Symbol	Typ	Titel
G	**Sektion**	**SECTION G — PHYSICS**
G06	**Klasse**	**COMPUTING; CALCULATING; COUNTING (score computers for games A63B 71/06, A63D 15/20, A63F 1/18; combinations of writing implements with computing devices B43K 29/08)**
G06K	**Unterklasse**	**RECOGNITION OF DATA; PRESENTATION OF DATA; RECORD CARRIERS; HANDLING RECORD CARRIERS (postal sorting B07C; secondary surveillance radar G01S; detecting presence of transponders or tags G01S, G01V)**
G06K 1/00	**Hauptgruppe**	**Methods or arrangements for marking the record carrier in digital fashion (interpreting G06K 3/02)**
G06K 1/02	1-Punkt Untergruppe	. by punching (punching in general B26F)
G06K 1/04	2-Punkt Untergruppe	. . controlled by sensing markings on the record carrier being punched (sensing of record carriers G06K 7/00)
G06K 1/05	2-Punkt Untergruppe	. . High-speed punches, e.g. controlled by electric computer
G06K 1/06	2-Punkt Untergruppe	. . Manually-controlled devices
G06K 1/08	3-Punkt Untergruppe	. . . Card punches
G06K 1/10	3-Punkt Untergruppe	. . . Tape punches (specially adapted for a particular purpose, see the relevant subclass, e.g. for transmission of digital information H04L)
G06K 1/12	1-Punkt Untergruppe	. otherwise than by punching (printing in general B41, e.g. B41J)
G06K 1/14	1-Punkt Untergruppe	. by transferring data from a similar or dissimilar record carrier
G06K 1/16	2-Punkt Untergruppe	. . by reproducing data from one punched card on to one or more punched cards without the code representation, i.e. duplicating
G06K 1/18	2-Punkt Untergruppe	. . by transferring data from one type of record carrier on to another type of record carrier, e.g. from magnetic tape to punched card
G06K 1/20	1-Punkt Untergruppe	. Simultaneous marking of record carrier and printing-out of data, e.g. printing-punch
G06K 1/22	2-Punkt Untergruppe	. . Simultaneous marking and printing on different record carriers, e.g. on different types of record carrier
G06K 3/00	**Hauptgruppe**	**Methods or arrangements for printing of data in the shape of alphanumeric or other characters from a record carrier, e.g. interpreting, printing-out from a magnetic tape**
G06K 3/02	1-Punkt Untergruppe	. Translating markings on a record carrier into printed data on the same record carrier, i.e. interpreting
G06K 5/00	**Hauptgruppe**	**Methods or arrangements for verifying the correctness of markings on a record carrier; Column-detection devices**
G06K 5/02	1-Punkt Untergruppe	. the verifying forming a part of the marking action
G06K 5/04	1-Punkt Untergruppe	. Verifying the alignment of markings
G06K 7/00	**Hauptgruppe**	**Methods or arrangements for sensing record carriers (G06K 9/00 takes precedence)**
G06K 7/01	1-Punkt Untergruppe	. Details
G06K 7/015	2-Punkt Untergruppe	. . Aligning or centring of the sensing device with respect to the record carrier (in general G11B)
G06K 7/016	2-Punkt Untergruppe	. . Synchronisation of sensing process (in general G11B)
G06K 7/02	1-Punkt Untergruppe	. by pneumatic or hydraulic means, e.g. sensing punched holes with compressed air; by sonic means
G06K 7/04	1-Punkt Untergruppe	. by mechanical means, e.g. by pins operating electric contacts

Symbol	Typ	Titel
G06K 7/06	1-Punkt Untergruppe	. by means which conduct current when a mark is sensed or absent, e.g. contact brush for a conductive mark
G06K 7/08	1-Punkt Untergruppe	. by means detecting the change of an electrostatic or magnetic field, e.g. by detecting change of capacitance between electrodes
G06K 7/10	1-Punkt Untergruppe	. by electromagnetic radiation, e.g. optical sensing; by corpuscular radiation
G06K 7/12	2-Punkt Untergruppe	. . using a selected wavelength, e.g. to sense red marks and ignore blue marks
G06K 7/14	2-Punkt Untergruppe	. . using light without selection of wavelength, e.g. sensing reflected white light
