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| 130 | SPREAD SPECTRUM | 228 | .With indicator |
| 131 | .Hybrid form | 229 | EQUALIZERS |
| 132 | .Frequency hopping | 230 | .Automatic |
| 133 | ..End-to-end transmission system | 231 | ..Training period or initial set up |
| 134 | ...Having specific code acquisition or tracking | 232 | ..Adaptive |
| 135 | ..Transmitter | 233 | ...Decision feedback equalizer |
| 136 | ..Receiver | 234 | ...Fractionally spaced equalizer |
| 137 | ...Having specific code acquisition or tracking | 235 | ...Quadrature channels |
| 138 | .Time hopping | 236 | ...Accumulator or up/down counter |
| 139 | .Chirp | 237 | PULSE NUMBER MODULATION |
| 140 | .Direct sequence | 238 | PULSE WIDTH MODULATION |
| 141 | ..End-to-end transmission system | 239 | PULSE POSITION, FREQUENCY, OR SPACING MODULATION |
| 142 | ...Having correlation-type receiver | 240 | BANDWIDTH REDUCTION OR EXPANSION |
| 143 | ...Having matched-filter-type receiver | 240.01 | .Television or motion video signal |
| 144 | ...Having multi-receiver or interference cancellation | 240.02 | ..Adaptive |
| 145 | ...Having specific signaling for code synchronization | 240.03 | ...Quantization |
| 146 | ..Transmitter | 240.04 |Feed forward |
| 147 | ..Receiver | 240.05 |Feed back |
| 148 | ...Multi-receiver or interference cancellation | 240.06 | ...Feed forward |
| 149 | ...Having specific code synchronization | 240.07 | ...Feed back |
| 150 | ...Correlation-type receiver | 240.08 | ..Feature based |
| 151 |Having SAW or charge-transfer device | 240.09 | ...Polygonal approximation |
| 152 |Having SAW or charge-transfer device | 240.1 | ...Separate coders |
| 153 |Having SAW or charge-transfer device | 240.11 |Subband coding |
| 211 | REPEATERS | 240.12 | ..Predictive |
| 212 | .Ring or star configuration | 240.13 | ...Intra/inter selection |
| 213 | .Testing | 240.14 | ...Plural |
| 214 | .Including pulse regeneration or conversion | 240.15 | ...Bidirectional |
| 215 | ..Phase locked loop | 240.16 | ...Motion vector |
| 216 | APPARATUS CONVERTIBLE TO ANALOG | 240.17 |Half-pixel refinement |
| 217 | .Muting circuit and squelch | 240.18 | ..Transform |
| 218 | EARTH OR WATER MEDIUM | 240.19 | ...Wavelet |
| 219 | TRANSCEIVERS | 240.2 | ...Discrete cosine |
| 220 | .Transmission interface between two stations or terminals | 240.21 | ..Subsampling |
| 221 | .Loopback mode | 240.22 | ..Vector quantization |
| 222 | .Modems (data sets) | 240.23 | ..Variable length coding |
| 223 | ..Angle modulation | 240.24 | ..Block coding |
| 224 | TESTING | 240.25 | ..Specific decompression process |
| 225 | .Data rate | 240.26 | ..Associated signal processing |
| 226 | .Phase error or phase jitter | 240.27 | ...Error detection or correction |
| 227 | .Signal noise | 240.28 | ...Synchronization |
| | | 240.29 | ...Pre/post filtering |
| | | 241 | .Pulse code modulation |
| | | 242 | PULSE CODE MODULATION |
| | | 243 | .Correcting or reducing quantizing errors |
| | | 244 | .Differential |
| | | 245 | ..Quantizer or inverse quantizer |
| | | 246 | ..Length coding |
| | | 247 | ..Single bit (delta) |

