

Symbol	Typ	Titel
G	Sektion	PHYSICS
G06	Klasse	COMPUTING; CALCULATING; COUNTING
G06K	Unterkategorie	RECOGNITION OF DATA; PRESENTATION OF DATA; RECORD CARRIERS; HANDLING RECORD CARRIERS (<u>printing per se</u>B41J)
G06K 1/00	Hauptgruppe	Methods or arrangements for marking the record carrier in digital fashion [1, 2006.01]
G06K 1/02	1-Punkt Untergruppe	. by punching [1, 2006.01]
G06K 1/04	2-Punkt Untergruppe	.. controlled by sensing markings on the record carrier being punched [1, 2006.01]
G06K 1/05	2-Punkt Untergruppe	.. High-speed punches, e.g. controlled by electric computer [1, 2006.01]
G06K 1/06	2-Punkt Untergruppe	.. Manually-controlled devices [1, 2006.01]
G06K 1/08	3-Punkt Untergruppe	... Card punches [1, 2006.01]
G06K 1/10	3-Punkt Untergruppe	... Tape punches [1, 2006.01]
G06K 1/12	1-Punkt Untergruppe	. otherwise than by punching [1, 2006.01]
G06K 1/14	1-Punkt Untergruppe	. by transferring data from a similar or dissimilar record carrier [1, 2006.01]
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 [1, 2006.01]
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 [1, 2006.01]
G06K 1/20	1-Punkt Untergruppe	. Simultaneous marking of record carrier and printing-out of data, e.g. printing-punch [1, 2006.01]
G06K 1/22	2-Punkt Untergruppe	.. Simultaneous marking and printing on different record carriers, e.g. on different types of record carrier [1, 2006.01]
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 [1, 2006.01]
G06K 3/02	1-Punkt Untergruppe	. Translating markings on a record carrier into printed data on the same record carrier, i.e. interpreting [1, 2006.01]
G06K 5/00	Hauptgruppe	Methods or arrangements for verifying the correctness of markings on a record carrier; Column-detection devices [1, 2006.01]
G06K 5/02	1-Punkt Untergruppe	. the verifying forming a part of the marking action [1, 2006.01]
G06K 5/04	1-Punkt Untergruppe	. Verifying the alignment of markings [1, 2006.01]
G06K 7/00	Hauptgruppe	Methods or arrangements for sensing record carriers (G06K 9/00 takes precedence; methods or arrangements for marking the record carrier in digital fashion G06K 1/00) [1, 2006.01]
G06K 7/01	1-Punkt Untergruppe	. Details [1, 2006.01]
G06K 7/015	2-Punkt Untergruppe	.. Aligning or centring of the sensing device with respect to the record carrier [1, 2006.01]
G06K 7/016	2-Punkt Untergruppe	.. Synchronisation of sensing process [1, 2006.01]
G06K 7/02	1-Punkt Untergruppe	. by pneumatic or hydraulic means, e.g. sensing punched holes with compressed air; by sonic means [1, 2006.01]
G06K 7/04	1-Punkt Untergruppe	. by mechanical means, e.g. by pins operating electric contacts [1, 2006.01]
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 [1, 2006.01]

Symbol	Typ	Titel
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 [1, 2006.01]
G06K 7/10	1-Punkt Untergruppe	. by electromagnetic radiation, e.g. optical sensing; by corpuscular radiation [1, 2006.01]
G06K 7/12	2-Punkt Untergruppe	.. using a selected wavelength, e.g. to sense red marks and ignore blue marks [1, 2006.01]
G06K 7/14	2-Punkt Untergruppe	.. using light without selection of wavelength, e.g. sensing reflected white light [1, 2006.01]
G06K 9/00	Hauptgruppe	Methods or arrangements for reading or recognising printed or written characters or for recognising patterns, e.g. fingerprints (methods or arrangements for graph-reading or for converting the pattern of mechanical parameters, e.g. force or presence, into electrical signals G06K 11/00; speech recognition G10L 15/00) [1, 7, 2006.01]
G06K 9/03	1-Punkt Untergruppe	. Detection or correction of errors, e.g. by rescanning the pattern [3, 2006.01]
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 [1, 2006.01]
G06K 9/20	1-Punkt Untergruppe	. Image acquisition [3, 2006.01]
G06K 9/22	2-Punkt Untergruppe	.. using hand-held instruments [3, 2006.01]
G06K 9/24	3-Punkt Untergruppe	... Construction of the instrument [3, 2006.01]
G06K 9/26	2-Punkt Untergruppe	.. using a slot moved over the image [3, 2006.01]
G06K 9/28	2-Punkt Untergruppe	.. using discrete sensing elements at predetermined points [3, 2006.01]
G06K 9/30	2-Punkt Untergruppe	.. using automatic curve following means [3, 2006.01]
G06K 9/32	2-Punkt Untergruppe	.. Aligning or centering of the image pick-up or image-field [3, 2006.01]
G06K 9/34	2-Punkt Untergruppe	.. Segmentation of touching or overlapping patterns in the image field [3, 2006.01]
G06K 9/36	1-Punkt Untergruppe	. Image preprocessing, i.e. processing the image information without deciding about the identity of the image [3, 2006.01]
G06K 9/38	2-Punkt Untergruppe	.. Quantising the analogue image signal [3, 2006.01]
G06K 9/40	2-Punkt Untergruppe	.. Noise filtering [3, 2006.01]
G06K 9/42	2-Punkt Untergruppe	.. Normalisation of the pattern dimensions [3, 2006.01]
G06K 9/44	2-Punkt Untergruppe	.. Smoothing or thinning of the pattern [3, 2006.01]
G06K 9/46	2-Punkt Untergruppe	.. Extraction of features or characteristics of the image [3, 2006.01]
G06K 9/48	3-Punkt Untergruppe	... by coding the contour of the pattern [3, 2006.01]
G06K 9/50	3-Punkt Untergruppe	... by analysing segments intersecting the pattern [3, 2006.01]
G06K 9/52	3-Punkt Untergruppe	... by deriving mathematical or geometrical properties from the whole image [3, 2006.01]
G06K 9/54	2-Punkt Untergruppe	... Combinations of preprocessing functions [3, 2006.01]
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, 2006.01]
G06K 9/58	2-Punkt Untergruppe	.. using optical means [3, 2006.01]
G06K 9/60	1-Punkt Untergruppe	. Combination of image acquisition and preprocessing functions [3, 2006.01]
G06K 9/62	1-Punkt Untergruppe	. Methods or arrangements for recognition using electronic means [3, 2006.01]

