G01  MEASURING; TESTING

NOTES

1. This class covers, in addition to "true" measuring instruments, other indicating or recording devices of analogous construction, and also signalling or control devices insofar as they are concerned with measurement (as defined in Note 2 below) and are not specially adapted to the particular purpose of signalling or control.

2. In this class, the following term is used with the meaning indicated:
   - "measuring" is used to cover considerably more than its primary or basic meaning. In this primary sense, it means finding a numerical expression of the value of a variable in relation to a unit or datum or to another variable of the same nature, e.g. expressing a length in terms of another length as in measuring a length with a scale; the value may be obtained directly (as just suggested) or by measuring some other variable of which the value can be related to the value of the required variable, as in measuring a change in temperature by measuring a resultant change in the length of a column of mercury. However, since the same device or instrument may, instead of giving an immediate indication, be used to produce a record or to initiate a signal to produce an indication or control effect, or may be used in combination with other devices or instruments to give a conjoint result from measurement of two or more variables of the same or different kinds, it is necessary to interpret "measuring" as including also any operation that would make it possible to obtain such a numerical expression by the additional use of some way of converting a value into figures. Thus the expression in figures may be actually made by a digital presentation or by reading a scale, or an indication of it may be given without the use of figures, e.g. by some perceptible feature (variable) of the entity (e.g. object, substance, beam of light) of which the variable being measured is a property or condition or by an analogue of such a feature (e.g. the corresponding position of a member without any scale, a corresponding voltage generated in some way). In many cases there is no such value indication but only an indication of difference or equality in relation to a standard or datum (of which the value may or may not be known in figures); the standard or datum may be the value of another variable of the same nature but of a different entity (e.g. a standard measure) or of the same entity at a different time. In its simplest form, measurement may give merely an indication of presence or absence of a certain condition or quality, e.g. movement (in any direction or in a particular direction), or whether a variable exceeds a predetermined value.

3. Attention is drawn to the Notes following the title of Section G, especially as regards the definition of the term "variable".

4. In many measuring arrangements, a first variable to be measured is transformed into a second, or further, variables. The second, or further, variables may be (a) a condition related to the first variable and produced in a member, or (b) a displacement of a member. Further transformation may be needed.

When classifying such an arrangement, (i) the transformation step, or each transformation step, that is of interest is classified, or (ii) if interest lies only in the system as a whole, the first variable is classified in the appropriate place.
This is particularly important where two or more conversions take place, for instance where a first variable, for example pressure, is transformed into a second variable, for example an optical property of a sensing body, and that second variable is expressed by means of a third variable, for example an electric effect. In such a case, the following classification places should be considered: the place for the transformation of the first variable, that for sensing the condition caused by that variable, subclass G01D for expression of the measurement, and finally the place for the overall system, if any.

5. The measurement of change in the value of a physical property is classified in the same subclass as measurement of that physical property, e.g. measurement of expansion of length is classified in G01B.

G01B MEASURING LENGTH, THICKNESS OR SIMILAR LINEAR DIMENSIONS; MEASURING ANGLES; MEASURING AREAS; MEASURING IRREGULARITIES OF SURFACES OR CONTOURS (measuring human body, see the relevant places, where such exist, e.g. A41H 1/00, A43D 1/02, A61B 5/103; measuring appliances combined with walking-sticks A45B 3/08; sorting according to dimensions B07; tool-setting or drawing instruments not specially modified for measuring B23B 49/00, B23Q 15/00 - B23Q 17/00, B43L; combinations of measuring devices with writing-appliances B43K 29/08; geodetical, nautical or aeronautical measuring, surveying, rangefinding G01C; photogrammetry G01C 11/00; measuring force or stress, in general G01L 1/00; investigating or analysing particle size, investigating or analysing surface area of porous material G01N; measuring position, distance or direction, in general, by reception or emission of radiowaves or other waves and based on propagation effects, e.g. Doppler effect, propagation time, direction of propagation G01S; geophysical measuring G01V; measuring length or roll diameter of film in cameras or projectors G03B 1/60; combinations of measuring devices with means for controlling or regulating G05; methods or arrangements for converting the position of a manually-operated writing or tracing member into an electrical signal G06K 11/00; measuring elapsed travel of recording medium in recording and playback equipment, sensing diameter of record in autochange gramophones G11B; means structurally associated with electric rotary current collectors for indicating brush wear H01R 39/58; indicating consumption of electrodes in arc lamps H05B 31/34)

NOTES
1. This subclass covers measuring of position or displacement in terms of linear or angular dimensions.
2. In this subclass, the groups are distinguished by the means of measurement which is of major importance. Thus the mere application of other means for giving a final indication does not affect the classification.
3. Attention is drawn to the Notes following the title of class G01.
4. Machines operated on similar principles to the hand-held devices specified in this subclass are classified with these devices.
5. Measuring arrangements or details thereof covered by two or more of groups G01B 3/00 - G01B 17/00 are classified in group G01B 21/00 if no single other group can be selected as being predominantly applicable.

WARNING
In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

G01C MEASURING DISTANCES, LEVELS OR BEARINGS; SURVEYING; NAVIGATION; GYROSCOPIC INSTRUMENTS; PHOTOGRAMMETRY OR VIDEOGRAMMETRY (measuring dimensions or angles of objects G01B; measuring liquid level G01F; measuring intensity or direction of magnetic fields, other than the earth's field, in general G01R; radio navigation, determining distance or velocity by use of propagation effects, e.g. Doppler effects, propagation time, of radio waves, analogous arrangements using other waves G01S; optical systems therefor G02B; maps, globes G09B)

NOTES
1. In this subclass, the following term is used with the meaning indicated:
   “navigation” means determining the position and course of land vehicles, ships, aircraft, and space vehicles.
2. Attention is drawn to the Notes following the title of class G01.
G01C (continued)  **WARNINGS**

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:
   - G01C 11/36 covered by G01C 11/00 - G01C 11/34

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

**G01D**  **MEASURING NOT SPECIALLY ADAPTED FOR A SPECIFIC VARIABLE; ARRANGEMENTS FOR MEASURING TWO OR MORE VARIABLES NOT COVERED IN A SINGLE OTHER SUBCLASS; TARIFF METERING APPARATUS; MEASURING OR TESTING NOT OTHERWISE PROVIDED FOR** (means structurally associated with lightning or other over-voltage discharging apparatus for recording the operation thereof G01R; displaying information in general G09F; recording in a way which requires playback through a transducer G11B)

**NOTES**

1. This subclass covers:
   - devices for indicating or recording the results of measurements, not peculiar to variables covered by a single other subclass;
   - analogous apparatus but in which the input is not a variable to be measured, e.g. a hand operation;
   - details of measuring instruments, which are of general interest;
   - measurement transducers not adapted solely for the measurement of a single specified variable and not provided for elsewhere, i.e. means for converting the output of a sensing member to another variable where the form or nature of the sensing member does not constrain the means for converting;
   - measuring or testing not otherwise provided for.

2. Attention is drawn to the Notes following the title of class G01.

**WARNING**

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

**G01F**  **MEASURING VOLUME, VOLUME FLOW, MASS FLOW OR LIQUID LEVEL; METERING BY VOLUME** (milk flow sensing devices in milking machines or devices A01J 5/01; measuring or recording blood flow A61B 5/02, A61B 8/06; metering media to the human body A61M 5/168; burettes or pipettes B01L 3/02; arrangements of liquid volume meters or volume-flow meters in liquid-delivering apparatus, e.g. for retail sale purposes, B67D 7/16; pumps, fluid motors, details common to measuring or metering devices and pumps or fluid motors F01 - F04; { sampling G01N 1/00}; locating, determining distance or velocity using reflection or reradiation of radio waves, analogous arrangements using other waves G01S; systems for ratio control G05D 11/00; { coin-freed apparatus for metering flow of liquid or gas G07F 15/00})

**NOTE**

Attention is drawn to the Notes following the title of class G01.

**WARNING**

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

**G01G**  **WEIGHING** (sorting by weighing B07C 5/16)

**NOTE**

Attention is drawn to the Notes following the title of class G01.

**WARNING**

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.
G01H  MEASUREMENT OF MECHANICAL VIBRATIONS OR ULTRASONIC, SONIC OR INFRASONIC WAVES (generation of mechanical vibrations without measurement B06B, G10K; measuring position, direction or velocity of an object G01C, G01S; measuring quasi-steady pressure of a fluid G01L 7/00; determining unbalance G01M 1/14; determining properties of material by sonic or ultrasonic waves transmitted therethrough G01N; systems using the reflection or reradiation of acoustic waves, e.g. acoustic imaging, G01S 15/00; seismology, seismic prospecting, acoustic prospecting G01V 1/00; acousto-optical devices per G02F; obtaining records by techniques analogous to photography using ultrasonic, sonic or infrasonic waves G03B 42/06; speech analysis or synthesis, speech recognition G10L; information storage based on relative movement between record carrier and transducer G11B; piezo-electric, electrostrictive or magnetostrictive elements in general H01L; manufacture of electromechanical resonators by processes which include measurement of frequency with consequential modification of the resonator H03H 3/00, {H03H 3/007, H03H 9/00})

NOTES
1. This subclass covers the combination of generation and measurement of mechanical vibrations.
2. Attention is drawn to the Notes following the title of class G01.