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| 248 | ...Nonamplitude delta (area, etc.) | 292 | .Disparity reduction |
| 249 | ...Compand (overload prevention) | 293 | .Synchronized |
| 250 |Redundancy removal | 294 | ..Phase locked loop |
| 251 |Syllabic | 295 | TRANSMITTERS |
| 252 | ...Plural feedback loops | 296 | .Antinoise or distortion (includes predistortion) |
| 253 | .Length coding | 297 | ..Power amplifier |
| 254 | .Noise or distortion reduction | 298 | .Quadrature amplitude modulation |
| 256 | PULSE TRANSMISSION VIA RADIATED BASEBAND | 299 | .Plural diversity |
| 257 | CABLE SYSTEMS AND COMPONENTS | 300 | .Amplitude modulation |
| 258 | .Transformer coupling | 301 | ..Single or vestigial sideband or suppressed carrier |
| 259 | SYSTEMS USING ALTERNATING OR PULSATING CURRENT | 302 | .Angle modulation |
| 260 | .Plural channels for transmission of a single pulse train | 303 | ..Frequency shift keying |
| 261 | ..Quadrature amplitude modulation | 304 | ...Antenna tuning with frequency shift |
| 262 | ...Maximum likelihood decoder or viterbi decoder | 305 | ...Minimum shift keying |
| 263 | ...Partial response | 306 | ...One oscillator |
| 264 | ...Multilevel | 307 | ...Two or more oscillators |
| 265 | ...Trellis encoder or Trellis decoder | 308 | ..Phase shift keying |
| 267 | ..Diversity | 309 | .Keying circuits |
| 268 | .Amplitude modulation | 310 | ..Remote controlled |
| 269 | ..With phase or frequency shift keying | 311 | ..Automatic |
| 270 | ..Vestigial or single sideband or suppressed carrier | 312 | ..Power or bias voltage supply keying |
| 271 | .Angle modulation | 313 | ..Key shock or click prevention |
| 272 | ..Frequency shift keying | 314 | ..Including auxiliary control tube |
| 273 | ...Combined with phase shift keying | 315 | ..Modulation by absorption of signal, changing antenna dimension or changing antenna impedance |
| 274 | ...Minimum shift keying | 316 | RECEIVERS |
| 275 | ...More than two frequencies | 317 | .Automatic baseline or threshold adjustment |
| 276 | ...One cycle or less per bit | 318 | ..Differential amplifier |
| 277 | ...Vestigial or single sideband, or suppressed carrier | 319 | ..Automatic bias circuit for DC restoration |
| 278 | ...Antinoise or distortion | 320 | .Amplitude modulation |
| 279 | ..Phase shift keying | 321 | ..Single or vestigial sideband or suppressed carrier |
| 280 | ...More than two phases | 322 | .Angle modulation |
| 281 |Quaternary | 323 | ..Combined phase shift keyed and frequency shift keyed |
| 282 | ...Biphase (manchester codes) | 324 | ..Particular demodulator |
| 283 | ...Differential phase shift keying (diphase) | 325 | ...Including coherent detector |
| 284 | ...Antinoise or distortion | 326 | ..Carrier recovery circuit or carrier tracking |
| 285 | .Antinoise or distortion | 327 | ...Phase locked loop |
| 286 | MULTILEVEL | 328 | ...Including switching or gating (digital circuits) |
| 287 | .With threshold level | 329 | ..Phase shift keying |
| 288 | .Transmission line | 330 | ...Differential (diphase) |
| 289 | .Bipolar signal | | |
| 290 | .Partial response | | |
| 291 | ..Duobinary | | |

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|-----|---|-----|--|
| 331 |More than two phases | 368 | ...Synchronizer pattern recognizers |
| 332 | ...Plural phase (>2) | 369 | ..Start - stop |
| 333 | ...Biphase (manchester code) | 370 | ...With asynchronous data |
| 334 | ..Frequency shift keying | 371 | .Phase displacement, slip or jitter correction |
| 335 | ...More than two frequencies | 372 | ..Elastic buffer |
| 336 | ...Minimum shift keying | 373 | ..Phase locking |
| 337 | ...Separate mark and space channels | 374 | ...With charge pump or up and down counters |
| 338 | .Interrupted carrier wave | 375 | ...With frequency detector and phase detector |
| 339 | ..Carrier controlling local generator | 376 | ...Phase locked loop |
| 340 | .Particular pulse demodulator or detector | 377 | MISCELLANEOUS |
| 341 | ..Maximum likelihood decoder or viterbi decoder | | |
| 342 | ..Locating predetermined portion of pulse | | |
| 343 | ..Correlative or matched filter | | |
| 344 | .Automatic frequency control | | |
| 345 | .Automatic gain control | | |
| 346 | .Interference or noise reduction | | |
| 347 | ..Diversity (frequency or time) | | |
| 348 | ..Intersymbol interference | | |
| 349 | ..Plural signal paths in receiver | | |
| 350 | ..By filtering (e.g., digital) | | |
| 351 | ..Gating, blanking, etc. | | |
| 352 | .With electromagnetic relay or solenoid | | |
| 353 | PULSE AMPLITUDE MODULATION | | |
| 354 | SYNCHRONIZERS | | |
| 355 | .Synchronizing the sampling time of digital data | | |
| 356 | .Network synchronizing more than two stations | | |
| 357 | .Synchronization failure prevention | | |
| 358 | .Feedback, receiver to transmitter | | |
| 359 | .Self-synchronizing signal (self-clocking codes, etc.) | | |
| 360 | ..With transition detector | | |
| 361 | ..Manchester code or biphase code | | |
| 362 | .Frequency or phase control using synchronizing signal | | |
| 363 | ..Synchronization bit insertion into artificially created gaps | | |
| 364 | ..Synchronization signals with unique amplitude, polarity, length, or frequency | | |
| 365 | ..Synchronization word | | |
| 366 | ...Plurality of synchronization words | | |
| 367 | ...Pseudo noise | | |

