of the previous forecast of 10%. IDC predicts the overall IT market in Asia Pacific ex Japan to grow by 10% year-on-year and reach US\$132 billion in 2007.

INVESTMENT MERITS AND RISKS

Large volume for economies of scale

Large Volume: Serial System had a turnover of S\$364 million in 2006. It aims to boost its business volume as trading companies have to leverage on economies of scale. Larger orders will enable them to have greater bargaining power over suppliers and to spread operating costs over greater transactions. It is therefore not surprising that Serial System is focused on growing its top-line and be a high volume player in the market place.

Growing revenue from China

Cost Conscious: Operationally, the company has taken steps to trim unnecessary expenses in an attempt to become leaner.

Growing Chinese Business: Serial System has been enjoying growing business in China over the past few years. Given the huge potential of the Chinese market, this bodes well for the future.

Acquisition of Bull Will

Taiwanese Foothold: The acquisition of Bull Will offers Serial a greater presence in Taiwan, traditionally strong in semiconductors. A foothold in the Taiwanese market should help Serial System going forward. However, Bull Will started FY07 with losses and its balance sheet does not look strong either.

Risks

Operational Risk: Although the company is cost-conscious, the risk of not being able to manage operations within budget can be relatively high for a distributor of electronics and semiconductor components. Due to rapid technologic advances, high-tech products depreciate in value at a high rate. If inventories are not managed carefully, losses arising from write-offs of obsolete inventory will erode the bottom-line. Improper management of credit can see recurrences of cases similar to Vitelcom where Serial System had to impair trade receivables from Vitelcom after the latter went into judicial management.

Shareholder Value Destruction Risk: If Serial System keeps suffering losses year in, year out, being invested over the long-term will destroy the value of one's investment. Given poor showings over the past few years, one should be very mindful about this.

FINANCIALS

Income Statement

Table 1: Income Statement

\$ m*	FY02	FY03	FY04	FY05	FY06
Rev	165.5	324.8	313.6	303.7	364.4
COGS	153.2	294.5	282.9	270.2	328.6
GP	12.3	30.3	30.7	33.5	35.8
GM %	7.4	9.3	9.8	11.0	9.8
Earnings	-9.9	3.2	-4.0	-6.0	-5.0
PM%	-6.0	1.0	-1.3	-2.0	-1.4

*: in S\$ millions except otherwise stated.

Rev = Revenue; COGS = Cost of Goods Sold; GP = Gross Profit; GM = Gross Margin; PM = Profit Margin

Source: Company, SIAS Research

2003 numbers

Revenue jumped about 97% to S\$324.8m in 2003 due to much better performance from the semiconductor distribution business. Semiconductor revenue rose 102% to S\$309.7m following the increase in interest in Tong Baek Trading from 70% to 89.5%, and in T & S Technology from 70% to 100%. Both companies contributed to 61.5% turnover of the semiconductor distribution division. Gross margin improved by 1.9 percentage point to 9.3%.

2004 numbers

The acquisition of Sangsoo and Unitron Tech in 2004 failed to stem the regression in revenue, which dropped to S\$313.6m. In that year, Serial System suffered a loss of S\$4m despite maintaining a gross margin of 9.8%. Spiralling operating expenses was the main culprit. Table 2 shows the jump in expenses as a function of percentage of sales from 9.8% in 2003 to 14% in 2004.

Table 2: Expenses

(\$ m)	2002	2003	2004	2005	2006
Expenses	-28.0	-31.9	-44.0	-44.2	-49.4
Expenses (% of Sales)	16.9	9.8	14.0	14.5	13.5

Source: Company, SIAS Research

2005 numbers

2005 was not any better. On the corporate front, Serial System entered into a joint venture with Allied Competence in Taiwan and also acquired 21.4% of NEX Display Technology. The group made a commendable decision to wind down its consumer digital appliances division. While revenue was S\$303.7m, Serial System registered a loss of S\$6.0m in FY05.

2006 numbers

In 2006, turnover increased 20% to S\$364.4m but Serial System was still in the red despite maintaining a reasonable gross margin (9.8%) and having better control over expenses (13.5% of sales). The net loss of S\$5 million was due to a large impairment of doubtful trade receivable worth S\$8.6 million.

During this time, the company has also liquidated its holdings in Wintech and reduced its stake in Nex Display Tech to below 20%.