WARNING
In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

G01J  MEASUREMENT OF INTENSITY, VELOCITY, SPECTRAL CONTENT, POLARISATION, PHASE OR PULSE CHARACTERISTICS OF INFRA-RED, VISIBLE OR ULTRA-VIOLET LIGHT; COLORIMETRY; RADIATION PYROMETRY (light sources F21, H01J, H01K, H05B; investigating properties of materials by optical means G01N)

NOTES
1. This subclass covers the detection of the presence or absence of infra-red, visible, or ultra-violet light, not otherwise provided for.
2. Attention is drawn to the Notes following the title of class G01.

WARNING
In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

G01K  MEASURING TEMPERATURE; MEASURING QUANTITY OF HEAT; THERMALLY-SENSITIVE ELEMENTS NOT OTHERWISE PROVIDED FOR (sensing temperature changes for compensating measurements of other variables for compensating readings of instruments for variation in temperature, see G01D or relevant subclasses for variable measured; radiation pyrometry G01J; investigating or analysing materials by use of thermal means G01N 25/00; compound sensitive elements, e.g. bimetallic, G12B 1/02)

NOTES
1. In this subclass, the following term is used with the meaning indicated:
   • "thermometer" includes thermally-sensitive elements not provided for in other subclasses.
2. Attention is drawn to the Notes following the title of class G01.
3. Attention is drawn to the Notes following the titles of class B81 and subclass B81B relating to "microstructural devices" and "microstructural systems".

WARNING
In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.
G01L MEASURING FORCE, STRESS, TORQUE, WORK, MECHANICAL POWER, MECHANICAL EFFICIENCY, OR FLUID PRESSURE (sensing pressure changes for compensating measurements of other variables or compensating readings of instruments for variations in pressure G01D or other relevant subclasses for the variable measured; weighing G01G; converting a pattern of forces into electrical signals G06K 11/00)

NOTE
Attention is drawn to the Notes following the title of class G01.

WARNING
In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

G01M TESTING STATIC OR DYNAMIC BALANCE OF MACHINES OR STRUCTURES; TESTING OF STRUCTURES OR APPARATUS, NOT OTHERWISE PROVIDED FOR

NOTE
Attention is drawn to the Note following the title of Class G01.

WARNINGS
1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:
   - G01M 1/38 covered by G01M 1/14 and G01M 1/30 and subgroups

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

G01N INVESTIGATING OR ANALYSING MATERIALS BY DETERMINING THEIR CHEMICAL OR PHYSICAL PROPERTIES (separating components of materials in general B01D, B01J, B03, B07; apparatus fully provided for in a single other subclass, see the relevant subclass, e.g. B01L; measuring or testing processes other than immunoassay, involving enzymes or microorganisms C12M, C12Q; investigation of foundation soil in situ E02D 1/00; sensing humidity changes for compensating measurements of other variables or for compensating readings of instruments for variations in humidity, see G01D or the relevant subclass for the variable measured; testing or determining the properties of structures G01M; measuring or investigating electric or magnetic properties of materials G01R; systems or methods in general, using reception or emission of radiowaves or other waves and based on propagation effects, e.g. Doppler effect, propagation time, direction of propagation, G01S; determining sensivity, graininess, or density of photographic materials G03C 5/02; testing component parts of nuclear reactors G21C 17/00; {controlling or regulating non-electric variables G05D; measuring degree of ionisation of ionised gases, i.e. plasma H05H 1/0006; testing electrographic developer properties G03G 15/0848})

NOTES
1. In this subclass, the following terms are used with the meanings indicated:
   • “investigating” means testing or determining:
   • “materials” includes solid, liquid or gaseous media, e.g. the atmosphere.
2. Attention is drawn to the Notes following the title of class G01.
3. Inventions relating to investigating the properties of materials, specially adapted for use in processes covered by subclass B23K, are classified in group B23K 31/12.

WARNING
In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.
G01P  MEASURING LINEAR OR ANGULAR SPEED, ACCELERATION, DECELERATION, OR SHOCK; INDICATING PRESENCE, ABSENCE, OR DIRECTION, OF MOVEMENT (measuring or recording blood flow A61B 5/02, A61B 8/06; monitoring speed or deceleration of electrically-propelled vehicles B60L 3/00; vehicle lighting systems adapted to indicate speed B60Q 1/54; determining position or course in navigation, measuring ground distance in geodesy or surveying G01C; combined measuring devices for measuring two or more variables of movement G01C 23/00; measuring velocity of sound G01H; measuring velocity of light G01J 7/00; measuring direction or velocity of solid objects by reception or emission of radio waves or other waves and based on propagation effects, e.g. Doppler effect, propagation time, direction of propagation, G01S; measuring speed of nuclear radiation G01T; measuring acceleration of gravity G01V; measuring or recording the speed of trains B61L 23/00; speed indicators incorporated in motor vehicles B60K 35/00; measuring frequency or phase G01R; traffic control G08G)

NOTES
1. This subclass covers measuring direction or velocity of flowing fluids using propagation effects of radio waves or other waves caused in the fluid itself, e.g. by laser anemometer, by ultrasonic flowmeter with "sing-around-system".
2. Attention is drawn to the Notes following the title of class G01.

WARNING
In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

G01Q  SCANNING-PROBE TECHNIQUES OR APPARATUS; APPLICATIONS OF SCANNING-PROBE TECHNIQUES, e.g. SCANNING PROBE MICROSCOPY [SPM]

NOTE
In this subclass, the first place priority rule is applied, i.e. at each hierarchical level, in the absence of an indication to the contrary, classification is made in the first appropriate place.

G01R  MEASURING ELECTRIC VARIABLES; MEASURING MAGNETIC VARIABLES (measuring physical variables of any kind by conversion into electric variables, see Note (4) following the title of class G01; measuring diffusion of ions in an electric field, e.g. electrophoresis, electro-osmosis G01N; investigating non-electric or non-magnetic properties of materials by using electric or magnetic methods G01N; indicating correct tuning of resonant circuits H03J 3/12; monitoring electronic pulse counters H03K 21/40; monitoring operation of communication systems H04)

NOTES
1. This subclass covers:
   - measuring all kinds of electric or magnetic variables directly or by derivation from other electric or magnetic variables;
   - measuring all kinds of electric or magnetic properties of materials;
   - testing electric or magnetic devices, apparatus or networks, (e.g. discharge tubes, amplifiers) or measuring their characteristics;
   - indicating presence or sign of current or voltage;
   - NMR, EPR or other spin-effect apparatus, not specially adapted for a particular application;
   - equipment for generating signals to be used for carrying out such tests and measurements.
2. In this subclass, the following terms or expressions are used with the meanings indicated:
   - "measuring" includes investigating;
   - "instruments" or "measuring instruments" means electro-mechanical measuring mechanisms;
   - "arrangements for measuring" means apparatus, circuits, or methods for measuring;
3. Attention is drawn to the Notes following the title of class G01.
4. In this subclass, group G01R 17/00 takes precedence over groups G01R 19/00 - G01R 31/00.

WARNING
In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.
G01S  RADIO DIRECTION-FINDING; RADIO NAVIGATION; DETERMINING DISTANCE OR VELOCITY BY USE OF RADIO WAVES; LOCATING OR PRESENCE-DETECTING BY USE OF THE REFLECTION OR RERADIATION OF RADIO WAVES; ANALOGOUS ARRANGEMENTS USING OTHER WAVES (for special applications, see the relevant subclasses, e.g. A61B, G01F, G01N, G02B; measuring dimensions or angles of objects G01B; navigation in general G01C; measuring infrasonic, sonic or ultrasonic vibrations in general G01H; measuring infra-red, visible, or ultra-violet radiation in general G01J; transducers per se, see the relevant subclasses, e.g. G01L, H01L, H04R; measuring direction or velocity of flowing fluids by reception or emission of radiowaves or other waves and based on propagation effects caused in the fluid itself G01P; measuring electric or magnetic variables in general G01R; detecting masses or objects by methods not involving reflection or radiation of radio, acoustic or other waves G01V; (time-interval measuring G04F); aerials H01Q)

NOTES
1. In this subclass, the following term is used with the meaning indicated:
   • “transponder” means an arrangement which reacts to an incoming interrogating or detecting wave by emitting a specific answering or identifying wave.
2. Attention is drawn to the Notes following the title of class G01 and to Note (1) following the title of subclass G09B.

