

EUROPEAN PATENT OFFICE
U.S. PATENT AND TRADEMARK OFFICE

CPC NOTICE OF CHANGES 1247

DATE: JANUARY 1, 2022

PROJECT MP0520

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

<u>Action</u>	<u>Subclass</u>	<u>Group(s)</u>
SCHEME:		
Titles Changed:	G02B	26/00
	G02F	Subclass
	G02F	1/133615, 1/133703, 1/13452, 1/13737, 1/3538
	G02F	2203/026
Notes New:	G02	Class
DEFINITIONS:		
Definitions Modified:	G02B	Subclass
	G02B	26/00
	G02F	Subclass
	G02F	1/133615, 1/13452

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)

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1. CLASSIFICATION SCHEME CHANGES

A. New, Modified or Deleted Group(s)

SUBCLASS G02B – OPTICAL ELEMENTS, SYSTEMS, OR APPARATUS (G02F takes precedence; measuring instruments, see the relevant subclass of G01, e.g. optical rangefinders G01C; testing of optical elements, systems, or apparatus G01M11/00; spectacles G02C; sound lenses G10K11/30; electron and ion "optics" H01J; X-ray "optics" H01J, H05G1/00; optical elements structurally combined with electric discharge tubes H01J5/16, H01J29/89, H01J37/22; microwave "optics" H01Q; combination of optical elements with television receivers H04N5/72; heating arrangements specially adapted for transparent or reflecting areas H05B3/84)

<u>Type*</u>	<u>Symbol</u>	<u>Indent Level</u> <u>Number of</u> <u>dots (e.g. 0, 1,</u> <u>2)</u>	<u>Title</u> <u>“CPC only” text should normally be enclosed in</u> <u>{curly brackets}**</u>	<u>Transferred</u> <u>to#</u>
M	G02B 26/00	0	Optical devices or arrangements for the control of light using movable or deformable optical elements (control of light by modification of the optical properties of the media of the elements involved therein G02F 1/00)	

SUBCLASS G02F – OPTICAL DEVICES OR ARRANGEMENTS FOR THE CONTROL OF LIGHT BY MODIFICATION OF THE OPTICAL PROPERTIES OF THE MEDIA OF THE ELEMENTS INVOLVED THEREIN; NON-LINEAR OPTICS; FREQUENCY-CHANGING OF LIGHT; OPTICAL LOGIC ELEMENTS; OPTICAL ANALOGUE/DIGITAL CONVERTERS

<u>Type*</u>	<u>Symbol</u>	<u>Indent Level</u> <u>Number</u> <u>of dots</u> <u>(e.g. 0, 1,</u> <u>2)</u>	<u>Title</u> <u>“CPC only” text should normally be enclosed in</u> <u>{curly brackets}**</u>	<u>Transferred</u> <u>to#</u>
M	G02F	Subclass	OPTICAL DEVICES OR ARRANGEMENTS FOR THE CONTROL OF LIGHT BY MODIFICATION OF THE OPTICAL PROPERTIES OF THE MEDIA OF THE ELEMENTS INVOLVED THEREIN; NON-LINEAR OPTICS; FREQUENCY-CHANGING OF LIGHT; OPTICAL LOGIC ELEMENTS; OPTICAL ANALOGUE/DIGITAL CONVERTERS	
U	G02F 1/00	0	Devices or arrangements for the control of the intensity, colour, phase, polarisation or direction of light arriving from an independent light source, e.g. switching, gating or modulating; Non-linear optics	

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<u>Type*</u>	<u>Symbol</u>	<u>Indent Level Number of dots (e.g. 0, 1, 2)</u>	<u>Title</u> <u>“CPC only” text should normally be enclosed in {curly brackets}**</u>	<u>Transferred to#</u>
M	G02F 1/133615	7	{Edge-illuminating devices, i.e. illuminating from the side}	
M	G02F 1/133703	6	{by introducing organic surfactant additives into the liquid crystal material}	
M	G02F 1/13452	6	{Conductors connecting driver circuitry and terminals of panels}	
M	G02F 1/13737	5	{in liquid crystals doped with a pleochroic dye}	
M	G02F 1/3538	4	{for optical phase conjugation (controlling the intensity, frequency, phase, polarisation or direction of the emitted radiation using optical phase conjugation H01S3/10076)}	
M	G02F 2203/026	2	attenuated or frustrated internal reflection	

*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”.
- 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>.