Table 3: Revenue breakdown

(S\$ m)	2002	2003	2004	2005	2006
Semiconductor distribution	153.1	309.8	309.3	301.9	364
Consumer Digital Appliances	10.6	5.7	4.3	1.7	0.0*
Others	1.7	9.4	0.0	0.0	0.2
Total Revenue	165.5	324.8	313.6	303.7	364.4

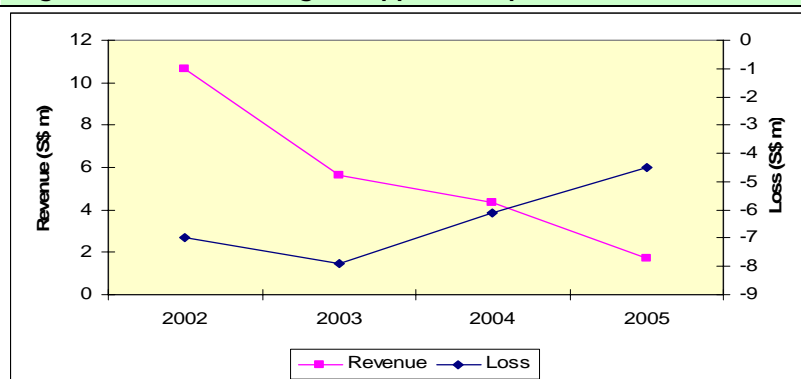
* Merged with "Others"

Source: Company

Consumer Digital Appliances poor performance and wind-down

Figure 7 below shows revenue from the consumer appliance division had been declining from 2002 to 2005. This division had been raking losses after losses, thus the decision in 2005 to wind down that division.

Figure 7: Consumer Digital Appliances performance

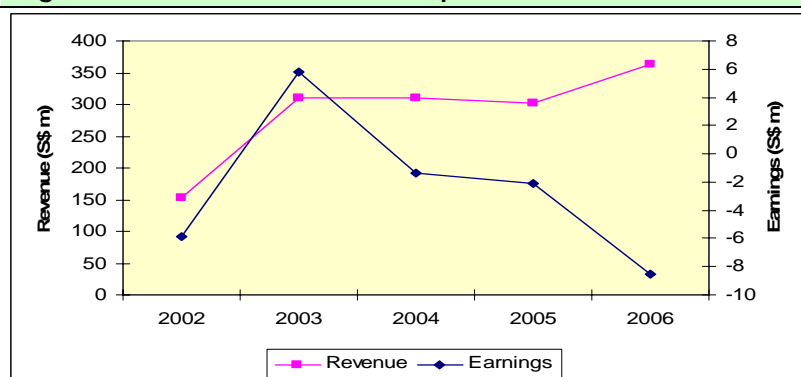


Source: SIAS Research

Figure 8 below shows revenue from semiconductor distribution division to be on the uptrend although earnings have been lumpy.

Semiconductor division performance

Figure 8: Semiconductor division performance



Source: SIAS Research

Balance Sheet

Table 4: Balance Sheet

\$ m*	FY02	FY03	FY04	FY05	FY06
Current Assets	78.2	87.0	83.2	128.6	134.5
Long Term Assets	54.3	58.7	69.5	67.9	50.4
Current Liabilities	49.6	58.7	70.7	89.1	86.1
Long Term Liabilities	1.0	3.0	2.6	21.6	15.7
Total Equity	81.8	84.0	79.4	85.8	83.2
Book value per share (S cts)	27.1	27.8	26.2	28.2	22.8
Current Ratio (x)	1.6	1.5	1.2	1.4	1.6
Net Cash(Debt) per sh (S cts)	1.3	-3.0	-10.4	-13.2	-9.4
Net Gearing (%)	-4.6	10.9	39.6	46.7	41.3

*: in SG\$ millions except stated otherwise.

Source: Company, SIAS Research

Book value per share was 27.1 cts and 27.8 cts in FY02 and FY03. It dropped to 26.2 cts in FY04 before rising to 28.2 cts in FY05. It was 22.8 cts in FY06.

Throughout the 5-year period, current ratio stayed below 2x. Net gearing was in the region of 40% in FY04-FY06.

Cash Flow

Table 5: Cash Flow

\$ m	FY02	FY03	FY04	FY05	FY06
Operating Cash Flow	-10.1	-4.1	-7.0	-10.0	-11.9
Investing Cash Flow	-5.1	-8.3	-9.4	-4.9	20.7
Financing Cash Flow	6.6	13.7	12.2	21.4	-10.3
Net cash increase or decrease	-8.7	1.2	-4.2	6.4	-1.6

Source: Company

Serial System has not been able to generate positive cash flow from its operations from FY02 to FY06. Cash flow from investment was S\$20.7 million due to sales of financial assets.

