

Symbol	Typ	Titel
<b>H</b>	<b>Sektion</b>	<b>ELECTRICITY</b>
<b>H04</b>	<b>Klasse</b>	<b>ELECTRIC COMMUNICATION TECHNIQUE</b>
<b>H04L</b>	<b>Unterkategorie</b>	<b>TRANSMISSION OF DIGITAL INFORMATION, e.g. TELEGRAPHIC COMMUNICATION (arrangements common to telegraphic and telephonic communication H04M) [4]</b>
<b>H04L 1/00</b>	<b>Hauptgruppe</b>	<b>Arrangements for detecting or preventing errors in the information received [1, 2006.01]</b>
H04L 1/02	1-Punkt Untergruppe	. by diversity reception [1, 2006.01]
H04L 1/04	2-Punkt Untergruppe	.. using frequency diversity [1, 2006.01]
H04L 1/06	2-Punkt Untergruppe	.. using space diversity [1, 2006.01]
H04L 1/08	1-Punkt Untergruppe	. by repeating transmission, e.g. Verdan system [1, 2006.01]
H04L 1/12	1-Punkt Untergruppe	. by using return channel [1, 2006.01]
H04L 1/14	2-Punkt Untergruppe	.. in which the signals are sent back to the transmitter to be checked [1, 2006.01]
H04L 1/16	2-Punkt Untergruppe	.. in which the return channel carries supervisory signals, e.g. repetition request signals [1, 2006.01]
H04L 1/18	3-Punkt Untergruppe	... Automatic repetition systems, e.g. van Duuren system [1, 2006.01]
H04L 1/20	1-Punkt Untergruppe	. using signal-quality detector [3, 2006.01]
H04L 1/22	1-Punkt Untergruppe	. using redundant apparatus to increase reliability [3, 2006.01]
H04L 1/24	1-Punkt Untergruppe	. Testing correct operation [3, 2006.01]
<b>H04L 5/00</b>	<b>Hauptgruppe</b>	<b>Arrangements affording multiple use of the transmission path [1, 2006.01]</b>
H04L 5/02	1-Punkt Untergruppe	. Channels characterised by the type of signal [1, 2006.01]
H04L 5/04	2-Punkt Untergruppe	.. the signals being represented by different amplitudes or polarities, e.g. quadriplex [1, 2006.01]
H04L 5/06	2-Punkt Untergruppe	.. the signals being represented by different frequencies (combined with time-division multiplexing H04L 5/26) [1, 2006.01]
H04L 5/08	3-Punkt Untergruppe	... each combination of signals in different channels being represented by a fixed frequency [1, 2006.01]
H04L 5/10	3-Punkt Untergruppe	... with dynamo-electric generation of carriers; with mechanical filters or demodulators [1, 2006.01]
H04L 5/12	2-Punkt Untergruppe	.. the signals being represented by different phase modulations of a single carrier [1, 2006.01]
H04L 5/14	1-Punkt Untergruppe	. Two-way operation using the same type of signal, i.e. duplex [1, 2006.01]
H04L 5/16	2-Punkt Untergruppe	.. Half-duplex systems; Simplex/duplex switching; Transmission of break signals [1, 2006.01]
H04L 5/18	2-Punkt Untergruppe	.. Automatic changing of the traffic direction [1, 2006.01]
H04L 5/20	1-Punkt Untergruppe	. using different combinations of lines, e.g. phantom working [1, 2006.01]
H04L 5/22	1-Punkt Untergruppe	. using time-division multiplexing [1, 2006.01]
H04L 5/24	2-Punkt Untergruppe	.. with start-stop synchronous converters [1, 2006.01]
H04L 5/26	2-Punkt Untergruppe	.. combined with the use of different frequencies [1, 2006.01]
<b>H04L 7/00</b>	<b>Hauptgruppe</b>	<b>Arrangements for synchronising receiver with transmitter [1, 2006.01]</b>
H04L 7/02	1-Punkt Untergruppe	. Speed or phase control by the received code signals, the signals containing no special synchronisation information [1, 2006.01]

Symbol	Typ	Titel
H04L 7/027	2-Punkt Untergruppe	. . extracting the synchronising or clock signal from the received signal spectrum, e.g. by using a resonant or bandpass circuit [5, 2006.01]
H04L 7/033	2-Punkt Untergruppe	. . using the transitions of the received signal to control the phase of the synchronising-signal- generating means, e.g. using a phase-locked loop [5, 2006.01]
H04L 7/04	1-Punkt Untergruppe	. Speed or phase control by synchronisation signals [1, 2006.01]
H04L 7/06	2-Punkt Untergruppe	. . the synchronisation signals differing from the information signals in amplitude, polarity, or frequency [1, 2006.01]
H04L 7/08	2-Punkt Untergruppe	. . the synchronisation signals recurring cyclically [1, 2006.01]
H04L 7/10	2-Punkt Untergruppe	. . Arrangements for initial synchronisation [1, 2006.01]
