Symbol	Typ	Titel
G	**Sektion**	**SECTION G — PHYSICS**
G10	**Klasse**	**MUSICAL INSTRUMENTS; ACOUSTICS**
G10L	**Unterklasse**	**SPEECH ANALYSIS OR SYNTHESIS; SPEECH RECOGNITION (sound input/output for computers G06F 3/16; digital data processing methods or equipment specially adapted for handling natural language data G06F 17/20; teaching or communicating with the blind, deaf or mute G09B 21/00; telephonic communication H04M) [4]**
G10L 11/00	**Hauptgruppe**	**Determination or detection of speech characteristics not restricted to a single one of groups G10L 15/00-G10L 21/00 [7]**
G10L 11/02	1-Punkt Untergruppe	. Detection of presence or absence of speech signals (switching of direction of transmission by voice frequency in two-way loud-speaking telephone systems H04M 9/10) [7]
G10L 11/04	1-Punkt Untergruppe	. Pitch determination of speech signals [7]
G10L 11/06	1-Punkt Untergruppe	. Discriminating between voiced and unvoiced parts of speech signals (G10L 11/04 takes precedence) [7]
G10L 13/00	**Hauptgruppe**	**Speech synthesis; Text to speech systems (electrophonic musical instruments G10H) [7]**
G10L 13/02	1-Punkt Untergruppe	. Methods for producing synthetic speech; Speech synthesisers [7]
G10L 13/04	2-Punkt Untergruppe	. . Details of speech synthesis systems, e.g. synthesiser structure, memory management [7]
G10L 13/06	1-Punkt Untergruppe	. Elementary speech units used in speech synthesisers; Concatenation rules [7]
G10L 13/08	1-Punkt Untergruppe	. Text analysis or generation of parameters for speech synthesis out of text, e.g. grapheme to phoneme translation, prosody generation, stress or intonation determination [7]
G10L 15/00	**Hauptgruppe**	**Speech recognition (G10L 17/00 takes precedence) [7]**
G10L 15/02	1-Punkt Untergruppe	. Feature extraction for speech recognition; Selection of recognition unit [7]
G10L 15/04	1-Punkt Untergruppe	. Segmentation or word limit detection [7]
G10L 15/06	1-Punkt Untergruppe	. Creation of reference templates; Training of speech recognition systems, e.g. adaptation to the characteristics of the speaker's voice (G10L 15/14 takes precedence) [7]
G10L 15/08	1-Punkt Untergruppe	. Speech classification or search (pattern recognition G06K 9/00) [7]
G10L 15/10	2-Punkt Untergruppe	. . using distance or distortion measures between unknown speech and reference templates [7]
G10L 15/12	2-Punkt Untergruppe	. . using dynamic programming techniques, e.g. Dynamic Time Warping (DTW) [7]
G10L 15/14	2-Punkt Untergruppe	. . using statistical models, e.g. Hidden Markov Models (HMM) (G10L 15/18 takes precedence) [7]
G10L 15/16	2-Punkt Untergruppe	. . using artificial neural networks [7]
G10L 15/18	2-Punkt Untergruppe	. . using natural language modelling [7]
G10L 15/20	1-Punkt Untergruppe	. Speech recognition techniques specially adapted for robustness in adverse environments, e.g. in noise, of stress induced speech (G10L 21/02 takes precedence) [7]
G10L 15/22	1-Punkt Untergruppe	. Procedures used during a speech recognition process, e.g. man-machine dialog [7]
G10L 15/24	1-Punkt Untergruppe	. Speech recognition using non-acoustical features, e.g. position of the lips [7]
G10L 15/26	1-Punkt Untergruppe	. Speech to text systems (G10L 15/08 takes precedence) [7]
G10L 15/28	1-Punkt Untergruppe	. Constructional details of speech recognition systems [7]
G10L 17/00	**Hauptgruppe**	**Speaker identification or verification [7]**
G10L 19/00	**Hauptgruppe**	**Speech analysis-synthesis techniques for redundancy reduction, e.g. in vocoders; Coding or decoding of speech [7]**

Symbol	Typ	Titel
G10L 19/02	1-Punkt Untergruppe	. using spectral analysis, e.g. transform vocoders, subband vocoders [7]
G10L 19/04	1-Punkt Untergruppe	. using predictive techniques [7]
G10L 19/06	2-Punkt Untergruppe	. . Determination or coding of the spectral characteristics, e.g. of the short term prediction coefficients [7]
G10L 19/08	2-Punkt Untergruppe	. . Determination or coding of the excitation function; Determination or coding of the long-term prediction parameters [7]
G10L 19/10	3-Punkt Untergruppe	. . . Determination or coding of a multipulse excitation [7]
G10L 19/12	3-Punkt Untergruppe	. . . Determination or coding of a code excitation, e.g. in code excited linear prediction (CELP) vocoders [7]
G10L 19/14	2-Punkt Untergruppe	. . Details not provided for in groups G10L 19/06-G10L 19/12, e.g. gain coding, post filtering design, vocoder structure [7]
G10L 21/00	**Hauptgruppe**	**Processing of the speech signal to produce another audible or non-audible signal, e.g. visual, tactile, in order to modify its quality or its intelligibility (G10L 19/00 takes precedence) [7]**
G10L 21/02	1-Punkt Untergruppe	. Speech enhancement, e.g. noise reduction, echo cancellation (echo suppression in hand-free telephones H04M 9/08; hearing aids H04R 25/00) [7]
G10L 21/04	1-Punkt Untergruppe	. Time compression or expansion [7]
G10L 21/06	1-Punkt Untergruppe	. Transformation of speech into a non-audible representation, e.g. speech visualisation, speech processing for tactile aids (G10L 15/26 takes precedence) [7]