G06K 9/00	**Hauptgruppe**	**Methods or arrangements for reading or recognising printed or written characters or for recognising patterns, e.g. fingerprints (processing or analysis of tracks of nuclear particles G01T 5/02; testing patterns on paper currency or similar valuable papers G07D 7/20; speech recognition G10L 15/00) [1, 7]**
G06K 9/03	1-Punkt Untergruppe	. Detection or correction of errors, e.g. by rescanning the pattern [3]
G06K 9/18	1-Punkt Untergruppe	. using printed characters having additional code marks or containing code marks, e.g. the character being composed of individual strokes of different shape, each representing a different code value
G06K 9/20	1-Punkt Untergruppe	. Image acquisition [3]
G06K 9/22	2-Punkt Untergruppe	. . using hand-held instruments [3]
G06K 9/24	3-Punkt Untergruppe	. . . Construction of the instrument [3]
G06K 9/26	2-Punkt Untergruppe	. . using a slot moved over the image [3]
G06K 9/28	2-Punkt Untergruppe	. . using discrete sensing elements at predetermined points [3]
G06K 9/30	2-Punkt Untergruppe	. . using automatic curve following means [3]
G06K 9/32	2-Punkt Untergruppe	. . Aligning or centering of the image pick-up or image-field [3]
G06K 9/34	2-Punkt Untergruppe	. . Segmentation of touching or overlapping patterns in the image field [3]
G06K 9/36	1-Punkt Untergruppe	. Image preprocessing, i.e. processing the image information without deciding about the identity of the image (image data processing or generation, in general G06T) [3]
G06K 9/38	2-Punkt Untergruppe	. . Quantising the analogue image signal [3]
G06K 9/40	2-Punkt Untergruppe	. . Noise filtering [3]
G06K 9/42	2-Punkt Untergruppe	. . Normalisation of the pattern dimensions [3]
G06K 9/44	2-Punkt Untergruppe	. . Smoothing or thinning of the pattern [3]
G06K 9/46	2-Punkt Untergruppe	. . Extraction of features or characteristics of the image [3]
G06K 9/48	3-Punkt Untergruppe	. . . by coding the contour of the pattern [3]
G06K 9/50	3-Punkt Untergruppe	. . . by analysing segments intersecting the pattern [3]
G06K 9/52	3-Punkt Untergruppe	. . . by deriving mathematical or geometrical properties from the whole image [3]
G06K 9/54	2-Punkt Untergruppe	. . Combinations of preprocessing functions [3]
G06K 9/56	3-Punkt Untergruppe	. . . using a local operator, i.e. means to operate on an elementary image point in terms of the immediate surroundings of this point [3]
G06K 9/58	2-Punkt Untergruppe	. . using optical means [3]
G06K 9/60	1-Punkt Untergruppe	. Combination of image acquisition and preprocessing functions [3]

Symbol	Typ	Titel
G06K 9/62	1-Punkt Untergruppe	. Methods or arrangements for recognition using electronic means (learning machines G06F 15/18; digital correlation G06F 17/15; analogue correlation G06G 7/19) [3]
G06K 9/64	2-Punkt Untergruppe	. . using simultaneous comparisons or correlations of the image signals with a plurality of references, e.g. resistor matrix [3]
G06K 9/66	3-Punkt Untergruppe	. . . references adjustable by an adaptive method, e.g. learning [3]
G06K 9/68	2-Punkt Untergruppe	. . using sequential comparisons of the image signals with a plurality of reference, e.g. addressable memory [3]
G06K 9/70	3-Punkt Untergruppe	. . . the selection of the next reference depending on the result of the preceding comparison [3]
G06K 9/72	2-Punkt Untergruppe	. . using context analysis based on the provisionally recognised identity of a number of successive patterns, e.g. a word [3]
G06K 9/74	1-Punkt Untergruppe	. Arrangements for recognition using optical reference masks (optical analogue correlation G06E 3/00) [3]
G06K 9/76	2-Punkt Untergruppe	. . using holographic masks [3]
G06K 9/78	1-Punkt Untergruppe	. Combination of image acquisition and recognition functions [3]
