EUROPEAN PATENT OFFICE
U.S. PATENT AND TRADEMARK OFFICE

CPC NOTICE OF CHANGES 1642

DATE: AUGUST 1, 2024

PROJECT DP12354

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

Action	**Subclass**	**Group(s)**
DEFINITIONS:		
Definitions Modified:	G06T	3/00, 3/02, 3/04, 3/047, 3/053, 3/06, 3/067, 3/073, 3/10, 3/12, 3/14, 3/153, 3/40, 3/4007, 3/4015, 3/4023, 3/403, 3/4038, 3/4046, 3/4053, 3/4061, 3/4069, 3/4076, 3/4084, 3/4092, 3/60, 3/602, 3/606, 3/608

No other subclasses/groups are impacted by this Notice of Changes.

This Notice of Changes includes the following *[Check the ones included]:*

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)

2. A. DEFINITIONS (modified)

G06T 3/00

References

Informative references

Replace: The Informative references table with the following revised table:

Image enhancement or restoration	G06T 5/00
Image animation	G06T 13/00
Geometric effects for 3D image rendering	G06T 15/10
Perspective computation for 3D image rendering	G06T 15/20
Geographic models in 3D modelling for computer graphics	G06T 17/05
Matrix or vector computation	G06F 17/16
Conversion of standards for television systems	H04N 7/01

G06T 3/02

Definition statement

Replace: The existing Definition statement text with the following revised text:

- Affine transformations not further specified.
- Combinations of affine transformations including rotation, scaling or shear.

Insert: The following new Relationships section:

Relationships with other classification places

This place covers the combination of rotation, scaling or shear. When the invention information in the document involves image scaling or image rotation

per se, the image scaling should be classified in group G06T 3/40, and the image rotation should be classified in group G06T 3/60.

References

Limiting references

Replace: The Limiting references table with the following revised table:

Transformations for image registration using affine transformations	G06T 3/147
Image mosaicing, e.g. composing plane images from plane sub-images	G06T 3/4038

G06T 3/04

Definition statement

Insert: The text that begins “Illustrative example …” so that the entire Definition statement text appears as follows. Leave existing image as is.

- Selective warping according to an importance map; Smart image reduction.
- Seam carving; Liquid resizing; Image retargeting.

Illustrative example of subject matter classified in this place:

G06T 3/047

Definition statement

Insert: The phrase “… of subject matter classified in this place” within the second paragraph of text so that the entire Definition statement appears as follows. Leave existing image as is.

Establishing a lens for a region-of-interest.

Illustrative example of subject matter classified in this place:

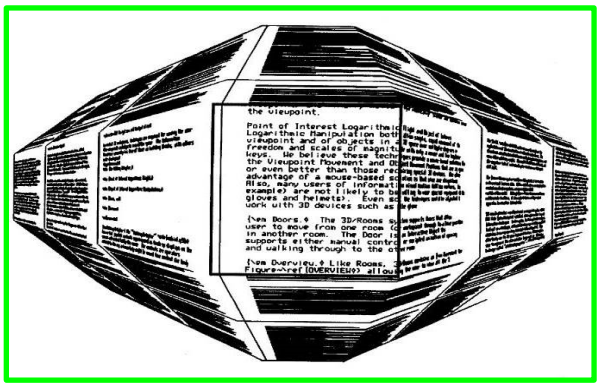
G06T 3/053

Definition statement

Replace: The Definition statement text and image with the following revised versions:

- Side or corner panels; Perspective wall.
- Document lens.

Illustrative example of subject matter classified in this place:



G06T 3/06

Definition statement

Insert: The phrase "… of subject matter classified in this place" within the second paragraph of text so that the entire Definition statement text appears as follows. Leave existing image as is.

Flattening the scanned image of a bound book.

Illustrative example of subject matter classified in this place:

G06T 3/067

Insert: The following new References/Informative references section:

References

Informative references

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

Manipulating 3D models or images for computer graphics	G06T 19/00

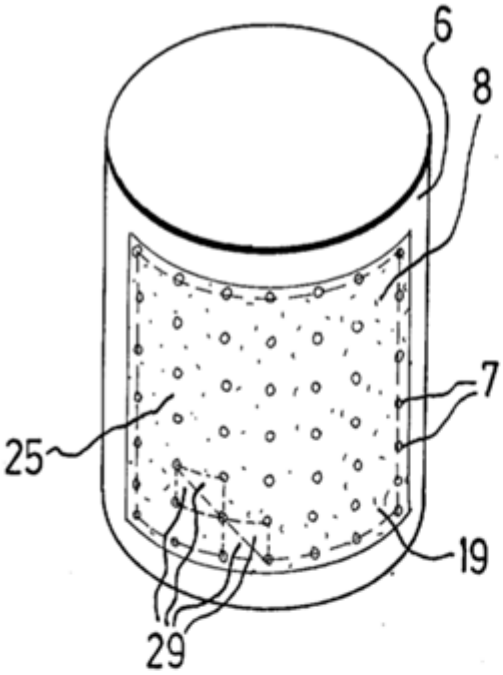
G06T 3/073

Definition statement

Replace: The Definition statement text and image with the following revised versions:

Mapping a surface of revolution to a plane, e.g. mapping a pot or a can to a plane.

