The following classification changes will be effected by this order:

<table>
<thead>
<tr>
<th>Class</th>
<th>Subclass</th>
<th>Art Unit</th>
<th>Ex’r Search</th>
<th>Room No.</th>
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<tbody>
<tr>
<td>Abolished:</td>
<td>None</td>
<td></td>
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</table>

No other classes are impacted by this order:

This order includes the following:

A. CLASSIFICATION MANUAL CHANGES
B. CHANGES TO THE U.S.-I.P.C. CONCORDANCE
D. DEFINITION CHANGES AND NEW OR ADDITIONAL DEFINITIONS
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<tr>
<th>Code</th>
<th>Description</th>
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<td>Over wireless communication</td>
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<td>14.03</td>
<td>User interface (E.G., touch screen menu)</td>
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<td>14.04</td>
<td>Operating with other appliance (E.G., TV, VCR, FAX, etc.)</td>
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<td>14.05</td>
<td>Remote control</td>
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<td>14.09</td>
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<td>Transmission control (E.G., resolution or quality)</td>
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<td>Field or frame difference (E.G., moving frame)</td>
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<td>14.16</td>
<td>User positioning (E.G., parallax)</td>
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<td>21</td>
<td>Plural transmitter system considerations (E.G., interference reduction)</td>
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<td>Slow scanning transmission (E.G., still frame)</td>
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<td>Color TV</td>
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<td>24</td>
<td>Plural still images over conventional channel</td>
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<td>25</td>
<td>Image falsification to improve viewer perception of selective object (E.G., moving object or target)</td>
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<td>Contour generator</td>
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<td>Quantizer</td>
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<td>Selective contrast expander</td>
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<td>True expander</td>
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<td>Back scatter reduction</td>
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<td>32</td>
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<td>33</td>
<td>Multispectral to color conversion (E.G., infrared and visible, infrared bands, etc.)</td>
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<td>34</td>
<td>Including intensity to color conversion (E.G., colorizer, etc.)</td>
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<td>35</td>
<td>Pseudo black and white panoramic</td>
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<td>With continuously rotating element</td>
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<td>Multiple channels</td>
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<td>With observer selected field of view</td>
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<td>Holographic</td>
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<td>Color TV</td>
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<td>Signal formatting</td>
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<td>Pseudo endoscope</td>
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<td>Picture signal generator</td>
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<td>Multiple cameras</td>
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<td>More than two cameras</td>
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<td>Single camera with optical path division</td>
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<td>Single camera from multiple positions</td>
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<td>49</td>
<td>Stereoscopic display device</td>
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<tr>
<td>50</td>
<td>More than two display devices</td>
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</table>

Special Applications:
- Aid for the blind
- Image magnifying
- Combined electronic sensing and photographic film cameras
- With endoscope
- Dental
- Laser
- Illumination
- Controlled by video signal
- Color sequential illumination
- Color TV
- Plural endoscopes interchangeable
- External camera
- With additional adjunct (E.G., recorder control, etc.)
- Adaptor or connector
- Physical structure of circuit element
- Human body observation
- Eye
- Microscope
- Electronic
- Underwater
- Hazardous or inaccessible
- Furnace (E.G., nuclear reactor, etc.)
- Pipeline
- Borehole
- Manufacturing
- Electronic circuit chip or board (E.G., positioning)
- Web, sheet or filament
- Agricultural or food production
- Welding
- Sorting, distributing or classifying
- Quality inspection
- Color TV
- Position detection
- Alignment or positioning
- Film, disc or card scanning
- Motion picture film scanner
- Mechanical optical scanning
- Flying spot scanner
- Color TV
- Intermittent film movement
- With modification of scanner sweep
- Color TV
- Intermittent film movement
- With modification of scanner sweep
- With record location
CLASS 348 TELEVISION

SPECIAL APPLICATIONS

Film, disc or card scanning
Flying spot scanner
Color TV
Slide
Color TV
Microfilm
Navigation
Remote control
Road-up display
Direction finding or location determination
Aircraft or spacecraft
Land vehicle
Program control (e.g., path guidance, etc.)

Farm vehicle
Simulator
Visibility (e.g., fog, etc.)
Aircraft or spacecraft
Ship
Flaw detector
Of electronic circuit chip or board
Of transparent container or content (e.g., bottle, jar, etc.)
Of surface (e.g., texture or smoothness, etc.)
By comparison with reference object
With stored representation of reference object
With specific illumination detail
With strobe illumination
With circuit detail
Including line to line comparison
Object or scene measurement
Projected scale on object
Scale on camera target
Pulse or clock counting
Multiple cameras on baseline (e.g., range finder, etc.)
Distance by apparent target size (e.g., stadia, etc.)
By cursor coordinate location
With camera and object moved relative to each other
Observation of or from a specific location (e.g., surveillance)
Aerial viewing
With linear array
With rotating reflector
With transformation or rectification
Vehicle
Traffic monitoring
Point of sale or banking
Camera concealment
Intrusion detection
Using plural cameras
Motion detection
Motion detection
Access control
Sporting event
Portable
Plural cameras

RESPONSIVE TO NONVISIBLE ENERGY

Sonic or ultrasonic
Infrared
Pyroelectric
With linear array
With rotating reflector
With rotating reflector
OBJECT TRACKING
Using tracking gate
Centroidal tracking
Centroidal tracking
CATHODE-RAY TUBE BURN-IN PREVENTION
Camera
CAMERA WITH BUILT-IN TEST SIGNAL
GENERATOR, TEST PATTERN, OR ADJUSTING ADJUNCT
Setup
DISPLAY OR RECEIVER WITH BUILT-IN TEST SIGNAL GENERATOR, TEST PATTERN, OR ADJUSTING ADJUNCT
Setup
Color match comparator
MONITORING, TESTING, OR MEASURING
Test signal generator
Chrome or color bar
VITS or ILTS
Monitor
Combined plural functions (e.g., picture and waveform monitor)
Vectorscope
Testing of camera
Using test chart
Testing of image reproducer
Alignment-manufacturing
Display photometry
Transmission path testing
Signal to noise ratio
Synchronization (e.g., H-sync to subcarrier)
MECHANICAL OPTICAL SCANNING
Color TV
With fiber optics
By acoustic wave
Moving aperture
Drum or belt
Multiple scanning elements
Moving lens or refractor
Moving reflector
Helical element
Vibrating or oscillating
SPECIAL SCANNING (E.G., SPIRAL, RANDOM, ZIGZAG)

CAMERA, SYSTEM AND DETAIL
Camera connected to computer
Computer can control camera
Camera connected to printer
Camera image stabilization
Electrical motion detection

# Title Change
* Newly Established Subclass

JANUARY 2007

& Position Change
Camera, System and Detail

- Camera image stabilization
  - Mechanical motion detection (gyros, accelerometers, etc.)
  - Differentiating unintentional from purposeful camera movement (pan, tilt)
  - Motion correction
    - Including both electrical and mechanical correcting devices
    - Electrical (memory shifting, electronic zoom, etc.)
    - Mechanical
      - Variable angle prisms
      - Optics, lens shifting
  - Combined with other camera operations (e.g., autofocus or autoexposure details)
  - Motion correction plus resolution enhancement
  - Object tracking
  - Warning/indicator
  - Changing camera function based on motion detection (mode, power supply)
  - With flying spot scanner
  - For color scanning
  - Remote control
  - Communication methods
  - Wireless
  - Network (master/slave, client or server, etc.)
  - Control devices
  - Multiplexed or other embedded control signals
  - Preprogrammed or stored control instructions
  - Electromechanical controls (joystick, trackball, mouse, etc.)
  - Monitor used to control remote camera
  - Camera characteristics affecting control (zoom angle, distance to camera, time delays, weight, etc.)
  - Plural cameras being controlled
  - Video teleconferencing (including access or authorization)
  - Monitor (including for controlling camera)
  - Camera located remotely from image processor (i.e., camera head)
  - With streak device
  - Low light level
  - With image intensifier
  - Unitary image formed by compiling sub-areas of same scene (e.g., array of cameras)
  - Swing driven
  - Still and motion modes of operation
  - Exposure control
  - Combined image signal generator and general image signal processing
  - Color balance (e.g., white balance)
  - Dependent upon operation or characteristic of iris, flash, lens, or filter

- With means for preventing colored object from effecting color balance
- Including flicker detection (e.g., fluorescent)
- With ambient light sensor
- Responsive to output signal
- Combined automatic gain control and exposure control (i.e., sensitivity control)
- Readout of solid-state image sensor considered or altered
- With details of static memory for output image (e.g., for a still camera)
- Available memory space detection
- Image file management
- Storage of additional data
- Audio
- Time or date, annotation
- Processing or camera details
- Detachable
- Multiple detachable memories
- Details of communication between memory and camera
- Zoom
- Using both optical and electronic zoom
- Electronic zoom
- Optical zoom
- Details of luminance signal formation in color camera
- With means for providing high band and low band luminance signals
- Using distinct luminance image sensor
- For single sensor type camera supplying plural color signals
- Using distinct luminance image sensor
- Camera and video special effects (e.g., subtitles, fading, or merging)
- Including noise or undesired signal reduction
- Color TV
- Dark current
- With control of sensor temperature
- Using dummy pixels
- Defective pixel (e.g., signal replacement)
- With memory of defective pixels
- Smear
- In charge coupled type sensor
- In charge coupled type sensor
- Shading or black spot correction
- With transition or edge sharpening (e.g., aperture correction)
- Color TV
- Gray scale transformation (e.g., gamma correction)
- Amplitude control (e.g., automatic gain control)
- Color TV (e.g., saturation)
- With DC level control
COMBINED IMAGE SIGNAL GENERATOR AND GENERAL IMAGE SIGNAL PROCESSING