<b>H04L 9/00</b>	<b>Hauptgruppe</b>	<b>Arrangements for secret or secure communication [1, 2006.01]</b>
H04L 9/06	1-Punkt Untergruppe	. the encryption apparatus using shift registers or memories for blockwise coding, e.g. D.E.S. systems [5, 2006.01]
H04L 9/08	1-Punkt Untergruppe	. Key distribution [5, 2006.01]
H04L 9/10	1-Punkt Untergruppe	. with particular housing, physical features or manual controls [5, 2006.01]
H04L 9/12	1-Punkt Untergruppe	. Transmitting and receiving encryption devices synchronised or initially set up in a particular manner [5, 2006.01]
H04L 9/14	1-Punkt Untergruppe	. using a plurality of keys or algorithms [5, 2006.01]
H04L 9/16	2-Punkt Untergruppe	. . the keys or algorithms being changed during operation [5, 2006.01]
H04L 9/18	1-Punkt Untergruppe	. Encryption by serially and continuously modifying data stream elements, e.g. stream cipher systems [5, 2006.01]
H04L 9/20	2-Punkt Untergruppe	. . Pseudorandom key sequence combined element-for-element with data sequence [5, 2006.01]
H04L 9/22	3-Punkt Untergruppe	. . . with particular pseudorandom sequence generator [5, 2006.01]
H04L 9/24	4-Punkt Untergruppe	. . . . sequence produced by more than one generator [5, 2006.01]
H04L 9/26	4-Punkt Untergruppe	. . . . producing a nonlinear pseudorandom sequence [5, 2006.01]
H04L 9/28	1-Punkt Untergruppe	. using particular encryption algorithm [5, 2006.01]
H04L 9/30	2-Punkt Untergruppe	. . Public key, i.e. encryption algorithm being computationally infeasible to invert and users' encryption keys not requiring secrecy [5, 2006.01]
H04L 9/32	1-Punkt Untergruppe	. including means for verifying the identity or authority of a user of the system [5, 2006.01]
H04L 9/34	1-Punkt Untergruppe	. Bits, or blocks of bits, of the telegraphic message being interchanged in time [5, 2006.01]
H04L 9/36	1-Punkt Untergruppe	. with means for detecting characters not meant for transmission [5, 2006.01]
H04L 9/38	1-Punkt Untergruppe	. Encryption being effected by mechanical apparatus, e.g. rotating cams, switches, keytape punchers [5, 2006.01]
<b>H04L 12/00</b>	<b>Hauptgruppe</b>	<b>Data switching networks (interconnection of, or transfer of information or other signals between, memories, input/output devices or central processing units G06F 13/00) [5, 2006.01]</b>
H04L 12/02	1-Punkt Untergruppe	. Details [5, 2006.01]
H04L 12/04	2-Punkt Untergruppe	. . Switchboards [5, 2006.01]
H04L 12/06	2-Punkt Untergruppe	. . Answer-back mechanisms or circuits [5, 2006.01]

Symbol	Typ	Titel
H04L 12/08	2-Punkt Untergruppe	... Allotting numbers to messages; Counting characters, words or messages [5, 2006.01]
H04L 12/10	2-Punkt Untergruppe	... Current supply arrangements [5, 2006.01]
H04L 12/12	2-Punkt Untergruppe	... Arrangements for remote connection or disconnection of substations or of equipment thereof [5, 2006.01]
H04L 12/14	2-Punkt Untergruppe	... Charging arrangements [5, 2006.01]
H04L 12/16	2-Punkt Untergruppe	... Arrangements for providing special services to substations [5, 2006.01]
H04L 12/18	3-Punkt Untergruppe	... for broadcast or conference [5, 2006.01]
H04L 12/20	3-Punkt Untergruppe	... for converting transmission speed from the inherent speed of a substation to the inherent speed of other substations [5, 2006.01]
H04L 12/22	2-Punkt Untergruppe	... Arrangements for preventing the taking of data from a data transmission channel without authorisation ( means for verifying the identity or the authority of a user of a secure or secret communication system H04L 9/32) [5, 2006.01]
H04L 12/24	2-Punkt Untergruppe	... Arrangements for maintenance or administration [5, 2006.01]
H04L 12/26	2-Punkt Untergruppe	... Monitoring arrangements; Testing arrangements [5, 2006.01]
H04L 12/28	1-Punkt Untergruppe	. characterised by path configuration, e.g. LAN [Local Area Networks] or WAN [Wide Area Networks] (wireless communication networks H04W) [5, 6, 2006.01]
H04L 12/40	2-Punkt Untergruppe	... Bus networks [5, 6, 2006.01]
H04L 12/403	3-Punkt Untergruppe	... with centralised control, e.g. polling [6, 2006.01]