Symbol	Typ	Titel
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, 2006.01]
G06K 9/66	3-Punkt Untergruppe	... references adjustable by an adaptive method, e.g. learning [3, 2006.01]
G06K 9/68	2-Punkt Untergruppe	... using sequential comparisons of the image signals with a plurality of reference, e.g. addressable memory [3, 2006.01]
G06K 9/70	3-Punkt Untergruppe	... the selection of the next reference depending on the result of the preceding comparison [3, 2006.01]
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, 2006.01]
G06K 9/74	1-Punkt Untergruppe	. Arrangements for recognition using optical reference masks [3, 2006.01]
G06K 9/76	2-Punkt Untergruppe	... using holographic masks [3, 2006.01]
G06K 9/78	1-Punkt Untergruppe	. Combination of image acquisition and recognition functions [3, 2006.01]
G06K 9/80	1-Punkt Untergruppe	. Combination of image preprocessing and recognition functions [3, 2006.01]
G06K 9/82	2-Punkt Untergruppe	... using optical means in one or both functions [3, 2006.01]
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) [1, 2, 2006.01]
G06K 11/02	1-Punkt Untergruppe	. Automatic curve followers [1, 2006.01]
G06K 11/04	2-Punkt Untergruppe	... using an auxiliary scanning pattern [2, 2006.01]
G06K 11/06	1-Punkt Untergruppe	. Devices for converting the position of a manually-operated writing or tracing member into an electrical signal [3, 2006.01]
G06K 13/00	Hauptgruppe	Conveying record carriers from one station to another, e.g. from stack to punching mechanism (conveying record carriers combined with another operation, e.g. with reading G06K 17/00) [1, 2006.01]
G06K 13/02	1-Punkt Untergruppe	. the record carrier having longitudinal dimension comparable with transverse dimension, e.g. punched card [1, 2006.01]
G06K 13/04	2-Punkt Untergruppe	... Details, e.g. flaps in card-sorting apparatus [1, 2006.01]
G06K 13/05	3-Punkt Untergruppe	... Capstans; Pinch rollers [1, 2006.01]
G06K 13/06	2-Punkt Untergruppe	... Guiding cards; Checking correct operation of card-conveying mechanisms [1, 2, 2006.01]
G06K 13/063	3-Punkt Untergruppe	... Aligning cards [2, 2006.01]
G06K 13/067	3-Punkt Untergruppe	... Checking presence, absence, correct position, or moving status of cards [2, 2006.01]
G06K 13/07	2-Punkt Untergruppe	... Transporting of cards between stations [1, 2006.01]
G06K 13/073	3-Punkt Untergruppe	... with continuous movement [2, 2006.01]
G06K 13/077	3-Punkt Untergruppe	... with intermittent movement; Braking or stopping movement [2, 2006.01]
G06K 13/08	2-Punkt Untergruppe	... Feeding or discharging cards [1, 2006.01]
G06K 13/10	3-Punkt Untergruppe	... from magazine to conveying arrangement [1, 2006.01]
G06K 13/103	4-Punkt Untergruppe using mechanical means [2, 2006.01]
G06K 13/107	4-Punkt Untergruppe using pneumatic means [2, 2006.01]

