

RENAISSANCE RESEARCH GROUP

SUMMA FOUR, INC. (SUMA - OTC)

Rating: Buy

Herbert W. Jackson

804-643-5500

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Stock Price (1/23/98): \$9.75

Shares Outstanding: 5.752 million

Fiscal Year End: March

Earnings Per Share:	<u>1996A</u>	<u>1997A*</u>	<u>1998E</u>	<u>1999E</u>
Q1 (June):	\$0.20	\$0.12	(\$0.10)A	(\$0.02)
Q2 (Sept.):	\$0.13	\$0.03	(\$0.33)A	\$0.02
Q3 (Dec.):	\$0.10	\$0.08	(\$0.05)A	\$0.06
Q4 (March):	<u>\$0.15</u>	<u>\$0.08</u>	<u>\$0.01</u>	<u>\$0.13</u>
Full-Year EPS	\$0.59	\$0.30	(\$0.46)	\$0.19
P/E Multiple:	16.5x	32.5x	NMF	51.3x

* Core operating loss per share for 2Q'98 was (\$0.09) excluding special charges of \$2,048,000. Quarterly estimates may not sum to annual EPS estimates due to the weighted-average share base calculation.

Reasons for Recommendation:

- ◇ Bob Degan's (CEO) focused turnaround effort gives us conviction that Summa will meet development deadlines for its new *Sigma* switching platform, and that it will become revenue producing in the December, 1998 quarter if not before. This is beginning to excite the Company's value-added resellers (VARs) resulting in revenue contributions across a broadening spectrum of these vendors. Summa appears to have beaten internal targets for its Service Platform Card (SPC) (*October 6th*) and software release version 4.2 (*October 9th*), both of which add functionality to its current VCO Series switches and provide customers a migration path to *Sigma*. The combination of these two achievements allows Summa's introduction of the first programmable switch capable of supporting up to 4,000 ports. This small footprint switch offers the lowest industry price per port and is scheduled for installation in key beta sights during the current quarter. (*See more next page*)

Company Description:

Summa Four is a leading provider of open, programmable switching platforms that enable telecommunications service providers worldwide to build intelligent, flexible networks that support the rapid deployment of new wireline and wireless services. Their VCO (virtual central office) switches have advanced application programming software that simplifies application development and speeds time-to-market. They utilize universal network interfaces, comply with key telephone industry standards, and enable virtually any computer-based application to communicate with any modern public network architecture. There are more than 1,600 Summa Four switches deployed in 30+ countries.

Business perspective on Telecommunications Equipment and related Technology Investments

RENAISSANCE FUND MANAGEMENT, L.L.C.
33 South 13th Street, 3rd Floor, Richmond, VA 23219

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BIGGER PICTURE:

Bob Degan, CEO, is engineering a convincing turnaround. Summa's PCS (wireless) markets are entering a fast growth phase, yet the company is trading for \$21 million more than its hard book value (*which is 59% cash and equivalents net of debt*). For \$65 million total market cap, you get \$44 million sales (with the potential for significant growth), which we estimate will generate meaningful operating earnings in the June, 1998 quarter. Assuming 10% net profit margins and stable market share, the stock could trade at three or more times estimated sales of \$180-\$200 million in three years — equating to a \$540-\$600 million market cap or thirty times earnings — which is nine fold the current stock price. The recent joint venture with Dialogic Corp. enhances the product and increases the addressable market.

The SUMA versus XLSW Pricing Dichotomy - Now an Inefficient Market:

Wessels, Arnold & Henderson and Montgomery Securities brought Summa Four public at \$17 per share in September, 1993 in the midst of enthusiasm for its aggressive plans to develop the market for standards-based programmable switching. Aware of the market potential for such products, investors drove Summa's share price to a high of \$41.625 the following January. The Company held the leading market share in programmable switches until Excel Switching surpassed it during late 1996. Heretofore, Summa has not delivered profitability of the magnitude and consistency expected by investors which has been reflected in its share pricing. This was largely a result of prior management's poor strategic decision to maintain premium pricing which created a pricing umbrella and allowed Excel to capture market share. Prior to Degan's arrival to Summa, Excel Switching had been the better operator, keeping pace with rapid advancements in printed circuit board (PCB) assembly (*allowing Excel to maintain a better manufacturing cost structure*) where Summa had not.

