

CPC**COOPERATIVE PATENT CLASSIFICATION****G06G****ANALOGUE COMPUTERS** (analogue optical computing devices [G06E 3/00](#))**Guidance heading:****G06G 1/00****Hand manipulated computing devices** (planimeters [G01B 5/26](#))

- G06G 1/0005 . {characterised by a specific application }
- G06G 1/001 .. {for medical purposes, for biological purposes }
- G06G 1/0015 .. {for computing periodic phenomena e.g. fertility periods }
- G06G 1/0021 .. {for civil engineering }
- G06G 1/0026 .. {for machining }
- G06G 1/0031 .. {for hydraulics }
- G06G 1/0036 .. {for electricity, for electronics }
- G06G 1/0042 .. {for optics, for photography }
- G06G 1/0047 .. {for printing }
- G06G 1/0052 .. {for air navigation or sea navigation }
- G06G 1/0057 .. {for gun laying, for bomb aiming }
- G06G 1/0063 .. {for calculating fuel consumption }
- G06G 1/0068 .. {for conversion from one unit system to another, e.g. from British to metric }
- G06G 1/0073 .. {for commerce, bank or invoicing }
- G06G 1/0078 ... {for calculating interests }
- G06G 1/0084 ... {for calculating earned incomes }
- G06G 1/0089 ... {for calculating taxes }
- G06G 1/0094 .. {for trigonometric computations }

- G06G 1/02 . Devices in which computing is effected by adding, subtracting, or comparing lengths of parallel or concentric graduated scales { ([G06G 1/0005](#) takes precedence) }
- G06G 1/025 .. {decimal point positioning devices }
- G06G 1/04 .. characterised by construction ([G06G 1/10](#) takes precedence)
- G06G 1/045 ... {with scales borne by bands }
- G06G 1/06 ... with rectilinear scales, e.g. slide rule
- G06G 1/065 {construction of the cursor }
- G06G 1/08 ... with circular or helical scales
- G06G 1/085 {borne by a cylinder }
- G06G 1/10 .. characterised by the graduation
- G06G 1/105 ... {linear graduations }
- G06G 1/12 ... Logarithmic graduations, e.g. for multiplication

- G06G 1/14 . in which a straight or curved line has to be drawn from given points on one or more input scales to one or more points on a result scale

- G06G 1/16** . in which a straight or curved line has to be drawn through related points on one or more families of curves
- G06G 3/00** **Devices in which the computing operation is performed mechanically ([G06G 1/00](#) takes precedence)**
- G06G 3/02** . for performing additions or subtractions, e.g. differential gearing
- G06G 3/04** . for performing multiplication or divisions, e.g. variable-ratio gearing
- G06G 3/06** . for evaluating functions by using cams and cam followers
- G06G 3/08** . for integrating or differentiating, e.g. by wheel and disc
- G06G 3/10** . for simulating specific processes, systems, or devices
- G06G 5/00** **Devices in which the computing operation is performed by means of fluid-pressure elements (such elements in general [F15C](#))**
- G06G 7/00** **Devices in which the computing operation is performed by varying electric or magnetic quantities**
- G06G 7/02** . Details not covered by [G06G 7/04](#) to [G06G 7/10](#), {e.g. monitoring, construction, maintenance }
- G06G 7/04** . input or output devices (graph readers [G06K 11/00](#); function plotters, co-ordinate plotters [G06K 15/22](#), {[G09G 3/001](#) })
- G06G 7/06** . Programming arrangements, e.g. plugboard for interconnecting functional units of the computer; Digital programming {hybrid computers [G06J](#) }
- G06G 7/10** . Power supply arrangements
- G06G 7/12** . Arrangements for performing computing operations, e.g. operational amplifiers (amplifiers in general [H03F](#) ; {adapted for telemeasuring or for indicating or recording the results of the measurement [G01D 1/10](#), [G01D 1/16](#); for fuzzy computing [G06N 7/02](#) })
- G06G 7/122** . . for optimisation, e.g. least square fitting, linear programming, critical path analysis, gradient method
- G06G 7/14** . . for addition or subtraction (of vector quantities [G06G 7/22](#)) {computing the average by addition; differential amplifiers [H03F 3/45](#) }
- G06G 7/16** . . for multiplication or division {[G06G 7/19](#) and [G06G 7/24](#) take precedence measuring electric power [G01R 21/00](#) }
- G06G 7/161** . . . with pulse modulation, e.g. modulation of amplitude, width, frequency, phase or form {pulse modulators [H03K 7/00](#) }
- G06G 7/162** . . . using galvano- magnetic effects, e.g. Hall effect; using similar magnetic effects
- G06G 7/163** . . . using a variable impedance controlled by one of the input signals, variable amplification or transfer function {[G06G 7/161](#), [G06G 7/162](#) take precedence }
- G06G 7/164** . . . using means for evaluating powers, e.g. quarter square multiplier (evaluating