WARNINGS
1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:
   G01S 7/26 covered by G01S 7/06
2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

G01T  MEASUREMENT OF NUCLEAR OR X-RADIATION (radiation analysis of materials, mass spectrometry G01N; counters per se G06M, H03K; electric discharge tubes for analysing radiation or particles H01J 40/00, H01J 47/00, H01J 49/00)

NOTES
1. This subclass covers the measurement of X-radiation, gamma radiation, corpuscular radiation, cosmic radiation or neutron radiation.
2. Attention is drawn to the Notes following the title of class G01.

WARNING
In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

G01V  GEOPHYSICS; GRAVITATIONAL MEASUREMENTS; DETECTING MASSES OR OBJECTS (detecting or locating foreign bodies for diagnostic, surgical or person-identification purposes A61B; means for indicating the location of accidentally buried, e.g. snow-buried persons A63B 29/02; investigating or analysing earth materials by determining their chemical or physical properties G01N; measuring electric or magnetic variables in general, other than direction or magnitude of the earth's field G01R; electronic or nuclear magnetic resonance arrangements G01R 33/20; radar, sonar or analogous methods in general, detecting masses or objects involving these methods G01S)

NOTES
1. In this subclass, the geophysical methods apply both to the earth and to other celestial objects, e.g. planets.
2. Attention is drawn to the Notes following the title of class G01.

WARNINGS
1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:
   G01V 3/11 covered by G01V 3/101, G01V 3/104
2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

**G01W**  
**METEOROLOGY** (influencing weather conditions A01G 15/00; dispersing fog E01H 13/00; instruments for measuring single variable in general, see the appropriate subclass of G01, e.g. G01K, G01L; obtaining meteorological information by radar G01S 13/95)  

**WARNING**  
In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

**G02**  
**OPTICS**

**NOTE**  
In this class, the following expression is used with the meaning indicated:

- “optical” applies not only to visible light but also to ultra-violet or infra-red radiations.

**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 G01M 11/00; spectacles G02C; sound lenses G10K 11/30; electron and ion "optics" H01J; X-ray "optics" H01J, H05G 1/00; optical elements structurally combined with electric discharge tubes H01J 5/16, H01J 29/89, H01J 37/22; microwave "optics" H01Q; combination of optical elements with television receivers H04N 5/72; heating arrangements specially adapted for transparent or reflecting areas H05B 3/84)

**NOTE**  
Attention is drawn to the Notes following the titles of class B81 and subclass B81B relating to "microstructural devices" and "microstructural systems".

**WARNINGS**

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:
   G02B 11/00 – G02B 11/34 covered by G02B 9/00 and G02B 13/00
2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

**G02C**  
**SPECTACLES; SUNGLASSES OR GOGGLES INsofar AS THEY HAVE THE SAME FEATURES AS SPECTACLES; CONTACT LENSES** (trial frames for testing the eyes A61B 3/04; goggles or eyeshields not having the same features as spectacles A61F 9/00)

**NOTE**  
This subclass also covers monocles, pince-nez or lorgnettes.

**WARNING**  
In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.
**G02F**  DEVICES OR ARRANGEMENTS, THE OPTICAL OPERATION OF WHICH IS MODIFIED BY CHANGING THE OPTICAL PROPERTIES OF THE MEDIUM OF THE DEVICES OR ARRANGEMENTS FOR THE CONTROL OF THE INTENSITY, COLOUR, PHASE, POLARISATION OR DIRECTION OF LIGHT, e.g. SWITCHING, GATING, MODULATING OR DEMODULATING; TECHNIQUES OR PROCEDURES FOR THE OPERATION THEREOF; FREQUENCY-CHANGING; NON-LINEAR OPTICS; OPTICAL LOGIC ELEMENTS; OPTICAL ANALOGUE/DIGITAL CONVERTERS (optical transfer means between sensing member and indicating or recording part in connection with measuring G01D 5/26; devices in which mathematical operations are carried out with optical elements G06E 3/00, {G06E 3/001} ; electrical signal transmission systems using optical means to convert the input signal G08C 19/36; information-recording by electric or magnetic means and reproducing by sensing optical properties G11B 11/00; static stores using optical elements G11C 13/04; transmission systems employing electromagnetic waves other than radio waves, e.g. light, infra-red radiation, H04B 10/00; optical multiplex systems H04J 14/00; pictorial communication, e.g. television H04N)

**WARNINGS**

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:
   Subject matter covered by these groups is classified in the following CPC groups:
   G02F 1/13357 covered by G02F 1/1336 and subgroups

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

**G03**  PHOTOGRAPHY; CINEMATOGRAPHY; ANALOGOUS TECHNIQUES USING WAVES OTHER THAN OPTICAL WAVES; ELECTROGRAPHY; HOLOGRAPHY

**NOTE**

1. This class does not cover reproduction of pictures or patterns by scanning and converting into electrical signals, which is covered by subclass H04N.
2. In this class, the following terms are used with the meaning indicated:
   • “records” means 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 not only to visible light but also to ultra-violet or infra-red radiations.

**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)

**NOTE**

This subclass covers, as far as processes are concerned, only processes characterised by the use or manipulation of apparatus classifiable per se in this subclass.

**WARNING**

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.
G03C  PHOTOSENSITIVE MATERIALS FOR PHOTOGRAPHIC PURPOSES (for photomechanical purposes G03F); PHOTOGRAPHIC PROCESSES, e.g. CINE, X-RAY, COLOUR, STEREOPHOTOGRAPHIC PROCESSES; AUXILIARY PROCESSES IN PHOTOGRAPHY (photographic processes characterised by the use or manipulation of apparatus classifiable per se in subclass G03B, see G03B; photomechanical production of textured or patterned surfaces G03F; electrophotography, magnetography G03G)

NOTE
In this subclass, the following expressions are used with the meanings indicated:
- “photosensitive compositions” covers photosensitive substances, e.g. silverhalides, and, if applicable, binders or additives;
- “photosensitive materials” covers the photosensitive compositions, e.g. emulsions, the bases carrying them, and, if applicable, auxiliary layers.

WARNINGS
1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:
   Subject matter covered by this group is classified in the following CPC group:
   G03C 9/08  covered by  G03F 7/0037
2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

G03D  APPARATUS FOR PROCESSING EXPOSED PHOTOGRAPHIC MATERIALS (apparatus specially adapted for photomechanical production of textured or patterned surfaces G03F); ACCESSORIES THEREFOR (photosensitive materials or processes for photographic purposes G03C; electrographic, electrophotographic, or magnetographic methods or apparatus G03G)

WARNING
In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

G03F  PHOTOMECHANICAL PRODUCTION OF TEXTURED OR PATTERNED SURFACES, e.g. FOR PRINTING, FOR PROCESSING OF SEMICONDUCTOR DEVICES; MATERIALS THEREFOR; ORIGINALS THEREFOR; APPARATUS SPECIALLY ADAPTED THEREFOR; (phototypographic composing devices B41B; photosensitive materials or processes for photographic purposes G03C; electrophotography, sensitive layers or processes therefor G03G)

NOTE
In this subclass, the following terms or expressions are used with the meanings indicated:
- “photosensitive” means not only sensitive to electromagnetic radiation but also to corpuscular radiation;
- “photosensitive compositions” covers photosensitive substances, e.g. quinonediazides, and, if applicable, binders or additives;
- “photosensitive materials” covers the photosensitive compositions, e.g. photoresists, the bases carrying them and, if applicable, auxiliary layers.

WARNINGS
1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:
   G03F 3/08  covered by  H04N 1/46
   G03F 7/207  covered by  G03F 7/20
   G03F 7/23  covered by  G03F 7/22
   G03F 9/02  covered by  G03F 9/00
2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.
G03G  ELECTROGRAPHY; ELECTROPHOTOGRAPHY; MAGNETOGRAPHY (information storage based on relative movement between record carrier and transducer G11B; static stores with means for writing-in or reading-out information G11C; recording of television signals H04N 5/76)

NOTES
1. This subclass covers:
   • the production of permanent directly-visible pictures in conformity with an original picture or document, using an intermediate imagewise distribution of an electric or magnetic quantity, such as a charge pattern, an electric conductivity pattern, or a magnetic pattern;
   • the production of permanent directly-visible pictures using an intermediate imagewise distribution of an electric or magnetic quantity, when the origin and the way of generating said intermediate distribution are not relevant.
2. This subclass does not cover:
   • use of electric signals for the transmission of the picture information from the original to the reproduction, i.e. pictorial communication, which is covered by subclass H04N;
   • production of pictures by heat patterns exclusively, not using an electrostatic or magnetic pattern, which is covered by group B41M 5/00;
   • production of prints by transferring ink from a printing form to a printing surface, without physical contact and using the force of an electrostatic field, which is covered by subclass B41M;
   • selective printing mechanisms characterised by the selective supply of electric current, or the selective application of magnetism or radiation, to a printing material or impression-transfer material, which are covered by groups B41J 2/385, B41J 2/435.

