

## G03B

**APPARATUS OR ARRANGEMENTS FOR TAKING PHOTOGRAPHS OR FOR PROJECTING OR VIEWING THEM; APPARATUS OR ARRANGEMENTS EMPLOYING ANALOGOUS TECHNIQUES USING WAVES OTHER THAN OPTICAL WAVES; ACCESSORIES THEREFOR (optical parts of such apparatus [G02B](#); photosensitive materials or processes for photographic purposes [G03C](#); apparatus for processing exposed photographic materials [G03D](#))**

### Definition statement

*This place covers:*

Details not specific to the following types of photographic apparatus: cameras, projectors, or printers

- Film-strip handling
- Focusing arrangements
- Adjustment of optical system relative to image or object surface, other than for focusing

Details of cameras

- Control of exposure by setting shutters, diaphragms, or filters separately or conjointly, in particular remote control
- Exposure-making shutters
- Diaphragms
- Filters or other obturators specially adapted for photographic purposes
- Optical viewfinders
- Devices used in connection with camera focusing, including focusing aids or autofocus systems
- Special procedures or apparatus for taking photographs

Photographic apparatus

- Cameras
- Projectors or projection-type viewers, or their details
- Devices for changing pictures in viewing apparatus or projectors
- Viewers giving motion-picture effects by persistence of vision
- Photographic printing apparatus, or their details
- Combinations of cameras, projectors, or photographic printing apparatus with nonphotographic non-optical apparatus
- Camera modules (i.e. integrated lens and imaging units), specially adapted for embedding in other devices

Photographic techniques and processes

Processes – and solely those processes – characterised by the use or manipulation of apparatus classifiable in this subclass, in particular

- Associated working of cameras or projectors with sound-recording or -reproducing means
- Colour photography, other than mere exposure or projection of a colour film
- Stereoscopic photography
- Panoramic or wide-screen photography
- Photographing extended surfaces
- Photographing internal surfaces
- High-speed photography
- Other special photographic techniques

- Obtaining records using waves other than optical waves, or visualising such records by using optical means
- Testing correct operation of photographic apparatus or parts thereof

### Relationships with other classification places

Photographic processes are covered by subclass [G03B](#) when the process relates to the exposure of the photosensitive medium, in order to generate the latent image, whereas subclass [G03C](#) covers the photographic processes that involve a chemical transformation of the photosensitive medium, such that the latent image is transformed into a visible and permanent record.

The printing of a record obtained via the processes or apparatus of subclass [H04N](#) is classified in class [B41](#) if the only chemical processing involved consists in the after-treatment of ink applied to the recording surface but is classified in subclass [G03B](#) if a latent image is produced.

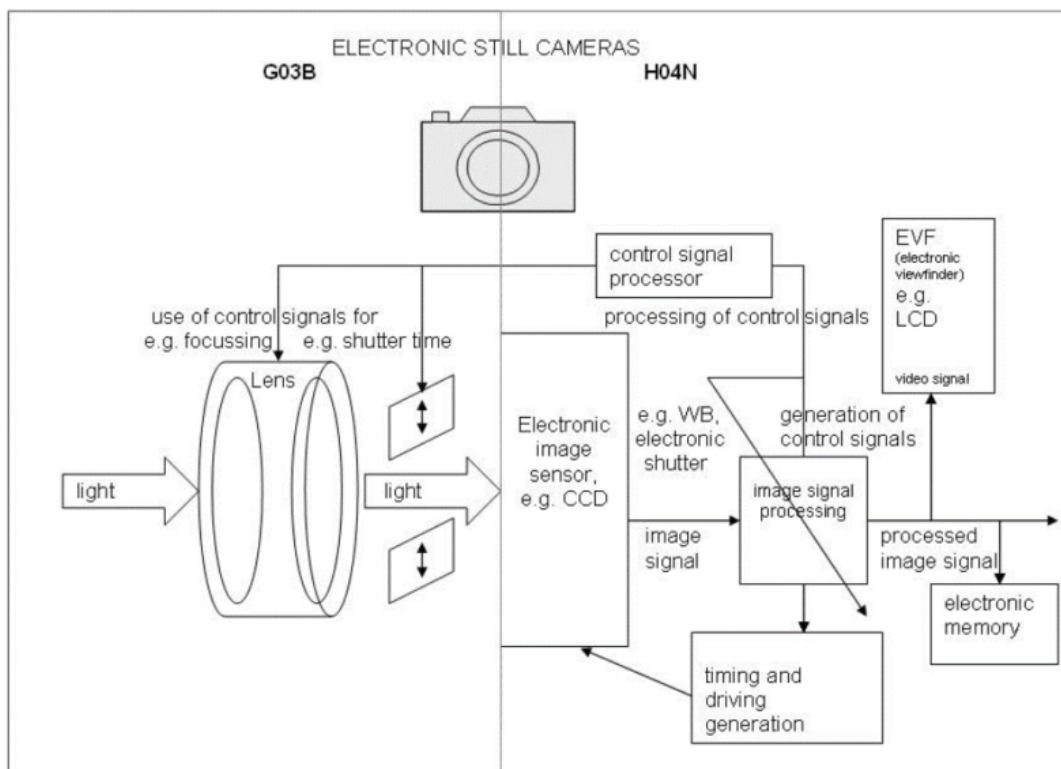
Subclass [H04N](#) covers the electronic image capturing apparatus or processes where an electronic image sensor converts an optical image into electrical signals, e.g. by controlling the electronic image sensor or by processing the electrical signals.

