



Rambus, Inc.

“The Diamond Lane for Your Computer”



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Rambus (NASDAQ: RMBS)



What Kind Of Co. Is Rambus?

- Intellectual Property
- R & D, 80% employees should be engineers, as in Mission Statement

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What Does Rambus Do?

- Develops and licenses high bandwidth chip connection technologies
- What makes their technological special to achieve critical mass?
 - Architecture accommodates future performance enhancements
 - System designs can be optimized to meet needs of broad range of platforms
- *Rambus = ANY device w/ a bottleneck in memory = TONS of possibilities*

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Business Strategy

- License it's technology to as many as possible
- Receive a royalty payment in return
 - RDRAM = 1.5%
 - All other logic devices = 3% – 10%

Future potential is in logic devices

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Who Is A Licensee?

- All of the top 10 DRAM companies
 - Intel, AMD, and Via
 - Agilent, PMC-Sierra, EMC, Vitesse, Cisco, Motorola, Sony, Panasonic, etc.

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Where is Rambus Used?

- Exclusively bundled with the P4 until earliest 2H01
- Sony PlayStation II, Nintendo 64
- HDTV's
- Cable Set-Top Boxes



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Target #1: Gaming Market

- PS II expected for 100 million w/in 5 years
 - PS I sold 75 million worldwide
- Increasing production to 500K/month now to 2.5 million/month by Spring 2001
- Each PS II has 2 Rambus 188mb chips & 1 controller
- Avg royalty rate on chip: $1.5\% \times 2 = 3\%$
- Avg royalty on controller: $3\% \times 1 = 3\%$
 - $6\% =$ at least \$2 on each PS II sold



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Target # 2: DRAM Market

- How is Rambus a viable solution?
 - By solving the bottleneck in computers today
- E.g.: 2 GHZ computer and memory that runs at 400 MHZ, what's point?
 - Lag of 1.6 GHZ.
 - Like putting a Honda engine into a Corvette



Rambus puts a Corvette into a Corvette

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What Are The Alternatives?

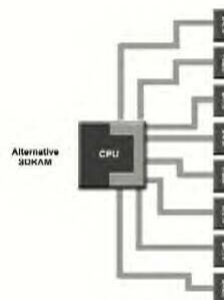
- If performance is required, a future standard will be fixed
- What's the RDRAM alternative?
 - 1- SDRAM, in all of your computers
 - 2- DDR SDRAM, maxed out SDRAM
- Not as scalable
- No OEM standards, causing more confusion.
- Been delayed since 1997, four times.
- DDR "predicted for" 1H 2001

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Superior Design

- Design:
- Rambus = a fire hose
- DDR = 2 garden hoses



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The DRAM Market

- Already have 47% of market sewn up
- 23.1 billion in 1999
- Projected to be 30 billion in 2000
- 76 billion by 2002

Source: Dataquest, Semico and Instat +/-15%

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Three Ways Rambus Will OWN The DRAM Market

(Gaining 100% market share vs. 47% they have now)



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(1) Performance Requirements

- Speed race Intel VS. AMD
 - If not enough, faster new QRSL technology. 4x faster than DDR
- Up to 3.2 GB/sec from two Rambus channels
- Up to 6.4 GB/sec from four Rambus channels
- Up to 12.8 GB/sec from 8 Rambus channels *[That is fast!]*
- Thesis of old computers becoming new. Rambus owns hi-end market
- Even if DDR is out, future will happen. Ratchet Effect + Moore's Law
 - Every improvement has a ratchet effect – once it is used we never go back and everyone expects that new level of performance. In 2003, we will have 12 GHZ computers based on Moore's Law!
- Consumer, corporate needs for fast technology

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(2) Price Premium Decreases

- Rambus right now has a 30% price premium
- Goal: Prices come down so consumers pick it when performance is not critical
- Gone down 300% this year already
- Samsung predicts by Q42001 Rambus will be +/- 10% SDRAM price
- P4 benefits Rambus from economies of scale
- DDR?
 - New product + inferior tech = too little too late

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(3) Receive Royalties On Alternative Solutions

- Patents filed in 1990, granted in 1999
 - Asserts they own “fundamental aspects” of memory technology
- Legitimately owns 47% of market
 - 5 of top 10 DRAM co’s have signed up for royalties on all three types, agreeing to it’s patent claims
- Suing Micron, Infineon, and Hyundai

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Why Rambus Will WIN Lawsuits

- 5 of top 10 have already sided with them
- Rambus has speed-tracked all 3 cases
- Only prove that 1 of 11 were infringed
- First RDRAM patent precedes SDRAM patent by 2 years
- **Trump Card:** CEO says Rambus will not license anyone they beat in court. Would shut all 3 out of business. Too big of a risk. Thus, forced to settle & on Rambus’ terms

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Worst-Case Scenario

- Rambus loses all cases
 - Left w/ only 47% of pie
- Rambus will still win in long term:
 1. Rambus is proven – P4, PSII, N64 – DDR is not
 2. Technologically superior
 3. Prices are decreasing fast
 4. Value chain has formed. Not around DDR. Too much invested in ramp-up and transition.
 5. More markets to enter than PC

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What If Rambus Wins?

- Where are they now?
- They have 47% of the market
 - Toshiba, Hitachi, NEC, Oki, and Samsung have signed up for royalties on RDRAM, SDRAM, and DDR
- If they win?
 - Hamburgers, cheeseburgers, or hotdogs – Rambus wins
 - They get a royalty on whole memory market (40 billion)

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Final Target #3: Communications

- The BIG guys
 - EMC, Cisco, Vitesse, PMCS, all supporters



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Financials

- No Debt
- IBD Rating of 96

Stock's Diagnosis			
Technical Rating	(75 = B+)	Group's Technical Rating	(93 = A)
Fundamental Rating	(99 = A+)	Group's Fundamental Rating	(98 = A+)
Attractiveness Rating	(77 = B+)		

- Deferred revenue grew 40% last qtr
- Accounts receivable measly 68K last qtr
- 5-yr expected revenue growth of 90%

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Valuation

- DRAM Market Size 2001 = 40 billion
- Average DRAM royalty rate = 1%
- Market share of Rambus = 45%
- Net profit margin = 55%

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High School Math

40 billion (DRAM market)
X 45% (mkt share)
X 1% (royalty rate)
X 55% (net profit margin)

100 million profits (NPAT)

100 million outstanding shares = \$1.00 EPS

Analyst expectations FY2001 = \$0.55

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Risks

- Slowing PC demand
- Memory is cyclical business
- Stock is volatile
- Anything can happen in courtroom

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Recommendation

- Add to All-Star Portfolio @ \$55
- Price target = \$80
 - o Conservative 45% upside potential
 - o Recall next quarter revenue will **double**



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