



Cowen & Co.

DSP Group

Entering 2005 With Strong Backlog & Several New Products

January 25, 2005

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Conclusion: Q4 upside was driven by strong holiday demand and H2:04 inventory issues are said to be cleared up. Several new products including DECT, VoIP, and video/Bluetooth are expected to ship during the year. Tough compares due to a product transition may keep the shares in-line with the market in the N-T. But, at about 15X 2006E operating earnings (ex. \$11 in cash/share and interest) and with upside potential from new products, we believe the shares are attractive long-term.

- **Maintaining 2005E EPS Of \$0.80 On Revenues Of \$180MM (+14%).** Full-year guidance is for revenues of \$175-185MM, GM 44-47%, and opex of \$58-62.5MM. We assume modest growth in the base U.S. business (+3%) and DECT revenue of \$20MM (with initial shipments in Q1:05). The integrated video/Bluetooth solution is complete and may begin shipping in H2:05. We estimate video contributes only \$4MM to 2005E revenues, which could prove conservative.
- **Technology Portfolio Complete, Further Integration The Next Step In The Product Roadmap.** With the acquisition of Bermai in Q4:04, DSPG now has all major residential communications technologies in-house including Enhanced Digital Cordless (EDCT) for the U.S., DECT for Europe, Bluetooth, VoIP (voice & data), and WiFi. An integrated VoIP product is likely to begin ramping in H2:05 and a second version integrating WiFi is planned by the end of 2005.
- **Introducing 2006E EPS Of \$1.00 On Revenues Of \$207MM (+15%).** In 2006, we expect new products including DECT and products featuring further integration of the DSPG technology portfolio to drive growth. Our 2006E revenue of \$207MM assumes flat Y/Y U.S. product revenues and DECT revenue of \$40MM (+100%). This should leave room for upside as DSPG targets a 30%+ share of an estimated \$200MM DECT market in 2006.

DSPG (01/25)		\$22.50	Revenue \$MM								
Mkt cap		\$663.8MM	FY	2004		2005E		2006E		2007E	
Dil shares out		29.5MM	Dec	Actual	Prior	Current	Prior	Current	Prior	Current	
Avg daily vol		213.2K	Q1	38.7	31.9	39.5	—	—	—	—	
52-wk range		\$17.7-28.7	Q2	44.0	44.6	48.5	—	—	—	—	
Dividend		Nil	Q3	46.2	60.0	54.0	—	—	—	—	
Dividend yield		Nil	Q4	28.6	43.5	38.0	—	—	—	—	
BV/sh		\$10.84	Year	157.5	—	180.0	—	207.0	—	—	
Net cash/sh		\$11.38	EV/S	—	—	1.8x	—	1.6x	—	—	
Debt/cap		NA									
ROE (LTM)		9.1%									
5-yr fwd EPS growth (Norm)		NA									
S&P 500		1171.9	EPS* \$								
			FY	2004		2005E		2006E		2007E	
			Dec	Actual	Prior	Current	Prior	Current	Prior	Current	
			Q1	0.24	0.07	0.16	—	—	—	—	
			Q2	0.29	0.20	0.23	—	—	—	—	
			Q3	0.33	0.35	0.30	—	—	—	—	
			Q4	0.10	0.17	0.11	—	—	—	—	
			Year	0.97	—	0.80	—	1.00	—	—	
			P/E	—	—	28.1x	—	22.5x	—	—	

Please refer to the back of this report for important disclosures.

*GAAP EPS excludes one-time charges



Investment Thesis

DSPG is an attractive pure-play fabless semiconductor company (following the spin-off of the licensing segment on 11/1/02). DSPG is the leading provider of integrated circuits (ICs) used in corded and cordless telephones, and digital answering machines. Its integrated approach to chip design enables OEM customers to offer feature-rich telephony products with reduced chip counts and highly competitive prices. Blue-chip customers include five of the eight major cordless telephone OEMs—Panasonic, Thomson (GE brand), Uniden, Bell companies, and Sony—which have an estimated aggregate 70% share of the U.S. cordless market. DSPG has benefited from the rapid adoption of its 2.4GHz chips for cordless phones and multi-handset cordless phones. And, shipments should begin in Q1:05 for DECT (Digital European Cordless Telecommunications) and H2:05 for video applications, which should expand the addressable unit market by more than 50% and increase the semiconductor content opportunity per phone. Risks are: execution on product transitions and the timing of new product introductions, which are critical to ASPs; timing of OEM product plans; weakness in consumer spending; and potential for disruptions in core R&D operations due to political risks in Israel. A solid balance sheet of \$331MM in cash (\$11.38 per share) could be used for strategic acquisitions to support further expansion.