Justification of use of PB

Difficulty in making accurate prediction

VALUATION

Valuation Methodology: Serial System is in the trading business which can be valued using either discounted cash flow or price multiples methodologies. However, discounted cash flow and PE would not be appropriate given the lumpiness and difficulty of forecasting cash flows and earnings for Serial System. It is therefore more appropriate to use Price to Book multiple.

Assumptions: Although the company suffered a net S\$5.0m loss in FY06, its semiconductor business alone registered a net profit of S\$1.5m. Serial System registered a net profit of S\$4.0 million during 1H07, albeit due to an exceptional income of S\$7.1 million arising from the sale of Wintech Microelectronics Ltd. Impairment of inventories contributed to previous years losses. Management reports Serial System inventory impairment has been completed. Therefore, losses from inventory write-down will be lower, there will be no profit contribution from Wintech but Bull Will might suffer losses. We forecast business operations in 2H07 to contribute marginally to earnings. Hence, we forecast FY07 earnings to be S\$4.3m. However, due to historical volatility in financial performances as well as divestments and acquisitions this year, we reckon our forecast may score low in terms of accuracy.

Valuation: Its peers are trading at 8.1x PE07 and PBO6 of 2.1x. Book value per share in FY06 is 22.8 cts. However, Serial system is having a rights cum warrants issue. Maximum number of rights shares allowed stands at 234.9 million and that of warrants stands at 117.4 million. Payment of dividend is expected to be reinvested through the rights issues. Hence, the rights exercise amounts to a transfer from retained earnings account to the capital account of the company. After a 10% discount to book value basis, Serial System would be valued at 20.5 cts.

Table 6: Comparables

Company	Last Price (S\$)	PER06	PER07	PBO6	ROE (%)
NUCLEUS ELECTRONICS	0.14	N.A	N.A	0.9	-13.4
EXCELPOINT TECHNOLOGY	0.21	0.3	N.A	1.6	5.8
ACHIEVA	0.225	28.9	N.A	1.8	6.1
ESMART	0.13	N.A	N.A	4.6	-63.0
ECS	0.665	11.0	10.4	1.2	11.0
EUROPTRONIC	0.13	N.A	13.0	0.9	-15.3
KARIN TECHNOLOGY	0.27	7.0	4.9	1.6	24.5
TELECHOICE	0.26	6.8	9.0	2.1	30.9
SNF CORP	0.195	N.A	N.A	1.7	-4.1

ULTRO TECHNOLOGIES	0.25	N.A	N.A	8.9	-105.3
WILLAS-ARRAY ELECTRONICS	0.175	6.9	6.3	0.8	12.0
WESTECH ELECTRONICS	0.29	5.4	5.0	0.9	18.5
UNIDUX ELECTRONICS	0.085	85.0	N.A	0.7	0.9
GATES ELECTRONICS	0.29	26.6	N.A	2.2	8.3
Average		19.8	8.1	2.1	-5.9

Recommendation: Profitability of the distribution business is not very exciting. Gross margin of the distribution industry stands at 13.5% while profit margin is a poor 1.5%. To be profitable in electronics distribution, stringent inventory and cost management is crucial. Such a business would be suffering a loss should operating expenses merely rise 1.5% above the industry average. Going forward, together with the focus on generating higher turnover, Serial System should be mindful of not destroying shareholder value and take good care of its bottom-line.

Usually, sold down companies which are turning around present excellent buying opportunities. Hor Kew, as discussed in one of our research report, is a good example. However, after several failed turnaround attempts, it might be better for investors to wait for sustained positive results from Serial System. Furthermore, at the current share price of 22.5 cts we believe Serial System to be **fully valued**.

