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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte LARRY L. BYERS, PAUL B. RICCI, JOSEPH G. KRISCUNAS, JOSEBA M. DESUBIJANA, GARY R. ROBECK, MICHAEL R. SPAUR, and DAVID M. PURDHAM

Appeal 2010-008130
Application 11/447,572
Technology Center 2100

Before DEBRA K. STEPHENS, JUSTIN BUSCH, and LYNNE E. PETTIGREW, *Administrative Patent Judges*.

BUSCH, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's final rejection of claims 2, 3, 5, and 7-12. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

Introduction

According to Appellants, the invention relates to "disk controllers, and more particularly to an embedded disk controller that includes a hard disk controller, a microprocessor, a digital signal processor, and a servo controller." Spec. ¶ 8.

STATEMENT OF THE CASE

Exemplary Claim

Claim 5 is exemplary and reproduced below:

5. An embedded disk controller, comprising:
a main processor in communication with a first bus;
a second processor in communication with a second bus;
an external bus controller (EBC) in communication with the first bus and in communication with external devices via an external bus interface; and
a history module that is located in the embedded disk controller, that communicates with the first bus and the second bus, and that at least one of monitors transaction information of one of the external devices and selectively records information of one of the external devices via the EBC based on setup information,
wherein the EBC and the history module are located on an integrated circuit (IC) with the embedded disk controller,

wherein the history module records transaction information on at least one of the first bus and the second bus based on a register map,

wherein the register map stores a break point condition value that is set by the main processor and the history module stops recording the transaction information based on the break point condition value,

wherein the history module stores a trigger mode value, the history module records a predetermined number of entries after the break point condition value reaches a threshold based on the trigger mode value, and the predetermined number is greater than zero.

Reference

Shima	US 4,486,827	Dec. 4, 1984
Mori	US 5,838,603	Nov. 17, 1998
Nemazie	US 6,314,480 B1	Nov. 6, 2001
Jaber	US 2002/0087931 A1	Jul. 4, 2002
Fujii	US 2002/0199076 A1	Dec. 26, 2002
Sakarda	US 6,594,721 B1	Jul. 15, 2003
Swanson	US 6,662,313 B1	Dec. 9, 2003
Gergen	US 2004/0019831 A1	Jan. 29, 2004

"Embedded RISC Microcontroller Core" by Atmel (1999), ("Atmel")

Rejections on Appeal

Claims 5, 7, 9, and 10 stand rejected under 35 U.S.C. § 103(a) as being obvious in view of Nemazie, Gergen, and Mori.

Claims 2, 11, and 12 stand rejected under 35 U.S.C. § 103(a) as being obvious in view of Nemazie, Gergen, Mori, and Atmel.

Claim 3 stands rejected under 35 U.S.C. § 103(a) as being obvious in view of Nemazie, Gergen, Mori, Fujii, and Sakarda.

Claim 8 stands rejected under 35 U.S.C. § 103(a) as being obvious in view of Nemazie, Gergen, Mori, and Jaber.

Claims 5, 9, and 10 stand rejected under 35 U.S.C. § 103(a) as being obvious in view of Nemazie, Swanson, and Mori.

Claims 2, 11, and 12 stand rejected under 35 U.S.C. § 103(a) as being obvious in view of Nemazie, Swanson, Mori, and Atmel.

Claim 3 stands rejected under 35 U.S.C. § 103(a) as being obvious in view of Nemazie, Swanson, Mori, Fujii, and Sakarda.

Claim 7 stands rejected under 35 U.S.C. § 103(a) as being obvious in view of Nemazie, Swanson, Mori, and Shima.

Claim 8 stands rejected under 35 U.S.C. § 103(a) as being obvious in view of Nemazie, Swanson, Mori, and Jaber.

ISSUES

The Examiner has issued two separate obviousness rejections of independent claim 5; the first rejection is based on the combination of Nemazie, Gergen, and Mori and the second rejection is based on the combination of Nemazie, Swanson, and Mori. Ans. 4-6, 11-13. Appellants argue that Gergen does not "disclose a history module that stops recording transaction information based on a break point condition value, wherein the history module records a predetermined number of entries after the break point condition value reaches a threshold based on the trigger mode value." App. Br. 12-14 (emphasis in original). Appellants also argue that Swanson

does not "disclose a history module that stops recording the transaction information based on a break point condition value and records a predetermined number of entries after the break point condition value reaches a threshold based on the trigger mode value." App. Br. 17-18 (emphasis in original).

Issue 1: Has the Examiner erred in finding that the combination of Nemazie, Gergen, and Mori teaches or suggests a history module that "stops recording the transaction information based on the break point condition value" and "records a predetermined number of entries after the break point condition value reaches a threshold based on the trigger mode value," as recited in independent claim 5?

Issue 2: Has the Examiner erred in finding that the combination of Nemazie, Swanson, and Mori teaches or suggests a history module that "stops recording the transaction information based on the break point condition value" and "records a predetermined number of entries after the break point condition value reaches a threshold based on the trigger mode value," as recited in independent claim 5?