E-SUBCLASSES

The following subclasses beginning with the letter E are E-subclasses. Each E-subclass corresponds in scope to a classification in a foreign classification system, for example, the European Classification system (ECLA). The foreign classification equivalent to an E-subclass is identified in the subclass definition. In addition to US documents classified in E-subclasses by US examiners, documents are regularly classified in E-subclasses according to the classification practices of any foreign Offices identified in parentheses at the end of the title. For example, "(EPO)" at the end of a title indicates both European and US patent documents, as classified by the EPO, are regularly added to the subclass. E-subclasses may contain subject matter outside the scope of this class. Consult their definitions, or the documents themselves to clarify or interpret titles.

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| E1.001 | SPREAD SPECTRUM TECHNIQUES IN GENERAL (EPO) |
| E1.002 | .Using direct sequence modulation (EPO) |
| E1.003 | ..With code acquisition (EPO) |
| E1.004 | ...Setting of lock conditions, e.g., threshold (EPO) |
| E1.005 | ...Code identification (EPO) |
| E1.006 | ...Multimode search, i.e., using multiple search strategies (EPO) |
| E1.007 | ...Using partial detection (EPO) |

- E1.008Partial correlation (EPO)
- E1.009Partial phase search (EPO)
- E1.01Multistage acquisition (EPO)
- E1.011Multidwell schemes, i.e., multiple accumulation times (EPO)
- E1.012Parallel schemes (EPO)
- E1.013 ...Setting of search window, i.e., range of code offsets to be searched (EPO)
- E1.014 ...Masking/slewing, i.e., jumping within the code (EPO)
- E1.015 ...With increased resolution, i.e., higher than half a chip (EPO)
- E1.016 ..Using a code tracking loop, e.g., a delay locked loop (EPO)
- E1.017 ..With demodulation by means of convolvers, e.g., of the SAW type (EPO)
- E1.018 ..With demodulation by means of matched filters (EPO)
- E1.019 ..With asynchronous demodulation, i.e., not requiring code synchronisation (EPO)
- E1.02 ..Interference-related aspects (EPO)
- E1.021 ...The interference being narrowband (EPO)
- E1.022With estimation filters (EPO)
- E1.023With transform to frequency domain (EPO)
- E1.024The interference being multiple access interference (EPO)
- E1.025Using joint detection techniques, e.g., linear detectors (EPO)
- E1.026Using decorrelation matrix (EPO)
- E1.027Using minimum mean squared error (MMSE) detector (EPO)
- E1.028Using maximum-likelihood sequence estimation (MLSE) (EPO)
- E1.029Using subtractive interference cancellation (EPO)
- E1.03Successive interference cancellation (EPO)
- E1.031Parallel interference cancellation (EPO)
- E1.032 ...The interference being multi path interference, e.g., RAKE receivers (EPO)
- E1.033 .Using frequency hopping (EPO)
- E1.034 ..Arrangements for generation of hop frequencies (EPO)
- E1.035 ..Arrangements for generation of hop sequences (EPO)
- E1.036 ..Interference related aspects (EPO)
- E1.037 ..Arrangements for sequence synchronization (EPO)
- E7.001 **SYSTEMS FOR THE TRANSMISSION OF TELEVISION SIGNALS USING PULSE CODE MODULATION (EPO)**
- E7.002 .Arrangements for interfacing to the transmission channel or to the communication network (EPO)
- E7.003 .Bitstream control arrangements (EPO)
- E7.004 ..Involving pointers to the video stream (EPO)
- E7.005 ..Involving the control of media objects (EPO)
- E7.006 ...Presentation therefor, e.g., on the basis of a scene description (EPO)
- E7.007 ...User interaction therefor (EPO)
- E7.008With hot-spots (EPO)
- E7.009Intellectual Property Rights management and protection therefor (EPO)
- E7.01 ...Synchronization therefor, e.g., synchronization of elementary stream objects at the sync layer with time stamps (EPO)
- E7.011 ..Involving control of the complexity properties of the video bitstream, e.g., spatial or temporal resolution, SNR, bit rate, region of interest selection (EPO)
- E7.012 ...Where the control is performed by the receiver of the video, e.g., active selection by the receiver from a scalable bitstream or selective multicast subscription (EPO)

