UNITED STATES OF AMERICA
BEFORE FEDERAL TRADE COMMISSION

Public

In the Matter of RAMBUS INCORPORATED, a corporation.	Docket No. 9302

COMPLAINT COUNSEL'S OPPOSITION
TO RAMBUS'S MOTION TO STAY OR, IN THE ALTERNATIVE,
FOR AN EXTENSION OF TIME

In response to the Commission's June 20, 2002, Complaint in this action, Respondent Rambus Inc. ("Rambus") recently filed two motions. The first, a motion for more definite statement of the Commission's 34-page complaint, Your Honor has denied. The second motion – seeking to stay this action, or in the alternative requesting an extension of time in which to answer the Commission's complaint – is still pending, but only in part. Acknowledging that Complaint Counsel voluntarily consented to a two-week extension of Rambus's deadline to answer, Your Honor has granted that portion of Rambus's motion but has not yet ruled upon Rambus's request for a stay, awaiting Complaint Counsel's opposition.

For the following reasons, each discussed in more detail below, Complaint Counsel respectfully submits that Rambus's motion for stay should be denied:

(1) the provision on which Rambus's stay motion is based – *i.e.*, Rule 3.51(a) of the Commission's Rules of Practice – simply is not applicable in the circumstances presented here;

(2) the basic underlying premise of Rambus's motion – specifically, the assertion "the Federal Circuit's decision [in *Rambus v. Infineon*] will shape, and perhaps resolve . . . many of the issues in this case"[1] – is greatly exaggerated and in some respects clearly false;

(3) the issuance of any stay in this action would only serve to prolong the period in which Rambus, at the expense of competition and consumers, is able to reap the fruits of its anticompetitive conduct; and

(4) the *Micron* and *Hynix* matters, in which limited stays were issued, are clearly distinguishable and provide no support for Rambus's motion.

A. The Provision On Which Rambus's Stay Motion Is Based Is Not Applicable Here

In requesting a stay of this action, Rambus relies upon Rule 3.51(a) of the Commission's Rules of Practice.[2] Yet this rule plainly does not apply in the circumstances presented here.

By its terms, Rule 3.51(a) provides that the Administrative Law Judge ("ALJ") presiding over a Part III administrative proceeding "may stay" the proceeding, thereby tolling the one-year deadline for filing an initial decision, while a "collateral . . . proceeding that relates to the administrative proceeding" is pending in a "federal court." *Id.* (emphasis added). This provision is designed to deal with a somewhat limited set of circumstances – namely, where the Commission itself has instituted a federal court action that is truly "collateral" to the administrative proceeding, in the sense that it involves both the same subject matter and the same parties, such as a federal court action under Section 13(b) of the FTC Act[3] whereby the Commission seeks to preliminarily enjoin a proposed merger or acquisition while it proceeds

---

[1] Memorandum in Support of Rambus Inc.'s Motion to Stay or, in the Alternative, for an Extension of Time ("Rambus Mem.") at 1.

[2] 16 C.F.R. § 3.51(a) (2002).

[3] 15 U.S.C. § 53(b).

with an administrative action analyzing the potential anticompetitive effects of the proposed transaction. In fact, since it was adopted in 1996,[4] the only instances in which, to Complaint Counsel's knowledge, this provision has ever been invoked involved precisely this situation. *See, e.g., In the Matter of H.J. Heinz Co.*, FTC Docket No. 9295, Order Staying Proceedings, 2001 FTC Lexis 6 (Jan. 17, 2001) (staying administrative litigation pending appeal of denial of preliminary injunction involving a proposed merger); *In the Matter of Tenet Healthcare*, FTC Docket No. 9298 (Sept. 15, 1998) (same).

It stands to reason that Rule 3.51(a)'s stay provision would be applied only in these narrow circumstances, given the importance that the Commission places on the one-year deadline for initial decisions, a deadline that is subject to extension only under "extraordinary circumstances."[5] Moreover, this interpretation of the stay provision is faithful to the rule's express terminology. The term "collateral action," for instance, is defined by Black's Law

---

[4] This part of Rule 3.51 was promulgated in 1996 as part of the Commission's effort to streamline its administrative adjudication process. *See* 61 Fed. Reg. 50,640 (Sept. 26, 1996). These extensive revisions to the Commission Rules of Practice sought "to make Part 3 proceedings more efficient" while "reduc[ing] the time taken to render decisions in adjudicative proceedings." *Id.*

[5] 16 C.F.R. § 3.51(a). It would be odd indeed if the Commission in setting out to expedite Part III litigation simultaneously provided a broad basis for an ALJ to stay proceedings because a purely private matter that is in some way related happens to be pending in a federal court. Obviously, where a firm's anticompetitive conduct has caused widespread injury to competition and consumers, it is quite common for such conduct to spawn not only government enforcement actions but private litigation as well. If Commission administrative actions could be stayed merely because a related private litigation might be pending in a federal court, very few Commission actions would proceed on schedule. Indeed, under such a rule, the Commission's ability to enforce the statutes committed to its oversight would be placed at the mercy of private parties, who determine whether and when to file private litigation and often control the pace of such litigation.

Dictionary as an action that "is subsidiary to another action,"[6] which certainly is a fitting description of the relationship between a Section 13(b) federal court action and a related Part III proceeding, both involving the same proposed merger or acquisition.

Rambus fails to cite a single Commission authority supporting its reliance on Rule 3.51(a) in the circumstances presented here – that is, where the supposedly "collateral" proceeding is a private action in no way involving the Commission. Given the absence of any actual authority supporting its unprecedented invocation of Rule 3.51(a), Rambus merely asserts – with no basis – that "[t]here can be no question that the *Infineon* matter is 'collateral,'" Rambus Mem. at 7, and it then proceeds to discuss a series of irrelevant decisions involving federal courts (not administrative agencies, much less the FTC) issuing stays during the pendency of related actions in other courts. *See id.* at 5-6.

Rule 3.51(a)'s limitation to "collateral federal court proceeding[s]"[7] further supports the interpretation that a proceeding is "collateral," within the meaning of the rule, only if the Commission is a party. If the point of a stay under Rule 3.51(a) were – as Rambus's arguments imply – simply to allow previously commenced litigation involving the same (or similar) underlying facts to proceed in the hope that it would resolve or shed light on some related factual questions, presumably the Rule would have allowed for stays to be issued in favor of proceedings not only in federal court, but also in state court or before other administrative agencies. On the other hand, if the Rule was intended only to allow stays where the Commission itself – pursuant

---

[6] BLACK'S LAW DICTIONARY 237 (5th Ed. 1979).

[7] 16 C.F.R. § 3.51(a) (emphasis added).

to its authority under federal law – has filed a court action against the same party, the limitation to federal court proceedings makes perfect sense.

For all the above reasons, Complaint Counsel submits that Rule 3.51(a) is inapplicable to the situation presented by this case. Even if Your Honor were to interpret Rule 3.51(a) more broadly, for reasons explained below, we submit that the issuance of any stay under these circumstances is unwarranted.[8]

B. The Underlying Premises Of Rambus's Motion Are Greatly Exaggerated

Rambus predicates its stay motion on specific assertions concerning the extent to which the factual and legal issues presented by this action overlap with the factual and legal issues presented in the pending Federal Circuit appeal in *Rambus v. Infineon*.[9] Thus, Rambus asserts:

- that "many of the factual and legal issues central to that appeal are almost identical to those central to the Complaint here, including the proper interpretation of JEDEC's disclosure rules and whether Rambus's alleged non-disclosure of its patent interests allowed it to gain and exercise market power" (Rambus Mem. at 1);

- that these issues, specifically including "the exercise of market power . . . . result[ing] from Rambus's allegedly wrongful conduct," are "likely to be addressed by the Federal Circuit" (*id.* at 5); and

---

[8] Even where a truly collateral federal court proceeding exists, the ALJ is not required to issue a stay under Rule 3.51(a). The rule plainly commits this decision to the ALJ's discretion. *See* 16 C.F.R. § 3.51(a) ("The ALJ may stay the administrative proceeding . . . .") (emphasis added).

[9] As we understand Rambus's motion, although it refers to other pending federal court cases, the requested stay is based solely on the pendency of the Federal Circuit appeal in *Rambus v. Infineon* – the argument being that a stay pending the outcome of that appeal will "streamline and focus" this litigation, "ensure consistency" with the Federal Circuit decision, and conserve "time and resources." Rambus Inc.'s Motion to Stay or, in the Alternative, for an Extension of Time at 1.

- that "[t]his overlap [in issues] virtually ensures that the Federal Circuit's decision will shape, and perhaps resolve on grounds of precedent or collateral estoppel, many of the issues in this case" (*id.* at 1).

Complaint Counsel does not deny that the Commission's action and the *Infineon* appeal do raise some common factual issues. On the other hand, Rambus greatly exaggerates the extent of overlap between the two proceedings. Indeed, the Rambus assertions quoted immediately above, which constitute the heart of Rambus's motion, are seriously misleading, if not patently false.

1. Contrary to Rambus's Claims, the Federal Circuit Appeal Does Not Involve the Issue of Market Power

Rambus asserts repeatedly that the question of market power – an issue squarely raised by the Commission's complaint – is also directly in issue in the Federal Circuit appeal in *Rambus v. Infineon*. Hence, Rambus claims that the issue of market power is "likely to be addressed by the Federal Circuit" when it issues its ruling in that case, Rambus Mem. at 5, and that this is one of the "central" issues in this proceeding that "the Federal Circuit decision will shape, and perhaps resolve." *Id.* at 1. The problem with this line of argument, which is not at all discernable from reading Rambus's brief, is that the underlying factual premise is simply untrue.

As Rambus well knows, the *Infineon* appeal does not now involve, nor has it ever involved, the issue of market power. This is true for a reason that Rambus conveniently, and misleadingly, glosses over: Infineon's two antitrust counterclaims against Rambus, one claiming monopolization and the other attempted monopolization, were both dismissed by Judge Payne long before the case was submitted to the jury,[10] and Infineon did not appeal the dismissal of

[10] Infineon withdrew its monopolization claim after the court issued a pretrial ruling narrowly construing the Rambus patents-in-suit. Infineon's attempted monopolization claim was later dismissed by Judge Payne due to a technical failure of proof concerning the scope of the relevant geographic market. *See Rambus Inc. v. Infineon Technologies AG,* No. 3:00cv624 (E.D.

those claims. The only issues that are on appeal in *Infineon* are:

(1) the district court's construction of Rambus's patent claims;

(2) the court's ruling imposing fraud liability against Rambus under Virginia law;

(3) the court's refusal to give a patent-related jury instruction requested by Rambus;

(4) the court's award of attorney's fees and costs in favor of Infineon;

(5) the scope of the court's injunction against Rambus's assertion of patent claims against Infineon; and

(6) the court's decision granting judgment for Rambus on one of Infineon's two fraud claims.[11]

None of these appeal issues, however, even remotely raises questions of market power. It is not surprising, therefore, that the term "market power" nowhere appears in either party's appellate briefs, nor was the term mentioned by either party's counsel during the June 3 oral argument before the Federal Circuit.[12]

Although the brief it has submitted to Your Honor in support of the present motion expressly claims otherwise, Rambus fully appreciates that the Commission's action against it differs materially from the *Infineon* case, in part owing to the fact that the latter does not raise the market power question. Rambus's General Counsel, John Danforth, has spoken publicly in a manner designed to draw attention to this difference. In an investor conference held on June 20,

---

Va. Aug. 9, 2001) (Memorandum Opinion) at 3-4 (Attachment A to Rambus Mem.). Hence, neither Judge Payne nor the jury in *Infineon* had occasion to consider the broader merits of any antitrust claim against Rambus.

[11] *See* Rambus's and Infineon's respective appeal briefs, appended hereto as Attachments A and B.

[12] *See* Transcript of Oral Argument, *Rambus Inc. v. Infineon Technologies AG,* No. 01-1449 (Fed. Cir. June 3, 2002) (Attachment E to Rambus Mem.).

2002, the day the Commission's complaint was made public, Mr. Danforth noted that his company initially viewed the *Infineon* case as largely being "a patent case."[13] By contrast, Danforth noted that the FTC's action is concerned with "market power . . . not with patents":

> The FTC concern – and remember the FTC is an anti-trust enforcement agency – the FTC concern is that legal monopolies that are granted to patentholders should not, through the manipulation of a standard-setting process, be improperly amplified in scope beyond the market power that the underlying technology would otherwise command.
>
> I want to emphasize that last point. The FTC's issue is not with patents, *per se*. It is with the risk that patents will, through improper means, become more powerful than they otherwise would be.[14]

For the reasons stated above, Complaint Counsel submits that one of the central premises of Rambus's stay motion – *i.e.*, that the Federal Circuit's decision in the *Infineon* case will "address" and "perhaps resolve" the market power questions raised by the Commission's complaint in this action – is untrue and worthy of no credence.

2. Contrary to Rambus's Claims, No Possible Outcome of the Federal Circuit Appeal Would Serve to Estop the Commission

In support of its motion, Rambus suggests not only that the Federal Circuit might rule upon issues relevant to the Commission's action, but that such rulings might "resolve on grounds of precedent or collateral estoppel, many of the issues in this case." Rambus Mem. at 1. While Rambus raises and seeks to capitalize on the notion that the Federal Circuit's ruling in *Infineon* might serve to estop the Commission in some way, it cites no relevant case law and fails to offer

---

[13] Transcript of June 20, 2002 Rambus Investor Teleconference at 15, appended hereto as Attachment C.

[14] *Id.* at 5.

any explanation as to how principles of estoppel might apply here. There are good reasons for this omission.

To start with, it is settled law "that non-mutual offensive collateral estoppel" – that is, the brand of collateral estoppel that Rambus would be asserting should it seek to take advantage here of any favorable aspect of the Federal Circuit's future ruling – "simply does not apply against the government." *United States v. Mendoza*, 464 U.S. 154, 162 (1984). Even if it did, moreover, there could be no estoppel against the Commission here considering that it was not a party to the prior action. *See Parklane Hosiery Co. v. Shore*, 439 U.S. 322, 327 n.7 (1979) ("It is a violation of due process for a judgment to be binding on a litigant who was not a party or a privy and therefore has never had an opportunity to be heard.").

Furthermore, collateral estoppel would not apply against the Commission in this instance, even assuming Rambus were to prevail before the Federal Circuit, because of important differences in the respective burdens of proof involved in the *Infineon* litigation and this matter. As noted above, no antitrust issues were submitted to the jury in the *Infineon* case. The jury's finding of liability against Rambus was based solely on a state law fraud claim, and Infineon's proof of fraud – consistent with Virginia law – was subject to a "clear and convincing" evidence standard, as opposed to the lesser "preponderance of the evidence" standard that applies in civil antitrust cases, including Part III administrative actions before the FTC. The heightened standard of proof in the *Infineon* case plainly had a material effect on the lower court's analysis of key issues in the litigation, including all of the factual issues (unlike market power) that Rambus can rightly claim to be raised by both this case and *Infineon* – *e.g.*, the proper interpretation and application JEDEC's disclosure rules.

If one were to doubt the importance of the "clear and convincing" proof standard to Judge Payne's rulings, a cursory review of his decision, in which that standard is expressly referenced no fewer than fifteen times, would put such doubts to rest.[15] Indeed, in his argument to the Federal Circuit, Rambus's own appellate counsel, Richard Taranto, underscored the importance of the heightened standard of proof. When asked by one of the presiding judges whether, in connection with Infineon's fraud claims, the interpretation of JEDEC's disclosure duty was a question of law or fact, Taranto answered: "It was treated as a question of fact, of course, subject to the clear and convincing evidence standard."[16] Taranto went on to stress to the panel that the clear and convincing evidence standard should be "taken . . . very seriously,"[17] suggesting that he believes proper application of the standard might make a material difference to the outcome of the court's decision.

The point is this: Because all of the factual issues pertinent to Infineon's fraud claims were reviewed under a more rigorous "clear and convincing evidence" standard, even if Rambus could otherwise potentially claim the benefits of collateral estoppel here, this difference in proof standards would preclude any offensive use of collateral estoppel by Rambus. *See, e.g., One Lot Emerald Cut Stones v. United States*, 409 U.S. 232, 235 (1972) (holding that "the difference in the burden of proof in criminal and civil cases precludes the application of the doctrine of collateral estoppel" and thus that a criminal not-guilty verdict "does not constitute an

---

[15] *See* Memorandum Opinion at 1, 6, 13, 16, 20, 24, 30, 49, 50, 57, 73 (Attachment A to Rambus Mem.).

[16] Transcript of *Infineon* Oral Argument at 8 (Attachment E to Rambus Mem.).

[17] *Id.*

adjudication on the preponderance-of-the-evidence burden applicable in criminal proceedings"); *U.S. Aluminum Corp./Texas v. Alumax, Inc.*, 831 F.2d 878, 879-80 (9th Cir. 1987) (U.S. Aluminum not collaterally estopped from litigating Alumax's bad faith in an action for malicious prosecution subject to a "preponderance of the evidence" standard where U.S. Aluminum had previously failed to prove bad faith by "clear and convincing evidence" in a prior action).

For these reasons, Rambus's vague and unsupported assertions to the effect that future rulings by the Federal Circuit might serve to estop the Commission in this action are devoid of any merit and should be ignored.[18]

C. Imposing A Stay In This Action Would Only Serve To Delay Its Resolution, With The Effect Of Prolonging And Potentially Exacerbating The Serious Consumer Harm That Has Been Caused By Rambus's Anticompetitive Conduct

The competitive harm flowing from Rambus's conduct is substantial. The Commission conservatively estimates in its complaint that Rambus could, as a result of its anticompetitive actions, "extract royalty payments well in excess of a billion dollars from the DRAM industry over the life of the patents." Complaint ¶ 96 (emphasis in original). Rambus has already signed license agreements that entitle it to royalties in the range of $50-100 million per year at current

---

[18] Notwithstanding the above arguments, it is possible that the Commission could assert collateral estoppel on issues the Federal Circuit may resolve in favor of Infineon in the pending appeal. For instance, if the Federal Court were to uphold the lower court's interpretation of the JEDEC disclosure duty, finding that interpretation to have been supported by "clear and convincing" evidence, this factual finding would in all likelihood be binding against Rambus in this proceeding – given that Rambus has had a full and fair opportunity to litigate that issue in the lower court and, in doing so, actually benefitted from the heightened standard of proof applicable to Infineon's fraud claims. Even if Your Honor were to recognize the collateral estoppel effect of such a ruling, however, Complaint Counsel does not envision that this would have any material impact on the scope or timing of discovery in this action. Thus, even though the possibility of collateral estoppel being asserted against Rambus does exist in this case, that possibility does not justify any delay in the litigation.

market prices. *Id.* In 2001 alone, Rambus received over [[ ]] in royalty revenues on SDRAM and DDR SDRAM patents – an average of over [[ ]] per day.[19]

As the Commission's complaint alleges, it is only through its pattern of anticompetitive conduct that Rambus has placed itself in a position to extract such royalties. In this action, the Commission seeks to bar Rambus from exploiting its unlawfully obtained market position by collecting royalties from memory manufacturers and others seeking to implement JEDEC's SDRAM standards. Yet the Commission's requested relief is purely prospective. Thus, every day of delay before a judgment in this action allows an irreversible transfer of wealth from manufacturers and consumers into the pockets of Rambus, all of which may explain why Rambus is intent upon achieving delay in this action, notwithstanding that it lacks any valid basis for requesting a stay.

Similar concerns that a stay would delay the Commission's remedy and exacerbate consumer harm led Your Honor to deny a stay in *In the Matter of Butterworth Health Corp.*[20] In *Butterworth*, the respondents requested a stay pending the decision of the Sixth Circuit Court of Appeals, in an appeal involving the FTC's federal court action against Butterworth Health. Unlike here, there was no question in that case that the pertinent federal court action was "collateral" within the meaning of Rule 3.51(a), and that Your Honor therefore had the discretionary authority to grant the requested stay. Nevertheless, Your Honor denied the stay

---

[19] [[ ]] As Bob Eulau, Rambus's Chief Financial Officer, acknowledged recently in a webcast teleconference, loss of the royalty payments from SDRAM and DDR SDRAM "would have a material impact on [Rambus's] profitability." Transcript of June 20, 2002 Rambus Investor Teleconference at 23 (Attachment C).

[20] FTC Docket No. 9283, 1997 FTC LEXIS 92 (Apr. 17, 1997).

motion, underscoring "the Commission's desire to move expeditiously" and "the harm delay might cause to consumers should a violation be found."[21] Complaint Counsel submits that the same concerns should be paramount here. For reasons addressed more fully below, issuance of the requested stay would only serve to delay justice in this action and to prolong and potentially exacerbate the already substantial consumer harm that Rambus's actions have caused.

* * *

When one strips away Rambus's misleading claim that the *Infineon* appeal will resolve issues of "market power," Rambus's stay request is based on little more than the fact that Rambus is involved in private litigation with various third parties involving some of the same underlying events and conduct. Yet in all likelihood Rambus will continue to be involved in such litigation for the foreseeable future, regardless of what ruling the Federal Circuit might reach in the *Infineon* case, which is only one of many private actions in which Rambus is currently embroiled. If the mere pendency of private litigation involving similar underlying events were sufficient to justify a stay, there could be no end to the delays that Rambus might seek.

Although Rambus asserts that "it is anticipated that a decision [by the Federal Circuit] will be handed down within the next few months," Rambus Mem. at 1, 3, Rambus has no basis to make such a prediction.[22] To the best of Complaint Counsel's knowledge, the Federal Circuit has made absolutely no statements or comments about the timing of its future decision.

---

[21] *Id.* at *1-2.

[22] John Danforth, Rambus's General Counsel, has publicly suggested that it would be "optimistic" to expect such an early ruling by the Federal Circuit. *See* Transcript of Investor Teleconference at 13 (Attachment C).

Presumably, if the court had made any such statements, Rambus would have called them to Your Honor's attention in its motion.

Rambus's current stay motion requests a stay only until the Federal Circuit issues its decision. But that decision is unlikely fully to dispose of the *Infineon* matter, much less the many other private litigation matters that are currently pending against Rambus. There is every reason to expect further proceedings in *Infineon* – *e.g.*, a request for rehearing en banc, a petition for certiorari to the Supreme Court, further lower court proceedings on remand from the Federal Circuit, and perhaps further appeals thereafter. A remand of the *Infineon* case could involve additional issues not yet litigated in the district court. For instance, Infineon's defenses that Rambus's patents are invalid and unenforceable were both made moot by the lower court's ruling of non-infringement. If the Federal Circuit reverses that ruling, however, the parties may need to litigate for the first time both validity (a complex proceeding involving a review of prior art, among other things)[23] and enforceability questions. Whatever the result might be, presumably at least one party would appeal again to the Federal Circuit. Hence, a final resolution of the *Infineon* case could be years into the future. Even then, the Virginia case is not the only infringement suit Rambus currently has pending against Infineon – there is also litigation abroad.

Once the Federal Circuit rules in *Infineon*, the *Hynix* and *Micron* cases – which are currently stayed, at least in part – are likely to proceed as well. These cases, unlike the *Infineon* appeal, actually do contain live antitrust claims. If Rambus obtains a stay pending the outcome of *Infineon,* why would it not request a stay pending the outcome of *Micron* and *Hynix* as well?

---

[23] As Rambus's counsel told the Federal Circuit at oral argument, Rambus "would love an opportunity to contest the validity issues." Transcript of Oral Argument at 17 (Attachment E to Rambus Mem.).

Furthermore, as Rambus has stated publicly, it contemplates any number of additional infringement actions in the future. Following the adverse jury verdict in its litigation against Infineon, Rambus declared:

> Rambus will continue to fight to protect our intellectual property . . . . While the Virginia case against Infineon involves only four Rambus U.S. patents, there are a dozen U.S. and European patents involved in other infringement cases pending against Infineon, Hyundai and Micron. Rambus intends to pursue all these cases vigorously, including a trial against Infineon in Germany. . . . In addition, Rambus holds newly issued U.S. and European patents covering Rambus inventions used by SDRAMs and DDR SDRAMs that have not yet been asserted in any litigation and are not impacted by the Court's decision.[24]

Commenting on Rambus's unabashed vigor in asserting its patents, Infineon's appellate counsel, Kenneth Starr, had this to say to the Federal Circuit during the recent oral argument:

> Rambus plays hardball. And there is evidence . . . [that Rambus's] chairman of the board, Mr. Davidow, has essentially told everybody: We're going to keep coming after you and coming after you. If you don't sign up, you are in a – his words – "death spiral." That's the way they play. . . . They will continue to sue us.[25]

In short, there is every reason to expect that private litigation involving subsets of the same Rambus patents at issue in the Commission's case will continue well into the future. In addition to federal court patent litigation, Rambus also is now involved in shareholder derivative actions and indirect purchaser suits, and, of course, numerous foreign litigation matters.[26] All of these litigation matters in some way deal with Rambus's anticompetitive conduct at JEDEC. Yet

---

[24] May 4, 2001, Rambus Press Release, appended hereto as Attachment E (emphasis added).

[25] Transcript of *Infineon* Oral Argument at 29-30 (Attachment E to Rambus Mem.).

[26] *See* Quarterly Report of Rambus, Inc., filed with the Securities and Exchange Commission for the period ended March 31, 2002, at 39, appended hereto as Attachment F.

surely Rambus cannot capitalize on the existence of such litigation to block the FTC from proceeding with its own action, which in all likelihood provides the only definitive and comprehensive means of protecting consumers from Rambus's bad acts. Moreover, one of the principal benefits of definitive Commission action would be to relieve private parties of the necessity, and cost, of defending against Rambus's patent suits. Yet this benefit obviously would be lost if the Commission's action were stayed pending the outcome of such suits.

D. The *Micron* and *Hynix* Matters, In Which Limited Stays Were Issued, Are Clearly Distinguishable And Provide No Support For Rambus's Current Stay Motion

Rambus suggests that its motion is supported by the issuance of limited stay orders by the district courts in *Micron* and *Hynix*. *See* Rambus Mem. at 4. Yet if anything the actions taken by those courts – in patent-related actions far more closely linked to the *Infineon* appeal – further demonstrate why Rambus's motion should be denied.

In *Micron*, for instance, the court specifically concluded that "a complete stay of the action pending the appeal of *Infineon* [wa]s unwarranted."[27] The court therefore allowed discovery to proceed during the pendency of the limited stay.[28] Here, by contrast, Rambus asks Your Honor to stay all proceedings, including discovery, even though – for reasons discussed above – this action raises a variety of questions not at issue before the Federal Circuit. If a

---

[27] Attachment D to Rambus's Motion for Stay ("Order Denying Micron's Motion For Summary Judgment . . . And Denying Rambus's Motion For A Stay Pending Appeal of *Rambus v. Infineon*") at 25 (Feb. 27, 2002).

[28] *Id.* at 26. In the interim, Rambus was prohibited from filing additional suits against Micron. Moreover, delay in the *Micron* case inflicts no irremediable harm on Micron, because if Micron ultimately prevails, it will pay no royalties. This contrasts sharply with the case at hand, where Rambus will have free rein to collect license fees and royalties unless and until a judgment is rendered in favor of the Commission.

complete stay of discovery was unwarranted in *Micron*, such a stay certainly cannot be justified here. In fact, Rambus's own motion signals the company's intention to pursue "significant discovery" in this action, irrespective of any stay. Rambus Mem. at 1. Rambus has already publicly announced that, in defending the Commission's action, it will pursue discovery well beyond what has already been conducted in the *Infineon* litigation.[29] Rambus General Counsel John Danforth recently predicted that the additional discovery his company plans to seek in the FTC's action could "take six months to a year" to complete.[30] Danforth went on to describe the extremely broad scope of discovery he has in mind, implying that Rambus might seek discovery from as many as "30 or 40" other participants in the relevant JEDEC subcommittee.[31] Thus, regardless whether a stay is issued, Rambus apparently hopes to pursue extensive and protracted discovery in this action. Delaying the commencement of discovery, by issuing a stay, is only likely to prolong resolution of this action, in a manner that undoubtedly serves Rambus's private, pecuniary interests, but only deepens the injury to competition and consumers that has resulted from Rambus's anticompetitive conduct.

The stay that Rambus seeks here likewise is not supported by the fact that the district court presiding over the *Hynix* litigation issued a temporary stay order. Notably, Rambus fails to acknowledge that the *Hynix* court agreed to stay that matter "only upon . . . conditions"[32]

---

[29] *See* Transcript of Investor Teleconference at 13 (Attachment C).

[30] *Id.*

[31] *Id.* at 13-14.

[32] *Hynix Semiconductor Inc. v. Rambus Inc.*, No. C00-20905 RMW (N.D. Ca. Nov. 21, 2001) (Order Granting Plaintiffs' Motion for Partial Summary Judgment and Tentatively Granting Defendants Motion to Stay) (Attachment B to Rambus Mem.) at 8, 1.1-2.

designed to ensure that Rambus would not benefit, at the expense of competition and consumers, from a temporary postponement of the proceedings. For instance, the court's order expressly disallows Rambus from asserting any damage claim based on royalties allegedly accruing against Hynix during the pendency of the stay.[33] While the stay order issued in *Hynix* thus was tailored to avoid any potential harm to competition, the unconditional stay that Rambus seeks in this action could only prolong and exacerbate the competitive harm flowing from Rambus's conduct.

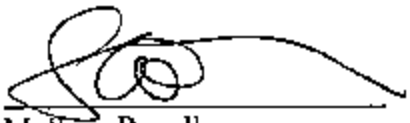
CONCLUSION

Because the Commission seeks only prospective relief, the consumer harm that Rambus will inflict prior to judgment is irremediable. In light of the magnitude of this consumer harm, to justify further delay of this action the countervailing considerations would have to be extraordinarily strong. But Rambus offers no convincing justifications for a stay. Nor has Rambus demonstrated that the provision on which its motion is based even applies under the circumstances presented here.

[33] *See id.* at 8, l.3-10.

For these and other reasons stated above, we therefore respectfully submit that Rambus's motion for a stay should be denied.

Respectfully submitted,



M. Sean Royall
Geoffrey D. Oliver
Malcolm L. Catt
Alice W. Detwiler
Andrew J. Heimert

Of Counsel:

Robert P. Davis
Suzanne T. Michel
John C. Weber
Michael A. Zito
Cary E. Zuk

BUREAU OF COMPETITION
FEDERAL TRADE COMMISSION
Washington, D.C. 20580
(202) 326-3663
(202) 326-3496 (facsimile)

COUNSEL SUPPORTING THE COMPLAINT

Dated: July 15, 2002

UNITED STATES OF AMERICA
BEFORE FEDERAL TRADE COMMISSION

In the Matter of RAMBUS INCORPORATED, a corporation.	Docket No. 9302

ORDER DENYING STAY OF PROCEEDINGS

This matter arose on the motion by Rambus Inc. to stay these proceedings, or in the alternative, for an extension of time for filing its answer. The extension of time was granted by previous order. The motion to stay proceedings is hereby DENIED.

SO ORDERED this ___ day of July, 2002.

James P. Timony
Administrative Law Judge

CERTIFICATE OF SERVICE

I, Hiram R. Andrews, hereby certify that on July 15, 2002, I caused a copy of the attached public version of Complaint Counsel's Opposition to Rambus's Motion To Stay Or, In the Alternative, For An Extension Of Time to be served upon the following persons by hand delivery or Federal Express:

The Honorable James P. Timony
Chief Administrative Law Judge
Federal Trade Commission
600 Pennsylvania Ave., N.W.
Washington, D.C. 20580

A. Douglas Melamed, Esq.
Wilmer, Cutler & Pickering
2445 M Street N.W.
Washington, DC 20037-1402

Hiram R. Andrews

A

CORRECTED

01-1449, -1583, -1604

IN THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

RAMBUS INC.,
Plaintiff-Appellant,

v.

INFINEON TECHNOLOGIES AG, INFINEON TECHNOLOGIES NORTH AMERICA CORP., and INFINEON TECHNOLOGIES HOLDING NORTH AMERICA CORP.,
Defendant-Appellees.

Appeals from the United States District Court For the Eastern District of Virginia, Richmond Division, in Case No. 3:00CV524, Judge Robert E. Payne

---

BRIEF OF PLAINTIFF-APPELLANT RAMBUS INC.

William K. West, Jr.
Cecilia H. Gonzalez
Joseph P. Lavelle
HOWREY SIMON ARNOLD & WHITE, LLP
1299 Pennsylvania Ave., NW
Washington, DC 20004
(202) 783-0800

Robert Kramer
RAMBUS INC.
4440 El Camino Real
Los Altos, CA 94022
(650) 947-5000

Richard G. Taranto
FARR & TARANTO
1220 19TH Street, NW
Washington, DC 20036
(202) 775-0184

Michael J. Schaengold
PATTON BOGGS LLP
2550 M Street, NW
Washington, DC 20037
(202) 457-6000

Date: November 5, 2001

Counsel for Plaintiff-Appellant RAMBUS INC.

CERTIFICATE OF INTEREST

Counsel for the appellant, RAMBUS INC., certifies the following:

1. The full name of every party represented by me is RAMBUS INC.

2. The name of the real party in interest represented by me is RAMBUS INC.

3. There is no parent corporation of RAMBUS INC. and no publicly held company owns 10 percent or more of the stock of RAMBUS INC.

4. The names of all law firms and the partners or associates that appeared for RAMBUS INC. in the trial court or are expected to appear in this court are:

Michael W. Smith, Craig T. Merritt, R. Braxton Hill of CHRISTIAN & BARTON, LLP.

David E. Monahan, John Allcock, James W. Cannon, Jr., David B. Pendarvis, Sean C. Cunningham, Edward H. Sikorski of GRAY CARY WARE & FREIDENRICH LLP.

John Danforth, Paul Anderson, Neil Steinberg, Robert Kramer of RAMBUS INC.

William K. West, Jr., Cecilia H. Gonzalez, Joseph P. Lavelle, Celine T. Callahan of HOWREY SIMON ARNOLD & WHITE, LLP.

Richard G. Taranto of FARR & TARANTO.

Michael J. Schaengold of PATTON BOGGS LLP.

TABLE OF CONTENTS

TABLE OF AUTHORITIES

CASES

STATUTES

RULES

OTHER AUTHORITIES

INDEX OF ADDENDUM MATERIALS

STATEMENT OF RELATED CASES

Pursuant to Federal Circuit Rule 47.5, Plaintiff-Appellant, Rambus Inc., submits that no other appeal in or from the same civil action in the lower court was previously before this or any other appellate court. This Court previously denied mandamus, based on an attorney-client privilege issue, sought by Rambus in this civil action. *See In re Rambus Inc.*, Misc. Docket No. 667, 2001 WL 392095 (Fed. Cir. Apr. 4, 2001) (Michel, Clevenger, Schall).

The issue of entry of a permanent injunction against Rambus is currently pending before the district court in this civil action.

Hynix Semiconductor Inc., et al. v. Rambus Inc., No. CV 00-20905, is currently pending in the Northern District of California, and *Micron Technology, Inc. v. Rambus Inc.*, No. 00-792-RRM, is currently pending in Delaware. Both cases involve some of the same patents as those in suit here. Therefore, they may be directly affected by this Court's decision on claim construction in the pending appeal.

STATEMENT OF JURISDICTION

Pursuant to Federal Circuit Rule 28, the following information is provided:

The statutory basis for the jurisdiction of the district court was 28 USC §1338(a).

The statutory basis for this Court to hear this appeal is 28 USC §1295(a)(1).

This is an appeal from the Final Judgment entered by the district court on August 21, 2001, based in part on a claim construction ruling dated March 15, 2001.

STATEMENT OF THE ISSUES

1. Whether the district court improperly narrowed claim terms "integrated circuit device," "read request" (and related "write request" and "transaction request"), and "bus," and thus erroneously granted judgment of noninfringement.

2. Whether the district court erred in denying JMOL on the fraud count where there was insufficient evidence that (a) Rambus had any pending patent applications that it had a duty to disclose or that, in any event, (b) Infineon made the necessary direct inquiries to Rambus as required both to prove reasonable reliance and to make Infineon's counterclaim timely.

3. Whether the district court erred in denying a new trial on the fraud claim where (a) the court's rejection of a proposed instruction under *Kingsdown Medical Consultants v. Hollister*, 863 F.2d 867 (Fed. Cir. 1988), allowed the jury to find fraud based solely on Rambus's practice of amending its pending patent claims to cover competing products, and (b) the jury's assessment of Infineon's proof was infected by the erroneous claim construction.

4. Whether the district court, in awarding more than $7 million in attorneys' fees and costs, erroneously deemed this an "exceptional case" under 35 USC §285, where Rambus's proposed claim constructions were, at a minimum, reasonable.

INTRODUCTION

In 1989, two distinguished electrical engineering and computer science professors, Drs. Michael Farmwald and Mark Horowitz, invented revolutionary new computer memory technology. They filed a lengthy and detailed patent application in 1990 and founded Rambus, Inc. ("Rambus") to license various aspects of that technology to computer memory manufacturers. One such manufacturer was Siemens and its successor Infineon, to which Rambus made extensive confidential disclosures beginning in 1990. Infineon had the following reactions to Rambus and its technology:

- "*Quite revolutionary.*" JA2693.
- "*An innovative, well thought out concept that reaches far into the future.*" JA11760.
- "*One day all computers will be built this way, but hopefully without the royalties going to Rambus.*" JA6526.
- "*Deadly menace to the established computer industry*"; one proposed alternative: "[*m*]*ake it public domain—join SYNC DRAM*!!!" JA6530.[1]
- "[*Someone should*] *buy Rambus and dump it*" (JA6530), meaning "*bury the technology.*" JA2693.

---

1 One type of Random Access Memory (RAM) is "dynamic" RAM, or DRAM. The type of memory chip at issue here is a subclass of DRAM involving synchronization with a clock—"SYNC DRAM" or "SDRAM," a Synchronous Dynamic Random Access Memory. Infineon recognized that aspects of Rambus's memory technology would be useful in SDRAM development: "it has become clear that a Rambus memory can easily be converted into a SDRAM." JA9054.

During 1990 and 1991, the Rambus inventors set out to meet with the world's major memory manufacturers to explain their innovations. The inventors' business model was not to manufacture through their own company but to continue developing novel technology, patent it, and license it to memory manufacturers. License fees and royalties were to be their only revenue. JA2099-100.

In December 1991, Rambus first attended an industry standard-setting body called the Joint Electron Devices Engineering Council ("JEDEC"), which was dominated by the industry's major memory manufacturers and whose meetings were in no way secret. While attending JEDEC from late 1991 to 1995, Rambus learned that technologies that Farmwald and Horowitz invented and disclosed in their 1990 patent application were being incorporated into a new memory standard JEDEC was writing, called "SDRAM." Rambus increased its efforts in the PTO to present claims that would capture all the inventions supported in Rambus's 1990 application.

Only after leaving JEDEC, however, did Rambus in fact file claims—which issued in 1999 and afterward—covering its fundamental advances applicable to the SDRAMs. Most memory chip manufacturers have licensed and paid royalties for the right to practice Rambus patents, including those at issue here. Three memory manufacturers—Infineon, Hynix, and Micron—opted to litigate with Rambus.

This appeal arises from the first of the cases, involving Infineon. In this case, the district court committed fundamental errors leading to the mistaken rejection of Rambus's infringement claim and, indeed, to an unsupported and fatally infected imposition of fraud liability on Rambus for nondisclosures while participating in JEDEC. Those errors should be corrected. Otherwise, the

mistaken patent rulings will deprive a small, remarkably innovative young company of the fruits of its inventions. Likewise, if the fraud judgment stands, it will deter participation in standards-setting proceedings by exposing companies, especially small innovators, to serious risks of devastating state-law judgments for doing what federal law protects, *i.e.*, securing patent coverage for one's inventions.

STATEMENT OF THE CASE

A. Factual Background.

1. Background of the Technology.

In 1988, Dr. Farmwald saw a rapidly approaching problem: microprocessors were rapidly getting faster, but the commonly used *memory* chips, Dynamic Random Access Memory ("DRAMs"), were not keeping up. JA2033. In late 1989, Dr. Farmwald began working with Dr. Mark Horowitz, a Stanford University electrical engineering professor and an expert circuit designer, to close this looming "performance gap." JA2028. They invented a number of separate ways of improving memory data transfer rates. Taken together, the innovations would allow DRAMs to operate at unheard-of speeds—over ten times faster than conventional DRAMs. JA2034-35.

On April 18, 1990, Rambus filed its first patent application, Ser. No. 07/510,898 ("the '898 application"). JA495. That application disclosed the fundamental Rambus inventions of programmable latency, variable block size, double data rate ("DDR") operation, and on-chip delay locked loop. Even before filing the application, and in the following months, Rambus began executing on its business plan by disclosing its technology under appropriate non-disclosure agreements to the major memory companies in the industry, including patent-

savvy companies such as IBM (October 1989), Toshiba (April 1990), Siemens (February 1990), Texas Instruments (October 1990), and Samsung (October 1991). JA2119-20, 2162.

On April 16, 1991, Rambus filed an international patent application under the Patent Cooperation Treaty (the "WIPO Application"). JA12037. Rambus's WIPO Application, which contains the description and details of the inventions claimed in the patents-in-suit, became public on October 31, 1991.

In June 2000, Toshiba became the first DRAM company to sign a patent license (which included the patents-in-suit) to use Rambus's inventions in the manufacture of SDRAMs and DDR SDRAMs. Oki, Hitachi, NEC, Samsung, Elpida and Mitsubishi have all also taken licenses for SDRAM and DDR SDRAMs.

2. JEDEC Standard Setting.

Rambus attended its first JEDEC meeting on December 4, 1991 as a guest, and formally joined on February 27, 1992. JA8500 and 10031. JEDEC adopted its SDRAM standard in early 1993, announcing it formally on March 4, 1993. JA3891-94. Rambus disclosed to JEDEC its '703 patent on September 23, 1993, shortly after the patent issued. JA8730. Rambus attended its last JEDEC meeting on December 6, 1995, and confirmed its withdrawal by letter on June 17, 1996. JA8594 and JA6616.

JEDEC meetings were open to the public, with the minutes, deliberations and proposed standards also all public.[2] JA3394, 3398. While at JEDEC,

---

2 A non-public meeting of certain JEDEC memory manufacturing members occurred on October 24, 1991, just as JEDEC was formulating its proposed SDRAM standard—and just before one manufacturer invited Rambus to attend

Rambus never proposed, promoted, or voted in favor of the adoption of any technology, including its own. JA4108-4109. Out of dozens of SDRAM ballots between 1992 and 1993, Rambus voted on the proposed SDRAM standard only once, on July 21, 1992, when it cast ballots *against* four proposals, including proposals related to programmable burst length and a programmable latency feature. JA8648-54. Rambus never lobbied for the adoption of a standard. Rambus made no affirmative statements about the potential overlap between its technology and JEDEC. JA4121-22.

3. Prosecution History of the Patents-In-Suit.

United States Patents 5,953,263 ('263 patent), 5,954,804 ('804 patent), 6,032,214 ('214 patent), and 6,034,918 ('918 patent) (collectively, the "patents-in-suit" and appended hereto beginning at JA233, 263, 294, and 324, respectively), are assigned to Rambus by Drs. Farmwald and Horowitz.[3] The patents-in-suit all descend from the '898 application. All have substantially identical specifications and involve various ways of improving the interface between DRAMs and computer microprocessors (or other controllers).

The '898 application contained 150 claims. In the first office action, the PTO recognized that the application contained at least *eleven* independent and

---

JEDEC. That meeting was chastised by JEDEC in its minutes dated December 4-5, 1991, noting antitrust, fair notice, and other issues. JA8501.

3 The asserted claims are:
'263 patent: claims 1-5, 14, 16-19, 21, 23-25, 27-28, 30, 32-33 (JA260);
'918 patent: claims 1-2, 6, 8-9, 18-20, 24-25, 29-31, 33 and 34 (JA352);
'214 patent: claims 1-2, 4, 6, 9-11, 14-16, 18-19, 21, 24-26 and 29 (JA321); and
'804 patent: claim 26 (JA293).

distinct inventions (JA680) and therefore required restriction. As a result, and through the usual process of reviewing the claims on file, Rambus filed numerous divisional and continuation applications claiming priority from the '898 patent.

The applications that are now the patents-in-suit were all filed between February 1997 and February 1999, after Rambus left JEDEC. The earliest patent-in-suit to issue was in September 1999. Thus, all of the claims at issue were filed after Rambus stopped attending JEDEC meetings, while the written description, a substantially identical version of the 1990 application, existed before Rambus attended a single JEDEC meeting.

B. Procedural Background.

On August 8, 2000, Rambus sued Infineon for infringement of two patents ('263 and '804) in the Eastern District of Virginia. Rambus added charges of infringement of two additional patents ('214 and '918) on October 20, 2000. In response, Infineon filed a state-law counterclaim for fraud and a RICO claim.