**DSPG Revenue Buildup Estimate (\$MM)**

DSP Group	2003	2004	2005E	2006E
Revenue Buildup				
2.4GHz & 5.8GHz	120.6	124.2	128.5	130.0
900MHz	16.0	9.5	5.0	0.0
DECT	0.0	1.5	20.0	40.0
Video	0.0	0.0	4.0	14.0
Feature Chips & Other	<u>16.1</u>	<u>22.3</u>	<u>22.5</u>	<u>23.0</u>
Total Revenue	152.7	157.5	180.0	207.0
% Of Revenue				
2.4GHz & 5.8GHz	79%	79%	71%	63%
900MHz	10%	6%	3%	0%
DECT	0%	1%	11%	19%
Video	0%	0%	2%	7%
Feature Chips & Other	11%	14%	13%	11%
Y/Y Growth				
2.4GHz & 5.8GHz	83%	3%	3%	1%
900MHz	-62%	-41%	-47%	-100%
DECT	NM	NM	1233%	100%
Video	NM	NM	NM	250%
Feature Chips & Other	-4%	39%	1%	2%
Total Revenue	22%	3%	14%	15%

Source: SG Cowen & Co., Company Reports

**DSPG Annual P&L Forecast (\$MM)**

FY = December	2003	2004	2005E	2006E
Revenue	\$152.9	\$157.5	\$180.0	\$207.0
%Ch. Y/Y	22%	3%	14%	15%
Cost of Product Sales & Other	\$83.1	\$80.4	\$99.0	\$112.8
Gross Profit	\$69.8	\$77.1	\$81.0	\$94.2
Gross Margin	45.7%	49.0%	45.0%	45.5%
R&D	\$25.6	\$32.1	\$41.0	\$44.2
% Sales	16.7%	20.4%	22.8%	21.4%
SG&A	\$18.9	\$18.4	\$20.5	\$23.3
% Sales	12.4%	11.7%	11.4%	11.3%
Operating Expenses	\$44.5	\$50.6	\$61.5	\$67.5
% Sales	29.1%	32.1%	34.2%	32.6%
Operating Income	\$25.3	\$26.6	\$19.5	\$26.7
Operating Margin	16.5%	16.9%	10.8%	12.9%
Interest & Other, Net	\$7.9	\$8.5	\$9.2	\$9.8
Pretax Income	\$33.2	\$35.1	\$28.7	\$36.5
% Sales	21.7%	22.3%	15.9%	17.6%
Taxes	\$5.6	\$6.0	\$4.9	\$6.2
Tax Rate	17.0%	17.0%	17.0%	17.0%
Net Income	\$27.6	\$29.1	\$23.8	\$30.3
% Sales	18.0%	18.5%	13.2%	14.6%
EPS*	\$0.93	\$0.97	\$0.80	\$1.00
Diluted Shares	29.593	30.026	29.650	30.150
EPS Growth	31%	4%	-17%	25%

* GAAP EPS excludes one-time charges

Source: SG Cowen & Co., Company Reports



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DSPG Quarterly P&L Forecast (\$MM)