We maintain that Bob Degan has improved the Company's competitive position dramatically and that **Summa is poised to deliver in June, 1998 a better switch to a larger addressable market with more functionality and at a lower price point than Excel**. As of November 5th, Excel Switching is now a public company (Morgan Stanley Dean Witter Discover & Co., Manager, with Hambrecht & Quist and NationsBanc Montgomery Securities - IPO at \$21). One week after its debut, akin to the one enjoyed by Summa four years ago, investors are enthusiastic for Excel and the market for programmable switches in general — but, **we think a pricing dichotomy exists between the first real player in this business and its recently public competitor:**

	SUMA	XLSW
Market value 1/23/98	\$56 million	\$627 million
Price	\$9.75	\$17.125
Number of Shares	5.752 million	36.6 million
Revenue	\$44.3 million FYE March '97	\$88.7 million FYE Dec. '97
Price/Sales	1.3X	7.1X
Est. Addressable Market	Over \$1 billion	Over \$1 billion
P/E	NM	Approximately 32X
Cash on Hand	\$27 million	\$114.9 million post-offering

Summa's Competitive Advantage versus Excel Switching:

The combination of Summa's upcoming software release 5.0 (in beta testing as of *October 15th*) for its VCO Series switches and the *October 6th* introduction of its Service Platform Card (SPC) will enable Summa to offer the industry's first (and highest capacity) programmable 4,000 port switch. The upgraded software effectively doubles the number of ports available on its VCO 20 small-footprint switch and allows the Company to offer the industry's lowest price per port. *The software includes several additional network management and maintenance features: live upgrade (allows installation of upgrade without disruption of network service), remote file transfer, host failure detection, etc. The SPC (a new high-density card) along with the 16 span T-1/E-1 card announced in September forms the hardware platform for the 4,000 port non-blocking switch. The SPC is hot swappable, enabling cards to be added or removed without taking the switch out of service, and is fully managed using the SNMP protocol. SNMP stands for simplified network*

management protocol, currently the most robust open software protocol used in managing computer networks — versus the closed proprietary software used by vendors of most “legacy” switch systems.

We want to stress the importance of Summa’s achievement in developing a high capacity switch, not only with the lowest price per port (a measure of switch capacity), but one with a small footprint. These attributes are valued by PCS and other wireless service provider customers which need not only cost-effective but small and scaleable hardware solutions with which to build their networks. *The switching function is being distributed, i.e. pushed further out to the edges of networks where frequently there are space limitations — these switches reside outside the Central Office (CO).*

When Summa introduces its new *Sigma* switching platform (targeted for June, 1998), it will deliver enhanced functionality and price points which we believe Excel will be unable to match. *Summa’s joint venture with Dialogic eliminates several hardware redundancies through a true integration of their platforms (see **Sigma Project** section).* The SUMA/DLGC agreement is a technology exchange and co-marketing agreement which prohibits any technology transfer to competitors such as Excel. Excel Switching maintains only a customer/vendor relationship with Dialogic (Excel supports a number of Dialogic’s hardware components through more of a compatibility testing agreement) We are unaware of any similar development effort underway at Excel Switching, and Summa’s management expressed a similar opinion during its recent quarterly conference call.

When Summa talks about delivering the highest number of ports, it is in a single-switch which sets new industry benchmarks for capacity in programmable switches. Excel claims that it has deployed larger 16,000-port switches, but these 16,000-port solutions are really 8 (eight) 2,000-port switches strung together — which present network management problems which their VARs/applications developers must solve. *If a hardware failure occurs, Summa’s network management system software can pinpoint the problem. In Excel’s case, the network management system will locate the cluster of 8 switches but remains unable to pinpoint the single switch that caused the failure.* Additionally, Excel’s price per port is higher than Summa’s.

2Q FYE 1998 (September) Results:

On October 16th, Summa reported an operating loss of (\$0.09) per share excluding special charges of \$2,048,000. The total loss for the quarter was (\$1,909,000) or (\$0.33) per share. Operating performance was better than we expected *versus our estimate of a (\$0.12) operating loss* because of slightly higher sales and improved gross margins. Foreign sales represented 55% of revenues, and average selling prices (ASPs) were up due to a higher percentage of switches shipped with SS7 capabilities (*we believe this reflects the first-phase of FCC rules for number portability scheduled to take effect March 31st, 1998*). Special charges were roughly \$200,000 for personnel-related expenses, approximately \$950,000 for anticipated Claircom litigation expenses and \$900,000 for write-down of obsolete and slow-moving inventory. Net of the inventory write-downs carried in cost-of-sales, gross margins improved to 56%, leading us to believe that they have stabilized.

