EUROPEAN PATENT OFFICE
U.S. PATENT AND TRADEMARK OFFICE

CPC NOTICE OF CHANGES 1573

DATE: JANUARY 1, 2024

PROJECT RP12200

The following classification changes will be effected by this Notice of Changes:

Action	Subclass	Group(s)
SCHEME:		
Symbols Deleted:	G06T	5/001, 5/002, 5/003, 5/004, 5/005, 5/006, 5/007, 5/008, 5/009
Symbols New:	G06T	5/60, 5/70, 5/73, 5/75, 5/77, 5/80, 5/90, 5/92, 5/94
Titles Changed:	G06T	5/10, 5/20, 5/40, 5/50
Warnings New:	G06T	5/00, 5/60
DEFINITIONS:		
Definitions Deleted: (no frozen (F) symbol definitions should be deleted)	G06T	5/001, 5/002, 5/003, 5/004, 5/005, 5/006, 5/007, 5/008, 5/009
Definitions New:	G06T	5/60, 5/70, 5/73, 5/75, 5/77, 5/80, 5/90, 5/92, 5/94
Definitions Modified:	G06T	5/00, 5/10, 5/20, 5/30, 5/40, 5/50

The following subclasses/groups are also impacted by this Notice of Changes (indicate subclasses/groups outside of the project scope, such as those listed in the CRL): G01S 7/52077, G06T 7/80, G06T 7/90, G06T 11/00, G06T 11/001, G06T 2207/00, H04N 1/409, H04N 1/4092, H04N 25/61

This Notice of Changes includes the following*:

1. CLASSIFICATION SCHEME CHANGES

   ☒   A. New, Modified or Deleted Group(s)

   ☒   B. New, Modified or Deleted Warning(s)

   ☐   C. New, Modified or Deleted Note(s)

   ☐   D. New, Modified or Deleted Guidance Heading(s)

2. DEFINITIONS

   ☒   A. New or Modified Definitions (Full definition template)

   ☒   B. Modified or Deleted Definitions (Definitions Quick Fix)

3. ☒   REVISION CONCORDANCE LIST (RCL)

4. ☒   CHANGES TO THE CPC-TO-IPC CONCORDANCE LIST (CICL)

5. ☒   CHANGES TO THE CROSS-REFERENCE LIST (CRL)

1. CLASSIFICATION SCHEME CHANGES

A. New, Modified or Deleted Group(s)

SUBCLASS G06T - IMAGE DATA PROCESSING OR GENERATION, IN GENERAL

Type*	Symbol	Indent Level Number of dots (e.g. 0, 1, 2)	Title "CPC only" text should normally be enclosed in {curly brackets}**	Transferred to#
C	G06T5/00	0	Image enhancement or restoration	G06T5/00, G06T5/60
D	G06T5/001	1	{Image restoration}	\<administrative transfer to G06T5/00\>
D	G06T5/002	2	{Denoising; Smoothing (noise processing or correction adapted to be used in an image pickup device containing and electronic image sensor H04N23/81, H04N25/60 - H04N25/67)}	\<administrative transfer to G06T5/70\>
D	G06T5/003	2	{Deblurring; Sharpening (vibration or motion blur correction for cameras comprising an electronic image sensor H04N23/682)}	\<administrative transfer to G06T5/73\>
D	G06T5/004	3	{Unsharp masking}	\<administrative transfer to G06T5/75\>
D	G06T5/005	2	{Retouching; Inpainting; Scratch removal (detecting, correction, reducing or removing defects, e.g. non-responsive pixels of solid state image sensors H04N25/68, scratch removal for cinematographic films scanned by electronic image sensor H04N5/253)}	\<administrative transfer to G06T5/77\>
D	G06T5/006	1	{Geometric correction (correction of chromatic aberrations adapted to be used in an image pickup device containing an electronic image sensor H04N23/10; detecting, correcting, reducing or removing artefacts resulting only from the lens unit, e.g. flare, shading, vignetting or "cos4" H04N25/61)}	\<administrative transfer to G06T5/80\>
D	G06T5/007	1	{Dynamic range modification (applied in cameras using an electronic image sensor H04N23/741, H04N23/743)}	\<administrative transfer to G06T5/90\>
D	G06T5/008	2	{Local, e.g. shadow enhancement}	\<administrative transfer to G06T5/94\>
D	G06T5/009	2	{Global, i.e. based on properties of the image as a whole (applied in cameras using an electronic image sensor H04N23/80, H04N23/70)}	\<administrative transfer to G06T5/92\>

M	G06T5/10	1	using non-spatial domain filtering	
M	G06T5/20	1	using local operators	
U	G06T5/30	2	Erosion or dilatation, e.g. thinning	
M	G06T5/40	1	using histogram techniques	
M	G06T5/50	1	using two or more images, e.g. averaging or subtraction	
N	G06T5/60	1	using machine learning, e.g. neural networks	
N	G06T5/70	1	Denoising; Smoothing	
N	G06T5/73	1	Deblurring; Sharpening	
N	G06T5/75	2	Unsharp masking	
N	G06T5/77	1	Retouching; Inpainting; Scratch removal	
N	G06T5/80	1	Geometric correction	
N	G06T5/90	1	Dynamic range modification of images or parts thereof	
N	G06T5/92	2	based on global image properties	
N	G06T5/94	2	based on local image properties, e.g. for local contrast enhancement	

*N = new entries where reclassification into entries is involved; C = entries with modified file scope where reclassification of documents from the entries is involved; Q = new entries which are firstly populated with documents via administrative transfers from deleted (D) entries. Afterwards, the transferred documents into the Q entry will either stay or be moved to more appropriate entries, as determined by intellectual reclassification; T = existing entries with enlarged file scope, which receive documents from C or D entries, e.g. when a limiting reference is removed from the entry title; M = entries with no change to the file scope (no reclassification); D = deleted entries; F = frozen entries will be deleted once reclassification of documents from the entries is completed; U = entries that are unchanged.

NOTES:
- **No {curly brackets} are used for titles in CPC only subclasses, e.g. C12Y, A23Y; 2000 series symbol titles of groups found at the end of schemes (orthogonal codes); or the Y section titles. The {curly brackets} are used for 2000 series symbol titles found interspersed throughout the main trunk schemes (breakdown codes).
- U groups: it is obligatory to display the required "anchor" symbol (U group), i.e. the entry immediately preceding a new group or an array of new groups to be created (in case new groups are not clearly subgroups of C-type groups). Always include the symbol, indent level and title of the U group in the table above.
- All entry types should be included in the scheme changes table above for better understanding of the overall scheme change picture. Symbol, indent level, and title are required for all types.
- "Transferred to" column must be completed for all C, D, F, and Q type entries. F groups will be deleted once reclassification is completed.
- When multiple symbols are included in the "Transferred to" column, avoid using ranges of symbols in order to be as precise as possible.
- For administrative transfer of documents, the following text should be used: "<administrative transfer to XX>", "<administrative transfer to XX and YY simultaneously>", or "<administrative transfer to XX, YY, ...and ZZ simultaneously>" when administrative transfer of the same documents is to more than one place.
- Administrative transfer to main trunk groups is assumed to be the source allocation type, unless otherwise indicated.
- Administrative transfer to 2000/Y series groups is assumed to be "additional information".

