Disclosure of Application No.	Disclosure of US Patent No. 5,850,484
08/411,369 (Ex. 1016)	(Ex. 1014)
"These limitations significantly degrade text in color images because sharp edges are very important for reading efficiency." Ex. 1016, p. 10, lines 28- 29.	"These limitations significantly degrade text in color images because sharp edges are very important for reading efficiency." Ex. 1014, at 4:44-46.
"Accordingly, the need remains for a computationally efficient method for improving the visual quality of images, and in particular text, in scanned images." Ex. 1016, p. 11, lines 16-18.	"Accordingly, the need remains for a computationally efficient method for improving the visual quality of images, and in particular text, in scanned images." Ex. 1014, at 4:65-67.
"For edge sharpening in the frequency	"For edge sharpening in the frequency
domain, the full image is first	domain, the full image is first
transformed into the frequency domain	transformed into the frequency domain
using the Fast Fourier Transform (FFT)	using the Fast Fourier Transform (FFT)
or the Discrete Fourier Transform	or the Discrete Fourier Transform
(DFT), low frequency components are	(DFT), low frequency components are
dropped, and then the image is	dropped, and then the image is
transformed back into the time domain."	transformed back into the time domain."
Ex. 1016, p. 11, lines 9–14.	Ex. 1014, at 4:56–61.
"The scanned image, although it can be	"The scanned image, although it can be
any image, in the preferred embodiment	any image, in the preferred embodiment
is a printed version of the reference	is a printed version of the reference
image. Thus, the variance of the scanned	image. Thus, the variance of the scanned
image represents the energy or	image represents the energy or
frequency composition of the reference	frequency composition of the reference
image but which is compromised by the	image but which is compromised by the
inherent limitations of the scanner. The	inherent limitations of the scanner. The
scaling matrix, therefore, boosts the	scaling matrix, therefore, boosts the
frequency components that are	frequency components that are
compromised by the scanning process.	compromised by the scanning process.
A preferred embodiment of the	A preferred embodiment of the
invention is described herein in the	invention is described herein in the
context of a color facsimile (fax)	context of a color facsimile (fax)
machine. The color fax machine	machine. The color fax machine
includes a scanner for rendering a color	includes a scanner for rendering a color

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image into color source image data that	image into color source image data that
represents the color image, a	represents the color image, a
compression engine that compresses the	compression engine that compresses the
color source image data to compressed	color source image data to compressed
image data, a means for encapsulating	image data, a means for encapsulating
the compressed image data, and a means	the compressed image data, and a means
for transmitting the encapsulated data.	for transmitting the encapsulated data.
The compression engine includes means	The compression engine includes means
for storing two quantization tables. The	for storing two quantization tables. The
first quantization table is used to	first quantization table is used to
quantize the image data transformed	quantize the image data transformed
using the discrete cosine transform	using the discrete cosine transform
(DCT). The second quantization table is	(DCT). The second quantization table is
encapsulated with the encoded	encapsulated with the encoded
quantized image data for use in	quantized image data for use in
decompressing the image. The second	decompressing the image. The second
quantization table is related to the first	quantization table is related to the first
quantization table in the manner	quantization table in the manner
described above. When used to transmit	described above. When used to transmit
and receive color images between two	and receive color images between two
locations, the machine transfers the	locations, the machine transfers the
images with higher quality than prior	images with higher quality than prior
systems." Ex. 1016, p. 9, line 24 - p. 10,	systems." Ex. 1014, at 5:39-63.
line 15.	
"Although the compression engine	"Although the compression engine
according to the invention is	according to the invention is
implemented in dedicated hardware as	implemented in dedicated hardware as
described hereinabove, alternatively it	described hereinabove, alternatively it
can be implemented in software	can be implemented in software
operating on a programmed computer	operating on a programmed computer
having a microprocessor such as an Intel	having a microprocessor such as an Intel
80486 or Pentium or Hewlett Packard	80486 or Pentium or Hewlett Packard
PA-RISC." Ex. 1016, p. 21, lines 18–	PA-RISC." Ex. 1014, at 10:1–6.
22.	
"Although the compression engine	"Although the compression engine
according to the invention is	according to the invention is
implemented in dedicated hardware as	implemented in dedicated hardware as
described hereinabove, alternatively it	described hereinabove, alternatively it

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can be implemented in software	can be implemented in software
operating on a programmed computer	operating on a programmed computer
having a microprocessor such as an Intel	having a microprocessor such as an Intel
80486 or Pentium or Hewlett Packard	80486 or Pentium or Hewlett Packard
PA-RISC. In the latter case, the various	PA-RISC. In the latter case, the various
tables, whether precomputed or	tables, whether precomputed or
computed real-time, are stored in the	computed real-time, are stored in the
dynamic random access memory	dynamic random access memory
(DRAM) of the computer during the	(DRAM) of the computer during the
compression and decompression	compression and decompression
processes and the various steps of the	processes and the various steps of the
method are implemented by software	method are implemented by software
processes or routines. In addition, there	processes or routines. In addition, there
a numerous combinations of hardware	a numerous combinations of hardware
and/or software that can be used to	and/or software that can be used to
implement compression and/or	implement compression and/or
decompression engines according to the	decompression engines according to the
invention depending on the desired	invention depending on the desired
performance and cost. The combinations	performance and cost. The combinations
are too numerous to describe	are too numerous to describe
individually but those skilled in the art	individually but those skilled in the art
could implement such combinations	could implement such combinations
based on the description found herein."	based on the description found herein."
Ex. 1016, p. 21, line 18 – p. 22, line 3.	Ex. 1014, at 10:1–18.