New Customer Acquisition:

TelSoft, (private telecommunications software architecture firm) has developed an Open MSC (an open, standards-based Mobile Switching Center) which runs on Summa’s VCO 20 switch. They plan first customer installation for first *calendar* quarter 1998 (*September 8, 1998*). Summa believes that the initial deployment could result in significant future orders.

Summa Four is supplying VCO switches to IBM under its Master Resale agreement (IBM Global Telecommunications and Media Industries — IBM’s systems integration unit). Geotek Communications, Inc. is the customer. The initial forecast is for delivery of more than 20 switches for deployment in mobile radio networks in the U.S. and Korea. *We believe the order is for approximately \$3 million of switches delivered over twelve months, beginning during the March quarter. We believe these switches will be rather fully-configured and will deliver attractive gross margins to Summa.*

Vicorp will incorporate VCO switches into its enhanced services platform for Qwest Communications international, a major facilities-based CLEC (see more under **Additional Comments** dated August 20, 1997).

Sigma Project (Background):

On June 16th, Summa announced joint product development agreements with Dialogic Corp. and Junction, Inc., and both have substance. Bob Degan's (CEO) team brought needed vision to the company, which seems to have leapfrogged Excel (competitor and November 5th IPO) in product strategy by hastening the telecommunications market's advance toward full computer-telephony integration (CTI). What Summa brings to this venture is more valuable to Dialogic than to any other public or private company we can imagine in roughly the same market space. Summa brings telephony hardware and software interfaces, a good brand and foreign sales channels to the world's leading manufacturer of standards-based computer-telephony components (corporate desk-top market), and in return Summa gains access to the larger and growing CTI market (\$350 million to \$400 million).

Summa and Dialogic are jointly developing a fully standards-based switching platform dubbed "*Sigma*" (with both hardware and object-based API software programming standards) that ties the corporate data center and call management functions directly into the telco switch. This platform will eliminate numerous hardware redundancies, reducing both its size and cost versus the multiple hardware "boxes" it will replace. A beta release is targeted for June, 1998 with revenue generation anticipated by December, 1998. Given the tone of further product news from Dialogic, we believe the DLGC/SUMA team will later migrate to an ATM (asynchronous transfer mode) platform. Summa's majority-owned joint venture with Junction, Inc. is facilitating the needed upgrade of Summa's current VCO 20 Series switch and making it portable to the Summa/Dialogic joint switching platform — offering Summa's telco customers a smooth migration path.

Additional Comments:

- ◇ We believe that Summa is exploring a small acquisition, though a "Class 4" (tandem/long-distance) switching company or ISR (international simple reseller) is now less likely than we once thought. We believe the Company is broadening its wireless product strategy, and something that would draw Summa into wireless-local-loop applications would appeal to it. (November 10, 1997)
- ◇ Vicorp, a Summa reseller, announced August 12th its selection of Summa's VCO Series switches for use in its enhanced services platform for Qwest Communications International's 13,000 mile U.S. fiber backbone build-out. We believe this is significant because the agreement marks the reemergence of Summa Four in the IXC (interexchange carrier, i.e. long-distance carrier) marketplace, where heretofore Summa had been posting minimal and diminishing sales. This has positive implications for Summa's forward growth rate. *We think that the Class 4 switching business is relatively mature, but sales to IXCs for tandem/long distance switching applications are picking up again. The Summa, Dialogic and Junction joint ventures are likely to increase the category's growth rate by improving switch functionality, which we believe partially explains these improved IXC sales.* (August 20, 1997)
- ◇ Jeff Weber, CFO effective July 25th, brings corporate finance and "deal" experience to Summa, which will be useful as the company re-deploys some of its cash for smaller fill-in acquisitions. (July 28, 1997)
- ◇ *More comments from Bob Degan during meetings with institutional investors — 6/17 NYC road show:* Junction's expertise lies in developing leading-edge telephony software solutions. Junction targets the October to November, 1997 time frame for delivery of the beta version of a VCO 20 software upgrade which doubles the number of ports to 4,000, thereby cutting the price per port in half and meeting the (per port) market price of the Excel switch. Hardware engineering projects using latest surface-mount technology should further reduce VCO 20 costs by another 10% and begin to flow through the income statement during the December (3Q) quarter. This engineering effort also reduces switch footprint (size) and increases its attractiveness to customers, all of which will be portable to the joint DLGC/SUMA switching platform. (June 26, 1997)
- ◇ *Notes from 4/9 visit to Summa, meeting with Bob Degan, CEO:* Degan is a task-oriented operations guy who likes deadlines and meets them. Having guided three successful turnarounds (in data networking hardware businesses), he brings needed business skills to Summa to fast-track cost reductions in materials sourcing and contract manufacturing. Summa's VCO Series platforms now offer the highest software content and functionality in standards-based programmable switching, though at a purchase price premium, but within 15 to 18 months the Company expects to offer its solutions at the lowest market cost. We believe that Summa is looking at creative ways to fund necessary and outsized "catch-up" engineering expenses and increased direct-sales efforts during the next nine months, and they may be evaluating a small acquisition, possibly accretive. Expect FCC mandate for March 31, 1998 first phase completion of number portability to boost Summa's SS7-compliant switch sales. (April 10, 1997)