- E7.013 ...Where the control is performed by the transmitter of the video, e.g., active selection by the transmitter of parts of scalable bitstream to be sent (EPO)
- E7.014 ..Involving buffer level management (EPO)
- E7.015 ..Involving a control signal to the decoder, e.g., from the medium specific interface unit, or from the network (EPO)
- E7.016 ..Involving a control signal to the encoder, e.g., from the medium specific interface unit, or from the network (EPO)
- E7.017 ..Involving an exchange of control commands (EPO)
- E7.018 .Bitstream embedding arrangements, e.g. arrangements for blending, replacing, hiding, compositing or associating at bitstream level (EPO)
- E7.019 .Bitstream network arrangements (EPO)
- E7.020 .Bitstream transport arrangements (EPO)
- E7.021 ..Bitstream processing (EPO)
- E7.022 ...Involving modification of bitstream parameters, e.g., restamping of time stamps, remapping of identifiers transmultiplexing (EPO)
- E7.023 ...Involving switching between bitstreams (EPO)
- E7.024 ..Involving transporting of additional information over the bitstream (EPO)
- E7.025 ..Involving transporting of the bitstream over a delivery medium (EPO)
- E7.026 .Using bandwidth reduction ; source coding or decoding of digital video signal, e.g., digital video signal compression; Pre- or postprocessing therefor (EPO)
- E7.027 ..Decoder-specific arrangements (EPO)
- E7.028 ...For compensating inverse transform mismatch, e.g., IDCT mismatch (EPO)
- E7.029 ..Involving sub-band coding (EPO)
- E7.030 ...In combination with temporal predictive coding, e.g., in 'inter' mode (EPO)
- E7.031With motion compensated temporal filtering (EPO)
- E7.032With at least one adaptive element (EPO)
- E7.033Involving variable length or entropy coding, e.g., Huffmann or arithmetic coding (EPO)
- E7.034Involving normalization or quantizing (EPO)
- E7.035Involving a bit-rate or bit-amount target (EPO)
- E7.036With adaptive target allocation among the components (EPO)
- E7.037With interframe prediction not only of coefficient values (EPO)
- E7.038Suited to an interframe bitstream syntax (EPO)
- E7.039Using sub-band domain temporal integration (EPO)
- E7.040 ...Of a single image (EPO)
- E7.041In more than two frequency dimensions (EPO)
- E7.042Of arbitrarily shaped image segments (EPO)
- E7.043With details relating to the sub-band filter (EPO)
- E7.044Concerning filter definition (EPO)
- E7.045Concerning filter implementation (EPO)
- E7.046With at least one adaptive element (EPO)
- E7.047Involving variable length or entropy coding, e.g., Huffmann or arithmetic coding (EPO)
- E7.048Involving normalization or quantizing (EPO)
- E7.049Involving a bit-rate or bit-amount target (EPO)
- E7.050With adaptive target allocation among the components (EPO)
- E7.051Control aspects therefor (EPO)
- E7.052Controlled element (EPO)
- E7.053Subband structure, e.g., number of subbands (EPO)
- E7.054Filter type or filtering coefficients (EPO)