FY = December	Q1:04A	Q2:04A	Q3:04A	Q4:04A	Q4:04E	Q1:05E	Q2:05E	Q3:05E	Q4:05E
Revenue	\$38.7	\$44.0	\$46.2	\$28.6	\$27.5	\$39.5	\$48.5	\$54.0	\$38.0
%Ch. Y/Y	33%	14%	-2%	-25%	-28%	2%	10%	17%	33%
%Ch. Q/Q	1%	14%	5%	-38%	-41%	38%	23%	11%	-30%
Cost of Product Sales & Other	\$19.9	\$22.9	\$23.4	\$14.2	\$13.9	\$21.7	\$26.7	\$29.7	\$20.9
Gross Profit	\$18.9	\$21.1	\$22.8	\$14.4	\$13.6	\$17.8	\$21.8	\$24.3	\$17.1
Gross Margin	48.7%	47.9%	49.4%	50.3%	49.5%	45.0%	45.0%	45.0%	45.0%
R&D	\$7.6	\$7.3	\$8.5	\$8.8	\$9.3	\$9.5	\$10.5	\$10.5	\$10.5
% Sales	19.5%	16.6%	18.3%	30.9%	33.8%	24.1%	21.6%	19.4%	27.6%
SG&A	\$4.6	\$5.0	\$4.6	\$4.1	\$4.0	\$4.7	\$5.3	\$5.5	\$5.0
% Sales	11.9%	11.4%	10.1%	14.5%	14.5%	11.9%	10.9%	10.2%	13.2%
Operating Expenses	\$12.2	\$12.3	\$13.1	\$13.0	\$13.3	\$14.2	\$15.8	\$16.0	\$15.5
% Sales	31.4%	28.0%	28.4%	45.4%	48.4%	35.9%	32.6%	29.6%	40.8%
Operating Income	\$6.7	\$8.8	\$9.7	\$1.4	\$0.3	\$3.6	\$6.0	\$8.3	\$1.6
Operating Margin	17.3%	19.9%	21.0%	4.9%	1.1%	9.1%	12.4%	15.4%	4.2%
Interest & Other, Net	\$2.1	\$2.2	\$2.1	\$2.2	\$2.2	\$2.2	\$2.3	\$2.3	\$2.4
Pretax Income	\$8.8	\$10.9	\$11.8	\$3.6	\$2.5	\$5.8	\$8.3	\$10.6	\$4.0
% Sales	22.8%	24.8%	25.5%	12.5%	9.1%	14.6%	17.2%	19.6%	10.5%
Taxes	\$1.5	\$1.9	\$2.0	\$0.6	\$0.4	\$1.0	\$1.4	\$1.8	\$0.7
Tax Rate	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%	17.0%
Net Income	\$7.3	\$9.1	\$9.8	\$3.0	\$2.1	\$4.8	\$6.9	\$8.8	\$3.3
% Sales	18.9%	20.6%	21.2%	10.4%	7.6%	12.1%	14.2%	16.3%	8.7%
EPS*	\$0.24	\$0.29	\$0.33	\$0.10	\$0.07	\$0.16	\$0.23	\$0.30	\$0.11
Diluted Shares	30.698	30.957	29.358	29.092	29.500	29.500	29.500	29.700	29.900
EPS Growth	59%	12%	4%	-48%	-64%	-32%	-20%	-11%	9%

Source: SG Cowen & Co., Company Reports



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DSPG Annual Cash Flow Forecast (\$MM)

	2003	2004	2005E	2006E
Net Income	\$25.4	\$29.1	\$23.8	\$30.3
Depreciation	3.2	2.0	2.6	3.3
Other Non-Cash Charges	5.2	4.3	0.0	0.0
Working Capital Changes:				
Accounts Receivable	(11.0)	9.9	(8.8)	(5.4)
Inventory	(1.6)	(1.0)	1.1	(3.0)
Assets Of Disc Ops	0.0	0.0	0.0	0.0
Other Current/LT Assets	(0.1)	(5.8)	0.2	(0.8)
Current Liabilities/Other	<u>13.3</u>	<u>(11.5)</u>	<u>(1.0)</u>	<u>17.2</u>
Total Working Capital	0.7	(8.4)	(8.5)	8.0
Cash Flow From Operations	\$34.5	\$27.1	\$17.9	\$41.6
Capital Expenditures	(3.2)	(2.3)	(3.2)	(3.6)
Disposals	0.0	0.0	0.0	0.0
Other Investments	<u>(42.5)</u>	<u>28.6</u>	<u>(0.8)</u>	<u>(0.0)</u>
Total Cash From Investing	(\$45.7)	\$26.3	(\$4.0)	(\$3.6)
Change In Debt	0.0	0.0	0.0	0.0
Change In Equity	8.1	(18.0)	(0.0)	(0.0)
Total Cash From Financing	\$8.1	(\$18.0)	(\$0.0)	(\$0.0)
Currency Translation	0.0	0.0	0.0	0.0
Change In Cash & Equivalent	(\$3.1)	\$35.3	\$14.0	\$38.0
Beginning Cash & Equivalent	\$39.9	\$36.8	\$72.1	\$86.1
Ending Cash & Equivalent	\$36.8	\$72.1	\$86.1	\$124.0