H04L 12/407	3-Punkt Untergruppe	... with decentralised control [6, 2006.01]
H04L 12/413	4-Punkt Untergruppe	.... with random access, e.g. carrier-sense multiple-access with collision detection (CSMA-CD) [6, 2006.01]
H04L 12/417	4-Punkt Untergruppe	.... with deterministic access, e.g. token passing [6, 2006.01]
H04L 12/42	2-Punkt Untergruppe	... Loop networks [5, 6, 2006.01]
H04L 12/423	3-Punkt Untergruppe	... with centralised control, e.g. polling [6, 2006.01]
H04L 12/427	3-Punkt Untergruppe	... with decentralised control [6, 2006.01]
H04L 12/43	4-Punkt Untergruppe	.... with synchronous transmission, e.g. time division multiplex (TDM), slotted rings [6, 2006.01]
H04L 12/433	4-Punkt Untergruppe	.... with asynchronous transmission, e.g. token ring, register insertion [6, 2006.01]
H04L 12/437	3-Punkt Untergruppe	... Ring fault isolation or reconfiguration [6, 2006.01]
H04L 12/44	2-Punkt Untergruppe	... Star or tree networks [5, 6, 2006.01]
H04L 12/46	2-Punkt Untergruppe	... Interconnection of networks [5, 6, 2006.01]
H04L 12/50	1-Punkt Untergruppe	. Circuit switching systems, i.e. systems in which the path is physically permanent during the communication [5, 6, 2006.01]
H04L 12/52	2-Punkt Untergruppe	... using time division techniques (in digital transmission systems H04L 5/22) [5, 6, 2006.01]
H04L 12/54	1-Punkt Untergruppe	. Store-and-forward switching systems (packet switching systems H04L 12/70) [5, 6, 2006.01, 2013.01]
H04L 12/58	2-Punkt Untergruppe	... Message switching systems [5, 6, 2006.01]
H04L 12/60	3-Punkt Untergruppe	... Manual relay systems, e.g. push-button switching [5, 6, 2006.01]

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H04L 12/62	4-Punkt Untergruppe	.... with perforated tape storage [5, 6, 2006.01]
H04L 12/64	1-Punkt Untergruppe	. Hybrid switching systems [5, 6, 2006.01]
H04L 12/66	1-Punkt Untergruppe	. Arrangements for connecting between networks having differing types of switching systems, e.g. gateways [5, 6, 2006.01]
H04L 12/70	1-Punkt Untergruppe	. Packet switching systems [2013.01]
H04L 12/701	2-Punkt Untergruppe	... Routing or path finding [2013.01]
H04L 12/703	3-Punkt Untergruppe	... Route fault prevention or recovery, e.g. rerouting, route redundancy, virtual router redundancy protocol [VRRP] or hot standby router protocol [HSRP] [2013.01]
H04L 12/705	4-Punkt Untergruppe	.... Loop or livelock prevention, e.g. time to live [TTL] or spanning tree [2013.01]
H04L 12/707	4-Punkt Untergruppe	.... using path redundancy [2013.01]
H04L 12/709	5-Punkt Untergruppe	..... using M+N parallel active paths [2013.01]
H04L 12/711	5-Punkt Untergruppe	..... using M:N active or standby paths [2013.01]
H04L 12/713	4-Punkt Untergruppe	.... using node redundancy, e.g. VRRP [2013.01]
H04L 12/715	3-Punkt Untergruppe	... Hierarchical routing, e.g. clustered networks or inter-domain routing [2013.01]
H04L 12/717	3-Punkt Untergruppe	... Centralised routing [2013.01]
H04L 12/721	3-Punkt Untergruppe	... Routing procedures, e.g. shortest path routing, source routing, link state routing or distance vector routing [2013.01]
H04L 12/723	4-Punkt Untergruppe	.... Label or tag based routing, e.g. multi-protocol label switching [MPLS] or generalised multi-protocol label switching [GMPLS] [2013.01]
H04L 12/725	4-Punkt Untergruppe	.... Selecting a path with suitable quality of service [QoS] [2013.01]
H04L 12/727	5-Punkt Untergruppe	..... Selecting a path with minimum delay [2013.01]
H04L 12/729	5-Punkt Untergruppe	..... Selecting a path with suitable bandwidth or throughput [2013.01]
H04L 12/733	4-Punkt Untergruppe	.... Selecting a path with minimum length or minimum hop count [2013.01]
H04L 12/735	4-Punkt Untergruppe	.... Disjoint routing, e.g. path disjoint or node disjoint [2013.01]
H04L 12/741	3-Punkt Untergruppe	... Header address processing for routing, e.g. table lookup [2013.01]
H04L 12/743	4-Punkt Untergruppe	.... using hashing techniques [2013.01]
H04L 12/745	4-Punkt Untergruppe	.... using longest matching prefix [2013.01]