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- If needed, instructions for allocation type should be indicated within the angle brackets using the abbreviations "ADD" or "INV": <administrative transfer to XX ADD> , <administrative transfer to XX INV>, or <administrative transfer to XX ADD, YY INV, ... and ZZ ADD simultaneously>.
- In certain situations, the "D" entries of 2000-series or Y-series groups may not require a destination ("Transferred to") symbol, however it is required to specify "<no transfer>" in the "Transferred to" column for such cases.
- For finalization projects, the deleted "F" symbols should have <no transfer> in the "Transferred to" column.
- For more details about the types of scheme change, see CPC Guide.

B. New, Modified or Deleted Warning notice(s)

SUBCLASS G06T - IMAGE DATA PROCESSING OR GENERATION, IN GENERAL

Type*	Location	Old Warning notice	New/Modified Warning
N	G06T 5/00		Group G06T 5/00 is impacted by reclassification into group G06T 5/60. Groups G06T 5/00 and G06T 5/60 should be considered in order to perform a complete search.
N	G06T 5/60		Group G06T 5/60 is incomplete pending reclassification of documents from group G06T 5/00. Groups G06T 5/00 and G06T 5/60 should be considered in order to perform a complete search.

*N = new warning, M = modified warning, D = deleted warning

NOTE: The "Location" column only requires the symbol PRIOR to the location of the warning. No further directions such as "before" or "after" are required.

2. A. DEFINITIONS (new)

G06T 5/60

Definition statement

This place covers:

All machine learning-based image enhancement methods, e.g. using:

- artificial neural networks [ANN] (add the indexing code G06T 2207/20084), convolutional neural networks [CNN], generative adversarial networks [GAN], deep learning
- decision trees
- support-vector machines
- regression analysis
- bayesian networks
- gaussian processes
- genetic algorithms

Illustrative example:

Informative references

Attention is drawn to the following places, which may be of interest for search:

Neural networks	G06N 3/02
Learning methods	G06N 3/08
Machine learning	G06N 20/00
Arrangements for image or video recognition or understanding using pattern recognition or machine learning using neural networks	G06V 10/82
Arrangements for image or video recognition or understanding using pattern recognition or machine learning using probabilistic graphical models from image or video features, e.g. Markov models or Bayesian networks	G06V 10/84

G06T 5/70

Definition statement

This place covers:

- Removing noise from images
- Temporal denoising, spatio-temporal noise filtering (add the indexing code G06T 2207/20182)
- Removing pattern noise from images
- Image smoothing
- Image blurring, adding motion blur to images, adding blur to images
- Edge-adaptive smoothing (add the indexing code G06T 2207/20192)
- Smoothing of depth map in stereo or range images
- Antialiasing by image filtering
- Denoising or smoothing using singular value decomposition [SVD]

Illustrative example:

Application-oriented references

Examples of places where the subject matter of this place is covered when specially

adapted, used for a particular purpose, or incorporated in a larger system:

Camera processing pipelines for suppressing or minimising disturbance in the image signal generation	H04N 23/81
Noise processing in circuitry of solid-state image sensors [SSIS], e.g. detecting, correcting, reducing or removing noise	H04N 25/60

Informative references

Attention is drawn to the following places, which may be of interest for search:

Antialiasing during drawing of lines	G06T 11/20
Antialiasing during filling a planar surface by adding surface attributes, e.g. colour or texture	G06T 11/40
Noise filtering in image pre-processing for image or video recognition or understanding	G06V 10/30
Noise or error suppression in colour picture communication systems	H04N 1/58
Processing image signals for flicker reduction in stereoscopic or multi-view video systems	H04N 13/144

Special rules of classification

Whenever possible or appropriate, documents classified in group G06T 5/70 should additionally be classified in groups G06T 5/10 - G06T 5/60.
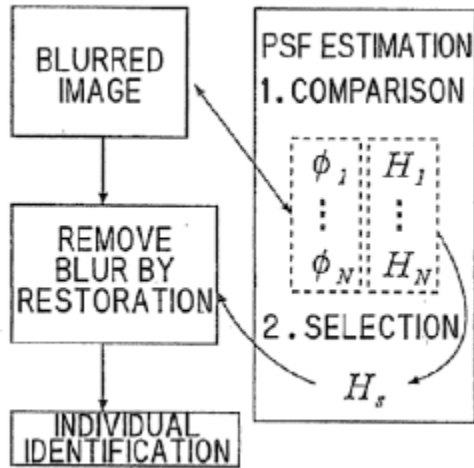
G06T 5/73

Definition statement

This place covers:

- Deblurring
- Removing motion blur from images (add the indexing code G06T 2207/20201)
- Point-spread function [PSF] model of blurring
- Deconvolution
- Modulation transfer function [MTF]
- Sharpening, crispening
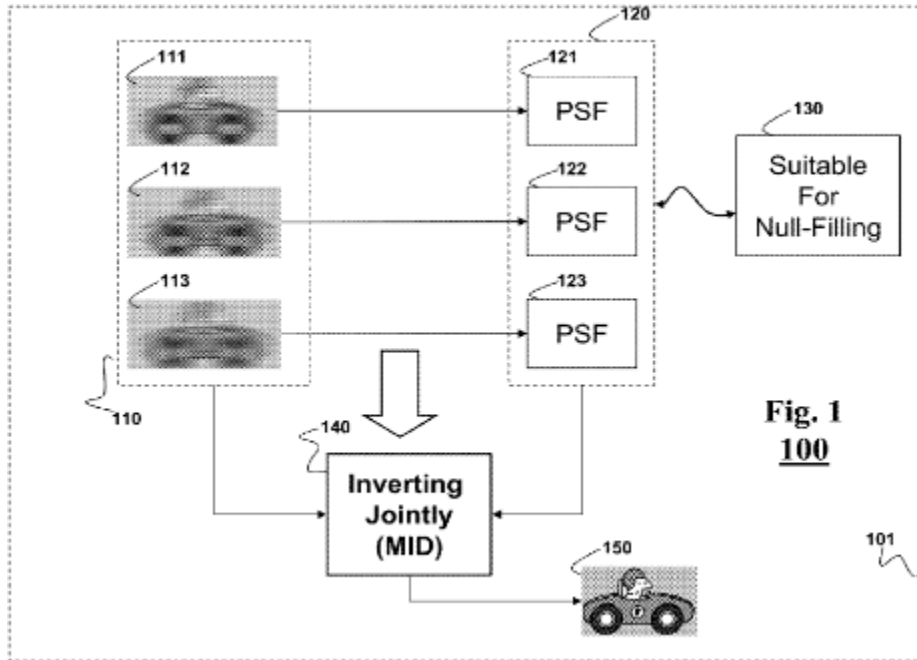- Edge enhancement, edge boosting (add the indexing code G06T 2207/20192)

Illustrative examples:

1.

2.

Fig. 1
100

Application-oriented references

Examples of places where the subject matter of this place is covered when specially adapted, used for a particular purpose, or incorporated in a larger system:

Vibration or motion blur correction for stable pick-up of the scene in cameras or camera modules comprising electronic image sensors	H04N 23/682

Informative references

Attention is drawn to the following places, which may be of interest for search:

Edge-driven scaling	G06T 3/403
Edge or detail enhancement for scanning, transmission or reproduction of documents or the like, e.g. facsimile transmission	H04N 1/4092
Edge or detail enhancement in colour picture communication systems	H04N 1/58

Special rules of classification

Whenever possible or appropriate, documents classified in group G06T 5/73 should additionally be classified in groups G06T 5/10 - G06T 5/60.