- E7.055Error protection, detection or correction (EPO)
- E7.056Scan or transmission order of coefficients or bitplanes (EPO)
- E7.057Switching of direction, e.g., horizontal, diagonal, vertical (EPO)
- E7.058Unit of control (EPO)
- E7.059Relating to sub-band structure (EPO)
- E7.06Hierarchical level (EPO)
- E7.061Directional tree, e.g., low-high (LH), high-low (HL), high-high (HH) (EPO)
- E7.062Object or region (EPO)
- E7.063Element used for control (EPO)
- E7.064Position or location within image, e.g., center or periphery of picture (EPO)
- E7.065Involving user interaction or information input by receiving side (EPO)
- E7.066With prediction other than mere runlength (EPO)
- E7.067Intraband (EPO)
- E7.068Interband (EPO)
- E7.069Involving the arranging of coefficients or bits, e.g., for scalability or progressive transmission (EPO)
- E7.07Involving scan according to levels, e.g., breath-first (EPO)
- E7.071Involving scan according to trees, e.g., depth-first (EPO)
- E7.072Coding of bitplanes or significance, e.g., zero tree (EPO)
- E7.073Involving error protection, detection or correction (EPO)
- E7.074Suited to a bitstream syntax (EPO)
- E7.075With grouping into blocks (EPO)
- E7.076 ...Involving video objects (EPO)
- E7.077 ...Involving both synthetic and natural picture components, e.g., synthetic natural hybrid coding (SNHC) (EPO)
- E7.078 ...Scalability, e.g., involving base and at least one enhancement video object layers (VOL) (EPO)
- E7.079Spatial scalability (EPO)
- E7.08Temporal scalability, e.g., layered VOP frame rate (EPO)
- E7.081 ...Shape coding therefor (EPO)
- E7.082Using binary alpha-plane coding, e.g., Context based Arithmetic Encoding (CAE) (EPO)
- E7.083 ...Model based coding therefor (EPO)
- E7.084Using a three-dimensional model (EPO)
- E7.085 ...Coding of regions that are present throughout a whole video segment, e.g., sprites (EPO)
- E7.086Of static sprites, e.g., background, mosaic (EPO)
- E7.087 ...Scene description coding, e.g., binary format for scenes (BIFS) compression (EPO)
- E7.088 ..Involving coding of different picture or data components (EPO)
- E7.089 ...Involving the insertion of extra data, e.g., in the video data, in the coding parameters or by modification of said video data or parameters (EPO)
- E7.09 ...Involving separate coding of the error signal, i.e., the difference between the original picture and the locally reconstructed one (EPO)
- E7.091 ...Involving arrangements for adaptive allocation of coded information to different channels (EPO)
- E7.092 ...Involving multi-layer decomposition; subsequent reconstruction (EPO)
- E7.093 ..Implementation arrangements, e.g., implementation by hardware or software (EPO)
- E7.094 ...Memory arrangements (EPO)
- E7.095 ...Memory downsizing methods (EPO)
- E7.096Display on the fly, e.g., simultaneous writing to and reading from decoder memory (EPO)
- E7.097With 3:2 pulldown (EPO)
- E7.098Recompression (EPO)
- E7.099Decimation (EPO)