H04L 12/747	4-Punkt Untergruppe	.... Address caching [2013.01]
H04L 12/749	4-Punkt Untergruppe	.... Address processing over inter-domain or inter-network, e.g. mapping different addresses between IPv6 and IPv4 networks for routing [2013.01]
H04L 12/751	3-Punkt Untergruppe	... Topology update or discovery [2013.01]
H04L 12/753	4-Punkt Untergruppe	.... Routing tree discovery, e.g. converting from mesh topology to tree topology [2013.01]
H04L 12/755	4-Punkt Untergruppe	.... Topology update consistency, e.g. link state advertisement [LSA], time stamping or sequence numbers in the updates [2013.01]
H04L 12/757	4-Punkt Untergruppe	.... Synchronised activation of routing updates, e.g. delaying or holding routing table updates [2013.01]

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H04L 12/759	4-Punkt Untergruppe	.... Dynamic adaptation of update interval, e.g. event-driven updates [2013.01]
H04L 12/761	3-Punkt Untergruppe	... Broadcast or multicast routing [2013.01]
H04L 12/763	3-Punkt Untergruppe	... Shortcut routing, e.g. next hop resolution protocol [NHRP] [2013.01]
H04L 12/771	3-Punkt Untergruppe	... Router architecture [2013.01]
H04L 12/773	4-Punkt Untergruppe	.... for supporting layer 3 switching, e.g. IP switching, cell switch relay [CSR] or tag switching [2013.01]
H04L 12/775	4-Punkt Untergruppe	.... multiple routing entities, e.g. multiple software or hardware instances [2013.01]
H04L 12/781	3-Punkt Untergruppe	... Multiprotocol routing, e.g. for protocol adaptation between IPv4 and IPv6 or dual stack [2013.01]
H04L 12/801	2-Punkt Untergruppe	... Flow control or congestion control [2013.01]
H04L 12/803	3-Punkt Untergruppe	... Load balancing, e.g. traffic distribution over multiple links [2013.01]
H04L 12/805	3-Punkt Untergruppe	... Determination of the optimum packet size, e.g. maximum transmission unit [MTU] [2013.01]
H04L 12/807	3-Punkt Untergruppe	... Calculation or update of the congestion window [2013.01]
H04L 12/811	3-Punkt Untergruppe	... Bitrate adaptation in active flows [2013.01]
H04L 12/813	4-Punkt Untergruppe	.... Policy-based control, e.g. policing [2013.01]
H04L 12/815	4-Punkt Untergruppe	.... Shaping [2013.01]
H04L 12/819	4-Punkt Untergruppe	.... Leaky bucket [2013.01]
H04L 12/823	4-Punkt Untergruppe	.... Packet dropping [2013.01]
H04L 12/825	4-Punkt Untergruppe	.... Adaptive control, at the source or intermediate nodes, upon congestion feedback, e.g. X-on X-off [2013.01]
H04L 12/827	5-Punkt Untergruppe	..... sent by intermediate network nodes [2013.01]
H04L 12/829	5-Punkt Untergruppe	..... sent by the destination endpoint [2013.01]
H04L 12/833	4-Punkt Untergruppe	.... Marking packets or altering packet priority upon congestion or for congestion prevention [2013.01]
H04L 12/835	4-Punkt Untergruppe	.... using buffer capacity information at the endpoints or transit nodes [2013.01]
H04L 12/841	3-Punkt Untergruppe	... Flow control actions using time consideration, e.g. round trip time [RTT] [2013.01]
H04L 12/851	3-Punkt Untergruppe	... Traffic type related actions, e.g. QoS or priority [2013.01]
H04L 12/853	4-Punkt Untergruppe	.... for real time traffic [2013.01]
H04L 12/855	4-Punkt Untergruppe	.... for signalling traffic, e.g. operations, administration and maintenance [OAM] or acknowledge [ACK] packets [2013.01]
H04L 12/857	4-Punkt Untergruppe	.... Mapping QoS constraints between layers or between different networks [2013.01]
H04L 12/859	4-Punkt Untergruppe	.... Flow control actions based on the nature of the application, e.g. controlling web browsing or e-mail traffic [2013.01]
H04L 12/861	3-Punkt Untergruppe	... Packet buffering or queuing arrangements; Queue scheduling [2013.01]
H04L 12/863	4-Punkt Untergruppe	.... Queue scheduling, e.g. Round Robin [2013.01]
H04L 12/865	5-Punkt Untergruppe	.... Priority-based scheduling [2013.01]

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H04L 12/867	5-Punkt Untergruppe	..... Fair share scheduling [2013.01]
H04L 12/869	5-Punkt Untergruppe	..... Multilevel scheduling; Hierarchical scheduling [2013.01]