Illustrative example of subject matter classified in this place: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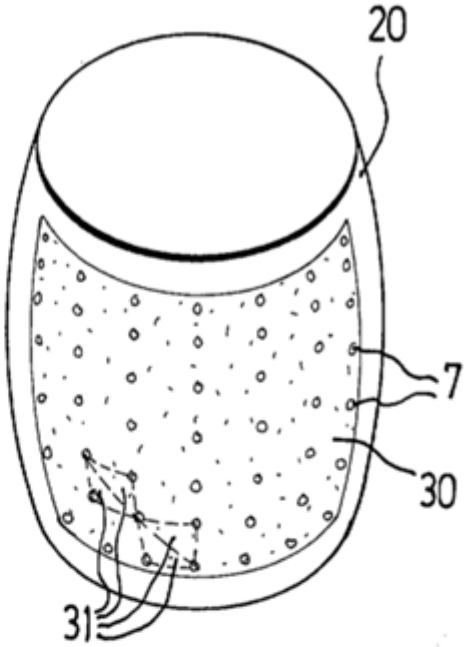
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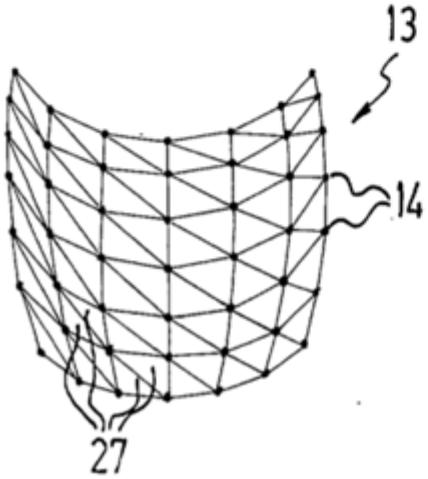
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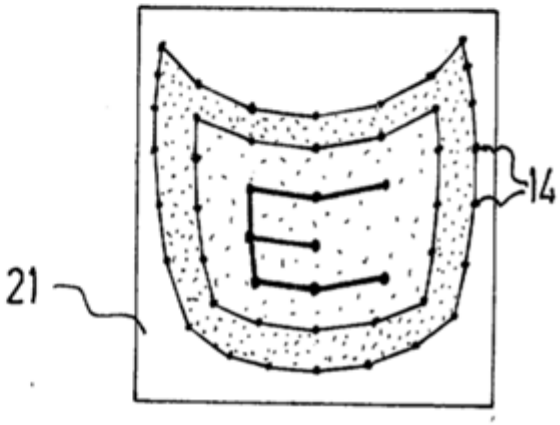
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G06T 3/10

Definition statement

Replace: The Definition statement text with the following revised text. Leave existing Image as is.

- Selecting the interpolation method depending on the scale factor.
- Selecting the interpolation method depending on media type or image appearance characteristics.

Illustrative example of subject matter classified in this place:

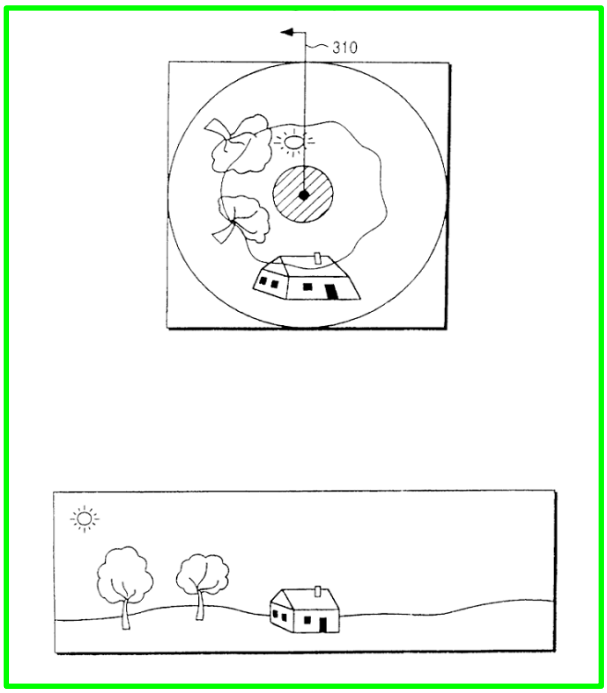
G06T 3/12

Definition statement

Replace: The Definition statement text and image with the following revised versions:

- Omnidirectional or hyperboloidal to cylindrical image transformation or mapping; Catadioptric transformation, e.g. images from surveillance cameras.
- Panospheric image transformation or mapping by using the output of a multiple cameras system.

Illustrative example of subject matter classified in this place:



G06T 3/14

Definition statement

Replace: The Definition statement text with the following revised version:

Geometric image transformations:

- for iterative image registration;
- for spline-based image registration;
- for mutual-information-based registration;
- for phase correlation or FFT-based methods;
- using fiducial points, e.g. landmarks;
- for maximised mutual information-based methods.