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- 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 finalisation 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.

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B. New, Modified or Deleted Note(s)

CLASS G02 – OPTICS

<u>Type*</u>	<u>Location</u>	<u>Old Note</u>	<u>New/Modified Note</u>
N	G02		In this class, the following terms are used with the meaning indicated: "optical" or "optics" apply not only to visible light but also to ultraviolet or infrared radiation.

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

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

2. A. DEFINITIONS (modified)

G02B

References

Delete: The entire Limiting references section.

Application-oriented references

Insert: The following three new rows into the Application-oriented references table.

Spectacles	G02C
Optical elements structurally combined with electric discharge tubes	H01J 5/16, H01J 29/89, H01J 37/22
Optical systems or arrangements in colour television systems	H04N 9/00

Informative references

Replace: The existing Informative references table with the following modified table.

Hand, pocket, or shaving mirrors	A45D 42/00
Household mirrors	A47G 1/00
Apparatus for testing the eyes	A61B 3/00
Treatment for or protection of the eyes, e.g. protective goggles	A61F 9/00
Optical toys	A63H 33/22
Applying liquid films, e.g. spin coating	B05D 1/00
Working by laser beam, e.g. welding, cutting or boring	B23K 26/00
Grinding or polishing lenses or gratings	B24B 13/00
Producing optical elements from plastics	B29D 11/00
Layered products	B32B

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Printing using a scanning light deflector	B41J 2/471, G06K 15/12
Diffraction or holographic structures on credit cards	B42D 25/00
Vehicle mirrors, e.g. rear-view or side-view	B60R 1/00
Optical micromechanical [MEMS] devices	B81B
Pressing lenses from molten glass	C03B 11/08
Surface treatment of glass by coating	C03C 17/00
Liquid crystals per se	C09K 19/00
Coating in general, e.g. CVD or sputtering	C23C
Supports, stands or frames in general	F16M
Solar heat collectors	F24S
Sighting devices for weapons	F41G 1/00
Interferometers	G01B 9/02
Measuring microscopes	G01B 9/04
Measuring distances; Surveying	G01C
Spectrometry	G01J 3/00
Testing of optical elements, systems or apparatus	G01M 11/00
Optical benches	G01M 11/04
Investigating or analysing materials by the use of optical means	G01N 21/00
Scanning probe techniques, e.g. near field microscopy	G01Q
Systems using reflection of light e.g. lidar	G01S 17/00
Liquid crystal displays [LCDs]	G02F 1/13
Photography	G03B
Projection screens	G03B 21/56
Photosensitive materials	G03C 1/00
Photolithography	G03F 7/00
Fourier/Laplace transform optics, correlation	G06E 3/003

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Optics of barcode scanners	G06K 7/10831
Laser printers	G06K 15/12, B41J 2/471
Record carriers with diffractive or holographic structures	G06K 19/16
Holograms on banknotes	G07D 7/0032
Control arrangements or circuits for displays other than CRTs	G09G 3/00
Sound lenses	G10K 11/30
Recording or reproducing by optical means, e.g. optical disks	G11B 7/135
Adjusting position or attitude, e.g. level, of instruments	G12B 5/00
Casings; Housings; Cabinets; Supports etc.	G12B 9/00
X-ray optics, gamma ray optics	G21K 1/06
Electron and ion "optics"	H01J
X-ray "optics"	H01J, H05G 1/00
Plasma display panels	H01J 17/49, H01J 2217/49292
Optical arrangements associated with CRTs, e.g. AR means	H01J 29/89
Electron or particle beam optics, e.g. electron microscopes	H01J 37/00
Electroluminescent OLED displays	H01L 27/32
Light concentrating means for solar cells	H01L 31/054
Optics of microwaves or millimetre waves	H01Q 15/00
Wavelength division multiplexing [WDM] systems	H04J 14/02
Facsimile transmission	H04N 1/00
TV cameras	H04N 5/225
Projection TV	H04N 5/74
Colour projection TV	H04N 9/3197

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Stereoscopic TV	H04N 13/00
Heating arrangements specially adapted for transparent or reflecting areas	H05B 3/84
X-ray technique	H05G

Special rules of classification

Replace: The existing Special rules of classification section text with the following modified text.