ANALYSIS

Issue 1: 35 U.S.C. § 103(a) Rejections Including Gergen

Appellants argue that "Gergen fails to disclose a history module that stops recording transaction information based on a break point condition value, wherein the history module records a predetermined number of entries after the break point condition value reaches a threshold based on the trigger

mode value," as recited in independent claim 5. App. Br. 12 (emphasis in original). Appellants assert that the capturing in Gergen "begins in response to the valid trigger 119, which is generated when the counter 108 reaches the threshold." App. Br. 14. Appellants argue that, because counter 108 generates trigger 119, the recording is not stopped "based on the value of the counter 108, which the Examiner relies on to disclose the break point condition value." App. Br. 14. Appellants thus argue that, contrary to what is recited by claim 5, recording begins "based on this alleged break point condition value," whereas "[c]apture appears to stop as soon as the counter 110 completes counting, not a predetermined number of entries after the counter 110 stops." App. Br. 14.

The Examiner states that Appellants' arguments appear to be directed to a different embodiment of Gergen than the embodiment that is relied upon by the Examiner. Ans. 18-19. The Examiner finds that counter 108 is used to determine when the breakpoint condition reaches a threshold, not to determine how many entries are recorded after the break point condition value reaches a threshold (for which counter 110 is used). Ans. 18; *See also* Ans. 19 (the Examiner provides a clear mapping of Gergen's elements to the recited limitations). The Examiner also finds that the recited "based on" is broad and neither "require[s] that the stopping of recording be directly based upon the breakpoint condition value," nor "preclude[s] the stopping of recording to be based upon actions which are based upon the breakpoint condition value." Ans. 19. Therefore, the Examiner finds Gergen teaches the contested limitation because "the breakpoint condition value starts the

counter and begins recording, and recording stops when the counter reaches a predetermined number of entries." Ans. 19.

We agree with the Examiner's findings. Appellants appear to misconstrue the Examiner's rejection and conflate the Examiner's reliance upon counters 108 and 110. Moreover, we agree with the Examiner that the recited claims require nothing more than that the stopping is "based on the break point condition value" and, moreover, that nothing in the claims precludes the stopping and the starting of recording to be based on the break point condition value. Thus, two events (starting recording and stopping recording) can be "based on" one element (the break point condition value). Specifically, Gergen teaches that counter 108 is used to determine when the break point condition reaches a threshold, resulting in the starting of recording. Gergen ¶ [0031]. Simultaneously, counter 110 is started, such that, when counter 110 reaches a predetermined number of entries recorded, recording is stopped. *Id*. Therefore, because counter 110 starts counting when the break point condition reaches a threshold and recording stops when counter 110 reaches a predetermined number, recording is stopped "based on" the break point condition value.

Accordingly, we do not agree with Appellants that the Examiner erred in finding claim 5 obvious in view of the combination of Nemazie, Gergen, and Mori. With respect to dependent claims 2, 3, and 7-12, Appellants merely assert that the same arguments with respect to independent claim 5 apply and that any additional references cited do not cure the alleged deficiencies. We do not find any deficiencies in the art cited against

independent claim 5 and therefore affirm the Examiner's rejections of dependent claims 2, 3, and 7-12 for the same reasons as discussed above.

Issue 2: 35 U.S.C. § 103(a) Rejections Including Swanson

Appellants argue that "Swanson fails to disclose a history module that stops recording transaction information based on a break point condition value and records a predetermined number of entries after the break point condition value reaches a threshold based on the trigger mode value," as recited in independent claim 5. App. Br. 17 (emphasis in original). Appellants assert that Swanson begins but does not stop recording based on an alleged break point condition value. App. Br. 18. Appellants argue that when the breakpoint condition value reaches a threshold, Swanson transitions to a "TRIGGERED state," which is the basis for "**beginning** recording . . . not stopping recording." App. Br. 18 (emphasis in original).

The Examiner reiterates that the "based on" language recited in claim 5 is broad and is construed to mean "to find or establish a basis for." Ans. 21. The Examiner finds that "[t]he counter begins counting at the start of the TRIGGERED state, which is entered based on the break point condition value." Ans. 20. Moreover, the Examiner finds that the counter "ends counting, and thus capturing and storing, when the prestored value has been decremented to zero." Ans. 20. Thus, the Examiner finds that, after the break point condition value reaches a threshold, "the TRIGGERED state is entered and a predetermined number of entries are stored." Ans. 21 (citing Swanson col. 9 ll. 30-50, which states in part "Upon occurrence of the desired number

of triggers [i.e., reaching a threshold] . . . causes a transition of the state machine from the ARMED to the TRIGGERED state.").

We agree with the Examiner's findings. Nothing in the recited language in claim 5 precludes both the beginning and the ending of the recording being based on the break point condition value reaching a threshold. Appellants appear to be arguing that, because the occurrence of a desired number of triggers begins the recording, stopping recording cannot be based on the same occurrence of the desired number of triggers. We disagree and, therefore, we do not find that the Examiner erred in rejecting claim 5 as obvious in view of the combination of Nemazie, Swanson, and Mori.

With respect to dependent claims 2, 3, and 7-12, Appellants merely assert that the same arguments with respect to independent claim 5 apply and that any additional references cited do not cure the alleged deficiencies. We do not find any deficiencies in the art cited against independent claim 5 and therefore affirm the Examiner's rejections of dependent claims 2, 3, and 7-12 for the same reasons as discussed above.

DECISION

The Examiner's rejection of claims 2, 3, 5, and 7-12 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv)(2011).

AFFIRMED

msc