Historical Estimate Revisions (Our Audit Trail for Prior Estimates):

- ◇ 1Q FYE 1998 (June): U.S. sales during the quarter slowed, but international business continued to grow, largely as a result of strong performance by Summa's channel partners (\$6 million of the \$9.3 million in total 1Q sales were through channel partners/VARs). Foreign sales represented 58% of revenues. Selling prices and gross margins have stabilized, and we expect an upturn in gross margins in late calendar 1997 as Summa gains manufacturing cost efficiencies. Operating expenses were down sequentially, net of roughly \$200,000 in one-time severance and consulting charges. Management spoke of possible new business through IBM's systems integration unit — with a wireless service provider as the new customer. We believe that a contract could be signed in the next month. Management targets mid-1998 availability for beta units of the Summa/Dialogic joint switching platform. (July 18, 1997)
- ◇ We believe there is little risk in Summa shares below \$7.00. If management wrote off half the inventory (inconceivable) and made reasonable allowances for restructuring — both totaling \$3 million worst case — this would reduce Summa's book value to \$7 or roughly the current stock price. We believe Summa will begin to trade on prospects for growth in the December quarter and beyond and not on the expected hole in earnings for the next two quarters. Our price target is \$12 to \$14 by the end of calendar 1997. (June 26, 1997)
- ◇ Summa Four is a growth business in a "value wrapper" trading at a discount to book, three quarters away from an earnings ramp and selling into the visible 3-to-5-year PCS infrastructure build-out — which we believe will soon re-ignite the passions of growth stock investors. Current U.S. market approximates \$150 million, Frost & Sullivan believes it will grow to over \$900 million annually in next 3 to 4 years. (June 23, 1997)
- ◇ Summa reported \$0.08 for the 4Q FYE 1997 (March), the majority of earnings coming from interest income and a reduction in the tax rate. Revenue growth slowed because of a decline in Interexchange Carrier (IXC) business. Fiscal year revenues from VARs, system integrators and OEMs grew 44%, and foreign system installation sales grew 29% representing 44% of FYE 1997 revenues. Interest income largely from municipal bonds experienced a positive (~\$78,000) aberration due to reversal of an incorrect December charge to interest income related to foreign exchange. The 4Q tax rate was reduced to 3% to bring FYE 1997's rate to 32%. This reflects the (federally) non-taxable nature of municipal bond interest's contribution to income and increased international shipments. We estimate a 32% tax rate for FYE 1998 since Summa passes foreign sales through its FSC (foreign sales corporation), and we expect a continuation of international growth. The company repurchased 389,000 shares during quarter. Book is \$7.53, over \$5.00 of which is in liquid form, with insignificant debt beyond trade payables. (May 9, 1997)
- ◇ Software and line card sales into their customers' installed switch base should begin to ramp in late calendar 1997, accompanied by increasing (as a percentage of sales) higher-margined shipments of fully configured "fat" switches. Business seems to be firming, and we suspect there is upside to our FYE 3/98 estimate. (April 24, 1997)

Other Companies Mentioned:

Dialogic Corporation (DLGC-OTC-\$34.1875)

Excel Switching Corp. (XLSW-OTC-\$17.125)

IBM Corp.(IBM-NYSE-\$99.1875)

Qwest Communications International, Inc. (QWST-OTC-\$69.375)

BACKGROUND:

Institutional Holdings: 2.32 million (40.3%)

Insider Holdings: 0.3992 million (6.9%)

Underwriting Information: 2.5 million shares in 9/93 @ \$17.00 per share; Wessels, Arnold & Henderson; Montgomery