SECTION G — PHYSICS

G06 COMPUTING; CALCULATING; COUNTING

G06G **ANALOGUE COMPUTERS** (analogue optical computing devices G06E 3/00; computer systems based on specific computational models G06N)

1/00		**Hand-manipulated computing devices** (planimeters G01B 5/26)
1/02	•	Devices in which computing is effected by adding, subtracting, or comparing lengths of parallel or concentric graduated scales
1/04	• •	characterised by construction (G06G 1/10 takes precedence)
1/06	• • •	with rectilinear scales, e.g. slide rule
1/08	• • •	with circular or helical scales
1/10	• •	characterised by the graduation
1/12	• • •	logarithmic graduations, e.g. for multiplication
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
1/16	•	in which a straight or curved line has to be drawn through related points on one or more families of curves
3/00		**Devices in which the computing operation is performed mechanically** (G06G 1/00 takes precedence)
3/02	•	for performing additions or subtractions, e.g. differential gearing
3/04	•	for performing multiplications or divisions, e.g. variable-ratio gearing
3/06	•	for evaluating functions by using cams and cam followers
3/08	•	for integrating or differentiating, e.g. by wheel and disc
3/10	•	for simulating specific processes, systems, or devices
5/00		**Devices in which the computing operation is performed by means of fluid-pressure elements** (such elements in general F15C)
7/00		**Devices in which the computing operation is performed by varying electric or magnetic quantities** (neural networks for image data processing G06T; speech analysis or synthesis G10L)
7/02	•	Details not covered by groups G06G 7/04-G06G 7/10
7/04	•	Input or output devices (graph readers G06K 11/00; using function plotters, co-ordinate plotters G06K 15/22)
7/06	•	Programming arrangements, e.g. plugboard for interconnecting functional units of the computer; Digital programming
7/10	•	Power supply arrangements
7/12	•	Arrangements for performing computing operations, e.g. amplifiers specially adapted therefor (amplifiers in general H03F)
7/122	• •	for optimisation, e.g. least square fitting, linear programming, critical path analysis, gradient method **[2]**

7/14	• •	for addition or subtraction (of vector quantities G06G 7/22)
7/16	• •	for multiplication or division
7/161	• • •	with pulse modulation, e.g. modulation of amplitude, width, frequency, phase, or form **[2]**
7/162	• • •	using galvano-magnetic effects, e.g. Hall effect; using similar magnetic effects **[2]**
7/163	• • •	using a variable impedance controlled by one of the input signals, variable amplification or transfer function **[2]**
7/164	• • •	using means for evaluating powers, e.g. quarter square multiplier (evaluating powers G06G 7/20) **[3]**
7/18	• •	for integration or differentiation (G06G 7/19 takes precedence) **[3]**
7/182	• • •	using magnetic elements **[3]**
7/184	• • •	using capacitive elements **[3]**
7/186	• • • •	using an operational amplifier comprising a capacitor or a resistor in the feedback loop **[3]**
7/188	• • •	using electromechanical elements **[3]**
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) **[3]**
7/195	• • •	using electro-acoustic elements **[3]**
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 5/202, H04N 9/69) **[3]**
7/22	• •	for evaluating trigonometric functions; for conversion of co-ordinates; for computations involving vector quantities (trigonometric computations using simultaneous equations G06G 7/34)
7/24	• •	for evaluating logarithmic or exponential functions, e.g. hyperbolic functions
7/25	• •	for discontinuous functions, e.g. backlash, dead zone, limiting, absolute value, or peak value **[2]**
7/26	• •	Arbitrary function generators (using orthogonal functions, e.g. Fourier series, G06G 7/19; using curve follower G06K 11/02)
7/28	• • •	for synthesising functions by piecewise approximation
7/30	• •	for interpolation or extrapolation (G06G 7/122 takes precedence) **[2]**
7/32	• •	for solving of equations
7/34	• • •	of simultaneous equations (G06G 7/122 takes precedence) **[2]**

7/36	• • •	of single equations of quadratic or higher degree (G06G 7/22, G06G 7/24 take precedence)
7/38	• • •	of differential or integral equations
7/40	• • • •	of partial differential equations (simulating specific devices G06G 7/48)
7/42	• • • • •	using electrolytic tank
7/44	• • • • •	using continuous medium, current-sensitive paper
7/46	• • • • •	using discontinuous medium, e.g. resistance network
7/48	•	Analogue computers for specific processes, systems, or devices, e.g. simulators **[2]**
7/50	• •	for distribution networks, e.g. for fluids (G06G 7/62 takes precedence)
7/52	• •	for economic systems; for statistics (G06G 7/122, G06G 7/19, G06G 7/20 take precedence) **[3]**
7/54	• •	for nuclear physics, e.g. nuclear reactors, radioactive fallout
7/56	• •	for heat flow (G06G 7/58 takes precedence)
7/57	• •	for fluid flow (G06G 7/50 takes precedence)
7/58	• •	for chemical processes (G06G 7/75 takes precedence)
7/60	• •	for living beings, e.g. their nervous systems
7/62	• •	for electric systems or apparatus

7/625	• • •	for impedance networks, e.g. determining response, determining poles or zeros, determining the Nyquist diagram (measuring impedance G01R 27/00) **[2]**
7/63	• • •	for power apparatus, e.g. motors, or supply distribution networks **[2]**
7/635	• • • •	for determining the most economical distribution in power systems **[2]**
7/64	• •	for non-electric machines, e.g. turbine
7/66	• •	for control systems
7/68	• •	for civil-engineering structures, e.g. beam, strut, girder
7/70	• •	for vehicles, e.g. to determine permissible loading of ships
7/72	• • •	Flight simulators (Link trainers G09B 9/08)
7/75	• •	for component analysis, e.g. of mixtures, of colours (G06G 7/122 takes precedence) **[2]**
7/76	• •	for traffic
7/78	• •	for direction-finding, locating, distance or velocity measuring, or navigation systems
7/80	• •	for gun-laying; for bomb aiming; for guiding missiles **[2]**

99/00	**Subject matter not provided for in other groups of this subclass [2009.01]**