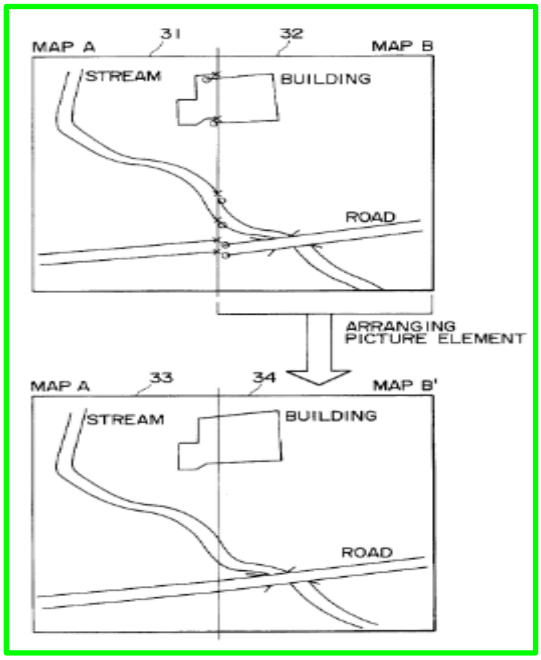
G06T 3/153

Definition statement

Replace: The Definition statement text and image with the following revised versions:

- Elastic mapping or snapping or matching; Deformable mapping.
- Diffeomorphic representations of deformations to control the image registration process.

Illustrative example of subject matter classified in this place:



G06T 3/40

Definition statement

Replace: The first “or” with a comma in the fifth bullet point so that the entire Definition text appears as follows:

- Resampling; Resolution conversion.
- Zooming or expanding or magnifying or enlarging or upscaling.
- Shrinking or reducing or compressing or downscaling.
- Pyramidal partitions; Storing sub-sampled copies.
- Area based or weighted interpolation; Scaling by surface fitting, e.g. piecewise polynomial surfaces, B-splines or Beta-splines.
- Two-steps image scaling, e.g. by stretching.

References

Insert: The following new Application-oriented 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:

Control of means for changing angle of the field of view, e.g. optical zoom objectives or electronic zooming	H04N 23/69

Informative references

Replace: The Informative references table with the following revised table:

Polynomial surface description for image modeling	G06T 17/30
Enlarging or reducing for scanning, transmission or reproduction of documents or the like, e.g. facsimile transmission	H04N 1/393
Studio circuits for television systems involving alteration of picture size or orientation	H04N 5/2628
Frame rate conversion; De-interlacing	H04N 7/01

Methods or arrangements for coding, decoding, compressing or decompressing digital video signals using predictive coding involving spatial sub-sampling or interpolation, e.g. alteration of picture size or resolution	H04N 19/59

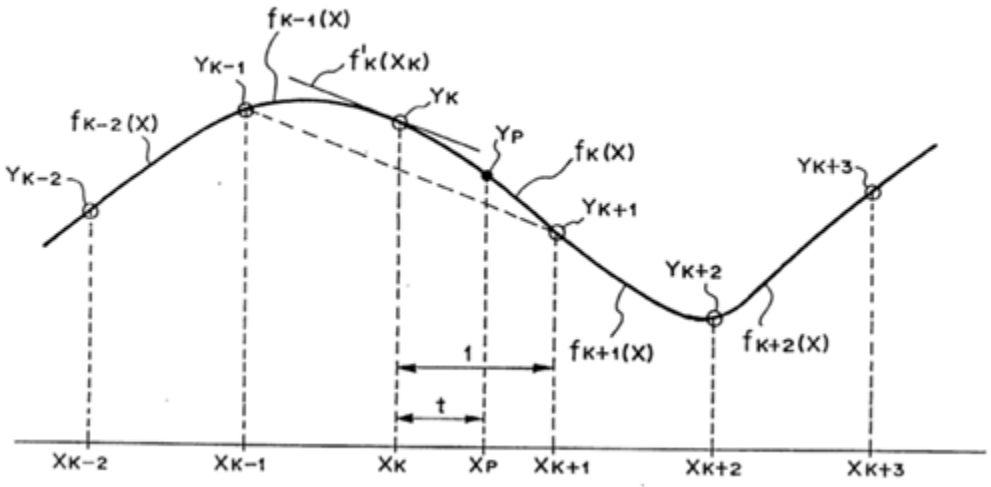
G06T 3/4007

Definition statement

Replace: The Definition statement text and image with the following revised versions:

- Linear or bi-linear or tetrahedral or cubic image interpolation.
- Adaptive interpolation, e.g. the coefficients of the interpolation depend on the pattern of the local structure.

Illustrative example of subject matter classified in this place:



References

Limiting references

Replace: The Limiting references table with the following revised version:

Image demosaicing, e.g. colour filter arrays [CFA] or Bayer patterns	G06T 3/4015
Edge-driven scaling; Edge-based scaling	G06T 3/403