G06K 9/80	1-Punkt Untergruppe	. Combination of image preprocessing and recognition functions [3]
G06K 9/82	2-Punkt Untergruppe	. . using optical means in one or both functions [3]
G06K 11/00	**Hauptgruppe**	**Methods or arrangements for graph-reading or for converting the pattern of mechanical parameters, e.g. force or presence, into electrical signals (combined with character or pattern recognition G06K 9/00; feelers for copying devices on machine tools B23Q 35/00; arrangements for measuring areas G01B; measuring force G01L; adapted as input devices to computers G06F 3/00; systems for transmitting the position of an object with respect to a predetermined reference system, e.g. tele-autographic system, G08C 21/00) [2]**
G06K 11/02	1-Punkt Untergruppe	. Automatic curve followers
G06K 11/04	2-Punkt Untergruppe	. . using an auxiliary scanning pattern [2]
G06K 11/06	1-Punkt Untergruppe	. Devices for converting the position of a manually-operated writing or tracing member into an electrical signal [3]
G06K 11/08	Gelöscht	(covered by G06K 11/06); (transferred to G06F 3/042)
G06K 11/10	Gelöscht	(covered by G06K 11/06); (transferred to G06F 3/047)
G06K 11/12	Gelöscht	(covered by G06K 11/06); (transferred to G06F 3/045)
G06K 11/14	Gelöscht	(covered by G06K 11/06); (transferred to G06F 3/043)
G06K 11/16	Gelöscht	(covered by G06K 11/06); (transferred to G06F 3/041; G06F 3/044; G06F 3/046)
G06K 11/18	Gelöscht	(covered by G06K 11/06); (transferred to G06F 3/033)
G06K 11/20	Gelöscht	(covered by G06K 11/06); (transferred to G06F 3/038)
G06K 13/00	**Hauptgruppe**	**Conveying record carriers from one station to another, e.g. from stack to punching mechanism (transport devices in general B65G)**
G06K 13/02	1-Punkt Untergruppe	. the record carrier having longitudinal dimension comparable with transverse dimension, e.g. punched card
G06K 13/04	2-Punkt Untergruppe	. . Details, e.g. flaps in card-sorting apparatus
G06K 13/05	3-Punkt Untergruppe	. . . Capstans; Pinch rollers
G06K 13/06	2-Punkt Untergruppe	. . Guiding cards; Checking correct operation of card-conveying mechanisms [2]
G06K 13/063	3-Punkt Untergruppe	. . . Aligning cards [2]
G06K 13/067	3-Punkt Untergruppe	. . . Checking presence, absence, correct position, or moving status of cards [2]
G06K 13/07	2-Punkt Untergruppe	. . Transporting of cards between stations

Symbol	Typ	Titel
G06K 13/073	3-Punkt Untergruppe	. . . with continuous movement [2]
G06K 13/077	3-Punkt Untergruppe	. . . with intermittent movement; Braking or stopping movement [2]
G06K 13/08	2-Punkt Untergruppe	. . Feeding or discharging cards
G06K 13/10	3-Punkt Untergruppe	. . . from magazine to conveying arrangement
G06K 13/103	4-Punkt Untergruppe	. . . . using mechanical means [2]
G06K 13/107	4-Punkt Untergruppe	. . . . using pneumatic means [2]
G06K 13/12	3-Punkt Untergruppe	. . . from conveying arrangement to magazine
G06K 13/14	3-Punkt Untergruppe	. . . Card magazines, e.g. pocket, hopper (card magazines in general B42F)
G06K 13/16	2-Punkt Untergruppe	. . Handling flexible sheets, e.g. cheques
G06K 13/18	1-Punkt Untergruppe	. the record carrier being longitudinally extended, e.g. punched tape (features of interest apart from data processing G11B; magnetic-tape drive G11B 15/00)
G06K 13/20	2-Punkt Untergruppe	. . Details
G06K 13/22	3-Punkt Untergruppe	. . . Capstans; Pinch rollers
G06K 13/24	2-Punkt Untergruppe	. . Guiding of record carriers; Recognising end of record carrier
G06K 13/26	2-Punkt Untergruppe	. . Winding-up or unwinding of record carriers; Driving of record carriers [2]
G06K 13/28	3-Punkt Untergruppe	. . . continuously [2]
G06K 13/30	3-Punkt Untergruppe	. . . intermittently [2]
G06K 15/00	**Hauptgruppe**	**Arrangements for producing a permanent visual presentation of the output data [3]**
G06K 15/02	1-Punkt Untergruppe	. using printers (printers per seB41J)