With DC level control

Combined with color separating optical system

For single scanning device color camera

Plural bias illuminators

With plural image scanning devices

Color imagery registration

Scanning devices offset in the image plane

Each supplying only one color signal

With single image scanning device supplying plural color signals

Separate complete images on face of pickup device

Color sequential

With color sequential illumination

With moving color filters

Four or more color types

Solid-state multicolor image sensor

With color filter or operation according to color filter

Having overlapping elements

Staggered or irregular elements

Including transparent elements

Based on more than four colors

Based on four colors

Based on three colors

X-Y architecture

Charge coupled architecture

With multiple output registers

Cathode-ray tube

Phase separable signals

With indexing

Conductive grid at target

Index elements outside of image area

Frequency separable signals

Specified optical filter arrangement

Combined with grating, lens, array, or refractor

Having diagonally arranged stripes

Interdigital signal electrodes

Solid-state image sensor

Time delay and integration mode (TDI)

Electronic shuttering

Accumulation or integration time responsive to light or signal intensity

In charge coupled type image sensor

With overflow gate or drain

With amplifier

Pixel amplifiers

X - Y architecture

With charge transfer type output register

With charge transfer type selecting register

With interlacing

Charge injection device (CID)

Photosensitive switching transistors or "static induction" transistors

Including switching transistor and photocell at each pixel site (e.g., "MOS-type" image sensor)

Exclusively passive light responsive elements in the matrix

With diode in series with photocell

Charge-coupled architecture

With timing pulse generator

With bias charge injection

With excess charge removal (e.g., overflow drain)

With staggered or irregular photosites or specified channel configuration

Charges transferred to opposed registers

Field or frame transfer type

With recirculation of charge

Charges alternately switched from vertical registers into separate storage registers; or having vertical transfer gates

Interline readout

Using multiple output registers

Interline readout

Using multiple output registers

Line transfer type

Cathode-ray tube

Automatic beam focusing or alignment

Automatic beam current control

Remainder image erasure

With emissive target or photocathode (e.g., orthicon)

Dissector tube

With photoductive target (e.g., vidicon)

Array of photocells (i.e., nonsolid-state array)

With electronic viewfinder or display monitor

With display of additional information

Including display of a frame and line of sight determination

Including warning indication

Display of multiple images (e.g., thumbnail images, etc.)

Moveable or rotatable unit

Detachable

Including optics

With optical viewfinder (e.g., correction for parallax, etc.)

With projector function

Use for previewing images (e.g., variety of image resolutions, etc.)

Modification of displayed image

Power saving mode

Optics

Color separating optics
CAMERA, SYSTEM AND DETAIL

.Optics
..Color separating optics
. ..Prism arrangement
. . ..With dichroic layer or air gap between prism sections
. . ..Exclusively dichroic elements
. . . ..With optics peculiar to solid-state sensor
. . ..Optical viewfinder
. . ..With frequency selective filter (e.g., IR cut, optical LPF, etc.)
. . ..Optical multiplexing
. . ..Optical path switching
. . ..Focus control
. . ..With display of focusing condition or alarm
. . ..With zoom position detection or interrelated iris control
. . ..Using active ranging
. . ..Using image signal
. . . ..With auxiliary sensor or separate area on imager
. . ..With oscillation of lens or sensor to optimize error signal
. . ..With motion detection
. . ..By detecting contrast
. . ..By analyzing high frequency component
. . .....Plural high frequencies
. . .....Device of peak or slope of image signal
. . ...Servo unit structure or mechanism
. . ..Fiber optics
. . ..Lens or filter substitution
. . ..Automatic Exposure control
. . ..Automatic control of iris, stop, or diaphragm
. . ...Based on image signal
. . ...Contrast
. . ...Based on ambient light
. . ...Periodic shuttering
. . ...Rotary
. . ...Changing viewing angle via optics
. . ...With object or scene illumination
. . ...Flash or strobe
. . ...Power supply
. . ...Support or housing
. . ...For internal camera components
. . ...For specified accessory
. . ...Portable or hand-held

CATHODE-RAY TUBE DISPLAY EXCESSIVE VOLTAGE CONTROL

..With disabling

CATHODE-RAY TUBE DISPLAY AUTOMATIC BLACK LEVEL RIAS CONTROL

CATHODE-RAY TUBE DISPLAY BEAM CURRENT CONTROL

..With beam energy determining color
..Variable depth of penetration of electron beam into the luminescent layer

MODULAR IMAGE DISPLAY SYSTEM

# Title Change
* Newly Established Subclass

348.1 BANDWIDTH REDUCTION SYSTEM
384.1 ...Plural video programs in single channel
385.1 ...Color television
386.1 ...Data rate reduction
387.1 ...Multiple channel (e.g., plural carrier)
388.1 ...Including one conventional or compatible channel (e.g., two channel NTSC systems)
389.1 ...Data rate reduction
390.1 ...Specified color signal
391.1 ...Sub-Nyquist sampling
392.1 ...Direct coding of color composite signal
393.1 ...Predictive coding
394.1 ...Transform coding
395.1 ...Including luminance signal
396.1 ...Using separate coders for different picture features (e.g., highs, lows)
397.1 ...Subband encoding (e.g., low horizontal/low vertical frequency, low horizontal/high vertical frequency)
398.1 ...Picture feature dependent sampling rate or sample selection
399.1 ...Involving hybrid transform and difference coding
400.1 ...With prior difference coding
401.1 ...Including motion vector
402.1 ...Including transform coding
403.1 ...Adaptive
404.1 ...Sampling
405.1 ...Normalizer
406.1 ...Motion
407.1 ...Transformed sample selection (e.g., hierarchical sample selection)
408.1 ...Including difference transmission (e.g., predictive)
409.1 ...Including both base and differential encoding
410.1 ...Plural predictors
411.1 ...Including temporal predictor (e.g., frame difference)
412.1 ...Including motion vector
413.1 ...Including pattern matching
414.1 ...Including temporal prediction (e.g., frame difference)
415.1 ...Including motion vector
416.1 ...Including pattern matching
417.1 ...Including pattern matching
418.1 ...Including pattern matching
419.1 ...Coding element controlled by buffer fullness
420.1 ...Involving block coding
421.1 ...Involving minimum, maximum, or average of block
422.1 ...Involving pattern matching
423.1 ...Assignments for multiplexing one video signal, one or more audio signals, and a synchronizing signal
424.1 ...Sub-Nyquist sampling
424.2 ...Adaptive
425.1 ...Associated signal processing
BANDWIDTH REDUCTION SYSTEM

Data rate reduction

Associated signal processing

Involving error detection or correction

Involving signal formatting

Involving synchronization

Format type

Including frequency folding (e.g., subsampling)

Spotwobble (e.g., pixels from plural lines form single transmitted line)

Including video-related information

Using two or more frames

Motion adaptive

Added video information in standard channel format

Including additional modulation of picture carrier (e.g., quadrature)

Including information in sync, blanking, or overscan

During vertical blanking interval

Including use of a subcarrier

Individual processing of different parts of image frequency band (e.g., sum and difference, high band/low band)

Individual processing of different parts of image frequency band (e.g., sum and difference, high band/low band)

Frame field or line dropping followed by time expansion and time compression

Scan rate variation

FORMAT CONVERSION

Involving polar to Cartesian or vice versa

Involving both line number and field rate conversion (e.g., PAL to NTSC)

Specified chrominance signal

Conversion between standards with different aspect ratios

Progressive to interlace

Field rate type flicker compensating

Line doublers type (e.g., interlace to progressive IDTV type)

Including nonstandard signal detection

Specified chrominance processing (e.g., Y/C separation)

Motion adaptive

Motion adaptive

Specified chrominance processing

PAL to NTSC or vice versa

In which simultaneous signals are converted into sequential signals or vice versa

Field or frame sequential to simultaneous

Frequency change of subcarrier

Changing number of lines for standard conversion

Changing number of fields for standard conversion

DIVERSIVE DEVICE CONTROLLED BY INFORMATION EMBEDDED IN VIDEO SIGNAL

NONPICTORIAL DATA PACKET IN TELEVISION FORMAT

Audio

Full field

Sync

Data separation or detection

Error correction or prevention

Data format

Including teletext decoder or display

FORMAT

Adapted to reduce noise or for frequency modulation (e.g., variable gain)