H04L 12/873	5-Punkt Untergruppe	..... Bandwidth-aware scheduling [2013.01]
H04L 12/875	5-Punkt Untergruppe	..... Delay-aware scheduling [2013.01]
H04L 12/877	5-Punkt Untergruppe	..... Distribution of residual bandwidth, e.g. distribution of unused bandwidth to best effort traffic [BET] [2013.01]
H04L 12/879	4-Punkt Untergruppe	.... Single buffer operations, e.g. buffer pointers or buffer descriptors [2013.01]
H04L 12/883	4-Punkt Untergruppe	.... Packet storage using a linked list of buffers [2013.01]
H04L 12/885	4-Punkt Untergruppe	.... Jitter compensation buffering [2013.01]
H04L 12/891	3-Punkt Untergruppe	... Flow control of aggregated links or flows [2013.01]
H04L 12/893	3-Punkt Untergruppe	... Connection splitting, e.g. IP splitting [2013.01]
H04L 12/901	2-Punkt Untergruppe	.. Ingress point selection by the source endpoint, e.g. Internet service provider [ISP] or point of presence [POP] selection [2013.01]
H04L 12/903	3-Punkt Untergruppe	... Selection among a plurality of different networks [2013.01]
H04L 12/905	4-Punkt Untergruppe	.... Dynamic network selection or re-selection, e.g. after degradation of quality [2013.01]
H04L 12/911	2-Punkt Untergruppe	.. Network admission control and resource allocation, e.g. bandwidth allocation or in-call renegotiation [2013.01]
H04L 12/913	3-Punkt Untergruppe	... Reservation actions involving intermediate nodes, e.g. resource reservation protocol [RSVP] [2013.01]
H04L 12/915	3-Punkt Untergruppe	... Reservation actions involving several network domains, e.g. multilateral agreements or mapping of resources [2013.01]
H04L 12/917	3-Punkt Untergruppe	... Dynamic resource allocation, e.g. in-call renegotiation requested by the user or upon changing network conditions requested by the network [2013.01]
H04L 12/919	4-Punkt Untergruppe	.... initiated by the source endpoint [2013.01]
H04L 12/923	4-Punkt Untergruppe	.... initiated by the network [2013.01]
H04L 12/925	3-Punkt Untergruppe	... Reservation of resources at the destination endpoint [2013.01]
H04L 12/927	3-Punkt Untergruppe	... Allocation of resources based on type of traffic, QoS or priority [2013.01]
H04L 12/931	2-Punkt Untergruppe	.. Switch fabric architecture [2013.01]
H04L 12/933	3-Punkt Untergruppe	... Switch core, e.g. crossbar, shared memory or shared medium [2013.01]
H04L 12/935	3-Punkt Untergruppe	... Switch interfaces, e.g. port details [2013.01]
H04L 12/937	3-Punkt Untergruppe	... Switch control, e.g. arbitration [2013.01]
H04L 12/939	3-Punkt Untergruppe	... Provisions for redundant switching, e.g. using parallel switching planes [2013.01]
H04L 12/943	4-Punkt Untergruppe	.... Transferring a complete packet or cell from each plane [2013.01]
H04L 12/945	4-Punkt Untergruppe	.... Transferring a part of the packet or cell from each plane, e.g. bit slice [2013.01]
H04L 12/947	3-Punkt Untergruppe	... Address processing within a device, e.g. using internal ID or tags for routing within a switch [2013.01]

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H04L 12/951	2-Punkt Untergruppe	... Assembling and disassembling of packets, e.g. segmentation and reassembly [SAR] in asynchronous transfer mode [ATM] [2013.01]
H04L 12/953	3-Punkt Untergruppe	... Packet sequencing arrangements for supporting message reassembly, e.g. packet sequence number [2013.01]
H04L 12/955	3-Punkt Untergruppe	... Padding or de-padding, e.g. inserting or removing dummy data in or from unused packet segments [2013.01]
<b>H04L 13/00</b>	<b>Hauptgruppe</b>	<b>Details of the apparatus or circuits covered by groups H04L 15/00 or H04L 17/00 [1, 2006.01]</b>
H04L 13/02	1-Punkt Untergruppe	. Details not particular to receiver or transmitter [1, 2006.01]
H04L 13/04	2-Punkt Untergruppe	... Driving mechanisms; Clutches [1, 2006.01]
H04L 13/06	2-Punkt Untergruppe	... Tape or page guiding or feeding devices [1, 2006.01]
H04L 13/08	2-Punkt Untergruppe	... Intermediate storage means [1, 2006.01]
H04L 13/10	2-Punkt Untergruppe	... Distributors [1, 2006.01]
H04L 13/12	3-Punkt Untergruppe	... Non-mechanical distributors, e.g. relay distributors [1, 2006.01]