WARNING
In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

G03H  HOLOGRAPHIC PROCESSES OR APPARATUS (holograms, e.g. point holograms, used as ordinary optical elements G02B 5/32; producing stereoscopic or other three-dimensional effects G02B 27/22; diffraction-grating systems G02B 27/44; systems using moiré fringes G02B 27/60; optical logic elements G02F 3/00; stereo-photography G03B 35/00; photosensitive materials or processes for photographic purposes G03C; {stereo-photographic or similar processes G03C 9/00}; apparatus for processing exposed photographic materials G03D; analogue computers performing mathematical operations with the aid of optical elements G06E 3/00; authentication by radiation, of concealed information carried by holograms or diffraction gratings G06K 19/16; holographic storage G11B 7/005, G11C 13/04; {stereoscopic or other three dimensional effects in television systems H04N 13/00})

NOTE
This subclass covers means for producing a record of the phase and amplitude information of a wave-front, which information can be used to reconstruct the original wave-front, or means to reconstruct the original wave-front from a record containing the phase and amplitude information of the wave-front.

WARNING
In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

G04  HOROLOGY

G04B  MECHANICALLY-DRIVEN CLOCKS OR WATCHES; MECHANICAL PARTS OF CLOCKS OR WATCHES IN GENERAL; TIME PIECES USING THE POSITION OF THE SUN, MOON OR STARS (spring- or weight-driven mechanisms in general F03G; electromechanical clocks or watches G04C; electromechanical clocks with attached or built-in means operating any device at pre-selected times or after predetermined time intervals G04C 23/00; clocks or watches with stop devices G04F 7/08)

NOTE
This subclass covers mechanically-driven clocks or clockwork calendars, and the mechanical part of such clocks or calendars.
G04B (continued)  **WARNING**

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

G04C  **ELECTROMECHANICAL CLOCKS OR WATCHES** (mechanical parts of clocks or watches in general G04B; electronic time-pieces with no moving parts, electronic circuitry for producing timing pulses G04G)

**NOTE**

This subclass covers electric features of mechanically-driven clocks or watches, such as electric winding of such clocks or the provision of electric contacts thereon.

**WARNING**

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

G04D  **APPARATUS OR TOOLS SPECIALLY DESIGNED FOR MAKING OR MAINTAINING CLOCKS OR WATCHES**

G04F  **TIME-INTERVAL MEASURING** (measuring pulse characteristics G01R, e.g. G01R 29/02; in radar or like systems G01S; masers H01S 1/00; generation of oscillations H03B; generation or counting of pulses, frequency dividing, analogue/digital conversion H03K {time fuzes F42C 9/00})

**NOTE**

This subclass covers:
- apparatus for measuring-off predetermined time intervals;
- apparatus for producing such intervals as timing standards, e.g. metronomes;
- apparatus for measuring unknown intervals, e.g. precision systems for short time interval measurement.

**WARNINGS**

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups: G04F 10/08 covered by G04F 5/16
2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

G04G  **ELECTRONIC TIME-PIECES**

**NOTES**

1. This subclass covers:
   - electronic time-pieces with no moving parts;
   - electronic circuitry for producing timing pulses irrespective of the nature of the time indicating means utilised.
2. This subclass does not cover electronic time-pieces with moving parts, which are covered by subclass G04C.

**WARNING**

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

G04R  **RADIO-CONTROLLED TIME-PIECES**

G05  **CONTROLLING; REGULATING**

**NOTES**

1. This class covers methods, systems, and apparatus for controlling, in general.
2. In this class, the following terms or expressions are used with the meanings indicated:
   - “controlling” means influencing a variable in any way, e.g. changing its direction or its value (including changing it to or from zero), maintaining it constant, limiting its range of variation;
   - “regulation” means maintaining a variable automatically at a desired value or within a desired range of values. The desired value or range may be fixed, or manually varied, or may vary with time according to a predetermined “programme” or according to variation of another variable. Regulation is a form of control;
   - “automatic control” is often used in the art as a synonym for “regulation”.

CPC - 2019.05
3. Attention is drawn to the Notes following the title of section G, especially as regards the definition of the term "variable".

**G05B**  
CONTROL OR REGULATING SYSTEMS IN GENERAL; FUNCTIONAL ELEMENTS OF SUCH SYSTEMS; MONITORING OR TESTING ARRANGEMENTS FOR SUCH SYSTEMS OR ELEMENTS (fluid-pressure actuators or systems acting by means of fluids in general F15B; valves per se F16K; characterised by mechanical features only G05G; sensitive elements, see the appropriate subclass, e.g. G12B, subclass of G01, H01; correcting units, see the appropriate subclass, e.g. H02K)

**NOTES**

1. This subclass covers features of control systems or elements for regulating specific variables, which are clearly more generally applicable.

2. This subclass does not cover:
   a. systems for controlling or regulating non-electric variables in general, which are covered by subclass G05D;
   b. systems for regulating electric or magnetic variables in general, which are covered by subclass G05F;
   c. systems specially adapted for the control of particular machines or apparatus provided for in a single other subclass, which are classified in the relevant subclass for such machines or apparatus, provided that there is specific provision for control or regulation relevant to the special adaptation. Otherwise, classification is made in the most appropriate place in this subclass.

3. In this subclass, the following terms or expressions are used with the meanings indicated:
   • "automatic controller" means a system, circuit, or device in which a signal from the detecting element is compared with a signal representing the desired value and which operates in such a way as to reduce the deviation. The automatic controller generally does not include the sensitive element, i.e. that element which measures the value of the condition to be corrected, or the correcting element, i.e. that element which adjusts the condition to be corrected;
   • "electric" includes "electromechanical", "electrohydraulic" or "electropneumatic".

4. In this subclass, details or specific control systems are classified in the group relevant to that system, if not otherwise provided for.

**WARNING**

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

**G05D**  
SYSTEMS FOR CONTROLLING OR REGULATING NON-ELECTRIC VARIABLES  
(for continuous casting of metals B22D 11/16; valves per se F16K; sensing non-electric variables, see the relevant subclasses of G01; for regulating electric or magnetic variables G05F)

**NOTES**

1. This subclass does not cover features of general applicability to regulating systems, e.g. anti-hunting arrangements, which are covered by subclass G05B.

2. In this subclass, the following term is used with the meaning indicated:
   • "systems" includes self-contained devices such as speed governors, pressure regulators.

3. Control systems specially adapted for particular apparatus, machines or processes are classified in the subclasses for the apparatus, machines or processes, provided that there is specific provision for control or regulation relevant to the special adaptation, either at a detailed level, e.g. A21B 1/40: "for regulating temperature in bakers' ovens", or at a general level, e.g. B23K 9/095: "for automatic control of welding parameters in arc welding". Otherwise, classification is made in the most appropriate place in this subclass.

**WARNING**

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.
G05F  SYSTEMS FOR REGULATING ELECTRIC OR MAGNETIC VARIABLES (regulating the timing or recurrence frequency of pulses in radar or radio navigation systems G01S; closed-loop systems for regulating non-electric variables by electric means G05D; regulating power supply of digital computers G06F 1/26; regulating electric power distribution networks H02J; regulating the charging of batteries H02J 7/00; regulation of the output of static converters, e.g. switching regulators H02M; regulation of the output of electric generators H02N, H02P 9/00, H03L; controlling transformers, reactors or choke coils H02P 13/00; regulating frequency response, gain, maximum output, amplitude or bandwidth of amplifiers H03G; regulating tuning of resonant circuits H03J; regulating characteristics of transmission lines H04B; electric control of X-ray apparatus H05G 1/30)

NOTES
1. This subclass covers:
   • systems only;
   • use of hydraulic, pneumatic, mechanical, and electrical motors for varying electric characteristics of devices which restore the quantity regulated;
   • the combination of static converters and current or voltage regulators, if the invention resides in the combination.
2. This subclass does not cover elements per se, which are covered by the relevant subclasses.