A claim construction hearing was held on February 26-28, 2001. On March 15, 2001, the district court issued its *Markman* opinion, significantly limiting the scope of Rambus's patent claims. JA23. Early in the trial, the court entered JMOL on most of Rambus's claims.[4]

During trial, as Rambus presented its remaining, greatly-truncated infringement case, the court announced a clarification of its *Markman* ruling. JA463. This clarification was a further, drastic limit on the scope of Rambus's claims. Infineon promptly moved for JMOL of no infringement on the claims still

---

4 JMOL was granted on claim 26 of the '804 patent, all asserted claims of the '263 patent except 1 and 2, all asserted claims of the '918 patent except 18, and all asserted claims of the '214 patent. JA483.

left,[5] and the court granted its motion. JA476. At the close of Rambus's case-in-chief, Infineon voluntarily dropped its claim of monopolization under the Sherman Act, 15 USC §2. JA4408, ll. 1-8. The remaining antitrust counterclaim (attempt to monopolize) was dismissed when, at the close of Infineon's case-in-chief on its counterclaims, the district court granted Rambus's motion for JMOL. JA478.

Throughout trial, Infineon told and suggested to the jury that Rambus stole ideas from JEDEC and amended its claims to cover those ideas. Both in its opening and in its closing, Infineon emphasized repeatedly its theory that Rambus's claim-changing activity at the PTO was wrongful, introducing ideas that were not Rambus's at all. JA4799. For example:

- "If they invented it, it would have been in the patent in the first place. But they didn't. They stole it. They stole it from the industry standards bodies." JA1893;

- "They go to...meetings, they see the presentations,...[t]hey go meet with their patent lawyer, they start amending the claims;" JA4803;

- "The next thing you know, they are meeting with the patent lawyer changing their claims to include that feature in their patent." JA4807;

- "Well, then why on earth did you wait until you watched it at JEDEC before you put it in your patent claims?" JA4811;

- "Over and over and over again. They watch and they file. They watch and they file." JA4821;

- "Did Rambus attend standards bodies meetings and change their patents to cover what they saw at the standards meeting? You can't reach any other conclusion." JA4822;

---

5 Claims 1 and 2 of the '263 patent and claim 18 of the '918 patent.

- "secretly manipulating their patent applications" JA4795;
- "Rambus intentionally changed these claims after watching the SDRAM standardization." JA4997; and
- "[JEDEC's] sole reason for being was corrupted repeatedly, year after year after year, by Rambus, by their failure to follow the rules, their knowing and intentionally modifying their patent applications to cover that standards work." JA4999.

Rambus requested an instruction under *Kingsdown Medical Devices v. Hollister*, 863 F.2d 867 (Fed. Cir. 1988), that, as the district court recognized, would have made clear to the jury that it could not find Rambus's amending activity wrongful. The trial court twice refused to give the instruction, instead proposing a modification that—as the court thought proper—would have expressly invited the jury to find Rambus guilty of theft, or otherwise find the amendments wrongful in-and-of themselves. JA11692.

The jury found that Rambus committed actual and constructive fraud based on nondisclosures respecting the SDRAM standard at JEDEC (and respecting a separate standard, called DDR SDRAM). The jury awarded nominal damages of $1.00 on the fraud claims as well as punitive damages, which under Virginia statute were automatically reduced to $350,000. JA19.

On post-trial motions, the district court granted JMOL for Rambus with respect to the DDR SDRAM, because Rambus had resigned from JEDEC before that standard was proposed. JA204. The court also granted JMOL respecting constructive fraud, holding it unavailable for nondisclosure under state law. JA155. The court let the SDRAM actual fraud verdict stand, however, and then awarded $7,123,989.52 in attorneys' fees, costs and expenses. JA100. The issue of injunctive relief is pending before the district court.

On August 21, 2001, the district court certified its orders and judgments as final and entered judgment as to the fraud and attorneys' fees issues pursuant to Fed. R. Civ. P. 54(b). JA458. This appeal timely followed. JA11750.

SUMMARY OF ARGUMENT

A. The district court erred in its construction of claims terms "integrated circuit device," "read request" (and related "write" and "transaction" request), and "bus." With respect to "integrated circuit device," the court ignored controlling precedent of this Court. With respect to "read request," the court read additional unclaimed functions into the term and misread the specification. With respect to "bus," the court ignored the undisputed ordinary meaning of the term and misunderstood the impact of the PTO's eleven-way restriction requirement of Rambus's original 1990 application. As a result, the court ignored important intrinsic evidence, including the original claims and the prosecution history that were central to the proper interpretation of the term "bus" and erroneously imported limitations from the specification into unambiguous claims.

B. The district court erred in denying several JMOL motions on the fraud claim. First, the jury could not properly find that Rambus breached a duty to disclose. Second, the jury could not properly find that Infineon reasonably relied on any nondisclosure by Rambus, because Infineon failed to make the full inquiry required in the circumstances. That conclusion, finally, also renders Infineon's counterclaim untimely—the jury could not properly find the due diligence that is a key to Infineon's only answer to Rambus's statute of limitations defense.

C. A new trial on fraud is required if JMOL is denied. First, the district court, by refusing to give Rambus's proposed *Kingsdown*-based instruction, allowed the jury to adopt Infineon's argument that Rambus acted improperly by

amending its pending applications. Permitting the jury to so find was improper, because no evidence or law was presented on this federal-law issue. The prejudice inherent in the court's ruling denying the requested instruction, *i.e.*, the critical importance of the "wrongful-amendment" argument to Infineon's case, was confirmed by the district court, which stated that giving the requested instruction would amount to "directing a verdict in this case." JA4765. With the jury likely influenced in its verdict by a misunderstanding of what conduct of Rambus it could deem wrongful, Rambus is entitled to a new trial. Second, a new trial on fraud is independently required if this Court rejects the district court's claim constructions, which infected the jury's assessment of key elements of the fraud verdict.

D. Based on erroneous reasoning, the district court concluded that this was an "exceptional case" and awarded Infineon attorneys' fees and costs. Such an award is unprecedented and fails as a matter of law.

STANDARDS OF REVIEW

A. Claim Construction.

Claim interpretation raises an issue of law subject to *de novo* review. *Cybor Corp. v. FAS Techs.*, 138 F.3d 1448, 1456 (Fed. Cir. 1998) (en banc).

B. Denial Of JMOL.

This Court reviews a denial of JMOL following a jury verdict *de novo*, applying the same standard as the lower court. *SIBIA Neurosciences v. Cadus Pharm.*, 225 F.3d 1349, 1354 (Fed. Cir. 2000). JMOL is required "if the jury's factual findings are not supported by substantial evidence or if the legal conclusions drawn from the jury's findings cannot as a matter of law be supported by those findings." *Baxter Int'l v. McGaw*, 149 F.3d 1321, 1332 (Fed. Cir. 1998).

Substantial evidence exists only if "a reasonable jury, given the record before it viewed as a whole, could have arrived at the conclusion it did." *Dawn Equip. v. Kentucky Farms*, 140 F.3d 1009, 1014 (Fed. Cir. 1998).

C. New Trial.

A new trial is required if the jury may have relied on an impermissible basis in reaching its verdict. *Litton Systems v. Honeywell*, 238 F.3d 1376, 1381 (Fed. Cir. 2001). Questions of law, such as whether the district court applied the proper legal standards and correctly instructed the jury, are reviewed *de novo*. *See, e.g., Church v. Attorney Gen.*, 125 F.3d 210, 215 n.5 (4th Cir. 1997).

D. Attorneys' Fees And Costs Under §285.

Section 285 authorizes an award of attorneys' fees only in exceptional cases. 35 USC §285. An exceptional case must be established by clear and convincing evidence. *Advance Transformer v. Levinson*, 837 F.2d 1081, 1085 (Fed. Cir. 1988). Underlying factual findings are reviewed under the clearly erroneous standard and legal conclusions are reviewed *de novo*. *Molins PLC v. Textron*, 48 F.3d 1172, 1186 (Fed. Cir. 1995).

ARGUMENT

I. THE DISTRICT COURT ERRED IN CLAIM CONSTRUCTION LEADING TO DISMISSAL OF RAMBUS'S INFRINGEMENT CLAIMS.

A. The Court Erroneously Construed "Integrated Circuit Device."

The district court erred in holding that the term "integrated circuit device" in asserted Claim 26 of the '804 patent must include "a device identification register" and "comparison circuitry." Infineon acknowledged that "integrated

circuit device" has an ordinary meaning – a "circuit constructed on a single monolithic substrate, commonly called a 'chip'"—in *all* patent claims except claim 26. JA92. The district court found nothing in the claims or specification that gives any different meaning to the term. JA92. The court based its construction entirely on certain attorney "remarks" in the prosecution history of the '804 patent (JA93), but that reliance was in error.

The remarks followed a PTO rejection of certain claims on the ground that they claimed an "identification register" disclosed in the Weymouth patent. JA82. In response, applicant submitted new claims 186-211. Of those new claims, 186-210 continued to feature "a register for *storing an identification value*." *See* file history at JA1164. However, new claim 211 (now claim 26 of the '804 patent) did not include any register for that purpose. JA293. The prosecuting attorney submitted the following "remarks" directed to reasons these new claims distinguish over Weymouth.

> These newly submitted claims are directed to a memory device (or an integrated circuit having memory) having (1) an internal register for storing an identification value . . . and (3) comparison circuitry to determine whether the identification information corresponds to the identification value. . . .

JA93; JA1174-75.

These remarks cannot fairly be read to apply to new claim 211. Claim 211 included *neither* the "internal register for storing an identification value" limitation that had raised prior art issues with respect to Weymouth, *nor* the "comparison circuitry" limitation mentioned in the attorney remarks addressing the prior art. In context, therefore, these attorney remarks cannot effect a disclaimer of the otherwise-unambiguous meaning of the claim term at issue.

That conclusion is not just common sense but a matter of precedent. In *Intervet America v. Kee-Vet Labs*, 887 F.2d 1050 (Fed. Cir. 1989), the attorney accompanied claim amendments with the erroneous remark that "the claims are restricted to a single vaccination scheme." The trial court relied on the attorney remark to limit a claim not containing the limitation, but this Court reversed, stating:

> When it comes to the question of which should control, an erroneous remark by an attorney in the course of prosecution of an application or the claims of the patent as finally worded and issued by the Patent and Trademark Office as an official grant, we think the law allows for no choice. The claims themselves control.

Id. at 1054.[6]

That holding squarely controls. Here, as in *Intervet*, the limitations emphasized in the remarks were *not present* in application claim 211. Moreover, here, as in *Intervet*, the examiner's own subsequent amendments to claim 211 and other claims (JA1203-07) establish that the examiner had read the claims and "knew what claims he was allowing." *Id.* The plain meaning of "integrated circuit device" must therefore govern.

---

6 Although overlooking *Intervet*, the district court relied on *Hockerson-Halberstadt v. Avia Group Int'l*, 222 F.3d 951 (Fed. Cir. 2000), but without noticing that *Hockerson* expressly distinguished *Intervet* on grounds that also distinguish this case from *Hockerson*. In *Hockerson*, unlike this case and *Intervet*, the intrinsic evidence provided no notice to the public to contradict the meaning suggested by the attorney's erroneous remarks. 222 F.3d at 957; *see also Biotec Biologische Naturverpackungen GmbH v. Biocorp*, 249 F.3d 1341 (Fed. Cir. 2001) (following *Intervet*).

B. The Court Erroneously Construed "Read Request," "Write Request," and "Transaction Request."

1. The court misread the claims, requiring that they incorporate the functions of a working device.

The district court also erred in construing the term "read request" too narrowly. The court held that the request must include "a series of bits . . . that contain *multiplexed address* and control *information needed to request a read of data from a memory device*." JA84 (emphasis added).[7] That construction, based on extrinsic evidence, is wrong under the controlling intrinsic evidence.

The court's errors rested on misleading extrinsic evidence from Infineon's expert (JA71-73), including his testimony on "the way the invention works." JA73. From this, the court concluded that a "read request" must also "require" a response and therefore itself must *include* "both address and control information" necessary to enable a memory device to respond. JA73. The court even went so far as to fault Rambus for not explaining "how the device would respond without receiving address, data and control information...." JA83.

The court's focus on an operational device, rather than particular claim language, is legal error. Patents simply are not required to include in their claims every function and component necessary to enable successful operation of a complete device:

---

[7] The court jointly considered the closely related terms "write request" and "transaction request" (JA69), and the court's analysis and constructions of those other terms are similarly erroneous for the reasons given herein with respect to "read request." Hence, those errors – although included in this appeal – are not the subject of separate analysis.

> the district court erred by importing the functions of a working device into these specific claims, rather than reading the claims for their meaning independent of any working embodiment. . . . A claim need not claim every function of a working device. Rather, a claim may specify improvements in one function without claiming the entire machine with its many functions.

Rodime PLC v. Seagate Technology, 174 F.3d 1294, 1303 (Fed. Cir. 1999); *see Carl Zeiss Stiftung v. Renishaw PLC*, 945 F.2d 1173, 1181 (Fed. Cir. 1991). *See also Interactive Gift Express v. Compuserve*, 256 F.3d 1323, 1342 (Fed. Cir. 2001) (term "authorization code" need only authorize copying; improper to construe the term to include limitations regarding "its origin or destination").

2. The court misread the specification, overlooking the disclosed meaning of "read request."

The specification provided no support for the district court's demand that the "read request" itself enable a response. The court cited three passages, but two do not even mention the term "request." JA74 (quoting '918 patent, Col. 3, lines 35-39, col. 4, lines 9-11). Those passages, addressing how an overall device may function, do not aid an understanding of what a "read request" is, contains, or does.

The court's third specification citation also does not mention a "read request" and uses the word "request" only as part of a different phrase. It indicates that a "bus transaction" is initiated "by sending a *request packet* (a sequence of bytes comprising address and control information)" to one or more slave (*e.g.*, memory) devices. Despite the court's confusion (JA80), the patent specifications *never* use "read request" and "request packet" interchangeably – not even "sometimes" (*cf.* JA83).

The specification teaches that a "read request" differs from "request packet:" a "read request" is merely one component of a "request packet." Specifically, the "read request" consists of 4 digital "bits," called the AccessType field, which are contained within the larger "request packet," as shown in Fig. 4. The court overlooked or misread these instructive passages:

> [As] shown in Fig. 4, *a request packet 22 contains 6 bytes of data* – 4.5 address bytes and 1.5 control bytes . . . .[8]
>
> *The first byte contains two 4 bit fields containing control information, AccessType [0:3], an op code (operation code) which, for example, specifies the type of access* . . . .[9]
>
> *The AccessType field specifies whether the requested operation is a read or a write and the type of access*, for example, whether it is to the control registers or other parts of the device, such as memory. In a preferred implementation, *AccessType [0] is a Read/Write switch: if it is a 1, then the operation calls for a read . . . .; if it is a 0, the operation calls for a write . . . .*

JA345. Thus, a "read request" (and, correspondingly, a "write request") is *determined by* and consists of the AccessType field, 4 digital bits of *control information contained within* the "request packet." The *first* bit determines whether the operation requested is to be a "read" or a "write," while the remaining

---

8 The '918 patent at col. 6, lines 61-62, JA343, defines "request packet" as "a sequence of bytes comprising address and control information." *See also* JA344, Col. 8, ll. 60-62. In computer parlance, a "byte" equals eight digital "bits" of data. (In Fig. 4 a ninth bit, the "Addrvalid" bit, is included.)

9 The notation "[0:3]" signifies a series of 4 digital bits, denominated 0, 1, 2, and 3. Thus [0] means the "first bit," and [0:3] means "bits 0 through 3." JA345.

3 bits determine the type of read or write operation.[10] The specification and drawings unambiguously distinguish—and certainly do not equate—the two terms "read request" and "request packet." This is directly contrary to the district court's conclusion.

The district court also relied on a February 1999 prosecution statement that "the identification information [is] contained in the transaction requests." (emphasis by the district court). JA82, JA1175. But the Examiner's response powerfully confirms the error in the court's inference from the statement. At the time it was made, application claim 186 referred to "a transaction request *including* identification information." JA1165. Critically, however, that claim language was subsequently changed by the Examiner, who made *his own* amendment by *inserting* the word "packet" after each occurrence of "request" in claim 186 (now claim 1 of the '804 patent) (JA1204),—thus clarifying that the identification information is in a "request *packet*" rather than in a "request." The district court, missing that change, misread the prosecution history, which shows that identification information—like address information—is *not* part of the "read request." Indeed, independent patent claims 15 and 23 of the '804 patent confirm the point by reciting "identification information *and* a read request" *separately* as different limitations. JA292.

---

10 For example, JA346, col. 11, lines 20-32 (including the table) explains how the 3 remaining bits of the AccessType field may be coded to identify the type of access. The table shows that when the three bits designated by the "[1:3]" notation have a decimal value of 6 or 7, access to a "normal DRAM" *i.e.*, a memory device, is specified (a "read request" with value of "6" is represented digitally by the 4 bit sequence "1110").

3. The court incorporated, without explanation or support, a multiplexing limitation into "read request."

Having erroneously concluded that "read request" must include address information necessary for *a response* to the request (JA71-74), the district court compounded its error by mistakenly concluding, without any explanation or analysis, that the address and control information must be "*multiplexed.*" JA83-84.[11] Such a construction clearly contradicts the language of the claims that neither explicitly nor implicitly refer to multiplexing.

C. The Court Erroneously Construed The Term "Bus."

The district court initially concluded that the claim term "bus" means "a *multiplexed* set of signal lines used to transmit *address, data and control information.*" The court—in the middle of trial—later clarified the term to mean "*triple multiplexed* set of signal lines...." Both conclusions were legal error. "Bus" is a technical term that has an undisputed ordinary meaning in the art. The district court misunderstood the intrinsic evidence, which in no way redefines the term "bus." That misunderstanding rests fundamentally on the court's failure to appreciate that Rambus's original application included a host of separate inventions – only some, but not all, of which include a multiplexed bus—causing the PTO to issue an 11-way restriction requirement against the original '898 application. The patents-in-suit claim other of those inventions—not the

---

[11] The court may have assumed that a "read request" must be multiplexed merely because it is transmitted over "bus" lines, which the court had decreed to be "multiplexed." However, some of the asserted claims do not even mention a "bus." (*See, e.g.*, '263 patent, claims 1 and 2). JA260.

multiplexed bus—and "bus" thus retains its ordinary meaning in the asserted claims.

1. The court ignored the undisputed ordinary meaning of "bus," which does not require multiplexing.

There is a "heavy presumption in favor" of according terms in claims their "ordinary meaning." *Johnson Worldwide Assocs. v. Zebco*, 175 F.3d 985, 989 (Fed. Cir. 1999). All four patents-in-suit identify the "field of the invention" as "an integrated circuit *bus interface* for computer and video systems." JA341 (Col. 1, lines 19-20). Within that field, "bus" has an undisputed, ordinary meaning[12]:

> A set of signal lines used by an interface system, to which a number of devices are connected, and over which information is transferred between the devices.

THE NEW IEEE STANDARD DICTIONARY OF ELECTRICAL AND ELECTRONIC TERMS at 141 (5TH ed. 1993) and 116 (4th ed. 1988). JA487. That meaning plainly does not require multiplexing over the lines.

The district court refused to recognize the ordinary meaning of the term "bus," even as a starting point for its analysis, disdaining technical dictionary and treatise evidence of the term's ordinary meaning as mere "extrinsic evidence." JA37-38. But this Court has emphatically approved use of such neutral texts to determine the ordinary meaning of a claim term as the "starting point" of claim construction. *Dow Chemical v. Sumitomo Chemical*, 257 F.3d 1364, 1372, 1373 (Fed. Cir. 2001). The district court, having skipped the crucial first step of claim

---

12 *See, e.g.*, JA5698-5700 (testimony of Mr. McAlexander). Regardless of the precise field within the electrical industry, no accepted definition of "bus" includes the concept of "multiplexing."

construction, then mistakenly approached the other intrinsic evidence without understanding that it needed to find affirmative reason *to depart from* that meaning.

2. The court failed to recognize that the patent specification disclosed numerous independent inventions, many requiring only an ordinary bus, as established by the original claims and the PTO's restriction requirement.

The district court fundamentally missed a simple point: only one of the many inventions disclosed in the original '898 application was a new bus that can greatly enhance the performance of computer memory devices. That new kind of bus is thus not a limitation in all of Rambus's claims. Both the written description and original claims expressly describe that "new" or "inventive" bus by using certain key phrases to distinguish it from ordinary, non-multiplexed buses. Those key phrases are not present when the inventors described, and originally claimed, *other* inventions not dependent on the special "new bus."

The district court evidently failed to recognize the critical point of patent law: applications can and often do contain multiple independent inventions.[13] The statute provides expressly for that common circumstance. 35 USC §121. Here the PTO, quoting the statutory language, immediately recognized that there were "independent and distinct" inventions disclosed in that '898 application and thus required restriction into *11* (and later more) separate claim groupings. JA682-87.

The original claims directed to the inventors' "new bus" expressly defined it

---

13 Where, as here, a potential applicant may be unsure of whether it has more than one invention to patent, the PTO initially prefers all inventions in a *single* application. *In re Berg*, 140 F.3d 1428, 1435 (Fed. Cir. 1998).

by these key phrases:

(1) said bus including "a plurality of bus lines for carrying substantially all address, data and control information needed by said memory [or 'semiconductor'] devices;"

(2) said bus "containing substantially fewer bus lines than the number of bits in a single address;" and

(3) said bus "carrying device-select information without the need for separate device-select lines connected directly to individual memory [or 'semiconductor'] devices."

Together, those phrases defined the "new bus" as a bus that operates in a *multiplexed* fashion. Original independent claims 1, 13, 25, 46, 56, 68, 82, 95, 97, 106, 108, 111, 114, 116, 118, 124 and 135 each contained these *limitations*, which the inventors found necessary to describe their "bus of the invention." JA568-629.

The PTO's restriction requirement, under Section 121, resulted in moving the new bus into certain applications that matured into certain Rambus patents *not* at issue here. *Other* claims, directed to each of the other inventions *not* dependent on the "new bus," moved into other applications (divisional and later continuation applications). But, because the specification of each of those divisional applications is required to be the same as the original application, the written descriptions of each of these continue to describe the "new bus" *even though the "new bus" may not be part of any claim of a particular divisional application (and is not part of the claims here in suit).*

The district court did not appreciate the effect of the restriction – which required Rambus (under the "law of consonance") to refrain from seeking claims to the "new bus" in the divisional applications claiming *other* inventions. *Gerber Garment Tech. v. Lectra Sys.*, 916 F.2d 683, 685-86 (Fed. Cir. 1990); *see* R.

Harmon, PATENTS AND THE FEDERAL CIRCUIT at 912 (5th ed. 2001). The court expressed disbelief that Rambus could not identify any claims to the "new bus" in the patents-in-suit. JA5532-33. However, this disbelief underscored the court's error. The court failed to recognize the presence of "new bus" claims in the original application (with the key defining phrases) and their eventual movement, through normal restriction practice, into patents other than the patents-in-suit. JA56-57.

The district court then compounded its error. Opining that "oftentimes complex and voluminous patent histories" were not helpful in claim construction, the court held that "it would be impermissible" to rely on claims now in "*other* patents" in construing the claims of the patents-in-suit. JA61. As a result, the court erroneously disregarded the original application—including the original claims—which, *in toto*, is part of the PTO prosecution record and thus important intrinsic evidence that must be taken into account in construing claims. *Pall Corp. v. PTI Techs.*, 259 F.3d 1383, 1391(Fed. Cir. 2001); *Elkay Mfg. v. EBCO Mfg.*, 192 F.3d 973, 978 (Fed. Cir. 1999) ("the prosecution history gives insight into what the applicant *originally claimed* as the invention"); *Abtox v. Exitron Corp.*, 122 F.3d 1019, 1027 (Fed. Cir.), *modified on reh'g*, 131 F.3d 1009 (Fed. Cir. 1997) (the prosecution history relevant to continuation applications also includes the parent application).

The district court's erroneous approach is implicit in its repeated emphasis on determining the meaning of "the bus of the invention" rather than "bus" as used in the asserted claims:

> The specification clearly and unambiguously describes the *bus of the invention to be the inventive multiplexed bus*. JA41.

> [Infineon's expert explains] in every instance when they describe *the bus of the invention* it is *always a multiplexed address, data and control bus*. [Citation omitted.] Rambus's expert *did not refute* this conclusion. JA44.

Only by ignoring the presence of multiple independent inventions in the original application could the court make the logical leap it did, *i.e.*, jumping from the conclusion that the "bus of the invention" has multiplexing, to the conclusion that any "bus" mentioned in the claims must have multiplexing as well. The ordinary meaning of "bus" standing alone is to the contrary, and that meaning is confirmed by the use of key additional modifying phrases when the new bus was claimed.

3. The inventors did not redefine "bus" in their specification.

Contrary to the court's mistaken belief, the inventors did not act as "lexicographers" and define the term "bus" differently from its ordinary meaning. When they described the new bus, they used the key phrases noted above, but they never used those phrases to describe ordinary buses. *See. e.g.*, JA342 (col. 3, ll. 50-60) (opening paragraph of the Summary of Invention of each patent, quoted by the court at JA41-42, which includes each of the key phrases needed to describe the new bus). Construed properly and in light of the prosecution history, there is no language in the patents-in-suit that supports the notion of a redefinition of the word "bus."[14] *Cf. Dow Chemical*, 257 F.3d at 1376 (patent did not "sufficiently redefine" the ordinary meaning of a claim term "such that one of ordinary skill in

---

14 That Rambus's specification "distinguish[es] *prior art buses* with dedicated and point-to-point lines from the *multiplexed bus of the Rambus invention*" (JA49-50) in no way supports the district court's notion that "bus" is redefined in the specification to mean "multiplexed bus." *IMS Technology v. Haas Automation*, 206 F.3d at 1422, 1434 (Fed. Cir. 2000) (statements regarding the prior art do not clearly disclaim an ordinary meaning of "data block").

the art would believe that" the term has now taken on a new meaning); *IMS*, 206 F.3d at 1433 (nothing in written description or prosecution history clearly indicates that patentee gave a specialized meaning to "data block" that overcame its ordinary meaning). Indeed, the district court acknowledged two different usages of "bus" in the specification (JA52, n.15) but failed to recognize the reference it quoted as further evidence that the inventors had *not* changed the meaning of the word "bus."

4. Because the ordinary "bus" is *not* an "invention" of the asserted patents, the patents did not need to describe or enable it.

The district court's repeated observations that "every embodiment described in the specification involves a multiplexed bus," the specification fails to describe any other kind of bus in connection with the invention, and it is "the only system described and enabled in the specification" (JA43, 45, 46) do not support the court's construction. A patent specification need not describe what is well known, *i.e.*, prior art buses; it need *only* describe the bus "invention" and how that bus works with the new devices. *Spectra-Physics v. Coherent*, 827 F.2d 1524 (Fed. Cir. 1987); *Paperless Accounting v. Bay Area Rapid Transit Sys.*, 804 F.2d 659, 664 (Fed. Cir. 1986); *Hybritech v. Monoclonal Antibodies,* 802 F.2d 1367, 1384 (Fed. Cir. 1986). Because *ordinary* buses were well known to those skilled in the art, no narrowing inference can be drawn from failure to describe or "enable" ordinary buses, because that was unnecessary. Rambus's only obligation under §112 was to describe the "new bus," which it did, and enable those skilled in the art to use it, both alone and in conjunction with Rambus's other new inventions, which Rambus did.

In sum, the court's construction of "bus," like its construction of the "request" terms and "integrated circuit device," was erroneous, and requires reversal of the JMOL of noninfringement.

II. THE DISTRICT COURT ERRED IN DENYING JMOL ON THE FRAUD CLAIM.

A. The Jury Could Not Reasonably Find That Rambus Failed To Disclose Anything It Had A Duty to Disclose.

Infineon failed to prove by the required clear and convincing evidence that Rambus breached any alleged disclosure obligation imposed by its participation in JEDEC. The contours of the disclosure obligation were murky at best, with Infineon relying in the end on testimony about vaguely defined expectations, rather than precise written policies giving clear guidance in an obviously sensitive area (a meeting of direct competitors centrally concerned about innovations as a key driver of competition). The brief written policy did not refer to patent *applications* before 1993,[15] and even thereafter did not pinpoint *what* applications

---

15 Prior to October 1993, JEDEC's written standard governing patent disclosures referred only to "patent." JA7620. That is the form of the disclosure rule as shown to JEDEC members and used (at the beginning of JEDEC meetings and on JEDEC ballots) throughout Rambus's term at JEDEC. *See, e.g.*, JA8500-8805. There were, during Rambus's membership in JEDEC, two other formulations of this written policy. At one point, in the JEDEC meeting on December 1992, there was a policy entitled "draft" shown to JEDEC members that extended the meaning of "patents" to include "patent applications." Later, on October 1993, the written standard for patent disclosure was changed to expressly include patent applications, but that new written version was only included in the JEDEC committee chairperson's manual. JA7590. JEDEC's disclosures to its members remained the same, retaining only the reference to "patents" through the end of 1995.

have to be disclosed or how they were to be disclosed; and it was agreed by Infineon's witnesses below that even the unwritten duty they alleged did not reach *intentions* (or relevant foreign patents). JA3399; *see also ITT Hartford Group v. Virginia Financial Assoc.*, 520 S.E.2d 355, 361 (Va. 1999) (fraud "must relate to a present or pre-existing fact," not future intentions); *Parker-Smith v. STO Corp.*, 551 S.E.2d 615, 619 (Va. 2001). What is clear, though, is that whatever the duty of disclosure, Infineon did not prove that Rambus breached it.

What *was* disclosed to JEDEC included both Rambus's first patent, the '703 patent (September 1993) and Rambus's WIPO application (public in October 1991), both of which contain the specification on which all of Rambus's later patents were based. Upon departing from JEDEC in 1996, Rambus also disclosed a longer list of patents it had recently been issued (still not the patents-in-suit).[16] What *could not* have been disclosed before Rambus left JEDEC in 1996 were the applications for the patents-in-suit, because those applications and claims did not exist until later. Infineon's nondisclosure claim, therefore, rests entirely on the asserted existence of some undisclosed SDRAM-related applications Rambus had before leaving JEDEC.

But Infineon could not and *did not prove, by expert testimony or otherwise, that any claim in an undisclosed application covered the SDRAM standard*. Nor did any such claims implicate JEDEC's concern about standardizing technology without a licensing commitment from its owner. This remarkable absence of proof should have compelled a ruling that Infineon's proof of fraud was insufficient. In

16 Rambus inadvertently omitted one patent from that list—issued between the preparation of the draft and the final version of the withdrawal letter—and in any event all of Rambus's patents were easily discovered by the simplest possible computer search of patents with Rambus as assignee.

fact, not a single undisclosed Rambus patent application actually triggered any duty of disclosure.

The district court's JMOL opinion does no better than Infineon did at trial. This opinion also fails to identify any Rambus applications having claims that covered the SDRAM standard so that disclosure was required. The court identified certain Rambus patents and applications having claims "intentionally designed to cover the technology under consideration by JEDEC." JA170-71. However, a review of the claims cited by the court shows that none related to the SDRAM standard (so as to threaten the JEDEC process).

The district court pointed to U.S. Patent No. 5,319,755 and Application No. 07/954,945 as relevant to the burst length feature included in the standard. JA171. But those applications claimed the multiplexed bus and device identifier features that are not part of the SDRAM standard. *See, e.g.*, JA6978. And, indeed, at trial Infineon admitted that the '755 patent was not relevant to the SDRAM standard. JA4837 and JA6616.

The district court pointed to Application No. 847,961 as pertaining to CAS latency. But that application's claims were limited to the "device identifier" feature that is not part the SDRAM standard. *See, e.g.*, prosecution claims 151 *et. seq. at* JA6692.

The district court thought that patent No. 5,606,717 and its parent application (No. 847,651) also related to CAS latency. Here again, the court overlooked the fact that the '717 patent claims require the multiplexed bus that is not part of the SDRAM standard. JA9534.

The district court asserted that Rambus's application No. 847,692 related to PLL technology. The SDRAM standard, however, does not use PLL technology. JA2396.

Finally, the district court said that Rambus's patent No. 5,473,575 and application No. 847,532 contain claims directed to an externally-supplied reference voltage. But the '575 patent is directed to a device having voltage swings of *less than one* volt. JA9290. The voltage swing specified by JEDEC is 3.3 volts, making this patent likewise inapplicable to SDRAMs following JEDEC's standard. Notably, Infineon expressly admitted that the '575 patent was not relevant to the JEDEC SDRAM standard. JA4837 and JA6616.

In short, in every case, no builder of an SDRAM under the JEDEC standard would need a license under any of the patents and applications relied on by the court. Given that fact, it is obviously irrelevant, under the all-elements rule for infringement, whether some pending claims may have included as individual *elements* features considered by JEDEC for inclusion in the standard. And given that (1) the actual applications did not read on SDRAM and (2) the legal irrelevance of mere intentions, it is likewise insufficient whether internal Rambus emails and documents suggested that some people in Rambus mistakenly *believed* that they had pending SDRAM patent claims existed or that Rambus *intended* to file such claims. Rambus was entitled to JMOL based on the absence of the required proof that it breached any duty to disclose.

B. The Jury Could Not Reasonably Find Reasonable Reliance By Infineon Or, For Similar Reasons, The Due Diligence Required By The Statute of Limitations Defense.

1. No reasonable reliance.

Virginia law requires a fraud plaintiff to prove reasonable (justifiable) reliance on the alleged misrepresentation or omission. *Bank of Montreal v. Signet Bank*, 193 F.3d 818, 827 (4th Cir. 1999); *Metrocall of Delaware v. Continental*

Cellular Corp., 437 S.E.2d 189, 193-94 (Va. 1993). The required proof is not present when a plaintiff, with reason to inquire, stops at a partial inquiry when a readily available fuller inquiry would reveal more. *See Bank of Montreal*, 193 F.3d at 827-28; *Harris v. Dunham*, 127 S.E.2d 65, 70-71 (Va. 1962); *Watson v. Avon Street Bus Center*, 311 S.E.2d 795, 798-99 (Va. 1984); *Williams v. Dresser*, 120 F.3d 1163, 1171-72 (11th Cir. 1997).[17] Contrary to the district court's ruling, Infineon's proof was insufficient as a matter of law.

A duty of direct, clear-cut inquiry was triggered by what Infineon knew and what it suspected. As to the former, Infineon knew Rambus was in the business of creating, protecting, and licensing intellectual property. Infineon also knew (or certainly should have known) all that was disclosed by Rambus. The disclosures included the '703 patent, thus revealing the original application common to all patents at issue (and, later, a number of other then-pending applications), as well as the 1991-published WIPO application. JA183, 175, 177, 219. Moreover, although the district court discounted knowledge of the '755 patent, issued in January 1994 (JA177), that patent was readily discoverable by Infineon through a quick and inexpensive "assignment search."

As to what Infineon suspected, the district court noted that Infineon had "concerns about Rambus's patent rights." JA183. In 1992, Infineon's JEDEC representative, Mr. Meyer, concluded that SDRAM was a "public domain version" of a Rambus memory. JA6534. That same year, Infineon documents indicate Infineon considered that some SDRAM features "may fall under Rambus patents."

---

17 "Passive acceptance" of contradictory information does not constitute justifiable reliance. *See Foremost Guaranty Corp. v. Meritor Savings Bank*, 910 F.2d 118, 124-25 (4th Cir. 1990); *Maine v. Leonard*, 365 F. Supp. 1277, 1285 (W.D.Va. 1973) (failure to confront directly).

JA6532. By 1993, Infineon was aware of the WIPO application and Rambus's '703 patent, the prosecution history of which showed the 11-way restriction indicating to any patent lawyer that many inventions were present in the application. In August 1994, Infineon's representative, Meyer, correlated Rambus's '703 patent to SDRAMs and suspected that Rambus's pending applications were "diverse." JA6525. What is more, as late as 1997, the JEDEC committee discussed, at meetings where Infineon was present, both Rambus's patents and Rambus's position that it was *not* complying with the JEDEC policy regarding patent disclosures. JA7513.

In these circumstances, reliance by Infineon on Rambus's "silence," if any, was unjustifiable, and was replaced by a duty to confront Rambus directly. Infineon had deep-seated, long-standing suspicions that Rambus could have claims to SDRAMs. These suspicions, coupled with Infineon's knowledge of Rambus's application disclosures, made it unreasonable for Infineon to do less than inquire *directly* of Rambus either to confirm or to deny its suspicions. Yet Infineon did not do so.

Infineon indirectly made a *partial* investigation, arranging for a vague request for "comment" through JEDEC Committee Chairman Gordon Kelley to Rambus about its patent portfolio. JA183, JA11890. According to Infineon's Meyer, the Rambus representative responded by indicating he did not wish to make a comment. *Id.* But that event only confirms the suspicion on Infineon's part, and the vague and oblique question cannot fulfill the duty of direct inquiry so as to justify reliance. Similarly, Meyer's testimony that he read and "was misled" by the disclosure of Rambus's '703 patent, testimony that the district court cited as evidence of reliance (JA184), instead shows partial investigation and an *absence* of reliance on representation by Rambus. Indeed, these are precisely the kinds of

partial investigation that *negate* any claim of reasonable reliance on the representation or omission: a plaintiff who makes his own investigation is held to rely on its results, *and* the results of the complete investigation he *should have* made, *not* on the representation. *See* cases cited *supra* at pp. 29-30.

Other evidence from Infineon itself confirms its lack of justifiable reliance on Rambus's "silence" in light of Rambus's disclosures. Infineon's Meyer was a party to JEDEC member discussions that some of what was in Rambus's patent disclosures was barred by prior art. JA6613. The very fact of those discussions confirms that JEDEC members fully understood that *additional claims* might be sought beyond those already filed or issued; that was the point of the discussions. Those discussions thus further shifted the responsibility to Infineon to conduct its own *full* investigation.[18]

Even a simple assignment search for Rambus patents and examination of Rambus's available prosecution histories should have forewarned Infineon (and undoubtedly did) that a dozen or more pending applications devoted to "diverse" aspects of the original '898 application likely existed.[19] Even more starkly, Infineon could and should have simply asked Rambus about its patents and applications. *See Maine*, 365 F. Supp. at 1285. That such a *direct* inquiry would

---

18 To the extent that Infineon took Rambus's silence in May 1992 to mean that Rambus would not have SDRAM patents at any *future* time, any such reliance was unjustified as a matter of law. Statements as to future events do not qualify as misrepresentation. *See* Virginia cases cited at pp. 29-30.

19 It is not material that Infineon could not determine the *exact* scope of Rambus's pending claims, *see Williams*, 120 F.3d at 1172-73; mere evidence of the *likelihood* of numerous additional patents would reveal the "possibility" of fraud and thereby negate any reliance on Rambus's "silence." *Brumbaugh v. Princeton Partners*, 985 F.2d 157, 162 (4th Cir. 1993).

not have been fruitless is shown by the candid testimony of Committee Chair Gordon Kelley. Kelley testified that Rambus's JEDEC representative, on two occasions in mid-1992 and in 1994, in response to direct questions by Kelley, expressly told him, "yes," Rambus held patents "applicable to" specific technology before the committee. JA1552-53 (pp. 46-48, 51). Having made a "partial" investigation, Infineon was legally bound by all it might have discovered from a full investigation, including a "simple inquiry" directly to Rambus. *Harris*, 127 S.E.2d at 70-71. Given Infineon's knowledge of the Rambus application disclosures that supported eventual SDRAM claims, and its heightened sensitivity to SDRAM claims that might issue to Rambus, Infineon's purported reliance on mere "silence" is unreasonable as a matter of law. *Metrocall*, 437 S.E.2d at 194; *Williams*, 120 F.3d at 1172.

2. Barred by the statute of limitations.

The district court–recognizing the interrelation of the reliance issue and the limitations issue by relying on the same evidence in analyzing both (JA218-219, citing same evidence)–also erred in denying JMOL to Rambus on its limitations defense. Va. Code §8.01-243. The statute begins to run when the alleged fraud reasonably should have been discovered through the exercise of due diligence. *Id.* §8.01-249; JA218. For all the reasons just discussed, Infineon "should have discovered" the alleged fraud prior to 1999, and its claim is time-barred as a matter of law, requiring JMOL on this ground too. *Brumbaugh*, 985 F.2d at 162; *Maine*, 365 F. Supp. at 1285-86. The district court erred in denying a new trial on fraud.

III. THE DISTRICT COURT ERRED IN DENYING A NEW TRIAL ON FRAUD.

The foregoing argument shows the insufficiency of evidence on crucial issues as a matter of law. Even if a reasonable jury *could* find against Rambus on those issues, however, the findings in this case cannot stand. *This* jury's findings were thoroughly infected by two fundamental errors – one independent of the claim constructions, one dependent on them – requiring a new trial at a minimum.

A. A New Trial Is Required On Fraud Because The Jury Was Allowed To Rest Liability On An Impermissible Basis.

Following *Kingsdown*, Rambus requested a jury instruction making clear that Rambus's pursuit of amendments in the PTO could not be condemned as fraudulent. The district court refused the requested instruction, proposing a modification that would have directed the jury to consider the wrongfulness of the amending process. Because any such consideration was improper in this case, the instruction ruling erroneously left the jury free to accept Infineon's pervasive invitation to base its fraud verdict on conduct of Rambus that was plainly lawful under federal patent law—*i.e.*, amending patent claims to cover inventions supported by Rambus's disclosures. That ruling was plainly prejudicial, requiring a new trial.

1. Infineon's two theories of fraud: Rambus's failure to disclose pending patent applications, and Rambus's changes in its pending patent applications.

From opening statement through closing argument, Infineon pressed on the jury two fundamentally separate and distinct theories of wrongdoing. First, Infineon argued and sought to prove that Rambus acted fraudulently during

December 1991-December 1995 by not disclosing its pending patent applications to JEDEC.[20] Second, building on what was undisputed—*i.e.*, that Rambus changed its pending patent claims based on discussions at public JEDEC meetings—Infineon argued that Rambus's amendments were themselves wrongful acts. In Infineon's view, Rambus used "manipulation and trickery" (JA1967) to introduce new claims to "intentionally and purposely cover the standard" being developed at JEDEC (JA1985).[21]

These two theories were fundamentally different. Under the former "nondisclosure" theory, the lawfulness of the amendment was irrelevant; it was the failure to disclose pending applications that was the gravamen of this argument. By contrast, Rambus's claim amendments based on discussions at JEDEC meetings were the crux of the latter argument. After trial, both the district court

---

20 Critically, the disclosure duty found by the district court clearly went beyond anything in the earlier standard setting cases, which involved promotion of standards, not mere silence regarding applications. *See, e.g., Potter Instrument Co., Inc. v. Storage Tech. Corp.*, 207 USPQ 763, 766 (E.D. Va. 1980) (concluding that where the patentee "actively participated" in the adoption of its technology as an industry standard, but "intentionally failed to bring its . . . patent to the [standard setting] committee's attention," the patentee was estopped from bringing an infringement action on its patent); *aff'd on other grounds*, 641 F.2d 190 (4th Cir. 1981); *Stambler v. Diebold,* 11 USPQ2d 1709, 1715 (E.D.N.Y. 1988); *Wang Laboratories, v. Mitsubishi Electronics American,* 29 USPQ2d 1481 (C.D. Cal. 1993) (that patentee successfully promoted its technology into JEDEC standards without revealing its then-pending application states equitable defense that supports denial of preliminary injunction); *In re Dell Computer,* 121 FTC 616 (1996) (failure to disclose known patents that, in fact, covered the standard).

21 Infineon's opening statement pervasively characterized that undisputed fact as wrongful. *See* JA1976-77, 1979, 1981-1987, 1988-1993; *id.* at 1989 ("manipulate their claims, stretch and pull the RDRAM patent applications"); *id.* at 1993 ("manipulate"; "They stole it.").

and Infineon expressly recognized that these were distinctly "different issues." JA8820; JA224 ("the propriety of filing amendments under the patent laws is a separate inquiry from the fraud claim"); JA120 n.7.[22]

Until late in the case, Infineon had pending a challenge to the Rambus claims at issue as unsupported in the written description. Infineon dropped any written-description challenge, however, when the district court observed that Infineon failed to introduce evidence of lack of support in the original 1990 application. JA4075. Accordingly, Infineon expressly limited its requested liability instructions to the wrongful-nondisclosure theory, and the court's instructions presented only that theory. JA11717 (knowing and intentional failure to disclose; intent to mislead).