In this subclass, classification of additional information is mandatory,

For example, a document describing the detailed structure of a wire-grid polarizer should be classified with [G02B 5/3058 INV – invention-information aspect of a wire-grid polarizer](#).

Instead a document describing a display system making explicit use of a wire-grid polarizer, without providing structural details of the polarizer itself, should be classified with [G02B 5/3058 ADD](#) – as to the additional-information aspect of a wire-grid polarizer.

Glossary of terms

Replace: The existing Glossary of terms table with the following modified table.

Optical, Optics	Applies not only to visible light but also to ultraviolet or infrared radiation.
Active optics	Optics based on the optical properties of a material used being altered by the application of external energy, e.g. electrical, magnetic, thermal or optical energy.
Passive optics	Optics in which the optical properties of a material used are not altered by the application of external energy; external forces may act, however, to alter the shape, position or orientation of an optical element used.
Catoptric	Optical systems involving reflective surfaces only.

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Catadioptric	Optical systems involving reflective and refractive surfaces.
Simple lens or prism	Single lens or prism; simple lens, simple lenses, simple prism; simple prisms, simple.
Compound lens or prism, Compound lens, Compound lenses, Compound prism, Compound prisms	Optical member the constituents of which are either close together without air-space or in broken contact; see also the Note after group G02B 13/00 .
Light	Applies to electromagnetic radiation, not only in the portion of the electromagnetic spectrum which can be perceived by the human eye (i.e. visible), but also to ultraviolet or infrared radiation.
Objective	Lens or optical system designed to produce a real image of a real object.
Eyepiece	Lens or optical system designed to produce a virtual image for viewing by the eye or by another optical system.
Front, Rear	Is determined by looking from the more distant conjugate.
In broken contact	Such that the air-space between the constituents of an optical member has no optical influence.

G02B 26/00**References****Limiting references**

Delete: The following four rows from the Limiting references table.

Mechanically operable parts of lighting devices for the control of light order	F21V
Measuring characteristic of light, spectroscopy	G01J
Control of light in general	G05D 25/00

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Control of light sources	H01S 3/10, H05B 39/00 - H05B 47/00
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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:

Measuring characteristic of light, spectroscopy	G01J
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Insert: The following new Informative references section.

Informative references

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

Mechanically operable parts of lighting devices for the control of light order	F21V
Control of light in general	G05D 25/00
Control of light sources	H01S 3/10, H05B 39/00 - H05B 47/00

Delete: The entire Special rules of classification section.

Glossary of terms

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

Insert: The following new row into the Glossary of terms table.

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Control	When referred to light or optical elements, systems or apparatus, covers affecting or directing one or more of the following properties of light: intensity; colour; phase; frequency or wavelength; polarisation; direction and one or more of the following optical operations: gating; switching or deflecting; modulation.
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G02F

Definition statement

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

This subclass covers the control of light by optical devices or arrangements involving at least one element with at least one optical medium, the optical properties thereof being changeable by the influence of external forces or fields affecting the element.

The following is a non-exhaustive list of the optical properties that can be changed in the optical element:

- refraction index;
- birefringence;
- absorption;
- nonlinear susceptibility.

The following is a non-exhaustive list of the external forces or fields which can affect the optical element:

- electric fields;
- magnetic fields;
- electric currents;
- acoustic or mechanical vibrations;
- pressure, stress or the like;
- temperature or heat.