WARNINGS
1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:
   - G05F 3/28 covered by G05F 3/26
   - G05F 5/02 covered by G05F 5/00
   - G05F 5/04 covered by G05F 5/00
   - G05F 5/06 covered by G05F 5/00
   - G05F 5/08 covered by G05F 5/00
2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

G05G  CONTROL DEVICES OR SYSTEMS INSO FAR AS CHARACTERISED BY MECHANICAL FEATURES ONLY ("Bowden" or like mechanisms F16C 1/10; gearings or mechanisms not peculiar to this purpose F16H; speed changing or reversing mechanisms for gearings conveying rotary motion F16H 59/00 - F16H 63/00)

NOTES
1. This subclass covers:
   • members of general applicability for mechanical control;
   • mechanical systems for moving members to one or more definite settings.
2. Systems peculiar to the control of particular machines or apparatus provided for in a single other class are classified in the relevant class for such machines or apparatus.

WARNING
In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

G06  COMPUTING; CALCULATING; COUNTING

NOTES
1. This class covers:
   • simulators which are concerned with the mathematics of computing the existing or anticipated conditions within the real device or system;
   • simulators which demonstrate, by means involving computing, the function of apparatus or of a system, if no provision exists elsewhere;
   • image data processing or generation.
2. This class does not cover:
   • combinations of writing implements with computing devices, which are covered by group B43K 29/08;
   • control functions derived from simulators, in general, which are covered by class G05, although such functions may be covered by the subclass of this class for the device controlled;
   • measurement or analysis of an individual variable to serve as an input to a simulator, which is covered by class G01.
• simulators regarded as teaching or training devices which is the case if they give perceptible sensations having a likeness to the sensations a student would experience in reality in response to actions taken by him. Such simulators are covered by class G09;
• components of simulators, if identical with real devices or machines, which are covered by the relevant subclass for these devices or machines and not by class G09.

3. In this class, the following terms or expressions are used with the meanings indicated:
• “data” is used as the synonym of “information”. Therefore, the term “information” is not used in subclasses G06C, G06F or G06Q;
• “calculating or computing” includes, inter alia, operations on numerical values and on data expressed in numerical form. Of these terms “computing” is used throughout the class;
• “computation” is derived from this interpretation of “computing”. In the French language the term “calcul” will serve for either term;
• “simulator” is a device which may use the same time scale as the real device or operate on an expanded or compressed time scale. In interpreting this term models of real devices to reduced or expanded scales are not regarded as simulators;
• “record carrier” means a body, such as a cylinder, disc, card, tape, or wire, capable of permanently holding information, which can be read-off by a sensing element movable relative to the recorded information.

4. Attention is drawn to the Notes following the title of section G, especially as regards the definition of the term “variable”.

G06C  DIGITAL COMPUTERS IN WHICH ALL THE COMPUTATION IS EFFECTED MECHANICALLY (score computers for card games A63F 1/18; construction of keys, printing mechanisms or other parts of general application to the typewriting or printing art B41; keys or printing mechanisms for special applications, see the relevant subclasses, e.g. G05G, G06K; cash registers G07G 1/00)

NOTE
Details of mechanisms covered in main groups G06C 9/00, G06C 11/00 or G06C 15/00, which are applicable to mechanical counters driven only through the lowest denomination, are classified in G06M

WARNING
In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

G06D  DIGITAL FLUID-PRESSURE COMPUTING DEVICES

NOTE
This subclass includes all devices in which at least one computing function is performed by hydraulic or pneumatic means

WARNING
In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

G06E  OPTICAL COMPUTING DEVICES; {COMPUTING DEVICES USING OTHER RADIATIONS WITH SIMILAR PROPERTIES} (optical logic elements per se G02F 3/00; digital storage using optical elements G11C 13/04)

NOTES
1. This subclass covers all devices in which at least one computing function is performed by optical means.
2. If other aspects, for example mechanical, fluid pressure or electrical computing, are of interest, classification is also made in the relevant subclass for such aspects.

G06F  ELECTRIC DIGITAL DATA PROCESSING (computer systems based on specific computational models G06N)

NOTE
In this subclass, the following terms or expressions are used with the meaning indicated:
• “handling” includes processing or transporting of data;
• “data processing equipment” means an association of an electric digital data processor classifiable under group G06F 7/00, with one or more arrangements classifiable under groups G06F 1/00 - G06F 5/00 and G06F 9/00 - G06F 13/00.

WARNINGS
1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:
2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

G06G  ANALOGUE COMPUTERS (analogue optical computing devices G06E 3/00)

WARNING
In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

G06J  HYBRID COMPUTING ARRANGEMENTS (optical hybrid computing devices G06E 3/00; fuzzy computing G06N 7/02; neural networks for image data processing G06T; analog/digital conversion, in general H03M 1/00)

NOTE
In this subclass, the following expression is used with the meaning indicated:
• "hybrid computing arrangement" is an arrangement in which part of the computation is digital and part is analogue.

WARNING
In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

G06K  RECOGNITION OF DATA; PRESENTATION OF DATA; RECORD CARRIERS; HANDLING RECORD CARRIERS

NOTES
1. This subclass covers:
• marking, sensing, and conveying of record carriers;
• recognising characters or other data;
• presenting visually or otherwise the data recognised or the result of a computation.
2. This subclass does not cover printing per se.

WARNING
In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

G06M  COUNTING MECHANISMS; COUNTING OF OBJECTS NOT OTHERWISE PROVIDED FOR (counting by measuring volume or weight of articles to be counted G01F, G01G; computers G06C - G06J; counting electric pulses H03K; counting characters, words or messages in switching networks for transmission of digital information H04L 12/08)

NOTE
This subclass covers:
• stepping or continuously-moving mechanical counters operated through one or more inputs applied to the lowest order mechanically or electrically;
• counting systems involving applications of either mechanical, electrical, or electronic counters.

WARNING
1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:
G06M 15/00 covered by
2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

G06N  COMPUTER SYSTEMS BASED ON SPECIFIC COMPUTATIONAL MODELS

WARNING
In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.
INSTRUMENTS

G06Q  DATA PROCESSING SYSTEMS OR METHODS, SPECIALLY ADAPTED FOR ADMINISTRATIVE, COMMERCIAL, FINANCIAL, MANAGERIAL, SUPERVISORY OR FORECASTING PURPOSES; SYSTEMS OR METHODS SPECIALLY ADAPTED FOR ADMINISTRATIVE, COMMERCIAL, FINANCIAL, MANAGERIAL, SUPERVISORY OR FORECASTING PURPOSES, NOT OTHERWISE PROVIDED FOR

NOTES
1. Groups G06Q 10/00 - G06Q 50/00 and G06Q 99/00 only cover systems or methods that involve significant data processing operations, i.e. data processing operations that need to be carried out by a technological, e.g. computing, system or device. Group G06Q 90/00 covers systems or methods that do not involve significant data processing, when both of the following conditions are fulfilled:
   • the systems or methods are specially adapted for the purposes mentioned in the subclass title or the titles of groups G06Q 10/00 - G06Q 50/00; and
   • the systems or methods cannot be classified elsewhere in the IPC, for example by applying the principles described in paragraph 96 of the Guide.
   When classifying such systems or methods in group G06Q 90/00, additional classification may be made in the most closely related group of this or any other subclass, if this classification gives information about the application of the systems or methods that could be of interest for searching. Such non-obligatory classification must be given as “additional information”.
2. When classifying in groups G06Q 10/00 - G06Q 40/00, systems or methods that are specially adapted for a specific business sector must also be classified in group G06Q 50/00, when the special adaptation is determined to be novel and non-obvious.
3. In this subclass, the first place priority rule is applied, i.e. at each hierarchical level, in the absence of an indication to the contrary, classification is made in the first appropriate place.

WARNING
G06Q has been largely refined to bring most of the former USPC 705 groups into ECLA, prior to CPC launch. Therefore, most of the new G06Q subdivisions are not complete pending reclassification. Users are invited to systematically consult also the hierarchically higher groups, up to the first valid IPC group. For example, while searching in G06Q 50/2053, it is appropriate to consult also G06Q 50/205 and G06Q 50/20.

G06T  IMAGE DATA PROCESSING OR GENERATION, IN GENERAL

WARNING
The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:
G06T 1/40 covered by G06T 1/20

G07  CHECKING-DEVICES

G07B  TICKET-ISSUING APPARATUS; FARE-REGISTERING APPARATUS; FRANKING APPARATUS

WARNING
In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

G07C  TIME OR ATTENDANCE REGISTERS; REGISTERING OR INDICATING THE WORKING OF MACHINES; GENERATING RANDOM NUMBERS; VOTING OR LOTTERY APPARATUS; ARRANGEMENTS, SYSTEMS OR APPARATUS FOR CHECKING NOT PROVIDED FOR ELSEWHERE (identification of persons A61B 5/117; indicating or recording apparatus for measuring in general, analogous apparatus but in which the input is not a variable to be measured, e.g. a hand operation, G01D; clocks, clock mechanisms G04B, G04C; time-interval measuring G04F; counting mechanisms per se G06M)

WARNING
In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.
G07D  HANDLING OF COINS OR VALUABLE PAPERS, e.g. TESTING, SORTING BY DENOMINATIONS, COUNTING, DISPENSING, CHANGING OR DEPOSITING

**NOTE**

In this subclass, the following terms or expressions are used with the meaning indicated:
- "coins" also covers tokens of similar nature;
- "valuable papers" covers paper currency, banknotes, bills, cheques, vouchers, securities, bonds or similar valuable papers, irrespective of the material used for these, which represent monetary value that can be measured or verified.

