Kapow! Future of copyright measure clouded over boxing dispute

By Ted Bridis / Associated Press

WASHINGTON — Congress will have a narrow opportunity when it returns to pass legislation making it a crime to use video cameras to record films in movie theaters, but the bill could be forested by a fight over a federal boxing commission.

The House would need to approve the copyright proposals when it reconvenes early next month to consider controversial intelligence reforms.

The Senate over the weekend passed the “Family Entertainment and Copyright Act of 2004,” which cracks down on movie piracy. The bill also offers some copyright protections for fledging technology that helps parents prevent children from watching movie scenes depicting sex, violence or foul language.

About 10 states already prohibit people recording movies inside theaters. The Senate bill would permit local and state police to make arrests even when officers don't personally witness the illicit recording. Movie-goers caught would face up to three years in prison for a first offense, and up to six years for later arrests.

Some controversial copyright provisions were dropped in the Senate bill, such as a proposal to make it easier for the Justice Department to prosecute Internet users who illegally distribute more than 1,000 copyrighted files. Those users already face high civil penalties if they are caught and sued.

Provisions of the Senate copyright bill previously passed under other legislation in the House but would need to be approved again because of minor differences between the bills. Industry and consumer lobbyists, however, believe the copyright proposals could be decried in the House because of unrelated boxing reforms added to the measure.

"We'll see how this plays out," said Mitch Sandweil, chief executive of the Recording Industry Association of America, the trade group for the largest record labels. "They'll either work it out in December or early next year."

Sen. John McCain, R-Ariz., appended a proposal to create a three-person commission appointed by the president to license boxers, managers, promoters and sanctioning organizations. It would impose uniform health and safety standards, establish a centralized medical registry and provide uniform ranking criteria and contractual guidelines.

"Similar legislation was introduced in the House but was never passed," said Alan Davidson, associate director for the Washington-based Center for Democracy and Technology. "These were a carefully crafted set of copyright provisions, but it's an open question whether the House will accept them with the boxing legislation attached."
Kapow! Future of copyright measure clouded over boxing dispute

By Ted Bridis / Associated Press

WASHINGTON — Congress will have a narrow opportunity when it returns to pass legislation making it a crime to use video cameras to record films in movie theaters, but the bill could be foiled by a fight over a federal boxing commission.

The House would need to approve the copyright proposals when it reconvenes early next month to consider controversial intelligence reforms.

The Senate over the weekend passed the "Family Entertainment and Copyright Act of 2004," which cracks down on movie piracy. The bill also offers some copyright protections for fledgling technology that helps parents prevent children from watching movie scenes depicting sex, violence or foul language.

About 10 states already prohibit people recording movies inside theaters. The Senate bill would permit local and state police to make arrests even when officers don't personally witness the illicit recording. Movie-goers caught would face up to three years in prison for a first offense, and up to six years for later arrests.

Some controversial copyright provisions were dropped in the Senate bill, such as a proposal to make it easier for the Justice Department to prosecute Internet users who illegally distribute more than 1,000 copyrighted files. Those users already face high civil penalties if they are caught and sued.

Provisions of the Senate copyright bill previously passed under other legislation in the House but would need to be approved again because of minor differences between the bills. Industry and consumer lobbyists, however, believe the copyright proposals could be detailed in the House because of unrelated boxing reforms added to the measure.

"We'll see how this plays out," said Mitch Bainwol, chief executive of the Recording Industry Association of America, the trade group for the largest record labels. "They'll either work it out in December or early next year."

Sen. John McCain, R-Ariz., appended a proposal to create a three-person commission appointed by the president to license boxers, managers, promoters and sanctioning organizations. It would impose uniform health and safety standards, establish a centralized medical registry and provide uniform ranking criteria and contractual guidelines.

"Similar legislation was introduced in the House but was never passed."

"I don't know whether this is a poison pill for the bill," said Alan Davidson, associate director for the Washington-based Center for Democracy and Technology. "These are a carefully crafted set of copyright provisions, but it's an open question whether the House will accept them with the boxing legislation attached."