Given Infineon's opening argument and trial presentation, Rambus sought an instruction to focus the jury on the alleged nondisclosure and prevent it from deeming the claim-amending process wrongful. The instruction was all but a direct quote from *Kingsdown*'s recognition of the lawfulness of amending to capture others' products (as long as there is sufficient support in the specification). 863 F.2d at 874.[23] The district court rejected that request, and indeed listed

---

22 The record is undisputed that JEDEC meetings were in no sense secret. JA3394, JA3398 (the meetings were open; and anyone present could disseminate what was happening publicly); *accord* JA1558, pp. 70-71. The Rambus patents at issue in this case were not applied for until 1997 and 1998, basically five years after the SDRAM standard was published by JEDEC. Consequently, any suggestion that Rambus's amendments depended on some secret knowledge gained from JEDEC participation is utterly baseless.

23 The proposed instruction stated:

> It is not improper to amend or add patent claims intended to cover a competitor's product about which the applicant has learned during the prosecution of the patent application,

Rambus's amendment of its claims as part of Rambus's fraudulent conduct. JA162, JA4765, 4766.

Infineon's counsel then devoted approximately half of his closing argument to painting Rambus's amendments as wrongful. Rambus immediately renewed its request for the *Kingsdown* instruction to ensure that the jury did not base its verdict -including the critical and vigorously contested issue of *scienter*– on the improper ground of the amendments. JA4858-59; JA11690. The district court, recognizing the message of Infineon's closing, entertained the request, but it rejected the instruction on its merits, proposing a modification which read:

> After a patent application is filed, its claim may be amended or added to so long as the amended or added claim is disclosed in the original patent application and so long as the amended or added claims are not based on information obtained by engaging in wrongful conduct.

JA11692. This instruction invited the jury to consider whether Rambus "amend[ed] [its] applications using information [it] obtained from somebody else." JA4862. Rambus was left with no choice but to decline the instruction.

2. The district court, by refusing the requested *Kingsdown* instruction, erroneously and prejudicially allowed liability based on condemning the application changes as wrongful.

Although a district court has discretion in formulating the jury instructions, in the end "[i]t is the inescapable duty of the trial judge to instruct the jurors, fully and correctly, on the applicable law of the case, and to guide, direct, and assist

---

including a continuation or divisional patent application, provided that the claims are supported by the original patent application.

them toward an intelligent understanding of the legal and factual issues involved in their search for truth." 9A Charles A. Wright & Arthur R. Miller, *FEDERAL PRACTICE AND PROCEDURE*, §2556, at 438 (1995) (footnote omitted). "The function of the appellate court . . . is to satisfy itself that the instructions show no tendency to confuse or mislead the jury with respect to the applicable principles of law." *Id.* §2558, at 456 (footnote omitted). This calls for a "practical" approach to determine "whether the instructions, construed as a whole, and in light of the whole record, adequately informed the jury of the controlling legal principles without misleading or confusing the jury to the prejudice of the... [other] party." *Spell v. McDaniel*, 824 F.2d 1380, 1395 (4th Cir. 1987). Accordingly, "an appellate court must . . . vacate a jury verdict and remand for a new trial if a jury may have relied on an impermissible basis in reaching its verdict." *Litton Sys.*, 238 F.3d at 1381.[24]

In particular, instructions must make the relevant legal issues clear to the jury in the context of the specific case. "As against a more general or abstract charge, a party is entitled to a specific instruction on its theory of the case . . . ." Wright & Miller, §2556, at 444 (footnote omitted). Thus, if issues no longer in the case, or the evidence or arguments of counsel on such issues, could confuse the jury under the originally proposed instructions, a further clarifying instruction may be required. *See, e.g., Vaughn v. Willis*, 853 F.2d 1372, 1376 (7th Cir. 1988); *Arthur S. Langenderfer v. S.E. Johnson*, 917 F.2d 1413, 1440 (6th Cir. 1991). As

---

24 *See also Bammerlin v. Navistar Int'l Transp. Corp.*, 30 F.3d 989, 901 (7th Cir. 1994) (by failing to give a clarifying instruction, "the district judge left the jury adrift and permitted it to return a verdict on a basis that may have been legally and factually flawed"); *Kelber v. Joint Industry Bd.*, 27 F.3d 42, 46-47 (2d Cir. 1994).

the district court here recognized (JA220-21), omissions from a jury charge can be error if, in the circumstances, the omission rendered the given instructions "incorrect or incomplete" and the requested instruction "could have cured the error." *Biodex Corp. v. Loredan Biomedical*, 946 F.2d 850, 854 (Fed. Cir. 1991).

Under this standard, the district court erred in declining to give the requested *Kingsdown* instruction. The court did not—and could not—say that the requested instruction was legally incorrect under the established *Kingsdown* rule; on the contrary, it conceded that the proposed charge was "in the abstract . . . a correct statement of law." JA4766. The court accepted, as it had to, that the issue of unlawful amendment had played a central role in Infineon's evidence and argument to persuade the jury that Rambus had acted wrongfully. Indeed, the court twice recognized that giving the proposed instruction, thus ensuring that the jury was not misled or confused with respect to the issue of amended applications, would effectively amount to a directed verdict for Rambus on the fraud count in light of Infineon's remaining evidence and theory of fraudulent nondisclosure submitted to the jury in the court's actual charge. JA4765-66.

Nevertheless, the court refused the proposed instruction. The court did so, and proposed its modification, on the ground that the jury *should* be allowed to conclude that Rambus, in amending its claims, had taken the ideas of others that it learned of at JEDEC, and amended its patent applications to claim those ideas. JA4862-63.[25] But it was precisely that reason which was error *in this case*. The dispositive point is that Rambus's claim amendments, which sought

---

25 In its post-trial rulings, the district court reiterated the basis for its instruction ruling, namely, that the jury was allowed to consider whether the claim amendments took ideas from JEDEC unsupported in the 1990 application. *See* JA223, JA227, JA120, JA123.

(unsuccessfully) to cover expected developments in the marketplace based on discussions at JEDEC, were all supported by the original 1990 patent application; even more specifically, *this* jury could not be allowed to conclude otherwise. There was no evidence of "wrongful conduct" that supported the district court's proposed modification, nor did Infineon present any evidence that Rambus's amended claims lacked §112 support in the 1990 application or that Rambus had derived any of the concepts disclosed in the 1990 specification from JEDEC or its members. Therefore, Infineon withdrew its written-description contention.

As a result, the district court had no basis whatsoever for allowing the jury in this case to speculate that Rambus had taken from JEDEC any of the ideas it incorporated into its claim amendments. If the amended claims were adequately supported, then as a matter of federal law the jury could not properly have drawn any conclusion that Rambus's amendments took ideas (which, if any, were public) from JEDEC (which, in any event, was a public forum). *See, e.g., TurboCare Division v. General Elec.*, 264 F.3d 1111, 1118 (Fed. Cir. 2001); *Union Oil Co. v. Atlantic Richfield*, 208 F.3d 989, 997-98 (Fed. Cir. 2000); *see also* 35 U.S.C. §102(f). Accordingly, the district court's instructions, and its refusal to give Rambus's requested *Kingsdown* instruction, constituted error.

Nor can there be any doubt that this error was not harmless and therefore requires a new trial. *See Kotteakos v. United States*, 328 U.S. 750, 764-65 (1946) (error requires reversal unless this Court's conviction is clear "that the error did not influence the jury, or had but very slight effect," so that the Court could "say, with fair assurance, after pondering all that happened without stripping the erroneous action from the whole, that the judgment was not substantially swayed by the error"). *See also* 11 Charles A. Wright, Arthur R. Miller, & Mary K. Kane, *FEDERAL PRACTICE AND PROCEDURE* §2883, at 446-47 (1995)(*Kotteakos* harmless-

error test applies equally in civil and criminal cases). As explained above, the requested instruction went to a central issue on fraud and sought to prevent the jury from being misled or confused by the repeated argument that Infineon presented throughout the trial about Rambus's amendments to its pending patent applications. A significant error in the instructions in this regard could hardly be harmless in the circumstances of this case. *See Sasaki v. Class*, 92 F.3d 232, 237 (4th Cir. 1996) (new trial required where, because no instruction corrected counsel's invitation to the jury to rely on impermissible theory, "we cannot conclude with any assurance that the error was harmless"). Indeed, the district court dispositively confirmed the prejudice when it twice recognized that giving the requested instruction would "effectively direct" a verdict for Rambus.

The error thus requires a new trial on fraud so that the fraud issues are assessed uncorrupted by a condemnation of Rambus's PTO activities as wrongful. In addition, as already demonstrated, the evidence in this case on several crucial issues was, at the very best for Infineon, "sharply divided," and the jury could easily have found for Rambus. Particularly in these circumstances, the district court's *Kingsdown* error was not harmless. *See Bammerlin*, 30 F.3d at 901.

B. The Fraud Verdict Was Infected By The Erroneous Claim Constructions.

The fraud verdict must also independently be set aside, and the case remanded for a new trial on fraud, if the Court reverses enough of the district court's claim constructions to require vacating of the judgment of noninfringement. These claim constructions by the district court fatally infected the jury's determinations on at least two closely related aspects of the fraud verdict

– the reasonable-reliance and timely-suit issues discussed above.[26] The infection by the erroneous claim constructions is clear from an examination of the two stated arguments on which Infineon relied in persuading the jury that it made all required inquiries about Rambus's patent interests.

To begin with, even under the erroneous claim constructions, reasonable reliance was tough for Infineon to show. Infineon was aware that Rambus was not a manufacturer, but was entirely in the business of creating intellectual property, securing protection for it, and licensing it: patents were the heart of Rambus's assets. Infineon was keenly concerned that Rambus *might* have intellectual-property interests in SDRAM technology, leading it arrange with Chairman Kelley, at the May 7, 1992 meeting, to ask Rambus representative Richard Crisp the oddly oblique question about whether he wanted to comment on the SDRAM proposal with respect to JEDEC's patent policy – to which Crisp silently shook his head. JA183; JA2767. In September 1993, Infineon possessed the '703 patent and had or should have had the 1991 public WIPO application. JA175.

The district court, in denying JMOL and a new trial, made clear that it was at best a close question whether Infineon had sufficient evidence of reasonable reliance: the court stated that the jury could reasonably have resolved the issue in Rambus's favor (defeating Infineon's fraud claim). JA184. The district court nevertheless found Infineon's claim of reasonable reliance sufficiently supported on precisely two bases. The first was Meyer's assertion that Richard Crisp's shake of his head at the May 1992 meeting and his silence at the same meeting when the WIPO application was brought up, addressed what previously was a clear concern

---

26 The first issue is an element of fraud on which Infineon had the burden of proof by clear and convincing evidence. The second issue is a defense on which Rambus had the burden of proof.

that Rambus might have, or be trying to obtain, patents relating to the SDRAM standard under consideration at JEDEC. The second was Meyer's assertion that the '703 patent actually and reasonably led him to believe that Rambus's technology "related only to RDRAMs" (*i.e.*, was limited to multiplexed buses), not SDRAMs. JA183-84.[27] *See also* JA219 (citing same two bases for Infineon's conclusion).

To find reasonable reliance, the jury had to find that those two bases justified Infineon's refusal to take the simple additional step of putting a direct inquiry to Rambus, with which it had a continuing relationship, asking whether Rambus was pursuing any patent applications that might cover SDRAM technology. Rambus's response, even if it had been a refusal to give a direct answer, would have told Infineon whether it could actually and reasonably rely on the absence of any such prospective infringement problem. Infineon took no such simple step during the several years following JEDEC's initial adoption of the SDRAM standard in 1993 before Infineon itself began making SDRAM products.

The evidence for reasonable reliance, even if legally sufficient, was exceptionally thin, given the ease of making direct inquiry and the other evidence that Infineon did *not* actually have its concerns allayed, let alone solidly and reasonably put to rest, by the fall of 1993. Crisp's silence and head-shake was at best a weak basis for inferring either reliance in fact or the reasonableness of any such reliance. In fact, after the May 7, 1992, JEDEC meeting – which was specifically about SDRAMs – Meyer's trip report (of May 15, 1992) stated that he

---

27 The district court also referred to Meyer documents in 1993 referring to SDRAM technology as "public domain," but the only bases that could make such an assertion reasonable are the two noted in text: the Crisp May 1992 silence; and the '703 patent.

was still concerned about Rambus's patent situation and referred to "filed but pending" Rambus patent applications. JA6516. After the September 1993 disclosure of the '703 patent, in August 1994, Meyer wrote a memorandum that connected Rambus's '703 patent with SDRAMs and suggested Meyer's concern that Rambus might have other patents to come ("Rambus–US ?,???,???"), raising "diverse" issues. JA6525. On September 11, 1995, Rambus presented a letter at the JEDEC committee meeting pointedly stating: "our presence or silence at committee meetings does not constitute an endorsement of any proposal under the committee's consideration *nor does it make any statement regarding potential infringement of Rambus's intellectual property*." JA9115. (Emphasis added). Then, on June 17, 1996, Rambus sent a letter withdrawing from JEDEC and specifically referring to the patent policy as the reason: while Rambus would continue to license its intellectual property, the "terms may not be consistent with the terms set by standards bodies, including JEDEC." JA6616.

Against this background, the jury's assessment of Infineon's claim of reasonable reliance had to be strongly—if not completely—influenced by its view of the second basis (aside from Rambus's silence) cited by the district court, namely, that Meyer did and reasonably could conclude that the '703 specification so clearly failed to support SDRAM claims that no further inquiry of Rambus was called for.

Even standing alone, this second basis for Infineon's claim of reasonable reliance could easily have been rejected by the jury. After all, participants in technology markets where patents are common know that applications are routinely kept confidential by applicants, so a company might well have pending but undisclosed applications. Such participants know, too, that a patent applicant, having filed an application containing a plethora of inventions, is very likely to be

filing amendments and continuation applicants as it works through the familiar process of writing claims to capture all the inventions supported by the original application. *See, e.g., Union Oil Co.*, 208 F.3d at 991 (numerous amendments common); *Exxon v. Phillips Petroleum,*, 2001 U.S. App. LEXIS 20638, at *2-*3 (Fed. Cir. Sept. 20, 2001) (continuing applications common). A firm worried about potential infringement must presume that all claims that might reasonably be supported by the specification are being pursued, especially where the patent applicant/holder at issue is, like Rambus, entirely in the intellectual property business. The issue of what potential claims the '703 specification *could* reasonably support, therefore, became critical to assessing Infineon's highly implausible claim of reasonable reliance.

On that issue, however, the jury's determination must have depended directly on the faulty claim construction that the district court adopted. That faulty claim construction involves the same specification as the '703 patent, and as Infineon stressed to the jury in its closing (JA4799, JA4815; *see also* JA4792, JA5014 (judge's instructions)), that faulty construction meant as a matter of law that Rambus's patent did not cover SDRAM technology. Indeed, the district court's claim-construction opinion made clear the court's view that the specification could not support a contrary construction. Had the jury understood that the claims actually *do* cover SDRAM technology, or even that the specification *could reasonably* support such claims, its entire picture of whether Infineon actually and reasonably relied would be sharply altered. It would have been far more likely for the jury to reject Infineon's assertions of actual and reasonable reliance, despite Infineon's failure to make the readily available direct inquiry to Rambus regarding the existence of any relevant Rambus patents. The

district court's claim-construction errors thus propagated into the fraud verdict, which must be set aside for retrial without that infection.

The jury's statute-of-limitations determination was similarly infected by the erroneous claim constructions. As noted above, the limitations issue, like the reasonable reliance issue, turns on whether Infineon made diligent inquiry. The district court relied on the same evidence for both issues. Particularly because the jury could reasonably find that Infineon, a continuing member of JEDEC, had or could be attributed knowledge of Rambus's September 1995 and June 1996 letters to JEDEC, the infection of the bases for finding reasonable reliance extends to the statute-of-limitations determination as well. Rambus is entitled to have the jury presented with a proper understanding of its patents in determining whether Infineon acted with reasonable diligence in discovering Rambus's patent interests.

IV. THE AWARD OF ATTORNEYS' FEES AND COSTS SHOULD BE SET ASIDE.

A. The Award Of Attorneys' Fees And Costs Under §285, Under The Circumstances Here, Is Unprecedented And Erroneous.

The district court's finding that this was an "exceptional case," and its subsequent award of $7,123,989.52 in attorneys' fees and expenses under §285 were predicated primarily[28] on its conclusion that Rambus's patent infringement suit was frivolous, and in turn on the court's conclusion that Rambus's claim constructions and theory of infringement were "directly at odds with the intrinsic

---

28 As shown by Infineon's fee and expense chart (JA8807), followed by the district court to the penny (except for Slater and Matsil and expert witness amounts), the pre- and post-*Markman* "patent" issues account for $4,004,790.89 of the total award.

evidence" of the patents-in-suit. JA115. An award on such a basis is unprecedented and should fail as a matter of law.

Indeed, Rambus relied on legally defensible positions in support of its claim construction. *See, supra*, Section I. That the district court disagreed with Rambus's claim construction arguments did not justify a finding that Rambus's claim construction was baseless or its infringement case frivolous. *See, e.g., Hayes Int'l v. Jessop Steel*, 8 F.3d 1573, 1580 (Fed. Cir. 1993) (reversing an award of attorneys' fees pursuant to section 285 because the patentee "had a reasonable chance" of proving infringement based on interpretation of the claim); *United States Surgical Corp. v. Orris*, 47 F. Supp. 2d 1270, 1271 (D. Kan. 1999); *Baxa Corp. v. McGaw*, 996 F. Supp. 1044, 1054 (D. Col. 1997) (that claim interpretation is a legal matter "does not make the process at arriving at a claim construction any more predictable to the litigants"), *aff'd*, 185 F.3d 883 (Fed. Cir. 1999).

Affirmance of the fee award based on this record would open the floodgates to awards under §285 in any claim construction dispute whenever the trial court (rightly or wrongly) disagreed with one of the litigants. The district court's award is erroneous and should be reversed.

B. The Award Of Attorneys' Fees On The Fraud Claim Should Not Stand.

If the fraud verdict falls or a new trial is required, the fee award should be set aside. Far from reflecting flagrant disregard of known duties, this is a case in which even the basic duty alleged indisputably goes beyond anything in prior precedents and in which there was at best a jury question on the proper elements of fraud liability. Accordingly, the award in the amount of $2,382,782.67 based on the fraud claim should be set aside.

CONCLUSION

For the above reasons, the district court erred in its claim construction and in failing to grant JMOL in favor of Rambus, and in failing to grant a new trial to Rambus under Rule 59. The judgment of the district court dismissing Rambus's patent infringement claims, finding fraud by Rambus and awarding damages and attorneys' fees under §285 should be vacated and the case remanded for proceedings not inconsistent with this Court's decision.

Respectfully submitted,

William K. West, Jr.

William K. West, Jr.
Cecilia H. Gonzalez
Joseph P. Lavelle
HOWREY SIMON ARNOLD
& WHITE, LLP
1299 Pennsylvania Ave., NW
Washington, DC 20004
(202) 783-0800

Michael J. Schaengold
PATTON BOGGS LLP
2550 M Street, NW
Washington, DC 20037
(202) 457-6000

Robert Kramer
RAMBUS INC.
4440 El Camino Real
Los Altos, CA 94022

Richard G. Taranto
FARR & TARANTO
1220 19th Street, NW
Washington, DC 20036
(202) 775-0184

Counsel for Plaintiff-Appellant
RAMBUS INC.

Date: November 6, 2001

CERTIFICATE OF COMPLIANCE

The undersigned hereby certifies that the foregoing brief of Plaintiff-Appellant Rambus Inc. contains 13,253 words and is in compliance with Federal Rules of Appellate Procedure 32(a)(7)(B) and (C).

Celine T. Callahan

Celine T. Callahan
Counsel for Plaintiff-Appellant Rambus Inc.

CERTIFICATE OF SERVICE

I hereby certify that I have caused true copies of the **Corrected Brief for Plaintiff-Appellant Rambus Inc.** to be served on this 6th day of November, 2001 by Hand and Federal Express:

BY HAND:

Kenneth W. Starr
KIRKLAND & ELLIS
655 Fifteenth Street, N.W.
Washington, D.C. 20005

FEDERAL EXPRESS:

John M. Desmarais
KIRKLAND & ELLIS
Citigroup Center
153 East 53rd Street
New York, New York 10022

Brian C. Riopelle
MCGUIRE WOODS, LLP
One James Center
901 East Cary Street
Richmond, Virginia 23219

Counsel for Plaintiff-Appellant Rambus Inc.

01-1449, -1583, -1604, -1641

IN THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

RAMBUS INC.,

Plaintiff-Appellant,

v.

INFINEON TECHNOLOGIES AG, INFINEON TECHNOLOGIES NORTH AMERICA CORP., and INFINEON TECHNOLOGIES HOLDING NORTH AMERICA CORP.,

Defendants-Appellees.

Appeals from the United States District Court For the Eastern District of Virginia, Richmond Division, in Case No. 3:00CV524, Judge Robert E. Payne

SUPPLEMENTAL BRIEF OF PLAINTIFF-APPELLANT RAMBUS INC.

William K. West, Jr.
Cecilia H. Gonzalez
Joseph P. Lavelle
HOWREY SIMON ARNOLD & WHITE, LLP
1299 Pennsylvania Ave., NW
Washington, DC 20004
(202) 783-0800

Gregory P. Stone
Kristin Linsley Myles
Paul J. Watford
MUNGER TOLLES & OLSON LLP
355 South Grand Avenue
35th Floor
Los Angeles, CA 90071
(213) 683-9100

Richard G. Taranto
FARR & TARANTO
1220 19th Street, NW
Washington, DC 20036
(202) 775-0184

Michael J. Schaengold
PATTON BOGGS LLP
2550 M Street, NW
Washington, DC 20037
(202) 457-6000

Robert Kramer
RAMBUS INC.
4440 El Camino Real
Los Altos, CA 94022
(650) 947-5000

Date: January 18, 2002

Counsel for Plaintiff-Appellant
RAMBUS INC.

CERTIFICATE OF INTEREST

Counsel for the appellant, RAMBUS INC., certifies the following:

1. The full name of every party represented by the undersigned is RAMBUS INC.

2. The name of the real party in interest represented by the undersigned is RAMBUS INC.

3. RAMBUS INC. has no parent corporation and no publicly held company owns 10 percent or more of the stock of RAMBUS INC.

4. The names of all law firms and the partners or associates that appeared for RAMBUS INC. in the trial court or are expected to appear in this court are:

Michael W. Smith, Craig T. Merritt, R. Braxton Hill of CHRISTIAN & BARTON, LLP.

David E. Monahan, John Allcock, James W. Cannon, Jr., David B. Pendarvis, Sean C. Cunningham, Edward H. Sikorski, John M. Guaragna of GRAY CARY WARE & FREIDENRICH LLP.

John Danforth, Paul Anderson, Neil Steinberg, Robert Kramer of RAMBUS INC.

William K. West, Jr., Cecilia H. Gonzalez, Joseph P. Lavelle, Celine T. Callahan of HOWREY SIMON ARNOLD & WHITE, LLP.

Gregory P. Stone, Kristin Linsley Myles, Paul J. Watford, Aaron M. May of MUNGER TOLLES & OLSON LLP.

Richard G. Taranto of FARR & TARANTO.

Michael J. Schaengold of PATTON BOGGS LLP.

TABLE OF CONTENTS

TABLE OF AUTHORITIES

PAGE

CASES

STATUTES

RULES

OTHER AUTHORITIES

INDEX OF ADDENDUM MATERIALS

STATEMENT OF JURISDICTION

The district court had jurisdiction under 28 USC §1338(a). Its injunction was entered on November 27, 2001. Rambus noticed its appeal the same day. JA12263. This Court has jurisdiction under 28 USC §1295(a)(1).

STATEMENT OF THE ISSUES

Whether the antisuit injunction must be vacated because an adequate legal remedy exists, the injunction violates FRCP 65(d), no proof of wrong exists for each particular subject of the injunction, and the injunction is, in any event, vastly overbroad.

STATEMENT OF THE CASE

The injunction rests entirely on Rambus's alleged nondisclosures respecting the *single*-data-rate SDRAM standard adopted by JEDEC while Rambus was a member. JA19(verdict); JA12186(district court's characterization: "Rambus committed actual fraud by: attending JEDEC meetings, listening to the proposed technology to be included in the JEDEC SDRAM standard, remaining silent (in the face of a duty to disclose) about its pending patent applications during those meetings, and ... obtaining additional patents to cover those features of the JEDEC SDRAM standard"). Rambus committed no fraud, and was granted JMOL, respecting JEDEC's later *double*-data-rate standard (DDR-SDRAM) because Rambus had no disclosure

duty after leaving JEDEC, which thus could not rely on any post-departure nondisclosure. JA199-204; JA12222. Because Infincon never sought an injunction pre-verdict, the jury was not asked to specify, and the verdict nowhere specifies, what Rambus patents or applications should have been disclosed or what specific features of the SDRAM standard were covered by any undisclosed patents or applications. JA19. Indeed, the verdict does not indicate even whether a duty to disclose *applications* existed and was breached, or whether liability rested on nondisclosure of the '327 patent issued to Rambus just before its resignation letter.

After verdict, Infineon sought an injunction to bar Rambus from filing further infringement actions. The district court agreed, ruling "that Rambus has no legitimate right in enforcing technologies in patent applications which it deliberately did not disclose and patents which it obtained as part of its fraudulent scheme." JA12209,12195 ("injunction to protect [Infineon] from Rambus' exploitation of its ill-gotten patent rights").[1] Without identifying any patents or applications, the court wrote that "Rambus concealed its patents relating to" five "technologies." JA12212. The court reasoned that the

[1] This latter basis (wrongly "obtained" patents) is legally incorrect, as shown in Rambus's initial brief (RB34-41); there is no evidence, and no surviving assertion, that even a single patent claim obtained by Rambus lacked adequate support in the original patent application, filed before any relevant JEDEC process.

injunction should reach "only those technologies which were ultimately included in the JEDEC SDRAM standard" (JA12212) and that "DDR SDRAMs ... [are] not under consideration for injunction." JA12184,12197.

Infineon sought a hearing to secure protection for its DDR-SDRAM products. After that hearing, the court reduced the list of protected features to four (on Infineon's concession), (JA12230-33), but called "incorrect" its earlier statements excluding DDR-SDRAM products (JA12239-42). The court found that the DDR-SDRAM standard made minor additions to the SDRAM standard and that JEDEC carried forward the four features into the DDR-SDRAM standard, without fresh consideration, "because they were convenient and economically advantageous." JA12227-37,12245.

The issued injunction protects an expanding, indeterminate set of Infineon products: those complying with "JEDEC Standard No. 21-C, Release 5 (dated January 1995) or JEDEC Standard No. 79, Release 1 (dated June 2000) (collectively 'THE JEDEC STANDARDS')"—or with "any subsequent revisions ... that retain the following features ... without substantial alteration or modification," namely, "(1) programmable CAS latency/access time/delay time; (2) programmable burst length/block size; (3) externally supplied reference voltage; and (4) two bank designs." JA12217. (The court's opinion distinguished "entirely new JEDEC standards that do not

directly build off of, and substantially incorporate the terms of, the JEDEC SDRAM standard." JA12254.) The injunction then bars Rambus from suing to assert that those products infringe certain enumerated patent claims *or* "any United States patent, if the asserted patent claims are directed, in whole or in part, and in words or in substance, to any of the [four] technologies ... as those technologies are described in THE JEDEC STANDARDS." JA12217.

SUMMARY OF ARGUMENT

The injunction must be vacated if the liability verdict is set aside, *Al-Site Corp. v. VSI Int'l, Inc.*, 174 F.3d 1308, 1332 (Fed. Cir. 1999), but it should also be vacated even if liability stands. First, the antisuit injunction should not have issued at all, because, given Infineon's ability to invoke issue preclusion in defense of future infringement suits, Infineon could not show irreparable injury or other inadequacy of its legal remedies.

Second, the injunction fails under Federal Rule of Civil Procedure 65(d). It is fatally non-specific. Indeed, it defines its scope by reference to an indeterminate set of evolving outside standards set by the industry acting through JEDEC.

Third, Infineon failed to prove that *each* of the four "tainted" features was actually covered by a patent or application that Rambus was obliged, but failed, to disclose. The jury's undifferentiated verdict cannot establish these

bedrock facts, which are essential to determine what may be enjoined.

Finally, the injunction sweeps far more broadly than permissible. The injunction goes beyond giving Infineon a right to practice undisclosed Rambus patent claims that read on the SDRAM standard, beyond patent claims and proposed standards pending while Rambus belonged to JEDEC, and even beyond the four identified features. It permanently strips Rambus of any other present or future invention, the patent claims for which include any of the four features. Legal responsibility does not extend that far. The permitted and even licensed use of mere claim elements does not carry responsibility for allowing practice of other inventions including such elements as mere parts.

STANDARD OF REVIEW

Injunctions are reviewed for an abuse of discretion, which occurs when a court "exercise[s] its discretion based upon an error of law or clearly erroneous factual findings." *Mylan Pharms., Inc. v. Thompson*, 268 F.3d 1323, 1329 (Fed. Cir. 2001). Violations of Rule 65(d) are reviewed *de novo*. *Signtech USA, Ltd. v. Vutek, Inc.*, 174 F.3d 1352, 1356 (Fed. Cir. 1999). The non-patent-specific arguments below are governed by Fourth Circuit law, while patent-specific arguments (notably Argument IV) are governed by this Court's law. *Horphag Research Ltd. v. Consac Indus., Inc.*, 116 F.3d 1450,

1453 n.2 (Fed. Cir. 1997). Federal-court injunctive powers are subject to federal-law limits and, on state-law issues, also state-law limits. *Capital Tool & Mfg. Co. v. Maschinenfabrik Herkules*, 837 F.2d 171, 172 (4th Cir. 1988).

ARGUMENT

I. THE AVAILABILITY OF ADEQUATE LEGAL REMEDIES BARS INJUNCTIVE RELIEF

The district court correctly recognized that Infineon must show inadequacy of legal remedies to obtain an injunction. JA12202. Infineon could not satisfy this requirement by demonstrating irreparable injury, because the "injury" at issue is the mere expense of defending against infringement suits, and "'[m]ere litigation expense, even substantial and unrecoupable cost, does not constitute irreparable injury.'" *FTC v. Standard Oil Co.*, 449 U.S. 232, 244 (1980). The district court nevertheless found that Infineon lacked an adequate remedy at law. That conclusion is incorrect because Infineon's ability to assert issue preclusion in defense of future Rambus infringement suits is plainly adequate for the injury (having to defend infringement suits).[2]

The injunction's substantive reach would plainly be impermissible if it

[2] The situation invoked by the district court to support its injunction, and the subject of the cited treatise and cases, is quite different: having to *initiate* multiple damages suits to redress repeated *out-of-court* injury. JA12204-05.

barred future Rambus infringement suits raising issues different from those resolved here – *e.g.*, involving patent claims not at issue here or involving the particular standards of equitable estoppel law, an issue the court specifically declined to decide. JA12407. But precisely to the extent that a future legal action *could* be barred by the findings in this case, Infineon can assert issue preclusion against Rambus in that action. *See Amgen, Inc. v. Genetics Inst., Inc.*, 98 F.3d 1328, 1331-32 (Fed. Cir. 1996). Indeed, if such a defense is sufficiently strong, Infineon can seek sanctions under 35 USC §285 or Rule 11. In these circumstances, the remedy is adequate, and courts follow a strong rule denying injunctions against future lawsuits. *See Bluefield Cmty. Hosp. v. Anziulewicz*, 737 F.2d 405, 409 (4th Cir. 1984); *Weaver v. Florida Power & Light Co.*, 172 F.3d 771, 773-74 (11th Cir. 1999); *SMA Life Assurance Co. v. Sanchez-Pica*, 960 F.2d 274, 277 (1st Cir. 1992); 11A Wright & Miller, *Federal Practice & Procedure: Civil 2d* §2942, at 58 (1995); *id.* §2944, at 86-87.

This principle minimizes the intrusion on other forums' adjudicatory authority. *Id.* §2942, at 58; *see Atari Games Corp. v. Nintendo of America, Inc.*, 897 F.2d 1572, 1578 (Fed. Cir. 1990) (antisuit injunction "extraordinary"). It protects the constitutional right of judicial access, *Bill Johnson's Restaurants, Inc. v. NLRB*, 461 U.S. 731, 741 (1983), and the

fundamental right to enforce patents. *Zenith Radio Corp. v. Hazeltine Research, Inc.*, 395 U.S. 100, 135 (1969) ("heart" of patent rights is "right to invoke the State's power to prevent others from utilizing his discovery without his consent"). Thus, equity has long refused injunctive relief against another proceeding if the basis for such relief can be raised there as a defense. *Deweese v. Reinhard*, 165 U.S. 386, 389 (1897) ("[I]f this suit in equity is to be regarded as simply one to restrain the action at law, it cannot be sustained, because, upon the appellant's own theory, he has a full, adequate, and complete defence at law."). That principle bars any injunction here.

II. THE INJUNCTION VIOLATES RULE 65(d)

Federal Rule of Civil Procedure 65(d) imposes requirements on federal-court injunctions that are "'mandatory and must be observed in every instance.'" *CIENA Corp. v. Jarrard*, 203 F.3d 312, 322 (4th Cir. 2000). Under Rule 65(d), an injunction "shall be specific in terms [and] shall describe in reasonable detail, and not by reference to the complaint or other document, the act or acts sought to be restrained." This requirement is an essential, carefully enforced guarantee of clear notice of the defendant's obligations in the injunction itself. *See CIENA*, 203 F.3d at 309; *Additive Controls & Measurement Sys. Inc. v. Flowdata, Inc.*, 986 F.2d 476, 479-90 (Fed. Cir. 1993); *Thomas v. Brock*, 810 F.2d 448, 450 (4th Cir. 1987); *Wright*

& Miller, §2955.

The injunction here flagrantly violates Rule 65(d). First, the injunction defines its scope by general descriptive terms for four "technologies." Those terms are fatally non-specific if untethered to any narrowing definition, and they cannot be defined by their particular implementations in "THE JEDEC STANDARDS" without impermissibly incorporating outside documents.

Second, and in any event, the scope of the injunction is ever-shifting and indeterminate because it varies with any "subsequent revisions" of the JEDEC standards that make no "substantial alteration or modification" of the four features. The inherent nonspecificity of "substantial alteration or modification," the express incorporation of yet-uncreated new standards, and the effective award of perpetual power to expand the forfeiture of Rambus's patent rights to JEDEC (an industry organization of Rambus's potential licensees and competitors) cannot be squared with Rule 65(d).

III. INFINEON FAILED TO PROVE THAT EACH OF THE FOUR FEATURES PROTECTED BY THE INJUNCTION WAS THE SUBJECT OF THE WRONG

To obtain the extraordinary relief of injunction, Infineon had the burden to prove, and the district court had to find, that *each* of the four features was the subject of the wrong found – nondisclosure of some Rambus patent or application in 1992-1996. There simply is no such proof. That failure vitiates

the injunction.

The jury's verdict was undifferentiated as to particular features, patents, or applications because the liability and damages issues required no more than a finding of *some* nondisclosure. That verdict does not establish which, if any, of the features addressed by the injunction was the subject of any wrongful nondisclosure. JA19. Thus, before including any particular feature in the injunction, the district court had to make supported findings at the remedy stage. But the district court did not cite, and Infineon failed to introduce, any evidence that could support such findings.

No such evidence exists. As Rambus has shown, it had no patent or application while it belonged to JEDEC that read on products built to the SDRAM standard. RB26-29. Infineon could not and did not show that each of the four features was part of the wrong – claimed by contemporaneous Rambus patents or applications.

IV. THE INJUNCTION IS VASTLY OVERBROAD

An injunction "should be narrowly tailored to fit the specific legal violations," *Gemveto Jewelry Co. v. Jeff Cooper Inc.*, 800 F.2d 256, 259 (Fed. Cir. 1986), and must "be no more than necessary" to remedy those violations. *Thanh Van Tran v. Gwinn*, 554 S.E.2d 63, 70 (Va. 2001); s*ee Tuttle v. Arlington County Sch. Bd.*, 195 F.3d 698, 708 (4th Cir. 1999) (an injunction

"should not go beyond the extent of the established violation"). Injunctive relief sweeps too broadly if it "imposes unnecessary restraints on [a defendant's] lawful activity." *Gemveto*, 800 F.2d at 259; *see Starter Corp. v. Converse, Inc.*, 170 F.3d 286, 299-300 (2d Cir. 1999) (reversing overbroad trademark injunction); *Lipton v. Nature Co.*, 71 F.3d 464, 474-75 (2d Cir. 1995) (reversing overbroad copyright injunction).

A. The injunction is overbroad respecting the enumerated claims. It impermissibly bars enforcement of (a) the '327 patent, which contains no claim involving any of the four supposedly tainted features, and (b) the enumerated claims of the patents-in-suit, none of which was applied for until after Rambus left JEDEC. Those patents' claims are beyond the wrong.

B. The most sweeping and open-ended aspect of overbreadth is the injunction's "in whole or in part" language, which deprives Rambus of valid present and future patent claims to inventions that in any way involve any of the four named features. Even if the court could properly give Infineon a right to practice the four features, it could not properly give Infineon the vastly greater right to practice any other inventions – embodied in valid Rambus patent claims – that incorporate those four features as mere parts. That result makes it Rambus's responsibility, because it purportedly allowed Infineon to adopt A, B, C, and D, to allow Infineon to practice any other

patent claims (existing or still undreamed-of) that refer "in part" to A, B, C or D, but also require some element E, making a novel, nonobvious, useful, and otherwise-valid new combination claim by Rambus.[3]

Such relief not only goes beyond the established violation, but also mis-assigns causal responsibility to Rambus for Infineon (and JEDEC) choices and impermissibly restrains Rambus's lawful activity, as patent law principles developed in analogous contexts demonstrate. For example, even if Infineon properly had what amounts to a royalty-free license to use the four features, a license to use certain specified features does not carry with it a license to use those features in separately patentable combinations. *See Stukenborg v. United States*, 372 F.2d 498, 504 (Ct. Cl. 1967) (license to use A+B+C+D does not shield from liability a party who infringes a patent claiming A+B+C+D+E). Similarly, Rambus's nondisclosure of supposed patent interests in the four features (under Infineon's fraud theory) did no more than allow Infineon and JEDEC to assume that those were public-domain features. But the right to use public-domain features does *not* convey the further immunity from making new, eyes-open, responsible decisions

[3] The injunction might even bar Rambus from asserting claims in its original pre-JEDEC application, some of which include one or more of the four specified features, even though those claims were indisputably published (in the WIPO application) in 1991 and in Infineon's hands in 1993. RB30,42.

about using such public-domain elements in an invention that *combines* them with other features. *See Intel Corp. v. ITC*, 946 F.2d 821, 842 (Fed. Cir. 1991) (patents routinely incorporate public-domain features). Patent law makes clear that, even though a party sells or licenses a device or feature, it does not thereby give up all patent rights in other patents that refer to it, even though the other party would not (of course) be practicing those other patent rights but for the initial license or sale. *See Glass Equip. Dev., Inc. v. Besten*, 174 F.3d 1337, 1342 (Fed. Cir. 1999) (purchase of device does *not* carry an implied license to use it in a way protected by a method patent unless it has no other use). Legal causal responsibility is much more limited than the "but for" causal responsibility urged by Infineon. JA12248, 12252.

This conclusion is confirmed by the equitable-estoppel standard-setting cases to which the district court analogized Infineon's fraud case. JA122. The injunction far exceeds the remedies in such cases. *See Wang Labs., Inc. v. Mitsubishi Elect. Am., Inc.*, 103 F.3d 1571 (Fed. Cir. 1997); *Stambler v. Diebold, Inc.*, 11 USPQ2d 1709 (EDNY 1988), *aff'd*, 878 F.2d 1445 (Fed. Cir. 1989); *Potter Instrument Co., Inc. v. Storage Tech. Corp.*, 207 USPQ 763 (ED Va. 1980), *aff'd*, 641 F.2d 190 (4th Cir. 1981); *see also In re Dell Computer Corp.*, 121 FTC 616 (1996). In those cases, patent holders who failed to disclose a relevant patent asserted that others necessarily infringed

their claims, *i.e.*, met *every* element, by practicing the standard. The remedies barred the patentee from enforcing only *those* claims, never *other* patents that required additional elements.

For these reasons, the injunction is overbroad in reaching patent claims incorporating the four features as mere parts. The district court's error is particularly stark as it applies to Infineon's DDR-SDRAM products. The court found that the DDR-SDRAM standard essentially builds on the SDRAM standard by adding two new features: on-chip DLL and dual-edge clocking. JA12228-29, JA12759. The JMOL order establishes, however, that Rambus had no duty to disclose whether it held patents or applications covering those features, alone or with the other features defining the DDR-SDRAM standard. JA199-204. Yet the injunction apparently bars Rambus from asserting any patent claims against Infineon that require one of the four features in combination with on-chip DLL or dual-edge clocking. The district court's correct JMOL holding that JEDEC and Infineon, not Rambus, were responsible for their own adoption of the DDR-SDRAM-defining features is inconsistent with the injunction.

C. Both the "in whole or in part" aspect of the injunction and the "subsequent revisions" aspect are also overbroad for several other, closely related reasons. First, the injunction allows Rambus's potential licensees and

competitors to decide, through their JEDEC organization, what "subsequent revisions" to make to the SDRAM standard to wrest control of other inventions from Rambus. That result is anticompetitive and innovation stifling.

Second, the evidence of "reasonable reliance" does not remotely support this open-ended, expanding forfeiture of Rambus's inventions. The district court recognized that the reliance evidence for the SDRAM standard itself was thin (if legally sufficient). JA184. But no evidence supports reasonable reliance on an expansive entitlement, or expectation, of continued use of such features, and indeed of all combinations of such features with others, years in the future in standards adopted long after Rambus's resignation. Indeed, JEDEC rules require revisiting of standards every three years (JA3435-36), provide for revocation of standards covered by newly issued patents (JA7572), and allow members to give "assurance letters" promising to license only for a single specific standard they voted for (JA3914). Here, in particular, reliance in adopting the much later DDR-SDRAM standard was unreasonable: Rambus had withdrawn from JEDEC, citing JEDEC's patent policies and disclaiming any implication from its silence (JA9115, JA6616) and JEDEC members had acknowledged their awareness that at least one Rambus patent potentially read on the proposed

DDR-SDRAM standard. JA7516. Given the limitations in the reliance evidence, the injunction's coverage of Infineon's DDR-SDRAM products (and still further "subsequent revisions") far exceeds the scope of any harm resulting from Infineon's justifiable reliance.

Finally, the injunction must account for the weakness of the evidence – not only as to reliance and any pertinent undisclosed application (Argument Section III, *supra*), but as to what disclosure duty existed at all and was clearly communicated to Rambus, a matter that goes directly to the required balancing of equities. There was *never* a clear statement to the JEDEC membership that nonpresenting members must disclose pending applications. Infineon at trial relied on testimony of understandings and expectations, while written policies, especially as shown to JEDEC members, were severely limited. RB26&n.15. In particular, even the "expected patents" language eventually added to the Members' Manual (JA12530) applied only to "first presenters" of proposed standards – a role that Rambus undisputedly avoided. RB6; *see* RB33 (JEDEC chairman Kelley told Rambus it could not present without disclosure). Given these facts, the forfeiture of patent rights wrought by this injunction is inequitable and overbroad.

CONCLUSION

The injunction should be vacated.

Dated: January 18, 2002

Respectfully submitted,

By: William K. West, Jr.

William K. West, Jr.
Cecilia H. Gonzalez
Joseph P. Lavelle
HOWREY SIMON ARNOLD & WHITE, LLP
1299 Pennsylvania Ave., NW
Washington, DC 20004
(202) 783-0800

Gregory P. Stone
Kristin Linsley Myles
Paul J. Watford
MUNGER TOLLES & OLSON LLP
355 South Grand Avenue
35th Floor
Los Angeles, CA 90071
(213) 683-9100

Richard G. Taranto
FARR & TARANTO
1220 19th Street, NW
Washington, DC 20036
(202) 775-0184

Michael J. Schaengold
PATTON BOGGS LLP
2550 M Street, NW
Washington, DC 20037
(202) 457-6000

Robert Kramer
RAMBUS INC.
4440 El Camino Real
Los Altos, CA 94022
(650) 947-5000

Counsel for Plaintiff-Appellant
RAMBUS INC.

CERTIFICATE OF COMPLIANCE

The undersigned hereby certifies that the foregoing brief of Plaintiff-Appellant Rambus Inc. contains 3417 words and is in compliance with Federal Rule of Appellate Procedure 32(a)(7)(B) and (C) and the Court's December 14, 2001, Order. JA12438-39.