- E7.1 ...Motion estimation and/or compensation hardware (EPO)
- E7.101Data flow inside motion estimator (EPO)
- E7.102Access to external memory (EPO)
- E7.103 ...Parallel arrangements (EPO)
- E7.104 ..Motion estimation therefor; processing of motion vectors for bandwidth reduction purposes (EPO)
- E7.105Methods (EPO)
- E7.106Global motion vector estimation (EPO)
- E7.107Multiresolution or hierarchical method (EPO)
- E7.108Multistep search method, e.g., 3-step, 2D-log, One-at-a-Time Search (OTS) (EPO)
- E7.109Nonblock-based processing (EPO)
- E7.11Using feature points or meshes (EPO)
- E7.111Using regions (EPO)
- E7.112Contour motion estimation (EPO)
- E7.113Sub-pixel accuracy (EPO)
- E7.114Transform domain motion estimation (EPO)
- E7.115 ...Details (EPO)
- E7.116Spatially constrained motion estimation, e.g., at image or region borders (EPO)
- E7.117Dealing with occlusions (EPO)
- E7.118Early exit, i.e., stopping a systematic computation based on a certain criteria, e.g., error magnitude is too large (EPO)
- E7.119Search initialization, i.e., estimating a good candidate to initiate a search (EPO)
- E7.12Padding, i.e., filling nonobject values in an arbitrary shaped block for motion estimation purposes (EPO)
- E7.121Rate-distortion criteria (EPO)
- E7.122Variable search window size or shape (EPO)
- E7.123 ...Processing of motion vectors (EPO)
- E7.124Encoding (EPO)
- E7.125Predictive encoding (EPO)
- E7.126 ..Adaptive or control aspects therefor (EPO)
- E7.127 ...Methods, elements or tools for adaptive control (EPO)
- E7.128LaGrangian method (EPO)
- E7.129Side information (EPO)
- E7.13Iterative methods (EPO)
- E7.131Two pass methods (EPO)
- E7.132 ...Controlled element or parameter (EPO)
- E7.133Predictor (EPO)
- E7.134Target code amount (EPO)
- E7.135Filtering, e.g., for pre- or post-processing (EPO)
- E7.136Grid, i.e., regular pattern of elementary coding units in a picture, e.g., block grid (EPO)
- E7.137Encoder, i.e., selection among a plurality of heterogeneous encoders (EPO)
- E7.138Encoding parameters processing, e.g., initialization, alteration, compression (EPO)
- E7.139Quantizer (EPO)
- E7.14Details of quantization, normalization or weighting functions, e.g., normalization parameters or matrices, variable uniform quantizes, weighting matrices (EPO)
- E7.141Resource allocation (EPO)
- E7.142Transform coefficients scan, e.g., zig-zag scan (EPO)
- E7.143Transformer, e.g., 8x8 or 2x4x8 DCT, selection among a plurality of different transform operations (EPO)
- E7.144Variable length coding (VLC) or entropy coding, e.g., Huffmann or arithmetic coding (EPO)
- E7.145Skipping or zeroing of coding units, e.g., adaptive decimation, frame skipping, transform coefficient masking (EPO)
- E7.146Coding or prediction mode selection (EPO)
- E7.147Intra coding, e.g., selection among a plurality of spatially predictive coding modes (EPO)

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| E7.148 |Refresh, i.e., intra-coding mode decision, e.g., at macroblock or picture level (EPO) | E7.175 | ...Unit of control, i.e., structural or semantic portion of the video signal being the object of the control (EPO) |
| E7.149 |Inter coding, i.e., selection among a plurality of temporally predictive coding modes (EPO) | E7.176 |Block or macroblock (EPO) |
| E7.15 |Picture structure, e.g., interlaced/progressive (EPO) | E7.177 |Transform coefficient (EPO) |
| E7.151 |Group-of-pictures (GOP) structure (EPO) | E7.178 |Pixel (EPO) |
| E7.152 | ...Controlling element, parameter or criteria (EPO) | E7.179 |Group-of-pictures (GOP) (EPO) |
| E7.153 |Rate distortion criteria (EPO) | E7.18 |Slice, e.g., line of blocks, group of blocks (EPO) |
| E7.154 |Data rate or code amount (EPO) | E7.181 |Picture (EPO) |
| E7.155 |Using a combination of feedforward and feedback control (EPO) | E7.182 |Image region, e.g., region of interest (ROI), object (EPO) |
| E7.156 |Using feedforward control (EPO) | E7.183 |Scene or shot (EPO) |
| E7.157 |Based on model-estimated code amount (EPO) | E7.184 |Bit (EPO) |
| E7.158 |Based on off-line generated code amount (EPO) | E7.185 |Chrominance (EPO) |
| E7.159 |Feedback control, i.e., control using output code amount, e.g., buffer fullness (EPO) | E7.186 |Layer (EPO) |
| E7.16 |Single-pass constant bit rate (CBR) encoding (EPO) | E7.187 | ..Compressed domain processing (EPO) |
| E7.161 |Input video signal characteristics (EPO) | E7.188 | ..Involving subsampling at the transmitter and restitution of the omitted samples by interpolation (EPO) |
| E7.162 |Complexity, e.g., activity, edges (EPO) | E7.189 | ..Involving preprocessing or postprocessing therefor (EPO) |
| E7.163 |Motion, e.g., field or frame difference (EPO) | E7.19 | ...Involving reduction of coding artifacts, e.g., of blockiness (EPO) |
| E7.164 |Using motion vectors (EPO) | E7.191 | ...Involving cinematographic video sequences, e.g., sequences originated from film and converted to video through 3:2 pulldown (EPO) |
| E7.165 |Scene cut (EPO) | E7.192 | ...Involving scene cut detection in conjunction with bandwidth reduction (EPO) |
| E7.166 |Chrominance (EPO) | E7.193 | ..Filtering (EPO) |
| E7.167 |Visual quality (EPO) | E7.194 | ...In a prediction loop (EPO) |
| E7.168 |Resource availability (EPO) | E7.195 | ..Standard related document (EPO) |
| E7.169 |Coding mode (EPO) | E7.196 | ...Normative references, e.g., working documents of standardization bodies like ISO/IEC, ITU-T, SMPTE in the domain of digital image and video coding (EPO) |
| E7.17 |Picture or macroblock type, e.g., I,P,B (EPO) | E7.197 | ...Illustrative references, e.g., overviews, reviews (EPO) |
| E7.171 |Picture structure, e.g., interlaced/progressive (EPO) | E7.198 | ..Transcoding therefor, i.e., conversion of video data, coding parameters, syntax or the like in order to realize interoperability between different video coding standards (EPO) |
| E7.172 |User input (EPO) | | |
| E7.173 |Receiver or channel (EPO) | | |
| E7.174 |Transmission errors (EPO) | | |