Including pulse modulation of video signal (e.g., pulse width, PAM)

Pulse code modulation

Including additional information

For controlling video processing (e.g., digitally assisted video)

Additional modulation of picture carrier (e.g., quadrature)

During sync, blanking, or overscan

During both vertical and horizontal blanking

During vertical blanking

During horizontal blanking

Sound signal

Plural (e.g., stereo or SAP)

Sound signal

Plural (e.g., stereo or SAP)

Sound signal

Plural (e.g., stereo or SAP)

Including the use of a subcarrier

Broadband (e.g., occupying two adjacent channels or parts thereof)

Specified color signal format

Time division multiplexing of luminance and chrominance (e.g., MAC)

Field or frame sequential systems

Simultaneous and sequential (e.g., SECAM)

Simultaneous signals

Luminance plus dual-phase modulated color carrier

Dot sequential

Of sync signal

Color

FLUTTER OR JITTER CORRECTION (E.G., DYNAMIC REPRODUCTION)

Specified color

Using frequency shifting (e.g., heterodyne)

Reprocessing

Specified color

For sequential color components

With line rate switch (e.g., SECAM)

Phase locking regenerated subcarrier to color burst
SYNCHRONIZATION

Phase locking regenerated subcarrier to color burst
.Burst gate
.Including demodulator
.Digital
.With line rate switch (e.g., PAL)
.Locking of computer to video timebase
.Control of picture position
.Locking of video or audio to reference timebase
.Frame or field synchronizers
.Color television
.Audio to video
.By controlling video or sync generator
.Including compensation for transmission delays
.Color television
.Field or frame identification
.Color
.Sync generation
.Means on video signal generator
.With addressable memory
.With counter or frequency divider
.Sync separation
.Including field or frame identification
.Color
.Including automatic gain control (AGC)
.To produce distinct vertical output
.With distinct horizontal output
.To produce distinct horizontal output
.By amplitude
.Noise reduction
.Amplitude limiting
.Noise inversion
.Automatic phase or frequency control
.Of sampling or clock
.With data interpolation
.Color
.Horizontal sync component
.Cascaded phase or frequency adjusting
.Plural distinct operating modes
.Line rates
.Locking rates
.Different mode during vertical blanking
.Countdown
.Vertical sync component
.Countdown
.Using color subcarrier
.To achieve interlaced scanning
.Of mechanical scan
.COMBINED WITH DIVERSE ART DEVICE (E.G., COMPUTER, TELEPHONE)
.BASIC RECEIVER WITH ADDITIONAL FUNCTION
.Multimode (e.g., composite, Y, C; baseband RF)
.For receiving more than one format at will (e.g., NTSC/PAL)
.For format with different aspect ratio
.Color processing
.Format detection
.Instant replay or freeze frame
.Color television processing
.For magnification of part of image
.Color television
.For display of additional information
.Simultaneously and on same screen (e.g., multiscreen)
.Picture in picture
.Color television
.Memory
.Compression
.Receiver indicator (e.g., on screen display)
.Tuning indication
.IMAGE SIGNAL PROCESSING CIRCUITRY SPECIFIC TO TELEVISION
.A/D converters
.Analog to binary
.Including dither
.Video reprocessing
.Selective image modification (e.g., touch up)
.Color change type
.Special effects
.Strobe (e.g., ball tracker)
.Geometric transformation
.Size change
.Color signal
.Rotation
.Combining plural sources
.Including priority key
.Foreground/background insertion
.Including hue detection (e.g., chroma key)
.Multiple distinct images (e.g., splitscreen)
.Including insertion of characters or graphics (e.g., titles)
.Specified details of key signal generation or processing
.Self keyers (e.g., key generated from video being mixed)
.Chrome key (e.g., hue detector)
.Artificial key generation
.Wipes signal generator
.Fades signal generator
.Window signal generator (e.g., rectangle)
.Generation of soft edge (e.g., blending)
.Specified details of signal combining
.Color signal
.Graphic or character insertion type
.Marker or pointer generator
.Display controlled by ambient light
.Specified color (e.g., saturation and contrast control)
.Including nonstandard signal detection controlling processing
.Including vertical interval reference (e.g., VIR)
IMAGE SIGNAL PROCESSING CIRCUITRY SPECIFIC TO TELEVISION

606 Combined noise reduction and transition sharpening
607 Noise or undesired signal reduction
608 Processing at encoder or transmitter (e.g., pre-correction)
609 Reduction of chrominance luminance cross-talk (e.g., precomb)
610 Adaptive
611 To suppress echo
612 Color signals
613 Complementary system (e.g., preemphasis - deemphasis)
614 Ghost elimination (e.g., multipath)
615 Blackspot or shading correction (e.g., corrects for fixed pattern defects)
616 Dropout compensator (e.g., replacement type)
617 For color television
618 For removal of low amplitude random noise (e.g., variable bandwidth)
619 Averaging type
620 Using frame or field delays (e.g., motion adaptive)
621 For color television
622 Noise component generator, limiter, subtractor type
623 Coring type
624 For color television
625 Transition or edge sharpeners
626 Scanning velocity modulation
627 Including processing to prevent the addition of noise (e.g., coring enhancement signal, noise responsive peaking control)
628 Vertical transition
629 Including horizontal transition
630 Color television processing
631 Luminance transition controls chrominance transition
632 Sound muting
633 Including picture blanking
634 Picture blanking
635 For color television
636 At transmitter
637 Retrace type
638 Chrominance signal demodulator
639 Digital
640 PAL signal
641 For quadrature signal (e.g., NTSC)
642 Color encoder or chrominance signal modulator
643 Color killer
644 Including chrominance signal amplitude control (e.g., saturation)
645 Chrominance signal amplitude control (e.g., saturation)
646 Digital
647 Automatic
648 Picture responsive (e.g., overload)
649 Hue control
650 Scene by scene color correction
651 Digital

# Title Change
* Newly Established Subclass
IMAGE SIGNAL PROCESSING CIRCUITRY

SPECIFIC TO TELEVISION

DC insertion

..Level inserted during keying signals
  (e.g., keyed clamp)

..Insertion level derived by key signals

..Level derived within feedback path

Diode

Motion vector generation

..Motion dependent key signal generation
  or scene change detection

..Specified processing of frame or field
  difference signal (e.g., noise
  reduction, key signal spreading)

..Composite color signal

..Hue or saturation detector

..Sweep expansion or reduction

..Switching

..receiver type

..Amplifiers

..Color television signal processing

..Signal modification for one gun color
  tube (e.g., dot sequential)

..Differential phase or amplitude
  responsive

..Frequency response modification

..Luminance channel circuitry

..Chrominance channel circuitry

..With details of static storage device

..For storing a sequence of frames or
  fields

..Specified data formatting (e.g.,
  memory mapping)

..Of color signal

..Accessing circuitry

..Including processor interface (e.g.,
  CPU)

Digital

..Plural processing units

TELEVISION TRANSMITTER CIRCUITRY

..Modulator

RECEIVER CIRCUITRY

..Demodulator

..Color television

..Color television

..Television receiver adapted to receive
  radio broadcast or in combination
  with radio receiver

..Power supply

..Tuning

..Search tuning

..Tuning voltage

..Remote control

..Automatic frequency control

..Sound traps

..Intercarrier circuits

..Sound circuit

VIDEO DISPLAY

..Array of shutters

..Red-white phenomena

..Color sequential

..With moving color filters

..Projection device

STUDIO EQUIPMENT

TELEVISION TRANSMITTER CIRCUITRY

..Modulator

RECEIVER CIRCUITRY

..Demodulator

..Color television

..Color television

..Television receiver adapted to receive
  radio broadcast or in combination
  with radio receiver

..Power supply

..Tuning

..Search tuning

..Tuning voltage

..Remote control

..Automatic frequency control

..Sound traps

..Intercarrier circuits

..Sound circuit

VIDEO DISPLAY

..Array of shutters

..Red-white phenomena

..Color sequential

..With moving color filters

..Projection device
CLASS 348 TELEVISION

VIDEO DISPLAY
...Liquid crystal
...Scanning circuit
...Interlacing
...With cabinet or housing structure
...Direct viewed light valve
...Vacuum panel
...Gas discharge
...Array of lamps
...Color TV
...Electroluminescent (e.g., scanned matrix, etc.)
...Light emitting diode
...Color TV
...With optical fiber device
...Cathode-ray tube
...With distortion, alignment or focus
...Color convergence correction
...Separate electron beams in single tube
...One electron beam supplying more than one color
...Beam position indicating
...Horizontal stripes
...Photoelectric sensor
...Secondary emission sensor
...With electron-optical color selection
...With color specific optical device
...Protective device
...Radiation protection for user
...External electric or magnetic effect
...Implosion protection
...Tensioned band
...Protective glass or panel
...Bonded to CRT faceplate
...Support
...CRT having only support at front portion
...CRT position adjustable by user
...Deflection element support
...Yoke
...Supported by CRT neck
...Adjustable
...With optical element
...For line elimination
...Glimmer reduction
...Filters
...Cabinet or chassis
...With vehicle
...Portable
...Modular
...Multiple screens
...Masking
...Light shielding
...Cabinet back
...MISCELLANEOUS