Dated: January 18, 2002 By: Celine Callahan

CERTIFICATE OF SERVICE

I hereby certify that I have caused true copies of the **Supplemental Brief of Plaintiff-Appellant Rambus Inc.** to be served on this 18th day of January, 2002:

BY HAND:

Kenneth W. Starr
KIRKLAND & ELLIS
655 Fifteenth Street, N.W.
Washington, D.C. 20005

FEDERAL EXPRESS:

John M. Desmarais
KIRKLAND & ELLIS
Citigroup Center
153 East 53rd Street
New York, New York 10022

Brian C. Riopelle
MCGUIRE WOODS, LLP
One James Center
901 East Cary Street
Richmond, Virginia 23219

Celia S. Callaha

Counsel for Plaintiff-Appellant Rambus Inc.

CORRECTED

Nos. 01-1449, 01-1583, 01-1604, 01-1641, 02-1174

IN THE [illegible] OF APPEALS

[illegible]

[illegible] GIES AG;
INFINEON [illegible] TH AMERICA CORP.;
INFINEON TECH[illegible] NORTH AMERICA INC.,

John M. Desmarais
Gregory S. Arovas
Thomas D. Pease
Meghan Frei
Michael P. Stadnick
KIRKLAND & ELLIS
153 East 53rd Street
New York, NY 10022
(212) 446-4800

Attorneys for [illegible]

February 13, 2002

CERTIFICATE OF INTEREST

Counsel for defendants-cross-appellants Infineon Technologies AG, Infineon Technologies North America Corp., and Infineon Technologies Holding North America Inc. certifies the following:

1. The full names of every party represented by me are:

   Infineon Technologies AG
   Infineon Technologies North America Corp.
   Infineon Technologies Holding North America Inc.

2. The parties named in the caption are the real parties in interest represented by me.

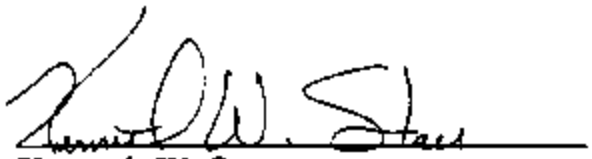
3. All parent corporations and publicly held companies that own 10 percent or more of the stock of the parties represented by me are:

   First Union Trust Co.
   Siemens AG
   Siemens Pension Trust e.V.
   Siemens Nederland N.V.

4. The names of all law firms and the partners or associates that appeared for the parties now represented by me in the trial court or are expected to appear in this Court are:

   Kirkland & Ellis
   McGuire Woods LLP
   Peter J. Armenio
   C. Torrence Armstrong
   Gregory S. Arovas
   Kristen M. Calleja
   John M. Desmarais
   Grant M. Dixton
   Edward C. Donovan
   Meghan Frei

Todd M. Friedman
Maxine Y. Graham
Colin R. Kass
Mark L. Kovner
Christopher Landau
Gerald F. Masoudi
Thomas D. Pease
Yosef J. Riemer
Brian C. Riopelle
Kannon K. Shanmugam
Michael P. Stadnick
Kenneth W. Starr
Robert M. Tyler
Clifford E. Wilkins, Jr.
Warren E. Zirkle



Kenneth W. Starr

February 13, 2002

TABLE OF CONTENTS

TABLE OF AUTHORITIES

STATUTES AND RULES

MISCELLANEOUS

STATEMENT OF RELATED CASES

Rambus is currently involved in patent litigation against Hynix and Micron, the two other principal manufacturers of SDRAM and DDR SDRAM memory products that refused to bend to Rambus' SDRAM licensing demands. *See Hynix Semiconductor Inc. v. Rambus Inc.*, No. CV 00-20905 (N.D. Cal.); *Micron Tech., Inc. v. Rambus Inc.*, No. 00-792-RRM (D. Del.). Those lawsuits have either been formally stayed, or had trial postponed, pending the resolution of this litigation.

In addition, Rambus is aggressively pursuing foreign patent-infringement suits against Infineon, Hynix, and Micron, involving the same technology as this case. Thus far, Rambus has filed suit against Infineon in Germany; against Hynix (or its corporate predecessor) in Britain, France, and Germany; and against Micron in Britain, France, Germany, and Italy.

Finally, Rambus and a number of its employees have been sued for breach of fiduciary duty and insider trading based on allegations that Rambus misled shareholders concerning its business and the status of its intellectual property in light of its conduct in JEDEC. Those lawsuits were recently consolidated in the Northern District of California. *See Toiv v. Rambus Inc.*, No. CV 01-3112 (N.D. Cal.).

INTRODUCTION

This is a case about fraud. Appellant Rambus developed a business plan whereby it participated in an industry standards-setting body while secretly amending its patent applications in an effort to cover the technology adopted by that body. Although Rambus was required to disclose those patent applications to the standards-setting body, it did not do so. To the contrary, once the manufacturer members of the body had completed their investments in the relevant technology, Rambus pounced and demanded extortionate licensing fees. Only three of the manufacturers, including cross-appellant Infineon, refused to capitulate to Rambus' demands. Infineon was promptly sued by Rambus for patent infringement. Infineon counterclaimed for fraud, based on Rambus' violation of its duty to disclose its pending patent applications to the standards-setting body.

Rambus' fraudulent scheme did not pay off. As an initial matter, the court below held that Rambus' patent claims failed to encompass the technology in the accused products. And then, after a three-week trial, the jury found that Rambus had indeed committed fraud by failing to disclose its patent applications.

Rambus now invites this Court to crown its fraudulent scheme with success by reversing both the district court's claim construction and the jury's fraud verdict. Based on settled law and the facts of this case, this Court should decline the

invitation. Rambus' efforts to use the judicial system as a weapon to bludgeon an entire industry into submission have backfired, and Rambus has gotten what it deserved.

STATEMENT OF JURISDICTION

Infineon concurs in Rambus' statement of jurisdiction.

STATEMENT OF THE ISSUES

1. Whether the district court properly denied Rambus' motion for JMOL on Infineon's fraud claim as to SDRAM.
2. Whether the district court properly denied Rambus' motion for a new trial on Infineon's fraud claim.
3. Whether the district court properly granted Infineon's motion for JMOL on Rambus' claims of patent infringement.
4. Whether the district court's grant of injunctive relief was proper, specific, and narrowly tailored.
5. Whether the district court acted within its discretion in awarding attorneys' fees and costs to Infineon.
6. Whether the district court erred by refusing to enjoin Rambus from pursuing all patent suits predicated on Rambus' fraud.

7. Whether the district court erred in granting JMOL on Infineon's fraud claim as to DDR SDRAM.

STATEMENT OF THE CASE AND THE FACTS

Infineon is a manufacturer of semiconductor memory products. This case involves a type of computer memory known as synchronous dynamic random access memory (SDRAM). SDRAM is a type of dynamic random access memory (DRAM) in which transmission and receipt of data by the memory device are guided by a clock. A159. The case also involves a faster type of SDRAM known as double data rate SDRAM (DDR SDRAM), which is essentially an SDRAM that operates at double speed. *Id.*

I. THE JEDEC STANDARDIZATION PROCESS

The Joint Electron Devices Engineering Council (JEDEC) is a cooperative group of companies that sets technical standards for electronic products. A3337-38. JEDEC standardization allows different manufacturers to produce interchangeable components, thus fostering competition and customer supply. A3341-42, 4245-46, 12210. To maximize these benefits, JEDEC favors the adoption of "open" standards (free from restrictive intellectual-property rights). A3342-43, 12185. JEDEC thus requires that members disclose any issued or pending patents that relate to the

standardization work of the committee. A167-70, 3359-64, 7590, 13000-02, 15931-32.

In 1991, JEDEC Subcommittee 42.3 (JC-42.3), which sets standards for the design of random access memory (RAM), began developing a standard for SDRAM. A161, 2530-31. JEDEC adopted an initial standard in 1993, and has since adopted modifications and derivatives of that standard. A161, 12643-44. For example, JEDEC's DDR SDRAM standard grew out of the SDRAM standard, sharing many of its core features. A12245, 12682, 12695, 12721.

II. RAMBUS' SUBVERSION OF THE STANDARDIZATION PROCESS

In the early 1990s, Rambus invented a proprietary high-speed form of DRAM memory (RDRAM). A16363. Rambus hoped that RDRAM would corner over 50% of the DRAM market but, by the time of trial, it had captured only about 10%. A2354-56, 16297, 16315.

Rambus joined JEDEC in December 1991. A9924-26. Rambus initially planned to use JEDEC meetings as a forum to promote its RDRAM technology, and even considered proposing RDRAM for industry standardization. A13248-49. Almost immediately after joining JEDEC, however, Rambus learned that JEDEC was well on its way to adopting a competing memory technology, SDRAM, which uses

a very different, more conventional form of architecture than RDRAM. A3528-39, 16323.

Rambus therefore fashioned a backup scheme for dominating the DRAM market: it would secretly manipulate JEDEC's standardization process to obtain patent rights to JEDEC's SDRAM standard. A16323-25, 16381-82. The problem for Rambus was that it did not invent SDRAM. Therefore, Rambus embarked on a process of morphing its pending RDRAM patent claims into what it believed to be SDRAM claims. Over an eight-year period, through a tortured series of some 42 amendments in divisional and continuation applications, Rambus slowly transformed its pending RDRAM claims in an attempt to obtain patent coverage on numerous features of the emerging SDRAM standard. A13203-04, 16442-51, 16488-16510, 16512. Rambus memorialized this strategy in a confidential business plan, A16323-25, 16381-82, and Rambus officials later admitted that they intentionally and covertly amended their RDRAM patent claims in an attempt to target the SDRAM standard, A2401-02, 13018-20, 13139-40.

Rambus remained a member of JEDEC for over four years. In the course of executing its scheme over that period, Rambus filed patent claims intending to cover no fewer than eight technologies that Rambus saw being proposed for incorporation in JEDEC's SDRAM standard. A170-74, 13022-32, 13066-67, 13105, 13156-57,

13203-04. Four of the eight technologies—programmable CAS latency, programmable burst length, externally supplied reference voltage, and two-bank designs—were incorporated in JEDEC's SDRAM standard while Rambus was still a JEDEC member. A170-74, 12230-33. The other four technologies—source-synchronous clocking, low-voltage swing signaling, dual clock edge, and on-chip PLL/DLL—were proposed while Rambus was still a JEDEC member, and were later added to the SDRAM standard to establish the next-generation, DDR SDRAM standard. A4137, 4209, 12245, 12444.

Despite the fact that Rambus' contemporaneous e-mails showed that it knew its patents related to JEDEC's work—and even mocked how JEDEC would run afoul of Rambus' patents—Rambus never informed JC-42.3 of its pending patent claims. A161, 13147-49, 13165-66. To the contrary, Rambus affirmatively concealed its ongoing efforts to obtain patents covering the emerging SDRAM standard. A179-82. In May 1992, Richard Crisp, Rambus' JEDEC representative, was asked if Rambus had any patents on two-bank SDRAM design. A2739-40, 13072-75. Crisp shook his head no in response, even though Rambus had a pending patent regarding two-bank design. A13074. Then, another JEDEC member commented that he had reviewed Rambus' application for a patent from the World International Patent Office (WIPO),

and that "it should not be a concern for the JEDEC SDRAM standardization effort." A13077. Crisp, who was present and heard the comments, stood mute. A13077-78.

At the same meeting, JEDEC sent the first four proposed technologies, including programmable CAS latency, to a standardization vote. A7911-13, 13078, 13083. Although Crisp voted on those ballots—around the same time he instructed patent counsel to file claims on programmable CAS latency—he did not check the box on the ballot indicating that Rambus had patent disclosures to make. A173, 2742-45, 8652-53, 13083-86. Rambus voted on around 100 JC-42.3 ballots during its JEDEC membership. A15956-57. Not once did Rambus disclose that it had intentionally filed patent claims to target the JEDEC SDRAM standard.

During its four-and-a-half-year JEDEC membership, Rambus disclosed only one of its pending or issued patents to JC-42.3: U.S. Patent No. 5,243,703. A161, 2748-49, 13145-49. Richard Crisp disclosed that patent at a JC-42.3 meeting in September 1993. A13145. At the same meeting, another JEDEC participant noted Rambus' pending WIPO application. A2749-50. But neither the '703 patent nor the WIPO application related to SDRAM; instead, they related to RDRAM. A2751, 13146-47, 16291-95. Following these disclosures, a discussion ensued in JC-42.3, during which an attendee stated that the '703 patent was Rambus' only relevant issued patent and that any pending patents Rambus had would not issue because of

prior art. A2774-76, 11679. Crisp never corrected this statement, nor did he inform the committee of Rambus' many other pending SDRAM-related patents. A13147.

That Rambus' behavior in JEDEC was improper did not escape its lawyers. In 1992, soon after Rambus first began attending JEDEC meetings, its outside counsel, Lester Vincent, advised Rambus that "a finding of inequitable conduct could be a consequence of non-compliance with the JEDEC disclosure duty." A124. Then, in 1993, Vincent sent Rambus a detailed presentation on the consequences of patenting industry standards. A16466-87. Among other things, that presentation explained the potential for equitable estoppel and antitrust liability arising from misconduct at standards bodies, such as nondisclosure of patent rights. *Id.* In late 1995, Vincent and Anthony Diepenbrock, of Rambus' legal department, advised the company to stop attending JEDEC meetings. A13045-47, 15944-48, 16018-19. Nevertheless, Rambus continued to attend JC-42.3 meetings through December 1995 and perpetrated further fraud. A8594, 13166-67. At the final meeting attended by Rambus, JEDEC reviewed a survey ballot that evaluated features for future generations of DRAM (including DDR SDRAM). A8596, 15924-25, 16267-81. The survey revealed that members supported inclusion of dual clock edge and on-chip PLL/DLL in future SDRAM standards. A8611. Although the survey again triggered

JEDEC's patent-disclosure policy, Rambus failed to disclose its pending patents relating to these technologies. A13165-66, 15924-25.

On June 17, 1996, Rambus finally withdrew from JEDEC. A9931-32. In its withdrawal letter, Rambus did list all but one of its issued patents, but that omission confirmed Rambus' scheme. Specifically, Rambus failed to list U.S. Patent No. 5,513,327—the only issued patent that, in Rambus' belief, covered SDRAM or DDR SDRAM. A9932, 13168-72, 15950. Although Rambus later claimed that the omission was inadvertent, asserting that the patent issued between the draft and final versions of the letter, another patent of whose issuance Rambus learned on the *exact same day* as the '327 patent did make it onto the list. A15948-50, 16410-13. Moreover, Rambus did not list any of its many pending patents intentionally drafted to target the SDRAM standard. A9932.

III. THE AFTERMATH OF RAMBUS' MISCONDUCT

After adopting the initial SDRAM standard, JC-42.3 continued to develop standards for future generations of SDRAM. A12226-28. JEDEC built on the existing SDRAM standard, retaining the four SDRAM features that Rambus had secretly attempted to claim in its undisclosed pending patents. A174, 12230-33. The second-generation SDRAM standard incorporated additional features that had been discussed for standardization during Rambus' JEDEC membership. A4209, 12245.

In 1996, JEDEC began referring to its second-generation SDRAM standard as "DDR SDRAM," A11555, 12644-45, 12733, and completed the DDR SDRAM standard in 1997, A12735-36.

Unaware that Rambus had filed patent claims intended to cover the JEDEC SDRAM and DDR SDRAM standards, Infineon, like other JEDEC members, invested millions to develop JEDEC-compliant SDRAM and DDR SDRAM products. A185 n.6, 3325-26, 12191. All the while, Rambus monitored the ongoing development of JEDEC standards through secret informants with code names like "Secret Squirrel" and "Deep Throat." A16282-83, 16406.[1] Rambus also continued to amend its pending patents to target those standards. A162. Rambus concluded that its "leverage" to extract licensing fees from JEDEC's members would be greatest if it lay in wait. A16405.

Rambus pulled the trigger on June 23, 2000, informing Infineon that it was claiming SDRAM patent rights. A2943, 17079-80. Less than two months later, Rambus filed this suit. A2971-75, 17081-83. Rambus also sued Infineon in

[1] Contrary to Rambus' assertions, JEDEC meetings and deliberations were not public. *See* Rambus Br. 3, 5, 36 n.22. Although JEDEC *membership* was open to the public, A3394, 3398, only JEDEC members and invited guests had access to meetings, A7583, 7610. Moreover, as Richard Crisp himself conceded, standardization discussions at JEDEC were confidential. A16288.

Germany, alleging that the same JEDEC-compliant products infringe the European counterpart to one of Rambus' undisclosed patents. A12186-87, 15753-99.

IV. RAMBUS' ATTEMPTED COVER-UP

Knowing that its conduct at JEDEC was illegal, and that litigation would be necessary to drive its licensing program, Rambus embarked on a systematic attempt to conceal its fraud. Rambus first implemented a "document retention policy," in part "for the purpose of getting rid of documents that might be harmful in litigation." A129. In addition to destroying bad documents, "Rambus failed to list numerous documents on its privilege log, which (as it was ultimately learned) documented its fraudulent activity at JEDEC." A126.

Having destroyed or disguised documents showing its fraud, Rambus' witnesses were free to testify that they did not use JEDEC's work in drafting patent claims. And they did. A127-28. In fact, Richard Crisp, Rambus' JEDEC representative, testified that he "never ever" participated in Rambus' patent drafting efforts, and Geoff Tate, Rambus' CEO, testified that he did not believe that Rambus drafted claims to cover JEDEC's standard-setting work. A127.

These were lies. After the court agreed to pierce Rambus' attorney-client privilege, Rambus' outside counsel was forced to produce many previously concealed documents, revealing the scope of Rambus' fraud. A126. At trial, confronted with

the documents they tried to bury, Tate and Crisp were both forced to admit that they had in fact participated in the prosecution efforts and that Rambus had indeed amended its claims to target JEDEC's work. A2385-87, 2400-02, 13114-15, 13140, 13203-04. And only now, having been exposed at trial, has Rambus finally conceded what it disputed all along: namely, that "Rambus changed its pending patent claims based on discussions at public JEDEC meetings." Rambus Br. 35.

V. PROCEDURAL HISTORY

In this litigation, Rambus alleged that Infineon's JEDEC-compliant SDRAM and DDR SDRAM products infringe 57 claims of four Rambus patents: U.S. Patent Nos. 5,593,263; 5,954,804; 6,032,214; and 6,034,918. A23, 26-29. Infineon counterclaimed, among other things, for fraud. A15368-69. During discovery, the district court held that Rambus' attorney-client privilege was vitiated under the crime-fraud exception with respect to communications concerning Rambus' conduct as a member of JEDEC. A17444-45. This Court denied Rambus' petition for mandamus to overturn that ruling. A17450-51.

On March 15, 2001, after a three-day hearing, the district court issued its claim-construction opinion. A23-99. Rambus subsequently dropped the only asserted claim from the '804 patent. A484, 15704-05. Between April 25, 2001, and May 2, 2001, the district court granted JMOL to Infineon on all but three of Rambus'

remaining claims, on grounds not at issue here. A483-86, 15542-43. On May 4, 2001, the district court granted JMOL to Infineon on Rambus' three remaining claims, holding that Rambus failed to prove that Infineon infringed those claims. A463-75.

Infineon's fraud counterclaims went to the jury. Rambus asked the district court to instruct the jury that it was not improper for Rambus to add or amend patent claims to cover a competitor's product. A221. The court proposed a modified instruction, which Rambus rejected. *Id.* On May 9, 2001, the jury returned a verdict for Infineon, finding that Rambus committed fraud during JEDEC SDRAM and DDR SDRAM standardization and awarding both nominal and punitive damages. A19-22.

Both sides filed post-trial motions. On August 9, 2001, the district court denied Rambus' motion for JMOL on the fraud verdict as to SDRAM, but granted it as to DDR SDRAM. A155-232; 164 F. Supp. 2d 743 (E.D. Va. 2001). The court denied Rambus' motion for a new trial regarding its failure to give Rambus' proposed jury instruction. *Id.* The court also awarded Infineon attorneys' fees and costs. A100-53; 155 F. Supp. 2d 668 (E.D. Va. 2001).

Finally, the district court granted Infineon's motion for injunctive relief on its fraud claim. A12180-12214. On November 26, 2001, following further hearings, the court entered a permanent injunction barring Rambus from asserting some types of

patent claims against certain of Infineon's standardized memory products. A12215-18, 12220-57.

SUMMARY OF THE ARGUMENT

The judgment should be affirmed, first and foremost, because the district court correctly denied Rambus' motion for JMOL on Infineon's fraud claim as to SDRAM. The jury properly concluded that Rambus had a duty to disclose its pending and issued patents to JEDEC while it was a member; that Rambus breached that duty by failing to disclose its patents on technologies being considered for JEDEC standardization; and that Infineon reasonably relied on Rambus' omissions and affirmative misrepresentations about its patent portfolio in developing its own SDRAM products.

Nor is Rambus entitled to a new trial on fraud. Rambus argues that the district court erred by refusing to give a "*Kingsdown*" instruction, but the instruction proposed by Rambus was misleading, and Rambus rejected an accurate modification of that instruction. And, contrary to Rambus' assertion, the jury's fraud verdict does not depend on the court's claim construction, so Rambus' challenges to construction do not affect that verdict.

In any event, Rambus' challenges to the court's claim construction are meritless. The district court construed the patent terms "bus," "read request," and

"integrated circuit device" in accordance with this Court's well-settled rules on claim construction.

Nor are Rambus' challenges to the district court's remedial rulings well-taken. The court concluded that patent litigation was part and parcel of Rambus' fraudulent scheme, and properly enjoined Rambus from pursuing further domestic litigation against Infineon based on JEDEC-compliant SDRAM products. That injunction is necessary to avoid the multiplicity of litigations contemplated in Rambus' wrongful business plan, and specific and narrowly tailored to remedy the fraud. In addition, the court's award of attorneys' fees and costs is justified, because this case is by any measure extraordinary in fact and law.

The district court did commit two errors that merit partial reversal. *First*, the court erroneously refused to enjoin Rambus from pursuing foreign, as well as domestic, patent suits related to Rambus' fraud, based on the erroneous premise that such an injunction would be inappropriate where the issues in the foreign suit were not "identical" to the issues in the domestic suit. *Second*, the court erred by granting JMOL to Rambus on Infineon's fraud claim as to DDR SDRAM, because Rambus' duty to disclose its patent applications extended to this technology as well.

ARGUMENT

APPEAL

I. THE DISTRICT COURT PROPERLY DENIED RAMBUS' MOTION FOR JMOL ON INFINEON'S FRAUD CLAIM AS TO SDRAM.

After a three-week trial, the jury ruled in Infineon's favor on its fraud claim, and the district court denied Rambus' subsequent motion for JMOL on Infineon's fraud claim as to SDRAM. That decision, reviewed *de novo*, *see Tools USA & Equip. Co. v. Champ Frame Straightening Equip., Inc.*, 87 F.3d 654, 656 (4th Cir. 1996), was correct.

In Virginia, actual fraud is established by proving the following elements: (1) a false representation (or an omission where there is a duty to disclose), (2) of a material fact, (3) made intentionally and knowingly, (4) with intent to mislead, (5) reasonable reliance by the party misled, and (6) resulting injury. *See Bank of Montreal v. Signet Bank*, 193 F.3d 818, 827 (4th Cir. 1999).

A. THE JURY PROPERLY FOUND THAT RAMBUS HAD A DUTY TO DISCLOSE ITS PENDING PATENTS RELATING TO JEDEC'S SDRAM STANDARDIZATION EFFORTS.

Rambus begins by challenging the sufficiency of the evidence that Rambus had a duty under JEDEC policy to disclose all issued and pending patents relating to the

standardization work of JEDEC's committees. In particular, Rambus claims that "[t]he contours of the disclosure obligation were murky at best." Rambus Br. 26.

As the district court noted, however, "[t]he evidence presented by Infineon at trial . . . tells a different story." A168. Before 1993, the JEDEC patent policy, as found in the JEDEC manual, expressly required disclosure of "patents" that related to proposals for standardization pending before JEDEC. A3359-61, 7751-52, 7814. Extensive testimony was adduced at trial, including testimony by Rambus' JEDEC representative, that the word "patent" in the JEDEC policy was interpreted, by JEDEC and its members, to encompass both pending and issued patents. A3359-64, 13000-12, 15931-33, 15958-59, 15963-64, 15967-68, 15974-75, 16237. That testimony was corroborated by the minutes and other records of JEDEC meetings, which reflected that it was common practice for JEDEC members to disclose pending patents. A8650, 10263, 11042, 11292, 12873, 12877-78, 16228, 17088, 17213-14. Indeed, Rambus' own president, David Mooring, conceded the point as well, writing in contemporaneous notes that IBM told JC-42.3 that several attendees had pending patents relating to a particular proposal and that IBM was planning to come to the next meeting with a list of the "offenders." A6615.

Consistent with this testimony and practice, JEDEC amended its policy in 1993 to refer expressly to pending patents. A7600. Even if Rambus could argue that it

previously had doubts about the scope of the patent policy, those doubts should have been dispelled by the amendment, which was made known to JC-42.3 members. A4661-66, 13010-11.

Rambus is obligated to show not merely that the patent policy was "murky," but rather that the patent policy affirmatively did *not* impose a duty to disclose pending patents. Here, Infineon introduced more than sufficient evidence to allow the jury reasonably to conclude that the policy covered both issued and pending patents.

B. THE JURY PROPERLY FOUND THAT RAMBUS BREACHED ITS DUTY TO DISCLOSE ITS PENDING AND ISSUED PATENTS.

Rambus next contends that it did not breach its duty of disclosure to JEDEC. *First*, Rambus insinuates that the disclosures it did make—including the disclosure of its first patent (the '703 patent), the "disclosure" (by another JEDEC member) of the WIPO application, and the listing of various issued patents in its JEDEC withdrawal letter—satisfied its disclosure obligation. *See* Rambus Br. 27. *Second*, Rambus argues that it was not required to disclose any of its pending patents because Infineon "did not prove . . . that any claim in an undisclosed application *covered* the SDRAM standard." *Id.* (emphasis added). Both arguments lack merit.

First, Rambus' limited disclosures did not satisfy its duty to disclose. Significantly, Rambus does not, because it cannot, claim that it disclosed *all* relevant issued and pending patents to JEDEC, as required under JEDEC policy. Moreover, Rambus' narrowly framed disclosures were inherently misleading. Regarding the '703 patent, that patent, by Rambus' own admission, did not relate to SDRAM standardization, but instead contained claims relating only to Rambus' proprietary RDRAM. A2750-51, 16293. As in this Court, Rambus argued below that, because the specification in the '703 patent was the same as for other, subsequent patents in the family tree, Infineon should have divined that Rambus was planning to file patent applications containing claims relating to SDRAM as well as RDRAM—as Rambus had, in fact, already done. As an initial matter, this argument fails because, as the district court held in its *Markman* opinion, the Rambus specification only discloses a multiplexed bus architecture, not an architecture consistent with SDRAM. A52. Even assuming, however, that the specification, on its face, could be read to relate to SDRAM, the district court correctly concluded that disclosure of the '703 patent—far from imposing a duty on Infineon to guess that Rambus might have filed patent applications based on the same specification, but with SDRAM-related claims—"actually misrepresented the scope of Rambus' pending patents because . . .

[Rambus] failed to say anything about [its] numerous other pending applications, which Rambus believed *did* relate to the SDRAM standardization work." A177.

Regarding the WIPO application, which contained the same written description as the '703 patent, the same analysis applies. Indeed, the district court concluded not only that the claims in the WIPO application related only to RDRAM, but that "Rambus presented no evidence at trial indicating that the description, on its face, relates to SDRAMs." A176. Moreover, when another JEDEC member commented at a meeting that the WIPO application "should not be a concern for the JEDEC SDRAM standardization effort," Richard Crisp, who had heard the comment, did not correct it. A13077-78.

Regarding the list of issued patents in Rambus' JEDEC withdrawal letter, that list was similarly insufficient and misleading. Although casually asserting that it "inadvertently omitted one patent from [the] list" of patents it disclosed, Rambus Br. 27 n.16, Rambus fails to mention that the patent in question—the '327 patent—was the only then-issued Rambus patent that Rambus believed covered SDRAM or DDR SDRAM. A13168-72, 15950. Additionally, as the district court noted, "Infineon offered evidence that the omission [of the '327 patent] was deliberate." A178. Moreover, Rambus has failed to establish that its withdrawal letter fulfilled JEDEC's disclosure requirement, in that (1) it was sent to the secretary of JEDEC rather than

to JC-42.3; (2) it failed to indicate which, if any, of the listed Rambus patents were relevant to JEDEC's work; and (3) it failed to identify any specific JEDEC committee or standard to which any patent was relevant. A9931-32.

Finally, Rambus argues that, although Rambus' disclosures may have been insufficient in and of themselves to meet Rambus' disclosure obligations, those obligations were nevertheless satisfied because Rambus' other patents could have been discovered through an assignment search. *See* Rambus Br. 27 n.16, 30. As a preliminary matter, Rambus' *pending* patents were of course confidential, and therefore could not be discovered through any assignment search. In any event, Rambus' argument misses the mark because the JEDEC patent policy required *disclosure* of pending and issued patents. A3359, 15918. The very purpose of JEDEC's disclosure policy was to prevent JEDEC's members from having to perform a patent search for every one of the other members each time a technology was being considered for standardization. Rambus' proposed watering-down of its obligations under the JEDEC disclosure policy would render that policy a dead letter.

Second, Rambus should have disclosed its pending patents because the JEDEC disclosure policy required only that pending or issued patents "related to" the work of the committee. A172 n.3. Rambus claims that its pending patents need not have been disclosed because Infineon "did not prove . . . that any claim in an undisclosed

application *covered* the SDRAM standard." Rambus Br. 27 (emphasis added). At the outset, Rambus' argument is, at best, disingenuous, since Rambus' contemporaneously created documents amply demonstrate that Rambus *believed* its pending patents covered the SDRAM standard. A13156-65, 16054, 16061, 16081. In any event, it is clear that a JEDEC member need disclose not only those issued or pending patents that would be *infringed* by a product incorporating a JEDEC-standardized technology, but also any patents that merely *relate to* a technology for which standardization was being discussed. Indeed, Rambus has already conceded that it had a duty to disclose any patents "relating to" JEDEC standardization. A17192. Whether many of the particular features Rambus attempted to claim in the pending patents were ultimately adopted as part of a JEDEC standard is irrelevant; because the pending patents "related to" JEDEC standardization, they should have been disclosed.

C. THE JURY PROPERLY FOUND THAT INFINEON REASONABLY RELIED ON RAMBUS' OMISSIONS AND AFFIRMATIVE MISREPRESENTATIONS.

Finally, Rambus contends that Infineon could not have reasonably relied on any omissions and affirmative misrepresentations because Infineon allegedly failed to conduct a full inquiry that would have revealed Rambus' undisclosed issued and pending patents. Rambus' attempt to transform its own disclosure duty into an

Infineon inquiry duty is misguided. Infineon introduced more than sufficient evidence to persuade the jury that its reliance was reasonable.

We recognize that, when a plaintiff makes a partial inquiry as to misrepresented information but stops short of a full inquiry, that plaintiff cannot claim reliance on the misrepresented information. *See* Rambus Br. 30 (citing *Bank of Montreal*, 193 F.3d at 827-28). But as the very next sentence of the case cited by Rambus states, when the defendant "throws the [plaintiff] off guard or diverts him from making the reasonable inquiries which usually would be made . . . Virginia law will forgive an incomplete investigation." *Bank of Montreal*, 193 F.3d at 828; *see also Armentrout v. French*, 258 S.E.2d 519, 524 (Va. 1979) (same); *Horner v. Ahern*, 153 S.E.2d 216, 219 (Va. 1967) (same).

Rambus' argument that Infineon's reliance was unreasonable fails for three reasons. *First*, Infineon in fact did make a full inquiry, in response to which Rambus simply refused to make any disclosures. As Rambus concedes, *see* Rambus Br. 31, Infineon asked Gordon Kelley, chairman of JC-42.3, to ask Rambus whether it had patents relating to a particular feature, two-bank SDRAM design, then being considered for standardization, A2739-40, 13072-75. Kelley's inquiry prompted a negative headshake from Rambus' Crisp. A13074. As the district court noted, Rambus' failure to make a disclosure "le[d] [Willi] Meyer [Infineon's JEDEC

representative] and others to believe that Rambus had nothing that required disclosure." A183. Although Rambus suggests that Infineon had "a duty to confront Rambus directly," Rambus Br. 31, it fails to specify what it was about Infineon's indirect request via JEDEC that rendered it less than a "full" inquiry.

Second, even assuming that Infineon's inquiry could be said to be only "partial," Infineon was relieved of any obligation to conduct a "fuller" inquiry because Rambus "thr[ew] [Infineon] off guard" and "divert[ed] [it] from making the reasonable inquiries which usually would be made." *Bank of Montreal*, 193 F.3d at 828. As the district court noted, "Infineon . . . proved that Rambus intentionally misled Infineon when it and other JEDEC members raised . . . concerns with Rambus, thus inducing Infineon to believe that Rambus did not have any SDRAM patents or applications." A183. As discussed above, although Rambus disclosed its '703 patent, that patent related only to RDRAM, as Rambus itself admitted. A2750-51, 16293. The WIPO application likewise appeared to relate only to RDRAM, and, when another JEDEC member stated that the application was not a problem for SDRAM standardization, Rambus did not correct that statement. A2750-51, 13077-78. Rambus intentionally omitted the '327 patent from its withdrawal letter, even though that patent was directed toward technologies being standardized in JEDEC. A13170-72, 15950. Finally, far from admitting that Rambus "held patents 'applicable

to' specific technology before the committee," Rambus Br. 33, Richard Crisp did nothing more than admit that Rambus had *RDRAM*-related patents, and offer to make a presentation about *RDRAM* technologies to the committee. A1553. Because Rambus lulled Infineon into believing that its patents related only to RDRAM, Infineon's failure to make further inquiries was entirely understandable.[2]

Third, even assuming that Infineon should have more fully inquired, any further inquiry would have been futile. Numerous Rambus e-mails, including e-mails from Crisp and Tate, demonstrate that Rambus consciously decided to hide the fact

---

[2] Rambus makes numerous arguments that Infineon believed that Rambus' patents related to SDRAM, as well as RDRAM. *See* Rambus Br. 30-31. *First*, Rambus contends that "Infineon documents indicate Infineon considered that some SDRAM features 'may fall under Rambus patents.'" *Id.* at 30. Even after the creation of the quoted document, however, Rambus engaged in many misleading actions, such as Crisp's shaking his head no when asked about Rambus patents; Rambus' voting on JEDEC ballots without disclosing that it held pending patents; and Rambus' maintaining its silence about its patents throughout JEDEC meetings. A2733-40, 2744-46, 13074.

Second, Rambus claims that "Infineon's representative, [Willi] Meyer, correlated Rambus' '703 patent to SDRAMs and suspected that Rambus' pending applications were 'diverse.'" Rambus Br. 31. But Meyer testified that, after reviewing the '703 patent, he determined that it did not relate to SDRAM, and the document in question indicates that Meyer believed that Rambus had "diverse" patents only with respect to *RDRAM*. A2749-50, 6525.

Third, Rambus points to a March 1997 JEDEC meeting as evidence that Infineon knew about Rambus' patents. *See* Rambus Br. 31. The minutes, however, indicate only that some members discussed whether Rambus had a patent on a *specific* clocking scheme developed by NEC, which was not adopted as a JEDEC standard. A4659, 7516. Moreover, the minutes state that "[o]thers felt that the concept predated Rambus by decades." A7516.

that it had issued and pending patents relating to JEDEC standardization. A16096, 16405. For example, Crisp, describing a JEDEC committee proposal in an e-mail to colleagues at Rambus, noted that "they [JEDEC] might get into patent trouble if they do this!" A13156-58, 16081. Moreover, Rambus' own business plan, together with Tate's testimony, demonstrated that it was Rambus' express purpose covertly to develop an SDRAM patent portfolio, in order to increase its ultimate leverage in negotiations with chip manufacturers. A2401-03, 16323-25, 16381-82. Because Rambus' fraudulent scheme depended on its ability to keep secret the existence of its pending patents, any more "direct" inquiry by Infineon would have been unavailing.

II. THE DISTRICT COURT PROPERLY DENIED RAMBUS' MOTION FOR A NEW TRIAL ON INFINEON'S FRAUD CLAIM.

A. THE DISTRICT COURT PROPERLY DENIED RAMBUS' PROPOSED "KINGSDOWN" JURY INSTRUCTION.

Rambus contends that it was entitled to a new trial on Infineon's fraud claim because the district court erroneously refused to instruct the jury that Rambus' patent amendments were proper. *See* Rambus Br. 34-41. Under the applicable abuse-of-discretion standard, *see Chaudhry v. Gallerizzo*, 174 F.3d 394, 408-09 (4th Cir. 1999), that contention is wrong.

First, in the context of this case, Rambus' proposed jury instruction was misleading. Rambus asked the district court to give an instruction derived from

language in this Court's decision in *Kingsdown Medical Consultants, Ltd. v. Hollister, Inc.*, 863 F.2d 867 (Fed. Cir. 1988). A221. That instruction would have been legally correct in a run-of-the-mill patent-infringement case, in which the mere fact that a patentee amended its patent claims to cover the alleged infringer's product does not itself give rise to an inequitable-conduct defense. As the district court correctly recognized, however, *Kingsdown* is inapposite where, as here, the jury was not considering an inequitable-conduct defense, but rather was deciding whether the patentee's *failure to disclose* its pending and issued patents—whether as originally filed or as amended—was itself fraudulent. In such a situation, Rambus' proposed instruction was misleading, because it suggested that there would *never* be a situation in which the amendment of a pending patent would be legally improper. A223-24, 4765-66.

Indeed, in *Kingsdown* itself, this Court recognized that aggressive patent-amendment tactics are not improper *only if they are otherwise legal*. The Court emphasized that "[a]ny . . . amendment . . . must comply with all statutes and regulations." *Kingsdown*, 863 F.2d at 874. Rambus' proposed jury instruction omitted that important qualification, as Rambus tacitly concedes by describing its instruction as "*all but* a direct quote" from *Kingsdown*. Rambus Br. 36 (emphasis added). The district court's proposed alternative instruction would have remedied

Rambus' omission, and tracked *Kingsdown* more faithfully, by adding the qualifier "provided that the added or amended claims are not based on information obtained by engaging in wrongful conduct." A221. Rambus rejected this modified (and legally correct) instruction, and thus has no one but itself to blame. The instructions, as given, adequately instructed the jury on the elements of fraud, and "need not have gone further." *Fuller v. Phipps*, 67 F.3d 1137, 1144 (4th Cir. 1995).

Second, Rambus, in any event, suffered no prejudice. Infineon never suggested that Rambus' amendments, independent of the violation of its disclosure duty, were *per se* wrongful. Needless to say, a party is not entitled to an instruction, and suffers no prejudice from the absence of an instruction, that is not material to the theory of the case. *See, e.g., United States v. Frazier-El*, 204 F.3d 553, 562 (4th Cir. 2000).

B. THE JURY VERDICT ON FRAUD WAS NOT "INFECTED" BY THE DISTRICT COURT'S CLAIM CONSTRUCTION.

Rambus next seeks a new trial on the theory that the district court's claim construction, which Rambus challenges, somehow "infected" the jury's fraud verdict. *See* Rambus Br. 41–46. Specifically, Rambus contends that if the district court had construed the patents-in-suit more broadly, the jury could have concluded that Infineon could not have reasonably relied on Rambus' disclosure of the '703 patent because that patent should have been construed to reach (or potentially reach)

SDRAM technologies, and therefore that the reasonable-reliance element of Infineon's fraud claim was not proven.

This convoluted attempt to link the jury's fraud verdict with the district court's claim construction is meritless. *First*, as Rambus concedes, the district court upheld the jury's verdict as to reasonable reliance not simply on the ground that Infineon reasonably relied on the disclosures that Rambus *did* make—such as disclosure of the '703 patent—as affirmatively misleading evidence that Rambus had no other, SDRAM-related patents, but also on the independent ground that Infineon reasonably relied on Rambus' *failure* to make necessary disclosures on at least two separate occasions in JEDEC meetings. A183-84.

Second, even if the district court erroneously construed the claims of the four patents-in-suit—namely, the '214, '263, '804, and '918 patents—that interpretation has no relevance to whether Infineon reasonably relied on its understanding that the *'703 patent* applied only to RDRAM. Rambus argues that, because all of these patents share the same specification, the district court's *Markman* opinion "made clear the court's view that the specification could not support a contrary construction [*i.e.*, the construction that the specification covered SDRAM technology]." Rambus Br. 45. Contrary to Rambus' assertion, however, the district court's *Markman* opinion was not shown to the jury, and the jury instructions did not suggest that the

specification of the '703 patent could not support SDRAM claims, but only that the "*claims* [of the patents-in-suit] do not cover the Infineon products at issue in this case." A5014 (emphasis added). Moreover, Rambus' newly minted argument flies in the face of Rambus' own admission that *the '703 patent applied only to RDRAM.* A2751, 16291-95. For Rambus to prevail on this argument, therefore, it would have to demonstrate that the jury did not credit its own admission.

Rambus also argues that the relevant inquiry with regard to reasonable reliance is not whether the '703 patent applied only to RDRAM, but rather whether the specification in the '703 patent *could* support SDRAM-related claims in other, subsequent patents, even if it did not do so in the '703 patent itself. If, however, Rambus—at the time of disclosure or at any time before JEDEC standardization was complete—had issued or pending patents that were based on the same specification as the '703 patent, but that *did* contain SDRAM-related claims—as Rambus believed it did—it had a duty to disclose them. Rambus cannot evade that duty simply by attributing its failure to disclose those patents to Infineon's alleged failure to ask more probing questions.

III. THE DISTRICT COURT PROPERLY GRANTED INFINEON'S MOTION FOR JMOL ON RAMBUS' CLAIMS OF PATENT INFRINGEMENT.

The district court properly construed the patents-in-suit. Rambus seeks to reverse the district court's JMOL of non-infringement of the 57 claims-in-suit solely based on the allegedly erroneous construction of three claim terms. *See* Rambus Br. 12-26. Although the district court's claim construction is reviewed *de novo*, *see, e.g.*, *Markman v. Westview Instr., Inc.*, 52 F.3d 967, 988 (Fed. Cir. 1995), *aff'd*, 517 U.S. 370 (1996), Rambus entirely ignores the fact that the court granted JMOL for 53 of those claims on other grounds that Rambus does not appeal. Accordingly, only claims 1 and 2 of the '263 patent, claim 18 of the '918 patent, and claim 26 of the '804 patent are properly before this Court on appeal, and Rambus' appeal of the other claims-in-suit is waived.

A. THE DISTRICT COURT PROPERLY CONSTRUED THE TERM "BUS."

The district court construed the term "bus" as a "multiplexed set of signal lines used to transmit address, data and control information": that is, as a single set of lines that carries all three types of information between the central processing unit and an individual memory device, rather than multiple sets of lines (as used by Infineon's JEDEC-compliant products). A63. This is the only construction supported by the language of the claims, the specification, and the prosecution history. Moreover, the

specification expressly excludes prior-art architectures that use multiple sets of lines to transmit information. Accordingly, the district court properly rejected Rambus' attempt to use a generic dictionary definition to contradict this unambiguous intrinsic evidence.

Claim language. Claim construction begins with the claim language. Claim terms, however, are not construed in a "lexicographic vacuum," *Toro Co. v. White Consol. Indus., Inc.*, 199 F.3d 1295, 1301 (Fed. Cir. 1999), but in light of the other words in the claim and the specification, *see Markman*, 52 F.3d at 975. Here, the term "bus" in isolation could have many different meanings, and thus has no definitive "ordinary meaning." Indeed, Rambus has proffered three different "ordinary meanings" for "bus" in the patents-in-suit. A37-38, 17453; Rambus Br. 20.

Here, the language of the claims supports the district court's construction. For example, claim 26 of the '804 patent expressly states that the "external bus" carries both a "read request" (that is, address and control information) and data that is output in response to that request:

> [T]he integrated circuit device comprises . . . interface circuitry, *coupled to the external bus to receive a read request,* the interface circuitry includes a plurality of output drivers, *coupled to the external bus, to output data on the external bus* . . . .

A293, col. 28, lines 5-6, 13-16 (emphases added). This claim language, and other claims-in-suit, necessarily require that address, data, and control information be transmitted together over a single bus (that is, "multiplexed"). A260, col. 24, lines 48-51; A352, col. 24, lines 62-67, col. 25, lines 1-3.