Subclass [H04N](#) covers the electronic image projection apparatus or processes where an electronic image modulator converts electrical signals into an optical image, e.g. by controlling the electronic image modulator or by processing the electrical signals.

Therefore, when the following subject matter is classified in this subclass, it is desirable to also classify it in subclass [H04N](#), when some aspects are considered of interest for search purposes:

- Digital still cameras, or their details
- Projectors or projection-type viewers using an electronic spatial light modulator, or their details
- Video cameras, CCTV cameras, surveillance cameras and camcorders, or details thereof

The following diagrams are intended to illustrate the relationship between [H04N](#) and [G03B](#).

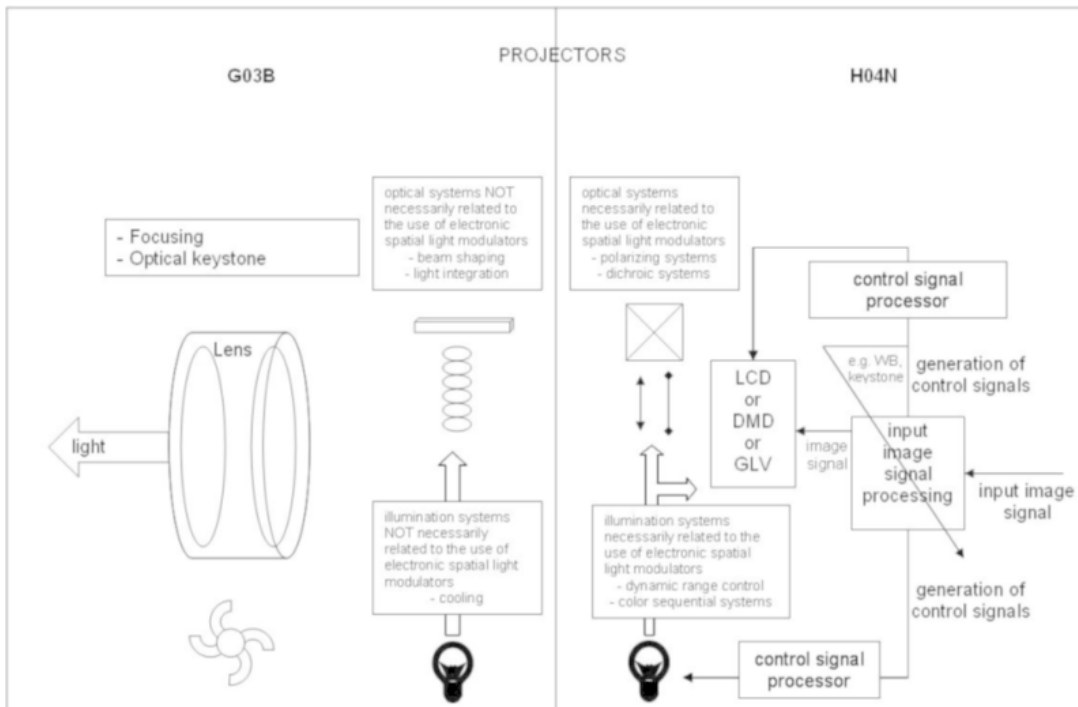


In the above image, elements on the left side correspond to [G03B](#) (e.g. light, use of control signals for focusing and shutter time). Elements on the right side correspond to [H04N](#) (e.g. control signal

Relationships with other classification places

processor, processing of control signals, electronic image sensor, electronic shutter, generation of control signals, image signal processing, timing and driving generation, EVF, LCD, processed signal memory, and electronic memory).

Thus, in [G03B](#) aspects of apparatus or methods for taking photographs using an electronic image sensor [EIS] for image capture are classified insofar as they correspond to those of said apparatus or methods for taking photographs using light sensitive film, i.e. insofar not peculiar to the presence or use of the EIS, e.g. mounting of optical elements or flashes, and their related controls insofar they are not peculiar to the presence of the EIS, e.g. exposure, focus, (opto-) mechanical motion blur (anti-shake);



In [G03B](#), aspects of apparatus or methods for projecting or viewing images using an electronic spatial light modulator [ESLM] are classified insofar as they correspond to those of said apparatus or methods for projecting or viewing images using film stock, photographic film or slides, i.e. insofar as not peculiar to the presence of the ESLM, e.g. mounting of optical elements not peculiar to the presence of the ESLM, and their related controls not peculiar to the presence of the ESLM, e.g. cooling, beam shaping, optical keystone correction.

As far as processes are concerned, only processes characterised by the use or manipulation of apparatus classified in [G03B](#).