G06T 3/4015

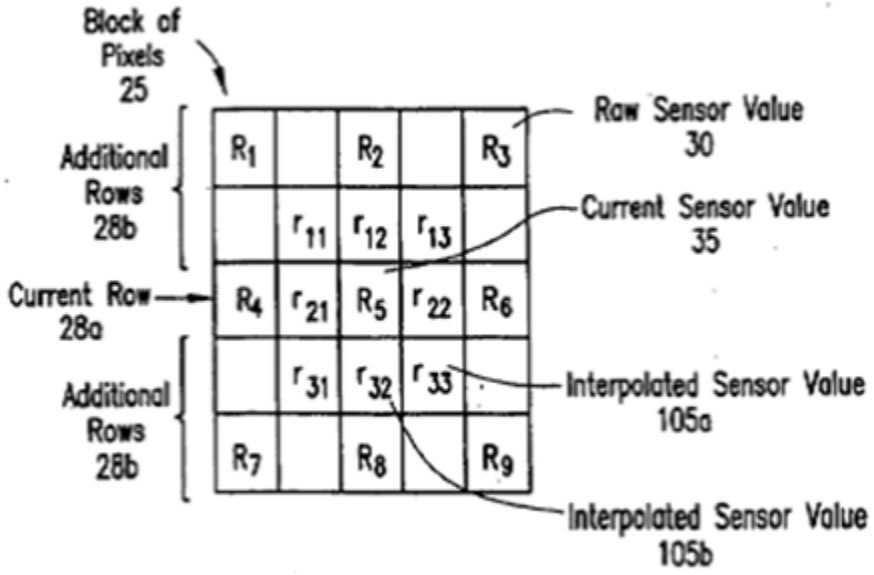
Definition statement

Replace: The Definition statement text and image with the following revised versions:

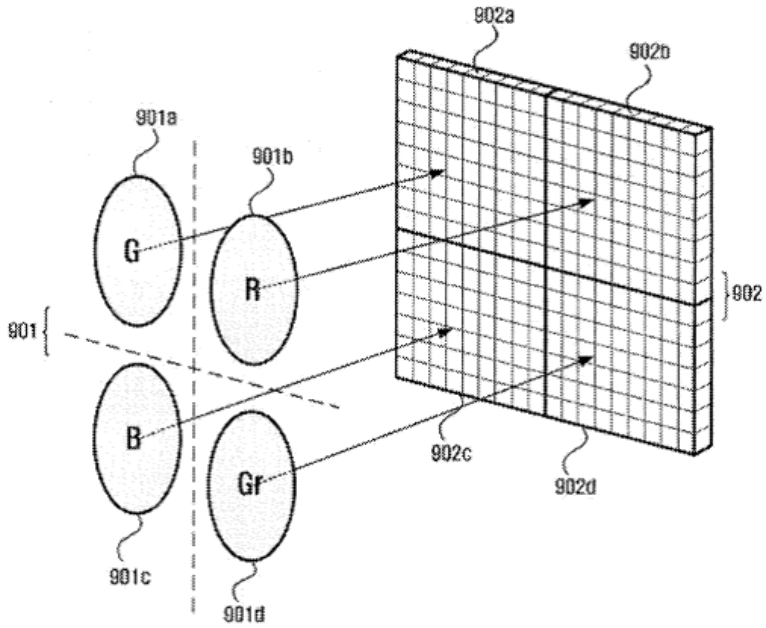
- CFA demosaicing or demosaicking or interpolating.
- Bayer pattern.
- Colour-separated images, i.e. one colour in each image quadrant.

Illustrative examples of subject matter classified in this place:

1. Image demosaicing



2. Colour-separated image



G06T 3/4023

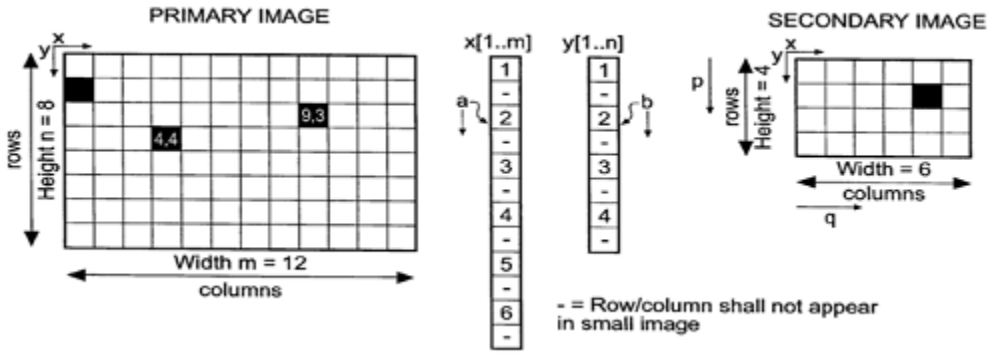
Definition statement

Replace: The Definition statement text and image with the following revised versions:

- Pixel or row deletion or removal.
- Pixel or row insertion or duplication or replication.
- Decimating FIR filters.
- Array indexes or tables, e.g. LUT.