FIG. 1
Kapow! Future of copyright measure clouded over boxing dispute

By Ted Bridis / Associated Press

WASHINGTON — Congress will have a narrow opportunity when it returns to pass legislation making it a crime to use video cameras to record films in movie theaters, but the bill could be floored by a fight over a federal boxing commission.

The House would need to approve the copyright proposals when it reconvenes early next month to consider controversial intelligence reforms.

The Senate over the weekend passed the "Family Entertainment and Copyright Act of 2004," which cracks down on movie piracy. The bill also offers some copyright protections for fledgling technology that helps parents prevent children from watching movie scenes depicting sex, violence or foul languages.

About 10 states already prohibit people recording movies inside theaters. The Senate bill would permit local and state police to make arrests even when officers don't personally witness the illicit recording. Movie-goers caught would face up to three years in prison for a first offense, and up to six years for later arrests.

Some controversial copyright provisions were dropped in the Senate bill, such as a proposal to make it easier for the Justice Department to prosecute Internet users who illegally distribute more than 1,000 copyrighted files. Those users already face high penalties if they are caught and sued.

Provisions of the Senate copyright bill previously passed under other legislation in the House but would need to be approved again because of minor differences between the bills. Industry and consumer lobbyists, however, believe the copyright proposals could be delayed in the House because of unrelated boxing reforms added to the measure.

"We'll see how this plays out," said Mitch Bainwol, chief executive of the Recording Industry Association of America, the trade group for the largest record labels. "They'll either work it out in December or early next year."

Sen. John McCain, R-Ariz., appended a proposal to create a three-person commission appointed by the president, to license boxers, managers, promoters and sanctioning organizations. It would impose uniform health and safety standards, establish a centralized medical registry and provide uniform ranking criteria and contractual guidelines.

Similar legislation was introduced in the House but was never passed.

"I don't know whether this is a poison pill for the bill," said Alan Davidson, associate director for the Washington-based Center for Democracy and Technology. "These were a carefully crafted set of copyright provisions, but it's an open question whether the House will accept them with the boxing legislation attached."
Kapow! Future of copyright measure clouded over boxing dispute

By Ted Bridis / Associated Press

WASHINGTON - Congress will have a narrow opportunity when it returns to pass legislation making it a crime to use video cameras to record films in movie theaters, but the bill could be floored by a fight over boxing commission proposals when it reconvenes early next month to consider

The Senate bill, such as a

Some controversial copyright provisions proposal to make it easier for the Justice illegally distribute more than 1,000 cop penalties if they are caught and

Provisions of the Senate copyright law would permit witness the illicit enjoyment of videos, television shows, or movies, such as a

last year, and

industry and consume

in the House because

"We'll see how this out," said Alan Davidson, an industry analyst. "It's an open question whether the Senate will accept them with a proposal to create a thirteenth commission appointed by the president - a policy on censors, managers, promoters and sanctioning organizations. It would impose uniform health and safety standards, establish a centralized medical registry and provide uniform ranking criteria and contractual guidelines.

Similar legislation was introduced in the House but was never passed. "I don't know whether this is a poison pill for the bill," said Alan Davidson, associate director for the Washington-based Center for Democracy and Technology. "These are a carefully crafted set of copyright provisions, but it's an open question whether the Senate will accept them with the boxing legislation attached."

FIG. 4
DIGITALLY PRINTED ANTI-COPY DOCUMENT AND PROCESSES AND PRODUCTS THEREFOR

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] The present application claims the benefit of the filing date of U.S. Provisional Application Ser. No. 60/636, 498 filed Dec. 16, 2004, the teachings of which are incorporated herein by reference.

FIELD OF THE INVENTION

[0002] The present invention relates generally to a method and product resulting from application of the method for making distortion security images in an anti-copy documents printed on demand can be variable using laser printers or printer/copiers and/or ink-jet printers and/or digital presses. Documents are produced according to the invention method, as well as alternative methods.