H04L 13/14	4-Punkt Untergruppe	... Electronic distributors [1, 2006.01]
H04L 13/16	1-Punkt Untergruppe	. of transmitters, e.g. code-bars, code-discs [1, 2006.01]
H04L 13/18	1-Punkt Untergruppe	. of receivers [1, 2006.01]
<b>H04L 15/00</b>	<b>Hauptgruppe</b>	<b>Apparatus or local circuits for transmitting or receiving dot-and-dash codes, e.g. Morse code (teaching apparatus therefor G09B; telegraph tapping keys H01H 21/86) [1, 2006.01]</b>
H04L 15/03	1-Punkt Untergruppe	. Keys structurally combined with sound generators [2, 2006.01]
H04L 15/04	1-Punkt Untergruppe	. Apparatus or circuits at the transmitting end [1, 2006.01]
H04L 15/06	2-Punkt Untergruppe	... with a restricted number of keys, e.g. separate key for each type of code element [1, 2006.01]
H04L 15/08	3-Punkt Untergruppe	... with a single key which transmits dots in one position and dashes in a second position [1, 2006.01]
H04L 15/10	3-Punkt Untergruppe	... combined with perforating apparatus [1, 2006.01]
H04L 15/12	2-Punkt Untergruppe	... with keyboard co-operating with code-bars [1, 2006.01]
H04L 15/14	3-Punkt Untergruppe	... combined with perforating apparatus [1, 2006.01]
H04L 15/16	2-Punkt Untergruppe	... with keyboard co-operating with code discs [1, 2006.01]
H04L 15/18	2-Punkt Untergruppe	... Automatic transmitters, e.g. controlled by perforated tape [1, 2006.01]
H04L 15/20	3-Punkt Untergruppe	... with optical sensing means [1, 2006.01]
H04L 15/22	2-Punkt Untergruppe	... Apparatus or circuits for sending one or a restricted number of signals, e.g. distress signals [1, 2006.01]
H04L 15/24	1-Punkt Untergruppe	. Apparatus or circuits at the receiving end [1, 2006.01]
H04L 15/26	2-Punkt Untergruppe	... operating only on reception of predetermined code signals, e.g. distress signals, party-line call signals [1, 2006.01]
H04L 15/28	2-Punkt Untergruppe	... Code reproducing apparatus [1, 2006.01]
H04L 15/30	3-Punkt Untergruppe	... Writing recorders [1, 2006.01]
H04L 15/32	3-Punkt Untergruppe	... Perforating recorders [1, 2006.01]

Symbol	Typ	Titel
H04L 15/34	2-Punkt Untergruppe	... Apparatus for recording received coded signals after translation, e.g. as type-characters [1, 2006.01]
<b>H04L 17/00</b>	<b>Hauptgruppe</b>	<b>Apparatus or local circuits for transmitting or receiving codes wherein each character is represented by the same number of equal-length code elements, e.g. Baudot code [1, 2006.01]</b>
H04L 17/02	1-Punkt Untergruppe	. Apparatus or circuits at the transmitting end [1, 2006.01]
H04L 17/04	2-Punkt Untergruppe	... with keyboard co-operating with code-bars [1, 2006.01]
H04L 17/06	3-Punkt Untergruppe	... Contact operating means [1, 2006.01]
H04L 17/08	3-Punkt Untergruppe	... combined with perforating apparatus [1, 2006.01]
H04L 17/10	2-Punkt Untergruppe	... with keyboard co-operating with code-discs [1, 2006.01]
H04L 17/12	2-Punkt Untergruppe	... Automatic transmitters, e.g. controlled by perforated tape [1, 2006.01]
H04L 17/14	3-Punkt Untergruppe	... with optical sensing means [1, 2006.01]
H04L 17/16	1-Punkt Untergruppe	. Apparatus or circuits at the receiving end [1, 2006.01]
H04L 17/18	2-Punkt Untergruppe	... Code selection mechanisms [1, 2006.01]
H04L 17/20	2-Punkt Untergruppe	... using perforating recorders [1, 2006.01]
H04L 17/22	2-Punkt Untergruppe	... using mechanical translation and type-bar printing [1, 2006.01]
H04L 17/24	2-Punkt Untergruppe	... using mechanical translation and type-head printing, e.g. type-wheel, type-cylinder [1, 2006.01]
H04L 17/26	2-Punkt Untergruppe	... using aggregate motion translation [1, 2006.01]
H04L 17/28	2-Punkt Untergruppe	... using pneumatic or hydraulic translation [1, 2006.01]
H04L 17/30	2-Punkt Untergruppe	... using electric or electronic translation [1, 2006.01]
<b>H04L 19/00</b>	<b>Hauptgruppe</b>	<b>Apparatus or local circuits for step-by-step systems [1, 2006.01]</b>
<b>H04L 21/00</b>	<b>Hauptgruppe</b>	<b>Apparatus or local circuits for mosaic printer telegraph systems [1, 2006.01]</b>
H04L 21/02	1-Punkt Untergruppe	. at the transmitting end [1, 2006.01]