Illustrative example of subject matter classified in this place:

Decimating by using two arrays of indexes



G06T 3/403

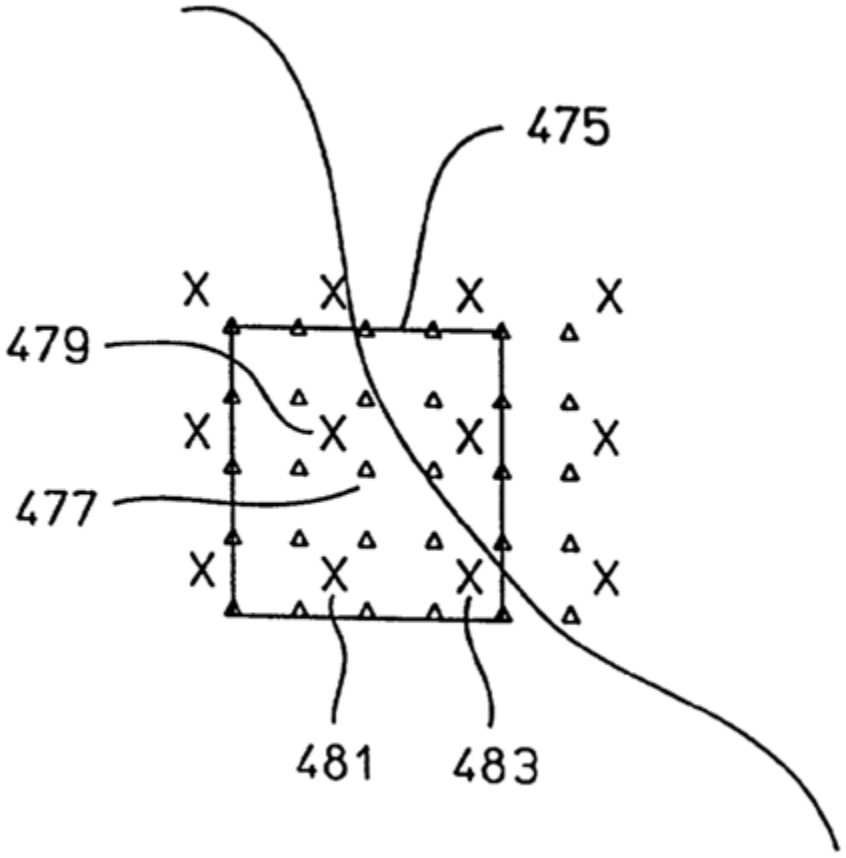
Definition statement

Replace: The Definition statement text and image with the following revised versions:

- Edge adaptive or directed or dependent or following or preserving interpolation; Edge preservation.
- Edge map injecting or projecting or combining or superimposing.

Illustrative example of subject matter classified in this place:

Correcting for abnormalities next to boundaries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G06T 3/4038

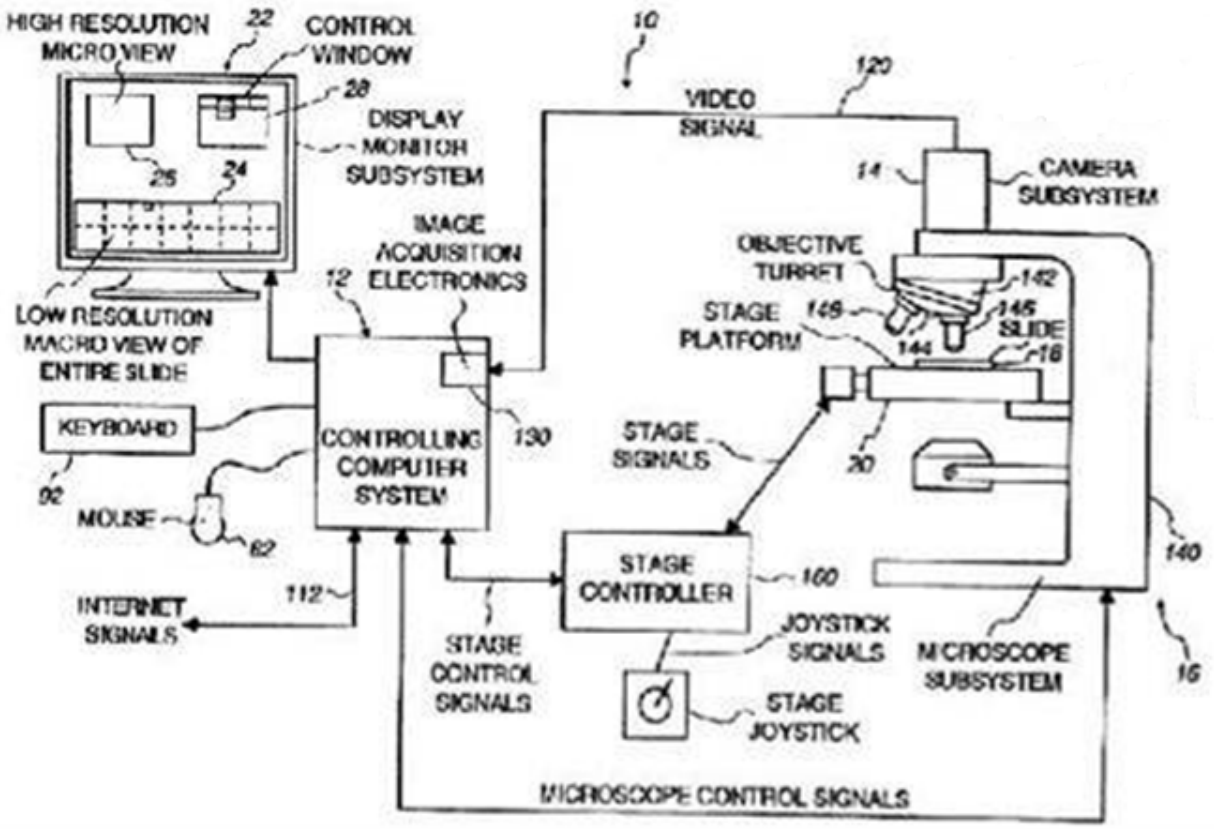
Definition statement

Replace: The Definition statement text and image with the following revised versions:

- Image mosaicing or mosaiking.
- Panorama views.
- Mosaic of video sequences; Salient video still; Video collage or synopsis.