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.
STEREOSCOPIC TELEVISION SYSTEMS; DETAILS THEREOF (EPO)

Systems where the three-dimensional effect is obtained by means of at least two 2D image signals from different viewpoint locations representing the interocular distance (EPO)

Steroscopic image signal generation (EPO)

...Using a stereoscopic image camera (EPO)

...Having a single 2D image pickup sensor (EPO)

* E13.011 .....Having a fly-eye lenticular screen (EPO)

* E13.012 .....Having a lenticular screen (EPO)

* E13.013 .....Having a varifocal lens or mirror (EPO)

* E13.014 .....Having two 2D image pickup sensors representing the interocular distance (EPO)

* E13.015 .....Having more than two 2D image pickup sensors (EPO)

* E13.016 .....Calibration aspects (EPO)

* E13.017 .....Having several image pickup sensors with different characteristics other than location or field of view, e.g., different resolution, color pickup characteristic or additional depth information or, where the image signals of one image pickup sensor are used to control the characteristics of at least one other image pickup sensor (EPO)

* E13.018 .....In combination with an electromagnetic radiation source for illuminating the subject (EPO)

* E13.019 .....Color aspects (EPO)

* E13.02 .....With monoscopic to stereoscopic image conversion (EPO)

* E13.021 .....For generating stereoscopic image signals corresponding to more than two geometrical viewpoints (EPO)

* E13.022 .....From a 3D object model, e.g., computer generated stereoscopic image signals (EPO)

* E13.023 .....The virtual viewpoint location being selected by the observer, e.g., observer tracking (EPO)

* E13.024 .....For generating monoscopic and stereoscopic images or mixed monoscopic/stereoscopic images, e.g., monoscopic and stereoscopic image generating modes or a stereoscopic image overlay window in a monoscopic image background (EPO)

* E13.025 .....Synchronization or controlling aspects (EPO)

* E13.026 ..... Stereoscopic image displaying (EPO)

* E13.027 .....Using an autostereoscopic display, i.e., viewing by the user without the aid of special glasses (EPO)

* E13.028 .....Using a fly-eye lenticular screen (EPO)

* E13.029 .....Using a lenticular screen (EPO)

* E13.03 .....Using a parallax barrier, e.g., spatial light modulator (EPO)

* E13.031 .....Using an array of controllable light sources or a moving aperture or light source (EPO)

* E13.032 .....Using a varifocal lens or mirror (EPO)

* E13.033 .....Color aspects (EPO)

* E13.034 .....Calibration aspects (EPO)

* E13.035 .....Using a digital micro mirror device (DMD) (EPO)

* E13.036 .....For viewing by the user with the aid of special glasses or head mounted displays (HMD), i.e., stereoscopic displaying (EPO)

* E13.037 .....With spectral multiplexing, i.e., simultaneously displaying left and right images separated using glasses with different spectral characteristics, e.g., anaglyph method or Pullfrich method (EPO)

* E13.038 .....With polarization multiplexing, i.e., simultaneously displaying left and right images separated using glasses with different polarizing characteristics (EPO)

* E13.039 .....With spatial multiplexing, i.e., simultaneously displaying left and right images on different parts of the display screen and using glasses to optically recombine the stereoscopic image, e.g., with prisms or mirrors (EPO)

* E13.04 .....With temporal multiplexing, i.e., alternatively displaying left and right images separated in time and using glasses to alternatively block the right and left eye (EPO)

* E13.041 .....With head mounted left-right displays (EPO)

* E13.042 .....Using a half transparent mirror or prism (EPO)

* E13.043 .....For displaying simultaneously more than two geometrical viewpoints, i.e., look-around effect without observer tracking (EPO)

* E13.044 .....For displaying monoscopic and stereoscopic images or mixed monoscopic/stereoscopic images, e.g., monoscopic and stereoscopic image displaying modes or a stereoscopic image overlay window in a monoscopic image background (EPO)

* E13.045 .....Using observer tracking (EPO)

* E13.046 .....For several observers (EPO)

* E13.047 .....For tracking with gaze detection, i.e., detecting the lines of sight of the observers eyes (EPO)
STEREOSCOPIC TELEVISION SYSTEMS; DETAILS THEREOF (EPO)

* E13.048 ...For tracking with variable interocular distance or rotational head movements around the vertical axis (EPO)

* E13.049 ...For tracking forward-backward translational head movements, i.e., longitudinal movements (EPO)

* E13.05 ...For tracking left-right translational head movements, i.e., lateral movements (EPO)

* E13.051 ...For tracking rotational head movements in a plane parallel to the screen (EPO)

* E13.052 ...For tracking vertical translational head movements (EPO)

* E13.053 ...Alternating rapidly the location of the left-right image components on the display screen (EPO)

* E13.054 ...Using a volumetric display, i.e., systems where the image is built up from picture elements distributed over a volume (EPO)

* E13.055 ...The picture elements emitting light where a pair of light beams intersect in a transparent material (EPO)

* E13.056 ...The volume being generated by a moving, e.g., vibrating or rotating, surface (EPO)

* E13.057 ...With depth sampling, i.e., the volume being constructed from a stack or sequence of 2D image planes (EPO)

* E13.058 ...Using an image projection screen (EPO)

* E13.059 ...Synchronization or controlling aspects (EPO)

* E13.06 ...Stereoscopic image signal coding, multiplexing, processing, recording or transmission (EPO)

* E13.061 ...Color aspects (EPO)

* E13.062 ...Coding or decoding stereoscopic image signals (EPO)

* E13.063 ...Mixing stereoscopic image signals (EPO)

* E13.064 ...Processing stereoscopic image signals (EPO)

* E13.065 ...Transformation of stereoscopic image signals corresponding to virtual viewpoints, e.g., spatial image interpolation (EPO)

* E13.066 ...The virtual viewpoint location being selected by the observer, e.g., observer tracking with look around effect (EPO)

* E13.067 ...Improving the 3D impression of a displayed stereoscopic image, e.g., with filtering or addition of monoscopic depth cues (EPO)

* E13.068 ...Format conversion of stereoscopic images, e.g., frame-rate, size, (EPO)

* E13.069 ...Equalizing the characteristics of different image components in stereoscopic images, e.g., average brightness or color balance (EPO)

* E13.07 ...Switching stereoscopic image signals (EPO)

* E13.071 ...Transmission of stereoscopic image signals (EPO)

* E13.072 ...Multiplexing or demultiplexing different image signal components in stereoscopic image signals (EPO)

* E13.073 ...Synchronization or controlling aspects (EPO)

* E13.074 Picture signal generators (EPO)

* E13.075 Picture reproducers (EPO)

* E11.001 COLOR TELEVISION SYSTEMS (EPO)

* E11.002 High definition systems (EPO)

* E11.003 ...Involving two-channel transmission (EPO)

* E11.004 ...Involving bandwidth reduction, e.g., subsampling (EPO)

* E11.005 With transmission of the extra information by means of quadrature modulation (EPO)

* E11.006 .With bandwidth reduction (EPO)

* E11.007 Transmission systems characterised by the manner in which the individual color picture signal components are combined (EPO)

* E11.008 Using sequential signals only (EPO)

* E11.009 ...In which color signals are inserted in the blanking interval of the brightness signal (EPO)

* E11.01 ...Using simultaneous signals only (EPO)

* E11.011 ...In which one signal, modulated in phase and amplitude, conveys color information and a second signal conveys brightness information, e.g., NTSC-system (EPO)

* E11.012 ...The chrominance signal alternating in phase, e.g., PAL-system (EPO)

* E11.013 ...A resolution-increasing signal being multiplexed to the PAL-system signal, e.g., PAL-PLUS-system (EPO)

* E11.014 Encoding means therefor (EPO)

* E11.015 Decoding means therefor (EPO)

* E11.016 ...Encoding means therefor (EPO)

* E11.017 ...Decoding means therefor (EPO)

* E11.018 ...Using simultaneous and sequential signals, e.g., SBCM-system (EPO)

* E11.019 ...Encoding means therefor (EPO)

* E11.02 ...Decoding means therefor (EPO)
COLOR TELEVISION SYSTEMS (EPO)
Transmission systems characterized by the manner in which the individual color picture signal components are combined (EPO)

* E11.021 Conversion of the manner in which the individual color picture signal components are combined, e.g., conversion of color television standards (EPO)

* E11.022 In which simultaneous signals are converted into sequential signals or vice versa (EPO)

* E9.001 DETAILS OF COLOR TELEVISION SYSTEMS (EPO)

* E9.002 Picture signal generators (EPO)

* E9.003 With one pick-up device only (EPO)

* E9.004 Whereby the color signals are characterized by their phase (EPO)

* E9.005 Whereby the color signals are characterized by their frequency (EPO)

* E9.006 With more than one pick-up device (EPO)