BACKGROUND

[0003] Many methods and products have been developed to prevent the unauthorized reproduction of original valuable documents, such as currency, traveler’s checks, checks, coupons, gift certificates, licenses, passports, personal identification papers, and packaging material for brand protection to deter illegal activities such as counterfeiting. These documents may be produced using standard press processes such as but not limiting to offset printing (lithography), letterpress, flexographic, intaglio and gravure. Generally, these methods and products enable unauthorized copies of original documents to be readily distinguished from the originals.

[0004] Examples of such methods and products include embedding images and/or moire patterns in the original documents that are nearly invisible to the naked eye but which become apparent upon photocopying. However, many of the described document protection methods and products are formulated for press printed documents. It is reportedly difficult for these technologies to be translated to print at a lower resolution digitally printed platform and remain effective against ever advancing reproduction equipment such as copiers and scanners. Variable security utilizing the above-mentioned methods and products wherein each printed document is varied and is unique and not fixed is non-existent and cost prohibited.

[0005] Other methods and products have been developed to prevent the unauthorized reproduction of original documents to deter counterfeiting and may be produced on digital output devices such as laser printers and ink-jet printers and printed on demand. The methods and products may include (a) the use of digital watermarking where a covert security feature is embedded into an image by making subtle changes to the data of the original digital content or (b) the use of encryption secured elements such as the use of encrypted barcodes linking actual data on the document with a barcode. However, most of these digitally printed document protection methods focus on the use of covert security features and the method of authentication is a physical mechanical scan of said features using scanners and authentication software.

[0006] Further methods and products such as using a “scrambled Indicia” covert security feature for example, which may be printed on demand with digital output devices, are again related to the use of a covert security feature that must be authenticated by the use of a decoder. Many of these security features that are digitally printed using digital output devices such as laser printers and/or ink-jet printers and/or digital presses. The features may be variable, printed on demand and may be designed as covert features to prevent the unauthorized reproduction of original documents and may only be authenticated during the authentication process. However, these described document protection methods and printings produced using these methods concentrate on covert security features that may not be distorted by photocopierners.

[0007] Therefore, what is needed in the art is a document protection method and apparatus that enables a simple and expedient way to incorporate improved distortion security features, that may be variable and printed on demand into a digitally printed original document using laser printers (including laser copier/printer) and/or ink-jet printers and/or digital presses such as but not limited to the HP Indigo, Kodak Nexpress, Xeikon, and the Xerox IGen to prevent the unauthorized reproduction of original valuable documents through the use of photocopierners.

[0008] Furthermore, what is needed in the art are original documents having improved distortion security features that when processed by a peripheral component of a personal computer, such as an optical scanner using OCR (Optical Character Recognition) software, will disrupt the ability of the software to render a true text version of the scanned document.

[0009] Moreover, what is needed in the art are methods for producing such original documents having such improved distortion security features calibrated for, modified, transformed and customized for each digital output device such as laser printers and/or ink-jet printers and/or digital presses.

SUMMARY

[0010] The present invention provides methods for digitally printing on demand original documents with improved distortion anti-copy security features against photocopierners and a method for digitally printing on demand original documents with an anti-OCR (Optical Character Recognition) distortion security feature against scanners and OCR software.

[0011] The present invention may allow original documents to be printed on demand and may be variable using standard laser or ink-jet printers and/or digital presses embedded with a secure bitmap art file that is anti-photocopy and anti-OCR to prevent unauthorized duplication and reproduction of originals.

[0012] Furthermore, this invention may provide an improved method for printing originals using digital printers and digital presses on demand to defeat unauthorized copying using copiers and computer practices.

[0013] This invention may be applied to standard press processes such as but not limited to offset printing (lithography), letterpress, flexographic, intaglio and gravure.

BRIEF DESCRIPTION OF THE DRAWINGS

[0014] The above-mentioned and other features and advantages of the invention, and the manner of attaining
them, will become appreciated and be more readily understood by reference to the following detailed description of one embodiment of the invention in conjunction with the accompanying drawings, wherein:

[0015] FIG. 1 shows an embodiment of an original document printed on standard laser printer incorporating a distortion security feature in the form of a secure electronic bitmap art file of the present invention.