Illustrative example of subject matter classified in this place:

Image mosaicing for microscopy applications



G06T 3/4046

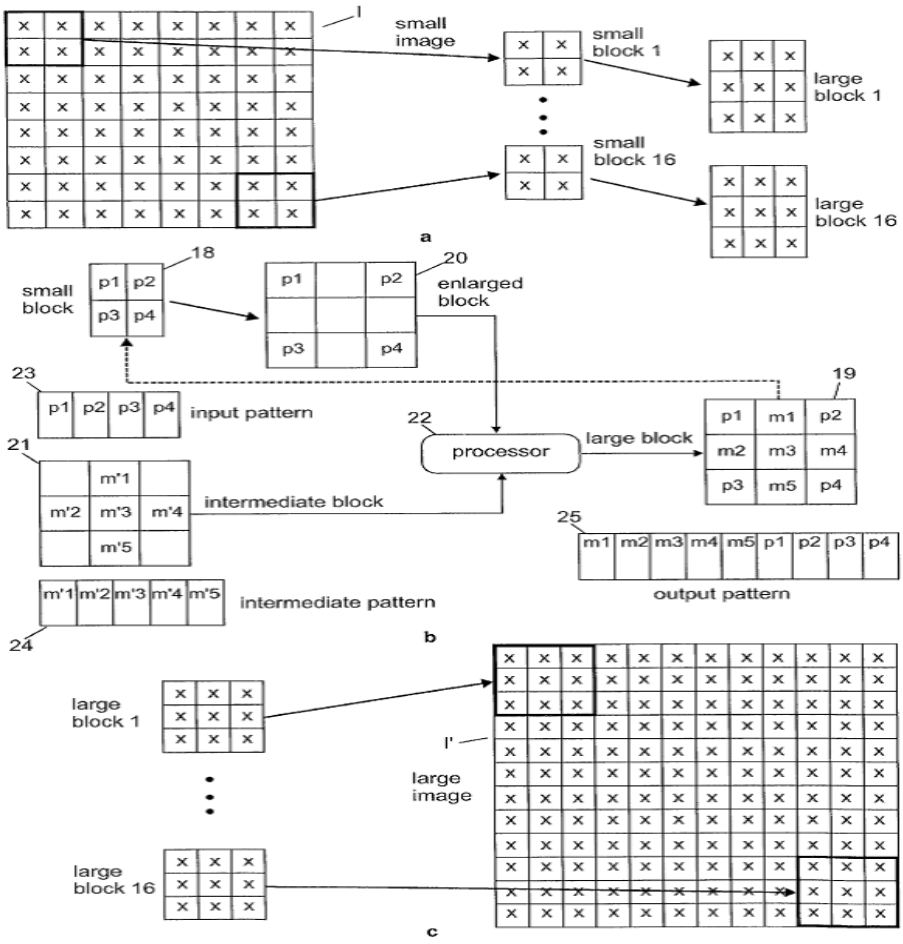
Definition statement

Replace: The Definition statement text with the following revised text. Leave existing image as is.

- Use of neural networks specially adapted for image interpolation.
- Use of neural networks specially adapted for interpolation coefficient selection.

Illustrative example of subject matter classified in this place:

Using a neural network to select the coefficients of a polynomial interpolation



References

Informative references

Replace: The Informative references table with the following revised table:

Image enhancement or restoration using machine learning, e.g. neural networks	G06T 5/60
Neural networks	G06N 3/02
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

G06T 3/4053

Definition statement

Replace: The Definition statement text and image with the following revised versions:

- Super resolution by fitting the pixel intensity to a mathematical function.
- Super resolution from image sequences; Images or frames addition, coaddition or combination.
- Super resolution by iteratively applying constraints, e.g. energy reduction, on the transform domain and inverse transforming.

Illustrative example of subject matter classified in this place:

Fitting a mathematical function and resampling:

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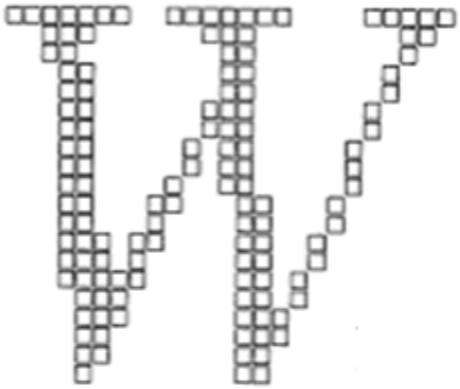
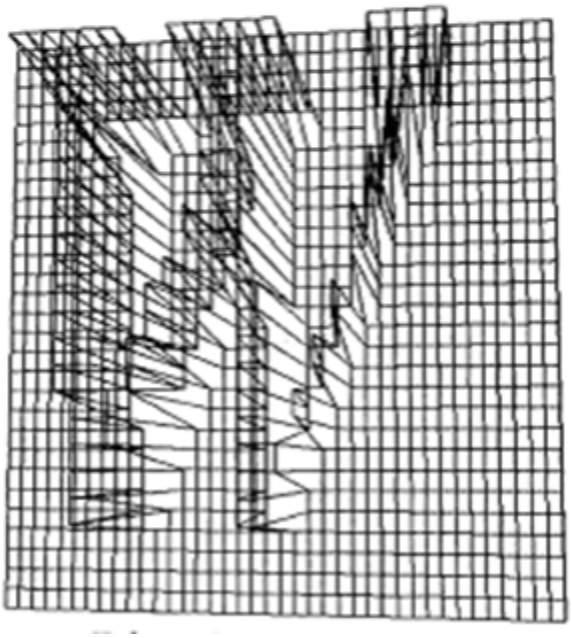