* E9.007 Systems for avoiding or correcting misregistration of color signals (EPO)

* E9.008 Optical arrangements associated therewith, e.g., for beam-splitting, for color correction (EPO)

* E9.009 Scanning of color motion picture films, e.g., for telecine (EPO)

* E9.01 Using solid-state devices (EPO)

* E9.011 Using optical-mechanical scanning means only (EPO)

* E9.012 Picture reproducers (EPO)

* E9.013 Using optical-mechanical scanning means only (EPO)

* E9.014 Using cathode ray tubes (EPO)

* E9.015 With variable depth of penetration of electron beam into the luminescent layer, e.g., pentrons (EPO)

* E9.016 Using separate electron beams for the primary color signals (EPO)

* E9.017 With more than one beam in a tube (EPO)

* E9.018 Using the same beam for more than one primary color information (EPO)

* E9.019 Using means, integral with, or external to, the tube, for producing signal indicating instantaneous beam position (EPO)

* E9.02 Using electron-optical color selection means, e.g., line grid, deflection means in or near the gun or near the phosphor screen (EPO)

* E9.021 Arrangements for convergence or focusing (EPO)

* E9.022 Using quadrupole lenses (EPO)

* E9.023 Using demagnetization or compensation of external magnetic fields (EPO)

* E9.024 Using solid-state color display devices (EPO)

* E9.025 Projection devices for color picture display (EPO)

* E9.026 Using laser beams scanning the display screen (EPO)

* E9.027 Using light modulating optical valves (EPO)

* E9.028 Conversion of monochrome picture signals to color picture signals for color picture display (EPO)

* E9.029 Color synchronization (EPO)

* E9.03 Generation or recovery of color sub-carriers (EPO)

* E9.031 Generation of color burst signals; Insertion of color burst signals in color picture signals or separation of color burst signals from color picture signals (EPO)

* E9.032 Synchronization of the PAL-switch (EPO)

* E9.033 For sequential signals (EPO)

* E9.034 For mutually locking different synchronization sources (EPO)

* E9.035 Circuits for processing the brightness signal and the chrominance signal relative to each other, e.g., adjusting the phase of the brightness signal relative to the color signal, correcting differential gain or differential phase (EPO)

* E9.036 For separating the brightness signal or the chrominance signal from the color television signal, e.g., using comb filter (EPO)

* E9.037 Circuits for processing color signals (EPO)

* E9.038 Multi-standard receivers (EPO)

* E9.039 Multi-purpose receivers, e.g., for auxiliary information (EPO)

* E9.04 Hue control means, e.g., flesh tone control (EPO)

* E9.041 Beam current control means (EPO)

* E9.042 For image enhancement, e.g., vertical detail restoration, cross-color elimination, contour correction, chrominance trapping filters (EPO)

* E9.043 I.F amplifiers (EPO)

* E9.044 Video amplifiers (EPO)

* E9.045 For synchronous modulators (EPO)

* E9.046 For synchronous demodulators (EPO)

* E9.047 For matrixing (EPO)

* E9.048 For color killing (EPO)

* E9.049 Combined with color gain control (EPO)

* E9.05 For reinsertion of dc and slowly varying components of color signal (EPO)

* E9.051 Color balance circuits, e.g., white balance circuits, color temperature control (EPO)

* E9.052 For picture signal generators (EPO)

* E9.053 For controlling the amplitude of color signals, e.g., automatic chroma control circuits (EPO)
DETAILS OF COLOR TELEVISION SYSTEMS
(EPO)
.Circuits for processing color signals
(EPO)
..For controlling the amplitude of color
signals, e.g., automatic chroma
control circuits (EPO)
* E7.025 .The additional information signals
being transmitted by means of a
subcarrier (EPO)
* E7.026 .With signal insertion during the
vertical and the horizontal
blanking interval (EPO)
* E7.027 .With signal insertion during the
horizontal blanking interval (EPO)
* E7.028 .The inserted signal being digital
(EPO)
* E7.029 .The signal being time-compressed
before its insertion and
subsequently decompressed at
reception (EPO)
* E7.03 .With signal insertion during the
vertical blanking interval (EPO)
* E7.031 .The inserted signal being digital
(EPO)
* E7.032 .The signal being time-compressed
before its insertion and
subsequently decompressed at
reception (EPO)
* E7.033 .For the transmission of character
code signals, e.g., for teletext
(EPO)
* E7.034 .For the transmission of additional
display-information, e.g., menu
for program or channel selection
(EPO)
* E7.035 .For the transmission of subtitles
(EPO)
* E7.036 .For the transmission of program or
channel identifying signals (EPO)
* E7.037 .Subscription systems therefor (EPO)
* E7.038 .Using frequency interleaving, e.g.,
with precision offset (EPO)
* E7.039 .The signals being two or more video
signals (EPO)
* E7.04 .Systems for the transmission of one
television signal, i.e., both
picture and sound, by a single
carrier (EPO)
* E7.041 .The carrier being frequency modulated
(EPO)
* E7.042 .Systems for the simultaneous
transmission of one television
signal, i.e., both picture and
sound, by more than one carrier
(EPO)
* E7.043 .Simultaneous transmission of separate
parts of one picture (EPO)
* E7.044 .The carriers being allocated to more
than one television channel (EPO)
* E7.045 .Systems in which the television signal
is transmitted via one channel or a
plurality of parallel channels, the
bandwidth of each channel being less
than the bandwidth of the television
signal (EPO)
* E7.054 .For modifying the color signals by
gamma correction (EPO)
* E7.055 .For obtaining special effects (EPO)
* E7.056 .Chroma key (EPO)
* E7.057 .For mixing of color signals (EPO)
* E7.001 TELEVISION SYSTEMS (EPO)
* E7.002 Systems with supplementary picture
signal insertion during a portion of
the active part of a television
signal, e.g., during top and bottom
lines in a HDTV letter-box system
(EPO)
* E7.03 .With signal insertion during the
vertical blanking interval (EPO)
* E7.031 .The inserted signal being digital
(EPO)
* E7.032 .The signal being time-compressed
before its insertion and
subsequently decompressed at
reception (EPO)
* E7.033 .For the transmission of character
code signals, e.g., for teletext
(EPO)
* E7.034 .For the transmission of additional
display-information, e.g., menu
for program or channel selection
(EPO)
* E7.035 .For the transmission of subtitles
(EPO)
* E7.036 .For the transmission of program or
channel identifying signals (EPO)
* E7.037 .Subscription systems therefor (EPO)
* E7.038 .Using frequency interleaving, e.g.,
with precision offset (EPO)
* E7.039 .The signals being two or more video
signals (EPO)
* E7.04 .Systems for the transmission of one
television signal, i.e., both
picture and sound, by a single
carrier (EPO)
* E7.041 .The carrier being frequency modulated
(EPO)
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transmission of one television
signal, i.e., both picture and
sound, by more than one carrier
(EPO)
* E7.043 .Simultaneous transmission of separate
parts of one picture (EPO)
* E7.044 .The carriers being allocated to more
than one television channel (EPO)
* E7.045 .Systems in which the television signal
is transmitted via one channel or a
plurality of parallel channels, the
bandwidth of each channel being less
than the bandwidth of the television
signal (EPO)
* E7.006 ...Using pixel blocks (EPO)
* E7.007 ...With motion estimation, e.g.,
involving the use of motion
vectors (EPO)
* E7.008 ...Involving the resampling of the
incoming video signal (EPO)
* E7.009 ...Using a storage device with different
write and read speed (EPO)
* E7.01 ...Using beam gun storage (EPO)
* E7.011 ...Using magnetic recording (EPO)
* E7.012 ...Involving interpolation processes
(EPO)
* E7.013 ...Involving the use of motion vectors
(EPO)
* E7.014 ...Dependent on presence/absence of
motion, e.g., of motion zones
(EPO)
* E7.015 ...One of the standards corresponding to
a cinematograph film standard (EPO)
* E7.016 ...One of the standards being a high
definition standard (EPO)
* E7.017 ...Systems for the transmission of digital
nonpicture data, e.g., of text
during the active part of a
television frame (EPO)
* E7.018 ...Display systems therefor (EPO)
* E7.019 ...Subscription systems therefor (EPO)
* E7.02 ...Circuits for the digital non-picture
data signal, e.g., for slicing of
the data signal, for regeneration
of the data-clock signal, for error
detection or correction of the data
signal (EPO)
* E7.021 ...For regeneration of the clock signal
(EPO)
* E7.022 ...For discrimination of the binary
level of the digital data, e.g.,
amplitude slicers (EPO)
* E7.023 ...For error detection or correction
(EPO)
* E7.024 ...Systems for the simultaneous or
sequential transmission of more than
one television signal, e.g.,
additional information signals, the
signals occupying wholly or
partially the same frequency band
(EPO)
TELEVISION SYSTEMS (EPO)

Systems in which the television signal is transmitted via one channel or a plurality of parallel channels, the bandwidth of each channel being less than the bandwidth of the television signal (EPO)