H04L 21/04	1-Punkt Untergruppe	. at the receiving end [1, 2006.01]
<b>H04L 23/00</b>	<b>Hauptgruppe</b>	<b>Apparatus or local circuits for telegraphic systems other than those covered by groups H04L 15/00-H04L 21/00 [1, 2006.01]</b>
H04L 23/02	1-Punkt Untergruppe	. adapted for orthogonal signalling [2, 2006.01]
<b>H04L 25/00</b>	<b>Hauptgruppe</b>	<b>Baseband systems [1, 2006.01]</b>
H04L 25/02	1-Punkt Untergruppe	. Details [1, 2006.01]
H04L 25/03	2-Punkt Untergruppe	... Shaping networks in transmitter or receiver, e.g. adaptive shaping networks [2, 2006.01]
H04L 25/04	3-Punkt Untergruppe	... Passive shaping networks [1, 2, 2006.01]
H04L 25/05	2-Punkt Untergruppe	... Electric or magnetic storage of signals before transmitting or retransmitting for changing the transmission rate [7, 2006.01]
H04L 25/06	2-Punkt Untergruppe	... Dc level restoring means; Bias distortion correction [1, 2006.01]
H04L 25/08	2-Punkt Untergruppe	... Modifications for reducing interference; Modifications for reducing effects due to line faults [1, 2006.01]
H04L 25/10	2-Punkt Untergruppe	... Compensating for variations in line balance [1, 2006.01]
H04L 25/12	2-Punkt Untergruppe	... Compensating for variations in line impedance [1, 2006.01]

Symbol	Typ	Titel
H04L 25/14	2-Punkt Untergruppe	... Channel dividing arrangements [1, 2006.01]
H04L 25/17	2-Punkt Untergruppe	... Interpolating arrangements [4, 2006.01]
H04L 25/18	2-Punkt Untergruppe	... Arrangements for inductively generating telegraphic signals [1, 2006.01]
H04L 25/20	2-Punkt Untergruppe	... Repeater circuits; Relay circuits [1, 2006.01]
H04L 25/22	3-Punkt Untergruppe	... Repeaters for converting two wires to four wires; Repeaters for converting single current to double current [1, 2006.01]
H04L 25/24	3-Punkt Untergruppe	... Relay circuits using discharge tubes or semiconductor devices [1, 2006.01]
H04L 25/26	3-Punkt Untergruppe	... Circuits with optical sensing means [1, 2006.01]
H04L 25/28	3-Punkt Untergruppe	... Repeaters using modulation and subsequent demodulation [1, 2006.01]
H04L 25/30	1-Punkt Untergruppe	. Non-synchronous systems [1, 2006.01]
H04L 25/32	2-Punkt Untergruppe	... characterised by the code employed [1, 2006.01]
H04L 25/34	3-Punkt Untergruppe	... using three or more different amplitudes, e.g. cable code [1, 2006.01]
H04L 25/38	1-Punkt Untergruppe	. Synchronous or start-stop systems, e.g. for Baudot code [1, 2006.01]
H04L 25/40	2-Punkt Untergruppe	... Transmitting circuits; Receiving circuits [1, 2006.01]
H04L 25/42	3-Punkt Untergruppe	... using mechanical distributors [1, 2006.01]
H04L 25/44	3-Punkt Untergruppe	... using relay distributors [1, 2006.01]
H04L 25/45	3-Punkt Untergruppe	... using electronic distributors [2, 2006.01]
H04L 25/46	3-Punkt Untergruppe	... using tuning forks or vibrating reeds [1, 2006.01]
H04L 25/48	3-Punkt Untergruppe	... characterised by the code employed (H04L 25/49 takes precedence) [1, 2, 2006.01]
H04L 25/49	3-Punkt Untergruppe	... using code conversion at the transmitter; using predistortion; using insertion of idle bits for obtaining a desired frequency spectrum; using three or more amplitude levels [2, 2006.01]
H04L 25/493	4-Punkt Untergruppe	.... by transition coding, i.e. the time-position or direction of a transition being encoded before transmission [3, 2006.01]
H04L 25/497	4-Punkt Untergruppe	.... by correlative coding, e.g. partial response coding or echo modulation coding [3, 2006.01]
H04L 25/52	2-Punkt Untergruppe	... Repeater circuits; Relay circuits [1, 2006.01]
H04L 25/54	3-Punkt Untergruppe	... using mechanical distributors [1, 2006.01]
H04L 25/56	3-Punkt Untergruppe	... Non-electrical regenerative repeaters [1, 2006.01]
H04L 25/58	3-Punkt Untergruppe	... using relay distributors [1, 2006.01]
H04L 25/60	3-Punkt Untergruppe	... Regenerative repeaters with electromagnetic switches [1, 2006.01]
H04L 25/62	3-Punkt Untergruppe	... using tuning forks or vibrating reeds [1, 2006.01]
H04L 25/64	3-Punkt Untergruppe	... Start-stop regenerative repeaters using discharge tubes or semiconductor devices [1, 2006.01]