SG Cowen Summary:				
Cash Flow From Operations (a)	\$34.5	\$27.1	\$17.9	\$41.6
Capital Spending	<u>(3.2)</u>	<u>(2.3)</u>	<u>(3.2)</u>	<u>(3.6)</u>
Owner's Cash Flow	\$31.3	\$24.8	\$14.7	\$38.0
Financing	\$8.1	(\$18.0)	(\$0.0)	(\$0.0)
Non-Recurring Items	(42.5)	28.6	(0.8)	(0.0)
Beginning Cash	\$39.9	\$36.8	\$72.1	\$86.1
Change in Cash	(\$3.1)	\$35.3	\$14.0	\$38.0
Ending Cash	\$36.8	\$72.1	\$86.1	\$124.0
(a) Excludes non-recurring items				

Source: SG Cowen & Co., Company Reports

**DSPG Annual Balance Sheet Forecast (\$MM)**

	2003	2004	2005E	2006E
Assets:				
Cash and Equivalents	\$36.8	\$72.1	\$86.1	\$124.0
Marketable Securities	42.5	63.2	63.2	63.2
Accounts Receivable	15.8	6.0	14.8	20.2
Inventories	8.5	9.5	8.4	11.3
Other	<u>2.8</u>	<u>3.4</u>	<u>3.8</u>	<u>5.2</u>
Current Assets	106.4	154.2	176.2	224.0
Fixed Assets	7.1	6.7	8.0	8.4
LT Mkt Securities	197.1	195.7	195.7	195.7
Goodwill	5.8	1.5	1.5	1.5
Other Investments	47.1	0.0	0.0	0.0
Other Assets	<u>3.8</u>	<u>9.0</u>	<u>8.3</u>	<u>7.7</u>
Total Assets	\$367.3	\$367.0	\$389.8	\$437.2
Liabilities & Stockholders' Equity:				
Short-term Debt	0.0	0.0	0.0	0.0
Trade Payables	11.2	7.8	10.6	14.4
Other Current Liabilities	<u>34.6</u>	<u>39.9</u>	<u>36.1</u>	<u>49.4</u>
Current Liabilities	45.8	47.7	46.7	63.8
Long-term Debt	0.0	0.0	0.0	0.0
Other LT Liabilities	<u>17.1</u>	<u>3.8</u>	<u>3.8</u>	<u>3.8</u>
Total Liabilities	62.9	51.5	50.4	67.6
Equity	304.4	315.5	339.3	369.6
Total Liabilities & Stockholders' Equity	\$367.3	\$367.0	\$389.8	\$437.2
Turnover:				
Assets	0.42	0.43	0.46	0.47
Non-Cash Assets	1.68	4.38	4.02	3.81
CGS/inventories	9.2	6.0	10.0	10.0
Days Receivables	37.4	18.8	35.0	35.0
Days Payables	26.5	24.7	25.0	25.0
Leverage:				
Assets/Equity	120.7%	116.3%	114.9%	118.3%
Cash/Assets	75.2%	90.2%	88.5%	87.6%
Returns:				
ROA	8.5%	7.9%	6.3%	7.3%
Non-Cash ROA	40.8%	45.9%	59.0%	61.1%
ROE	10.0%	9.4%	7.3%	8.5%
ROIC	54.5%	-1330.3%	66.3%	102.2%
Per Share:				
Operating Cash Flow	\$1.17	\$0.90	\$0.60	\$1.38
Depreciation	\$0.11	\$0.07	\$0.09	\$0.11
Cash	\$9.34	\$11.02	\$11.63	\$12.70
Working Capital	\$2.05	\$3.55	\$4.37	\$5.31
Book Value	\$10.29	\$10.51	\$11.44	\$12.26
Tangible Book Value	\$10.09	\$10.46	\$11.39	\$12.21

Source: SG Cowen & Co., Company Reports

ANALYST CERTIFICATION

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SG COWEN & CO. RATING DEFINITIONS PRIOR TO 3/1/2004

Rating	Definition
Strong Buy (1)	Stock expected to outperform the S&P 500 by over 25%
Outperform (2)	Stock expected to outperform the S&P 500 by 10-25%
Market Perform (3)	Stock expected to out/underperform the S&P 500 by +/-10%
Underperform (4)	Stock expected to underperform the S&P 500 by at least 10%

Assumptions: Time horizon is 12 months; S&P 500 is flat over forecast period.