**References**

**Limiting references**

*This place does not cover:*

Optical parts for apparatus or arrangements for taking photographs or for projecting or viewing them	<a href="#">G02B</a>
Photosensitive materials for photographic purposes	<a href="#">G03C</a>
Apparatus for processing exposed photographic materials; Accessories therefor	<a href="#">G03D</a>

**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:

Instruments for performing medical examinations of the interior of cavities or tubes of the body by photographic inspection	<a href="#">A61B 1/00</a>
Objective-type instruments for examining the eyes specially adapted for eye photography	<a href="#">A61B 3/14</a>
Photographic composing devices	<a href="#">B41B 13/00</a> - <a href="#">B41B 23/00</a>
Photogrammetry; Photographic surveying	<a href="#">G01C 11/00</a>
Recording indications of measuring instruments by photographic means	<a href="#">G01D 9/42</a>
Indicating the weight by photographic recording	<a href="#">G01G 23/35</a>
Photometry using photographic effects	<a href="#">G01J 1/52</a>
Measuring linear or angular speed using photographic means; Measuring differences of linear or angular speeds using photographic means	<a href="#">G01P 3/38</a>
Photographic dosimeters	<a href="#">G01T 1/08</a>
Microscopes arranged for photographic purposes or projection purposes	<a href="#">G02B 21/36</a>
Arrangements for producing a permanent visual presentation of the output data by photographic printing	<a href="#">G06K 15/12</a>
Photographic arrangements structurally combined with discharge tubes or lamps	<a href="#">H01J 5/16</a>
Photographic arrangements structurally combined with cathode-ray tubes or electron-beam tubes	<a href="#">H01J 29/89</a>
Photographic arrangements structurally combined with discharge tubes with provision for introducing objects or material to be exposed to the discharge	<a href="#">H01J 37/22</a>
Particle spectrometers or separator tubes with detection performed by photographic film	<a href="#">H01J 49/00</a>
Projectors or projection-type viewers using an electronic spatial light modulator	<a href="#">H04N 5/74</a> , <a href="#">H04N 9/31</a>
Video cameras; Digital still cameras	<a href="#">H04N 23/00</a>

**Informative references**

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

Photographic exposure meters	<a href="#">G01J 1/00</a>
Adjusting means for lenses adapted for automatic focusing	<a href="#">G02B 7/09</a>
Systems for automatic generation of focusing signals	<a href="#">G02B 7/28</a>
Means for focusing of apparatus for photomechanical production of textured or patterned surfaces	<a href="#">G03F 7/20</a>
Image data processing, in general	<a href="#">G06T</a>
Information storage based on relative movement between record carrier and transducer; Static stores	<a href="#">G11B</a> , <a href="#">G11C</a>
Transforming light or analogous information into electric image information	<a href="#">H04N 5/30</a>
Transforming X-rays into electric image information	<a href="#">H04N 5/32</a>

Transforming infrared radiation into electric image information	<a href="#">H04N 5/33</a>
Processing or use of electrical image signals from the EIS for the generation of camera control signals. e.g. focusing, exposure control, electronic blur correction, display in electronic viewfinder	<a href="#">H04N 23/60</a> , <a href="#">H04N 23/70</a>
Transforming light into electric information using solid-state image sensors	<a href="#">H04N 25/00</a>
Optical elements or arrangements associated with solid state imager structures;	<a href="#">H10F 39/12</a>

## Glossary of terms

*In this place, the following terms or expressions are used with the meaning indicated:*

Photography	Process of recording pictures by means of capturing light on a light-sensitive medium, e.g. silver halide based chemical or an electronic image sensor. Light patterns reflected or emitted from objects expose such a light sensitive medium during a timed exposure, usually through a photographic lens in a device known as a camera
Camera	Apparatus or arrangements for taking photographs
Projector	Device displaying image information by projection of light patterns, usually through an optical lens, wherein the light patterns are generated by illuminating an image, e.g. film or slide, or by converting an electric image signal into an optical signal using an electronic spatial light modulator
EIS	Electronic image sensor: optoelectronic transducer, converting optical image information into an electrical signal susceptible of being processed, stored, transmitted or displayed
Additional sensor	Sensor, other than the electronic image sensor, used for controlling a camera
ESLM	Electronic spatial light modulator: optoelectronic transducer converting electric signals representing image information into optical image information
Record	Photographs or any other kind of latent, directly-visible or permanent storage of pictorial information, which consist of an imagewise distribution of a quantity, e.g. an electric charge pattern, recorded on a carrier member
Optical	Applies to visible light but also to ultraviolet radiation or infrared radiation

## Synonyms and Keywords

*In patent documents, the following abbreviations are often used:*

AE	Automatic Exposure
AF	Auto Focus
APS	Advanced Photographic System
DEP	Double Exposure Prevention
DSLR	Digital Single Lens Reflex Camera
EVF	Electronic Viewfinder

OVF	Optical Viewfinder
SLR	Single Lens Reflex Camera

## G03B 1/60

**Measuring or indicating length of the used or unused film; Counting number of exposures**

### References

#### *Informative references*

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

Measuring length in general	<a href="#">G01B</a>
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## G03B 1/66

**Counting number of exposures**

### References

#### *Informative references*

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

Measuring length per se	<a href="#">G01B</a>
Counting mechanisms per se	<a href="#">G06M</a>

## G03B 3/00

**Focusing arrangements of general interest for cameras, projectors or printers**

### Definition statement

*This place covers:*

Mechanical and electromechanical details of driving and guiding a focusing lens or other optical elements in photographic devices.

### References

#### *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:*

Focusing aids for cameras	<a href="#">G03B 13/18</a>
Means for focusing for cameras	<a href="#">G03B 13/32</a>
Means for automatic focusing of projectors or projection-type viewers	<a href="#">G03B 21/53</a>
Means for automatic focusing of photographic printing apparatus or copying cameras	<a href="#">G03B 27/34</a> , <a href="#">G03F</a>

## G03B 3/10

### Power-operated focusing

#### Definition statement

*This place covers:*

Mechanical and electromechanical details of driving and guiding a power operated focusing lens or other optical elements for focusing .