H04L 25/66	3-Punkt Untergruppe	... Synchronous repeaters using discharge tubes or semiconductor devices [1, 2006.01]
<b>H04L 27/00</b>	<b>Hauptgruppe</b>	<b>Modulated-carrier systems [1, 2006.01]</b>
H04L 27/01	1-Punkt Untergruppe	. Equalisers [5, 2006.01]

Symbol	Typ	Titel
H04L 27/02	1-Punkt Untergruppe	. Amplitude-modulated carrier systems, e.g. using on/off keying; Single sideband or vestigial sideband modulation (H04L 27/32 takes precedence) [1, 2, 5, 2006.01]
H04L 27/04	2-Punkt Untergruppe	... Modulator circuits; Transmitter circuits [1, 2006.01]
H04L 27/06	2-Punkt Untergruppe	... Demodulator circuits; Receiver circuits [1, 2006.01]
H04L 27/08	2-Punkt Untergruppe	... Amplitude regulation arrangements [1, 2006.01]
H04L 27/10	1-Punkt Untergruppe	. Frequency-modulated carrier systems, i.e. using frequency-shift keying (H04L 27/32 takes precedence) [1, 5, 2006.01]
H04L 27/12	2-Punkt Untergruppe	... Modulator circuits; Transmitter circuits [1, 2006.01]
H04L 27/14	2-Punkt Untergruppe	... Demodulator circuits; Receiver circuits [1, 2006.01]
H04L 27/144	3-Punkt Untergruppe	... with demodulation using spectral properties of the received signal, e.g. by using frequency selective- or frequency sensitive elements [6, 2006.01]
H04L 27/148	4-Punkt Untergruppe	.... using filters, including PLL-type filters [6, 2006.01]
H04L 27/152	4-Punkt Untergruppe	.... using controlled oscillators, e.g. PLL arrangements [6, 2006.01]
H04L 27/156	3-Punkt Untergruppe	... with demodulation using temporal properties of the received signal, e.g. detecting pulse width [6, 2006.01]
H04L 27/16	2-Punkt Untergruppe	... Frequency regulation arrangements [1, 2006.01]
H04L 27/18	1-Punkt Untergruppe	. Phase-modulated carrier systems, i.e. using phase-shift keying (H04L 27/32 takes precedence) [1, 5, 2006.01]
H04L 27/20	2-Punkt Untergruppe	... Modulator circuits; Transmitter circuits [1, 2006.01]
H04L 27/22	2-Punkt Untergruppe	... Demodulator circuits; Receiver circuits [1, 2006.01]
H04L 27/227	3-Punkt Untergruppe	... using coherent demodulation [6, 2006.01]
H04L 27/233	3-Punkt Untergruppe	... using non-coherent demodulation [6, 2006.01]
H04L 27/24	2-Punkt Untergruppe	... Half-wave signalling systems [1, 2006.01]
H04L 27/26	1-Punkt Untergruppe	. Systems using multi-frequency codes (H04L 27/32 takes precedence) [1, 5, 2006.01]
H04L 27/28	2-Punkt Untergruppe	... with simultaneous transmission of different frequencies each representing one code element [1, 2006.01]
H04L 27/30	2-Punkt Untergruppe	... wherein each code element is represented by a combination of frequencies [1, 2006.01]
H04L 27/32	1-Punkt Untergruppe	. Carrier systems characterised by combinations of two or more of the types covered by groups H04L 27/02, H04L 27/10, H04L 27/18, or H04L 27/26 [5, 2006.01]
H04L 27/34	2-Punkt Untergruppe	... Amplitude- and phase-modulated carrier systems, e.g. quadrature-amplitude modulated carrier systems [5, 2006.01]
H04L 27/36	3-Punkt Untergruppe	... Modulator circuits; Transmitter circuits [5, 2006.01]
H04L 27/38	3-Punkt Untergruppe	... Demodulator circuits; Receiver circuits [5, 2006.01]
<b>H04L 29/00</b>	<b>Hauptgruppe</b>	<b>Arrangements, apparatus, circuits or systems, not covered by a single one of groups H04L 1/00-H04L 27/00 [5, 2006.01]</b>
H04L 29/02	1-Punkt Untergruppe	. Communication control; Communication processing (H04L 29/12, H04L 29/14 take precedence) [5, 2006.01]
H04L 29/04	2-Punkt Untergruppe	... for plural communication lines [5, 2006.01]

Symbol	Typ	Titel
H04L 29/06	2-Punkt Untergruppe	... characterised by a protocol [5, 2006.01]
H04L 29/08	3-Punkt Untergruppe	... Transmission control procedure, e.g. data link level control procedure [5, 2006.01]
H04L 29/10	2-Punkt Untergruppe	... characterised by an interface, e.g. the interface between the data link level and the physical level [5, 2006.01]
H04L 29/12	1-Punkt Untergruppe	. characterised by the data terminal [5, 2006.01]
H04L 29/14	1-Punkt Untergruppe	. Counter-measures to a fault [5, 2006.01]