- E7.199 ..Syntax aspects, e.g., source coding bitstream syntax (EPO)
- E7.209 ..Using vector coding (EPO)
- E7.21 ..Involving pulse code modulation and predictive coding (EPO)
- E7.211 ..Involving transform and predictive coding, e.g., hybrid coding, Motion Picture Experts Group (MPEG) coding (EPO)
- E7.212 ...Involving the use of at least one adaptive element (EPO)
- E7.213Involving variable length or entropy coding, e.g., Huffmann or arithmetic coding (EPO)
- E7.214Quantization, normalization or weighting techniques therefor, e.g., normalization parameters or matrices, variable uniform quantizers, weighting matrices (EPO)
- E7.215The output data rate being minimized down to or below the channel capacity (EPO)
- E7.216With feedback control only of the data rate, e.g., buffer fullness being used (EPO)
- E7.217With feedforward control only of the data rate, e.g., formation amount estimator or sorter being used (EPO)
- E7.218With feedforward and feedback control of the data rate (EPO)
- E7.219With iterative control of the data rate, e.g., multipass (EPO)
- E7.22Involving adaptive allocation of the frame type, e.g., adaptive group-of-pictures (GOP) structure (EPO)
- E7.221Motion adaptive (EPO)
- E7.222 ...Multiplexing arrangements therefor, e.g., suited to a video bitstream syntax (EPO)
- E7.223 ...Using nontransform coding for certain blocks (EPO)
- E7.224 ...Forced updating therefor, e.g., refresh techniques, intra/inter-coding mode selection at macroblock or picture level (EPO)
- E7.225 ...Using transform domain integration, i.e., the transform being operated outside the prediction loop (EPO)
- E7.226 ..Involving transform coding, e.g., using discrete cosine transform (DCT) (EPO)
- E7.227 ...Transforming in more than two dimensions (EPO)
- E7.228 ...Of arbitrarily shaped image segments (EPO)
- E7.229 ...Involving the use of at least one adaptive element, e.g., Joint Photographic Experts Group (JPEG) coding (EPO)
- E7.23Adaptive scanning order of DCT coefficients, e.g., alternate scanning (EPO)
- E7.231Involving variable length or entropy coding, e.g., Huffmann or arithmetic coding (EPO)
- E7.232Quantization, normalization or weighting techniques therefor, e.g., normalization parameters or matrices, variable uniform quantizes, weighting matrices (EPO)
- E7.233The output data rate being minimized down to or below the channel capacity (EPO)
- E7.234With feedback control only of the data rate, e.g., buffer fullness being used (EPO)
- E7.235With feedforward control only of the data rate, e.g., information amount estimator or sorter being used (EPO)
- E7.236With feedforward and feedback control of the data rate (EPO)
- E7.237With iterative control of the data rate (EPO)
- E7.238The output quality being above a minimum (EPO)
- E7.239 ...Involving hierarchical transmission of the transform coefficients, e.g., progressive JPEG (EPO)
- E7.24 ...Involving error detection or error correction (EPO)
- E7.241 ...Involving pre-processing of the picture element samples before transform coding or post-processing of the same after transform decoding (EPO)