G06T 3/4061

Definition statement

Replace: The Definition statement text with the following revised text:

Fusion of multi-sensor or multiband images fusion.

G06T 3/4069

Definition statement

Replace: The Definition statement text with the following revised text. Leave image as is.

Illustrative example of subject matter classified in this place:

Displaying sub-frames at spatially offset positions

G06T 3/4076

Definition statement

Replace: The Definition statement text with the following revised text. Leave image as is.

Illustrative example of subject matter classified in this place:

Iterative correction of the high-resolution image:

G06T 3/4084

Definition statement

Replace: The Definition statement text with the following revised text. Leave image as is.

- DCT coefficients decimation or insertion for image scaling.
- Zero padding DCT coefficients for image scaling.
- Downscaling by selecting a specific wavelet sub-band.

Illustrative example of subject matter classified in this place:

Enlargement/reduction through DCT interpolation/decimation

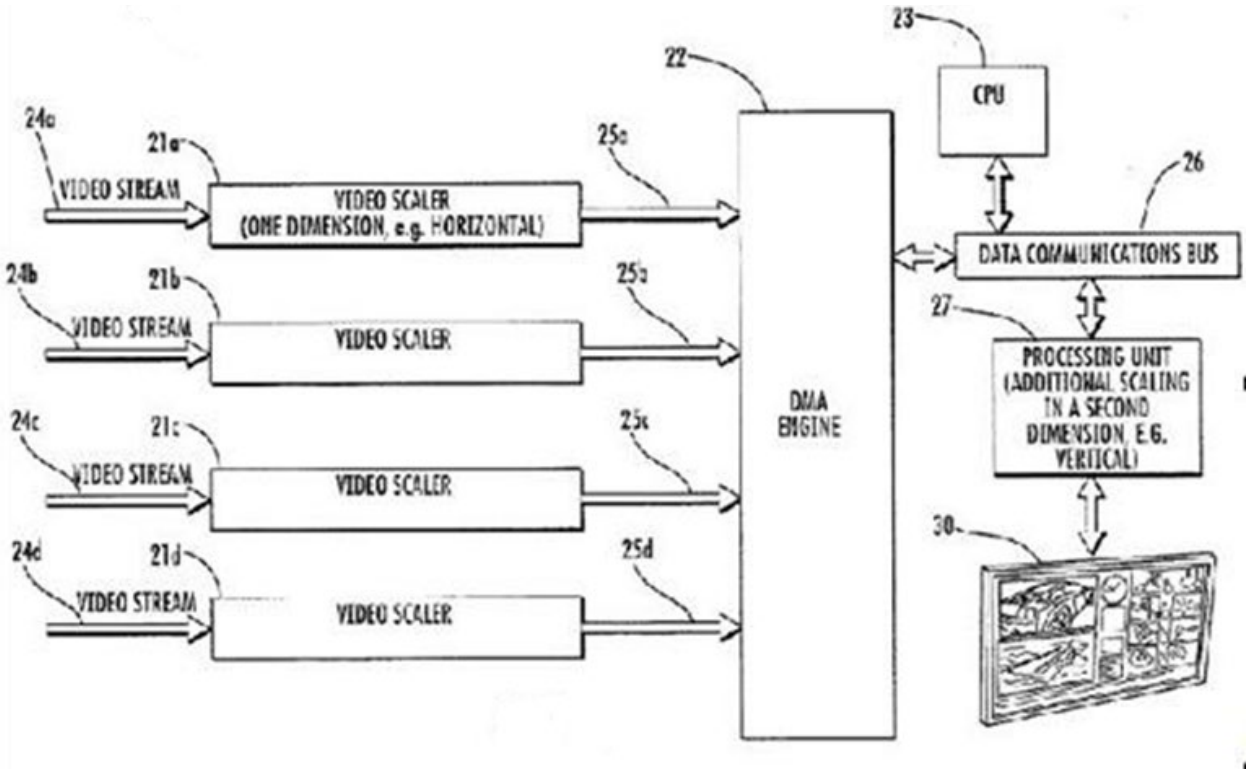
G06T 3/4092

Definition statement

Replace: The Definition statement text and image with the following revised versions:

Adapting the image resolution to the client's capabilities.

Illustrative example of subject matter classified in this place:



In the figure above, the processing unit is coupled downstream from video cross-point switcher for generating additionally scaled video streams by additional video scaling on initially scaled video stream.