G06T 5/75

Definition statement
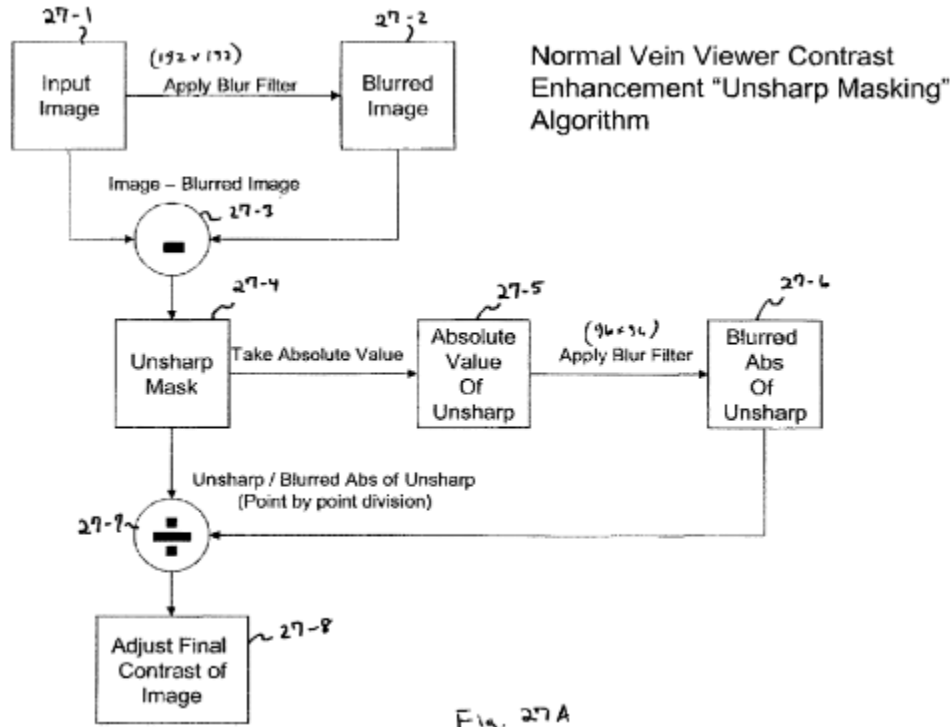
This place covers:

- Unsharp masking
- Adding or subtracting a processed version of an image to or from the image

Illustrative example:

Fig. 27A

Special rules of classification

Whenever possible or appropriate, documents classified in group G06T 5/75 should additionally be classified in groups G06T 5/10 - G06T 5/60.

G06T 5/77

Definition statement

This place covers:

- Concealing defective pixels in images
- Scratch removal
- Inpainting by image filtering or by replacing patches within an image using a generated image or texture patch, or a patch retrieved from another source, e.g. image databases or the Internet
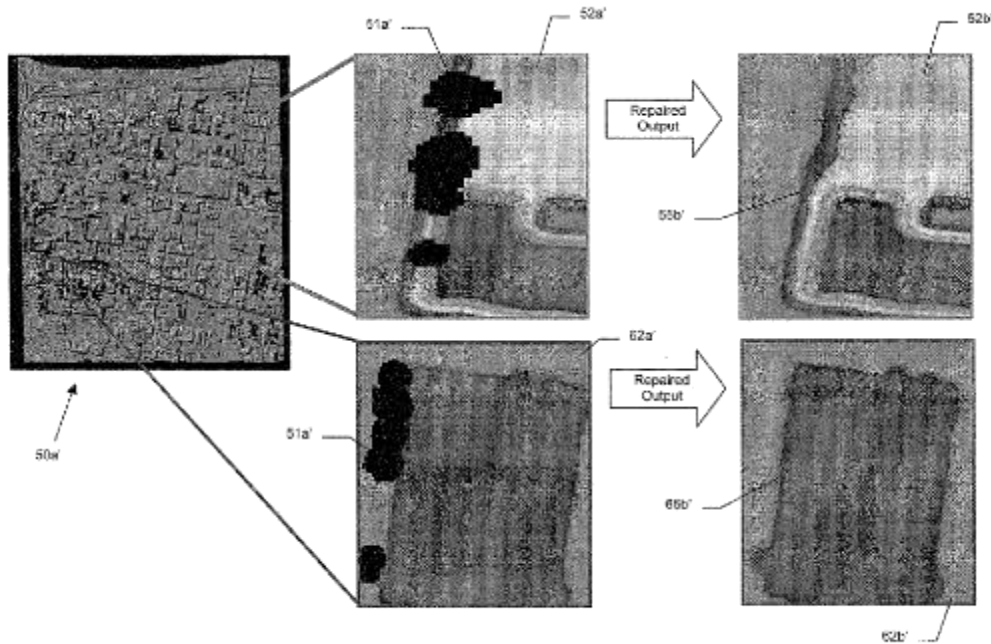- Correcting redeye defects (add the indexing code G06T 2207/30216)

Illustrative examples:

FIG. 6

Application-oriented references

Examples of places where the subject matter of this place is covered when specially adapted, used for a particular purpose, or incorporated in a larger system:

Scratch removal adapted to be used in scanners, printers, photocopying machines, displays or similar devices	H04N 1/4097
Picture signal generating by scanning motion picture films or slide opaques, e.g. for telecine	H04N 5/253
Noise processing, e.g. detecting, correcting, reducing or removing noise in circuitry of solid-state image sensors [SSIS]	H04N 25/60

Informative references

Attention is drawn to the following places, which may be of interest for search:

Segmentation or edge detection in image analysis	G06T 7/10
Analysis of geometric attributes in image analysis	G06T 7/60
Determining position or orientation of objects or cameras in image analysis	G06T 7/70
Determination of colour characteristics in image analysis	G06T 7/90

Texture generation as such	G06T 11/001
Recognition of eye characteristics	G06V 40/18
Retouching monochrome or colour images adapted to be used in scanners, printers, photocopying machines, displays or similar devices	H04N 1/40093, H04N 1/62
Redeye correction adapted to be used in scanners, printers, photocopying machines, displays or similar devices	H04N 1/624

Special rules of classification

Whenever possible or appropriate, documents classified in group G06T 5/77 should additionally be classified in groups G06T 5/10 - G06T 5/60.
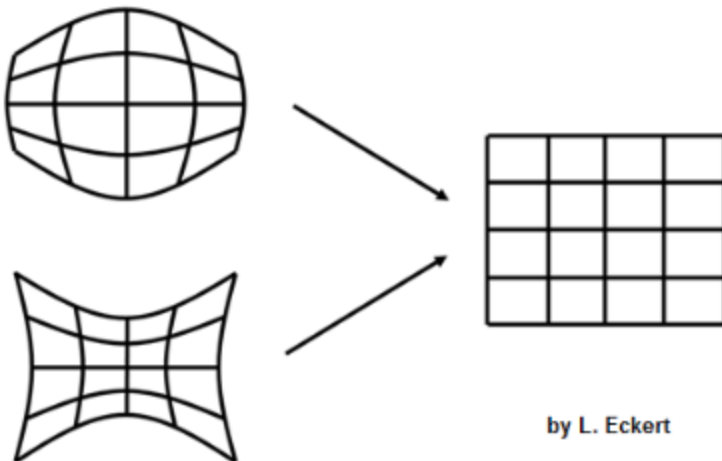
G06T 5/80

Definition statement

This place covers:

- Correcting lens distortions or aberrations
- Correcting pincushion, barrel, trapezoidal or fish-eye distortions
- Calibrating parameters of lens distortion
- Reference grids, coordinate mapping