G07F  COIN-FREED OR LIKE APPARATUS (coin sorting G07D 3/00; coin testing G07D 5/00; (handling coins or paper currencies apart from payment activated apparatus G07D; payment architectures, schemes or protocols G06Q 20/00))

**NOTES**

1. This subclass does not cover constructions or details of apparatus which includes, or is combined with, coin-actuated mechanisms but is not specially adapted or modified for use therewith. Such constructions or details are covered by the relevant subclass for the particular apparatus.
2. In this subclass, the following term are used with the meaning indicated:
   - ["coin-freed" means "payment activated"]
   - "coins" covers also tokens or the like.

**WARNING**

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

G07G  REGISTERING THE RECEIPT OF CASH, VALUABLES, OR TOKENS (digital computing in general G06C, G06F)

**WARNING**

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

G08  SIGNALLING

G08B  SIGNALLING OR CALLING SYSTEMS; ORDER TELEGRAPHS; ALARM SYSTEMS {(signalling arrangements on vehicles B60Q, B62D 41/00; railway signalling systems or devices B61L; on cycles B62J 3/00, B62J 6/00; signalling or alarm devices in mines E21F 17/18; lamps or shutters therefor F21; sensitive measuring elements, see the appropriate subclasses of G01; traffic control systems G08G; visual indicating means G09; sound-producing devices G10; radio or near-field calling systems H04B 5/00, H04B 7/00; selecting arrangements H04Q 5/00, H04Q 9/00; loudspeakers, microphones, gramophone pick-ups or like acoustic electromechanical transducers H04R)}

**NOTES**

1. This subclass covers also means for identifying or incapacitating burglars or the like.
2. This subclass does not cover:
   - the mere provision of an audible or visible signalling device on measuring or switching apparatus;
   - alarm systems for indicating that a specific variable has exceeded, or fallen below, a predetermined value, which are covered by the relevant subclasses of class G01 for the measurement of that variable.
   - alarms for specific processes or types of machines or apparatus, which are covered by the relevant subclasses for the processes, machines, or apparatus.
3. In this subclass, the following term is used with the meaning indicated:
   - "systems" may cover also devices peculiar thereto.
INSTRUMENTS

G08C TRANSMISSION SYSTEMS FOR MEASURED VALUES, CONTROL OR SIMILAR SIGNALS (fluid pressure transmission systems F15B; sensing members for specific physical variables, see the relevant subclasses, e.g. of G01 or H01; indicators or recorders, see the relevant subclasses, e.g. G01D, G09F; mechanical means for transferring the output of a sensing member G01D 5/00; means for converting the output of the sensing member into a different variable G01D 5/00; self-balancing bridges G01R; position control in general G05D 3/00; mechanical control systems G05G; systems for transmitting "on/off" signals only, systems for transmitting alarm conditions G08B; order telegraph systems G08B 9/00; generating electric pulses H03K; coding, decoding or code conversion H03M; transmission of digital information H04L; selective calling from one station to another H04Q 9/00)

WARNING In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

G08G TRAFFIC CONTROL SYSTEMS (guiding railway traffic, ensuring the safety of railway traffic B61L; arrangement of road signs or traffic signals E01F 9/00; radar or analogous systems, sonar systems, lidar systems specially adapted for traffic control G01S 13/91, G01S 15/88, G01S 17/88; {radar or analogous systems, sonar systems, lidar systems specially adapted for anti-collision purposes G01S 13/93, G01S 15/93, G01S 17/93})

NOTES
1. This subclass covers:
   • identification of traffic offenders;
   • indicating the position of vehicles for traffic control purposes;
   • navigation systems for traffic control purposes, i.e. systems in which the navigation is not performed autonomously by or in the vehicles, but where the vehicles are guided by instructions transmitted to them;
   • indication of free spaces in parking areas.
2. This subclass does not cover:
   • arrangements for measuring levels and bearings for surveillance and navigation, which are covered by G01C;
   • radio navigation systems, e.g. for locating, measuring distances or velocity, which are covered by G01S.

WARNING In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

G09 EDUCATION; CRYPTOGRAPHY; DISPLAY; ADVERTISING; SEALS

G09B EDUCATIONAL OR DEMONSTRATION APPLIANCES; APPLIANCES FOR TEACHING, OR COMMUNICATING WITH, THE BLIND, DEAF OR MUTE; MODELS; PLANETARIA; GLOBES; MAPS; DIAGRAMS (devices for psychotechnics or for testing reaction times A61B 5/16; games, sports, amusements A63; projectors, projector screens G03B)

NOTES
1. This subclass covers:
   • simulators regarded as teaching or training devices, which is the case if they give perceptible sensations having a likeness to the sensations a student would experience in reality in response to actions taken by him;
   • models of buildings, installations, or the like.
2. This subclass does not cover:
   • simulators which demonstrate, by means involving computing, the function of apparatus or of a system, which are covered by class G06, if no provision exists elsewhere
   • components of simulators, if identical with real devices or machines, which are covered by the relevant subclasses for these devices or machines (and not by class G09).
G09B (continued)  WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

G09C CODING OR CIPHERING APPARATUS FOR CRYPTOGRAPHIC OR OTHER PURPOSES INVOLVING THE NEED FOR SECRECY (secret transmission H04K; arrangements for secret telegraphic communication H04L 9/00)

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

G09D RAILWAY OR LIKE TIME OR FARE TABLES; PERPETUAL CALENDARS (calendar blocks B42D 5/04; clockwork driven G04B; comprising computing means G06C)

G09F DISPLAYING; ADVERTISING; SIGNS; LABELS OR NAME-PLATES; SEALS (display cases A47F; designs or pictures characterised by special or unusual effects, e.g. changing B44F 1/00; disposition of road signs or traffic signals E01F 9/00; lighting in general F21; arrangements for controlling light beams G02F 1/00; visible signalling arrangements or devices G08B 5/00; traffic control systems G08G; arrangements or circuits for control of indicating devices using static means to present variable information G09G, {G06F 3/14}; static indicating arrangements comprising integral associations of a plurality of light sources H01J, H01K, H01L, H05B 33/12)

NOTES

1. In this subclass, the following term is used with the meaning indicated:
   • "sign" designates a mark or indication serving to make something recognisable, the information presented being non-varying, even if it is flashing; by way of example it covers, therefore, advertising hoardings, or luminous, or light reflecting, safety arrangements.

2. Attention is drawn to the Notes following the titles of class B81 and subclass B81B relating to "microstructural devices" and "microstructural systems".

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

G09G ARRANGEMENTS OR CIRCUITS FOR CONTROL OF INDICATING DEVICES USING STATIC MEANS TO PRESENT VARIABLE INFORMATION (lighting in general F21; arrangements for displaying electric variables or waveforms G01R 3/00; devices or arrangements for the control of light beams G02F 1/00; indicating of time by visual means G04B 19/00, G04C 17/00, G04G 9/00; arrangements for transferring data between computers and peripheral equipment G06F 3/00; visible signalling arrangements or devices G08B 5/00; traffic control systems G08G; display, advertising, signs G09F, e.g. static indicating arrangements comprising an association of a number of separate sources or light control cells G09F 9/00; static indicating arrangements comprising integral associations of a number of light sources H01J, H01K, H01L, H05B 33/12; circuits in pulse counters for indicating the result H03K 21/18; coding, decoding or code conversion, in general H03M; reproducing a picture or pattern using electric signals representing parts thereof and produced by scanning an original H04N)

NOTES

1. This subclass covers indicator consoles, i.e. arrangements or circuits for processing control signals to achieve the display, e.g. for the calling up, reception, storage, regeneration, coding, decoding, addressing of control signals.

2. This subclass does not cover the structural details of the indicating devices, such as panels or tubes per se, or assemblies of individual light sources, which are covered by the relevant subclasses, e.g. H01J, H01K, H01L, G02F, G09F, H05B.

3. Contrary to subclass H04N, in which are classified display devices capable of representing continuous brightness value scales, this subclass is limited to devices using only a discrete number of brightness values, e.g. visible/non-visible.
4. The visual effect may be produced by a luminescent screen scanned by an electron beam, directly by controlled light sources, by projection of light, from controlled light sources onto characters, symbols, or elements thereof drawn on a support, or by electric, magnetic, or acoustic control of the parameters of light rays from an independent source.