FINANCIAL TABLES AND RATIOS

Year End December	FY04	FY05	FY06	FY07F
Profit & Loss (\$\$ m)				
Total income	313.6	303.7	364.4	432.3
Pretax	-2.0	-5.1	-4.1	5.8
Earnings	-4.0	-6.0	-5.0	4.3
EPS (weighted average – S cts)	-1.33	-1.97	-1.36	1.15
EPS (fully diluted – S cts)	-1.31	-1.92	-1.33	0.58
Balance Sheet (\$\$ m)				
Long Term Assets	69.5	67.9	50.4	33.8
Current Assets	83.2	128.6	134.5	159.2
Current Liabilities	70.7	89.1	86.1	84.0
Long Term Liabilities	2.6	21.6	15.7	11.5
Total Equity	79.4	85.8	83.2	97.5
Cash Flow (\$\$ m)				
Operating Cash Flow	-7.0	-10.0	-11.9	-9.0
Investing Cash Flow	-9.4	-4.9	20.7	19.4
Financing Cash Flow	12.2	21.4	-10.3	-4.0
Net Cash Increase/(Decrease)	-4.2	6.4	-1.6	6.4
Financial Ratios				
Revenue Growth (%)	-3.4	-3.2	20.0	18.6
Earnings Growth (%)	-227.5	N.M	N.M	-186.3
Gross Margin (%)	9.8	11.0	9.8	9.5
Net Margin (%)	-1.3	-2.0	-1.4	1.0
Current Ratio (x)	1.2	1.4	1.6	1.9
Book value per share (S cts)	26.2	28.2	22.8	26.1
Net Cash/(Debt) per sh (S cts)	-10.4	-13.2	-9.4	-3.7
Net Debt / Equity (%)	39.6	46.7	41.3	14.3
Return on Equity (%)	-5.1	-7.0	-6.0	4.4
Return on Asset (%)	-2.6	-3.0	-2.7	2.2
Debtor Days	43.5	75.5	60.7	58.4
Creditor Days	38.3	72.6	58.7	56.6
Inventory Days	46.7	67.3	66.0	64.5
Cash Conversion Cycle	52.0	70.2	68.1	66.3
Valuations				
Price to sales (x)	0.2	0.2	0.2	0.2
PER (x)	N.A	N.A	N.A	19.6
Price to book (x)	0.9	0.8	1.0	0.9

Source: Company, SIAS Research

Appendix I –Board of Directors

Dr. Derek Goh Bak Heng (Executive Chairman & Group CEO): Dr Derek Goh Bak Heng founded Serial System as a sole proprietorship in 1988, incorporated Serial System Ltd in 1992 and was the founding Chairman and CEO when the company was listed in 1997.

Dr Goh is currently the Chairman and CEO of Serial System Ltd with overall management responsibilities for the Group. As Executive Chairman, Dr Goh leads the Board in charting the future direction for the Group. He is currently also a member of the Remuneration Committee, Nominating Committee and Serial System Executives Share Option Scheme Committee.

Dr Goh holds an Honorary MBA degree from the American University of Hawaii and the Honorary Doctor of Business Administration in Marketing degree from the Wisconsin International University. Dr Goh was also conferred the degree of Honorary Doctor of Philosophy in Business Administration by the Kennedy-Western University.

In 1996, Dr Goh won the “Entrepreneur of the Year Award “, organised by the Rotary Club of Singapore and the Association of Small and Medium Enterprises, and supported by the Trade Development Board. In 1999, he was also conferred the ASEAN Best Young Entrepreneur Award 1999 by the ASEAN Secretariat. On 29 March 2000, Dr Goh was conferred the World Association of Small and Medium Enterprises (WASME) Special Honour Award by the World Association of Small and Medium Enterprises. In 2004, Dr Goh was awarded the Public Service Medal by the President of the Republic of Singapore.

Chin Yeow Hon (Executive Director): Mr Chin Yeow Hon joined Serial System Ltd as an Applications Engineer in July 1992. He was appointed An Executive Director on 20 October 1999 and Group Senior Vice President in July 2000. In February 2001, he took on the role of Acting Chief Operating Officer of Serial System Ltd.

Mr Chin holds an Electrical/ Electronics Engineering degree from the National University of Singapore.

Chua Teck Leong (Non-Executive Director): Mr Chua Teck Leong joined the Board of Directors on 19 March 1997. He joined Serial System Ltd as a Group Senior Vice President in July 2001 and retired from this position on 15 January 2005. He is currently a Non- Executive Director of the Company. He has served as a member of the Audit Committee from 19 March 1997 to 1 March 2003 and Remuneration Committee from 12 September 2001 to 16 April 2003.

Mr Chua obtained his Bachelor of Laws (Honours) degree from the University of London in 1987. He was admitted to the English Bar (Inner Temple) in 1988 and was admitted as an Advocate & Solicitor of the Supreme Court of Singapore in 1989. Mr Chua is a consultant with Chris Chong & CT Ho partnership. He also provides consultancy services to Serial System Ltd.