* E7.046 Involving expansion and subsequent compression of a signal segment, e.g., a frame, a line (EPO)

* E7.047 The signal segment being a picture element (EPO)

* E7.048 Systems in which different parts of the picture signal frequency band are individually processed, e.g., suppressed, transposed (EPO)

* E7.049 Adaptations for transmission by electric cable (EPO)

* E7.05 For domestic distribution (EPO)

* E7.051 The cable being constituted by a pair of wires (EPO)

* E7.052 Circuits therefor, e.g., noise reducers, equalizers, amplifiers (EPO)

* E7.053 Switchers or splitters (EPO)

* E7.054 Secrecy systems; Subscription systems (EPO)

* E7.055 Systems rendering the television signal unintelligible and subsequently intelligible (EPO)

* E7.056 Providing digital key or authorization information for generation or regeneration of the scrambling sequence (EPO)

* E7.057 Systems operating in the time domain of the television signal (EPO)

* E7.058 By displacing synchronization signals relative to active picture signals or vice versa (EPO)

* E7.059 By changing or reversing the order of active picture signal portions (EPO)

* E7.06 Authorizing the user terminal, e.g., by paying; Registering the use of a subscription channel, e.g., billing (EPO)

* E7.061 By receiver means only (EPO)

* E7.062 Coin-free apparatus (EPO)

* E7.063 Centralized control of user terminal; Registering at central (EPO)

* E7.064 Constructional details of the subscriber equipment (EPO)

* E7.065 Passage/non-passage of the television signal, e.g., jamming, band suppression (EPO)

* E7.066 Systems operating in the amplitude domain of the television signal (EPO)

* E7.067 By modifying synchronization signals (EPO)

* E7.068 By inverting the polarity of active picture signal portions (EPO)

* E7.069 With two-way working, e.g., subscriber sending a program selection signal (EPO)

* E7.07 Transmission or handling of upstream communications (EPO)

* E7.071 Direct or substantially direct transmission and handling of requests (EPO)

* E7.072 With deferred transmission or handling of upstream communications (EPO)

* E7.073 Handling of requests in head-ends (EPO)

* E7.074 Control of the passage of the selected program (EPO)

* E7.075 In an intermediate station common to a plurality of user terminals (EPO)

* E7.076 At or near the user terminal (EPO)

* E7.077 Systems for two-way working (EPO)

* E7.078 Between two video terminals, e.g., videophone (EPO)

* E7.079 Constructional details of the terminal equipment, e.g., arrangements of the camera and the display (EPO)

* E7.08 Camera and display on the same optical axis, e.g., optically multiplexing the camera and display for eye to eye contact (EPO)

* E7.081 Communication arrangements, e.g., identifying the communication as a video-communication, intermediate storage of the signals (EPO)

* E7.082 Interfacing a video terminal to a particular transmission medium, e.g., ISDN (EPO)

* E7.083 Conference systems (EPO)

* E7.084 Multipoint control units therefor (EPO)

* E7.085 Closed circuit television systems, i.e., systems in which the signal is not broadcast (EPO)

* E7.086 For receiving images from a plurality of remote sources (EPO)

* E7.087 For receiving images from a single remote source (EPO)

* E7.088 From a mobile camera, e.g., for remote control (EPO)

* E7.089 Video door telephones (EPO)

* E7.09 Capturing isolated or intermittent images triggered by the occurrence of a predetermined event, e.g., an object reaching a predetermined position (EPO)

* E7.091 Special television systems not provided for by E7.002 to E7.085 (EPO)

* E7.092 Using at least one opto-electrical conversion device (EPO)

* E7.093 Adaptaions for transmission via a GHz frequency band, e.g., via satellite (EPO)

* E7.094 Adaptations for optical transmission (EPO)
CLASS 348  TELEVISION

* E3.001  SCANNING DETAILS OF TELEVISION SYSTEMS (EPO)
* E3.002  Scanning of motion picture films, e.g., for telecine (EPO)
* E3.003  With continuously moving film (EPO)
* E3.004  With intermittently moving film (EPO)
* E3.005  With film moving only during the field blanking interval (EPO)
* E3.006  By optical-mechanical means only (EPO)
* E3.007  Having a moving aperture (EPO)
* E3.008  Having a moving lens or other refractor (EPO)
* E3.009  Having a moving reflector (EPO)
* E3.01  For electromagnetic radiation in the invisible region, e.g., infra-red (EPO)
* E3.011  By means not exclusively optical-mechanical (EPO)
* E3.012  By switched stationary formation of lamps, photocells or light relays (EPO)
* E3.013  Using cathode rays, e.g., multivision (EPO)
* E3.014  Using gas discharges, e.g., plasma (EPO)
* E3.015  Using liquid crystals (EPO)
* E3.016  By means of electrically scanned solid-state devices (EPO)
* E3.017  For picture signal generation (EPO)
* E3.018  Control of the image-sensor operation, e.g., image processing within the image-sensor (EPO)
* E3.019  For variable integration time (EPO)
* E3.02  For selective scanning, e.g., windowing, zooming (EPO)
* E3.021  For disturbance correction or prevention within the image-sensor, e.g., biasing, blooming, smearing (EPO)
* E3.022  Picture signal readout register, e.g., shift registers, interline shift registers (EPO)
* E3.023  With charge transfer within the image-sensor, e.g., time delay and integration (EPO)
* E3.024  Using frame-interline transfer (EPO)
* E3.025  Using interline transfer (EPO)
* E3.026  Using frame transfer (EPO)
* E3.027  Using linear image-sensor (EPO)
* E3.028  With addressing of the image-sensor elements (EPO)
* E3.029  For MOS image-sensors, e.g., MOS-CCD (EPO)
* E3.03  Using charge injection within the image-sensor (EPO)
* E3.031  The image being sequentially picked-up by one device at different imaging positions, e.g., by shifting the image-sensor (EPO)
* E3.032  The image being simultaneously picked-up by more than one device, e.g., the scene being partitioned into subimages (EPO)

* E3.033  By deflecting electron beam in cathode-ray tube (EPO)
* E3.034  Generation of supply voltages, in combination with electron beam deflecting (EPO)
* E3.035  Maintaining dc voltage constant (EPO)
* E3.036  Using regulation in parallel (EPO)
* E3.037  Using regulation in series (EPO)
* E3.038  Arrangements or assemblies in supply circuits for the purpose of withstanding high voltages (EPO)
* E3.039  Prevention of damage to cathode-ray tubes in the event of failure of scanning (EPO)
* E3.04  Circuits for controlling dimension, shape or centering of picture on screen (EPO)
* E3.041  Controlling dimensions (EPO)
* E3.042  Centering (EPO)
* E3.043  Distortion correction, e.g., for pincushion distortion correction, S-correction (EPO)
* E3.044  Using active elements (EPO)
* E3.045  With calculating means (EPO)
* E3.046  Using passive elements, e.g., diodes (EPO)
* E3.047  Blanking circuits (EPO)
* E3.048  Modifications of scanning arrangements to improve focusing (EPO)
* E3.049  Circuits special to multi-standard receivers (EPO)
* E3.05  Producing multiple scanning, i.e., using more than one spot at the same time (EPO)
* E3.051  Otherwise than with constant velocity or otherwise than in pattern formed by unidirectional, straight, substantially horizontal or vertical lines (EPO)
* E3.052  Velocity varied in dependence upon picture information (EPO)
* E3.053  Elemental scanning area oscillated rapidly in direction transverse to main scanning direction (EPO)
* E3.054  Downstream channel decoding therefor (EPO)
* E3.055  Transport demultiplexing therefor (EPO)
* E3.056  Operative control therefor (EPO)
* E3.057  Involving digital storage medium interfacing (EPO)
* E3.058  Multimedia server circuitry for digital video services (EPO)
* E3.059  Synchronizing (EPO)
DETAILS OF TELEVISION SYSTEMS (EPO)

*S.01 Synchronizing (EPO)

*S.011 Synchronizing circuits with arrangements for extending range of synchronization, e.g., by using switching between several time constants (EPO)

*S.012 Generation of synchronizing signals (EPO)

*S.013 Arrangements or circuits at the transmitter end (EPO)

*S.014 For mixing the synchronizing signals with the picture signal or mutually (EPO)

*S.015 For distributing synchronization pulses to different TV cameras (EPO)

*S.016 Using digital storage buffer techniques (EPO)

*S.017 Separation of synchronizing signals from picture signals (EPO)

*S.018 Separation of line synchronizing signal from frame synchronizing signal (EPO)

*S.019 Devices in which the synchronizing signals are only operative if a phase difference occurs between synchronizing and synchronized scanning devices, e.g., flywheel synchronizing (EPO)

*S.021 Whereby the synchronization signal directly commands a frequency generator (EPO)

*S.021 Whereby the synchronization signal indirectly commands a frequency generator (EPO)

*S.022 Studio circuitry; Studio devices; Studio equipment (EPO)

*S.023 Prompting (EPO)

*S.024 Television cameras (EPO)

*S.025 Constructional details (EPO)

*S.026 Housings (EPO)