#### References

##### 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:*

Means for automatic focusing of projectors or projection type viewers	<a href="#">G03B 21/53</a>
Means for automatic focusing of photographic printing apparatus or copying cameras	<a href="#">G03B 27/34</a>

##### Informative references

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

Algorithms, control systems and user interfaces for performing autofocus and for generating focusing signals in photographic cameras as long as the focusing signal is not generated in the main electronic image sensor	<a href="#">G03B 13/36</a>
Means for automatic focusing of projectors or projection type viewers	<a href="#">G03B 21/53</a>
Means for automatic focusing of photographic printing apparatus or copying cameras	<a href="#">G03B 27/34</a>
Driving means for the movement of one or more optical elements	<a href="#">G03B 2205/0053</a>
Motorized focusing of fixed focus lenses in general	<a href="#">G02B 7/08</a>
Motorized focusing of variable focus lenses in general	<a href="#">G02B 7/102</a>
Systems for automatic generation of focusing signals in general	<a href="#">G02B 7/28</a>
Algorithms, control systems and user interfaces for performing autofocus and for generating focusing signals in photographic cameras based on image signal provided by the main electronic image sensor	<a href="#">H04N 23/67</a>

## G03B 3/12

### adapted for remote control

#### References

##### Informative references

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

Control systems in general	<a href="#">G05</a>
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**G03B 9/06**

Two or more co-operating pivoted blades, e.g. iris type (shutters functioning as diaphragms by limiting extent of opening movement [G03B 9/08](#))

**References****Limiting references**

*This place does not cover:*

Shutters functioning as diaphragms by limiting extent of opening movement	<a href="#">G03B 9/08</a>
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**G03B 9/08****Shutters****References****Informative references**

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

Devices or arrangements for the control of the intensity, colour, phase, polarisation or direction of light arriving from an independent light source	<a href="#">G02F 1/00</a>
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**G03B 9/64**

Mechanism for delaying opening of shutter (separate from shutter [G03B 17/38](#))

**References****Limiting references**

*This place does not cover:*

Mechanism for delaying opening of shutter separate from shutter	<a href="#">G03B 17/38</a>
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**G03B 11/00**

Filters or other obturators specially adapted for photographic purposes

**References****Informative references**

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

Optical filters per se	<a href="#">G02B 5/20</a>
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**G03B 11/041****{Lens caps as separate accessory (accessories in general [G03B 17/56](#))}****References****Informative references***Attention is drawn to the following places, which may be of interest for search:*

Accessories in general	<a href="#">G03B 17/56</a>
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**G03B 13/00****Viewfinders; Focusing aids for cameras; Means for focusing for cameras; Autofocus systems for cameras****References****Informative references***Attention is drawn to the following places, which may be of interest for search:*

Hoods or caps for eliminating unwanted light from lenses, viewfinders or focusing aids	<a href="#">G03B 11/04</a>
Reflex cameras with single objective and a movable reflector or a partly-transmitting mirror	<a href="#">G03B 19/12</a>
Cameras with paired lenses, one of which forms image on photographic material and the other forms a corresponding image on a focusing screen	<a href="#">G03B 19/14</a>
Optical rangefinders	<a href="#">G01C 3/00</a>
Automatic focusing in general	<a href="#">G02B 7/09</a>
Systems for automatic generation of focusing signals	<a href="#">G02B 7/28</a>
Devices or arrangements for the control of the intensity, colour, phase, polarisation or direction of light arriving from an independent light source	<a href="#">G02F 1/00</a>
Focus control based upon image signals from electronic image sensors	<a href="#">H04N 23/67</a>

**G03B 13/02****Viewfinders****References****Informative references***Attention is drawn to the following places, which may be of interest for search:*

Viewfinders per se	<a href="#">G02B 23/14</a>
Electronic viewfinders	<a href="#">H04N 23/00</a> , <a href="#">H04N 23/60</a>

**G03B 13/12****to compensate for change of camera lens or size of picture****References****Informative references***Attention is drawn to the following places, which may be of interest for search:*

Zoom viewfinders per se	<a href="#">G02B 23/145</a>
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**G03B 13/32****Means for focusing****References****Informative references***Attention is drawn to the following places, which may be of interest for search:*

Mechanical and electromechanical details of arrangements for focusing	<a href="#">G03B 3/00</a>
Mechanical and electromechanical details of driving and guiding a power operated focusing lens or other optical elements for focusing	<a href="#">G03B 3/10</a>
Mechanisms for focusing a lens in general	<a href="#">G02B 7/04</a>

**G03B 13/36****Autofocus systems****Definition statement***This place covers:*

Algorithms, control systems and user interfaces for performing autofocus and for generating focusing signals in photographic cameras as long as the focusing signal is not generated in the main electronic image sensor.