The following optical elements are therefore covered, the list being not exhaustive:

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- thermo-optic elements;
- electro-optic elements;
- magneto-optic elements;
- elasto-optic elements;
- acousto-optic elements;
- liquid crystal devices;
- electrochromic elements;
- electrophoretic elements;
- non-linear optics, i.e. devices or arrangements in which the electric or magnetic field component of the light beam influences the optical properties of the medium.

Non-linear optics, i.e. devices or arrangements in which the electric or magnetic field component of the light beam influences the optical properties of the medium.

Control of light beams by electromagnetic waves, e.g. radio waves, or by electrons or other elementary particles.

Optical analogue/digital converters, i.e. devices performing the digitalisation of an optical analogue signal, insofar these converters are based in substantial manner on elements which are provided for under the bullets above.

Demodulating light.

Transferring the modulation of modulated light, i.e. transferring the information from one optical carrier of a first wavelength to a second optical carrier of a second wavelength.

Frequency changing of light, e.g. by quantum counters.

Optical logic elements.

Optical bistable devices, i.e. devices exhibiting two different optical output states for a same optical input value.

Relationships with other classification places

Replace: “polarization” with “polarisation” so that the third paragraph of the Relationships with other classification places reads as follows.

Group [G09F 9/35](#) covers indicating arrangements in which characters are formed on a support by combining individual liquid crystal elements, as opposed to

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group [G02F 1/13](#) that covers devices or arrangements for the control of the intensity, phase, polarisation or colour based on liquid crystals. Classification should be given in [G09F 9/35](#) when the emphasis is on the indicating aspects, and in the relevant subgroups of [G02F 1/13](#) when the emphasis is on the devices or arrangements aspects of the liquid crystal cells involved.

References

Application-oriented references

Insert: “G06E” as an additional symbol into the first row of the Application-oriented references table so that the row reads as follows.

Optical computing devices, e.g. devices in which mathematical operations are carried out with optical elements	G06E , G06E 3/00
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Informative references

Insert: The following new row into the Informative references table.

Pictorial communication, e.g. television	H04N
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Insert: The following new Glossary of terms section.

Glossary of terms

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

Control	When referred to light or optical, covers affecting or directing one or more of the following properties of light: intensity; colour; phase; frequency or wavelength; polarisation; direction and one or more of the following optical operations: gating; switching or deflecting; modulation, demodulation or transfer of modulation.
Light	Applies to electromagnetic radiation not only in the portion of the electromagnetic spectrum which can be perceived by the human eye (i.e. visible) but also to ultraviolet or infrared radiation.
Optical, Optics	Applies not only to visible light but also to ultraviolet or infrared radiation.

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G02F 1/133615

Relationships with other classification places

Insert: A space between “integration” and “into” in the first paragraph of the Relationships section text and a period at the end of the second paragraph so that the text reads as follows.

Where the invention concerns the waveguide (or plurality of waveguides) shape or integration into the support structure on the LCD device then it should be classified in the [G02B 6/001](#) and subgroups.

If the integration of the waveguide type side illuminated backlight involves adaptation of the general LCD panel support structure then [G02F 1/133308](#) and its subgroups should be considered.

References

Delete: The entire Limiting references section.

Insert: The following new Informative references section.

Informative references

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

Light guides specially adapted for lighting devices or systems	G02B 6/0001
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G02F 1/13452

Relationships with other classification places

Delete: The phrase “(see for example US2011108979)” from the Relationships section text so that the text reads as follows.

Further details of the PCB (printed circuit board) are in [H05K](#). Further details concerning bonding of the drivers are in [H01L 21/00](#).

References

Delete: The entire Limiting references section.

Informative references

Insert: The following two new rows into the Informative references table.

Constructional arrangements; operation of liquid crystal cells; circuit arrangements	G02F 1/133
Processes or apparatus adapted for the manufacture or treatment of semiconductor or solid state devices or parts thereof	H01L 21/00

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

<u>CPC</u>	<u>IPC</u>	<u>Action*</u>
G02F 1/1508	G02F 1/1506	UPDATED

*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.