*S.027 Mounting of pick-up device, deviation or focusing coils (EPO)

*S.028 Mounting of optical parts, e.g., lenses, shutters, filters (EPO)

*S.029 Provided with illuminating means (EPO)

*S.03 Means for changing the camera's field of view without moving the camera body, e.g., nutating or panning optics or image-sensors (EPO)

*S.031 Circuit details for pick-up tubes (EPO)

*S.032 Beam current control (EPO)

*S.033 During retrace periods, e.g., circuits for ACT tubes, leg suppression (EPO)

*S.034 Circuitry for compensating for variation in the brightness of the object (EPO)

*S.035 Circuitry for evaluating the brightness variations of the object (EPO)

*S.036 Combination of two or more compensation controls (EPO)

*S.037 By influencing the exposure time, e.g., shutter (EPO)

*S.038 By influencing the scene brightness using illuminating means (EPO)

*S.039 By influencing at least one of the pick-up tube voltages (EPO)

*S.04 By influencing the optical part of the camera (EPO)

*S.041 By influencing the picture signal (EPO)

*S.042 Devices for controlling television cameras, e.g., remote control (EPO)

*S.043 Remote control signaling for television cameras or for parts of television camera, e.g., between main body and part of camera (EPO)

*S.044 For interchangeable parts of television camera (EPO)

*S.045 Focusing (EPO)

*S.046 For stable pick-up of the scene in spite of camera body vibration (EPO)

*S.047 View-finder (EPO)

*S.048 Arrangements of television cameras (EPO)

*S.049 Picture signal generating by scanning motion picture films or slide opaques, e.g., for telecine (EPO)

*S.05 Picture signal generators using flying-spot scanners (EPO)

*S.051 Studio circuits, e.g., for mixing, switching-over, change of character of image, other special effects (EPO)

*S.052 Signal amplitude transition in the zone between image portions, e.g., soft edges (EPO)

*S.053 For obtaining an image which is composed of whole input images, e.g., splitscreen (EPO)

*S.054 For obtaining an image which is composed of images from a temporal image sequence, e.g., for a stroboscopic effect (EPO)

*S.055 Alteration of picture size, shape, position or orientation, e.g., zooming, rotation, rolling, perspective, translation (EPO)

*S.056 Mixing (EPO)

*S.057 Signal distribution or switching (EPO)

*S.058 Means for inserting a foreground image in a background image, i.e., inlay, outlay (EPO)

*S.059 Generation of keying signals (EPO)

*S.06 Subtitling (EPO)

*S.061 Mobile studios (EPO)
DETAILS OF TELEVISION SYSTEMS (EPO)

- E5.062 Picture signal circuitry for video frequency region (EPO)
- E5.063 Beam current control means (EPO)
- E5.064 Edging; Contouring (EPO)
- E5.065 Movement detection (EPO)
- E5.066 Movement estimation (EPO)
- E5.067 Scene change detection (EPO)
- E5.068 Video amplifiers (EPO)
- E5.069 Circuitry for reinsertion of dc and slowly varying components of signal; Circuitry for preservation of black or white level (EPO)
- E5.07 To maintain the black level constant (EPO)
- E5.071 By means of "clamp" circuit operated by switching circuit (EPO)
- E5.072 For the black level (EPO)
- E5.073 Circuitry for controlling amplitude response (EPO)
- E5.074 Gamma control (EPO)
- E5.075 For correcting amplitude versus frequency characteristic (EPO)
- E5.076 For compensating for attenuation of high frequency components, e.g., crispening, aperture distortion correction (EPO)
- E5.077 Circuitry for suppressing or minimizing disturbance, e.g., moire, halo (EPO)
- E5.078 In picture signal generation (EPO)
- E5.079 In solid-state picture signal generation (EPO)
- E5.08 Suppression of excedentary charges, e.g., blooming, smearing (EPO)
- E5.081 Correction or equalization of amplitude response, e.g., dark current, blemishes, non-uniformity (EPO)
- E5.082 By initial calibration, e.g., with memory means (EPO)
- E5.083 Circuitry for suppressing or minimizing impulsive noise (EPO)
- E5.084 Ghost signal cancellation (EPO)
- E5.085 Transforming light or analogous information into electric information (EPO)
- E5.086 Transforming X-rays (EPO)
- E5.087 With video transmission of fluorescent images (EPO)
- E5.088 Image enhancement, e.g., by subtraction techniques using polyenergetic X-rays (EPO)
- E5.089 Using subtraction imaging techniques (EPO)
- E5.09 Transforming infra-red radiation (EPO)
- E5.091 Using electrically scanned solid-state devices (EPO)
- E5.092 With digital output of the sensor cell, e.g., dynamic RAM image sensors (EPO)
- E5.093 Transmitter circuitry (EPO)
- E5.094 Modulation circuits (EPO)
- E5.095 For transmitting at will black-and-white or color signals (EPO)

* E5.096 Receiver circuitry (EPO)
* E5.097 Tuning indicators; Automatic tuning control (EPO)
* E5.098 ...Invisible or silent tuning (EPO)
* E5.099 For displaying additional information (EPO)
* E5.1 ...Circuit details of the additional information generator, e.g., details of the character or graphics signal generator, overlay mixing circuits (EPO)
* E5.101 ...Multiplied with a digital video signal (EPO)
* E5.102 ...For displaying or controlling a single function of one single apparatus, e.g., TV receiver or VCR (EPO)
* E5.103 ...The additional information being controlled by a remote control apparatus (EPO)
* E5.104 ...The additional information being displayed in a separate window, e.g., by using splitscreen display (EPO)
* E5.105 Menu-type displays (EPO)
* E5.106 I.F. amplifier-circuits as far as concerned for B&W-TV (EPO)
* E5.107 For frame-grabbing (EPO)
* E5.108 ...For the reception of a digital modulated video signal (EPO)
* E5.109 ...For progressive scanning (EPO)
* E5.11 ...For flicker reduction (EPO)
* E5.111 ...For displaying different aspect ratios (EPO)
* E5.112 ...Picture in picture (EPO)
* E5.113 ...Demodulation-circuits (EPO)
* E5.114 ...For receiving on more than one standard at will (EPO)
* E5.115 ...Automatic gain control (EPO)
* E5.116 ...Keyed automatic gain control (EPO)
* E5.117 ...For positively-modulated picture signals (EPO)
* E5.118 ...For negatively-modulated picture signals (EPO)
* E5.119 ...Control of contrast or brightness (EPO)
* E5.12 ...In dependence upon ambient light (EPO)
* E5.121 ...In dependence upon beam current of cathode ray tube (EPO)
* E5.122 ...For the sound signals (EPO)
* E5.123 ...For digital sound signals (EPO)
* E5.124 ...According to the NICAM system (EPO)
* E5.125 ...For more than one sound signal, e.g., stereo, multilanguages (EPO)
* E5.126 ...Intercarrier circuits, i.e., heterodyning sound and vision carriers (EPO)
* E5.127 ...Generation or supply of power specially adapted for television receivers (EPO)
DETAILS OF TELEVISION SYSTEMS (EPO)

* E5.128 Constructional details of receivers, e.g., cabinets, dust covers (EPO)
* E5.129 Mounting of picture tube on chassis or in housing (EPO)
* E5.13 Disposition of sound reproducers (EPO)
* E5.131 Holding-devices for protective discs or for picture masks (EPO)
* E5.132 Construction or mounting of chassis, e.g., for varying the elevation of the tube (EPO)
* E5.133 Transforming electric information into light information (EPO)
* E5.134 Circuit details for cathode-ray display tubes (EPO)
* E5.135 Circuit details for electroluminescent devices (EPO)
* E5.136 Modifying the appearance of television pictures by optical filters or diffusing screens (EPO)
* E5.137 Projection arrangements for image reproduction, e.g., using eidophor (EPO)
* E5.138 Direct viewing projectors, e.g., an image displayed on a video CRT or LCD display being projected on a screen (EPO)
* E5.139 Involving the use of a spatial light modulator, e.g., a light valve, controlled by a video signal (EPO)
* E5.14 The modulator being a dielectric deformable layer controlled by an electron beam, e.g., eidophor projector (EPO)
* E5.141 The modulator being an array of liquid crystal cells (EPO)
* E5.142 The modulator being an array of deformable mirrors, e.g., digital micromirror device (DMD) (EPO)
* E5.143 Constructional details of television projection apparatus (EPO)
* E5.144 For multi-screen projection (EPO)
* E5.145 Of head mounted projectors (EPO)

FOREIGN ART COLLECTIONS

* FOR 000 CLASS-RELATED FOREIGN DOCUMENTS

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.