Specification. Claim construction also requires review of the specification "to determine whether the patentee has set forth an explicit definition of a term contrary to its ordinary meaning, has disclaimed subject matter, or has otherwise limited the scope of the claims." *Day Int'l, Inc. v. Reeves Bros., Inc.*, 260 F.3d 1343, 1348 (Fed. Cir. 2001). A patentee implicitly defines a term in the specification by using it "throughout the entire patent specification, in a manner consistent with only a single meaning." *Bell Atl. Inc. v. Covad Communications Group, Inc.*, 262 F.3d 1258, 1271 (Fed. Cir. 2001). That is precisely the case here, where the only "bus" described in Rambus' written description of the invention is a single set of lines that carries address, data, and control information. A49, 17454. For example, the "Summary of Invention" states:

> The present invention includes a memory subsystem . . . where the bus includes a plurality of bus lines for carrying substantially all address, data and control information needed by said memory devices . . .
>
> The new bus includes . . . multiplexed address, data and control signals. . . .

> In this system of the invention, DRAMs and other devices receive address and control information *over the bus* and transmit or receive requested data *over the same bus*. Each memory device contains only a *single bus interface* with no other signal pins. . . .
>
> The DRAMs that connect to this bus differ from conventional DRAMs . . . . New bus interface circuits must be added and the internals of prior art DRAM devices need to be modified so they can provide and accept data to and from the bus . . . .

A342, col. 3, lines 50-55, 67, col. 4, lines 1, 9-13, 20-28 (emphases added).

The consistent use of "bus" continues throughout the "Detailed Description" portion of the specification:

> The present invention is designed to provide a high speed, multiplexed bus for communication between processing devices and memory devices and to provide devices adapted for use in the bus system. . . .
>
> The bus carries substantially all address, data and control information needed by devices for communication with other devices on the bus.

A343, col. 5, lines 30-33, 38-40. Indeed, as the district court recognized, every single embodiment involves a particular implementation of a multiplexed bus, varying only in particular characteristics such as the number of lines in the bus. A43-44. The court therefore correctly determined that Rambus' consistent use of the term "bus" throughout the entire specification defined the term.

Further, the specification's "Comparison with Prior Art" section expressly distinguishes Rambus' multiplexed bus architecture from conventional architectures

such as those in the accused products, which use multiple sets of lines (including dedicated lines for RAS, CAS, WE, and CS—four different types of control signals):

> [This DRAM uses] point-to-point control signals . . . and most important, not all of the interface signals between the devices are bused. . . .
>
> The external interface to this DRAM is conventional with separate control, address and data connections. . . .
>
> [T]he current state-of-the-art DRAM interface is described. The address is two-way multiplexed, and there are separate pins for data and control (RAS, CAS, WE, CS). . . .
>
> The rest of the interfaces to the DRAM (RAS, CAS, multiplexed address, etc.) remain the same as for conventional DRAMS.

A341, col. 2, lines 14, 17-18, 33-34, 43-46; A342, col. 3, lines 18-20. As this Court recently noted, "[w]here the specification makes clear that the invention does not include a particular feature, that feature is deemed outside the reach of the claims of the patent, even though the language of the claims, read without reference to the specification, might be considered broad enough to encompass the feature in question." *Scimed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc.*, 242 F.3d 1337, 1341 (Fed. Cir. 2001). By distinguishing its bus from prior-art architectures, Rambus disclaimed coverage of those architectures. Moreover, such statements are "acknowledgments of the state of the art" and do not enlarge the invention. *Wang Labs., Inc. v. Am. Online, Inc.*, 197 F.3d 1377, 1382 (Fed. Cir. 1999).

Seeking to counter this wealth of intrinsic evidence, Rambus relies exclusively on an extrinsic dictionary definition. *See* Rambus Br. 20. Rambus, however, cannot sidestep the written description of its inventions simply by declaring its hand-picked dictionary definition to be the ordinary meaning of "bus." To the contrary, "the specification is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term." *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996).

Rambus' argument fails for three reasons. *First*, the term "bus" has no single "ordinary meaning," but instead has many different meanings, depending on the context in which it is used. Rambus has implicitly recognized this fact by proffering three different "ordinary meanings" of the same term in the district court, on appeal and in the related *Micron* litigation—none of which is consistent with the intrinsic record. Indeed, depending on the forum, Rambus adds or subtracts words such as "used by an interface system" and "over which information is transferred" from its alleged "ordinary meaning" of "bus." A37-38, 17453; Rambus Br. 20.

Second, although dictionary definitions may aid claim construction, Rambus' own authority notes that "the intrinsic evidence may not be contradicted by . . . dictionaries or technical treatises." *Dow Chem. Co. v. Sumitomo Chem. Co.*, 257 F.3d 1364, 1373 (Fed. Cir. 2001). Rambus' proffered IEEE dictionary definition

contradicts the consistent use of "bus" in every embodiment of Rambus' inventions, and was thus correctly rejected. *See Digital Biometrics, Inc. v. Identix, Inc.*, 149 F.3d 1335, 1346 (Fed. Cir. 1998) (likewise rejecting inconsistent IEEE dictionary definition).

Third, Rambus' contention that its dictionary definition is dispositive, relying on *Johnson Worldwide Associates, Inc. v. Zebco*, 175 F.3d 985 (Fed. Cir. 1999), is unavailing. This Court has expressly rejected Rambus' reading of *Johnson Worldwide* as "too narrow," noting that "the written description can provide guidance as to the meaning of the claims, thereby dictating the manner in which the claims are to be construed, even if the guidance is not provided in explicit definitional format." *Scimed*, 242 F.3d at 1344; *see also Bell Atlantic*, 262 F.3d at 1271 (same). Here, as the district court recognized, the consistent use of "bus" throughout the specification forecloses application of Rambus' contrary definition. Indeed, this Court has determined in similar cases that the specification limited the scope of claim terms such as "frame," "passage," or "mode," even though broader definitions of those terms may have existed. *See Scimed*, 242 F.3d at 1344 (surveying Federal Circuit precedent). The district court correctly applied the same cases discussed subsequently by this Court in *Scimed*. A44-46.

In addition, Rambus contends that it need not have described in its specification the use of so-called "ordinary buses" with other features of the claimed inventions. *See* Rambus Br. 25. That is incorrect. To the extent Rambus believed its inventions could be used with architectures other than Rambus' alleged "new bus," Rambus was required to provide an adequate written description that would support the claims to such combinations. *See* 35 U.S.C. § 112, ¶ 1; *Wang Labs.*, 197 F.3d at 1382-83. Here, the only "bus" described as part of any claimed invention is the so-called "new bus." This is not surprising, given that the inventors considered and specifically rejected the idea of using prior-art architectures with their invention. *See id.* at 1382. Indeed, the specification expressly disclaims use of any other architecture. A341, col. 2, lines 14, 18, 33-34, 43-46; A342, col. 3, lines 18-20.

Prosecution history. The prosecution history also supports the district court's construction, notwithstanding Rambus' contrary contentions. *First*, Rambus contends that the alleged "new bus" described in the specification was diverted into a separate patent chain by a PTO restriction requirement, which the district court supposedly "did not appreciate." Rambus Br. 22. That restriction requirement, however, did not separate the alleged "new bus" invention from the other claimed inventions of the patents-in-suit. A681-87. Instead, claims relating to the so-called "new bus" continued to appear in the patent chains of all four patents-in-suit even after the

restriction requirement. In fact, applications filed in response to the restriction requirement from which all four patents-in-suit derive contain claims with the "key phrases" that Rambus contends are the hallmark of the supposed "new bus." A6640, col. 26, lines 25-32, 41-43; A17172, col. 24, lines 46-49. Moreover, these "key phrases," like all disclosed embodiments, are examples of particular types of multiplexed bus architectures, which are all encompassed by the district court's construction.

Second, Rambus contends that the district court failed to appreciate that Rambus' patents disclose multiple inventions. *See* Rambus Br. 25. In fact, the court specifically referred to different alleged inventions, but correctly recognized that those inventions are always disclosed as part of Rambus' multiplexed bus architecture. A43-44. Indeed, the patents-in-suit emphasize that, although many of Rambus' disclosed features were known, they were "never [used] in conjunction with the bus architecture of this invention." A352, col. 23, lines 62-65. As the district court recognized, "the file history does not contradict the clarity given by the specification." A58.

Extrinsic evidence. When the proper claim construction is clear from the intrinsic evidence, a court need not consider extrinsic evidence. *See Bell Atlantic*, 262 F.3d at 1268. Although the district court did not rely on extrinsic evidence, A61-

63, here that evidence supports the court's construction. For example, Richard Crisp conceded that, when he first read the patents as a person of skill in the art, he believed that they "were limited to RDRAMs"—that is, Rambus' proprietary form of DRAM, which used a multiplexed bus architecture. A15127-28, 15152. Similarly, Paul Farmwald, a Rambus inventor, admitted that he thought about, and ultimately rejected as impractical, the idea of using the Rambus interface with "the existing old separate address data and control bus architecture." A15394, 15434, 17473.

B. THE DISTRICT COURT PROPERLY CONSTRUED THE TERM "READ REQUEST."

The district court correctly construed "read request," which appears in all four claims properly on appeal, to mean "a series of bits transmitted over the bus that contain multiplexed address and control information needed to request a read of data from a memory device." A84.[3] The intrinsic evidence supports no other construction, and Rambus provides no alternative on appeal. Instead, Rambus attacks the district court through mischaracterization, incorrectly claiming that the court based its construction on extrinsic evidence regarding "working devices."

---

[3] Because "read request" appears in all four claims properly on appeal, affirming the district court's construction of "read request" is sufficient to uphold the district court's JMOL of non-infringement.

Although the district court also construed the related terms "write request" and "transaction request," neither term appears in the four claims properly on appeal. In any event, neither term raises any unique construction issues.

Claim language. It is undisputed that "read request" is not a term of art, but instead was coined by Rambus' inventors to define a new protocol for their bus interface. A71. Here, the claim language provides guidance for the term's construction. As the district court noted, A71-74, the asserted claims expressly require that a memory device output data on the bus "*in response to* a read request." For example, claim 18 of the '918 patent requires

> *outputting the first amount of data* corresponding to the first block size information, *in response to the first read request*, onto the bus synchronously with respect to the external clock signal.

A353, col. 26, lines 24-27 (emphases added). This language necessarily implies that a "read request" must contain sufficient information to permit a memory device to respond to the request. That information consists, at a minimum, of address information (that is, information identifying the specific cells in a memory device in which the data is stored) and control information (that is, information specifying the type of transaction requested). A73, 5453-57.

The district court's construction is consistent with the claim language, whereas Rambus' construction on appeal (insofar as it can be ascertained) is not.[4] Rambus

[4] Rambus appears to have changed its position on appeal, dropping the "binary code," "single clock cycle," and "in response to a clock transition" limitations from the construction it advocated to the district court. *Compare* Rambus Br. 17 *with* A69-70. This Court looks with extreme disfavor on new theories presented for the first (continued...)

appears to contend, for instance, that the four-bit "Access Type Code" depicted in Figure 4 of the patents-in-suit is a "read request." *See* Rambus Br. 17. This "access code," however, is never identified in the specification as a "read request," and in fact cannot be one because it lacks the address information that both parties agree is needed to produce the "response" required by the claims. A73, 5453-54. Indeed, in asserting the same patents in the related *Micron* litigation, Rambus admitted this point, arguing that a "read request" must include address information. A17490.

Specification. The term "read request" appears twice in the specification. In both instances, the specification requires that a "read request" provide sufficient information—namely, address and control information—to allow the memory device to respond, by outputting either data or a retry message on the bus:

> AddrValid . . . instructs all slaves [*i.e.*, memory devices] to decode the request packet address, determine whether they contain the requested address, and if they do, *provide the data back to the master* [*i.e.*, central processing unit] *(in the case of a read request)* . . .
>
> In some cases, *a slave may not be able to respond correctly to a request, e.g., for a read or write.* In such a situation, the slave should return an error message, sometimes called a . . . retry message. . . . Fig. 5 illustrates the format of a retry message 28 which is useful for *read requests* . . . .

(...continued)
time on appeal. *See Sage Prods., Inc. v. Devon Indus., Inc.*, 126 F.3d 1420, 1426 (Fed. Cir. 1997).

A344-45, col. 8, lines 66-67, col. 9, lines 1-2; A346, col. 12, lines 5-8, 33-34 (emphases added). The use of "read request" to include address and control information is not coincidental, but rather is the only sensible construction in the context of Rambus' new protocol for its high-speed bus interface. A17455. Thus, the district court's construction was based solely on intrinsic evidence—not, as Rambus contends, expert testimony concerning alleged "working devices."

Rambus challenges this reading of the specification. *First*, Rambus contends that the district court erroneously equated the terms "read request" and "request packet" (which Rambus concedes includes both address and control information). *See* Rambus Br. 16. Rambus is wrong. The court correctly noted that the specification uses the terms "request" and "request packet" interchangeably. A80. Indeed, all disclosed embodiments of "requests" in the patent are in "packet" form: that is, "requests" presented as a contiguous, rather than a non-contiguous, series of bytes. A344, col. 8, lines 59-62. A "request packet" is therefore simply a particular type of "request": namely, one that is in packet form. The form of a "read request," however, has no bearing on its content. A "read request," whether in packet or non-packet form, must at a minimum contain both address and control information. Recognizing this fact, the district court correctly construed "read request" to cover requests in both packet and non-packet forms. A83.

Second, Rambus contends that the district court improperly limited its "read request" construction by requiring that such requests be multiplexed. *See* Rambus Br. 19. That construction, however, is compelled by the specification. The whole point of Rambus' new "request" protocol is to allow use of the new, high-speed bus interface:

> The present invention also includes a protocol for master and slave devices to communicate *on the bus* . . . and allow *bus requests* to be directed to a single or to all devices.

A233 (emphases added). The specification stresses that the address and control information in a "read request" are multiplexed together over a single bus:

> In this system of the invention, DRAMs and other devices receive address and control information *over the bus* and transmit or receive requested data *over the same bus*. . . .
>
> All information sent between master devices and slave devices is sent *over the external bus* . . . . This is accomplished by defining a protocol whereby a master device . . . seizes exclusive control of *the external bus* . . . and initiates a bus transaction by sending a request packet (a sequence of bytes comprising address and control information) to one or more slave devices *on the bus*.

A342, col. 4, lines 9-11; A343, col. 6, lines 55-62 (emphases added). Indeed, Rambus expressly distinguishes its "request" protocol from prior-art protocols (such as used in Infineon's JEDEC-compliant products) that do not multiplex address and control information to specify a read operation. The latter products perform

operations, such as a "read" of data, by providing address information on address lines, and control information on four separate dedicated control lines (RAS, CAS, CS, and WE). A341, col. 2, lines 12-15, 44-46; A342, col. 3, lines 18-20.

Prosecution history. The prosecution history also supports the district court's construction. A81-82. Nowhere in the prosecution history is "read request" used differently from in the specification, where the term originated. In arguing to the contrary, Rambus simply speculates about the patent examiner's thought processes when he independently added the word "packet" to certain claims during the lengthy prosecution. This conjecture is hardly a legitimate basis for construing claim language, particularly where, as here, there are equally plausible alternative explanations for the examiner's action. *See Laitram Corp. v. Morehouse Indus., Inc.*, 143 F.3d 1456, 1462 (Fed. Cir. 1998). It is at least as likely that the examiner concluded that adding "packet" would more precisely define the claims, given that all of Rambus' embodiments are in packet form.

C. THE DISTRICT COURT PROPERLY CONSTRUED THE TERM "INTEGRATED CIRCUIT DEVICE."

Rambus' appeal of the district court's "integrated circuit device" construction is irrelevant. Even if this Court were to disagree with that construction, the district court's judgment of non-infringement for claim 26 of the '804 patent should be

affirmed. Claim 26 contains a second limitation—"first and second external clock"—not disputed on appeal. Rambus was precluded from introducing testimony related to this limitation because it failed to serve a timely expert report. A485. Rambus does not appeal this ruling, and thus cannot prove infringement of claim 26. Because the construction of "integrated circuit device" cannot affect the underlying judgment of non-infringement, it is moot.

Moreover, Rambus' construction is wrong. The district court correctly concluded that the term "integrated circuit device" must be construed to include an identification register and comparison circuitry because Rambus unequivocally told the PTO during prosecution, to overcome prior art, that the claim that eventually issued as claim 26 had these features. A93.[5]

Although Rambus argued below that these remarks did not apply to claim 26, Rambus now argues, for the first time, that the cited statement would be understood by a person of ordinary skill in the art as a mistake by the prosecuting attorney. Rambus is incorrect. Indeed, Rambus never contended below that its remarks to the PTO were mistaken. Moreover, consistent with these remarks, "integrated circuit device" is described in the abstract of the '804 patent as including the two disputed

[5] Contrary to Rambus' contention, Rambus Br. 12-13, neither Infineon nor the district court agreed with Rambus' alleged ordinary meaning of "integrated circuit device." A96.

features. A263. In the event this Court addresses the appropriate construction of "integrated circuit device," it should affirm.[6]

IV. THE DISTRICT COURT'S GRANT OF INJUNCTIVE RELIEF WAS PROPER, SPECIFIC, AND NARROWLY TAILORED.

In granting Infineon's motion for a permanent injunction, the district court found that the goal of Rambus' fraudulent scheme "was to [en]sure that products made to the JEDEC standard would be subject to or infringe Rambus' patents and, therefore, would generate income for Rambus." A12253. Rambus has stated that it will continue to pursue that goal—even in the face of the comprehensive verdict in this case—by asserting other patent claims against the features of Infineon's JEDEC-compliant memory products adopted as a result of Rambus' fraud. A12196, 12206-09. Unsurprisingly, the district court concluded, as a matter of substantive Virginia law, that "an injunction is the only effective way to protect Infineon's extensive investment in the development, manufacture, and marketing of its products from Rambus' predatory tactics." A12196. Because the district court was well within its discretion in issuing an injunction, and because the terms of the injunction are

[6] After granting Infineon JMOL on Rambus' patent-infringement claims, the district court dismissed, as moot and without prejudice, Infineon's counterclaims seeking declarations of noninfringement, invalidity, and unenforceability. A481-82, 3489, 4523-24, 12406-07. Should this Court reverse the district court's JMOL on Rambus' claims, Infineon would retain the right to reassert those counterclaims on remand.

specific and narrowly tailored, Rambus' request to vacate the permanent injunction should be denied.

A. THE DISTRICT COURT PROPERLY CONCLUDED THAT AN INJUNCTION WAS NECESSARY.

Under federal law, a legal remedy sufficient to foreclose equitable relief "must be plain and adequate, or in other words, as practical and as efficient to the ends of justice and its prompt administration, as the remedy in equity." *Boyce's Ex'rs v. Grundy*, 28 U.S. (1 Pet.) 210, 215 (1830). A legal remedy is generally considered inadequate where it can be secured only through a multiplicity of litigations. *See Lee v. Bickell*, 292 U.S. 415, 421 (1934); 11A Charles Alan Wright & Arthur R. Miller, *Federal Practice & Procedure* § 2944, at 89 (2d ed. 1995). There is no reason to believe that Virginia law, which governs here, *see Capital Tool & Mfg. Co. v. Maschinenfabrik Herkules*, 837 F.2d 171, 172 (4th Cir. 1988), departs from these fundamental principles.

As the district court explained, Rambus' patent-infringement claims "are but the end game of the fraudulent scheme Rambus perpetrated during its membership with JEDEC." A12204. Rambus' fraud will continue to injure Infineon as long as Infineon is forced to defend its standardized memory products against Rambus patents directed to technologies incorporated in the JEDEC standards as a result of

Rambus' fraud. A12205, 12250. Those lawsuits will expose Infineon not only to additional litigation expenses, but also to the risk of inconsistent verdicts. Because Infineon will not be made whole for its injury from Rambus' fraud simply by seeking damages, the district court properly concluded that Infineon's legal remedy is inadequate.

For a similar reason, the doctrine of issue preclusion affords Infineon no adequate remedy against Rambus' ongoing fraud. Assuming *arguendo* that Infineon successfully asserts issue preclusion in subsequent litigation, Infineon would first suffer, and be forced to seek damages for, the recurring injuries sustained in defending against Rambus' piecemeal assertion of its SDRAM and DDR SDRAM-related claims. A12206-09. Accordingly, the district court properly concluded that "the more effective and efficient remedy is to prevent Rambus from bringing those fraudulent suits from the outset." A12206 n.8.

B. THE DISTRICT COURT'S INJUNCTION IS SUFFICIENTLY SPECIFIC AND DETAILED TO COMPLY WITH RULE 65(d).

Not only was it necessary, but the district court's injunction was fully consistent with the requirements of Rule 65(d). The detailed, four-page injunction identifies four discrete technologies in Infineon's JEDEC-compliant memory products that are insulated from further Rambus infringement claims. A12215-18.

Rambus' characterization of those technologies as "fatally non-specific," Rambus Supp. Br. 9, borders on the frivolous, since all four technologies are discrete and well-known in the memory industry. A12625-27, 12681, 12690-91, 12802, 12806. Rule 65 is not an invitation to engage in semantic deconstruction.[7]

Likewise misplaced is Rambus' contention that the district court erroneously granted injunctive relief regarding subsequent revisions of the JEDEC standards that retain the aforementioned four technologies "without substantial alteration or modification." *See* Rambus Supp. Br. 9. The district court's language is no more general than necessary to prevent Rambus from exploiting trivial modifications of the JEDEC standards as a way of continuing its litigation war on Infineon. Indeed, the injunction entered here is as precise as the injunctions routinely issued following an adjudication of patent infringement, which courts read to prohibit the infringer from making, using, or selling both the infringing device and "other devices which are no

[7] Rambus suggests, in passing, that the injunction violates Rule 65(d) because it mentions the JEDEC standards in identifying the claims subject to the injunction. *See* Rambus Supp. Br. 9. Rambus' argument fails because the injunction's identification of four specific technologies is sufficient, independent from any reference to the standards, to "describe in reasonable detail . . . the act or acts sought to be restrained." Fed. R. Civ. P. 65(d). If anything, this reference to JEDEC standards clarifies, rather than obscures, the injunction's scope, and gives Rambus more than adequate notice of what the injunction prohibits—which is the whole point of the rule. *See, e.g., California v. Campbell*, 138 F.3d 772, 783 (9th Cir. 1998). Indeed, Rambus' *own* proposed injunction also expressly "incorporated" the standards, in defining the claims to be enjoined. A17457.

more than colorably different therefrom." *See, e.g., KSM Fastening Sys., Inc. v. H.A. Jones Co.*, 776 F.2d 1522, 1526 (Fed. Cir. 1985).

C. THE DISTRICT COURT'S INJUNCTION IS NOT OVERBROAD.

It is well established that district courts enjoy broad discretion to craft an injunctive remedy appropriate to a particular case. *See Richmond Tenants Org., Inc. v. Kemp*, 956 F.2d 1300, 1308 (4th Cir. 1992). Here, the injunction properly bars Rambus from enforcing certain patent claims against certain Infineon memory products. The relevant Rambus patent claims are (1) the asserted claims of the four patents-in-suit, (2) the claims of the '327 patent, and (3) any other claims directed in whole or in part to one of the four enumerated technologies. The relevant Infineon memory products, in turn, are (1) devices conforming to the JEDEC SDRAM or DDR SDRAM standards, and (2) devices conforming to any subsequent revision of those standards that retain the four enumerated technologies of the prior standards. Because the injunction is no broader than necessary to remedy Rambus' fraud, the district court did not abuse its discretion in entering it.

First, the injunction properly extends to the asserted claims of the four patents-in-suit and to the claims of the '327 patent. As to the patents-in-suit: although the continuation and divisional applications for those patents were filed after Rambus left JEDEC, all four patents claim priority through applications filed during Rambus'

JEDEC membership, which Rambus improperly concealed. A162, 16512. Moreover, as the district court noted, Rambus should be prohibited from asserting *any* patent claims directed toward features of the JEDEC standards that were adopted because of Rambus' fraud, regardless of when the underlying patents were actually filed. A12251-56. As to the '327 patent: as discussed above, *see supra* Statement of the Case and Facts, Infineon introduced evidence that Rambus deliberately omitted the '327 patent from the list of issued patents attached to its JEDEC withdrawal letter, even though that patent was the only issued patent Rambus believed would cover SDRAM or DDR SDRAM. The extension of the injunction to that patent was therefore appropriate.

Second, the injunction properly extends to any other claims directed in whole or in part to one of the four enumerated technologies. As the district court noted, those four technologies were included in the JEDEC standards because of Rambus' fraud. A12247-50. The injunction's "in whole or in part" clause therefore simply reflects a valid exercise of the district court's authority to award Infineon complete relief. Indeed, removal of the "in whole or in part" clause would eviscerate the injunctive remedy. Rambus' nondisclosure did more than give rise to the impression that the enumerated technologies, standing alone, were public-domain features: it also represented that the four technologies were public domain *as incorporated in*

JEDEC-compliant SDRAM—that is, in combination with any of the other technologies that the SDRAM standard comprises. Without the "in whole or in part" language of the injunction, Rambus would be permitted to sue Infineon for infringement of any patent claim combining any of the four technologies with any other SDRAM feature—which would render the resulting injunction a dead letter.

Third, the district court properly applied the injunction to suits against any Infineon devices conforming to subsequent revisions of the JEDEC standards that retain the four enumerated features of the prior standards adopted as a result of Rambus' fraud. JEDEC standardization is an evolutionary process, in which later versions of standards incorporate and build on technological features first standardized in earlier versions. A12226-27, 12253. Although it may be theoretically possible that, in future standards, JEDEC will eliminate the four core SDRAM technologies standardized as a result of Rambus' fraud, that fork in the road has in reality long since passed. A12253-54. Relying on the JEDEC SDRAM standard, Infineon, like many other memory producers, has developed products built around those four core technologies. *Id.* Moreover, producers of the components that interact with JEDEC-compliant memories have likewise developed products that depend on those technologies. A4251-53, 12247-50. The injunction therefore

properly includes products conforming to subsequent revisions of the JEDEC standards.

Fourth, the district court properly applied the injunction to suits against Infineon's devices that conform to the JEDEC DDR SDRAM, as well as the SDRAM, standard. As the district court found, the DDR SDRAM standard was built starting with these four core SDRAM technologies as its foundation. A12238, 12244-45, 12253. Should Rambus obtain patents claiming DDR SDRAM-related technologies independent from any of the four technologies incorporated in the SDRAM standard as a result of Rambus' fraud, then Rambus remains free to enforce such patent claims against Infineon's DDR SDRAM products. But if Rambus were allowed to sue Infineon for its DDR SDRAM products on patents with claims to any of the four enumerated technologies, Rambus would be able to cash in on its fraud, since any infringement of those patents would have resulted from Rambus' fraud. The injunction properly bars Rambus from profiting on its fraud in this manner.

V. THE DISTRICT COURT ACTED WITHIN ITS DISCRETION IN AWARDING ATTORNEYS' FEES AND COSTS TO INFINEON.

Rambus' appeal of the award of attorneys' fees is meritless. In its two-page, conclusory argument on the issue, Rambus ignores virtually all of the detailed factual findings in the district court's 52-page opinion. Rambus fails even to mention the

court's findings that Rambus concealed and destroyed relevant evidence, A126-27, 129; that Rambus executives gave false testimony on material issues, which they would later meekly attribute to "memory lapse[s]," A128; and that Rambus' discovery responses were inexcusably inaccurate, *id.* Infineon is entitled to fees both on its fraud claim, under Virginia common law, and on Rambus' patent-infringement claim, under 35 U.S.C. § 285.

Rambus' argument against the award of fees for the fraud verdict lacks support—to the extent it consists of anything more than the unremarkable proposition that the fee award must be reversed if the fraud verdict is reversed. *See* Rambus Br. 47. Under Virginia law, a court has discretion to award fees in a fraud suit. *Prospect Dev. Co.. v. Bershader*, 515 S.E.2d 299, 301 (Va. 1999). The district court properly exercised that discretion here, finding that Rambus' fraud was deliberate, spanned many years, and affected an entire segment of the memory industry; that the award of fees was necessary to impose on Rambus the cost of the fraud it committed "wantonly and maliciously"; and that Rambus took a "global, comprehensive . . . defend everything and deny everything" approach, inflating Infineon's litigation expenses. A149. Rambus now appears to suggest that these findings are disputed, but ignores the decisive rejection of Rambus' view of the evidence both by the district

court and by the jury, which even awarded punitive damages for Rambus' egregious conduct.

Rambus' fraudulent conduct also supports the award of fees under section 285. *See Zodiac Pool Care, Inc. v. Hoffinger Indus., Inc.*, 206 F.3d 1408, 1417 (Fed. Cir. 2000). As the district court recognized, Rambus' fraud "was integral to producing the patents-in-suit." A120. Rambus knew that its patents were "inextricably tied" to its fraudulent conduct at JEDEC, *id.*, and "consciously and deliberately violated" JEDEC's disclosure policy by concealing its pending and issued patents, A122-23. The fee award can be affirmed on this basis alone.

Rambus' sole argument for reversal under section 285 is that its claim constructions were "legally defensible." Rambus Br. 47. That argument, however, does not begin to excuse Rambus' bad-faith litigation strategy and fraud. From the outset, Rambus' strategy was to maximize the cost of Infineon's defense to Rambus' baseless claims. Thus, Rambus asserted 57 claims from four patents, and insisted on pursuing 56 of those claims of infringement at trial even after the district court had issued its claim-construction opinion. A117-18. After insisting that it could prove its case, Rambus waited until mid-trial before requesting reconsideration of the court's constructions. *Id.* Indeed, Rambus does not even rebut the district court's conclusion that Rambus' decision to proceed "cannot possibly be said to have been

made in good faith." *Id.* Coupling this bad faith and fraudulent conduct with the district court's factual findings of extensive litigation misconduct (which are unchallenged on appeal), the district court did not abuse its discretion by awarding Infineon attorneys' fees.

CROSS-APPEAL

I. THE DISTRICT COURT ERRED BY REFUSING TO ENJOIN RAMBUS FROM PURSUING ALL PATENT SUITS PREDICATED ON RAMBUS' FRAUD.

The district court acknowledged that injunctive relief was necessary and appropriate to restrain Rambus from benefiting from its fraudulent conduct, but excluded foreign litigation (including a pending lawsuit against Infineon in Germany) from the scope of its injunction. A12196-12202. The court did that notwithstanding its finding that the German litigation was an integral part of Rambus' scheme: "Patent infringement suits such as this one *and the one in Germany*, according to the proof at trial, are but the end game of the fraudulent scheme Rambus perpetrated during its membership with JEDEC." A12204 (emphasis added). The court concluded that it could not enjoin Rambus from pursuing the German litigation without first making "a threshold finding of identical parties and issues," A12199, which would require the court to "conduct an evidentiary hearing in order to determine the scope of the claims in the European patent," A12201.

The conclusion was incorrect as a matter of law. And, because that conclusion was the basis for the court's decision to exclude foreign litigation from its injunction, this Court's review is *de novo*, and reversal is warranted. *See, e.g., Williams v. United States Merit Sys. Prot. Bd.*, 15 F.3d 46, 48 (4th Cir. 1994) ("This court reviews a decision pertaining to injunctive relief *de novo* when it rests solely on a premise as to the applicable rule of law, and the facts are established or of no controlling relevance."); *cf. Koon v. United States*, 518 U.S. 81, 100 (1996) ("A district court by definition abuses its discretion when it makes an error of law.").

The district court here erroneously concluded that an injunction precluding Rambus from pursuing its fraud through foreign litigation was governed by a line of cases addressing the distinct question "'when a court may exercise its discretion and enjoin a foreign tribunal in the absence of a judgment which can be pled as res judicata.'" A12197 (quoting *Gen. Elec. Co. v. Deutz AG*, 129 F. Supp. 2d 776, 783 (E.D. Pa. 2000)). As the court noted, "[c]ourts generally will allow parallel proceedings on identical claims to proceed when the two sovereigns have concurrent *in personam* jurisdiction," A12199, except where the issues involved in the foreign litigation are "identical" to those involved in the domestic litigation, and other considerations are satisfied, A12197-98. The court held that Infineon could not meet this test, because "the issues involved in the two actions are not identical." A12200.

The court thereby missed the point. Infineon does not seek to enjoin Rambus from proceeding with the German action because that litigation is duplicative, but instead because that litigation is an integral part of the fraud adjudicated in this case. The issue here is the appropriate scope of the *substantive remedy* for Rambus' fraud. There is no basis in law or logic to conclude that a court's power to enjoin other litigation as a remedy for fraud is limited only to other litigation presenting "identical" issues. Foreign litigation will invariably involve different legal issues than domestic litigation because different countries have different laws, but yet it still may be part of a single fraudulent scheme—*as the district court specifically found here.* A12204 ("Patent infringement suits such as this one and the one in Germany . . . are but the end game of the fraudulent scheme Rambus perpetrated during its membership with JEDEC.").

Thus, the district court had no need to "determine the scope of the claims in the European patent" to decide whether they are "substantially identical" to the American patent. A12201. All that matters is that Rambus committed fraud by allowing JEDEC to adopt standards that Rambus believed would infringe its patents, and that Infineon "had designed its products to comply with the JEDEC standard and built manufacturing lines in Germany and the United States to make those products." A194. Whether the accused products *actually* infringe the European patent is

irrelevant: even if they do, Rambus must not be allowed to further the very fraud adjudicated in this case. Accordingly, the district court should have enjoined Rambus from pursuing the German litigation, and any other domestic or foreign patent litigation against Infineon's JEDEC-compliant SDRAM and DDR SDRAM products.[8]

II. THE DISTRICT COURT ERRED IN GRANTING JMOL TO RAMBUS ON INFINEON'S FRAUD CLAIM AS TO DDR SDRAM.

The jury found, by clear and convincing evidence, that Rambus had committed fraud as to both SDRAM and DDR SDRAM products. Although the district court denied Rambus' motion for JMOL on Infineon's fraud claim as to SDRAM, the district court granted Rambus' motion on Infineon's fraud claim as to DDR SDRAM, solely on the basis that Infineon "failed to prove, by clear and convincing evidence, that, before the DDR SDRAM standard-setting process actually began, Rambus had a duty to disclose." A203. Even as it granted JMOL to Rambus, the district court conceded that "[t]here was evidence to support Infineon's contention that JEDEC

---

[8] In any event, even if the district court were correct in holding that "identical" issues are necessary to enjoin Rambus from pursuing the German litigation, the court erred in concluding that this standard was not met here. Regardless of the scope of the relevant patents, Infineon has an identical and dispositive fraud defense in both cases. A15224. Indeed, the district court's conclusion that the German litigation is part of the "end game" of the very fraud adjudicated in this case, A12204, only underscores that the fraud verdict here should preclude Rambus from asserting *any* patents in *any* forum against Infineon's JEDEC-compliant SDRAM and DDR SDRAM products.

members were obligated to make the requisite disclosure when certain technologies were discussed at JEDEC meetings from 1992 through early 1996." A201. Because the district court failed to view the evidence in the light most favorable to Infineon, but instead ignored certain evidence and improperly reweighed other evidence, the district court's decision to grant JMOL on Infineon's fraud claim as to DDR SDRAM should be reversed.[9]

Infineon's fraud claim relates to four core technologies that were ultimately incorporated into the JEDEC DDR SDRAM fraud standard. Infineon introduced substantial evidence that each of these technologies was discussed in JEDEC standardization proceedings while Rambus was a member, Rambus intentionally drafted patent claims attempting to cover these technologies, and Rambus failed to make disclosures about those claims. A8596, 9937, 9966-70, 10275, 10980-11037, 13021-24, 13060-62, 13156-57, 13169, 15918-25, 16081, 16161, 16267-81.

The district court acknowledged that presentations regarding these four technologies were made to JEDEC while Rambus was a member. A201-02.

---

[9] In addition, the case should be remanded for the district court to broaden its injunction. Although the injunction currently in place applies equally to Infineon's SDRAM and DDR SDRAM *products*, it enjoins Rambus only from pursuing patent suits relating to *technologies* adopted in the *SDRAM* standard, and not those relating to technologies adopted in the later *DDR SDRAM* standard: namely, source-synchronous clocking, low-voltage swing signaling, dual clock edge, and on-chip PLL/DLL.

Nevertheless, the district court concluded that Rambus had no duty to disclose because Rambus was only obligated to disclose proposals that were "aimed at a standard," and because, even if the proposals relating to these technologies were aimed at a standard, the discussions of the technologies occurred in relation to SDRAM, rather than DDR SDRAM, standardization. A202, 204. The court thereby erred for three reasons.

First, the court erred by concluding that Rambus had no duty to disclose because Rambus was only obligated to disclose proposals that were "aimed at a standard." In so concluding, the court relied on Reese Brown's testimony. A201-02. In doing so, however, the court ignored the fact that Brown was shown proposals relating to the technologies at issue here, was asked whether disclosure was required, and testified that it was. A15918-25. When that evidence is taken together, the *only* reasonable inference—and certainly a permissible inference—is that each of the proposals was in fact "aimed at a standard."

Second, the court erred by speaking of SDRAM and DDR SDRAM standardization as if they were two separate processes, only one of which was ongoing at the time the four relevant technologies were being discussed. They were not. As the court conceded, "JEDEC standardization is a continuing effort, with each technology serving as a building block for later technologies." A203. The district

court recognized the significance of the seamless nature of the SDRAM/DDR SDRAM standardization process in its subsequent opinion on the scope of the injunction, where it acknowledged that "the JEDEC SDRAM and DDR SDRAM standards are organically and fundamentally related." A12238.

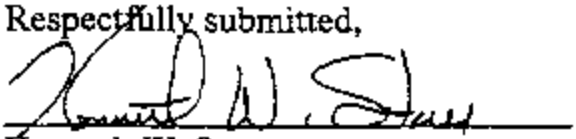
Third, even assuming the existence of a "separate" DDR SDRAM standardization "process," Infineon introduced substantial evidence that such a "process" was well underway before Rambus left JEDEC. Although JEDEC did not label the next generation of DRAM as "DDR SDRAM" until December 1996, A200, Infineon introduced substantial evidence that actual development of the DDR SDRAM standard began much earlier. For example, Willi Meyer, Infineon's JEDEC representative, testified that, from 1993 to 1995 (while Rambus was still a JEDEC member), JC-42.3 was standardizing a number of different types of DRAM, including "DDR": that is, DDR SDRAM. A2758. Further, Rambus' own internal documents refer to the relevant technologies as relating to "future" versions of SDRAM. A16488. The 1995 survey ballot, which featured both dual clock edge and on-chip PLL/DLL, was presented after adoption of the initial SDRAM standard, for the express purpose of considering features for the *future generation* of SDRAM—which was later known as DDR SDRAM.

In sum, Infineon introduced substantial evidence that Rambus had a duty to disclose DDR SDRAM-related technologies when presentations related to those technologies were made to the JEDEC standardizing committee. The district court's decision to grant judgment as a matter of law on Infineon's DDR SDRAM fraud claim should therefore be reversed.

CONCLUSION

The judgment of the district court should be affirmed in part and reversed in part.

Respectfully submitted,



Kenneth W. Starr
Christopher Landau
Kannon K. Shanmugam
Grant M. Dixton
KIRKLAND & ELLIS
655 Fifteenth Street, N.W.
Washington, DC 20005
(202) 879-5000

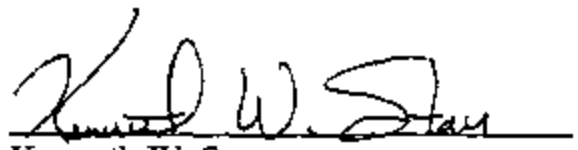
John M. Desmarais
Gregory S. Arovas
Thomas D. Pease
Meghan Frei
Michael P. Stadnick
KIRKLAND & ELLIS
153 East 53rd Street
New York, NY 10022
(212) 446-4800

Attorneys for Defendants-Cross-Appellants

February 13, 2002

CERTIFICATE OF COMPLIANCE

Pursuant to Fed. R. App. P. 32(a)(7)(C), I hereby certify that the Brief of Defendants-Cross-Appellants is proportionally spaced, has a typeface of 14 points, and contains 13,969 words.



Kenneth W. Starr

CERTIFICATE OF SERVICE

I hereby certify that, on February 13, 2002, I served two true and correct copies of the foregoing Brief of Defendants-Cross-Appellants on the following as indicated below:

Richard G. Taranto (by hand delivery)
FARR & TARANTO
1220 Nineteenth Street, N.W.
Washington, DC 20036
(202) 775-0184

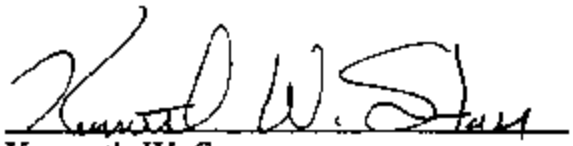
William K. West, Jr. (by hand delivery)
HOWREY, SIMON, ARNOLD & WHITE LLP
1299 Pennsylvania Avenue, N.W.
Washington, DC 20004
(202) 783-0800

Michael J. Schaengold (by hand delivery)
PATTON BOGGS LLP
2550 M Street, N.W.
Washington, DC 20037
(202) 457-6000

Gregory P. Stone (by Federal Express)
MUNGER TOLLES & OLSON LLP
355 South Grand Avenue, 35th Floor
Los Angeles, CA 90071
(213) 683-9100

Robert Kramer (by Federal Express)
RAMBUS INC.
4440 El Camino Real
Los Altos, CA 94022
(650) 947-5000

Attorneys for Plaintiff-Appellant Rambus Inc.



Kenneth W. Starr

Rambus Webcast Teleconference June 20, 2002

BOB EULAU: Thank you and welcome everyone to this mid-quarter conference call from Rambus, Inc. Thanks for calling in on such short notice. My name is Bob Eulau. I'm the Rambus Chief Financial Officer. John Danforth, our General Counsel, and Geoff Tate, our Chief Executive Officer are joining me today. We have three objectives for today's call: (1) is to update you on the FTC complaint that was filed yesterday; (2) is to update you on the state of the other litigation that's taken place during this quarter; and (3) to remind you that our core businesses are continuing to make very good progress. Our plan is that I will update you quickly on where we stand for the quarter. John will then update you on litigation for the quarter and specifically talk about the FTC complaint. Geoff will then update you on our core business and then we'll open the lines for questions. A replay of this conference call will be available for the next week at 800/945-7471. In addition, we are simultaneously webcasting this call and it can be accessed on our website for 1 week, beginning at 4:00 pacific time today.

Before we begin, I need to state that our discussion will contain forward looking statements regarding the company's financial prospects, development plans, anticipated product shipment dates, relations with licensees and other third parties and various other matters, and that actual results may differ materially. Among the reasons which could cause actual results to differ materially is the possibility of inadequate shipments of RDRAM memory devices and controllers for the Sony Playstation II and the PC Main Memory market. The market response to these products, any deterioration of the DRAM market including declining prices, any delay in the development of Rambus based products by licensees, any delay in the development and shipment of new Rambus products, a greater than expected response in the market to competing

technology, a lack of progress on price and cost reduction by RDRAM suppliers, inadequate progress on signing new contracts for RDRAM, Yellowstone, SDRAM or DDR memory devices and controllers, inadequate progress on signing new contracts for RaSer Links current licensees not fulfilling their contract obligations, current licensees terminating their contracts, adverse litigation decisions, and other factors which are available in our SEC filings, including our 10K and 10Qs.

Now, for the financial update. We obviously don't have final information for the quarter, and there is still time for material changes, but based on what we know today, we don't have any reason to update our previous top line or bottom line guidance. In our last earnings call that we had in April for this quarter, we -- to refresh your memory, we had said that we expected revenue to be about $23.5 million, which was equal to the previous quarter, and we're expecting earnings per share at about $.06 for this quarter. We do expect litigation spending to be higher than we had indicated, but this should not affect earnings per share. We plan to have a more in-depth financial release and conference call for the third fiscal quarter on or about July 11.

But now, I'll let John update you on litigation.

JOHN DANFORTH: Good afternoon. This is John Danforth. Given the volatility of our stock price following the FTC's announcement of its administrative complaint yesterday, we appreciate the opportunity today to talk to the financial community and to take questions.

There's been a lot of press coverage about the FTC's action, much of it focusing on the FTC's press release, and its expressed desire to "send a message" to the entire industry about being "mindful" of standard-setting bodies' disclosure rules.

Before I address why this is a very good message and why the FTC picked the wrong messenger, I want to begin by emphasizing four things that the FTC administrative action is not.

First, this FTC action is NOT based on any conduct alleged to be wrong, beyond what is already at issue in Rambus' long standing private litigation. To be sure, this case now opens up to potential discovery general DRAM market conditions, and all of the JEDEC members who participated in the JEDEC 42.3 memory subcommittee. That discovery will be useful to Rambus. But as to Rambus' conduct, there are no new allegations here. At its core, the FTC complaint arises out of same 1992 – 95 JEDEC meetings. That's all of the private litigation that Rambus now faces, the key part of which is now before the Federal Circuit, and was argued on June 3.

