

The opinion in support of the decision being entered today  
was **not** written for publication in a law journal and  
is **not** binding precedent of the Board.

Paper No. 17

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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**Ex parte** PAUL A. WARD, MARK L. REINKE and HENRY M. D'SOUZA

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Appeal No. 2003-1482  
Application No. 09/156,816

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ON BRIEF

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Before THOMAS, BLANKENSHIP and NAPPI, **Administrative Patent  
Judges.**

NAPPI, **Administrative Patent Judge.**

**DECISION ON APPEAL**

This is a decision on the appeal under 35 U.S.C. § 134 from the  
examiner's rejection of claims 1, 3, 4, 6-11, 13, 14, 16, 17, 19-21, 23, 24, 26, 27  
and 29-41.

**The Invention**

The invention relates to a system to use a variable resolution display  
controller with a video display of fixed resolution. The system determines the

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variable active vertical and horizontal resolution of the display controller and scales the output of the display controller to the fixed resolution of the display. The system determines the variable active horizontal resolution of the controller by counting the pixel clock and the active vertical resolution by counting the active horizontal lines between vertical sync pulses; see page 3 of appellants' specification.

Claim 1 is representative of the invention:

1. A method for automatic mode detection and scaler control for a display device digitally coupled to a display controller, the display controller having a variable active horizontal resolution and a variable active vertical resolution, the display device having a fixed horizontal resolution and a fixed vertical resolution, comprising:
  - determining the variable active horizontal resolution of the display controller by counting a pixel clock;
  - determining the variable active vertical resolution of the display controller by counting active horizontal lines between vertical sync pulses;
  - and
  - scaling the output of the display controller, correlative to the determined variable active horizontal resolution and the determined variable active vertical resolution, to match the fixed horizontal resolution and the fixed vertical resolution of the display device.

### References

Reddy	5,953,074	Sep. 14, 1999 (filed Oct. 10, 1997)
Kesatoshi	5,874,937	Feb. 23, 1999 (filed Oct . 10, 1996)

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### Rejections at Issue

Claims 1, 3, 4, 6-11, 13, 14, 16, 17, 19-21, 23, 24, 26, 27, and 29-41 stand rejected under 35 U.S.C. § 103 as being unpatentable over Kesatoshi in view of Reddy.

### Opinion

We have carefully considered the subject matter on appeal, the rejections advanced by the examiner and the evidence of obviousness relied upon by the examiner as support for the rejections. We have, likewise, reviewed and taken into consideration, in reaching our decision, the appellants' arguments set forth in the briefs<sup>1</sup> along with the examiner's rationale in support of the rejections and arguments in rebuttal set forth in the examiner's answer.

With full consideration being given to the subject matter on appeal, the examiner's rejections and the arguments of appellants and examiner, for the reasons stated *infra*, we reverse the examiner's rejection of claims 1, 3, 4, 6-11, 13, 14, 16, 17, 19-21, 23, 24, 26, 27, and 29-41 under 35 U.S.C. § 103. Appellants argue, on pages 5 through 10 of the brief and pages 2 through 4 of the reply brief, that there is no motivation to combine Kesatoshi and Reddy. Further,

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<sup>1</sup> This decision is based upon the Appeal Brief received March 8, 2002 (certified as being filed on February 1, 2002, in accordance with 37 C.F.R. § 1.8(a)) and a Reply Brief received October 21, 2002 (certified as being filed on October 15, 2002, in accordance with 37 C.F.R. § 1.8(a)).

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appellants argue, on pages 4 through 7 of the reply brief, that even if Kesatoshi and Reddy are combined they do not teach the claimed invention. Appellants argue on page 5 of the reply brief:

As set forth above with respect to claim 1, the Appellant's [sic] invention requires determining the active horizontal resolution and the active vertical resolution of a display adapter in two different ways. Specifically, claim 1 requires that the variable active horizontal resolution is determined by counting a pixel clock.