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

Mechanical and electromechanical details of arrangements for focusing	<a href="#">G03B 3/00</a>
Mechanical and electromechanical details of driving and guiding a power operated focusing lens or other optical elements for focusing	<a href="#">G03B 3/10</a>
Systems for automatic generation of focusing signals in general	<a href="#">G02B 7/28</a>
Algorithms, control systems and user interfaces for performing autofocus and for generating focusing signals in photographic cameras based on image signal provided by the main electronic image sensor	<a href="#">H04N 23/67</a>

**G03B 15/02****Illuminating scene****References****Informative references**

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

Functional features or details of lighting devices or systems thereof; Structural combinations of lighting devices with other articles, not otherwise provided for	<a href="#">F21V</a>
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**G03B 15/04****Combinations of cameras with non-electronic flash apparatus; Non-electronic flash units****References****Informative references**

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

Control of exposure in accordance with both the intensity of the flash source and the distance of the flash source from object, e.g. in accordance with "guide number" of flash bulb and the focusing of the camera	<a href="#">G03B 7/16</a>
Testing correct operation of photographic apparatus or parts thereof, e.g. flash apparatus	<a href="#">G03B 43/00</a>
Light sources using charges of combustible material	<a href="#">F21K 5/00</a>
Circuit arrangements for light sources using a charge of combustible material	<a href="#">H05B 46/00</a>

**G03B 15/05****Combinations of cameras with electronic flash apparatus; Electronic flash units****Definition statement**

*This place covers:*

e.g. flash units without mechanical connection to the camera

**References****Informative references**

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

Discharge lamps	<a href="#">H01J 61/00</a> - <a href="#">H01J 65/00</a>
Circuit arrangements or apparatus for igniting or operating discharge lamps	<a href="#">H05B 41/00</a>

**G03B 15/16**

for photographing the track of moving objects (high-speed photography  
[G03B 39/00](#))

**References****Limiting references**

*This place does not cover:*

High-speed photography	<a href="#">G03B 39/00</a>
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**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:*

Plates or blocks in which tracks of nuclear particles are made visible by after treatment, using photographic emulsion	<a href="#">G01T 5/10</a>
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**G03B 17/00**

Details of cameras or camera bodies; Accessories therefor (lens hoods or caps  
[G03B 11/04](#))

**References****Limiting references**

*This place does not cover:*

Lens barriers, covers, shields (for retractable lenses) if not integral part of camera body	<a href="#">G03B 11/04</a>
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**G03B 17/04**

collapsible, foldable or extensible, e.g. book type

**References****Informative references**

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

Bellows per se	<a href="#">F16J 3/00</a>
Hollow bodies having parts which are deformable or displaceable under pressure, e.g. bellows	<a href="#">G12B 1/04</a>

**G03B 17/18**

Signals indicating condition of a camera member or suitability of light  
(indicating depth of field [G03B 13/30](#))

**References****Informative references**

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

Indicating depth of field	<a href="#">G03B 13/30</a>
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**G03B 17/36**

Counting number of exposures (of film strips [G03B 1/66](#))

**References****Limiting references**

This place does not cover:

Of film strips	<a href="#">G03B 1/66</a>
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**Informative references**

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

Counting mechanisms	<a href="#">G06M</a>
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**G03B 17/48**

adapted for combination with other photographic or optical apparatus

**References****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:

Microscopes	<a href="#">G02B 21/00</a>
Telescopes	<a href="#">G02B 23/00</a>

**G03B 17/50**

with both developing and finishing apparatus

**References****Informative references**

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

Processing apparatus	<a href="#">G03D</a>
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**G03B 17/56****Accessories (carrying-cases [A45C 11/38](#))****Definition statement**

*This place covers:*

external battery compartments, support of camera body

**References****Limiting references**

*This place does not cover:*

Camera cases	<a href="#">A45C 11/38</a>
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**Informative references**

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

Lens caps	<a href="#">G03B 11/041</a>
Camera tripods	<a href="#">F16M</a>
Stands or trestles as support for apparatus or articles placed thereon	<a href="#">F16M 11/00</a>
Means for attachment of apparatus allowing quick-release	<a href="#">F16M 11/041</a>
Movement that the support can allow for the object to be supported	<a href="#">F16M 11/043-</a> <a href="#">F16M 11/14,</a> <a href="#">F16M 11/2007-</a> <a href="#">F16M 11/24</a>
Tripods	<a href="#">F16M 11/24</a>
Monopod or tripod having a central telescopic column	<a href="#">F16M 11/28</a>
Tripods with telescopic legs	<a href="#">F16M 11/32</a>
Means for supporting on, or holding steady relative to, a person,	<a href="#">F16M 13/04</a>

**G03B 19/00****Cameras (details [G03B 17/00](#))****References****Informative references**

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

Details of cameras or camera bodies;Accessories therefor	<a href="#">G03B 17/00</a>
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**G03B 19/10**

**Plate or cut-film cameras (with provision for alternative use with roll film [G03B 19/08](#))**

**Definition statement**

*This place covers:*

e.g. cameras with a (movable) ground glass screen.

**References****Limiting references**

*This place does not cover:*

Plate or cut-film cameras with provision for alternative use with roll film	<a href="#">G03B 19/08</a>
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**G03B 19/18**

**Motion-picture cameras (with non-intermittently running film [G03B 41/02](#))**

**References****Limiting references**

*This place does not cover:*

Motion-picture cameras with non-intermittently running film	<a href="#">G03B 41/02</a>
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**G03B 21/00**

**Projectors or projection-type viewers; Accessories therefor (devices for changing pictures [G03B 23/00](#))**

**References****Limiting references**

*This place does not cover:*

Devices for changing pictures	<a href="#">G03B 23/00</a>
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**Informative references**