[0016] FIGS. 2a and 2b shows the secure electronic bitmap art file and FIG. 2b shows a close up the secure electronic bitmap art file of the present invention showing both amplitude modulated and frequency modulated halftone screening techniques used within the same secure electronic bitmap art file.

[0017] FIG. 3 shows the document of FIG. 1 after having been processed by a photocopying machine, wherein the document includes a secure electronic bitmap art file with the distortion security feature.

[0018] FIG. 4 shows the document of FIG. 1 after having been processed by a standard optical processing device, such as a scanner and most OCR software, wherein the document includes a secure electronic bitmap art file with the distortion security feature.

[0019] Corresponding reference characters indicate corresponding parts throughout the several views. The example set out herein illustrates one preferred embodiment of the invention, in one form, and is not to be construed as limiting the scope of the invention.

DETAILED DESCRIPTION

[0020] The present invention relates to a method and product for printing anti-copy documents using any toner or ink based digital printing equipment such as laser printers, laser printer copiers, ink-jet printers and digital presses by using both amplitude modulated and frequency modulated halftone screening techniques within the same document. Designated anti-copy areas within the document are digitally printed using traditional amplitude modulated halftone elements against areas that are printed using frequency modulated halftone elements.

[0021] A digitally generated electronic distortion security feature may include a unique pattern using both amplitude modulated and frequency modulated halftone screening techniques within the same document. The halftone screening techniques may be applied at predetermined relative densities, and at predetermined relative angular orientations, and these unique screening techniques may be modified, calibrated and customized to the specific output device. The distortion security features may be printed on each unique and variable document on demand using standard laser or ink jet printers, or laser printer/copiers or digital presses.

[0022] After processing of the document by a photocopying machine, the electronic security features may alter the document from its original state to reveal the intended distorted security feature. Accordingly, the distortion security feature may disrupt the scanning and OCR interpretation of the text of the original document rendering the scanned image inoperable. Furthermore, it is possible to incorporate the electronic security features into a template for use with known software programs such as, but not limited to Microsoft Word, Microsoft Excel, Adobe PDF, Corel WordPerfect and so on.

[0023] The digitally printed document may be printed using toner or ink based digital printing equipment. The document may have a portion of the printed area printed with amplitude modulated halftone elements and an adjacent printed area printed with frequency modulated halftone elements in which the copiers and scanners will reproduce the amplitude modulated area substantially differently then the frequency modulated area. The amplitude modulated area may consist of conventional halftone elements of dots that are round, diamond, ellipse, square, cross or any other form such as continuous lines, broken lines, dashes, wavy lines placed at specified and uniform line angles and line frequency. The number of halftone elements used may be fixed; however, the size of each halftone element may vary. The frequency modulated area may consist of halftone elements where these elements are placed randomly according to various advanced algorithms to determine the optimum placement of dots. The size of each halftone element may be fixed; however, the number of halftone elements may vary.

[0024] The digitally printed document may be produced using a digital electronic bitmap art file including areas halftoned using conventional halftone elements of dots that are round, diamond, ellipse, square, cross or any other form such as continuous lines, broken lines, dashes, wavy lines placed at specified and uniform line angles and line frequency and areas halftoned using halftone elements where these elements are placed randomly according to various advanced algorithms to determine the optimum placement of dots. The secure electronic bitmap art file may be set at the same resolution of the output digital print equipment. The secure electronic bitmap art file may also be set at a multiple of the resolution of the output digital print equipment.

[0025] Other text and/or artwork files may be digitally printed directly on top of and/or beside the secure bitmap art file at the same print time as the secure bitmap art file or later after the secure bitmap art file has already been printed onto a document. The secure bitmap art file may be varied with each page within a digitally printed multiple page document. Furthermore, the secure bitmap art file may be printed using toner or ink based digital print equipment in any color toner and/or ink that is available for that digital print equipment. The secure bitmap art file may also be printed by a toner or ink based digital print equipment using color combination of toner and/or ink that is available for that digital print equipment. The resolution of the digital print devise may range from 600 dpi (dots per inch) and upward to the maximum resolution possible by advancing print equipment capabilities. Accordingly, copiers may reproduce the amplitude modulated halftone elements within the secure bitmap art file substantially differently from the frequency modulated halftone elements within the same secure bitmap art file.