- E7.242 ...Involving zonal sampling (EPO)
- E7.243 ..Involving predictive coding (EPO)
- E7.244 ...At least one coding element being controlled by the buffer fullness (EPO)
- E7.245 ...With an adaptive quantizer characteristic, e.g., controlled by forward or backward adaptation (EPO)
- E7.246 ...With error correction (EPO)
- E7.247 ...Involving delta modulation (EPO)
- E7.248 ...Using subsampling at the coder or sample restitution by interpolation at the coder or decoder (EPO)
- E7.249With adaptive prediction (EPO)
- E7.25With motion compensated interpolation, e.g., involving bidirectional frame interpolation, i.e., use of B-pictures (EPO)
- E7.251Involving a generalized motion field, e.g., nonblock-based processing (EPO)
- E7.252Involving spatial subsampling or upsampling; Alteration of picture size or resolution (EPO)
- E7.253Involving temporal subsampling, e.g., frame decimation (EPO)
- E7.254With control of frame rate, skipping or repetition at encoding or decoding side (EPO)
- E7.255 ...Using temporal prediction (EPO)
- E7.256Using motion compensation, e.g., by means of motion vectors (EPO)
- E7.257Long-term prediction (EPO)
- E7.258Block-based (EPO)
- E7.259Using overlapping blocks (EPO)
- E7.26With sub-pixel accuracy (EPO)
- E7.261Nonblock-based (EPO)
- E7.262Multiple frame prediction (EPO)
- E7.263Using motion detection, e.g., with detection of moving zones (EPO)
- E7.264Involving conditional replenishment (EPO)
- E7.265 ...Using spatial prediction (EPO)
- E7.266By separate coding of pixel blocks (EPO)
- E7.2 ..Specific techniques not provided for in other subgroups of E7.026 (EPO)
- E7.201 ...Involving N-Tree coding, e.g., quadtree, octree (EPO)
- E7.202 ...Involving run length coding (EPO)
- E7.203 ...Involving matching pursuit (EPO)
- E7.204 ...Involving fractal coding (EPO)
- E7.205 ...Adaptive dynamic range coding (ADRC) (EPO)
- E7.206 ...Involving both PCM encoding and DPCM encoding (EPO)
- E7.207 ...Using a dither signal (EPO)
- E7.208 ...Using noise or error feedback, e.g., quantization noise feedback (EPO)
- E7.267 .Systems for transmission of a pulse code modulated video signal with one or more other pulse code modulated signals, e.g., an audio signal, a synchronizing signal (EPO)
- E7.268 ..Involving more than one video signal (EPO)
- E7.269 ...The signals being asynchronous (EPO)
- E7.27 ...The signals being synchronous (EPO)
- E7.271 ..Said other signal being a related audio signal (EPO)
- E7.272 ..Said other signal being a private data stream, e.g., teletext, graphics (EPO)
- E7.273 ..According to geometrical constraints of the communication medium, e.g., data formatting for subsequent transmission to a digital storage medium (EPO)
- E7.274 ..Isochronously with the horizontal video sync, e.g., according to bit-parallel or bit-serial interface formats, as SMPTE 259M (EPO)
- E7.275 ..The signals being synchronous (EPO)
- E7.276 ...Synchronizing systems therefor (EPO)

- E7.277 ..The signals being asynchronous
(EPO)
- E7.278 ...Synchronizing systems therefor
(EPO)
- E7.279 .Systems for detection or
correction of transmission
errors (EPO)
- E7.28 ..Using redundant codes (EPO)
- E7.281 ..Using error concealment (EPO)

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Any foreign patents or non-patent literature from subclasses that have been reclassified have been transferred directly to FOR Collections listed below. These Collections contain ONLY foreign patents or non-patent literature. The parenthetical references in the Collection titles refer to the abolished subclasses from which these Collections were derived.

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- FOR 102 .Frequency hopping (375/202)
- FOR 103 .Time hopping (375/203)
- FOR 104 .Pulsed FM or chirp (375/204)
- FOR 105 .Direct sequence (375/206)
- FOR 106 .Matched filter (375/207)
- FOR 107 .Pseudo-noise correlation (375/
208)
- FOR 108 ..Auto-correlation (375/209)
- FOR 109 ..Cross-correlation (375/210)