References

Informative references

Replace: The existing Informative references table with the following revised table:

Methods or arrangements for coding, decoding, compressing or decompressing digital video signals using adaptive coding	H04N 19/10
Methods or arrangements for coding, decoding, compressing or decompressing digital video signals using video transcoding, i.e. partial or full decoding of a coded input stream followed by re-encoding of the decoded output stream	H04N 19/40
Server adapted for processing of video elementary streams, involving reformatting operations of video	H04N 21/234363

signals for distribution or compliance with end-user requests or end-user device requirements	
Selective content distribution in client devices adapted for processing of additional data	H04N 21/4356
Selective content distribution in client devices adapted for processing of video elementary streams involving reformatting operations of video signals for household redistribution, storage or real-time display	H04N 21/440263

G06T 3/60

References

Informative references

Replace: The Informative references table with the following revised table:

Scanning, transmission or reproduction of documents involving composing, repositioning or otherwise modifying originals	H04N 1/3877
Studio circuits for television	H04N 5/262

G06T 3/602

Definition statement

Replace: The Definition statement text with the following revised text. Leave image as is.

Illustrative example of subject matter classified in this place:

Rotation by recursive reversing

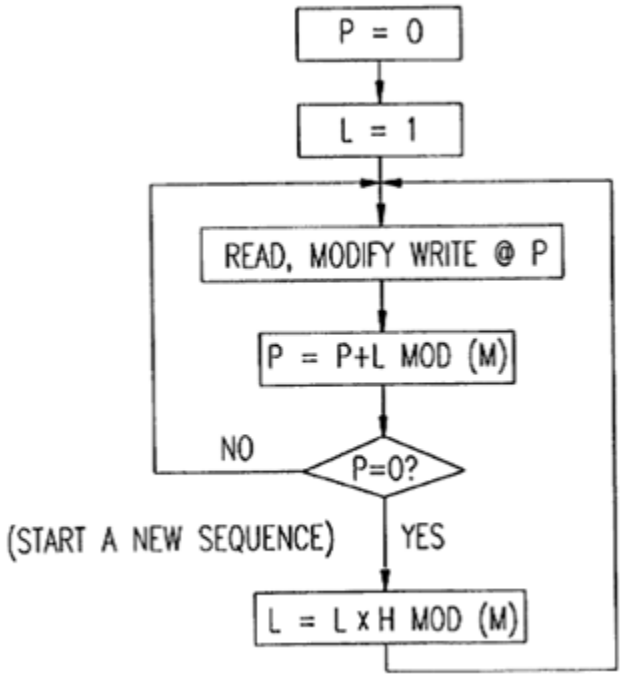
G06T 3/606

Definition statement

Replace: The Definition statement text and image with the following revised versions:

Illustrative example of subject matter classified in this place:

Continuous read-transpose-write



G06T 3/608

Definition statement

Replace: The Definition statement text and image with the following revised versions:

- Shift processing;
- Rotation by shearing.

Illustrative example of subject matter classified in this place:

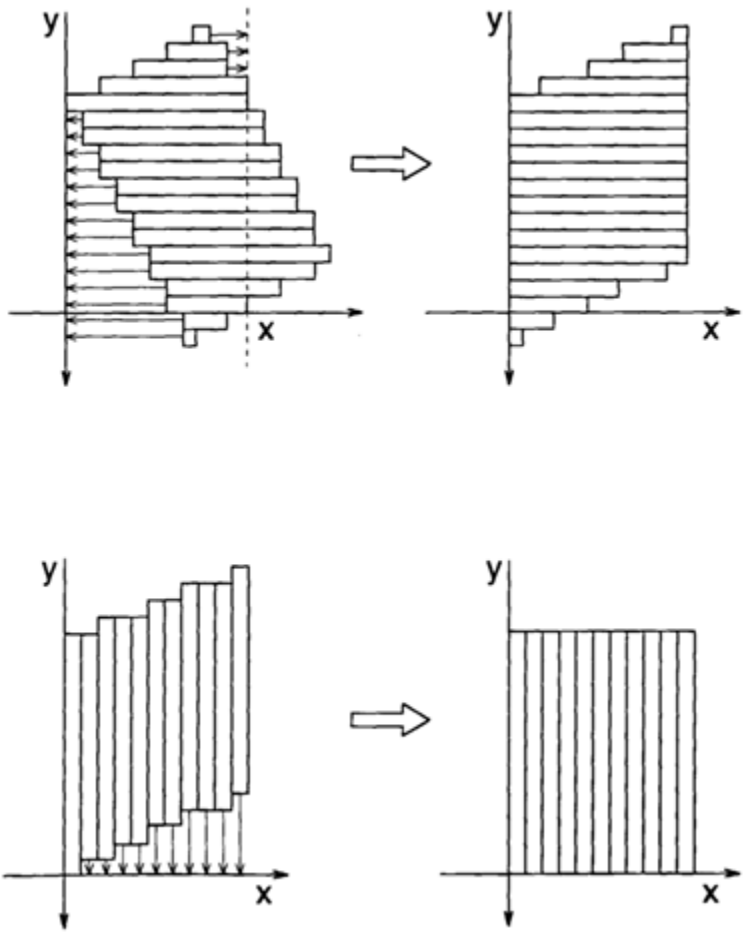



Image rotation by two-pass de-skewing