[0026] While this invention has been described as having a preferred design, the present invention can be further modified within the spirit and scope of this disclosure. This application is therefore intended to cover any variations, uses, or adaptations of the present invention using the general principles disclosed herein. Further, this application is intended to cover such departures from the present dis-
closure as come within the known or customary practice in the art to which this invention pertains and which fall within the limits of the appended claims.

What is claimed is:

1. A digitally printed document comprising:
   a first printed portion comprising amplitude modulated halftone elements; and
   a second printed portion comprising frequency modulated halftone elements, adjacent to said first printed area, wherein copiers and scanners reproduce the amplitude modulated area substantially differently than the frequency modulated area.

2. The document of claim 1 wherein said document is printed using toner or ink based digital printing equipment.

3. The document according to claim 1 wherein said amplitude modulated area comprises first half tone elements selected from the group consisting of dots that are round, diamond, ellipse, square, cross, continuous lines, broken lines, dashes, wavy lines placed at specified and uniform line angles and line frequency and combinations thereof.

4. The document of claim 3 wherein said first half tone elements are fixed in number and vary in size.

5. The document according to claim 1 wherein said frequency modulated area comprises second half tone elements wherein said second half tone elements are randomly placed according to an algorithm.

6. The document of claim 5 wherein said second half tone elements are fixed in size and vary in number.

7. A digitally printed document having a printed surface printed by digital print equipment comprising:
   a secure digitally produced electronic bitmap art file comprising a first half tone area, wherein said first half tone area comprises first halftone elements selected from the group consisting of dots, lines placed at specified and uniform line angles and combinations thereof and a second half tone area, wherein said second halftone area comprises second halftone elements placed randomly according to an algorithm, wherein said document is anti-copy to digital and analog copiers.

8. The digitally printed document of claim 7 wherein said secure electronic bitmap art file is set at the same resolution of said digital print equipment.

9. The digitally printed document of claim 7 wherein said secure electronic bitmap art file is set at a multiple of the resolution of said digital print equipment.

10. The digitally printed document of claim 7 wherein a second file, comprising text or artwork, is digitally printed directly on top of and/or beside the secure bitmap art file at the same print time as the secure bitmap art file.

11. The digitally printed document of claim 7 wherein a second file, comprising text or artwork, is digitally printed directly on top of and/or beside the secure bitmap art file or later after the secure bitmap art file has already been printed onto a document.

12. The digitally printed document of claim 7 wherein said document is a multiple page document and said secure bitmap art file is variable with each page.

13. The digitally printed document of claim 7 wherein said secure bitmap art file is printed by toner or ink based digital print equipment using toner and/or ink in a selected color.

14. The digitally printed document of claim 7 wherein said secure bitmap art file is printed by a toner or ink based digital print equipment using toner and/or ink in a combination of colors.

15. The digitally printed document of claim 7 wherein said resolution of said digital printing device is at or greater than 600 dpi (dots per inch).

16. A digitally generated electronic distortion security feature for a document comprising:
   a pattern comprising first halftone elements produced by an amplitude modulated halftone screening technique and second halftone elements produced by a frequency modulated halftone screening technique wherein said halftones are positioned at a predetermined relative density, and at a predetermined relative angular orientation, wherein said screening techniques are capable of being configured to the specific output device.

17. The distortion security feature of claim 16 wherein said document is printed using a printer selected from laser printers, ink jet printers, laser printer/copiers, digital presses and combinations thereof.

18. The distortion security feature of claim 16 wherein said electronic security feature reveals the distortion security feature after processing of the document by a photocopying machine.

19. The distortion security feature of claim 16 wherein said document comprises text or graphics and said electronic security feature disrupts the scanning and OCR interpretation of said text or graphics of said document rendering the scanned image inoperable.

20. The distortion security feature of claim 16 wherein said electronic security feature is incorporated into a template for use with software programs comprising a program selected from the group of Microsoft Word, Microsoft Excel, Adobe PDF, Corel WordPerfect.