Symbol	Typ	Titel
G06K 13/12	3-Punkt Untergruppe	... from conveying arrangement to magazine [1, 2006.01]
G06K 13/14	3-Punkt Untergruppe	... Card magazines, e.g. pocket, hopper [1, 2006.01]
G06K 13/16	2-Punkt Untergruppe	... Handling flexible sheets, e.g. cheques [1, 2006.01]
G06K 13/18	1-Punkt Untergruppe	. the record carrier being longitudinally extended, e.g. punched tape [1, 2006.01]
G06K 13/20	2-Punkt Untergruppe	... Details [1, 2006.01]
G06K 13/22	3-Punkt Untergruppe	... Capstans; Pinch rollers [1, 2006.01]
G06K 13/24	2-Punkt Untergruppe	... Guiding of record carriers; Recognising end of record carrier [1, 2006.01]
G06K 13/26	2-Punkt Untergruppe	... Winding-up or unwinding of record carriers; Driving of record carriers [1, 2, 2006.01]
G06K 13/28	3-Punkt Untergruppe	... continuously [2, 2006.01]
G06K 13/30	3-Punkt Untergruppe	... intermittently [2, 2006.01]
G06K 15/00	Hauptgruppe	Arrangements for producing a permanent visual presentation of the output data (printing or plotting combined with another operation, e.g. with conveying, G06K 17/00) [1, 3, 2006.01]
G06K 15/02	1-Punkt Untergruppe	. using printers [1, 2006.01]
G06K 15/04	2-Punkt Untergruppe	... by rack-type printers [1, 2006.01]
G06K 15/06	2-Punkt Untergruppe	... by type-wheel printers [1, 2006.01]
G06K 15/07	3-Punkt Untergruppe	... by continuously-rotating-type-wheel printers, e.g. rotating-type-drum printers [2, 2006.01]
G06K 15/08	2-Punkt Untergruppe	... by flight printing with type font moving in the direction of the printed line, e.g. chain printers [1, 2006.01]
G06K 15/10	2-Punkt Untergruppe	... by matrix printers [1, 2006.01]
G06K 15/12	2-Punkt Untergruppe	... by photographic printing [1, 2006.01]
G06K 15/14	2-Punkt Untergruppe	... by electrographic printing, e.g. xerography; by magnetographic printing [1, 2006.01]
G06K 15/16	2-Punkt Untergruppe	... Means for paper feeding or form feeding [1, 2006.01]
G06K 15/22	1-Punkt Untergruppe	. using plotters [1, 3, 2006.01]
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 [1, 2006.01]
G06K 19/00	Hauptgruppe	Record carriers for use with machines and with at least a part designed to carry digital markings [1, 2006.01]
G06K 19/02	1-Punkt Untergruppe	. characterised by the selection of materials, e.g. to avoid wear during transport through the machine [1, 2006.01]
G06K 19/04	1-Punkt Untergruppe	. characterised by the shape [1, 2006.01]
G06K 19/06	1-Punkt Untergruppe	. characterised by the kind of the digital marking, e.g. shape, nature, code [1, 2006.01]
G06K 19/063	2-Punkt Untergruppe	... the carrier being marginally punched or notched, e.g. having elongated slots [5, 2006.01]
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, 2006.01]
G06K 19/07	3-Punkt Untergruppe	... with integrated circuit chips [5, 2006.01]
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, 2006.01]

Symbol	Typ	Titel
G06K 19/077	4-Punkt Untergruppe Constructional details, e.g. mounting of circuits in the carrier [5, 2006.01]
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 [1, 2006.01]
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, 2006.01]
G06K 19/12	4-Punkt Untergruppe the marking being sensed by magnetic means [5, 2006.01]
G06K 19/14	4-Punkt Untergruppe the marking being sensed by radiation [5, 2006.01]
G06K 19/16	5-Punkt Untergruppe the marking being a hologram or diffraction grating [5, 2006.01]
G06K 19/18	4-Punkt Untergruppe Constructional details [5, 2006.01]
G06K 21/00	Hauptgruppe	Information retrieval from punched cards designed for manual use or handling by machine (G06K 19/00 takes precedence; detection or correction of errors by rescanning patterns G06K 9/03; checking correct operation of card-conveying mechanisms G06K 13/06); Apparatus for handling such cards, e.g. marking or correcting [1, 2006.01]
G06K 21/02	1-Punkt Untergruppe	. in which coincidence of markings is sensed mechanically, e.g. by needle [1, 2006.01]
G06K 21/04	1-Punkt Untergruppe	. in which coincidence of markings is sensed optically, e.g. peek-a-boo system [1, 2006.01]
G06K 21/06	1-Punkt Untergruppe	. Apparatus or tools adapted for slotting or otherwise marking information-retrieval cards [1, 2006.01]
G06K 21/08	1-Punkt Untergruppe	. Apparatus or tools for correcting punching or slotting errors [2, 2006.01]