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

Optical distortion correction, e.g. keystone	<a href="#">G03B 21/147</a>
Viewers, other than projection viewers, giving motion-picture effects by persistence of vision, e.g. zoetrope	<a href="#">G03B 25/00</a>
Photographic printing apparatus	<a href="#">G03B 27/00</a>
Tables specially adapted to be used with domestic photographic projectors	<a href="#">A47B 37/02</a>
Lighting devices or systems producing a varying lighting effect	<a href="#">F21S 10/00</a>
Optical projection comparators	<a href="#">G01B 9/08</a>

Interactive projectors (whiteboards) with input means to control the projection	<a href="#">G06F 3/00</a>
Television systems' projection arrangements for image reproduction	<a href="#">H04N 5/74</a>
Electronic correction of distortions, e.g. video signal processing	<a href="#">H04N 5/7475</a>
Laser projectors using scanning devices	<a href="#">H04N 9/3129</a>
Projectors peculiar to the use of an electronic spatial light modulator	<a href="#">H04N 9/3197</a>

## G03B 21/10

### Projectors with built-in or built-on screen

#### References

##### *Informative references*

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

Projection screens	<a href="#">G03B 21/56</a>
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## G03B 21/20

### Lamp housings

#### References

##### *Informative references*

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

Condensers	<a href="#">G02B 19/00</a>
Microscope condensers	<a href="#">G02B 21/08</a>

## G03B 21/26

### Projecting separately subsidiary matter simultaneously with main image

#### References

##### *Informative references*

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

Light pointers	<a href="#">G02B 27/20</a>
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**G03B 21/323**

{Cassettes ([G03B 21/326](#), [G03B 21/328](#) take precedence; for containing light-sensitive material [G03B 17/265](#))}

**References****Limiting references**

*This place does not cover:*

Means for fixing the film on the axis of a reel or spindle	<a href="#">G03B 21/326</a>
Means for fixing the film on the periphery of a reel	<a href="#">G03B 21/328</a>

**Informative references**

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

Holders for containing light sensitive material and adapted to be inserted within the camera, e.g. cassettes specially adapted for motion picture film	<a href="#">G03B 17/265</a>
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**G03B 21/44**

**Mechanisms transmitting motion to film-strip feed; Mechanical linking of shutter and intermittent feed**

**References****Informative references**

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

Film-strip handling of general interest for cameras, projectors or printers	<a href="#">G03B 1/00</a>
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**G03B 21/50**

**Control devices operated by the film strip during the run**

**References****Informative references**

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

Mechanical linking of shutter and intermittent feed for altering frame speed or regulating constancy of film speed	<a href="#">G03B 21/48</a>
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**G03B 21/53**

**Means for automatic focusing, e.g. to compensate thermal effects**

**References****Informative references**

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

Automatic focusing in general	<a href="#">G02B 7/09</a>
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Systems for automatic generation of focusing signals	<a href="#">G02B 7/28</a>
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## G03B 21/54

### Accessories

#### References

##### *Informative references*

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

Tables specially adapted to be used with domestic photographic projectors	<a href="#">A47B 37/02</a>
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## G03B 23/00

### Devices for changing pictures in viewing apparatus or projectors

#### References

##### *Informative references*

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

Film-strip handling of general interest for cameras, projectors or printers	<a href="#">G03B 1/00</a>
Telescopes, e.g. binoculars; Periscopes; Instruments for viewing the inside of hollow bodies	<a href="#">G02B 23/00</a>
Viewing or reading apparatus	<a href="#">G02B 27/02</a>

#### Glossary of terms

*In this place, the following terms or expressions are used with the meaning indicated:*

Picture	Any flat representation, whether transparent or not, e.g. produced by photography, writing, or printing
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## G03B 25/00

### Viewers, other than projection viewers, giving motion-picture effects by persistence of vision, e.g. zoetrope

#### References

##### *Informative references*

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

High-speed photography	<a href="#">G03B 39/00</a>
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**G03B 27/00****Photographic printing apparatus****References****Informative references**

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

Film-strip handling of general interest for cameras, projectors or printers	<a href="#">G03B 1/00</a>
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**G03B 27/16****Illumination arrangements, e.g. positioning of lamps, positioning of reflectors (controlling the exposure [G03B 27/72](#))****References****Informative references**

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

Controlling or varying light intensity, spectral composition, or exposure time in photographic printing apparatus	<a href="#">G03B 27/72</a>
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**G03B 27/30****adapted to be combined with processing apparatus****References****Informative references**

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

Processing apparatus per se	<a href="#">G03D</a>
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**G03B 27/303****{Gas processing (gas processing apparatus [G03D 7/00](#))}****References****Informative references**

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

Gas processing apparatus	<a href="#">G03D 7/00</a>
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**G03B 27/306**

{Heat development (heat development apparatus [G03D 13/002](#))}

**References****Informative references**

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

Heat development apparatus	<a href="#">G03D 13/002</a>
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**G03B 27/34**

Means for automatic focusing therefor

**References****Informative references**

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

Systems for automatic generation of focusing signals	<a href="#">G02B 7/28</a>
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**G03B 27/50**

with slit or like diaphragm moving over original for progressive exposure  
([G03B 27/34](#) takes precedence {; projection optics per se [G03B 27/525](#)})

**References****Limiting references**

This place does not cover:

Means for automatic focusing for projection printing apparatus	<a href="#">G03B 27/34</a>
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**Informative references**

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

Projection optics for slit exposure	<a href="#">G03B 27/525</a>
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**G03B 27/521**