Illustrative example:

by L. Eckert

Informative references

Attention is drawn to the following places, which may be of interest for search:

Geometric image transformations in the plane of the image	G06T 3/00
Analysis of captured images to determine intrinsic or extrinsic camera parameters, i.e. camera calibration	G06T 7/80
Normalisation of the pattern dimension during image preprocessing for image or video recognition	G06V 10/32

Special rules of classification

Whenever possible or appropriate, documents classified in group G06T 5/80 should additionally be classified in groups G06T 5/10 - G06T 5/60.
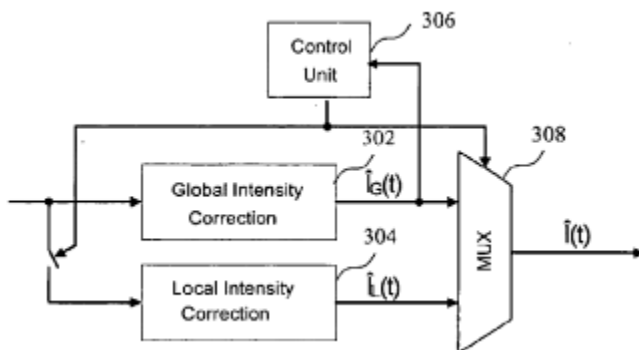
G06T 5/90

Definition statement

This place covers:

- Contrast enhancement based on a combination of local and global properties
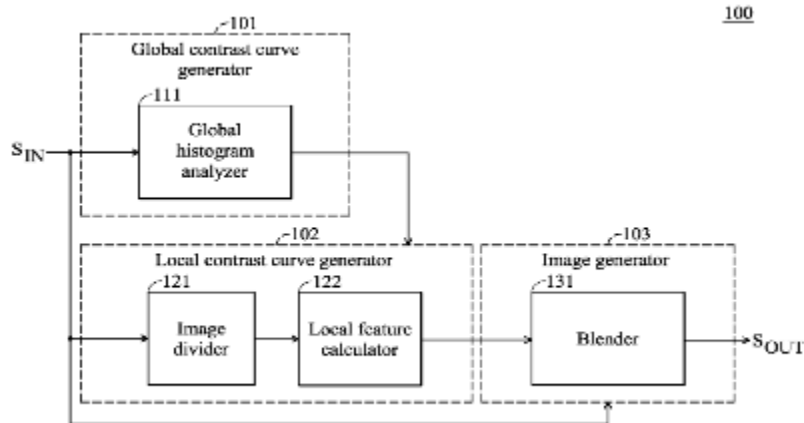
Illustrative examples:

1.

2.

FIG. 1

Application-oriented references

Examples of places where the subject matter of this place is covered when specially adapted, used for a particular purpose, or incorporated in a larger system:

Circuitry for compensating brightness variation in the scene by increasing the dynamic range of the image compared to the dynamic range of the electronic image sensors	H04N 23/741
Bracketing, i.e. taking a series of images with varying exposure conditions	H04N 23/743

Informative references

Attention is drawn to the following places, which may be of interest for search:

Equalising the characteristics of different image components of stereoscopic or multi-view image signals, e.g. their average brightness or colour balance	H04N 13/133

Special rules of classification

Whenever possible or appropriate, documents classified in group G06T 5/90 should additionally be classified in groups G06T 5/10 - G06T 5/60.

G06T 5/92

Definition statement

This place covers:

- Global contrast enhancement or tone mapping to increase the dynamic range of an image, based on properties of the whole image, e.g. global statistics or histograms
- Contrast stretching, brightness equalisation
- Gamma and gradation correction in general
- Tone mapping for high dynamic range [HDR] imaging (add the indexing code G06T 2207/20208)
- Intensity mapping, e.g. using lookup tables [LUT]

Illustrative example:
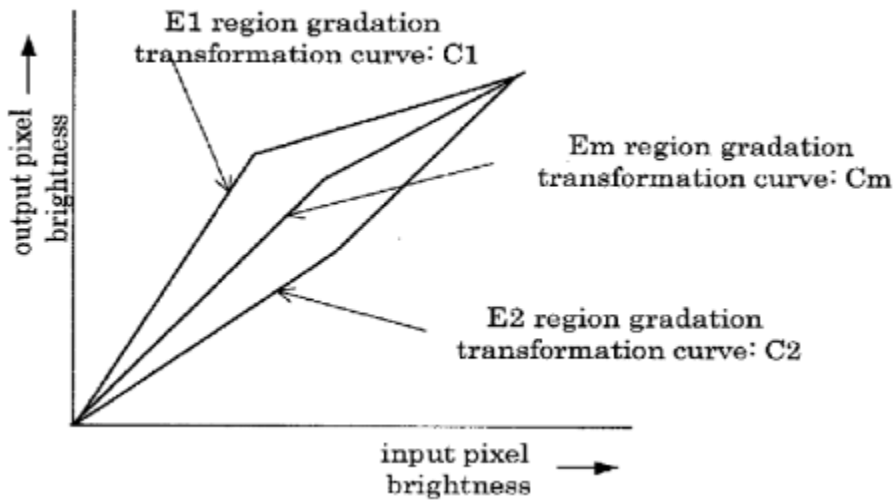
Application-oriented references

Examples of places where the subject matter of this place is covered when specially

adapted, used for a particular purpose, or incorporated in a larger system:

Picture signal circuitry for controlling amplitude response in television systems	H04N 5/20
Gamma control in television systems	H04N 5/202
Camera processing pipelines comprising electronic image sensors	H04N 23/80
Circuitry for compensating brightness variation in the scene	H04N 23/70

Special rules of classification

Whenever possible or appropriate, documents classified in group G06T 5/92 should additionally be classified in groups G06T 5/10 - G06T 5/60.
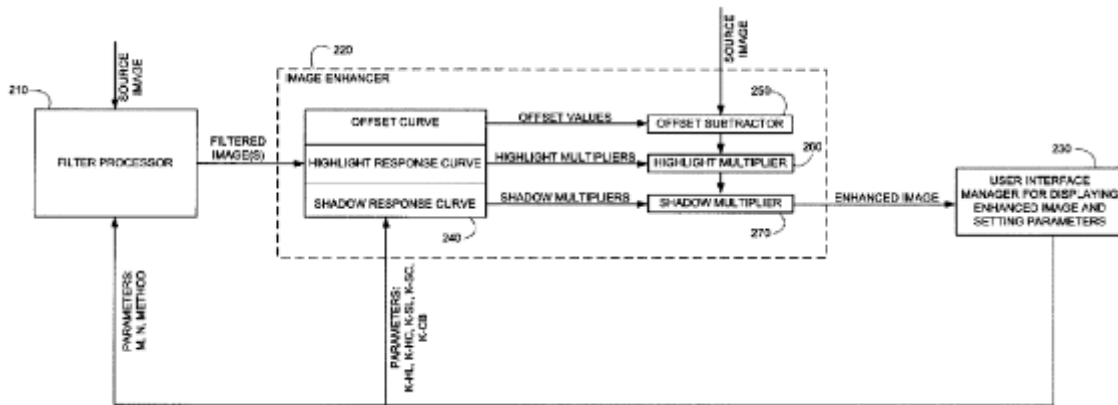

G06T 5/94

Definition statement

This place covers:

- Local contrast enhancement, e.g. locally adaptive filtering
- Retinex processing