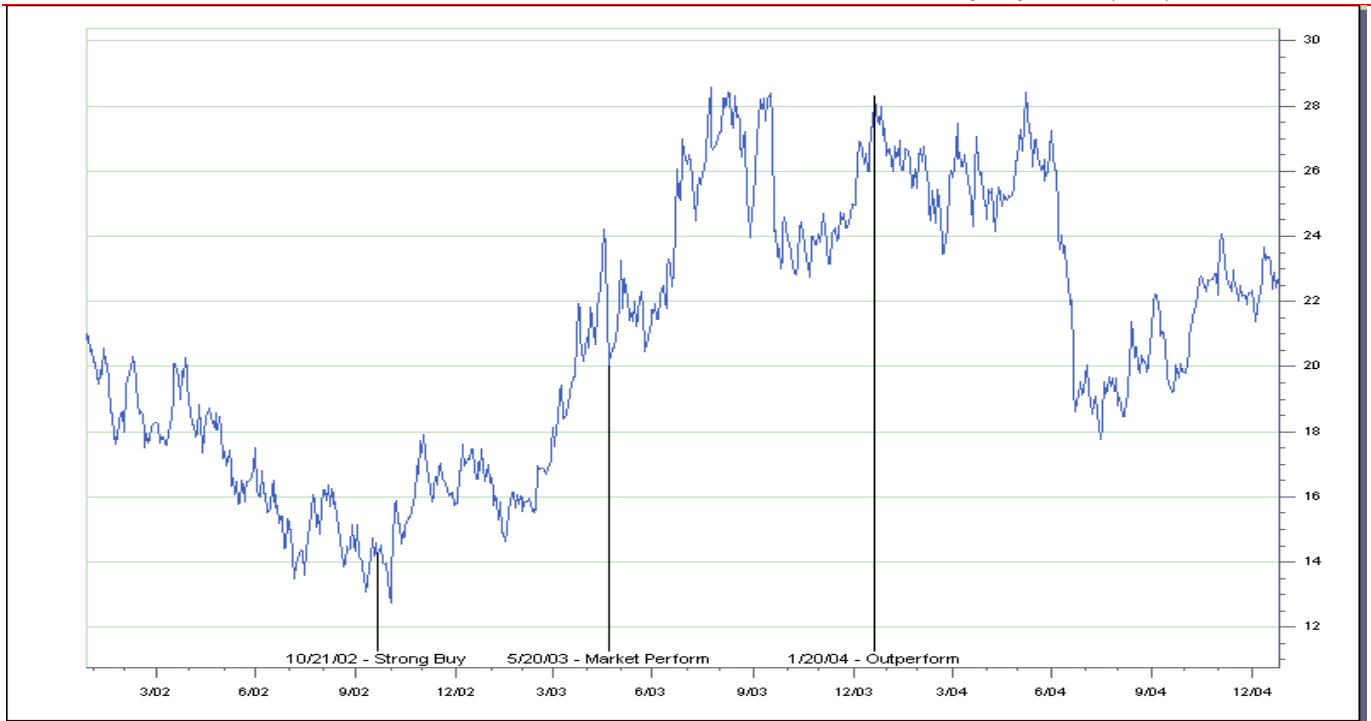
SG COWEN & CO. RATING DEFINITIONS PRIOR TO 9/9/2002

Rating	Definition
Strong Buy (1)	Analyst expects the stock to outperform the market over the next 6-12 months
Buy (2)	Analyst expects the stock to outperform the market over the next 12-18 months
Neutral (3)	Analyst expects the stock to perform in line with the market over the next 12 months
Underperform (4)	Analyst expects the stock to underperform the market over the next 12 months



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DSPG—SG COWEN & CO. HISTORICAL PRICE CHART AS OF 01/24/2005 (US\$)



Initiated on 05/01/94 with Strong Buy; Rating as of 07/21/99 was Strong Buy; Price Target as of 01/14/02 was \$27.50;
SG Cowen & Co., LLC eliminated price targets on 09/09/02;
SG Cowen & Co., LLC eliminated investment ratings on 03/01/04.