{Arrangements for applying a supplementary information onto the sensitive material, e.g. coding (producing marks on the film in cameras [G03B 17/24](#))}

**References****Informative references**

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

Producing marks on the film in cameras	<a href="#">G03B 17/24</a>
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**G03B 27/522**

{Projection optics (for electro-photographic copiers in particular [G03G 15/04](#))}

**References****Informative references**

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

Projection optics for electro-photographic copiers	<a href="#">G03G 15/04</a>
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**G03B 27/53**

Automatic registration or positioning of originals with respect to each other or the photosensitive layer

**References****Informative references**

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

Registration or positioning of originals, masks, frames, photographic sheets or textured or patterned surfaces in photo-mechanical production of textured or patterned surfaces, e.g. of integrated circuits	<a href="#">G03F 9/00</a>
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**G03B 27/54**

Lamp housings; Illuminating means

**References****Informative references**

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

Controlling or varying light intensity, spectral composition, or exposure time in photographic printing apparatus	<a href="#">G03B 27/72</a>
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**G03B 27/58**

Baseboards, masking frames, or other holders for the sensitive material ([G03B 27/53](#) takes precedence {; for electrophotographic copiers [G03G 15/65](#)})

**References****Limiting references**

This place does not cover:

Automatic registration or positioning of originals with respect to each other or the photosensitive layer	<a href="#">G03B 27/53</a>
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**Informative references**

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

Apparatus relating to the handling of copy material for electrographic processes using a charge pattern	<a href="#">G03G 15/65</a>
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**G03B 27/62**

Holders for the original ([G03B 27/53](#) takes precedence {; for electrophotographic copiers [G03G 15/60](#)})

**References****Limiting references**

This place does not cover:

Automatic registration or positioning of originals with respect to each other or the photosensitive layer	<a href="#">G03B 27/53</a>
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**Informative references**

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

Apparatus relating to the handling of originals for electrographic processes using a charge pattern	<a href="#">G03G 15/60</a>
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**G03B 27/72**

Controlling or varying light intensity, spectral composition, or exposure time in photographic printing apparatus

**References****Informative references**

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

Exposure meters per se	<a href="#">G01J</a>
Control of light, e.g. intensity, colour, phase	<a href="#">G05D 25/00</a>

**G03B 29/00**

Combinations of cameras, projectors or photographic printing apparatus with non-photographic non-optical apparatus, e.g. clocks or weapons; Cameras having the shape of other objects (combinations with flash apparatus [G03B 15/03](#))

**References****Limiting references**

This place does not cover:

Combinations with flash apparatus	<a href="#">G03B 15/03</a>
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**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:

Instruments for performing medical examinations of the interior of cavities or tubes of the body by visual or photographic inspection, e.g. endoscopes	<a href="#">A61B 1/00</a>
Arrangements specially adapted for eye photography	<a href="#">A61B 3/14</a>
Theodolites combined with cameras	<a href="#">G01C 1/04</a>
Structural combination of reactor core or moderator structure with viewing means, e.g. with television camera, periscope, window	<a href="#">G21C 17/08</a>
Optical or photographic arrangements structurally combined with the vessel	<a href="#">H01J 5/16</a>
Optical or photographic arrangements structurally combined	<a href="#">H01J 29/89</a>
Optical or photographic arrangements associated with the tube	<a href="#">H01J 37/22</a>

**Informative references**

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

Time-pieces combined with other articles which do not interfere with the running or time-keeping of the time-piece	<a href="#">G04B 47/00</a>
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**G03B 30/00**

**Camera modules comprising integrated lens units and imaging units, specially adapted for being embedded in other devices, e.g. mobile phones or vehicles**

**Relationships with other classification places**

[G03B 29/00](#) covers constructional details of the combination of cameras with other non-optical apparatus. On the other hand, [G03B 30/00](#) covers the camera modules themselves, which are to be embedded in other devices.

**References****Informative references**

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

Optical viewing arrangements for vehicles	<a href="#">B60R 1/00</a>
Mounting of cameras operative during drive; Arrangement of controls thereof relative to the vehicle	<a href="#">B60R 11/04</a>
Mounting of lenses in general	<a href="#">G02B 7/02</a>
Mechanisms for focusing or varying magnification	<a href="#">G02B 7/04</a>
Miniaturized objectives characterized by the optical design	<a href="#">G02B 13/001</a>
Television cameras	<a href="#">H04N 23/00</a>

**G03B 31/00**

**Associated working of cameras or projectors with sound-recording or sound-reproducing means**

**References****Informative references**

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

Cinematographic processes of taking pictures or printing combined with sound-recording	<a href="#">G03C 5/14</a>
Record carriers characterised by the selection of the material and comprising cinematographic film or slide with integral magnetic track	<a href="#">G11B 5/633</a>

**G03B 33/00**

**Colour photography, other than mere exposure or projection of a colour film (printing apparatus [G03B 27/00](#); stereoscopic colour photography [G03B 35/00](#))**

**References****Limiting references**

*This place does not cover:*

Stereoscopic colour photography	<a href="#">G03B 35/00</a>
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**Informative references**

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

Printing apparatus	<a href="#">G03F35/00</a>
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**G03B 33/14**

**using lenticular screens (integral with film [G03C](#))**

**References****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:*

Colour photography using lenticular screens integral with film	<a href="#">G03C</a>
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**G03B 33/16**

using colour-pattern screens (integral with film [G03C](#))