- [powers G06G 7/20](#)
- [G06G 7/18](#) .. for integration or differentiation; for forming integrals ([G06G 7/19](#) takes precedence)
- [G06G 7/1806](#) ... {with respect to a variable other than time }
- [G06G 7/1813](#) ... {using electrochemical elements, e.g. solion }
- [G06G 7/182](#) ... using magnetic elements
- [G06G 7/184](#) ... using capacitative elements
- [G06G 7/186](#) using an operational amplifier comprising a capacitor or a resistor in the feedback loop
- [G06G 7/1865](#) {with initial condition setting }
- [G06G 7/188](#) ... using electromechanical elements
- [G06G 7/19](#) .. for forming integrals of products, e.g. Fourier integrals, Laplace integrals, correlation integrals; for analysis or synthesis of functions using orthogonal functions ([Fourier or spectrum analysis G01R 23/16](#); [sound analysis or synthesis G10L](#))
- [G06G 7/1907](#) ... {using charge transfer devices }
- [G06G 7/1914](#) ... {using a magnetic medium, a linear filter }
- [G06G 7/1921](#) ... {for forming Fourier integrals, harmonic analysis and synthesis ([spectrum analysis G01R 23/00](#); [G01R 7/195](#) and [G01R 7/19C](#) take precedence) }
- [G06G 7/1928](#) ... {for forming correlation integrals; for forming convolution integrals ([G06G 7/195](#), [G06G 7/1907](#) and [G06G 7/1914](#) take precedence) }
- [G06G 7/1935](#) {by converting at least one the input signals into a two level signal, e.g. polarity correlators }
- [G06G 7/1942](#) ... {for forming other integrals of product, e.g. orthogonal functions, Laplace, Laguerre, Walsh, Hadamard, Hilbert ([G06G 7/195](#), [G06G 7/1907](#) and [G06G 7/1914](#) take precedence) }
- [G06G 7/195](#) ... using electro- acoustic elements
- [G06G 7/20](#) .. for evaluating powers, roots, polynomes, mean square values, standard deviation ([G06G 7/122](#), [G06G 7/28](#) take precedence; [gamma correction in television systems H04N 5/20](#), [H04N 9/69](#))
- [G06G 7/22](#) .. for evaluating trigonometric functions; for conversion of co-ordinates; for computations involving vector quantities ([trigonometric computations using simultaneous equations G06G 7/34](#) { for computations in the complex plane; [G06G 7/20](#), [G06G 7/28](#) take precedence; [resolvers 74C5A1](#) })
- [G06G 7/24](#) .. for evaluating logarithmic or exponential functions, e.g. hyperbolic functions {for multiplication, division or for evaluating powers or roots using logarithmic functions; [gamma correction in television systems H04N 5/20](#), [H04N 9/69](#) }
- [G06G 7/25](#) .. for discontinuous functions, e.g. backlash, dead zone, limiting absolute value or peak value {[measuring the maximum value of currents or voltages G01R 19/30](#) }
- [G06G 7/26](#) .. Arbitrary function generators {using [Fourier series or other orthogonal functions G06G 7/19](#); using [curve followers G06K 11/02](#) }
- [G06G 7/28](#) ... for synthesising functions by piece-wise approximation
- [G06G 7/30](#) .. for interpolation or extrapolation ([G06G 7/122](#) takes precedence)
- [G06G 7/32](#) .. for solving of equations {or inequations; for matrices }
- [G06G 7/34](#) ... of simultaneous equations ([G06G 7/122](#) takes precedence)
- [G06G 7/36](#) ... of single equations of quadratic or higher degree ([G06G 7/22](#), [G06G 7/24](#) take precedence)
- [G06G 7/38](#) ... of differential or integral equations