Illustrative examples:
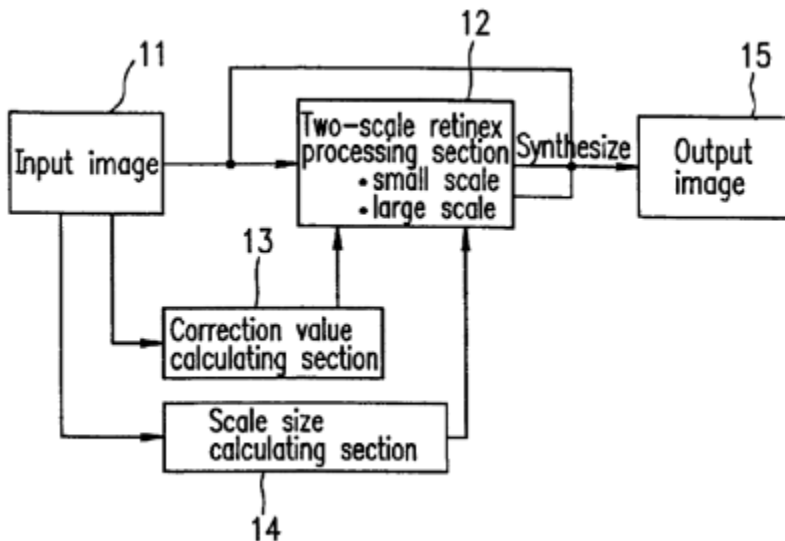
1.

2.

Informative references

Attention is drawn to the following places, which may be of interest for search:

Unsharp masking	G06T 5/75

Special rules of classification

Whenever possible or appropriate, documents classified in group G06T 5/94 should additionally be classified in groups G06T 5/10 - G06T 5/60.

2. A. DEFINITIONS (modified)

G06T 5/00

Definition statement

<u>Replace</u>: The existing Definition statement text with the following updated text.

Image enhancement or restoration

- using non-spatial domain filtering
- using local operators
- using morphological operators, i.e. erosion or dilatation
- using histogram techniques
- using two or more images, e.g. averaging or subtraction
- using machine learning, e.g. neural networks
- Denoising; Smoothing
- Deblurring; Sharpening
- Unsharp masking
- Retouching; Inpainting; Scratch removal
- Geometric correction
- Dynamic range modification of images or parts thereof

Relationships with other classification places

<u>Replace</u>: The existing Relationships text with the following updated text.

G06T 5/00 is the function place for image enhancement or restoration. Image enhancement or restoration specially adapted for a particular application is classified in the relevant application field, e.g. G06V or H04N.

References

Informative references

<u>Replace</u>: The existing Informative references table text with the following updated text.

Attention is drawn to the following places, which may be of interest for search:

Neural networks	G06N 3/02
Image preprocessing for image or video recognition or understanding	G06V 10/20

Image processing adapted to be used in scanners, printers, photocopying machines, displays or similar devices, including composing, repositioning or otherwise modifying originals	H04N 1/387
Picture signal circuits adapted to be used in scanners, printers, photocopying machines, displays or similar devices	H04N 1/40
Processing of colour picture signals in scanners, printers, photocopying machines, displays or similar devices	H04N 1/56
Circuitry for compensating brightness variation in the scene in cameras or camera modules comprising electronic image sensors	H04N 23/70
Camera processing pipelines in cameras or camera modules comprising electronic image sensors	H04N 23/80
Computational photography systems, e.g. light-field imaging systems	H04N 23/95
Noise processing, e.g. detecting, correcting, reducing or removing noise in circuitry of solid-state image sensors [SSIS]	H04N 25/60

Special rules of classification

Replace: The existing Special rules text and images with the following updated text (no images).

This group focuses on image processing algorithms. Although such algorithms sometimes need to consider characteristics of the underlying image acquisition apparatus, inventions to the image acquisition apparatus per se are outside the scope of this group.

Whenever possible, additional information should be classified using one or more of the indexing codes from the ranges of G06T 2200/00 (see definitions re. G06T) or G06T 2207/00 (see definitions re. G06T 2207/00).

The classification symbol G06T 5/00 should be allocated to documents concerning:

- Interactive / multiple choice image processing, e.g. choosing outputs from multiple enhancement algorithms
- Image restoration based on properties or models of the human vision system [HVS]

Synonyms and Keywords

Replace: The existing Synonyms and Keywords table text with the following updated text.

In patent documents, the following abbreviations are often used:

HDR	High dynamic range
HDRI	High dynamic range imaging
HMM	Hidden Markov model
PSF	Point spread function
SDR	Standard dynamic range

G06T 5/10

Definition statement

Replace: The existing Definition statement text with the following updated text. The image should remain as-is.

All transform domain-based enhancement methods, e.g. using

- Fourier transform, discrete Fourier transform [DFT] or fast Fourier transform [FFT] (add the indexing code G06T 2207/20056)
- Hadamard transform
- discrete cosine transform [DCT] (add the indexing code G06T 2207/20052)
- Wavelet transform, discrete wavelet transform [DWT] (add the indexing code G06T 2207/20064)

Illustrative example:
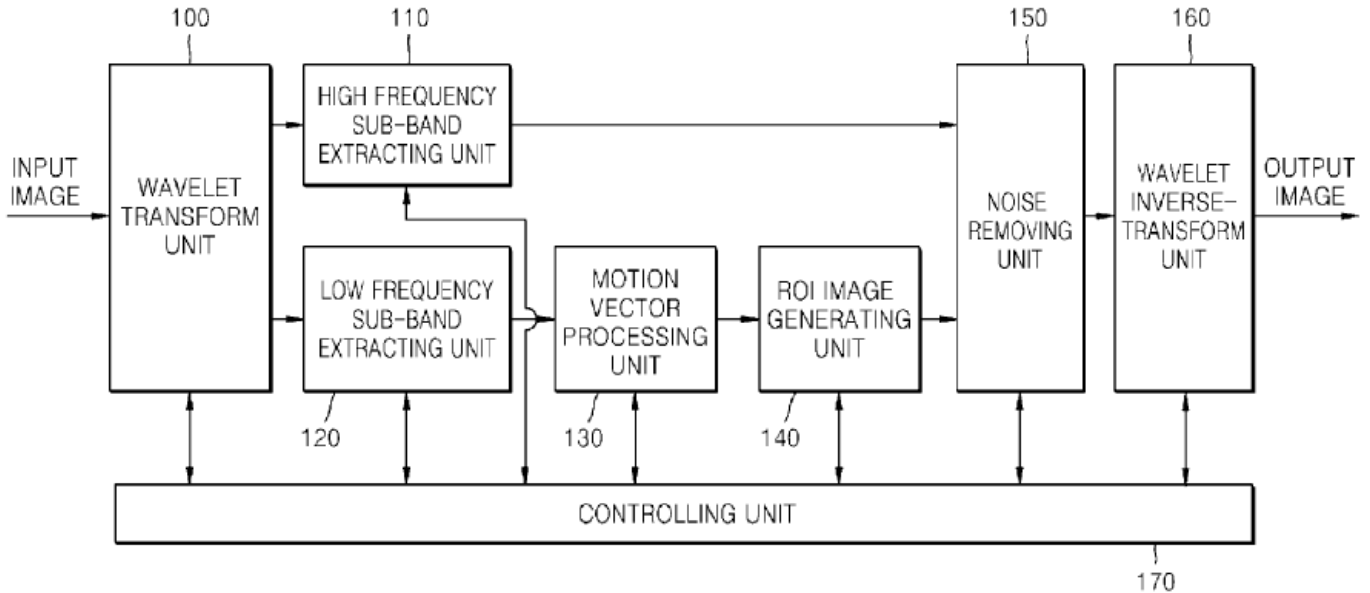
References

Insert: The following new Application-oriented references section.