**References****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:

Colour photography using lenticular screens integral with film	<a href="#">G03C</a>
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**G03B 35/00**

**Stereoscopic photography**

**References****Informative references**

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

Panoramic or wide-screen photography	<a href="#">G03B 37/00</a>
Photogrammetry	<a href="#">G01C</a>

**G03B 37/005**

{Photographing internal surfaces, e.g. of pipe, ([G03B 37/02](#) - [G03B 37/06](#) take precedence; instruments for performing medical examinations of cavities or tubes of the body by photographic inspection [A61B 1/00](#))}

**References****Limiting references**

This place does not cover:

Automatic registration or positioning of originals with respect to each other or the photosensitive layer	<a href="#">G03B 27/53</a>
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**Informative references**

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

Instruments for performing medical examinations of the interior of cavities or tubes of the body by visual or photographic inspection, e.g. endoscopes	<a href="#">A61B 1/00</a>
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**G03B 41/00**

**Special techniques not covered by groups [G03B 31/00](#) - [G03B 39/00](#); Apparatus therefor**

**References****Limiting references**

*This place does not cover:*

Associated working of cameras or projectors with sound-recording or -reproducing means	<a href="#">G03B 31/00</a>
Colour photography, other than mere exposure or projection of a colour film	<a href="#">G03B 33/00</a>
Stereoscopic photography	<a href="#">G03B 35/00</a>
Panoramic or wide-screen photography; Photographing extended surfaces, e.g. for surveying; Photographing internal surfaces, e.g. of pipe	<a href="#">G03B 37/00</a>
High-speed photography	<a href="#">G03B 39/00</a>

**G03B 42/00**

**Obtaining records using waves other than optical waves; Visualisation of such records by using optical means**

**References****Informative references**

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

Investigating or analysing materials using electromagnetic radiation, other than infrared, visible or ultraviolet radiation, e.g. microwaves, or particles	<a href="#">G01N 22/00</a> , <a href="#">G01N 23/00</a>
Investigating or analysing materials by the use of ultrasonic, sonic or infrasonic waves; Visualisation of the interior of objects by transmitting ultrasonic or sonic waves through the object	<a href="#">G01N 29/00</a>
Radar or analogous systems specially adapted for mapping or imaging	<a href="#">G01S 13/89</a>
Sonar systems specially adapted for mapping or imaging	<a href="#">G01S 15/89</a>
Holography	<a href="#">G03H</a>

**G03B 42/02**

**using X-rays**

**References****Informative references**

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

Measurement of nuclear or X-radiation	<a href="#">G01T</a>
X-ray apparatus involving X-ray tubes; Circuits therefor	<a href="#">H05G 1/00</a>

**G03B 42/021**

{Apparatus for direct X-ray cinematography (circuit arrangements for obtaining a series of X-ray photographs or for X-ray cinematography [H05G 1/60](#))}

**References****Informative references**

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

Circuit arrangements for obtaining a series of X-ray photographs or for X-ray cinematography	<a href="#">H05G 1/60</a>
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**G03B 42/023**

{Apparatus for indirect X-ray cinematography, i.e. by taking pictures on ordinary film from the images on the fluorescent screen (by transforming the picture information intermediately into electrical signals [G03B 27/725](#))}

**References****Informative references**

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

Controlling or varying light intensity in photographic printing apparatus by transforming the picture information intermediately into electrical signals	<a href="#">G03B 27/725</a>
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**G03B 42/042**

{for dental applications (radiation diagnosis specially adapted for dentistry [A61B 6/51](#); individual packages for X-ray film [G03C 3/003](#))}

**References****Informative references**

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

Apparatus for radiation diagnosis, applications or adaptations for dentistry	<a href="#">A61B 6/51</a>
Individual packages for X-ray film, e.g. for dental applications	<a href="#">G03C 3/003</a>

**G03B 42/06**

using ultrasonic, sonic or infrasonic waves

**References****Informative references**

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

Diagnosis using ultrasonic, sonic or infrasonic waves	<a href="#">A61B 8/00</a>
Measurement of ultrasonic, sonic or infrasonic waves	<a href="#">G01H</a>

**G03B 42/08****Visualisation of records by optical means****References*****Informative references***

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

Diffraction optics systems using spatial filters;	<a href="#">G02B 27/46</a>
Optics for phase object visualising	<a href="#">G02B 27/50</a>

**G03B 43/00****Testing correct operation of photographic apparatus or parts thereof****References*****Informative references***

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

Measuring specific variables	<a href="#">G01</a>
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**G03B 43/02****Testing shutters****References*****Informative references***

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

Time-interval measuring	<a href="#">G04F</a>
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**G03B 2205/0007****Movement of one or more optical elements for control of motion blur****References*****Informative references***

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

Imaging systems in general using optical elements for stabilisation of the lateral and angular position of the image	<a href="#">G02B 27/64</a>
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**G03B 2205/0038****by displacing the image plane with respect to the optical axis****References*****Informative references****Attention is drawn to the following places, which may be of interest for search:*

Control of cameras for stable pick-up of the scene	<a href="#">H04N 23/68</a>
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**G03B 2205/0046****Movement of one or more optical elements for zooming****References*****Informative references****Attention is drawn to the following places, which may be of interest for search:*

Mountings for lenses with mechanism for focusing by relative axial movement of several lenses	<a href="#">G02B 7/10</a>
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