Second, this FTC administrative complaint does not, as a practical matter, seem to seek any relief that is materially beyond what, in effect, Infineon, which was one of our litigation opponents in the trial in Virginia last year, Infineon already obtained in the case now on appeal before the Federal Circuit. If the Infineon District Court injunction remains in effect as it is now written, and if that injunction were to be extended to other manufacturers beyond Infincon, it is not currently clear to me that the FTC is seeking significantly more. Of course, I should note, the FTC action does pose a potential free rider problem which the FTC may not yet have considered. By that I mean this: there is a risk that DRAM manufacturers may wish to hide their own knowledge and conduct behind the FTC's complaint. It remains to be seen how the FTC proceeding will handle the clear evidence that we have in cases we've litigated so far, showing that no DRAM manufacturer made the kinds of disclosures in their patent applications that is now being demanded after the fact of Rambus. There is extensive evidence that individual DRAM manufacturers met with us to be taught our technology, extensively studied our patents, and openly acknowledged the prospect that Rambus would seek royalties. Based on that evidence alone, in addition to all the other evidence we have, we believe that the key DRAM

manufacturers cannot claim reliance on any claimed silence at JEDEC by Rambus. It will be interesting as time goes on to see how the FTC does or does not accommodate this evidence as its case proceeds.

The third thing that this case is not, is that it is not a case that goes beyond JEDEC compliant technology. I want to underscore that. Specifically, this case does not touch Rambus' RDRAM technology. And it does not touch our new Yellowstone technology or our new RaSer technology.

And fourth and finally, the FTC's administrative case does not appear to have been coordinated with the Department of Justice's criminal grand jury investigation, which was announced Tuesday evening against certain DRAM manufacturers. At present, the matters appear to be unrelated. Press reports suggest that the Department of Justice is concerned in its criminal inquiry with the major DRAM manufacturers and with the fact that they may have been perpetrators in price collusion. On the other hand, the FTC administrative action which was released during the day yesterday, seems to treat DRAM manufacturers as purported victims. The FTC action does not deal with price, but with the cost structure of the DRAM industry. Of course, from our perspective, the DOJ criminal investigation is of great interest. The DRAM manufacturer collusion apparently alleged in that criminal investigation echoes the collusion that we believe existed within JEDEC when they formulated its SDRAM standard to include Rambus technologies. It also seems to echo the collusion that may have existed, you'll find out, years later, when JEDEC changed its characterization of its disclosure rules.

Now, having talked about what the FTC action is not, let me address for a moment what it is, and why we are not the correct focus for the FTC's legitimate concerns.

Again, the FTC has said that it wants to send a message to the entire industry about being mindful of standard-setting body disclosure rules. The FTC concern – and remember the FTC is an anti-trust enforcement agency – the FTC concern is that legal monopolies that are granted to patentholders should not, through the manipulation of a standard-setting process, be improperly amplified in scope beyond the market power that the underlying technology would otherwise command.

I want to emphasize that last point. The FTC's issue is not with patents, *per se*. It is with the risk that patents will, through improper means, become more powerful than they otherwise would be.

Now, there are many reasons why Rambus is not the proper messenger, or vehicle for this message. Students of this case, and I know that, on this phone call there are probably many, can turn to the various recordings or transcripts that I understand are on the Internet that record the federal circuit hearing on June 3, I want today to focus on just two sets of points.

First, Rambus complied with JEDEC disclosure policies. Those policies required the disclosure of issued patents that read on a proposed standard with disclosure required to take place when the proposed standard was balloted for approval. Rambus did this. A further assertion of JEDEC, which has been formulated in large part recently, is that Rambus should have also disclosed its critical trade secrets. That is to say, its non-public patent applications. Such a rule, if it had existed, would be within the extreme minority of standard setting bodies. Even today, ten years after the fact, only about 10% of standard setting bodies require that any applications be disclosed. In any event, the only document from JEDEC given to its members and showing such an unusual disclosure requirement, shows that that the disclosure requirement contemplated by JEDEC was very limited. It did not extend to Rambus. It only extended to

those JEDEC members who affirmatively promoted technologies for inclusion in the standard. JEDEC called those members first promoters, and it raised this issue in the context of a litigated dispute, where a first promoter apparently tricked Rambus into including a technology that that promoter pushed into a standard.

Rambus never made any such promotion. It presented no technologies. It was invited to attend JEDEC and did not push its technology into industry standards. It was only there because this was a quarterly gathering of its potential customers. These DRAM manufacturers were the very same companies, who were the only market at that time – or the critical market at that time, – for Rambus technology.

I would point out four further details of this part of the case – that is, the part of the case that deals what is on appeal at the Federal Circuit and what has been litigated in the private cases.

First, those of you who have looked at the FTC complaint, you'll see that it liberally quotes from a document, the JEDEC chairman's manual, and that that was never given to Rambus. And from all appearances and from JEDEC testimony in the past, was not intended to state the JEDEC disclosure policy. That document is called the Chairman's Manual. It was not addressed to the members, and never was given to my understanding to Rambus, except years later in discovery.

There was another manual, it's called the Members' Manual. Rambus did receive the Members' Manual. The Members' Manual, in 1994, very late in the day, did require the disclosure of applications, but only by promoters, first presenters. People like the people in the case that bothered JEDEC previously. Rambus did not fall into the category of first presenters. It made no promotions.

Second, Rambus is not the only company that interpreted JEDEC rules this way, or acted in accordance with such an interpretation. First and foremost, let me say: JEDEC officials have testified that the JEDEC rule is identical to the rules and policies of an umbrella standard-setting organization called ANSI. ANSI has recently testified to the Federal Trade Commission that its policies do not require the disclosure of applications by anyone.[1] In addition, in the four years when Rambus attended JEDEC, only six out of hundreds of applications filed by DRAM manufacturers, were disclosed to JEDEC. Six. All six were disclosed by first promoters, first presenters.

The third detail is this: although the Federal Trade Commission has struggled with the task, to date they have not identified to us, nor can they identify, a single undisclosed Rambus patent that actually read on the SDRAM standard. That is why, when you look at the complaint, it talks about applications believed to read on the standard. Or that arguably, or purportedly read on the standard. In fact, there were no applications held by Rambus that, if issued into a patent, would have required a license from manufacturers who were trying to comply with the JEDEC standard. I should say, what I'm talking about here is, the key JEDEC aim, which is that they want to know what patent claims there are that would require a license for the standards then under consideration. So again, Rambus has no undisclosed applications that would have required a license in order to practice any JEDEC standard that was proposed or passed while Rambus was a member, 1992 – 1995.

Fourth, I want to touch on a particularly unattractive feature, in my view, of the FTC allegations, and that's something they picked up directly from the DRAM manufacturers in our

---

[1] See Marasco Statement.

private litigation. That's an allegation of document destruction. In today's world, post-Enron, given what happened in Houston, that's a very serious allegation. We take it seriously. I called it in the press the allegation du jour, but I don't mean by that phrase to give it any less weight than it deserves when it's appropriately raised. But it's been raised here by Rambus' litigation opponents and it's been echoed by the FTC when there's no factual basis.

Rambus went public in May 1997. After that, it began to change its internal policies the way public companies do, and it adopted a document retention policy which it implemented in July of 1998. That was almost a full year before we challenged anyone for violation of our SDRAM patents. It was months before we even filed any of the patents which we later sued on with respect to SDRAM. I'm focusing on this because it's not an attractive thing to say – documents were destroyed and we wish we could have read those documents. But from further inference that Rambus knew that it was doing something wrong, or destroyed documents in anticipation of litigation, is baseless.

I want to finally turn to a second set of issues. This is my final set of points, which is – if you go back to the main and legitimate concern of the Federal Trade Commission. That concern is that patents not get more power than they're otherwise entitled to, through some kind of shenanigans in the standard getting process. Now, I've just discussed some of the reasons why there were no shenanigans by Rambus. But I want to focus also on the second part of the concern – that is to say, even if you accept the characterizations of the FTC complaint and you accept the proposition that there was something wrong at JEDEC, the next question that you have to ask in an antitrust proceeding is, did that give Rambus technology power beyond what it otherwise would have had? Because those are the two parts. In antitrust parlance what that means is that there both has to be an improper action (violation of the JEDEC rules) and in

addition (I'm assuming that's adequate under the antitrust laws), and in addition there has to be market impact, or competitive impact.

In this case, for a number of reasons, and I won't take a lot of time on this call with them – it is admitted that Rambus technology was revolutionary in its impact on the market. It wasn't revolutionary because it was standardized. In fact, parts of Rambus technology were imported into the standards because they were so important. And that happened even after Rambus left JEDEC and put JEDEC on notice that there should be no reliance on Rambus' silence and that Rambus would assert its patents and after JEDEC acknowledged in its minutes that Rambus might be seeking royalties. Even after all that occurred, JEDEC went back to the package of technologies that Rambus invented and took more of them and incorporated those additional features into new standards, after Rambus left.

Since the JEDEC meetings there have been many, many, many – I think in the 100s – of articles and research papers done by people looking at this field. No one has come up with a better set of solutions to the problem of having main memory keep pace with the data needs of a CPU. And certainly no one has come up with a solution which is so scalable as the solutions that Rambus had – you can just look at our current roadmap to see what that means. I think if you also look at the current trade articles, that is to say, Tom's Hardware and other review articles, you'll see that the importance of our solution is more and more recognized in the press. So the second piece of the FTC test, that is to say, did we gain some market power that we did not deserve, we believe cannot be satisfied here.

Again, let me close by saying that we think that the FTC is legitimately concerned with a real issue – it's an issue that's getting a lot of attention now. There've been conferences in Washington and ABA section meeting and the FTC itself held a half-day hearing about standard

setting. It's an interesting issue because it involves the intersection of antitrust law and intellectual property rights; it's a good message that the FTC wants to send, that people should be mindful of the rules. But Rambus was mindful of the rules, and the only way you can charge Rambus with a violation in this case is to stretch those rules beyond recognition.

With that, I'm going to hand the microphone over to Geoff Tate, our CEO.

GEOFF TATE: Thanks John, and good afternoon everyone. I want to focus briefly on our core business, which is innovation. Litigation is necessary to protect the hard-earned innovations we've made, but it's really important to realize that Rambus was and is a technology leader. The innovations in the suits in question and the matters involved in the FTC suit go back ten years, but Rambus did not stop innovating ten years ago. Rambus chip-to-chip I/O solutions have improved the lives of tens of millions of consumers. Every PlayStation II uses Rambus' RDRAM interface technology to deliver the world's best and the highest volume gaming experience into living rooms worldwide. Tens of millions of these systems have been sold. The fastest PCs in the world today are similarly fueled by Rambus' RDRAM interface technology, now running at up to over 1 gigahertz data rates. Millions of PCs have been sold using RDRAM technology. As well, our technology is in digital TVs and digital set top boxes, light projection systems, switches, routers, workstations, supercomputers, and more.

We're a world leader in technology and innovation. We started in 1990, we proposed a 500 megahertz, revolutionary DRAM technology. Under NDA we taught the industry from 1990, 1991, 1992 about our technologies and publicly launched the 500 megahertz first Rambus DRAM in 1992 at a 4 megabit level with Toshiba in their standard CMOS process. Products have been shipping using Rambus DRAM since the mid-90s, beginning with Silicon Graphics and Nintendo 64, and we're continuing to improve the performance of Rambus DRAM. 1066

megahertz today; 1333 megahertz is our next roadmap step, and as well wider faster modules – the fastest modules in the industry. When you compare Rambus technology for memory interface, we are well ahead and have always been ahead of the competitive alternatives. And we haven't stopped there.

In the consumer space and communication space, the extreme performance customers we have have been asking for something even faster, and we will be rolling out and describing our technology for Yellowstone in more detail shortly at a Rambus developers' forum. Yellowstone is our next generation memory interface technology. It will not replace Rambus DRAM, which is the preferred solution for PCs and main memory, but for those customers who want the maximum performance out of just one or two DRAMS, they'll get it in Yellowstone. Yellowstone data rates will start at 3.2 gigahertz and will scale up from there. This is performance that again is unparalleled by competitive alternatives that are being discussed in the market today.

As well, we have developed our first non-memory interface technology, which we call RaSer, our serial link technology. We have three gigahertz technology available now and sells at TSMC for 0.18μ and 0.13μ. As we've discussed, our three gigahertz RaSers have already been integrated into several customer products, some of which have been publicly announced, and the first systems of which should go into mass production later this year. But RaSer has always been about technology leadership as well. We expect to be leaders in moving serial link technology to 6 gigahertz and then 12 gigahertz data rates. These technologies are now in the advanced stages of development at Rambus and we will be making public announcements showing our progress in these areas in the future, and we are very pleased with our customer interest in our high-speed RaSer technologies as well as what we've seen in interest in our Yellowstone technology.

Finally, we are developing further technologies in addition to that which we haven't yet publicly disclosed, but we hope to later on. We're a company that's small, if you look at our number of people (175) almost all of whom are engineers, we have an incredible amount of technology we've developed; an incredible patent portfolio. I'm really proud of our team and the accomplishments that we've made. Our business is about innovation, and we're excited about our future.

So Bob, I think we'd like to open now to questions.

Yeah, we'll take questions; the operator can come back.

OPERATOR: Thank you, sir. At this time if you would like to ask a question, press star, followed by 1 on your touch-tone phone. You will be announced by name when we are ready for your question. Again, at this time if you would like to ask a question, press star, followed by 1. One moment for the first question. Mark Edelstone, you may ask your question, please state your company name.

MARK EDELSTONE: It's Morgan Stanley, good afternoon guys, thanks for doing the call today. I had a few questions, probably for John, is my guess; first of all, John, could you just kind of walk us through what the timeline might look like here for the FTC complaint and what the milestones would look like between here and litigation?

JOHN DANFORTH: Sure. It's hard to know until we have our first hearing before the ALJ, and that hasn't even been set yet, but let me give you my best guess. There's 20 days to answer the complaint when it's been formally served; I don't think that's happened yet. After that there'll be a meeting with the Administrative Law Judge and there'll be a discussion at that hearing about motion practice, whether or not we're going to – well, anyway, you know, law and motion practice and all the discovery needs. As I said in my remarks, we think there's going to

be significant discovery that we will want. My guess is, and this is kind of back of the envelope, first cut, is that given the amount of work that needs to be done, it's just not realistic to think that there's going to be a substantive hearing or evidence heard in this case when the FTC has proposed, which I think is, they proposed September. I think that first or second quarter of next year is more likely, and actually I would think that a case of this magnitude, you would normally take six months to a year just for the discovery. In any event, I don't see this case being tried before the Federal Circuit issues its ruling. For those of you who've followed the case closely know that that hearing went, we think, well for Rambus, and our optimistic sense is that we'll get a ruling, maybe as early as the end of the summer.

MARK EDELSTONE: John, your comment on the amount of discovery that is necessary here, you seem to be suggesting that the discovery here could be somewhat different than the discovery that we've seen in the Infineon trial in Virginia. Can you just walk through again why the discovery process would be different?

JOHN DANFORTH: Sure. There are a number of people sitting around the table at this particular subcommittee; I think, my guess is 30 or 40. Each of those companies represented around the table had their own patent applications, which weren't disclosed. And we're entitled, I believe, to take discovery as to what those were and why they weren't disclosed and what the understanding was of each person sitting around the table was. The assertions against Rambus make that discovery very important, because on the _____ point, and on some other issues, too, frankly, we're being charged with what you have to point to oral understandings to substantiate the position the FTC has taken. You can't rely on any documents given to the JEDEC members. So if they're going to charge us with violation of an oral understanding, well then, by golly, we're entitled to figure out who had that understanding and how they got it, and whether or not

they behaved with their own applications in accordance with that understanding. So that's one big piece of discovery.

Another one is, what's happening in the broader market? Antitrust cases deal with markets, and even though this wasn't quite as relevant in the private litigation, it is relevant here to figure out what kind of market impact there was; what other research was being done, in other technologies, why other technologies weren't pursued – that kind of analysis. It's a fair amount of work.

MARK EDELSTONE: Did you not, in the discovery that's been done with Infineon, and I assume there's been some level of discovery with Micron and Hynix as well in those litigations, was there just not the ability to look into what patent applications those three companies had while they were members of JEDEC?

JOHN DANFORTH: Actually, we found out a lot about Infineon and Micron, we've not yet done the work in Hynix, because that case, as you know was stayed pending the outcome of the Federal Circuit Court of Appeals. But in Infineon and Micron, the information we found was extraordinarily helpful – we found scores of Micron applications that appeared to have been disclosable under the standards that Micron is asserting against us, and that we presume that the FTC is going to assert. So, based on what we've seen both from Infineon and Micron, there's a wealth of useful information there.

MARK EDELSTONE: OK, so I guess this just brings up the other question I had here is on your defense plan with the FTC, vis-à-vis the type of defense that you used or offense, however you want to look at it, in the Infineon trial in Virginia – it sounds like your game plan is completely different, which obviously would be a good thing, but I wonder if there's anything you can share there at all, if that doesn't create a compromising position for you.

JOHN DANFORTH: Well, I won't compromise my position too much. You know, Mark, I would say this. I think in Virginia, we went into that case thinking, this is a patent case. And we prepared for a patent case. And I wasn't there at the scene, but my sense is that there was a great deal of surprise about the way things unfolded, and there were significant documents from Infineon that came in literally under the door at 2:00 a.m. in the morning, that there was no, I think, real opportunity to follow up on. I'm speaking particularly of the infamous "deadly menance" memo where it was clear that Infineon had been studying our patents and was trying to figure out strategies to neutralize our technology. I don't think we ever got a full and fair opportunity to discover what was behind those memos. The other thing is, I just don't think that the team was really expecting the set of JEDEC allegations to be given the credence that they were given. Similar allegations had been raised before, in the Hitachi case, which was litigated, and Hitachi folded up their tent and took a license like everybody else, until these three came along. So I don't want to cast aspersions or compromise positions for all that was done in the past, but we're gonna be doing things very differently going forward.

MARK EDELSTONE: OK, well, I'm glad to hear that it sounds like you'll be a bit more prepared this time around, so that's great for the company. Just a last question, John, there's the issue that is raised in the chairman and the members' manual on the label of having a company be known as a first presenter (the term you used). In those documents are there actually companies that are listed as first presenters, and labeled accordingly so that everybody in the committee knew of their status?

JOHN DANFORTH: In the minutes, JEDEC was a committee founded and run by engineers, not lawyers, but like good engineers, they took great notes, and they put all their notes into these extensive minutes, which they typed up and distributed to everybody. I think maybe

even put on the Internet. The minutes make clear that every time an application was disclosed, the party disclosing it was a first presenter, and they could copy the presentation.

MARK EDELSTONE: OK, great, well thanks a lot, guys, for doing the call and providing such good, detailed information. (Thank you, thank you.)

OPERATOR: Thank you, our next question comes from Mike Crawford. Please state your company name. One moment. One moment, sir. (Shall we go on to another question?) One moment, sir, I'm having trouble getting this line open. (Bob, should you sing for us? I don't think the audience would appreciate that. What we're waiting for is the operator has a problem clearing the questions line, and moving from one question to another, apparently. We apologize for this). OK, sir, Mike Crawford, you may ask your question.

MIKE CRAWFORD: Is this line open? (Yeah, we can hear you, Mike). Okay. How many JEDEC members signed nondisclosure agreements with Rambus?

JOHN DANFORTH: Well the number is in excess of three dozen, I believe. We have a list that we use in court from time to time; it's a remarkable list. It began in 1989.

MIKE CRAWFORD: And does that not play into their knowledge of what your technology was at the time?

JOHN DANFORTH: Oh, yeah, we not only gave them the specifications for the original patent application which people on this call probably know that patents have two parts – the specifications and the claims, and the specification is supposed to teach the industry all of what you have or what you are doing, and then later in the day you can only amend the claim if it's fully supported by the specification as read by someone practiced in the art. So we not only gave them the specification, but we actually sat down with them – indeed, it was the inventors to a great extent, who went out on these trips, sat down with them, and walked them through what we

were doing and why it was important. And the inventors, with a little bit of local color, but I think, given the events in the last couple days it's useful to kind of look back with a little bit of humor, when Mark Horowitz went out and tried to explain to people why this was an important set of technologies and why the market was going to demand it, he was ridiculed on many occasions, and people said: no, you know, it's too complicated, we can't use these features in DRAM; we have to keep DRAMs dumb and simple; and then, over time, they'd go back to the specification and pick up more and more pieces and put them into the JEDEC standard. So we still have a little bit of a sense of irony here, not a huge sense of irony, but a little sense of irony about just how that all turned out.

MIKE CRAWFORD: OK, and then regarding the extent of any, if at all, cooperation or communication between the DOJ and FTC – do you have any further thoughts or comments on that, whether they're gonna get together at all in this?

JOHN DANFORTH: Well you know, I mean, city blocks in Washington are really long, and there are about 4 or 5 of them between the two buildings. So – I don't know, I don't mean to be facetious, it is an interesting coincidence that the DOJ criminal investigation, gets publicized Tuesday night after the markets were closed, and then, Wednesday morning, the FTC issued its press release about us. But we don't know yet, and I don't think we're going to be able to find out for awhile, what the full scope of the criminal investigation is. And, as you know, criminal grand juries are kept in extraordinary secrecy. I have friends at the U.S. Attorney's Office, but they're not returning my calls about this, and they shouldn't.

MIKE CRAWFORD: OK. And then, finally, I think that you did, that you went over the core part of the FTC's complaint. In reading their complaint it seems to me that they might also

be trying to at least imply that your wide bus patents shouldn't have been able to claim priority from the '898 original patent. Do you get the sense that they're trying to imply that?

JOHN DANFORTH: You know, I don't know if they're trying to imply that or not, but if you remember, if you read the transcript from the Federal Circuit hearing, which many people did, and there were also MP3 recordings on the Internet, there's a great moment in the hearing where Judge Rader turns to Richard Taranto, our lawyer, and he says, "Well, if you take away the narrow Rambus multiplex bus how can you claim that any of this is valid or innovative?" and Richard said, well, you know, it was not only granted by the PTO but we've never had an opportunity to litigate that issue and we'd love an opportunity. All I can say to you is that the PTO has repeatedly issued continuations and amendments to the patent over and above all of the prior art that anybody has ever cited against us. So that's the question you asked me; you're asking me, gee, you can take away the special Rambus bus, doesn't the prior art invalidate your patent, and the only thing I can tell you is, the PTO doesn't think so, and they've looked at all the prior art that's been cited. PTO is the patent and trademark office.

MIKE CRAWFORD: Right, so does the FTC have any jurisdiction in this area?

JOHN DANFORTH: Well, I'm glad you asked the question in that way. I would say this, no. Simply.

MIKE CRAWFORD: OK, thank you.

JOHN DANFORTH: Thanks, Mike

OPERATOR: Thank you, we have a further question from John Cross; please state your company name.

JOHN CROSS: Morgan Stanley; thanks very much for the opportunity. I wanted to – one point and if you could help, one thing that was at issue was that the sign-in sheet and – that

was presented, perhaps at an overhead projector at the start of the JEDEC meeting and the wording there – is that an issue here relative to the disclosures?

JOHN DANFORTH: It should be. We keep pointing them to this sign-in sheet after the overhead slides, because if you read those, those refer only to patents which are required, issued patents, which are required to be licensed to practice the standard. And our view is – it's funny, one of the reporters yesterday asked me, is all of this fair, what Rambus did? And I almost hit the roof. I said, you know what? We went to 16 meetings; at every meeting we saw the same slides; we had the same sign-in sheets; we were shown hundreds of ballots (although we only voted on 4); all of them referred only to issued patents – the slides, the sign-in sheets, the ballots – I mean, what's fair is you should be able to, you should be entitled to rely on that. And what the other side is saying is oh no, no, at the beginning of every meeting what they said was, even though all these documents that we've been giving you for 16 meetings, say patents, really they mean applications. Well, that's a huge leap. A huge leap. I mean in our business applications are trade secrets. They're not public, and they are closely guarded, and in the standard setting industry as a whole, even today, some Berkeley professor made this study, recently reviewed a bunch of standard setting body rules, and then he presented the results of his research to the Federal Trade Commission, ironically, in a hearing a couple months ago. His analysis was that even today, ten years later, only 10% of the standard setting bodies require any applications to be disclosed by any members. So to say that there were kind of an unwritten understanding that whenever we say patents we mean applications – people in our business know that that is a ridiculous stretch.

JOHN CROSS: OK, thanks. And I guess one thing you're looking for is moving from, at some point approach companies to go license, SDR and DDR technology – can you help put

the logical link between what was happening in this process to that step of approaching companies to license the technology?

JOHN DANFORTH: Oh, with what was happening at JEDEC? And then the later licensing effort? That what you're saying? (Right). Yeah, so there's a chronology here that's important. I won't go bore you with all the details, but the fundamental fact is this: when we got to JEDEC we saw that our innovations were being used by the standards, we tried, but failed, to protect ourselves by improving our patents. For periods of time we thought we had improved our patents to cover these technologies by filing applications that better understanding – in fact we failed. We did a bad job; the company was 20 people; we were focusing on other things, and none of those JEDEC era applications actually read on the standard. Although you can find e-mails where people optimistically said, I believe they do, but you can't actually point to an applications with language – this is what we think the FTC has to do sooner or later – is not rely on e-mails, which is what the case in Virginia was about, by the way, you didn't see in the closing argument in Virginia any actual application; you just got e-mails characterizing applications. But we don't think that at the end of the day anybody can actually point to an application cause there were none, while we were at JEDEC, that actually read on the standard. Why? Because, frankly, we didn't do it right, and it was not an easy job. Later, we hired a new lawyer (I'm talking about undisclosed applications, 'cause there were things that were disclosed), but later, we did hire new lawyers, including a terrific fellow who had great experience, both as a patent lawyer and specifically to the DRAM business; he came on board; he said you know what, and he wasn't looking at JEDEC, he came aboard in '98; I believe, thereabouts, so two years after we left JEDEC he comes aboard and says, you know what? There are products shipping today, not looking at the standard but looking at the product shipping, there are products

shipping today that really use the stuff that is in your specification from 1990. You should go back to that specification and improve your claims. So beginning with his appearance here, his retention by the company, we started to go back in time and say, let's try it again. Let's go look at that again. But there's a big gap in time there; it's most clearly delineated by when this new lawyer showed up.

JOIIN CROSS: Okay, but did the bearing of participating through the JEDEC process and then leading to that – I mean, isn't that sort of cause and effect? (I'm sorry, I don't understand...) In terms of if you started off going through the process in 1990, we set the specifications as we go discover that, I guess the question would be between 91 and 95, were there other amendments in that, that there weren't amendments?

JOHN DANFORTH: We were trying to make amendments. Okay? We tried to. Let me go roll a little bit and do a little bit of a corporate *mea culpa* here; this is unscripted, unrehearsed, unapproved, but the truth of the matter is, we were so unprepared for the Virginia trial that we didn't even realize when we started that trial preparation – I don't think anybody remembered that there had been efforts to improve those patents at that time. It was only later when the lawyer's documents came out in discovery I think, that people went back and looked at it and said, oh yeah, we did file applications that had this objective, but it was a handful – a handful of applications out of hundreds that we filed that were unrelated to JEDEC during the same time period, it was not a focus.-And it wasn't well done. Just, poorly done. And if you want to understand it kind of at the patent lawyer level, think about it as including too many limitations. I mean, there were just too many other technologies that those early efforts that had to be included and those other technologies were not part of SDRAM. Including, for example, the

Rambus bus. The Rambus, narrow, multiplex bus was not – was required as a limitation in those early applications.

JOHN CROSS: OK, just to switch gears a bit,

BOB EULAU: John, we have about 10 minutes left; I want to make sure we give other people a chance.

JOHN CROSS: Sure, if I just have one update on the European litigation.

JOHN DANFORTH: Ok, Sure. It's on track; there's no change in terms of the scheduling. We're feeling very good about it notwithstanding Ken Starr's comments at the Federal Circuit. (Oh, timeline?) The same as we've given you before, and so at the risk of – I'd refer you back to it – but we expect the results this year.

JOHN CROSS: Ok, thank you.

JOHN DANFORTH: Thanks John.

OPERATOR: Thank you, we have a question from Wayne Smith, please state your company name.

WAYNE SMITH: Touchstone Investments. I just wanted to be clear on this, you said that the FTC argument, doesn't it have to do with anything more than what's already been claimed and the stuff that you were found guilty of down in the Virginia case?

JOHN DANFORTH: As a lawyer, I need to correct you. You're found liable in a civil case . . .

WAYNE SMITH: So you were found liable, the stuff you were found liable for in that case, it's nothing beyond that, right?

JOHN DANFORTH: Same conduct; it's exactly the same conduct.

WAYNE SMITH: Okay. And then Infineon doesn't have to pay those royalties any more – I guess if you were to lose this case hypothetically and you lost the royalties on anybody else that are paying royalties for the same stuff they're paying; how much – what kind of impact on revenues are we talking about potentially?

JOHN DANFORTH: I'll let Bob handle this, but we are typically break out in great detail.

BOB EULAU: Yeah, we haven't been breaking out our SDRAM and DDR royalties in the past, and I don't think now we're going to start. To give you a sense though, of what the profitability impact is, last year we spent over $27 million litigating on these issues, and revenue was a little bit more than that, but not significantly more.

WAYNE SMITH: I understand that; I'm just trying to get a sense of, you know, are we talking about a revenue stream that gets cut in half here, or you know, just $2 million off the top; I mean is it going to be devastating to the profitability of the company if you don't get these royalties, or not really a big deal, or what?

BOB EULAU: It would have a material impact on our profitability. I mean, there's a limit on how far I want to go.

WAYNE SMITH: Okay. And then, I know there's the $7 million that you guys were fined in the Virginia case that you haven't booked on your balance sheet yet, but I'm just wondering if this Germany case that's supposed, well, I thought it was supposed to get done this summer, but maybe it gets pushed off to the end of the year, but I know also in the German system you have to pay for all your – you know – if you were to lose that case you'd have to pay for all the legal fees and Infineon there and lord knows, Micron and all those guys would come out of the woodwork if you could lose both of those cases and lose this appeal, I imagine

everybody'd be after you for their legal fees; do you have any quantification how much money that might be?

JOHN DANFORTH: Well I can give you only this: In Europe it's typical for the loser to pay, but on the other hand, you don't have the extraordinary litigation costs in Europe that you do in this country because you don't have discovery and all the other pre-trial stuff that you have here, so it's a smaller number, typically. Beyond that, I can tell you this: the attorney's fee award is at $7 million. And that is on appeal. And if you look at any of the briefing, you'll see the standard for awarding attorney's fees is very very high in this country; if we're right on the merits, which we think we are, it goes away.

BOB EULAU: Just for clarification, if you were to look carefully at our balance sheet, you'd see there's a restricted investment line, and that has the $7 million as well as some bonds in it, associated with the German litigation.

WAYNE SMITH: Right, but you don't have liability on your balance sheet related to this because you're don't assuem that it's probable, or…right?

JOHN DANFORTH: Right.

WAYNE SMITH: Okay. And then the Intel relationship that you guys, the revised relationship, is there anything in the agreement that said if any of this stuff – like if you lose the FTC case, I mean, is there something that would – could that possibly invalidate the contract that you guys have with them; or is that a completely separate issue?

JOHN DANFORTH: You know, first of all, that document is available; you ought to take a look at it. I'd rather not characterize it. (Okay) It's attached to our SEC filings.

Yeah, I'd like to move on.

WAYNE SMITH: OK, thanks very much guys, I appreciate it.

JOHN DANFORTH: Yeah, thank you Wayne.

OPERATOR: Thank you. Question comes from Andy Shoppik, please state your company name.

ANDY SHOPPIK: Thank you very much. Nutmeg Securities. Can you comment at all in terms of a new estimate for what litigation costs are likely to be for this calendar year, or you're on a fiscal year, I should say, and whether you can make any determination as to what the FTC action related litigation costs might be alone?

JOHN DANFORTH: I can speak to that. Given that this just came yesterday, and given that there's not yet been even the preliminary hearing, it's hard for us to kind of even make wild guesses about the timing of the case or the amount of discovery we'll be permitted, although we want a lot, and so I think it's premature for me to speak to that. We have in our budget internally figured out, you know, that in one of these cases there'll be work to do. And so we have to go back and do is compare the outside litigator's estimates, which I'm expecting shortly, and then map that against the timeline that the Judge gives us when we first meet with him, which won't be for a while, and then see if we guessed right or not. At this point, it's hard to tell.

ANDY SHOPPIK: So basically, we're gonna be surprised. I mean, in a sense, investors just really aren't gonna have any handle on this; it's gonna be what it's gonna be, and in future quarters, if anything, it's gonna be more than what anybody's expecting right now.

JOHN DANFORTH: No, I wouldn't say that; I think we did a reasonable job of trying to build in a contingency and the question is simply gonna be, if there's a great variation here, if you've ever been involved in a court proceeding, it's very hard to control the timing or the scope of work, and, since I come from a litigation background and used to always say this to my

outside clients, I'll say it to you, it's very hard to predict, particularly the day after the press release hits.

BOB EULAU: We'll do our best job of characterizing that in our next call as we can, but there's always uncertainty, and whenever we've given you estimates on litigation we've always brought up the fact that it's very difficult for us to make.

ANDY SHOPPIK: Prior to this, can you give us any update on what you expect your litigation costs to be in the remainder of your fiscal year.

BOB EULAU: We have not been giving that estimate beyond the quarter that we're in right now.

ANDY SHOPPIK: Okay, yep, thanks.

BOB EULAU: Sure. There time for one more?

OPERATOR: Anyone have a following question? Star 1 to ask a question. And I am showing no further questions, sir.

BOB EULAU: Ok, well, thanks everyone for attending; we realize this was very short notice today and as a reminder we're planning our regular quarterly earnings call currently for July 11 after the close, and again, thanks for attending.

(Thank you, thank you, thank you).

OPERATOR: And that concludes today's conference.

I, the undersigned, do hereby certify that the attached transcript is a true and accurate transcription of the Rambus webcast, held on June 20, 2002.

Dated: July 15, 2002

Hiram R. Andrews

D

(confidential)

E

Rambus Inc. to Appeal Ruling in Infineon Infringement Case

Trial Continues on JEDEC Issues

Los Altos, CA - May 4, 2001 - Rambus Inc. said that it plans to appeal today's ruling by the U.S. District Court for the Eastern District of Virginia granting a motion of Infineon Technologies AG to dismiss the remaining three claims of patent infringement brought by Rambus against Infineon. The claims are part of a suit filed by Rambus over use of its patents in SDRAMs and DDR SDRAMs manufactured and sold by Infineon in the United States.

"We are disappointed with the Court's decision and plan to appeal the ruling," said Geoff Tate, CEO of Rambus. "If today's decision is allowed to stand, all companies that innovate risk having their intellectual property rights unjustly expropriated."

"Rambus will continue to fight to protect our intellectual property. It is our right, and indeed our obligation to our shareholders, to take all appropriate measures to protect our patented innovations. Though Rambus is a relatively small company, we will not be cowed by the aggressive tactics of some industry giants who would take our innovations without any compensation," continued Mr. Tate.

While the Virginia case against Infineon involves only four Rambus U.S. patents, there are a dozen U.S. and European patents involved in other infringement cases pending against Infineon, Hyundai and Micron. Rambus intends to pursue all these cases vigorously, including a trial against Infineon in Germany currently scheduled for May 18. In addition, Rambus holds newly issued U.S. and European patents covering Rambus inventions used by SDRAMs and DDR SDRAMs that have not yet been asserted in any litigation and are not impacted by the Court's decision.

About Rambus Inc.
Rambus Inc. [Nasdaq: BMBS] is an intellectual property company that designs, develops and licenses high-bandwidth chip-connection technologies which enable semiconductor memory devices to keep pace with faster generations of processors and controllers. To date, these efforts have resulted in more than 100 U.S. and foreign patents issued to Rambus. Rambus has licensed its technology to approximately 30 semiconductor companies for the development, manufacture and sale of Rambus-compatible ICs. Providers of Rambus-based integrated circuits include the world's leading DRAM, ASIC, controller and microprocessor manufacturers.

Contact:
Kristine Wiseman
Rambus Public Relations

F

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-Q

(Mark One)

☒ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the quarterly period ended March 31, 2002

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from to

Commission File Number: 000-22339

RAMBUS INC.
(Exact name of registrant as specified in its charter)

Delaware	**94-3112828**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**

4440 El Camino Real, Los Altos, CA 94022
(Address of principal executive offices) (zip code)

(650) 947-5000
Registrant's telephone number, including area code

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the Registrant was required to file such reports), and has been subject to such filing requirements for the past 90 days.

Yes ☒ No ☐

The number of shares outstanding of the registrant's Common Stock, par value $.001 per share, was 99,835,097 as of March 31, 2002.

RAMBUS INC.
FORM 10-Q

INDE X

PART I — FINANCIAL INFORMATION

Item 1. *Financial Statements.*

RAMBUS INC. AND SUBSIDIARIES

CONSOLIDATED CONDENSED BALANCE SHEETS

	March 31, 2002	September 2001
	(Unaudited) (in thousands, except share and p share amounts)	
ASSETS		
Current assets:		
Cash and cash equivalents	$ 34,344	$ 44,1
Marketable securities	64,464	85,7
Accounts receivable	1,937	2,3
Prepaid and deferred taxes	10,138	7,6
Prepaids and other current assets	3,074	3,3
Total current assets	113,957	143,2
Property and equipment, net	14,050	15,8
Marketable securities, long-term	50,723	12,6
Restricted investments	12,253	13,6
Deferred taxes, long-term	37,270	44,2
Other assets	8,566	8,7
Total assets	$ 236,819	$ 237,7
LIABILITIES		
Current liabilities:		
Accounts and taxes payable, accrued payroll and other liabilities	$ 8,521	$ 7,9
Deferred revenue	12,150	14,3
Total current liabilities	20,671	22,3
Deferred revenue, less current portion	19,187	24,0
Total liabilities	39,858	46,4
Commitments and contingencies (Notes 4 and 6)		
STOCKHOLDERS' EQUITY		
Convertible preferred stock, $.001 par value:		
Authorized: 5,000,000 shares;		
Issued and outstanding: no shares	—	
Common Stock, $.001 par value:		
Authorized: 500,000,000 shares;		
Issued and outstanding: 99,835,097 shares at March 31, 2002 and 100,287,676 shares at September 30, 2001	100	1
Additional paid-in capital	275,984	282,9
Deferred stock-based compensation	—	(4
Accumulated deficit	(78,939)	(91,8
Accumulated other comprehensive gain (loss)	(184)	6
Total stockholders' equity	196,961	191,3
Total liabilities and stockholders' equity	$ 236,819	$ 237,7

See Notes to Unaudited Consolidated Condensed Financial Statements.

RAMBUS INC. AND SUBSIDIARIES

CONSOLIDATED CONDENSED STATEMENTS OF OPERATIONS

	Three Months Ended March 31,		Six Months Ended March 31,	
	2002	2001	2002	200
	(In thousands, except per share amounts) (Unaudited)			
Revenues:				
Contract revenues	$ 1,722	$ 7,581	$ 4,806	$ 15
Royalties	21,809	23,665	43,589	50
Total revenues	23,531	31,246	48,395	65
Costs and expenses:				
Cost of contract revenues	1,842	3,057	4,000	5
Research and development	5,226	4,758	10,346	8
Marketing, general and administrative	7,750	12,585	17,774	21
Total costs and expenses	14,818	20,400	32,120	35
Operating income	8,713	10,846	16,275	30
Interest and other income, net	1,669	2,557	3,606	4
Income before income taxes	10,382	13,403	19,881	35
Provision for income taxes	3,634	5,361	6,959	14
Net income	$ 6,748	$ 8,042	$ 12,922	$ 21
Net income per share—basic	$ 0.07	$ 0.08	$ 0.13	$
Net income per share—diluted	$ 0.07	$ 0.07	$ 0.12	$
Number of shares used in per share calculations:				
Basic	99,948	99,087	100,180	98
Diluted	102,945	107,588	103,596	108

See Notes to Unaudited Consolidated Condensed Financial Statements.

RAMBUS INC. AND SUBSIDIARIES

CONSOLIDATED CONDENSED STATEMENTS OF CASH FLOWS

	Six Months Ended (March 3	
	2002	2001
	(in thousands) (Unaudited)	
Cash flows from operating activities:		
Net income	$ 12,922	$ 21,
Adjustments to reconcile net income to net cash provided by operating activities:		
Tax benefit (cost) of stock option exercises	(47)	6,
Depreciation	2,479	1,
Amortization of deferred compensation	(160)	
Amortization of goodwill	133	
Change in operating assets and liabilities:		
Accounts receivable	431	(
Prepaids, deferred taxes and other assets	4,822	(
Accounts and taxes payable, accrued payroll and other liabilities	502	
Deferred revenue	(7,119)	(3,
Net cash provided by operating activities	13,963	26,
Cash flows from investing activities:		
Purchases of property and equipment	(667)	(11,
Purchases of marketable securities	(183,161)	(442,
Maturities of marketable securities	164,975	455,
Purchases of investments	—	(5,
Decrease (increase) in restricted investments	1,352	(1,
Net cash used in investing activities	(17,501)	(5,
Cash flows from financing activities:		
Net proceeds from issuance of Common Stock	2,162	8,
Repurchase of Common Stock	(8,379)	-
Net cash provided by (used in) financing activities	(6,217)	8,
Effect of exchange rates on cash and cash equivalents	(96)	(1
Net increase (decrease) in cash and cash equivalents	(9,851)	29,
Cash and cash equivalents at beginning of period	44,195	63,
Cash and cash equivalents at end of period	$ 34,344	$ 92,
Supplemental disclosure of cash flow information:		
Taxes paid	$ 2,536	$ 7,

See Notes to Unaudited Consolidated Condensed Financial Statements.

RAMBUS INC. AND SUBSIDIARIES

NOTES TO UNAUDITED CONSOLIDATED CONDENSED FINANCIAL STATEMENTS

1. Basis of Presentation

The accompanying consolidated condensed financial statements include the accounts of the Company and its wholly owned subsidiari Rambus K.K., located in Tokyo, Japan, and Rambus Deutschland GmbH, located in Hamburg, Germany. All intercompany accounts and transactions have been eliminated in the accompanying consolidated condensed financial statements.

In the opinion of management, the consolidated condensed financial statements include all adjustments (consisting only of normal recurring items) necessary to present fairly the financial position and results of operations for each interim period shown. Interim results are necessarily indicative of results for a full year.

The consolidated condensed financial statements have been prepared in accordance with the rules and regulations of the Securities and Exchange Commission (SEC) applicable to interim financial information. Certain information and footnote disclosures included in financia statements prepared in accordance with generally accepted accounting principles have been omitted in these interim statements pursuant to such SEC rules and regulations. The information included in this Form 10-Q should be read in conjunction with the consolidated financial statements and notes thereto, for the year ended September 30, 2001, included in the Company's 2001 Annual Report on Form 10-K.

2. Recent Accounting Pronouncements

On July 20, 2001, the Financial Accounting Standards Board (FASB) issued Statement of Financial Accounting Standards (SFAS) No. 141, "Business Combinations," and SFAS No. 142, "Goodwill and Other Intangible Assets." These statements make significant changes to accounting for business combinations, goodwill and intangible assets. SFAS No. 141 established new standards for accounting and reportin requirements for business combinations and will require that the purchase method of accounting be used for all business combinations initia after June 30, 2001. Use of the pooling-of-interests method is prohibited. This statement is effective for business combinations completed a June 30, 2001. SFAS No. 142 establishes new standards for goodwill acquired in a business combination and eliminates amortization of goodwill and instead sets forth methods to periodically evaluate goodwill for impairment. Intangible assets with a determinable useful life v continue to be amortized over that period. The Company expects to adopt both of these statements during the first quarter of fiscal 2003. In each of the fiscal quarters ended March 31, 2002 and 2001, goodwill amortization totaled $67,000. In each of the six month periods ended March 31, 2002 and 2001, goodwill amortization totaled $133,000.

In August 2001, the FASB issued SFAS No. 143, "Accounting for Asset Retirement Obligations." This Statement addresses financial accounting and reporting for obligations associated with the retirement of tangible long-lived assets and the associated asset retirement cost This Statement applies to all entities. It applies to legal obligations associated with the retirement of long-lived assets that result from the acquisition, construction, development and (or) the normal operation of a long-lived asset, except for certain obligations of lessees. SFAS N 143 is effective for financial statements issued for fiscal years beginning after June 25, 2002. The Company expects that the initial applicati of SFAS 143 will not have a material impact on its financial statements.