WARNINGS
1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:
   - G09G 5/32 covered by G09G 5/42
   - G09G 5/37 covered by G09G 5/39
   - G09G 5/373 covered by G09G 5/39
   - G09G 5/377 covered by G09G 5/39
   - G09G 5/38 covered by G09G 5/42
   - G09G 5/397 covered by G09G 5/395, G09G 5/399

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

G10 MUSICAL INSTRUMENTS; ACOUSTICS
NOTES
1. This class covers all sound-emitting devices, in general, whether or not they may be considered as being musical.
2. In this class, the following expression is used with the meaning indicated:
   • “musical instrument” does not exclude devices emitting a single sound signal.
3. The following Class Index is given in place of subclass indexes, to show the grouping of the elaborations belonging to different subclasses, under the following three fundamental types:
   • wind instruments;
   • string instruments;
   • percussion instruments,
   which relate clearly to the majority of instruments.
4. There are of course some instruments of which the principle of operation belongs less clearly to one of the three types mentioned in Note 3. They correspond to groups G10D 17/00 or G10K 7/00, G10K 9/00 or G10K 15/04, all the other groups normally finding a definite place.

G10B ORGANS, HARMONIUMS OR SIMILAR WIND MUSICAL INSTRUMENTS WITH ASSOCIATED BLOWING APPARATUS (accordions, concertinas or the like or keyboards therefor G10D 11/00; automatic wind instruments G10F 1/12)
NOTES
1. In this subclass, multi-aspect classification is applied, so that subject matter characterised by aspects covered by more than one of its groups should be classified in each of those groups.
2. In this subclass, the type of instrument is classified in group G10B 1/00, while details or accessories thereof are classified in group G10B 3/00.

WARNING
In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

G10C PIANOS, HARPSCHORDS, SPINETS OR SIMILAR STRINGED MUSICAL INSTRUMENTS WITH ONE OR MORE KEYBOARDS (automatic musical instruments G10F)
NOTES
1. In groups G10C 1/00, G10C 3/00 and G10C 9/00, multi-aspect classification is applied, so that subject matter characterised by aspects covered by more than one of their subgroups should be classified in each of those subgroups.
2. In this subclass, the specific types of musical instruments are covered by group G10C 1/00, while aspects relevant to the details thereof or the accessories thereof are covered by groups G10C 3/00, G10C 9/00.
G10D STRINGED MUSICAL INSTRUMENTS; WIND MUSICAL INSTRUMENTS; ACCORDIONS OR CONCERTINAS; PERCUSSION MUSICAL INSTRUMENTS; MUSICAL INSTRUMENTS NOT OTHERWISE PROVIDED FOR (non-musical aspects of musical toy instruments A63H 5/00; organs, harmoniums or like musical instruments with associated blowing apparatus G10B; pianos, harpsichords, spinets or similar stringed musical instruments with one or more keyboards G10C; automatic musical instruments G10F; electrophonic musical instruments G10H; instruments in which the tones are generated by electromechanical means or electronic generators, or in which the tones are synthesised from a data store G10H)

NOTES
1. This subclass covers certain stringed musical instruments that can optionally include a keyboard, e.g. zithers.
2. This subclass does not cover pianos, harpsichords, spinets or similar stringed instruments provided by design with one or more keyboards, which are covered by subclass G10C.

WARNING
In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

G10F AUTOMATIC MUSICAL INSTRUMENTS (non-musical aspects of toy instruments A63H 5/00; sound recording or reproducing G11B; working in association with recording or reproducing apparatus G11B 31/02)

NOTE
This subclass does not cover aspects of musical instruments which are independent of the automatic actuation, which are covered by subclass G10B, G10C or G10D.

WARNING
In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

G10G AIDS FOR MUSIC (teaching music G09B 15/00); SUPPORTS FOR MUSICAL INSTRUMENTS; OTHER AUXILIARY DEVICES OR ACCESSORIES FOR MUSIC OR MUSICAL INSTRUMENTS (metronomes G04F 5/02)

G10H ELECTROPHONIC MUSICAL INSTRUMENTS (electronic circuits in general H03)

NOTE
This subclass covers musical instruments in which individual notes are constituted as electric oscillations under the control of a performer and the oscillations are converted to sound-vibrations by a loud-speaker or equivalent instrument.

WARNING
In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

G10K SOUND-PRODUCING DEVICES (sound-producing toys A63H 5/00); METHODS OR DEVICES FOR PROTECTING AGAINST, OR FOR DAMPING, NOISE OR OTHER ACOUSTIC WAVES IN GENERAL; ACOUSTICS NOT OTHERWISE PROVIDED FOR

NOTES
1. This subclass covers arrangements for generating mechanical vibrations in fluids.
2. This subclass also covers the production of sounds which may not be audible to human beings but which are audible to animals.
3. In this subclass, the following terms are used with the meanings indicated:
   • “acoustics” and “sound” cover the technical field dealing with mechanical vibrations at all infrasonic-, sonic- and ultrasonic frequencies. However, generation or transmission of mechanical waves, in general, is covered by subclass B06B, subject to the exception specified in Note (1) above.
WARNING
In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

G10L SPEECH ANALYSIS OR SYNTHESIS; SPEECH RECOGNITION; SPEECH OR VOICE PROCESSING; SPEECH OR AUDIO CODING OR DECODING

NOTE
This subclass does not cover:
• devices for the storage of speech signals, which are covered by subclasses G11B and G11C;
• encoding of compressed speech signals for transmission or storage, which is covered by group H03M 7/30.

WARNING
In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

G11 INFORMATION STORAGE

G11B INFORMATION STORAGE BASED ON RELATIVE MOVEMENT BETWEEN RECORD CARRIER AND TRANSDUCER (producing carriers of sound records for needle playback B29C 39/00) ; recording measured values in a way that does not require playback through a transducer G01D; photosensitive materials or processes for photographic purposes G03C; electrography, electrophotography, magnetography G03G; recording or playback apparatus using mechanically marked tape, e.g. punched paper tape, or using unit records, e.g. punched or magnetically marked cards, G06K; transferring data from one type of record carrier to another G06K 1/18; printing of data from record carriers G06K 3/00; arrangements for producing a permanent visual presentation of the output data G06K 15/00; arrangements or circuits for control of indicating devices using static means to present variable information G09G; coding, decoding or code conversion, in general H03M; circuits for coupling output of reproducer to radio receiver H04B 1/20; circuits (or arrangements) specially adapted for {pictorial or} television signal recording {H04N 1/21}, H04N 5/76, H04N 9/79; loudspeakers, microphones, gramophone pick-ups or like acoustic electromechanical transducers or circuits therefor H04R)

NOTES
1. This subclass covers:
• recording or playback of information by relative movement between a record track and a transducer, the transducer directly producing, or being directly actuated by, modulation in the track being recorded or played-back, and the extent of modulation corresponding to the signal being recorded or played-back;
• apparatus and machines for recording or playback, and parts thereof such as heads;
• record carriers for use with such apparatus and machines;
• associated working of other apparatus with such apparatus and machines;
• {relative positioning or movement of transducers and record carriers before, during or after transducing operation, e.g. for accessing record carriers or parts thereof, or for track change, selection or acquisition or for track following or for accessing parts of tracks;}
• {driving or moving of heads or record carriers or both heads and record carriers for increasing, maintaining or decreasing the relative speed before, during or after transducing operation}
2. In this subclass, the following terms or expressions are used with the meanings indicated:
• “head” includes any means for converting sinusoidal or non-sinusoidal electric wave-forms into variations of the physical condition of at least the adjacent surface of the record carrier, or vice versa;
• “record carrier” means a body, such as a cylinder, disc, card, tape, or wire, capable of permanently holding information, which can be read-off by a sensing element movable relatively to the record carrier.
3. Documents concerning relative positioning or movement of transducers and record carriers are classified in groups G11B 3/00 - G11B 7/00 and G11B 21/00 when only the transducer is controlled and in groups G11B 15/00, G11B 17/00 and G11B 19/00 when only the record carrier is controlled. When both record carrier and head are controlled, the documents are classified in G11B 15/1808, G11B 15/1816, G11B 19/00 and G11B 27/002.
When a plurality of record carriers are controlled, the documents are classified in G11B 15/68, G11B 17/08, G11B 17/22 and G11B 27/002.
4. By “access” is meant an operation including a relative movement for positioning between record carrier and head before, during or after transducing; this operation including “seek”, “select”, “change”, “acquire” and “follow” functions for at least a part of a track on at least one record carrier. By “programmed access” is meant a sequence of access operations the result of the sequence being to acquire a wanted sequence of parts of tracks or a wanted sequence of tracks. Relative movement between head and record carrier also covers the movement of a coupling beam such as a light beam between the head and a stationary record carrier.