Further, on page 6 of the reply brief, appellants state:

Reddy goes on to explain how standard video formats may be inferred from the relative polarity of the HSYNC and VSYNC signals and how resort must be made to determining the number of horizontal lines per vertical frame or, alternatively, the number of pixels in a horizontal line to further characterize which standard video format may be inferred from the polarities of the HSYNC and VSYNC signals. Reddy, col. 8, lines 22-67. Thus Reddy only counts pixels to narrow down and identify the range of standard video formats indicated by the polarity of the HSYNC Signals.

The device disclosed in the Reddy reference does not "determine[e] the variable active horizontal resolution of the display controller by counting a pixel clock" as required by Appellant's [sic] claim 1. Nor does Reddy disclose a device that "determine[es] the variable active vertical resolution of the display controller by counting active horizontal lines between vertical sync pulses," which is also required by claim 1. Certainly, the Reddy reference utterly fails to disclose a device that does **both** of these things.

The examiner states, on page 7 of the answer, that Kesatoshi determines the resolution by counting to determine the frequency and then uses a look up table. The examiner argues, on page 7 of the answer, " even though Kesatoshi also determines frequency, claims 1 and 31 do not limit other steps used by

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Kesatoshi.” Further, on page 9 of the answer the examiner argues that Reddy teaches counting horizontal pixels and number of vertical lines “[s]ee column 9, lines 13-26 of Reddy for counting HSYNC lines to determine the active vertical resolution and col. 9, lines 28-41 for counting clock signals to determine the active horizontal resolution.”

We disagree with the examiner’s assessment of the scope of the claims and teaching of the references. We agree with the appellants’ statement that the claims require determining both the variable active horizontal and vertical resolution by counting in different ways. We find that the scope of independent claims 1, 11, 21, 31 and 37, includes determining the variable active resolution by determining the active horizontal resolution by either counting a pixel clock or valid pixels and by determining the active vertical resolution by using a counter. This limitation is shown in claims 1 and 31 by the steps of “determining the variable active horizontal resolution” and “determining the variable active vertical resolution.” This limitation is shown in claims 11, 21 and 37 by the “horizontal counter coupled to the display controller output “ and the “vertical counter coupled to the display controller output.”

We do not find, as the examiner asserts on page 7 of the answer, that the counting to determine frequency teaching of Kesatoshi meets the claim limitation

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of counting. The claims require counting of a pixel clock or valid pixels, which is not met by counting edges of the horizontal synchronizing signal to determine its frequency as is taught by Kesatoshi (see column 5, lines 44-45). While we do find that Reddy teaches, in column 8, lines 41-42, that “the number of pixels in each horizontal line can be determined to determine the format of the video signal” and, in column 8, lines 27-29, “[t]he number of horizontal lines per image is detected by counting a number of HSYNC pulses which occur between adjacent VSYNC pulses.” Reddy teaches that these two methods are alternatives. Further, we consider the examiner’s statement that column 9, lines 13-41 of Reddy teach determining the active horizontal and active vertical resolution to be misplaced as we find that the cited section of Reddy teaches capturing the video signal after the video format has been determined. Thus, we do not find that Reddy teaches that both the counting of pixels in the horizontal line and a counting of the vertical resolution are performed to determine the active resolution.

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Accordingly we will not sustain the examiner's rejection of claims 1, 3, 4, 6-11, 13, 14, 16, 17, 19-21, 23, 24, 26, 27, and 29-41 under 35 U.S.C. § 103 as being unpatentable over Kesatoshi in view of Reddy.

**REVERSED**

JAMES D. THOMAS	)	
Administrative Patent Judge	)	
	)	
	)	
HOWARD B. BLANKENSHIP	)	BOARD OF PATENT
Administrative Patent Judge	)	APPEALS AND
	)	INTERFERENCES
	)	
	)	
ROBERT E. NAPPI	)	
Administrative Patent Judge	)	

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