RAMBUS INC. AND SUBSIDIARIES

NOTES TO UNAUDITED CONSOLIDATED CONDENSED FINANCIAL STATEMENTS—(Continued)

2. Recent Accounting Pronouncements (continued)

On October 3, 2001, the FASB issued SFAS No. 144, "Accounting for the Impairment or Disposal of Long-Lived Assets." SFAS No. supercedes SFAS No. 121, "Accounting for the Impairment of Long-Lived Assets and for Long-Lived Assets to Be Disposed Of." SFAS N 144 applies to all long-lived assets (including discontinued operations) and consequently amends Accounting Principles Board Opinion No. SFAS No. 144 develops one accounting model for long-lived assets that are to be disposed of by sale. SFAS No. 144 requires that long-live assets that are to be disposed of by sale be measured at the lower of book value or fair value less cost to sell. Additionally, SFAS No. 144 expands the scope of discontinued operations to include all components of an entity with operations that (1) can be distinguished from the re of the entity and (2) will be eliminated from the ongoing operations of the entity in a disposal transaction. SFAS No. 144 is effective for the Company for all financial statements issued in fiscal 2003. The Company expects that the initial application of SFAS No. 144 will not have material impact on its financial statements.

3. Comprehensive Income

Comprehensive income is defined as the change in equity of a business enterprise during a period from transactions and other events ar circumstances from non-owner sources, including foreign currency translation adjustments and unrealized gains and losses on marketable securities.

Comprehensive income (loss) is as follows (in thousands; unaudited):

	Three Months Ended March 31,		Six Months Ended March 31,	
	2002	2001	2002	2001
Net income	$ 6,748	$ 8,042	$ 12,922	$ 21,0
Other comprehensive income (loss):				
Foreign currency translation adjustments	(9)	(82)	(96)	(1
Unrealized gain (loss) on marketable securities	(589)	247	(756)	3
Other comprehensive income (loss)	(598)	165	(852)	2
Total comprehensive income	$ 6,150	$ 8,207	$ 12,070	$ 21,3

RAMBUS INC. AND SUBSIDIARIES

NOTES TO UNAUDITED CONSOLIDATED CONDENSED FINANCIAL STATEMENTS—(Continued)

4. Stockholders' Equity

Warrants

In November 1996, the Company entered into an agreement with Intel Corporation for the development of high-speed semiconductor memory interface technology. In January 1997, as part of this agreement, the Company issued a warrant to purchase 4,000,000 shares of Common Stock of the Company at a purchase price of $2.50 per share (the "Intel warrant"). This warrant was to have become exercisable c upon the achievement of certain milestones by Intel relating to shipment volumes of RDRAM® chipsets (the "Intel milestones"). A complet discussion of these milestones is set forth in the Intel warrant filed as Exhibit 4.4 to the Company's Form 8-K filed on July 7, 2000. In September 2001, this warrant was canceled as part of contract negotiations, which resulted in a new royalty-bearing contract with Intel.

In October 1998, the Company's Board of Directors authorized an incentive program in the form of warrants for a total of up to 1,600, shares of Rambus Common Stock (the "DRAM incentive warrants") to be issued to various RDRAM licensees upon the achievement of cer product qualification and volume production targets. The warrants have an exercise price of $2.50 per share and a life of five years from the date of issue. They vest and become exercisable on the same basis as the former Intel warrant, which will result in a non-cash charge to the statement of operations based on the fair value of the warrants when and if achievement of the Intel milestones becomes probable. As of Ma 31, 2002, a total of 1,520,000 of these warrants had been issued.

Contingent Common Stock Equivalents and Options

In the first quarter of fiscal 2000, the Company granted to its Chief Executive Officer and to its President a combined total of 2,000,00 Common Stock Equivalents (CSEs) and to its employees approximately 2,160,000 options to purchase Rambus Common Stock for $2.50 p share. An additional 494,500 of these options were granted to employees in fiscal 2001. Vesting of these CSEs and options was contingent upon the achievement of key indicators of success for Rambus. Vesting for a portion of these CSEs and options granted in fiscal 2000 was contingent on an increase in the price of Rambus Common Stock to greater than $50 per share for 30 consecutive days. This target was achieved by the end of the second quarter of fiscal 2000, and resulted in a $171.1 million employee stock-related compensation charge take the same quarter. Except for a $1.2 million employer payroll tax liability, this was a non-cash charge. The remaining CSEs and options vest the same basis as the former Intel and existing DRAM incentive warrants, which will result in another almost entirely non-cash charge to th statement of operations based on the fair value of the CSEs and options when and if achievement of the Intel milestones becomes probable.

Share Repurchase Program

In October 2001, the Company's Board of Directors approved a share repurchase program of the Company's Common Stock principal to reduce the dilutive effect of employee stock options. Under the share repurchase program, the Company is authorized to purchase in oper market transactions up to five million of the Company's shares of outstanding Common Stock over an undefined period of time. During the first half of fiscal 2002, the Company repurchased 1,035,000 shares at a cost of approximately $8.4 million.

RAMBUS INC. AND SUBSIDIARIES

NOTES TO UNAUDITED CONSOLIDATED CONDENSED FINANCIAL STATEMENTS—(Continued)

5. Net Income Per Share

Net income per share is computed in accordance with Financial Accounting Standards Board Statement No. 128, "Earnings Per Share, which requires the presentation of basic and diluted net income per share. Basic net income per share is calculated using the weighted avera number of common shares outstanding during the period. Diluted net income per share is calculated using the weighted average number of common shares and common stock equivalents, if dilutive, outstanding during the period. Net income per share is calculated as follows (in thousands, except per share data; unaudited):

	Three Months Ended March 31,		Six Months Ended March 31,	
	2002	2001	2002	200
Net income	$ 6,748	$ 8,042	$ 12,922	$ 21,
Weighted average common shares outstanding	99,948	99,087	100,180	98,
Additional dilutive common stock equivalents	2,997	8,501	3,416	9,
Diluted shares outstanding	102,945	107,588	103,596	108,
Net income per share—basic	$ 0.07	$ 0.08	$ 0.13	$
Net income per share—diluted	$ 0.07	$ 0.07	$ 0.12	$

Options to purchase 15,298,428 and 14,883,428 shares of Common Stock were not included in the computation of diluted shares for th three and six months ended March 31, 2002, respectively, because the options' exercise prices were greater than the average market price of common shares for the period or the options were contingent upon the satisfaction of certain conditions that had not been met as of the end o the period. For the same reasons, options to purchase 2,748,946 shares of Common Stock were not included in the computation of diluted shares for the three and six months ended March 31, 2001.

6. Litigation and Asserted Claims

On August 8, 2000, the Company filed suit in the U.S. District Court for the Eastern District of Virginia (the "Virginia court") against Infineon Technologies AG ("Infineon") and its North American subsidiary for patent infringement of two U.S. patents. On September 25, 2000, Infineon filed counterclaims against the Company in the U.S. case seeking a declaratory judgment that the two asserted patents are invalid and not infringed and further claiming contributory infringement by the Company of two Infineon U.S. patents. In addition, Infineon also asserted breach of contract, fraud, RICO, and monopolization claims in connection with the Company's participation in an industry standards-setting group known as JEDEC where the Company is alleged not to have disclosed certain of its then-pending patent applications ("JEDEC related claims"). The Infineon counterclaims sought compensatory and punitive damages, attorneys' fees, injunctions to halt future infringement of the Infineon patents, and an award of a royalty-free license to the Rambus patents. In October 2000, the Company amended complaint to assert infringement of two additional U.S. patents. In January 2001, Infineon amended its answer and counterclaims to include request for a declaratory judgment that all four asserted Rambus patents are invalid and not infringed. In addition,

RAMBUS INC. AND SUBSIDIARIES

NOTES TO UNAUDITED CONSOLIDATED CONDENSED FINANCIAL STATEMENTS—(Continued)

6. Litigation and Asserted Claims (continued)

Infineon withdrew all contributory patent infringement claims against the Company relating to Infineon's U.S. patents.

Trial began in the Virginia case on April 23, 2001. On May 4, 2001, the Virginia court granted Infineon's motion to dismiss Rambus' patent infringement case and granted Rambus' motion to dismiss Infineon's breach of contract and monopolization claims. On May 9, 2001, the jury returned a verdict against Rambus on the fraud claims and for Rambus on the RICO claims. The jury awarded Infineon $3.5 million punitive damages, which was reduced to $350,000 under Virginia law. On August 9, 2001, as a result of post-trial motions, the Virginia cou set aside the constructive fraud verdict with respect to both SDRAM and DDR standard setting. The actual fraud verdict with respect to DDI standard setting was also set aside. Post-trial motions by Infineon resulted in the Virginia court awarding Infineon approximately $7.1 millio in attorneys' fees. In addition, on November 26, 2001, the Virginia court issued a permanent injunction prohibiting the Company from filing additional patent infringement actions against Infineon in the U.S. under certain of the Company's U.S. patent claims with regard to JEDEC-compliant SDRAM and DDR devices and (subject to certain conditions) successor JEDEC-compliant devices.

The Company has appealed the rulings by the Virginia court relating to infringement, including the rulings on patent claim construction which are known as "Markman rulings." The Company has also appealed numerous liability rulings by the Virginia court with respect to the JEDEC related claims concerning SDRAM standard setting. The Company has also filed an appeal with respect to the permanent injunction ruling. Infineon has appealed two rulings against it that Rambus committed no fraud with respect to the JEDEC DDR standard and that no injunction should reach patent enforcement actions in Europe. These appeals, which will be heard by the Court of Appeals for the Federal Circuit (CAFC), have been consolidated. Briefing on all of the issues that have been appealed has been coordinated by the CAFC using a shortened schedule. That briefing is now complete and a hearing on all appeals is scheduled for June 3, 2002.

On August 7, 2000, the Company filed suit in the District Court in Mannheim, Germany (the "Mannheim court") against Infineon for infringement of one European patent. A hearing was held on May 18, 2001, and on July 20, 2001, the Mannheim court issued an "order for evidence" requiring the appointment of an independent technical expert to evaluate certain technical aspects of Rambus' infringement claim. The Mannheim court subsequently appointed its independent technical expert, and, after the expert delivers an opinion, which is expected in the second calendar quarter of 2002, the court will then determine whether Infineon products infringe Rambus' patent. In the meantime, the validity of the same Rambus European patent is being reviewed by the European Patent Office and a hearing is anticipated in the Fall of 200

On August 28, 2000, Micron Technology, Inc. ("Micron") filed suit against the Company in the U.S. District Court in Delaware. The su asserts violations of federal antitrust laws, deceptive trade practices, breach of contract, fraud and negligent misrepresentation in connection with the Company's participation in JEDEC. Micron's suit seeks a declaration of monopolization by the Company, compensatory and puniti damages, attorneys' fees, a declaratory judgment that eight

RAMBUS INC. AND SUBSIDIARIES

NOTES TO UNAUDITED CONSOLIDATED CONDENSED FINANCIAL STATEMENTS—(Continued)

6. Litigation and Asserted Claims (continued)

Rambus patents are invalid and not infringed and the award to Micron of a royalty-free license to the Rambus patents. In February 2001, th Company filed its answer and counterclaims, whereby the Company disputes Micron's claims and asserts infringement by Micron of the ei U.S. patents. Some discovery is still ongoing in the Delaware action. Both sides filed a number of potentially dispositive motions for summ judgment. On February 27, 2002, the court ruled on some of these motions, denying Micron's motion for summary judgment on its claims fraud. The Delaware court also has postponed trial on all of the issues in the Micron case until after the CAFC reviews the judgments of the Virginia court in the Infineon matter.

In September 2000, the Company filed suit against Micron in Germany, France, Great Britain and Italy for infringement of a European patent. The Company's German suit against Micron is, like the Company's German suit against Infineon, in the Mannheim court, which iss an "order for evidence" on December 7, 2001 requiring the appointment of an expert. That expert has been appointed and is the same exper was appointed in the Infineon and Hynix cases in Germany. The French suit has not progressed beyond an early phase. The British suit has been temporarily stayed pending a determination by the European Patent Office on validity. On May 2, 2001, the independent experts appointed by the District Court in Monza, Italy (the "Monza court") issued a report that confirmed the validity of the Rambus patent in suit determined that Micron's SDRAM products infringe the Rambus patent. On May 25, 2001, the Monza court declined to grant Rambus a preliminary injunction due to its conclusion that the experts had not addressed one technical issue. Rambus appealed the Monza court's ruli and on July 18, 2001, the Appeals Court rejected the appeal on jurisdictional grounds. The infringement suit against Micron in Italy on the European patent has been stayed, but if it resumes, it will resume in the District Court of Milan rather than in Monza.

In December 2000, Micron filed a declaratory judgment suit of non-infringement of a second European patent against the Company in District Court of Avezzano, Italy. In response, the Company asserted infringement of the second European patent in Milan, Italy. The actio on the second European patent in Italy have also been stayed. Further, the Company filed suit against Micron in Germany and Italy for infringement of a third European patent. The German suit for infringement of the third European patent is pending in the Mannheim court, while the Italian suit on this third European patent has been stayed.

On August 29, 2000, Hyundai Electronics Industries Co., Ltd. ("Hyundai") and various subsidiaries filed suit against the Company in U.S. District Court for the Northern District of California. Since filing suit, Hyundai has changed its name to "Hynix Semiconductor Inc." ("Hynix"). The suit asserts breach of contract in connection with the Company's participation in JEDEC and seeks a declaratory judg that eleven Rambus patents are invalid and not infringed by Hynix. In November 2000, Hynix amended its complaint to further assert violations of federal antitrust laws, deceptive trade practices, breach of contract, fraud and negligent misrepresentation in connection with t Company's participation in JEDEC. Hynix seeks a declaration of monopolization by the Company, compensatory and punitive damages, a attorneys' fees. In February 2001, the Company filed its answer and counterclaims, whereby the Company disputes

RAMBUS INC. AND SUBSIDIARIES

NOTES TO UNAUDITED CONSOLIDATED CONDENSED FINANCIAL STATEMENTS—(Continued)

6. Litigation and Asserted Claims (continued)

Hynix's claims and asserts infringement of eleven U.S. patents. On November 21, 2001, the California court ruled that the claim constructio applied in the Virginia case against Infineon should be applied in the case with Hynix, and, as a result, dismissed most of the Company's claims of patent infringement against Hynix. In doing so, the California court relied on the principles of collateral estoppel and declined to decide whether, on the merits, the Virginia claim construction was correctly or incorrectly decided. The Virginia claim construction issue is of the matters that will be reviewed as part of the Company's pending appeal in the Infineon case. On December 14, 2001, the California co stayed the Hynix case on grounds that suggest that the stay will remain in place until there is an outcome in Rambus' appeal in the Infineon case. At that point, Rambus will, depending on the outcome of the Virginia appeal, determine whether to challenge the California court's adoption of the Virginia claim construction.

In September 2000, the Company filed suit against Hynix in Germany, France and Great Britain for infringement of a European patent. The French suit included court-sanctioned seizure of documents and samples from a Hynix facility. On December 7, 2001, in the German su an "order for evidence" calling for the appointment of an independent expert was issued by the Mannheim court. The expert has been appoi and is the same expert as in the Infineon and Micron cases in Germany. The French suit is in an early phase. The British suit has been temporarily stayed.

On August 10, 2001, following the trial results in the Infineon case, Rambus Inc. was named as a defendant in a purported federal class action in the United States District Court for the Northern District of California. That action was brought allegedly on behalf of a class of plaintiffs who purchased Rambus Common Stock between February 11, 2000 and May 9, 2001, inclusive, and asserted claims under Sectio (b) of the Exchange Act and Section 20(a) of the Exchange Act, as well as Rule 10b-5. The Complaint alleges that Rambus misled shareholc concerning its business and the status of its intellectual property in light of allegations concerning the Company's involvement in JEDEC. Fourteen similar actions were filed in the Northern District of California, and one was also filed in the Eastern District of Virginia. On November 16, 2001, a lead plaintiff was appointed. All of these cases were consolidated on December 13, 2001. A consolidated amended complaint was filed on March 22, 2002. The class period for the consolidated complaint runs from January 11, 2000 through May 9, 2001. T Company intends to vigorously defend itself in this action and intends to move to dismiss the consolidated amended complaint. A hearing h not yet been scheduled on that motion.

On August 15, 2001, a purported shareholder derivative lawsuit was filed in Delaware Chancery Court. The Company is a nominal defendant and the Company's directors are defendants. Additional similar actions were filed and were consolidated. The consolidated complaint was filed on November 12, 2001 and alleges that the individual defendants caused the Company to engage in an improper course conduct relating to JEDEC and its intellectual property beginning in 1992 and continuing through the Infineon trial in May of 2001. The complaint alleges breaches of fiduciary duty, misappropriation of confidential information for personal profit, and asks for contribution or indemnification from the named director defendants. The Company has filed a motion to dismiss the complaint.

RAMBUS INC. AND SUBSIDIARIES

NOTES TO UNAUDITED CONSOLIDATED CONDENSED FINANCIAL STATEMENTS—(Continued)

6. Litigation and Asserted Claims (continued)

Similar derivative actions were filed in California Superior Court, Santa Clara County. The complaints assert claims for breaches of fiduciary duty and violation of California's proscription against insider trading. The cases were consolidated on November 9, 2001 by the Court. The Court on that date also granted defendants' motion to stay the consolidated case in deference to the earlier filed Delaware actions described above. Rambus and plaintiffs in two subsequent cases brought on similar grounds have agreed to stay those cases on similar terms case management conference regarding one of the cases has been scheduled for June 2002 in the Santa Clara Superior Court.

On April 3, 2002, the Company was served with a complaint filed in California Superior Court, Santa Clara County. The complaint in t case purports to be on behalf of an alleged class of "indirect purchasers" of memory from January 2000 to March 2002. Plaintiff alleges that those purchasers paid higher prices for various types of dynamic random access (DRAM) memory due to the Company's alleged unlawful u of market power in the various DRAM markets to coerce vendors of equipment using that technology to enter into supposed agreements in restraint of trade. Plaintiffs base their claims on Rambus' alleged anticompetitive actions in patenting and licensing various technologies relating to DRAM, which plaintiffs assert, occurred during the Company's involvement at JEDEC in 1992 through 1996, as well as during t Company's subsequent patent licensing and litigation efforts. The complaint alleges claims for allegedly having coerced "market participant into entering supposedly unlawful licensing agreements in restraint of trade, for supposed "unfair business practices" that forced the public t pay "supra-competitive" prices for products incorporating DRAM technology, and a theory of unjust enrichment based on supposedly "unearned royalties" from products that incorporated certain DRAM technology. Plaintiffs seek legal and equitable relief. The Company has not yet filed its response but expects to vigorously defend itself in this action.

The Company is in communication with the staff of the Federal Trade Commission regarding its investigation of Rambus' involvement JEDEC. To the Company's knowledge, there has been no decision by the Commission to move forward with any legal or other action relati to these matters.

Item 2. ***MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS***

General

This Form 10-Q contains forward-looking statements based on current expectations, estimates and projections about the Company's industry, management's beliefs, and certain assumptions made by the Company's management. These forward-looking statements include t following predictions regarding the Company's future:

- the expectation that contract revenues will remain relatively flat until the Company is successful in negotiating significant new licen agreements and will fluctuate over time;
- the belief that royalty revenue from SDRAM memory devices will likely increase in future periods absent a decrease in unit
- the belief that the long-term financial impact of agreements with certain SDRAM and DDR licensees remains unchanged, notwithstanding the fixed royalty provisions contained in such agreements;
- the belief that future RDRAM royalties will be largely dependent upon system sales by PC and workstation manufacturers and by
- the likelihood that royalties will continue to vary greatly from period to
- the expectation that the Company will continue to experience significant revenue concentration for the forseeable future;
- the expectation that revenues derived from international licensees will continue to represent a significant portion of the Company's t revenues in the future;
- the belief that cost of contract revenues will continue to fluctuate in the future;
- the expectation that research and development expenses will increase over time;
- the belief that the rate of increase of, and the percentage of revenues represented by, research and development expenses in the futur will vary from period to period;
- the expectation that marketing, general and administrative expenses, including litigation expenses, will vary from period to period;
- the belief that the rate of increase of, and the percentage of revenues represented by, marketing, general and administrative expenses the future will vary from period to period;
- the expectation that interest and other income will likely decline in the next quarter due to reduced sublease income, the effect of wh is expected to be partially offset by rising interest rates and higher interest income;
- the anticipation that at the time achievement of the Intel milestones becomes probable, certain contingent warrants, Common Stock Equivalents, and options will result in an almost entirely non-cash charge to the statement of operations based on their fair value, an that the related payroll tax liabilities would likely be more than offset by cash received by the Company upon exercise of the warran and options;
- the possible need to establish an additional valuation allowance with respect to the Company's estimates regarding income
- the anticipation that existing cash balances will be adequate to meet the Company's cash needs for at least the next 12
- the belief that royalties will represent the majority of total revenues in future periods;

- the expectation that increasing royalty revenues will add to the difficulty in making accurate financial
- the belief that the Company's continued success will be substantially dependent upon royalties increasing at a rate which more than offsets decreases in the recognition of revenue under existing contracts;
- the belief that the Company's principal competition may come from its licensees and prospective licensees;
- the expectation that the Company will continue to depend on its fundamental chip-connection technology to generate revenue for the foreseeable future;
- the belief that competition for RaSer technology will come from systems companies, semiconductor companies and other licensors of serial links;
- the intention to ensure the safety and preservation of the Company's invested funds by limiting default risk and market
- the Company's intentions and expectations with regard to pending legal proceedings.

You can identify these and other forward-looking statements by the use of words such as "may," "will," "should," "expects," "plans," "anticipates," "believes," "estimates," "predicts," "intends," "potential," "continue," or the negative of such terms, or other comparable terminology. Forward-looking statements also include the assumptions underlying or relating to any of the foregoing statements.

These statements are not guarantees of future performance and are subject to certain risks, uncertainties and assumptions that are difficult to predict; therefore, actual results may differ materially from those expressed or forecasted in any such forward-looking statements. Such risks include, but are not limited to, those discussed in "Risk Factors" below. The Company assumes no obligation to update the forward-looking statements or such factors.

Results of Operations

The following table sets forth, for the periods indicated, the percentage of total revenues represented by certain items reflected in the Company's consolidated condensed statements of operations and the percentage change of such items between periods:

	Percent of Total Revenues, Three Months Ended March 31,		Percent Change 200 v. 2001
	2002	2001	
Revenues:			
Contract revenues	7.3 %	24.3 %	(77.
Royalties	92.7	75.7	(7.
Total revenues	100.0 %	100.0 %	(24.
Costs and expenses:			
Cost of contract revenues	7.8	9.8	(39.
Research and development	22.2	15.2	9.
Marketing, general and administrative	33.0	40.3	(38.
Total costs and expenses	63.0	65.3	(27.
Operating income	37.0	34.7	(19.
Interest and other income, net	7.1	8.2	(34.
Income before income taxes	44.1	42.9	(22.
Provision for income taxes	15.4	17.2	(32.
Net income	28.7%	25.7%	(16.

	Percent of Total Revenues, Six Months Ended March 31,		Percent Change 200 v. 2001
	2002	2001	
Revenues:			
Contract revenues	9.9%	23.4 %	(68.
Royalties	90.1	76.6	(13.
Total revenues	100.0 %	100.0 %	(26.
Costs and Expenses:			
Cost of contract revenues	8.3	8.0	(24.
Research and development	21.4	12.6	24.
Marketing, general and administrative	36.7	33.1	(18.
Total costs and expenses	66.4	53.7	(9.
Operating income	33.6	46.3	(46.
Interest and other income, net	7.5	7.0	(22.
Income before income taxes	41.1	53.3	(43.
Provision for income taxes	14.4	21.3	(50.
Net income	26.7 %	32.0 %	(38.

Revenues. Total revenues for the three and six months ended March 31, 2002 decreased 24.7% and 26.6% to $23.5 million and $48.
million, respectively, over the comparable three- and six-month periods in the previous year.

Contract revenues decreased 77.3% to $1.7 million (7.3% of total revenues) and 68.9% to $4.8 million (9.9% of total revenues) in the second quarter and first six months of fiscal 2002, respectively, over the comparable periods of fiscal 2001 largely due to the expiration of revenue recognition periods for several RDRAM contracts. Contract revenues in the fiscal 2002 periods include the first contracts for RaSer technology. Revenue from these first RaSer contracts commenced in the second half of fiscal 2001 and represents a small percentage of tota contract revenue. Contract revenues are expected to remain relatively flat until the Company is successful in negotiating significant new lice agreements, such as for the Company's new Yellowstone interface technology. Contract revenues generally fluctuate over time based upon value of new contracts and the value of contracts for which the revenue recognition periods have expired.

Royalties in the second quarter and first half of fiscal 2002 were $21.8 million (92.7% of total revenues) and $43.6 million (90.1% of t revenues), respectively, down 7.8% and 13.7% from the comparable periods of fiscal 2001. For the first of the Company's two royalty sourc namely licensees' shipments of RDRAM memory devices and memory controllers that connect to RDRAM memory devices, revenues in th fiscal 2002 periods represent unit volume growth from licensees' shipments into the desktop PC, server, workstation, and Sony PlayStation2 markets. This volume growth is exclusive of RDRAM controllers shipped by Intel, for which we do not receive unit volume information. Th volume growth was offset by declines in average selling prices (ASPs) for RDRAM memory devices due to competitive pressures and the Company's efforts to work closely with RDRAM licensees to reduce costs. The second of the Company's two royalty sources is royalties fr licensees for the use of Rambus patents and intellectual property in SDRAM, DDR and logic products which directly control these memorie Royalties from this source were significantly lower in the fiscal 2002 periods primarily due to a decline in ASPs for SDRAM memory devic from the fiscal 2001 periods. Because of a slower than expected adoption of DDR, the decline in SDRAM royalties was not offset by increa DDR royalties. In the absence of decreasing unit volumes, royalties for the use of Rambus patents and intellectual property in SDRAM memory devices will likely increase in future periods due to recent increases in ASPs. In the third quarter of fiscal 2001, due to the rapid decline in DRAM ASPs and due to adverse interim results in litigation, the Company had discussions with one major SDRAM and DDR licensee and agreed to a reduced but fixed royalty amount on memory for at least four quarters. In the third quarter of fiscal 2002, the Comp had discussions with one minor SDRAM and DDR licensee and reached an agreement that also calls for fixed royalty payments. In both cas the Company believes the long-term financial impact of these agreements remains unchanged because the royalty payments return to the original agreement levels if the Company obtains favorable outcomes in its litigation. Other licensees occasionally raise concerns similar to those raised by these licensees and there is no assurance that such concerns can be addressed in a similar fashion.

The Company anticipates that future RDRAM royalties will be largely dependent upon system sales by PC and workstation manufactu and by Sony. The markets addressed by systems companies using RDRAM memory devices and controllers, including those in the video ga console and PC businesses, are characterized by extreme volatility, frequent new product introductions and rapidly shifting consumer preferences, and there can be no assurance as to the unit volumes of RDRAM memory devices and controllers that will be purchased in the future or the level of royalty-bearing revenues that the Company will receive due to these applications. None of the systems companies currently incorporating RDRAM memory devices and controllers into their system products is contractually obligated to continue doing so. Given the concentration of royalties from a limited number of sources, it is likely that royalties will continue to vary greatly from period to period.

Because most of the Company's revenues are derived from a small number of licensees, the Company's revenues tend to be highly concentrated. In the second quarter and first six months of fiscal 2002, the Company's top five licensees accounted for 85% of total revenue In the comparable periods of fiscal 2001, the Company's top five licensees accounted for 76% of total revenues. During the second quarter o fiscal 2002, three customers accounted for 43%, 16%, and 16% of total revenues. During the first six months of fiscal 2002, the same three customers accounted for 42%, 18%, and 15% of total revenues. During the second quarter of fiscal 2001, four customers accounted for 30% 17%, 11% and 10% of total revenues. During the first six months of fiscal 2001, the same four customers accounted for 27%, 18%, 14%, an 12% of total revenues. The Company expects that it will continue to experience significant revenue concentration for the foreseeable future. However, the particular licensees which account for revenue concentration may vary from period to period depending on the addition of nev contracts, industry consolidation, the expiration of deferred revenue schedules under existing contracts, and the volumes and prices at which licensees sell licensed memory devices and controllers to systems companies in any given period.

The royalties received by the Company are also partially a function of the adoption of Rambus technology by systems companies and t acceptance of the systems companies' products by end users. The Company generally does not have a direct contractual relationship with systems companies, and the royalty reports submitted by the Company's licensees generally do not disclose the identity of, or unit volume o licensed memory devices and controllers purchased by particular systems companies. As a result, it is difficult for the Company to predict th extent to which its future revenues will be dependent upon particular systems companies.

International revenues constituted 53% and 55% of total revenues in the second quarter and first six months of fiscal 2002, respectively and 93% and 89% in the comparable periods of fiscal 2001. In the fiscal 2002 periods, international revenues account for a reduced percenta of total revenues due to an increase in domestic revenues from the comparable periods of fiscal 2001. The Company expects that revenues derived from international licensees will continue to represent a significant portion of its total revenues in the future. All of the revenues fror international licensees to date have been denominated in United States dollars.

Substantially all of the license fees, engineering service fees and nonrefundable, prepaid royalties from RDRAM and RaSer licenses are bundled together as contract fees because the Company generally does not provide or price these components separately. The RDRAM contracts also generally include rights to upgrades and enhancements. Accordingly, Rambus recognizes contract revenues ratably over the period during which post-contract customer support is expected to be provided. The excess of contract fees received over revenue recognize shown on the Company's balance sheet as deferred revenue.

SDRAM-compatible and DDR-compatible licenses generally provide for the payment of fees which include compensation for use of Rambus patents from the time the Company notifies the licensee of potential infringement. Accordingly, Rambus classifies these fees as royalty revenues that are recognized ratably over the five-year contract period. The excess of payments received over royalty revenue recognized is shown on the Company's balance sheet as deferred revenue.

As of March 31, 2002, the Company's total deferred revenue from RDRAM, RaSer, SDRAM-compatible and DDR-compatible license was $31.3 million, substantially all of which is scheduled to be recognized in varying amounts over the next four years.

Engineering Costs. Engineering costs, consisting of cost of contract revenues and research and development expenses, decreased 9.6 to $7.1 million (30.0% of total revenues) and increased 5.3% to $14.3 million (29.7% of total revenues) in the second quarter and first six months of fiscal 2002, respectively, over the comparable periods of fiscal 2001. The decrease in engineering costs for the second quarter of fiscal 2002 from the comparable period of fiscal 2001 relates primarily to spending reduction efforts, particularly in the areas of compensati and outside services. The increase in engineering costs for the first half of fiscal 2002 was primarily attributable to higher operating costs of new office facilities to which the Company relocated at the beginning of the second quarter of fiscal 2001.

Cost of Contract Revenues. Cost of contract revenues was $1.8 million and $4.0 million in the second quarter and first six months of fiscal 2002, respectively, down 39.7% and 24.2% from the comparable periods of fiscal 2001. Cost of revenues accounted for 28% of total engineering costs in the first half of fiscal 2002, down from 39% in the comparable period of fiscal 2001. The decrease in cost of contract revenues as a percentage of total engineering costs reflects the shift in engineering resources toward development of the Company's technol roadmap and new chip connection activities. The Company believes that the level of cost of contract revenues will continue to fluctuate in t future, both in absolute dollars and as a percentage of revenues, as new generations of RDRAM memory devices and controllers and RaSer ASIC cells go through the development and implementation phases.

Research and Development. Research and development expenses were $5.2 million and $10.3 million in the second quarter and first months of fiscal 2002, respectively, up 9.8% and 24.0% from the comparable periods of fiscal 2001. Research and development expenses accounted for 72% of total engineering costs in the first half of fiscal 2002, up from 61% in the comparable period of fiscal 2001 as the Company continued to shift engineering resources to development of its technology roadmap and new chip connection activities. The Comp expects research and development expenses to increase over time as it enhances and improves its technology and applies it to new generatio of memory devices and controllers. The rate of increase of, and the percentage of revenues represented by, research and development expen in the future will vary from period to period based on the research and development projects underway and the change in engineering headcount in any given period, as well as the rate of change in the Company's total revenues.

Marketing, General and Administrative. Marketing, general and administrative expenses decreased 38.4% to $7.8 million and 18.6% $17.8 million in the second quarter and first six months of fiscal 2002, respectively, from the comparable periods of fiscal 2001 largely due reduced level of legal activity as the Company awaits hearings and trials associated with the defense of its intellectual property. Litigation c decreased to $1.6 million in the second quarter of fiscal 2002 from $7.3 million in the comparable period of 2001, and decreased to $6.1 million in the first half of fiscal 2002 from $11.6 million in the comparable period of 2001. The effect of reduced legal expenses was partial offset by higher payroll costs associated with changes in sales, marketing and administrative headcount and higher rent and other ongoing operating costs associated with relocating the Company's corporate headquarters to a larger facility at the beginning of the second quarter o fiscal 2001 to accommodate anticipated long-term growth. In spite of a reduced revenue base in the fiscal 2002 period, marketing, general a administrative expenses decreased as a percentage of revenues from 40.3% in the second quarter of fiscal 2001 to 33.0% in the second quart of fiscal 2002 primarily due to the significant reduction in legal expenses. The Company expects marketing, general and administrative expenses to vary in the future as the Company markets its technology and assists systems companies with adapting this technology to new generations of

products. Litigation expenses are expected to vary from period to period based upon the volatility of litigation activities and the Company's efforts to focus its resources upon protecting its intellectual property rights. The rate of increase of, and the percentage of revenues represer by, marketing, general and administrative expenses in the future will vary from period to period based on the trade shows, advertising, lega and other marketing and administrative activities undertaken and the change in sales, marketing and administrative headcount in any given period, as well as the rate of change in the Company's total revenues.

Interest and Other Income, Net. Interest and other income decreased to $1.7 million in the second quarter of fiscal 2002 from $2.6 million in the comparable period of fiscal 2001, and to $3.6 million in the first six months of fiscal 2002 from $4.6 million in the comparab period of fiscal 2001. Interest and other income consists primarily of interest income from the Company's cash investments. In addition, beginning in the second fiscal quarter of 2001, interest and other income includes net income recognized from the Company's sublease of it former office facilities in Mountain View, California. The decrease in interest and other income in the second quarter and first six months o fiscal 2002 from the comparable periods of fiscal 2001 was primarily the result of declining interest rates and reduced sublease income. In t second quarter of fiscal 2002, the Company agreed to accept reduced rent payments from its sub-tenant in exchange for an increase in the le of credit that serves as collateral for certain of the sub-tenant's obligations under the lease. Interest and other income will likely decline in th next quarter due to reduced sublease income, the effect of which is expected to be partially offset by rising interest rates and higher interest income.

Provision for Income Taxes. The Company recorded a provision for income taxes of $3.6 million and $7.0 million in the second qua and first six months of fiscal 2002, respectively, compared to a provision of $5.4 million and $14.1 million in the comparable periods of fis 2001, respectively. The estimated federal and state combined rates on pretax income for the first half of fiscal 2002 and 2001 were 35% and 40%, respectively. The Company's effective tax rate differs from the statutory rate due to differences related to the timing of recognition of contract and royalty revenues and expenses for tax and financial reporting purposes.

Contingent Warrants, Common Stock Equivalents, and Options

In November 1996, the Company entered into an agreement with Intel Corporation for the development of high-speed semiconductor memory interface technology. In January 1997, as part of this agreement, the Company issued a warrant to purchase 4,000,000 shares of Common Stock of the Company at a purchase price of $2.50 per share (the "Intel warrant"). This warrant was to have become exercisable c upon the achievement of certain milestones by Intel relating to shipment volumes of RDRAM chipsets (the "Intel milestones"). A complete discussion of these milestones is set forth in the Intel warrant filed as Exhibit 4.4 to the Company's Form 8-K filed on July 7, 2000. In September 2001, this warrant was canceled as part of contract negotiations which resulted in a new royalty-bearing contract with Intel.

In October 1998, the Company's Board of Directors authorized an incentive program in the form of warrants for a total of up to 1,600, shares of Rambus Common Stock (the "DRAM incentive warrants") to be issued to various RDRAM licensees upon the achievement of ce product qualification and volume production targets. The warrants have an exercise price of $2.50 per share and a life of five years from the date of issue. They vest and become exercisable on the same basis as the former Intel warrant, which will result in a non-cash charge to the statement of operations based on the fair value of the warrants when and if achievement of the Intel milestones becomes probable. As of Ma 31, 2002, a total of 1,520,000 of these warrants had been issued.

In the first quarter of fiscal 2000, the Company granted to its Chief Executive Officer and to its President a combined total of 2,000,00 Common Stock Equivalents (CSEs) and to its employees approximately 2,160,000 options to purchase Rambus Common Stock for $2.50 p share. An additional 494,500 of these options were granted to employees in fiscal 2001. Vesting of these CSEs and options was contingent upon the achievement of key indicators of success for Rambus. Vesting for a portion of these CSEs and options granted in fiscal 2000 was contingent on an increase in the price of Rambus Common Stock to greater than $50 per share for 30 consecutive days. This target was achieved by the end of the second quarter of fiscal 2000, and resulted in a $171.1 million employee stock-related compensation charge take the same quarter. Except for a $1.2 million employer payroll tax liability, this was a non-cash charge. The remaining CSEs and options vest the same basis as the former Intel and existing DRAM incentive warrants, which will result in another almost entirely non-cash charge to th statement of operations based on the fair value of the CSEs and options when and if achievement of the Intel milestones becomes probable.

The magnitude of these charges is a function of the then current price of Rambus Common Stock at the time the charges are taken. For example, if these warrants, CSEs, and options were valued based upon a stock price of $25, the charge could be $150 million or more. The charge, when and if taken, will be non-cash except for payroll tax liabilities, which would likely be more than offset by cash received by the Company upon exercise of the warrants and options.

Share Repurchase Program

In October 2001, the Company's Board of Directors approved a share repurchase program of the Company's Common Stock principall to reduce the dilutive effect of employee stock options. Under the share repurchase program, the Company is authorized to purchase in open market transactions up to five million of the Company's shares of outstanding Common Stock over an undefined period of time. During the first half of fiscal 2002, the Company repurchased 1,035,000 shares at a cost of approximately $8.4 million.

Critical Accounting Policies and Estimates

The Company's discussion and analysis of its financial condition and results of operations are based upon the Company's consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States. The preparation of these financial statements requires the Company to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosure of contingent assets and liabilities. On an on-going basis, the Company evaluates it estimates, including those related to investments, income taxes, litigation and other contingencies. The Company bases its estimates on historical experience and on various other assumptions that are believed to be reasonable under the circumstances, the results of which form basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

The Company believes the following critical accounting policies affect its more significant judgments and estimates used in the preparation of its consolidated financial statements.

Revenue Recognition

The Company generates revenues from four types of agreements with semiconductor companies. The first type of agreement, for mem interface technology which is fully compatible with the RDRAM standard ("RDRAM licenses"), allows semiconductor manufacturers to manufacture and sell RDRAM memory devices and memory controllers that connect to RDRAM memory devices. The second type of agreement covers the use of Rambus patents and other intellectual property in synchronous DRAM ("SDRAM") and double data-rate ("DD memory devices and logic ICs which control such memory. The third type of agreement is for the RaSer cell that licensees integrate into the logic ICs for high-speed serial links. The fourth type of agreement is one with Intel for five years of payments which grants Intel access to Rambus' complete patent portfolio.

RDRAM licenses allow a semiconductor manufacturer to use the Company's proprietary technology and to receive engineering implementation services, customer support, and enhancements. The Company delivers to a new RDRAM licensee an implementation packa which contains the information needed to develop a chip incorporating RDRAM memory interface technology in the licensee's process. An implementation package includes a specification, a generalized circuit layout database software for the particular version of the chip which t licensee intends to develop, test parameter software and, for memory chips, a core interface specification. Test parameters are the programs test the RDRAM technology embedded in the customer's product. Many licensees have contracted to have Rambus provide the specific engineering implementation services required to optimize the generalized circuit layout for the licensee's manufacturing process. The RDR licenses also provide for the right to receive ongoing customer support, which includes technical advice on chip specifications, enhancemen debugging and testing.

The Company recognizes revenue on RDRAM licenses consistent with American Institute of Certified Public Accountants (AICPA) Statement of Position No. 98-9 (SOP 98-9), modification of SOP 97-2, "Software Revenue Recognition." This SOP applies to all entities th earn revenue on products containing software, where software is not incidental to the product as a whole. Contract fees for the services provided under these agreements are comprised of license fees, engineering service fees and nonrefundable, prepaid royalties. Contract fees bundled together as the total price of the agreement does not vary as a result of inclusion or exclusion of services. Accordingly, the revenues from such contract fees are recognized ratably over the period during which the post-contract customer support is expected to be provided independent of the payment schedules under the contract, including milestones. We review assumptions regarding the post-contract custome support periods on a regular basis. If we determine that it is necessary to revise our estimates of the support periods, the total amount of revenue recognized over the life of the contract would not be affected. However, to the extent the new assumptions regarding the post-contr customer support periods were less than the original assumptions, the contract fees would be recognized ratably over an accelerated period. Conversely, if the new estimated periods were longer than the original assumptions, the contract fees would be recognized ratably over a lor period.

At the time the Company begins to recognize revenue under RDRAM licenses, the remaining obligations, as defined by the SOP, are n longer significant. These remaining obligations are primarily to keep the product updated and include activities such as responding to inquir and periodic customer meetings. Part of these contract fees may be due upon the achievement of certain milestones, such as provision of cer deliverables by the Company or production of chips by the licensee. The remaining fees are due on pre-determined dates and include significant up-front fees. The excess of contract fees received over revenue recognized is shown on the balance sheet as deferred revenue.

SDRAM-compatible and DDR-compatible licenses also generally provide for the payment of fees which include compensation for use Rambus patents from the time the Company notifies the licensee of potential infringement. Accordingly, the Company classifies these fees royalty revenues, which are recognized ratably over the five-year contract period.

RaSer serial link licenses generally also provide for the payment of license fees and engineering fees, as well as royalties based upon th number of links produced by the licensees. Revenues from license fees and engineering fees are recognized ratably over the period during which the post-contract customer support is expected to be provided, independent of the payment schedules under the contract.

The Company recognizes royalties upon notification of sale by its licensees. The terms of the royalty agreements generally require licensees to give notification to the Company and to pay royalties within 60 days of the end of the quarter during which the sales take place. The Company recognizes royalties from the Intel contract which grants Intel access to the Rambus patent portfolio as the amounts are due a payable pursuant to the contract with Intel.

Litigation

As of March 31, 2002, we are involved in certain legal proceedings, as discussed in Note 6 of our consolidated financial statements. Ba upon consultation with outside counsel handling our defense in these matters and an analysis of potential results, we have not accrued any amounts for potential losses related to these proceedings. Because of uncertainties related to both the amount and range of loss on the pendi litigation, management is unable to make a reasonable estimate of the liability that could result from an unfavorable outcome. As additional information becomes available, we will assess the potential liability related to our pending litigation. We will record accruals for losses whe we determine the negative outcome of such matters to be probable and reasonably estimable. Our estimates regarding such losses could diff from actual results. Revisions in our estimates of the potential liability could materially impact our results of operations and financial positi

Marketable Securities

We classify all of our marketable securities as available-for-sale. We carry these investments at fair value, based on quoted market pric and unrealized gains and losses are included in accumulated other comprehensive income, which is reflected as a separate component of stockholders' equity. Realized gains and losses are recorded in our consolidated statement of operations. If we believe that an other-than-temporary decline exists in one of our marketable securities, it is our policy to write down these investments to the market value and record related write-down as a reduction of interest income.

Income Taxes

As part of preparing our consolidated financial statements, we are required to estimate our income taxes. This process involves estimat our current tax exposure together with assessing temporary differences resulting from differing treatment of items, such as deferred revenue for tax and accounting purposes. These differences result in deferred tax assets and liabilities, which are included within our consolidated balance sheet. We assess the likelihood that our deferred tax assets will be recovered from future taxable income. To the extent we believe t recovery is not likely, we must establish a valuation allowance. To the extent we establish a valuation allowance or

increase this allowance in a period, we must include an expense within the tax provision in the statement of operations.

Significant management judgment, based upon the advice of outside tax experts, is required to determine our provision for income tax our deferred tax assets and liabilities and any valuation allowance recorded against our deferred tax assets. As of March 31, 2002, we have recorded a valuation allowance of $5.9 million due to uncertainties related to our ability to recover some of our deferred tax assets. The valuation allowance is based upon our estimates of taxable income and the period over which our deferred tax assets will be recoverable. In event that actual results differ from these estimates or we adjust these estimates in future periods, we may need to establish an additional valuation allowance, which could materially impact our financial position and results of operations.