G06K 15/04	2-Punkt Untergruppe	. . by rack-type printers
G06K 15/06	2-Punkt Untergruppe	. . by type-wheel printers
G06K 15/07	3-Punkt Untergruppe	. . . by continuously-rotating-type-wheel printers, e.g. rotating-type-drum printers [2]
G06K 15/08	2-Punkt Untergruppe	. . by flight printing with type font moving in the direction of the printed line, e.g. chain printers
G06K 15/10	2-Punkt Untergruppe	. . by matrix printers
G06K 15/12	2-Punkt Untergruppe	. . by photographic printing
G06K 15/14	2-Punkt Untergruppe	. . by electrographic printing, e.g. xerography; by magnetographic printing
G06K 15/16	2-Punkt Untergruppe	. . Means for paper feeding or form feeding
G06K 15/22	1-Punkt Untergruppe	. using plotters (plotters per seB43L 13/00) [3]
G06K 17/00	**Hauptgruppe**	**Methods or arrangements for effecting co-operative working between equipments covered by two or more of main groups G06K 1/00-G06K 15/00, e.g. automatic card files incorporating conveying and reading operations**
G06K 19/00	**Hauptgruppe**	**Record carriers for use with machines and with at least a part designed to carry digital markings (record carriers adapted for controlling specific machines, see the appropriate subclass for the machine, e.g. B23Q, D03C, G10F, H04L; form printing B41; file cards B42F 19/00; record carriers in general G11)**

Symbol	Typ	Titel
G06K 19/02	1-Punkt Untergruppe	. characterised by the selection of materials, e.g. to avoid wear during transport through the machine
G06K 19/04	1-Punkt Untergruppe	. characterised by the shape
G06K 19/06	1-Punkt Untergruppe	. characterised by the kind of the digital marking, e.g. shape, nature, code
G06K 19/063	2-Punkt Untergruppe	. . the carrier being marginally punched or notched, e.g. having elongated slots [5]
G06K 19/067	2-Punkt Untergruppe	. . Record carriers with conductive marks, printed circuits or semiconductor circuit elements, e.g. credit or identity cards (using a coded card to authorise calls from a telephone set H04M 1/675) [5]
G06K 19/07	3-Punkt Untergruppe	. . . with integrated circuit chips [5]
G06K 19/073	4-Punkt Untergruppe	. . . . Special arrangements for circuits, e.g. for protecting identification code in memory (protection against unauthorised use of computer memory G06F 12/14) [5]
G06K 19/077	4-Punkt Untergruppe	. . . . Constructional details, e.g. mounting of circuits in the carrier [5]
G06K 19/08	2-Punkt Untergruppe	. . using markings of different kinds in the same record carrier, e.g. one marking being sensed by optical and the other by magnetic means
G06K 19/10	3-Punkt Untergruppe	. . . at least one kind of marking being used for authentication, e.g. of credit or identity cards (verification of coded identity or credit cards in mechanisms actuated by them G07F 7/12) [5]
G06K 19/12	4-Punkt Untergruppe	. . . . the marking being sensed by magnetic means [5]
G06K 19/14	4-Punkt Untergruppe	. . . . the marking being sensed by radiation [5]
G06K 19/16	5-Punkt Untergruppe	. . . . . the marking being a hologram or diffraction grating [5]
G06K 19/18	4-Punkt Untergruppe	. . . . Constructional details [5]
G06K 21/00	**Hauptgruppe**	**Information retrieval from punched cards designed for manual use or handling by machine (G06K 19/00 takes precedence); Apparatus for handling such cards, e.g. marking or correcting**
G06K 21/02	1-Punkt Untergruppe	. in which coincidence of markings is sensed mechanically, e.g. by needle
G06K 21/04	1-Punkt Untergruppe	. in which coincidence of markings is sensed optically, e.g. peek-a-boo system
G06K 21/06	1-Punkt Untergruppe	. Apparatus or tools adapted for slotting or otherwise marking information-retrieval cards (tools for perforating in general B26F)
G06K 21/08	1-Punkt Untergruppe	. Apparatus or tools for correcting punching or slotting errors [2]