5. “Movement of the head” also covers any virtual movement or any physical movement such as obtained by switching between successive transducing parts of the head or by moving the transducing zone of the head, i.e. by “scanning”. If different transducing parts of the head are switchable, the number of transducing parts should be much smaller than the number of individual storage areas of the record carrier.

6. Attention is drawn to the notes of subclass G11C.

**WARNINGS**

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups are classified in the following CPC groups:

   - G11B 5/667 covered by G11B 5/66
   - G11B 5/673 covered by G11B 5/66
   - G11B 7/30 covered by G11B 7/00
   - G11B 9/12 - G11B 9/14 covered by G11B 9/00
   - G11B 11/24 - G11B 11/26 covered by G11B 11/00
   - G11B 13/08 covered by G11B 13/00

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

**G11C  STATIC STORES** (information storage based on relative movement between record carrier and transducer G11B; semiconductor devices for storage H01L, e.g. H01L 27/108 - H01L 27/11597; pulse technique in general H03K, e.g. electronic switches H03K 17/000)

**NOTES**

1. This subclass covers devices or arrangements for storage of digital or analogue information in which no relative movement takes place between an information storage element and a transducer; which incorporate a selecting-device for writing-in or reading-out the information into or from the store.

2. This subclass does not cover elements not adapted for storage and not provided with such means as referred to in Note (3) below, which elements are classified in the appropriate subclass, e.g. of H01, H03K.

3. In this subclass, the following terms are used with the meaning indicated:
   - “storage element” is an element which can hold at least one item of information and is provided with means for writing-in or reading-out this information;
   - “memory” is a device, including storage elements, which can hold information to be extracted when desired.

**WARNINGS**

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

   - G11C 8/02 covered by G11C 8/00, H03K 17/00
   - G11C 11/4193 covered by G11C 11/00
   - G11C 11/4195 covered by G11C 11/00
   - G11C 11/4197 covered by G11C 11/00

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

**G12  INSTRUMENT DETAILS**

**G12B  CONSTRUCTIONAL DETAILS OF INSTRUMENTS, OR COMPARABLE DETAILS OF OTHER APPARATUS, NOT OTHERWISE PROVIDED FOR**

**NOTES**

1. This subclass covers only details which are not restricted to measuring instruments or to any other apparatus covered by a single class.

2. This subclass does not cover:
   - details covered by any other subclass in section A, F, G or H. In particular, details restricted to the measuring instruments are covered by the relevant subclasses of class G01, e.g. G01D;
   - constructional details restricted to electric apparatus, e.g. casings, screenings, which are covered by subclass H05K or the relevant subclass in section H.
3. Attention is drawn to the Notes following the title of section G, especially as regards to the definition of the term "measuring" in Note (2) following the title of class G01.

**WARNING**

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

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**G16 INFORMATION AND COMMUNICATION TECHNOLOGY [ICT] SPECIALLY ADAPTED FOR SPECIFIC APPLICATION FIELDS**

**NOTES**

1. This subclass does not cover:
   a. pattern recognition, which is covered by group G06K 9/00;
   b. digital computing or data processing systems or methods specially adapted for administrative, commercial, financial, managerial, supervisory or forecasting purposes, which are covered by subclass G06Q;
   c. image data processing or generation, which is covered by subclass G06T.

2. In this class, the following terms or expressions are used with the meaning indicated:
   a. ICT [information and communication technology] also covers IT [information technology];
   b. "ICT specially adapted for" also covers the expression "digital computing or data processing systems or methods specially adapted for", which is used in group G06F 17/00 and in subclass G06Q.

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**G16B BIOINFORMATICS, i.e. INFORMATION AND COMMUNICATION TECHNOLOGY [ICT] SPECIALLY ADAPTED FOR GENETIC OR PROTEIN-RELATED DATA PROCESSING IN COMPUTATIONAL MOLECULAR BIOLOGY**

**G16C COMPUTATIONAL CHEMISTRY; CHEMoinFORMATICS; COMPUTATIONAL MATERIALS SCIENCE**

**G16H HEALTHCARE INFORMATICS, i.e. INFORMATION AND COMMUNICATION TECHNOLOGY [ICT] SPECIALLY ADAPTED FOR THE HANDLING OR PROCESSING OF MEDICAL OR HEALTHCARE DATA**

**NOTES**

1. This subclass covers cross-sectional aspects of computer, information or communication science with medical or healthcare science, where the focus is clearly placed on digital computing or data processing systems or methods, which are specially adapted for medical or healthcare science.

2. This subclass does not cover:
   a. medical equipment, medical methods, methods of diagnosis, methods of treatment or therapy, clinical care or surgical procedures per se, which are covered by the relevant subclasses of A61;
   b. signal processing or signal transmission associated to diagnostic measurements, e.g. signal waveform analysis, which are covered by group A61B 5/00.

3. In order to determine whether a technical subject relating to medical or healthcare science is classified in this subclass or in the relevant subclasses of A61, the following should be observed:
   a. to classify a technical subject in this subclass it is required that the essential technical features of the subject focus onto digital computing or data processing systems or methods;
   b. if the technical subject focuses onto aspects of medical science, e.g. physiological signals or medical conditions, or if the subject involves a significant interaction with the patient, e.g. details of a diagnostic measurement, then classification shall be directed to the appropriate subclasses of class A61;
   c. the mere presence of "a computer" or "a flowchart" in relation to medical devices or procedures is not a key element for classifying in this subclass. In this case classification shall rather be directed to the appropriate subclasses covering those medical devices or procedures.

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**G16Z INFORMATION AND COMMUNICATION TECHNOLOGY [ICT] SPECIALLY ADAPTED FOR SPECIFIC APPLICATION FIELDS, NOT OTHERWISE PROVIDED FOR**
NUCLEONICS

G21  NUCLEAR PHYSICS; NUCLEAR ENGINEERING

G21B  FUSION REACTORS (uncontrolled reactors G21J)

G21C  NUCLEAR REACTORS (fusion reactors, hybrid fission-fusion reactors G21B; nuclear explosives G21J)

WARNINGS
1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:
   - G21C 19/33 covered by G21C 19/34
2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

G21D  NUCLEAR POWER PLANT

G21F  PROTECTION AGAINST X-RADIATION, GAMMA RADIATION, CORPUSCULAR RADIATION OR PARTICLE BOMBARDMENT; TREATING RADIOACTIVELY CONTAMINATED MATERIAL; DECONTAMINATION ARRANGEMENTS THEREFOR (radiation protection by pharmaceutical means A61K 8/00, A61Q 17/04; in cosmonautic vehicles B64G 1/54; combined with a reactor G21C 11/00; combined with X-ray tubes H01J 35/16; combined with X-ray apparatus H05G 1/02)

WARNING
In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

G21G  CONVERSION OF CHEMICAL ELEMENTS; RADIOACTIVE SOURCES (applications of radiation in general G21H 5/00; handling particles, e.g. neutrons, or electromagnetic radiation not otherwise provided for G21K)

WARNING
In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

G21H  OBTAINING ENERGY FROM RADIOACTIVE SOURCES; APPLICATIONS OF RADIATION FROM RADIOACTIVE SOURCES, NOT OTHERWISE PROVIDED FOR; UTILISING COSMIC RADIATION (measurement of nuclear or X-radiation G01T; fusion reactors G21B; nuclear reactors G21C; lamps in which a gas filling is excited to luminescence by external corpuscular radiation or by radioactive material structurally associated with the lamp H01J 65/04, H01J 65/06)

WARNING
In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

G21J  NUCLEAR EXPLOSIVES; APPLICATIONS THEREOF (electric or magnetic analogue computers, e.g. simulators, for nuclear physics G06G 7/54)

NOTE
This subclass covers uncontrollable fission or fusion reactions.

WARNING
In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.
G21K  TECHNIQUES FOR HANDLING PARTICLES OR IONISING RADIATION NOT OTHERWISE PROVIDED FOR; IRRADIATION DEVICES; GAMMA RAY OR X-RAY MICROSCOPES

NOTE
In this subclass, the following term is used with the meaning indicated:
“particle” means a molecular, atomic or subatomic particle

WARNINGS
1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:
   G21K 3/00 covered by G21K 1/10
2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

G99  SUBJECT MATTER NOT OTHERWISE PROVIDED FOR IN THIS SECTION

G99Z  SUBJECT MATTER NOT OTHERWISE PROVIDED FOR IN THIS SECTION

NOTE
This subclass covers subject matter that:
a. Is not provided for, but is most closely related to, the subject matter covered by the subclasses of this section, and
b. Is not explicitly covered by any subclass of another section.