- G06G 7/40 of partial differential equations {of field or wave equations } (simulating specific devices [G06G 7/48](#))
- G06G 7/42 using electrolytic tank
- G06G 7/44 using continuous medium, current-sensitive paper
- G06G 7/46 using discontinuous medium, e.g. resistance network

- G06G 7/48 . Analogue computers for specific processes, systems or devices, e.g. simulators
- G06G 7/485 . . {for determining the trajectory of particles, e.g. of electrons (measurement performed on radiation beams [G01T 1/29](#); processing or analysing tracks of particles [G01T 5/02](#)) }

- G06G 7/50 . . for distribution networks, e.g. for fluids ([G06G 7/62](#) takes precedence)
- G06G 7/52 . . for economic systems; for statistics ([G06G 7/122](#), [G06G 7/19](#) take precedence)
- G06G 7/54 . . for nuclear physics, e.g. nuclear reactors, radioactive fall { (processing of scintigraphic or other radio-isotope data [G01T 1/1647](#), [G01T 1/2992](#)) }

- G06G 7/56 . . for heat flow ([G06G 7/58](#) takes precedence)
- G06G 7/57 . . for fluid flow ([G06G 7/50](#) takes precedence) ; { for distribution networks }
- G06G 7/58 . . for chemical processes ([G06G 7/75](#) takes precedence) ; { for physico-chemical processes; for metallurgical processes }

- G06G 7/60 . . for living beings, e.g. their nervous systems; { for problems in the medical field }
- G06G 7/62 . . for electric systems or apparatus { ([G06G 7/78](#) takes precedence) }

NOTE

This group covers only computers specially adapted for electronic systems or devices

- G06G 7/625 . . . for filters; for delay lines ({ measuring characteristics of electric networks, e.g. plotting Nyquist diagram [G01R 27/28](#) })
- G06G 7/63 . . . for power apparatus, e.g. motors, or supply distribution networks { (for control systems of electric power apparatus [G06G 7/66](#)) }
- G06G 7/635 for determining the most economical distribution in power systems
- G06G 7/64 . . for non-electric machines, e.g. turbine
- G06G 7/66 . . for control systems { (for optimisation [G06G 7/122](#)) }
- G06G 7/68 . . for civil engineering structures, e.g. beam, strut, girder, { elasticity computation }
- G06G 7/70 . . for vehicles, e.g. to determine permissible loading of ships, { centre of gravity, necessary fuel }

- G06G 7/72 . . . Flight simulator (link trainers [G09B 9/00](#))
- G06G 7/75 . . for component analysis, e.g. of mixtures, of colours ([G06G 7/122](#) takes precedence; { gas chromatography [G01N 30/00](#) })

- G06G 7/76 . . for traffic
- G06G 7/78 . . for direction-finding, locating, distance or velocity measuring, or navigation systems
- G06G 7/80 . . for gunlaying; for bomb aiming; for guiding missiles

G06G 99/00 **Subject matter not provided for in other groups of this subclass**