Ng Cher Yan (Non-Executive Director & Independent Director): Mr Ng Cher Yan joined the Board of Directors on 19 March 1997. He is currently the Chairman of the Audit Committee and a member of the Nominating Committee, Remuneration Committee, and Serial System Executives Share Option Scheme Committee.

Besides Serial System Ltd, Mr Ng is also a Non-Executive Director of Kian Ann Engineering Ltd, Ecowise Holdings Ltd, Sinopipe Holdings Ltd, Kinergy Ltd and Sihuan Pharmaceutical Holdings Group Ltd.

Mr Ng graduated from the National University of Singapore in 1983 with a Bachelor of Accountancy degree and he started his professional career with Pricewaterhouse. He is currently a practicing public accountant under the name and style of CY Ng & Co, and a fellow member of the Institute of Certified Public Accountants of Singapore and a member of the Institute of Chartered Accountants in Australia.

Ravindran s/o Ramasamy (Non-Executive & Independent Director): Mr Ravindran s/o Ramasamy joined the Board of Directors on 14 August 2001. He is currently the Chairman of the Remuneration Committee and Serial System Executives Share Option Scheme Committee, and a member of the Audit Committee and Nominating Committee.

Besides Serial System Ltd, Mr Ravindran is also a Non-Executive Director of Best World International Ltd and Cambridge Industrial Trust.

Mr Ravindran holds a Masters of Law degree from the National University of Singapore and is a consultant with Chris Chong & CT Ho partnership.

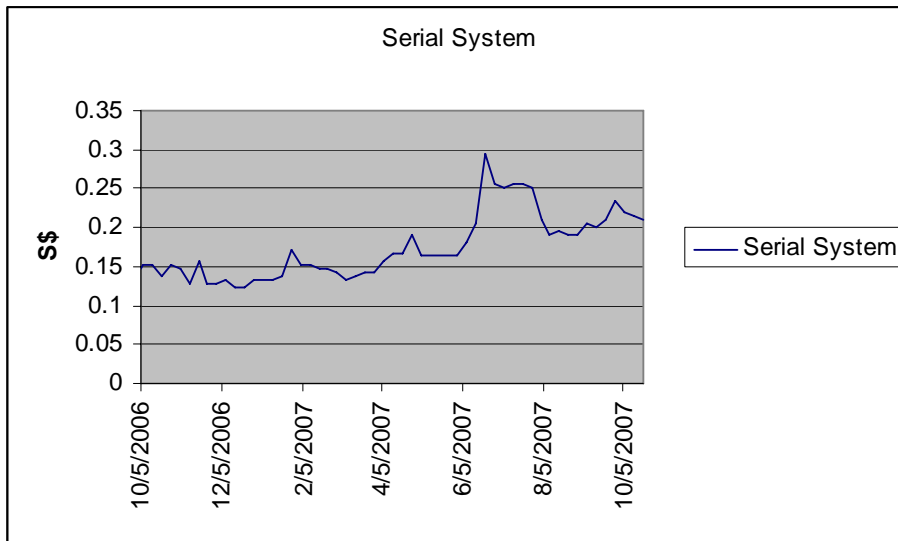
Lee Teck Leng Robson (Non-Executive & Independent Director): Mr Lee Teck Leng Robson joined the Board of Directors on 30 December 2002. He is currently the Chairman of the Nominating Committee and a member of the Audit Committee, Remuneration Committee, and Serial System Executives Share Option Scheme Committee.

Besides Serial System Ltd, Mr Lee is also a Non-Executive Director of Qian Hu Corporation Limited, Sim Lian Group Limited, Best World International Ltd, Man Wah Holdings Limited and Youcan Foods International Ltd.

Mr Lee graduated from the National University of Singapore with an honours bachelor degree in law. He is a trustee of the land on which both Hwa Chong Institution and Hwa Chong International are situated and further holds the position of Secretary in the Board of Governors of Hwa Chong Institution and in the Board of Trustees of Hwa Chong International.

Mr Lee is currently a partner in Shook Lin & Bok's corporate finance and international finance practice and has been with the firm since 1994. Mr Lee is also a partner in the firm's China practice, focusing on cross-border corporate transactions in the People's Republic of China.

Price–Volume Chart



Source: Bloomberg

DISCLAIMER

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As of the date of the report, the analyst and his/her immediate family do not hold positions in the securities recommended in this report.

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