Application-oriented references

Examples of places where the subject matter of this place is covered when specially

adapted, used for a particular purpose, or incorporated in a larger system:

Circuitry for compensating brightness variation in the scene in cameras or camera modules comprising electronic image sensors	H04N 23/70
Camera processing pipelines in cameras or camera modules comprising electronic image sensors	H04N 23/80
Picture signal generating by scanning motion picture films or slide opaques, e.g. for telecine	H04N 5/253
Noise processing, e.g. detecting, correcting, reducing, or removing noise in circuitry of solid-state image sensors [SSIS]	H04N 25/60

Delete: The entire Informative references section.

G06T 5/20

Definition statement

<u>Replace</u>: The existing Definition statement text with the following updated text. The image should remain as-is.

- Convolution with a mask or kernel in the spatial domain
- High-pass filter, low-pass filter
- Gauss filter, Laplace filter
- Averaging filter, mean filter, blurring filter
- Differential filters (e.g. Sobel operator)
- Median filter (add the indexing code G06T 2207/20032)
- Bilateral filter (add the indexing code G06T 2207/20028)
- Minimum, maximum or and rank filtering
- Wiener filter
- Phase-locked loops, detectors, mixers
- Recursive filter
- Distance transforms
- Local image processing architectures

Illustrative example:

−1	0	+1
−2	0	+2
−1	0	+1

FIG. 2a

References

Delete: The entire Limiting references section.

Application-oriented references

Replace: The existing Application-oriented references table text with the following updated text.

Examples of places where the subject matter of this place is covered when specially adapted, used for a particular purpose, or incorporated in a larger system:

Circuitry for compensating brightness variation in the scene in cameras or camera modules comprising electronic image sensors	H04N 23/70
Camera processing pipelines in cameras or camera modules comprising electronic image sensors	H04N 23/80

Picture signal generating by scanning motion picture films or slide opaques, e.g. for telecine	H04N 5/253
Noise processing, e.g. detecting, correcting, reducing, or removing noise in circuitry of solid-state image sensors [SSIS]	H04N 25/60

Informative references

Replace: The existing Informative references text with the following updated text.

Attention is drawn to the following places, which may be of interest for search:

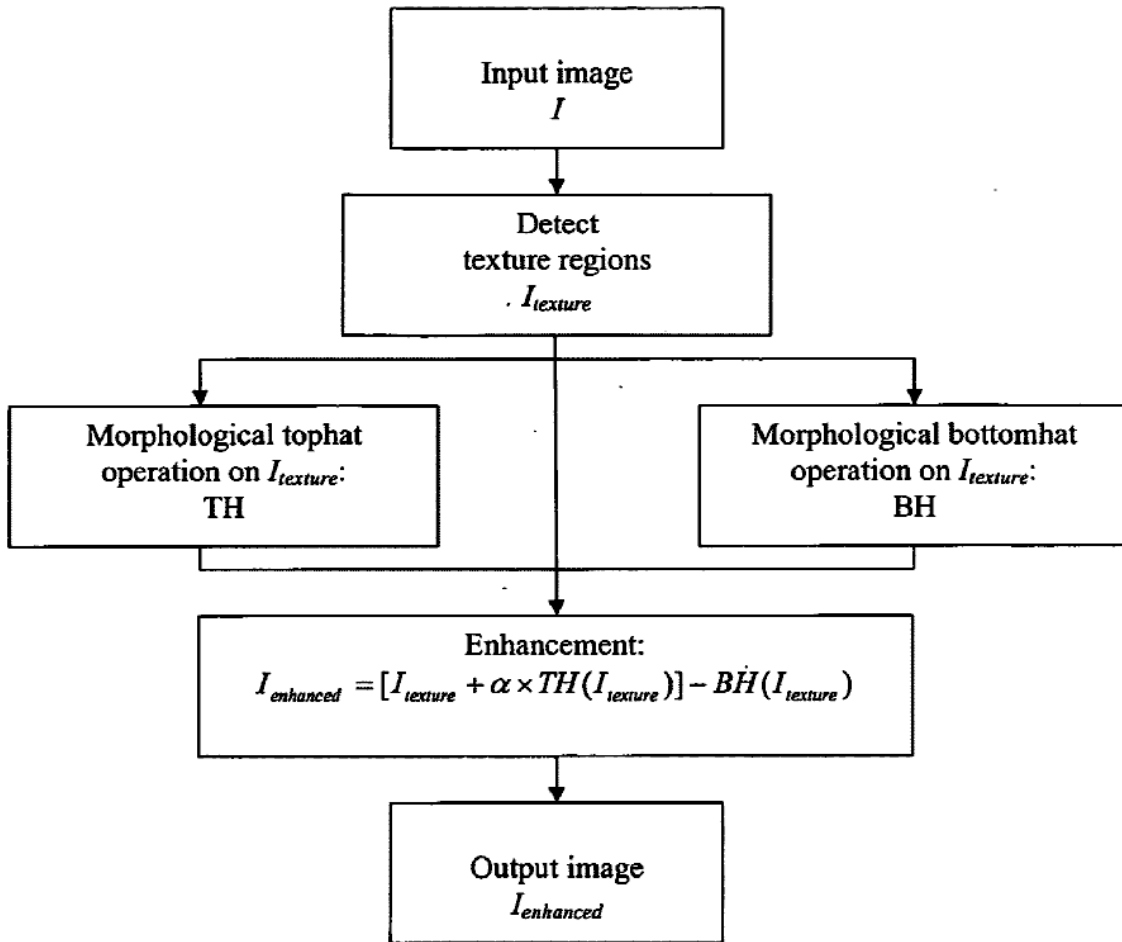| Applying local operators for during image preprocessing for image or video recognition or understanding	G06V 10/36

G06T 5/30

Definition statement

Replace: The existing Definition statement text with the following updated text.

All morphology-based operations for image enhancement, e.g.:

- Thickening, thinning
- Opening, closing
- Erosion, dilation
- Structuring elements
- Skeletons
- Geodesic transforms