As of March 31, 2002, the Company has net deferred tax assets of $45.2 million.

Liquidity and Capital Resources

As of March 31, 2002, the Company had cash and cash equivalents and marketable securities of $161.8 million, including restricted investments of $12.3 million and a long-term marketable securities component of $50.7 million. As of the same date, the Company had tota working capital of $93.3 million, including a short-term component of deferred revenue of $12.1 million. Deferred revenue represents the excess of cash received from licensees over revenue recognized on license contracts, and the short-term component represents the amount o this deferred revenue the Company expects to recognize over the next twelve months. Without the short-term component of deferred revenu working capital would have been $105.4 million as of March 31, 2002.

The Company's operating activities provided net cash of $14.0 million and $26.2 million in the first half of fiscal 2002 and 2001, respectively. In the fiscal 2002 period, net cash provided by operating activities consisted primarily of net income adjusted for non-cash iten and a decrease in prepaids, deferred taxes and other assets, partially offset by a decrease in deferred revenue. The decrease in deferred reven represents contract revenues recognized in excess of new contract billings. Cash provided by operating activities affects the Company's liquidity. For a discussion of risks associated with the Company's operating activities, see "Risk Factors" below.

Net cash used in investing activities was $17.5 million and $5.5 million in the first half of fiscal 2002 and 2001, respectively. Investing activities have consisted primarily of net purchases and maturities of marketable securities, changes in restricted investments, and purchases property and equipment.

Net cash used in financing activities was $6.2 million in the first half of fiscal 2002 compared to $8.6 million provided by financing activities in the comparable period of fiscal 2001. Financing activities have consisted primarily of proceeds from the sale of Common Stock under the Company's Employee Stock Purchase and Option plans and, beginning in the first quarter of fiscal 2002, the repurchase of shares the Company's outstanding Common Stock. In the first half of fiscal 2002, the Company generated net proceeds of $2.2 million from the issuance of Common Stock and used cash of $8.4 million to repurchase Common Stock.

The Company presently anticipates that existing cash balances will be adequate to meet its cash needs for at least the next 12 months.

Lease Commitments

The Company relocated its headquarters at the beginning of calendar year 2001, and entered into an agreement to sublease its previous Mountain View facilities through the end of the existing lease term in February 2005. In the second quarter of fiscal 2002, the Company agr to accept reduced rent payments from its sub-tenant in exchange for an increase in the letter of credit that serves as collateral for certain of t sub-tenant's obligations under the lease.

The Company leases its present office facilities in Los Altos, California, under an operating lease agreement. As part of this lease transaction, the Company provided the lessor with a letter of credit restricting $2.5 million of its cash as collateral for certain of the Compar obligations under the lease. The cash is restricted as to withdrawal and is managed by a third party subject to certain limitations under the Company's investment policy. The letter of credit was reduced to $1.2 million upon the first anniversary of rent commencement, and is subj to further reduction to $0.6 million on the second anniversary of rent commencement.

As of March 31, 2002, aggregate future minimum payments under the leases are (in thousands):

Fiscal Year:	Leases	Subleases	Net Commitm
April 1, 2002 through September 30, 2002	$ 2,367	$ 672	$ 1,
2003	4,846	1,554	3,
2004	4,984	1,970	3,
2005	4,660	900	3,
2006	4,467	—	4,
Thereafter	20,516	—	20,
Total minimum lease payments	$ 41,840	$ 5,096	$ 36,

Risk Factors

Current and Potential Litigation. As the Company has extended its licensing program to SDRAM-compatible and DDR-compatible products, it has increasingly become involved in litigation either instigated by the Company or by the potential licensee. As of March 31, 20 the Company was in litigation with three such potential SDRAM-compatible and DDR-compatible licensees. In each of these cases, the Company has claimed infringement of its patents whereas the potential licensees have generally sought damages and a determination that th Rambus patents at suit are invalid and not infringed. While the Company's preference in all these cases is to achieve settlements resulting in SDRAM-compatible and DDR-compatible licenses, there can be no assurance that such settlements will take place, that the Company will prevail if there is no settlement or that additional litigation will not result from future efforts by the Company to obtain additional SDRAM-compatible and DDR-compatible licenses. In addition, future litigation may be brought by federal regulatory authorities relating to the Company's involvement with JEDEC or may be necessary to enforce the Company's patents and other intellectual property rights, to protec the Company's trade secrets, to enforce existing licenses, or to determine the validity and scope of the proprietary rights of others, and there can be no assurance that the Company would prevail in any future litigation. Any such litigation, whether or not determined in the Company favor or settled by

the Company, is costly and could divert the efforts and attention of the Company's management and technical personnel from normal busin operations, which would have a material adverse effect on the Company's business, financial condition and results of operations. Adverse determinations or adverse interim results in litigation could result in, and/or have already resulted in, at least on an interim basis, the Compa losing certain rights, including the loss of the right to sue others for violating the Company's proprietary rights, the Company being subject to significant liabilities, the Company being required to seek licenses from third parties, the Company being prevented from licensing its technology, or the Company being required to renegotiate with current licensees on a temporary or permanent basis, any, or all, of which co have a material adverse effect on the Company's business, financial condition and results of operations.

In any potential dispute involving the Company's patents or other intellectual property, the Company's licensees could also become th target of litigation. While the Company generally does not indemnify its licensees, some of its license agreements require the Company to provide technical support and information to a licensee which is involved in litigation involving use of Rambus technology. In addition, the Company is bound to indemnify certain licensees under the terms of certain RDRAM license agreements, and the Company may agree to indemnify others in the future. The Company's support and indemnification obligations could result in substantial expenses to the Company addition to the time and expense required for the Company to supply such support or indemnification to its licensees, a licensee's developm marketing and sales of memory devices and controllers could be severely disrupted or shut down as a result of litigation, which in turn coul have a material adverse effect on the Company's business, financial condition and results of operations.

Unpredictable and Fluctuating Operating Results. Because many of the Company's revenue components fluctuate and are difficult t predict, and its expenses are largely independent of revenues in any particular period, it is difficult for the Company to accurately forecast revenues and profitability. The Company recognizes contract revenues ratably over the period during which post-contract customer support RDRAM and RaSer licenses is expected to be provided. While this means that contract revenues from current licenses are generally predictable, changes can be introduced by a reevaluation by Company management of the length of the post-contract support period. The in estimate of this period is subject to revision as the RDRAM and RaSer technology being developed under a contract nears production, and s revision will result in an increase or decrease to the quarterly revenue for that contract. In addition, accurate prediction of revenues from nev licenses is difficult because the development of a business relationship with a potential licensee is a lengthy process, frequently spanning a y or more, and the fiscal period in which a new license agreement will be entered into, if at all, and the financial terms of such an agreement a difficult to predict. Contract revenues also include fees for engineering services, which are dependent upon the varying level of assistance desired by licensees and, therefore, the revenue from these services is also difficult to predict. Adding to the complexity of making accurate financial forecasts is the fact that certain expenses associated with a particular contract may not be incurred evenly over the contract period, whereas contract fees associated with that contract are recognized ratably over the period during which the post-contract customer support is expected to be provided.

Royalties accounted for 90% of total revenues in the first half of fiscal 2002 and 81% of total revenues in the fiscal year ended Septeml 30, 2001. The Company believes that royalties will represent the majority of total revenues in future periods. Increasing royalty revenues wi add to the difficulty in making accurate financial forecasts. Such royalties are recognized in the quarter in which the Company receives a rep from a licensee regarding the shipment of licensed memory devices and controllers in the prior quarter, and are dependent upon fluctuating sales volumes and

prices of chips containing Rambus technology, all of which are beyond the Company's ability to control or assess in advance. The Compan believes that its continued success will be substantially dependent upon royalties increasing at a rate which more than offsets decreases in t recognition of revenue under existing contracts, as well as the Company's ability to add new licensees and to license new generations of its technology to its existing licensees. Because a systems company can change its source of licensed memory devices and controllers at any ti and because the new source could have different royalty rates, any such change by a systems company, particularly one which accounts for substantial volumes of licensed memory devices and controllers, could have a sudden and significant adverse effect on the Company's revenues.

The Company's business is subject to a variety of additional risks, which could materially adversely affect quarterly and annual operat results, including:

- market acceptance of the Company's technology;
- systems companies' acceptance of memory devices and controllers produced by the Company's
- semiconductor and systems companies' acceptance of RaSer and Yellowstone
- market acceptance of the products of systems companies which have adopted the Company's
- the loss of any strategic relationships with systems companies or
- announcements or introductions of new technologies or products by the Company or the Company's
- delays or problems in the introduction or performance of enhancements or of future generations of the Company's technology;
- fluctuations in the market price and demand for memory devices and controllers into which the Company's technology has been incorporated;
- competitive pressures resulting in lower contract revenues or royalty rates;
- changes in the Company's and systems companies' development schedules and levels of expenditure on research and
- personnel changes, particularly those involving engineering and technical personnel;
- costs associated with protecting the Company's intellectual property;
- adverse developments in litigation, including current litigation with potential SDRAM and DDR
- the Company's reliance upon the accuracy of royalties reported by licensees;

- the potential that Intel and other licensees could fail to make payments under their current
- changes in Company strategies;
- fluctuations in the value of the Company's strategic
- foreign exchange rate fluctuations or other changes in the international business climate;
- general economic trends and other factors.

Extreme Volatility of Stock Price. The trading price of the Company's Common Stock has been subject to very wide fluctuations wh may continue in the future in response to the following:

- quarterly variations in operating results;
- progress or lack of progress in the development of RDRAM memory devices by licensees or RDRAM memory device-based produ by systems companies;
- signing or not signing new licensees, especially for SDRAM-compatible, DDR-compatible, RaSer and Yellowstone
- new litigation or developments in current litigation;
- announcements of technological innovations or new products by the Company, its licensees or its competitors;
- developments with respect to patents or proprietary rights and other events or

The trading price of the Company's Common Stock could also be subject to wide fluctuations in response to the publication of reports changes in financial estimates by securities analysts, and it is possible that the Company's actual results in one or more future periods will f short of those estimates by securities analysts. In addition, the equity markets have experienced volatility that has particularly affected the market prices of equity securities of many high technology companies and that often has been unrelated or disproportionate to the operating performance of such companies. These broad market fluctuations may adversely affect the market price of the Company's Common Stock.

Dependence upon Limited Number of Licensees. The Company neither manufactures nor sells devices containing its memory or seria link chip-connection technology. In general, the Company licenses its technology to semiconductor companies, which in turn manufacture a sell licensed memory devices, memory controllers, and serial links to systems companies which incorporate Rambus technology into their products. The Company's strategy to maintain RDRAM as an industry standard is dependent upon the Company's ability to make its technology widely available to systems companies through multiple semiconductor manufacturers, and there can be no assurance that the Company will be successful in maintaining its relationships with its current licensees or in entering into new relationships with additional licensees. In the case of RaSer serial links, semiconductor and

systems companies may license directly from Rambus. The Company faces numerous risks in successfully obtaining RDRAM memory dev and controller licensees on terms consistent with the Company's business model, including, among others:

- the lengthy and expensive process of building a relationship with a potential licensee before there is any assurance of a license agreement with such party;
- persuading large semiconductor companies to work with, to rely for critical technology on, and to disclose proprietary manufacturin technology to, a smaller company such as Rambus;
- persuading potential licensees to bear certain development costs associated with RDRAM technology and to make the necessary investment to successfully produce RDRAM memory devices and controllers; and
- successfully transferring technical know-how to

To obtain new SDRAM-compatible and DDR-compatible licenses, the Company may have to resort to litigation, in many cases agains the same companies who are RDRAM memory device and controller licensees of the Company. In addition, there are a relatively limited number of larger semiconductor companies to which the Company could license its interface technology in a manner consistent with its business model. The Company believes that its principal competition may come from its licensees and prospective licensees, many of whic are evaluating and developing products based on alternative technologies.

Dependence upon Systems Companies. Although sales of RDRAM memory devices to systems companies which have adopted the Company's technology for their products are not made directly by the Company, such sales directly affect the amount of royalties from RDRAM memory devices and controllers received by the Company. Therefore, the Company's success is partially dependent upon the adoption of the Company's chip-connection technology by systems companies, particularly those which develop and market high-volume business and consumer products such as PCs and home video game consoles. The sales of RaSer technology are directly impacted by the sa of systems using the technology regardless of whether the license is obtained directly or through a semiconductor company. The Company i subject to many risks beyond its control that influence the success or failure of a particular systems company, including, among others:

- competition faced by the systems company in its particular
- market acceptance of the systems company's products;
- the engineering, sales and marketing and management capabilities of the systems company;
- technical challenges unrelated to Rambus technology faced by the systems company in developing its products;
- the financial and other resources of the systems company.

The process of persuading systems companies to adopt the Company's technology can be lengthy and, even if adopted, there can be nc assurance that Rambus technology will be used in a product that is ultimately brought to market, achieves commercial acceptance or results significant

royalties to the Company. Rambus must dedicate substantial resources to market to and support systems companies, in addition to supportir the sales, marketing and technical efforts of its licensees in promoting Rambus technology to systems companies. Even if a systems compar develops a product based on Rambus technology, success in the market will depend in part on a supply of memory devices and controllers f Rambus licensees in sufficient quantities and at commercially attractive prices. Because the Company does not control the business practice its licensees, it has no ability to establish the prices at which the chips containing its technology are made available to systems companies o degree to which its licensees promote Rambus technology to systems companies.

No Assurance of Adoption of RDRAM Technology as the Mainstream Industry Standard; Cost of RDRAM Technology. An important part of the Company's strategy for its RDRAM technology to become the mainstream industry standard is to penetrate markets by working with leaders in those markets. This strategy is designed to encourage other participants in those markets to follow such leaders in adopting RDRAM technology. Should a high profile industry participant adopt RDRAM technology for one or more of its products but fail to achiev success with those products, other industry participants' perception of RDRAM technology could be adversely affected. Any such event co reduce future sales of RDRAM memory devices and controllers. Likewise, were a market leader to adopt and achieve success with a compe technology, the Company's reputation and sales could be adversely affected. In addition, some industry participants have adopted, and othe may in the future adopt, a strategy of disparaging the Rambus solution adopted by their competitors. Failure of the Company's technology t adopted as the mainstream industry standard and/or to maintain performance leadership would have a material adverse effect on the Compa business, financial condition and results of operations.

One important requirement for the Company's RDRAM technology to be adopted as the mainstream industry standard is for any prem in the price and cost of RDRAM devices over alternatives to be reasonable in comparison to the perceived benefits of the technology. Howe there can be no assurance that the price and cost premium for RDRAM memory over standard memory can be reduced sufficiently to allow development of RDRAM as the mainstream industry standard. There can be no assurance that yields to the full 800, 1066, or 1200 MHz specification will maintain satisfactory levels. In addition, because of the extra interface circuitry and other features, an RDRAM chip is somewhat larger than a standard SDRAM. Therefore, a manufacturer will generally produce fewer RDRAM devices than standard SDRAM a given wafer size and an RDRAM chip will be somewhat more expensive than the standard SDRAM version. Also, RDRAM manufacturer are responsible for their own manufacturing processes, and Rambus has no role in the manufacture of RDRAM memory devices. For examp Rambus has no influence on decisions in regard to any process changes or on whether or when to "shrink" or otherwise change a design to reduce the cost of the chips.

RDRAM memory devices use newer-generation chip-scale packaging ("CSP") and require high-speed testers for a portion of the test procedure. While the Company feels that testing costs for RDRAM memory devices in mass production volumes will be no greater than for current standard SDRAM, additional capital equipment is required and startup costs are incurred by the manufacturers producing RDRAM memory devices. In addition, for PC main memory applications, memory modules (called "RIMM™ modules"), connectors and clock chips must be produced by multiple vendors and available in volume. There is no assurance that such changes in the manufacturing processes and infrastructure of the DRAM industry can be accomplished at a sufficiently competitive price to allow the development of a mass market for RDRAM technology.

Dependence upon PC Main Memory Market Segment and Intel. An important part of the Company's strategy is for its RDRAM technology to penetrate the market segment for PC main memory. To date, the only use of RDRAM technology in this market is via chipset developed by Intel which allow RDRAM memory devices to connect to Pentium III and Pentium IV processors. There can be no assurance the pricing of RDRAM memory devices will be reduced to a competitive level or that Intel chipsets and RDRAM technology will be succes in penetrating the market segment for PC main memory. Furthermore, Intel has in the past changed its roadmap to eliminate certain product using RDRAM technology and there can be no assurance that Intel's emphasis or priorities will not further change in the future, resulting in less attention and fewer resources being devoted to developing chipsets supporting RDRAM. Intel could stop developing chipsets that supp RDRAM technology. Also, there can be no assurance that Rambus and Intel will continue to be able to work together successfully over an extended period of time or that Intel will not continue to develop or adopt competing technologies in the future. Failure of the Company's technology to maintain performance leadership would have a material adverse effect on the Company's business, financial condition and results of operations.

Revenue Concentration. The Company is subject to revenue concentration risks at both the licensee and the systems company levels. the first half of fiscal 2002 and 2001, revenues from the Company's top five licensees accounted for approximately 85% and 76% of the Company's revenues, respectively. Because the revenues derived from various licensees vary from period to period depending on the additi of new contracts, the expiration of deferred revenue schedules under existing contracts and the volumes and prices at which the licensees ha recently sold licensed memory devices and controllers to systems companies, the particular licensees which account for revenue concentrati have varied from period to period. These variations are expected to continue in the foreseeable future, although the Company anticipates tha revenue will continue to be concentrated in a limited number of licensees.

The royalties received by the Company are a function of the adoption of Rambus technology at the systems company level. Systems companies purchase semiconductors containing Rambus technology from Rambus licensees and, other than for RaSer technology, generally not have a direct contractual relationship with the Company. The Company's licensees generally do not provide detail as to the identity or volume of licensed memory devices and controllers purchased by particular systems companies. As a result, the Company faces difficulty in analyzing the extent to which its future revenues will be dependent upon particular systems companies. Systems companies face intense competitive pressure in their markets, which are characterized by extreme volatility, frequent new product introductions and rapidly shifting consumer preferences, and there can be no assurance as to the unit volumes of licensed memory devices and controllers that will be purchas by these companies in the future or as to the level of royalty-bearing revenues that the Company's licensees will receive from sales to these companies. There can be no assurance that a significant number of other systems companies will adopt the Company's technology or that th Company's dependence upon particular systems companies will decrease in the future.

Reliance upon DRAM Market; Declines in DRAM Price and Unit Volume per System. In fiscal 2001 and the first half of fiscal 2002, material percentage of the Company's royalties was derived from the sale of DRAM. Royalties on DRAM are based on the volumes and pri of DRAM manufactured and sold by the Company's licensees. The royalties received by the Company, therefore, are influenced by many of the risks faced by the DRAM market in general, including constraints on the volumes shipped during periods of shortage and reduced averag selling prices (ASPs) during periods of surplus. The DRAM market is intensely competitive and generally is

characterized by declining ASPs over the life of a generation of chips. Such price decreases, and the corresponding decreases in per unit royalties received by the Company, can be sudden and dramatic. Compounding the effect of price decreases is the fact that, under certain of Company's RDRAM license agreements, royalty rates decrease as a function of time or volume. There can be no assurance that decreases in DRAM prices or in the Company's royalty rates will not have a material adverse effect on the Company's business, results of operations and financial condition. There can be no assurance that the Company will be successful in maintaining or increasing its share of any market.

Rapid Technological Change; Reliance on Fundamental Technology; Importance of Timely New Product Development. The semiconductor industry is characterized by rapid technological change, with new generations of semiconductors being introduced periodically and with ongoing evolutionary improvements. Since beginning operations in 1990, the Company has derived all of its revenue from its chip connection technology and expects that this dependence on its fundamental technology will continue for the foreseeable future. Accordingly, broad acceptance of the Company's technology is critical to the Company's future success. The introduction or market acceptance of competing technology which renders the Company's chip-connection technology less desirable or obsolete would have a rapid and material adverse effect on the Company's business, results of operations and financial condition. The announcement of new products by the Company could cause licensees or systems companies to delay or defer entering into arrangements for the use of the Company's technology, which could have a material adverse effect on the Company's business, financial condition and results of operations.

The Company's operating results will depend to a significant extent on its ability to introduce enhancements and new generations of its chip-connection technologies which keep pace with other changes in the semiconductor industry and which achieve rapid market acceptance. The Company must continually devote significant engineering resources to addressing the ever-increasing need for memory bandwidth associated with increases in the speed of microprocessors and other controllers, as well as to serial link and signaling technologies. Technical innovations of the type that will be required for the Company to be successful are inherently complex and require long development cycles, and there can be no assurance that the Company's development efforts will ultimately be successful. In addition, these innovations must be completed before changes in the semiconductor industry have rendered them obsolete, must be available when systems companies require the innovations, and must be sufficiently compelling to cause semiconductor manufacturers to enter into licensing arrangements with Rambus for the new technologies. There can be no assurance that Rambus will be able to meet these requirements. Moreover, significant technological innovations generally require a substantial investment before their commercial viability can be determined. There can be no assurance that the Company will have the financial resources necessary to fund future development, that the Company's licensees will continue to share certain research and development costs with the Company as they have in the past, or that revenues from enhancements or new generations of the Company's technology, even if successfully developed, will exceed the costs of development.

Competition. The semiconductor industry is intensely competitive and has been characterized by price erosion, rapid technological change, short product life cycles, cyclical market patterns and increasing foreign and domestic competition. Most major DRAM manufacturers, including RDRAM licensees, produce SDRAM, DDR, FCRAM, and RLDRAM, which compete with RDRAM memory devices. These companies are much larger and have better access to financial, certain technical and other resources than Rambus.

The Company believes that its principal competition for memory interfaces may come from its licensees and prospective licensees, ma of which are evaluating and developing products based on alternative technologies and are beginning to take a systems approach similar to Company's in solving the application needs of systems companies. Most DRAM suppliers have been producing DDR, which doubles the memory bandwidth compared to SDRAM without doubling the clock frequency. While Rambus has been successful in negotiating SDRAM compatible and DDR-compatible licenses with some DRAM manufacturers which include the payment of royalties on DDR, other manufacturers have not agreed to a license and are in litigation with the Company.

A consortium including semiconductor and systems companies is thought to be developing an extension of DDR known as DDR-2. To extent that these alternative technologies provide comparable system performance at lower than or similar cost to RDRAM memory devices are perceived to require the payment of lower royalties, the Company's licensees and prospective licensees may adopt and promote the alternative technologies. There can be no assurance that the Company's future competition will not have a material adverse effect on the Company's business, results of operations and financial condition. While the Company might determine that such alternative technologies, when and if developed, infringe the Company's patents, there can be no assurance that the Company would be able to negotiate agreements which would result in royalties paid to the Company without litigation, which could be costly and the result of which would be uncertain.

In addition, certain semiconductor companies are now marketing ICs which combine logic and DRAM on the same chip. Such technology, called "embedded DRAM," eliminates the need for an external interface to memory. Embedded DRAM is well suited for applications where component space saving and power consumption are important, such as in the graphics subsystems of notebook PCs. Th can be no assurance that competition from embedded DRAM will not increase in the future.

The Company believes that competition for RaSer technology will come from systems companies, semiconductor companies and other licensors of serial links. At the 10 gigabit per second speed, competition will also come from optical technology sold by systems and semiconductor companies.

Limited Protection of Intellectual Property. While the Company has an active program to protect its proprietary technology through filing of patents, there can be no assurance that the Company's pending United States or foreign patent applications or any future United St or foreign patent applications will be approved, that any issued patents will protect the Company's intellectual property or will not be challenged by third parties, that the Company will be successful in litigation relating to its patents, or that the patents of others will not have adverse effect on the Company's ability to do business. Furthermore, there can be no assurance that others will not independently develop similar or competing technology or design around any patents that may be issued to the Company.

The Company attempts to protect its trade secrets and other proprietary information through agreements with licensees and systems companies, proprietary information agreements with employees and consultants and other security measures. The Company also relies on trademarks and trade secret laws to protect its intellectual property. Despite these efforts, there can be no assurance that others will not gain access to the Company's trade secrets, or that the Company can meaningfully protect its intellectual property. In addition, effective trade se protection may be

unavailable or limited in certain foreign countries. Although the Company intends to protect its rights vigorously, there can be no assurance that such measures will be successful.

Rambus believes that it is important to develop and maintain a uniform RDRAM memory interface standard. The Company's RDRAM contracts generally prevent a licensee from using licensee-developed patented improvements related to Rambus technology to block other licensees from using the improvements or requiring them to pay additional royalties related to their use of Rambus chip-connection technol Specifically, the contracts generally require licensees to grant to Rambus a royalty-free cross-license on patented licensee intellectual prope related to the implementation of Rambus interface technology, which Rambus sublicenses to other licensees that have entered into similar arrangements. Nonetheless, there is no assurance that such a blocking arrangement will not occur in the future.

Risks Associated with International Licenses. In the first half of fiscal 2002 and 2001, international revenues constituted 55% and 89 of the Company's total revenues, respectively. The Company expects that revenues derived from international licensees will continue to represent a significant portion of its total revenues in the future. All of the revenues from international licensees have to date been denomin in United States dollars. However, to the extent that such licensees' sales to systems companies are not denominated in United States dollar any royalties that the Company receives as a result of such sales could be subject to fluctuations in currency exchange rates. In addition, if t effective price of licensed memory devices and controllers sold by the Company's foreign licensees were to increase as a result of fluctuatic in the exchange rate of the relevant currencies, demand for licensed memory devices and controllers could fall, which in turn would reduce Company's royalties. The Company does not use derivative instruments to hedge foreign exchange rate risk. In addition, international operations and demand for the products of the Company's licensees are subject to a variety of risks, including:

- tariffs, import restrictions and other trade barriers;
- changes in regulatory requirements;
- longer accounts receivable payment cycles;
- adverse tax consequences;
- export license requirements;
- foreign government regulation;
- political and economic instability; and
- changes in diplomatic and trade relationships.

In particular, the laws of certain countries in which the Company currently licenses or may in the future license its technology require significant withholding taxes on payments for intellectual property, which the Company may not be able to offset fully against its United St tax obligations. The Company is subject to the further risk that tax authorities in those countries may re-characterize certain engineering fee license fees, which could result in increased tax withholdings and penalties. The Company's licensees are subject to many of the risks described above with respect to systems companies which are located in different countries, particularly video game console and PC

manufacturers located in Asia and elsewhere. There can be no assurance that one or more of the risks associated with international licenses the Company's technology will not have a direct or indirect material adverse effect on the Company's business, financial condition and resu of operations. Moreover, the laws of certain foreign countries in which the Company's technology is, or may in the future be, licensed may protect the Company's intellectual property rights to the same extent as the laws of the United States, thus increasing the possibility of infringement of the Company's intellectual property.

Dependence on Key Personnel. The Company's success depends to a significant extent on its ability to identify, attract, motivate and retain qualified technical, sales, marketing, finance and executive personnel. Because the future success of the Company is dependent upon ability to continue to enhance and introduce new generations of its technology, the Company is particularly dependent upon its ability to identify, attract, motivate and retain qualified engineers with the requisite educational background and industry experience. Competition for qualified engineers, particularly those with significant industry experience, is intense. The Company is also dependent upon its senior management personnel, most of whom have worked together at the Company for several years. The loss of the services of any of the senior management personnel or a significant number of the Company's engineers could be disruptive to the Company's development efforts or business relationships and could have a material adverse effect on the Company's business, financial condition and results of operations. Th Company generally does not enter into employment contracts with its employees and does not maintain key person life insurance.

Management of Expanded Operations. The Company is not experienced in managing rapid growth. The Company may not be equipp to successfully manage any future periods of rapid growth or expansion, which could be expected to place a significant strain on the Company's limited managerial, financial, engineering and other resources. The Company's RaSer and RDRAM licensees and systems companies rely heavily on the Company's technological expertise in designing, testing and manufacturing products incorporating the Company's interface technologies. In addition, relationships with new Yellowstone, RaSer and RDRAM licensees or systems companies generally require significant engineering support. As a result, any increases in adoption of the Company's technology will increase the strai the Company's resources, particularly the Company's engineers. Any delays or difficulties in the Company's research and development process caused by these factors or others could make it difficult for the Company to develop future generations of its interface technology a to remain competitive. In addition, the rapid rate of hiring new employees could be disruptive and could adversely affect the efficiency of th Company's research and development process. The rate of the Company's future expansion, if any, in combination with the complexity of t technology involved in the Company's licensee-based business model, may demand an unusually high level of managerial effectiveness in anticipating, planning, coordinating and meeting the operational needs of the Company as well as the needs of the licensees and systems companies. Additionally, the Company may be required to reorganize its managerial structure in order to more effectively respond to the ne of customers. Given the small pool of potential licensees and target systems companies, the adverse effect on the Company resulting from a lack of effective management in any of these areas will be magnified. Inability to manage the expansion of the Company's business would h a material adverse effect on its business, financial condition and results of operations.

Item 3. ***Quantitative and Qualitative Disclosures about Market Risk***

The Company's exposure to market risk for changes in interest rates relates primarily to its investment portfolio. The Company places investments with high credit issuers and by policy limits the amount of credit exposure to any one issuer. As stated in its policy, the Compa will ensure the safety and preservation of its invested funds by limiting default risk and market risk. The Company has no investments denominated in foreign country currencies, other than immaterial cash accounts, and therefore is not subject to foreign exchange risk.

The Company mitigates default risk by investing in high credit quality securities and by positioning its portfolio to respond appropriate to a significant reduction in a credit rating of any investment issuer or guarantor. The portfolio includes only marketable securities with acti secondary or resale markets to ensure portfolio liquidity.

The table below presents the carrying value and related weighted average interest rates for the Company's investment portfolio. The carrying value approximates fair value at March 31, 2002.

	Carrying Value (in thousands)	Average Rate Return at March 31, 20 (annualized)
Investment portfolio:		
Cash equivalents	$ 34,784	1
United States government debt securities	48,872	3
Corporate notes and bonds	33,955	4
Foreign debt securities	12,020	4
Municipal notes and bonds	19,348	2
Commercial paper	992	1
Total investment portfolio	$ 149,971	

PART II — OTHER INFORMATION

Item 1. ***Legal Proceedings***

On August 8, 2000, the Company filed suit in the U.S. District Court for the Eastern District of Virginia (the "Virginia court") against Infineon Technologies AG ("Infineon") and its North American subsidiary for patent infringement of two U.S. patents (USDC Virginia Civ Action No.: 3:00CV524). On September 25, 2000, Infineon filed counterclaims against the Company in the U.S. case seeking a declaratory judgment that the two asserted patents are invalid and not infringed and further claiming contributory infringement by the Company of two Infineon U.S. patents. In addition, Infineon also asserted breach of contract, fraud, RICO, and monopolization claims in connection with the Company's participation in an industry standards-setting group known as JEDEC where the Company is alleged not to have disclosed certai of its then-pending patent applications ("JEDEC related claims"). The Infineon counterclaims sought compensatory and punitive damages, attorneys' fees, injunctions to halt future infringement of the Infineon patents, and an award of a royalty-free license to the Rambus patents. October 2000, the Company amended its complaint to assert infringement of two additional U.S. patents. In January 2001, Infineon amende its answer and counterclaims to include a request for a declaratory judgment that all four asserted Rambus patents are invalid and not infring In addition, Infineon withdrew all contributory patent infringement claims against the Company relating to Infineon's U.S. patents.

Trial began in the Virginia case on April 23, 2001. On May 4, 2001, the Virginia court granted Infineon's motion to dismiss Rambus' patent infringement case and granted Rambus' motion to dismiss Infineon's breach of contract and monopolization claims. On May 9, 2001, the jury returned a verdict against Rambus on the fraud claims and for Rambus on the RICO claims. The jury awarded Infineon $3.5 million punitive damages, which was reduced to $350,000 under Virginia law. On August 9, 2001, as a result of post-trial motions, the Virginia cou set aside the constructive fraud verdict with respect to both SDRAM and DDR standard setting. The actual fraud verdict with respect to DDI standard setting was also set aside. Post-trial motions by Infineon resulted in the Virginia court awarding Infineon approximately $7.1 millio in attorneys' fees. In addition, on November 26, 2001, the Virginia court issued a permanent injunction prohibiting the Company from filing additional patent infringement actions against Infineon in the U.S. under certain of the Company's U.S. patent claims with regard to JEDEC compliant SDRAM and DDR devices and (subject to certain conditions) successor JEDEC-compliant devices.

The Company has appealed the rulings by the Virginia court relating to infringement, including the rulings on patent claim construction which are known as "Markman rulings." The Company has also appealed numerous liability rulings by the Virginia court with respect to the JEDEC related claims concerning SDRAM standard setting. The Company has also filed an appeal with respect to the permanent injunction ruling. Infineon has appealed two rulings against it that Rambus committed no fraud with respect to the JEDEC DDR standard and that no injunction should reach patent enforcement actions in Europe. These appeals, which will be heard by the Court of Appeals for the Federal Circuit (CAFC), have been consolidated (CAFC Appeal Nos. 01-1449, 01-1583, 01-1604, 01-1641). Briefing on all of the issues that have b appealed has been coordinated by the CAFC using a shortened schedule. That briefing is now complete and a hearing on all appeals is scheduled for June 3, 2002.

On August 7, 2000, the Company filed suit in the District Court in Mannheim, Germany (the "Mannheim court") against Infineon for infringement of one European patent. A hearing was held on May 18, 2001, and on July 20, 2001, the Mannheim court issued an "order for evidence" requiring the appointment of an independent technical expert to evaluate certain technical aspects of Rambus' infringement claim The Mannheim court subsequently appointed its independent technical expert, and, after the expert delivers an opinion, which is expected i the second calendar quarter of 2002, the court will then determine whether Infineon products infringe Rambus' patent. In the meantime, the validity of the same Rambus European patent is being reviewed by the European Patent Office and a hearing is anticipated in the Fall of 20

On August 28, 2000, Micron Technology, Inc. ("Micron") filed suit against the Company in the U.S. District Court in Delaware (USD Delaware Civil Action No.: 00-792-RRM). The suit asserts violations of federal antitrust laws, deceptive trade practices, breach of contract, fraud and negligent misrepresentation in connection with the Company's participation in JEDEC. Micron's suit seeks a declaration of monopolization by the Company, compensatory and punitive damages, attorneys' fees, a declaratory judgment that eight Rambus patents ar invalid and not infringed and the award to Micron of a royalty-free license to the Rambus patents. In February 2001, the Company filed its answer and counterclaims, whereby the Company disputes Micron's claims and asserts infringement by Micron of the eight U.S. patents. Se discovery is still ongoing in the Delaware action. Both sides filed a number of potentially dispositive motions for summary judgment. On February 27, 2002, the court ruled on some of these motions, denying Micron's motion for summary judgment on its claims of fraud. The Delaware court also has postponed trial on all of the issues in the Micron case until after the CAFC reviews the judgments of the Virginia c in the Infineon matter.

In September 2000, the Company filed suit against Micron in Germany, France, Great Britain and Italy for infringement of a European patent. The Company's German suit against Micron is, like the Company's German suit against Infineon, in the Mannheim court, which iss an "order for evidence" on December 7, 2001 requiring the appointment of an expert. That expert has been appointed and is the same exper was appointed in the Infineon and Hynix cases in Germany. The French suit has not progressed beyond an early phase. The British suit has been temporarily stayed pending a determination by the European Patent Office on validity. On May 2, 2001, the independent experts appointed by the District Court in Monza, Italy (the "Monza court") issued a report that confirmed the validity of the Rambus patent in suit determined that Micron's SDRAM products infringe the Rambus patent. On May 25, 2001, the Monza court declined to grant Rambus a preliminary injunction due to its conclusion that the experts had not addressed one technical issue. Rambus appealed the Monza court's ruli and on July 18, 2001, the Appeals Court rejected the appeal on jurisdictional grounds. The infringement suit against Micron in Italy on the f European patent has been stayed, but if it resumes, it will resume in the District Court of Milan rather than in Monza.

In December 2000, Micron filed a declaratory judgment suit of non-infringement of a second European patent against the Company in District Court of Avezzano, Italy. In response, the Company asserted infringement of the second European patent in Milan, Italy. The actior on the second European patent in Italy have also been stayed. Further, the Company filed suit against Micron in Germany and Italy for infringement of a third European patent. The German suit for infringement of the third European patent is pending in the Mannheim court, while the Italian suit on this third European patent has been stayed.

On August 29, 2000, Hyundai Electronics Industries Co., Ltd. ("Hyundai") and various subsidiaries filed suit against the Company in t U.S. District Court for the Northern District of California (USDC Northern District of California Case No.: 00-20905 PVT). Since filing sui Hyundai has changed its name to "Hynix Semiconductor Inc." ("Hynix"). The suit asserts breach of contract in connection with the Compar participation in JEDEC and seeks a declaratory judgment that eleven Rambus patents are invalid and not infringed by Hynix. In November 2000, Hynix amended its complaint to further assert violations of federal antitrust laws, deceptive trade practices, breach of contract, fraud a negligent misrepresentation in connection with the Company's participation in JEDEC. Hynix seeks a declaration of monopolization by the Company, compensatory and punitive damages, and attorneys' fees. In February 2001, the Company filed its answer and counterclaims, whereby the Company disputes Hynix's claims and asserts infringement of eleven U.S. patents. On November 21, 2001, the California cour ruled that the claim construction applied in the Virginia case against Infineon should be applied in the case with Hynix, and, as a result, dismissed most of the Company's claims of patent infringement against Hynix. In doing so, the California court relied on the principles of collateral estoppel and declined to decide whether, on the merits, the Virginia claim construction was correctly or incorrectly decided. The Virginia claim construction issue is one of the matters that will be reviewed as part of the Company's pending appeal in the Infineon case. C December 14, 2001, the California court stayed the Hynix case on grounds that suggest that the stay will remain in place until there is an outcome in Rambus' appeal in the Infineon case. At that point, Rambus will, depending on the outcome of the Virginia appeal, determine whether to challenge the California court's adoption of the Virginia claim construction.

In September 2000, the Company filed suit against Hynix in Germany, France and Great Britain for infringement of a European patent. The French suit included court-sanctioned seizure of documents and samples from a Hynix facility. On December 7, 2001, in the German su an "order for evidence" calling for the appointment of an independent expert was issued by the Mannheim court. The expert has been appoi and is the same expert as in the Infineon and Micron cases in Germany. The French suit is in an early phase. The British suit has been temporarily stayed.

On August 10, 2001, following the trial results in the Infineon case, Rambus Inc. was named as a defendant in a purported federal class action in the United States District Court for the Northern District of California, *Toiv v. Rambus*, et al., C01-CV-3112. That action was brou allegedly on behalf of a class of plaintiffs who purchased Rambus Common Stock between February 11, 2000 and May 9, 2001, inclusive, a asserted claims under Section 10(b) of the Exchange Act and Section 20(a) of the Exchange Act, as well as Rule 10b-5. The Complaint alleg that Rambus misled shareholders concerning its business and the status of its intellectual property in light of allegations concerning the Company's involvement in JEDEC. Fourteen similar actions were filed in the Northern District of California, and one was also filed in the Eastern District of Virginia. On November 16, 2001, a lead plaintiff was appointed. All of these cases were consolidated on December 13, 2001, as *In re Rambus, Inc. Securities Litigation*, Case No. C-01-3112-MMC (Chesney, J.). A consolidated amended complaint was filed on March 22, 2002. The class period for the consolidated complaint runs from January 11, 2000 through May 9, 2001. The Company intends to vigorously defend itself in this action and intends to move to dismiss the consolidated amended complaint. A hearing has not yet been scheduled on that motion.

On August 15, 2001, a purported shareholder derivative lawsuit, *Boyadjian v. Davidow*, et al., C.A. No. 19057, was filed in Delaware Chancery Court. The Company is a nominal defendant and the Company's directors are defendants. Additional similar actions were filed, *Anderson v. Davidow, et al.*, No. 19064-NC (filed August 17, 2001) and *Lisle et al., v. Davidow, et al.*, No.

19122-NC (filed Sept. 24, 2001). All of these cases were consolidated as *In re Rambus Inc. Derivative Litigation*, C.A. No. 19057-NC. The consolidated complaint was filed on November 12, 2001 and alleges that the individual defendants caused the Company to engage in an improper course of conduct relating to JEDEC and its intellectual property beginning in 1992 and continuing through the Infineon trial in M of 2001. The complaint alleges breaches of fiduciary duty, misappropriation of confidential information for personal profit, and asks for contribution or indemnification from the named director defendants. The Company has filed a motion to dismiss the complaint.

Similar derivative actions were filed in California Superior Court, Santa Clara County. They are *Vista 2000 v. Davidow*, et al., CV-800901, *Taylor v. Tate*, et al., No. CV 801266. The complaints assert claims for breaches of fiduciary duty and violation of California's proscription against insider trading. The cases were consolidated as *Vista 2000 v. Davidow*, CV No. 800901 on November 9, 2001 by the Court. The Court on that date also granted defendants' motion to stay the consolidated case in deference to the earlier filed Delaware actions described above. Rambus and plaintiffs in two subsequent cases brought on similar grounds, *Bonds v. Davidow* et al., CV No. 802086, and *Sujan v. Rambus, Inc.*, CV No. 803367, have agreed to stay those cases on similar terms. A case management conference regarding the Suja case has been scheduled for June 2002 in the Santa Clara Superior Court.

On April 3, 2002, the Company was served with a complaint in an action entitled *Holiday Matinee, Inc. v. Rambus, Inc.* No. CV 80632 filed in California Superior Court, Santa Clara County. The complaint in that case purports to be on behalf of an alleged class of "indirect purchasers"of memory from January 2000 to March 2002. Plaintiff alleges that those purchasers paid higher prices for various types of dynamic random access (DRAM) memory due to the Company's alleged unlawful use of market power in the various DRAM markets to coerce vendors of equipment using that technology to enter into supposed agreements in restraint of trade. Plaintiffs base their claims on Rambus' alleged anticompetitive actions in patenting and licensing various technologies relating to DRAM, which plaintiffs assert, occurred during the Company's involvement at JEDEC in 1992 through 1996, as well as during the Company's subsequent patent licensing and litigation efforts. The complaint alleges claims under (i) California Business & Professions Code § 16700 for allegedly having coerced "mar participants" into entering supposedly unlawful licensing agreements in restraint of trade; (ii) California Business & Professions Code § 172 for supposed "unfair business practices" that forced the public to pay "supra-competitive" prices for products incorporating DRAM technol and (iii) a theory of unjust enrichment based on supposedly receiving "unearned royalties" from products that incorporated certain DRAM technology. Plaintiffs seek legal and equitable relief. The Company has not yet filed its response but expects to vigorously defend itself in th action.

The Company is in communication with the staff of the Federal Trade Commission regarding its investigation of Rambus' involvemen JEDEC. To the Company's knowledge, there has been no decision by the Commission to move forward with any legal or other action relati to these matters.

Item 4. ***Submission of Matters to a Vote of Security Holders***

The Company's Annual Meeting of Stockholders was held on February 5, 2002 (the "Annual Meeting"). At the Annual Meeting, stockholders voted on two matters: (i) the election of four Class I directors for a term of two years expiring in 2004, and (ii) the ratification the appointment of PricewaterhouseCoopers LLP as the Company's independent accountants for the fiscal year ending September 30, 2002 The stockholders elected management's nominees as the Class I directors in an uncontested election and ratified the appointment of the independent accountants by the following votes, respectively:

(i) Election of Class I directors for a term of two years expiring in

	Votes For	Votes Wit
Bruce Dunlevie	86,501,676	1,046,
Charles Geschke	86,505,099	1,042,
Mark Horowitz	86,284,035	1,263,
David Mooring	86,150,261	1,397,

The Company's Board of Directors is currently comprised of seven members who are divided into two classes with overlapping two-y terms. The term for Class II directors (William Davidow, P. Michael Farmwald, and Geoff Tate) will expire at the meeting of stockholders t be held in 2003.

(ii) Ratification of appointment of PricewaterhouseCoopers LLP as independent

Votes For	Votes Against	Abstentions
86,888,638	512,075	147,061

Item 6. ***Exhibits and Reports on Form 8-K***

(a) Exhibits

10.16 Amendment to Sublease, dated as of March 25, 2002, between Registrant and Muse Prime Software, Inc., filed herewith.

(b) Reports on Form 8-K

None.

Items 2, 3, and 5 are not applicable and have been omitted.

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on behalf by the undersigned thereunto duly authorized.

RAMBUS INC.

Date: April 30, 2002

By: /s/ ROBERT K. EULAU

Robert K. Eulau,
Senior Vice President, Finance, and
Chief Financial Officer