Illustrative examples:
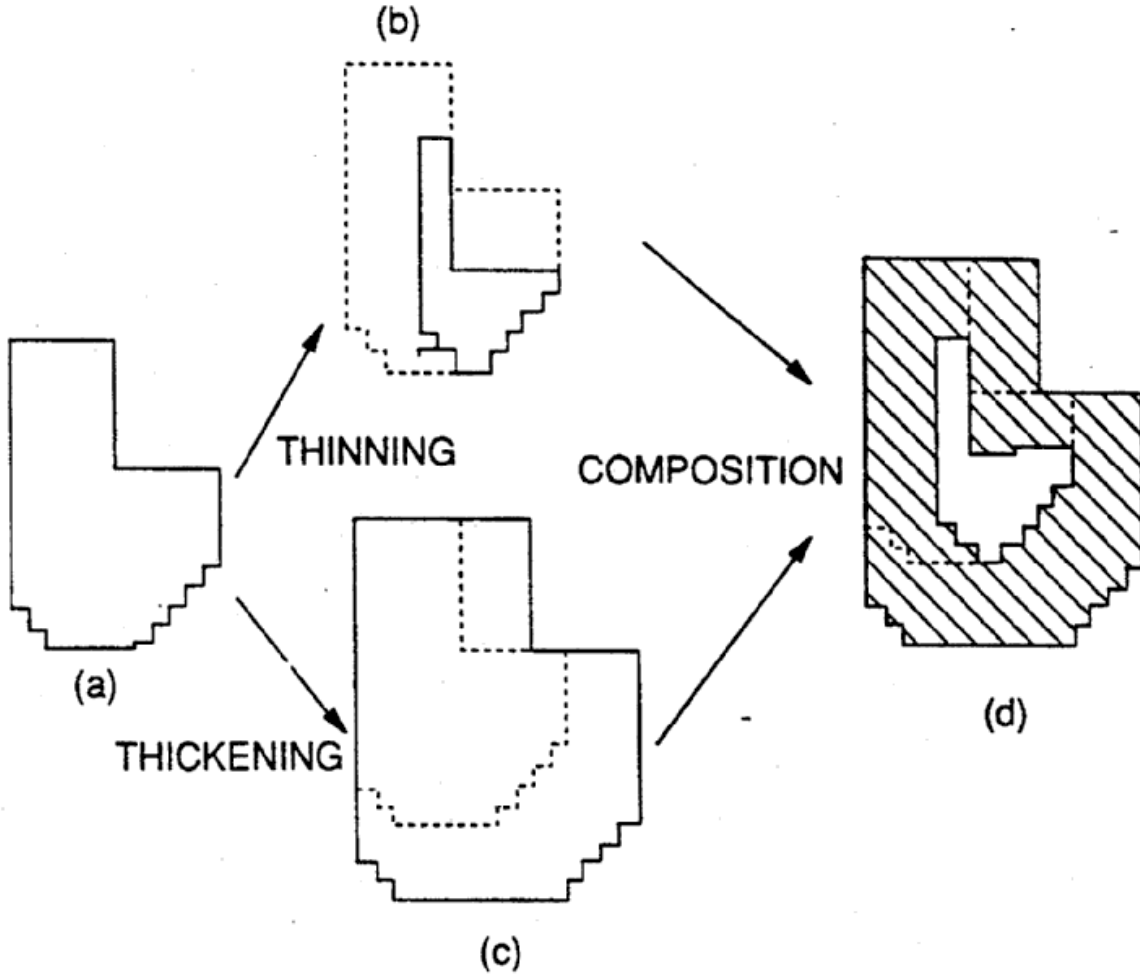
1.

```
┌─────────────────────────┐
│      Input image        │
│           I             │
└─────────────────────────┘
             │
             ▼
┌─────────────────────────┐
│        Detect           │
│    texture regions      │
│      . I_texture        │
└─────────────────────────┘
```

Input image
I

Detect
texture regions
$I_{texture}$

Morphological tophat
operation on $I_{texture}$:
TH

Morphological bottomhat
operation on $I_{texture}$:
BH

Enhancement:
$$I_{enhanced} = [I_{texture} + \alpha \times TH(I_{texture})] - BH(I_{texture})$$

Output image
$I_{enhanced}$

2.

References

Informative references

Replace: The existing Informative references table text with the following updated text.

Attention is drawn to the following places, which may be of interest for search:

Segmentation or edge detection involving morphological operators	G06T 7/155
Smoothing or thinning of patterns during image preprocessing for image or video recognition or understanding	G06V 10/34

G06T 5/40

Definition statement

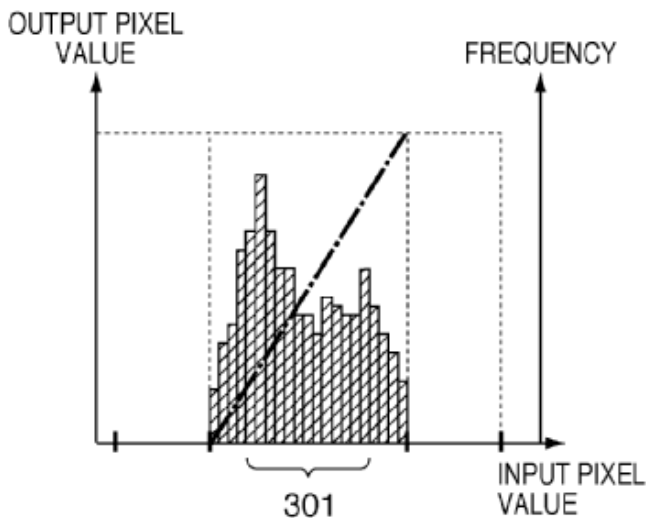Replace: The existing Definition statement text with the following updated text. The image should remain as-is.

All histogram-based image enhancement methods

Illustrative example:

F I G. 3A

F I G. 3B
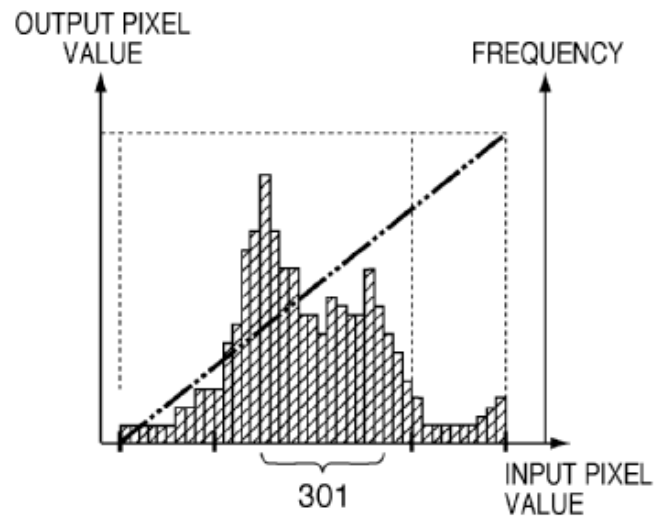
References

Application-oriented references

Replace: The existing Application-oriented references table text with the following updated text.

Examples of places where the subject matter of this place is covered when specially adapted, used for a particular purpose, or incorporated in a larger system:

Circuitry for compensating brightness variation in the scene in cameras or camera modules comprising electronic image sensors	H04N 23/70
Camera processing pipelines in cameras or camera modules comprising electronic image sensors	H04N 23/80

Informative references

Replace: The existing Informative references table text with the following updated text.

Attention is drawn to the following places, which may be of interest for search:

Dynamic range modification	G06T 5/90
Histogram techniques adapted to be used in scanners, printers, photocopying machines, displays or similar devices	H04N 1/4074
Equalising the characteristics of different image components, e.g. their average brightness or colour balance, in stereoscopic or multi-view video systems	H04N 13/133

G06T 5/50

Definition statement

Replace: The existing Definition statement text with the following updated text. The image should remain as-is.

- Image averaging (add the indexing code G06T 2207/20216)
- Image fusion, image merging: (add the indexing code G06T 2207/20221)
- Image subtraction (add the indexing code G06T 2207/20224)
- Enhanced final image by combining multiple, e.g. degraded, images, while maintaining the same number of pixels (for increased number of pixels: see G06T 3/40)
- Full-field focus from multiple of depth-of-field images, e.g. from confocal microscopy
- Processing of synthetic aperture radar [SAR] images
- Energy subtraction
- Bright field, dark field processing
- Angiography image processing

- High dynamic range [HDR] image processing (add the indexing code G06T 2207/20208)
- Multispectral image processing
- Computational photography, e.g. coded aperture imaging (add the indexing code G06T 2200/21)

Illustrative example:

References

Replace: The existing Application-oriented references table text with the following updated text.

Application-oriented references

Examples of places where the subject matter of this place is covered when specially adapted, used for a particular purpose, or incorporated in a larger system:

Circuitry for compensating brightness variation in the scene in cameras or camera modules comprising electronic image sensors	H04N 23/70
Camera processing pipelines in cameras or camera modules comprising electronic image sensors	H04N 23/80

Replace: The existing Informative references table text with the following updated text.

Informative references

Attention is drawn to the following places, which may be of interest for search:

Scaling of whole images or parts thereof based on super-resolution	G06T 3/4053
Unsharp masking	G06T 5/75
Radar or analogous systems, specially adapted for mapping or imaging using synthetic aperture techniques	G01S 13/90
Spatial compounding in short-range sonar imaging systems	G01S 15/8995
Confocal scanning microscopes	G02B 21/0024

| Computational photography systems, e.g. light-field imaging systems | H04N 23/95 |

2. B. DEFINITIONS QUICK FIX

Symbol	Location of change (e.g., section title)	Existing reference symbol or text	Action; New symbol; New text
G06T5/001	Entire Definition		Delete the entire Definition.
G06T5/002	Entire Definition		Delete the entire Definition.
G06T5/003	Entire Definition		Delete the entire Definition.
G06T5/004	Entire Definition		Delete the entire Definition.
G06T5/005	Entire Definition		Delete the entire Definition.
G06T5/006	Entire Definition		Delete the entire Definition.
G06T5/007	Entire Definition		Delete the entire Definition.
G06T5/008	Entire Definition		Delete the entire Definition.
G06T5/009	Entire Definition		Delete the entire Definition.

NOTES:
- The table above is used for corrections or modifications to existing definitions, e.g. delete an entire definition or part thereof; propose new wording or modify wording of a section, change the symbol the definition is associated with, change or delete a reference symbol, etc.
- Do not delete (F) symbol definitions.

3.   REVISION CONCORDANCE LIST (RCL)

Type*	From CPC Symbol (existing)	To CPC Symbol(s)
C	G06T 5/00	G06T 5/00, G06T 5/60
D	G06T 5/001	<administrative transfer to G06T 5/00>
D	G06T 5/002	<administrative transfer to G06T 5/70>
D	G06T 5/003	<administrative transfer to G06T 5/73>
D	G06T 5/004	<administrative transfer to G06T 5/75>
D	G06T 5/005	<administrative transfer to G06T 5/77>
D	G06T 5/006	<administrative transfer to G06T 5/80>
D	G06T 5/007	<administrative transfer to G06T 5/90>
D	G06T 5/008	<administrative transfer to G06T 5/94>
D	G06T 5/009	<administrative transfer to G06T 5/92>

* C = entries with modified file scope where reclassification of documents from the entries is involved; Q = new entries which are firstly populated with documents via administrative transfers from deleted (D) entries. Afterwards, the transferred documents into the Q entry will either stay or be moved to more appropriate entries, as determined by intellectual reclassification; D = deleted entries; F = frozen entries will be deleted once reclassification of documents from the entries is completed.

NOTES:
- Only C, D, F, and Q type entries are included in the table above.
- When multiple symbols are included in the "To" column, do not use ranges of symbols.
- For administrative transfer of documents, the following text should be used: "< administrative transfer to XX>", "<administrative transfer to XX and YY simultaneously>", or "<administrative transfer to XX, YY, ...and ZZ simultaneously>" when administrative transfer of the same documents is to more than one place.
- Administrative transfer to main trunk groups is assumed to be the source allocation type, unless otherwise indicated.
- Administrative transfer to 2000/Y series groups is assumed to be "additional information".
- If needed, instructions for allocation type should be indicated within the angle brackets using the abbreviations "ADD" or "INV": <administrative transfer to XX ADD>, <administrative transfer to XX INV>, or < administrative transfer to XX ADD, YY INV, ... and ZZ ADD simultaneously>.
- In certain situations, the "D" entries of 2000-series or Y-series groups may not require a destination ("To") symbol, however it is required to specify "<no transfer>" in the "To" column for such cases.
- RCL is not needed for finalisation projects.

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4. CHANGES TO THE CPC-TO-IPC CONCORDANCE LIST (CICL)

CPC	IPC	Action*
G06T 5/001		DELETE
G06T 5/002		DELETE
G06T 5/003		DELETE
G06T 5/004		DELETE
G06T 5/005		DELETE
G06T 5/006		DELETE
G06T 5/007		DELETE
G06T 5/008		DELETE
G06T 5/009		DELETE
G06T 5/60	G06T 5/60	NEW
G06T 5/70	G06T 5/70	NEW
G06T 5/73	G06T 5/73	NEW
G06T 5/75	G06T 5/75	NEW
G06T 5/77	G06T 5/77	NEW
G06T 5/80	G06T 5/80	NEW
G06T 5/90	G06T 5/90	NEW
G06T 5/92	G06T 5/92	NEW
G06T 5/94	G06T 5/94	NEW

*Action column:
- For an (N) or (Q) entry, provide an IPC symbol and complete the Action column with "NEW."
- For an existing CPC main trunk entry or indexing entry where the existing IPC symbol needs to be changed, provide an updated IPC symbol and complete the Action column with "UPDATED."
- For a (D) CPC entry or indexing entry complete the Action column with "DELETE." IPC symbol does not need to be included in the IPC column.
- For an (N) 2000 series CPC entry which is positioned within the main trunk scheme (breakdown code) provide an IPC symbol and complete the action column with "NEW".
- For an (N) 2000 series CPC entry positioned at the end of the CPC scheme (orthogonal code), with no IPC equivalent, complete the IPC column with "CPCONLY" and complete the action column with "NEW".

NOTES:
- F symbols are not included in the CICL table above.
- T and M symbols are not included in the CICL table above unless a change to the existing IPC is desired.

5. CROSS-REFERENCE LIST (CRL)

Scheme references impacted by this revision project

Location of reference to be changed	Referenced subclass or group to be changed	Action; New reference symbol; New text
G06T 11/001	G06T 5/005	G06T 5/77

Definitions references impacted by this revision project

Location of reference to be changed	Referenced subclass or group to be changed	Section of definition	Action; New reference symbol; New text
G01S 7/52077	G06T 5/001	Limiting references	G06T 5/00
G06T 7/80	G06T 5/006	Informative references	G06T 5/80
G06T 7/90	G06T 5/005	Informative references	G06T 5/77
G06T 11/00	G06T 5/009	Informative references	G06T 5/92
G06T 11/001	G06T 5/005	Limiting references	G06T 5/77
G06T 2207/00	G06T 5/001	Special rules of classification	G06T 5/00
H04N 1/409	G06T 5/001	Informative references	Replace with the following two new references: Image enhancement or restoration G06T 5/00 Noise filtering in arrangements for image or video recognition or understanding G06V10/30
H04N 1/4092	G06T 5/003	Informative references	Replace with the following new reference: Deblurring; Sharpening G06T 5/73
H04N 25/61	G06T 5/006	Informative references	G06T 5/80

NOTES:
- The CRL tables above are used for changes to locations **outside** of the project scope. Changes to references in scheme titles or definitions inside the project scope will be reflected in the "scheme change" template or one of the "definition" templates.

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- In addition to other changes proposed in the tables above, in the column titled "Referenced subclass or group to be changed," **referenced** D symbols should indicate an action of "delete" or should indicate a replacement symbol and **referenced** F symbols should indicate a replacement symbol.
- When a reference is deleted, text related to that reference will also be deleted unless other references or a range of references associated with the same text remain.