FOR 100 BANDWIDTH REDUCTION SYSTEM (348/384)
FOR 101 Plural video programs in single channel (348/385)
FOR 102 Color television (348/386)
FOR 103 Bit-rate reduction (348/387)
FOR 104 Multiple channel (e.g., plural carrier) (348/388)
FOR 105 Including one conventional or compatible channel (e.g., two channel NTSC systems) (348/389)
FOR 106 Bit-rate reduction (348/390)
FOR 107 Specified color signal (348/391)
FOR 108 ..Sub-Nyquist sampling (348/392)
FOR 109 ..Direct coding of color composite signal (348/393)
FOR 110 ..Predictive coding (348/394)
FOR 111 ..Transform coding (348/395)
FOR 112 ..Including luminance signal (348/396)
FOR 113 ..Using separate coders for different picture features (e.g., highs, lows) (348/397)
FOR 114 ..Sub-band encoding (e.g., low horizontal/low vertical frequency, low horizontal/high vertical frequency) (348/398)
FOR 115 ..Picture feature dependent sampling rate or sample selection (348/399)
FOR 116 ..Involving hybrid transform and difference coding (348/400)
FOR 117 ..With prior difference coding (348/401)
FOR 118 ..Including motion vector (348/402)
FOR 119 ..Involving transform coding (348/403)
FOR 120 ..Adaptive (348/404)
FOR 121 ..Quantizer (348/405)
FOR 122 ..Normalizer (348/406)
FOR 123 ..Motion (348/407)
FOR 124 ..Transformed sample selection (e.g., hierarchical sample selection) (348/408)
FOR 125 ..Involving difference transmission (348/409)
FOR 126 ..Involving both PCM and DPCM encoding (348/410)
FOR 127 ..Plural predictors (348/411)
BANDWIDTH REDUCTION SYSTEM (348/384)  
Bit-rate reduction (348/390)  
Involving difference transmission (348/409)  
Plural predictors (348/411)  
FOR 128  
Including temporal predictor (e.g., frame difference) (348/412)  
FOR 129  
Including motion vector (348/413)  
FOR 130  
Including vector quantization (348/414)  
FOR 131  
Including temporal prediction (e.g., frame difference) (348/415)  
FOR 132  
Including motion vector (348/416)  
FOR 133  
Including vector quantization (348/417)  
FOR 134  
Coded element controlled by buffer fullness (e.g., adaptive quantizer) (348/419)  
FOR 135  
PCM represents minimum, maximum, or average of block (348/421)  
FOR 136  
Field or frame difference (e.g., moving frame) (348/429)  
FOR 137  
Including video related information (e.g., digitally assisted television) (348/429)  
FOR 138  
Using two or more frames (348/430)  
FOR 139  
Added video information in standard channel format (e.g., compatible EDTV) (348/431)  
FOR 140  
Including additional modulation of picture carrier (e.g., quadrature) (348/433)  
FOR 141  
Including information in sync, blanking, or overscan (348/434)  
FOR 142  
During vertical blanking interval (348/435)  
FOR 143  
Including the use of a subcarrier (348/436)  
FOR 144  
Individual processing of different parts of image frequency band (e.g., sum and difference, high band/low band) (348/437)  
FOR 145  
Individual processing of different parts of image frequency band (e.g., sum and difference, high band/low band) (348/437)
CLASS 348 TELEVISION

CAMERA, SYSTEM AND DETAIL (348/207)

FOR 195 .Unitary image formed by compiling
  sub-areas of same scene (e.g., array
  of cameras) (348/218)

FOR 196 .Still driven

FOR 197 .Still and motion modes of operation
  (348/220)

FOR 198 .Exposure control (348/221)

FOR 199 .Combined image signal generator and
  general image signal processing
  (348/222)

FOR 200 .Color balance (e.g., white balance)
  (348/223)

FOR 201 .Dependent upon operation or
  characteristic of iris, flash,
  lens, or filter (348/224)

FOR 202 With means for preventing colored
  object from affecting color
  balance (348/225)

FOR 203 .Including flicker detection (e.g.,
  fluorescent (348/226)

FOR 204 .With ambient light sensor (348/227)

FOR 205 .Responsive to output signal (348/228)

FOR 206 .Combined automatic gain control and
  exposure control (i.e., sensitivity
  control (348/229)

FOR 207 .Readout of solid-state image sensor
  considered or altered (348/230)

FOR 208 With details of static memory for
  output image (e.g., for a still
  camera) (348/231)

FOR 209 .With storage of additional, non-image
  information (e.g., audio, time,
  date) (348/232)

FOR 210 .Detachable (348/233)

FOR 211 .Electronic zoom (348/240)

FOR 212 .Variable magnification (i.e., zoom)
  (348/358)
C. CHANGES TO THE U.S. ECLA CONCORDANCE

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CLASS 348 - TELEVISION

The E-subclasses in U.S. Class 348 provide for (1) the transmission of pictures by methods involving the scanning of a picture, i.e. resolving the whole picture-containing area into individual picture-elements and the derivation of picture-representative electric signals related thereto, simultaneously or in sequence and (2) their transient or permanent reproduction either locally or remotely, by methods involving the reproduction of the whole picture-containing area by the reproduction of individual picture-elements into which the picture is resolved by means of picture-representative electric signals derived there from, simultaneously or in sequence, and (3) circuits specially designed for dealing with pictorial communication signals, e.g. television signals, as distinct from merely signals of a particular frequency range.

E-SUBCLASSES

E3.001 SCANNING DETAILS OF TELEVISION SYSTEMS (EPO)
This main group provides for methods and devices for converting sequences of image elements into electrical signals. This subclass is substantially the same in scope as ECLA classification H04N 3/00.

E3.002 Scanning of motion picture films, e.g., for telecine (EPO):
This subclass is indented under subclass E3.001. This subclass is substantially the same in scope as ECLA classification H04N 3/36.

E3.003 With continuously moving film (EPO):
This subclass is indented under subclass E3.002. This subclass is substantially the same in scope as ECLA classification H04N 3/38.

E3.004 With intermittently moving film (EPO):
This subclass is indented under subclass E3.002. This subclass is substantially the same in scope as ECLA classification H04N 3/40.

E3.005 With film moving only during the field blanking interval (EPO):
This subclass is indented under subclass E3.004. This subclass is substantially the same in scope as ECLA classification H04N 3/40B.

E3.006 By optical-mechanical means only (EPO):
This subclass is indented under subclass E3.001. This subclass is substantially the same in scope as ECLA classification H04N 3/02.

E3.007 Having a moving aperture (EPO):
This subclass is indented under subclass E3.006. This subclass is substantially the same in scope as ECLA classification H04N 3/04.

(1) Note. This subclass covers moving apertures covered by lenses.

E3.008 Having a moving lens or other refractor (EPO):
This subclass is indented under subclass E3.006. This subclass is substantially the same in scope as ECLA classification H04N 3/06.

E3.009 Having a moving reflector (EPO):
This subclass is indented under subclass E3.006. This subclass is substantially the same in scope as ECLA classification H04N 3/08.
E3.01 For electromagnetic radiation in the invisible region, e.g., infra-red (EPO):
This subclass is indented under subclass E3.009. This subclass is substantially the same in scope as ECLA classification H04N 3/09.

E3.011 By means not exclusively optical-mechanical (EPO):
This subclass is indented under subclass E3.001. This subclass is substantially the same in scope as ECLA classification H04N 3/10.

E3.012 By switched stationary formation of lamps, photocells or light relays (EPO):
This subclass is indented under subclass E3.011. This subclass is substantially the same in scope as ECLA classification H04N 3/12.

E3.013 Using cathode rays, e.g., multivision (EPO):
This subclass is indented under subclass E3.012. This subclass is substantially the same in scope as ECLA classification H04N 3/12C.

E3.014 Using gas discharges, e.g., plasma (EPO):
This subclass is indented under subclass E3.012. This subclass is substantially the same in scope as ECLA classification H04N 3/12G.

E3.015 Using liquid crystals (EPO):
This subclass is indented under subclass E3.012. This subclass is substantially the same in scope as ECLA classification H04N 3/12L.

E3.016 By means of electrically scanned solid-state devices (EPO):
This subclass is indented under subclass E3.011. This subclass is substantially the same in scope as ECLA classification H04N 3/14.

E3.017 For picture signal generation (EPO):
This subclass is indented under subclass E3.016. This subclass is substantially the same in scope as ECLA classification H04N 3/15.

E3.018 Control of the image-sensor operation, e.g., image processing within the image-sensor (EPO):
This subclass is indented under subclass E3.017. This subclass is substantially the same in scope as ECLA classification H04N 3/15E.

E3.019 For variable integration time (EPO):
This subclass is indented under subclass E3.018. This subclass is substantially the same in scope as ECLA classification H04N 3/15E2.

E3.02 For selective scanning, e.g., windowing, zooming (EPO):
This subclass is indented under subclass E3.018. This subclass is substantially the same in scope as ECLA classification H04N 3/15E4.

E3.021 For disturbance correction or prevention within the image-sensor, e.g., biasing, blooming, smearing (EPO):
This subclass is indented under subclass E3.018. This subclass is substantially the same in scope as ECLA classification H04N 3/15E6.

SEE OR SEARCH THIS CLASS, SUBCLASS:
E5.08, for correction circuits.
E3.022 Picture signal readout register, e.g., shift registers, interline shift registers (EPO):
This subclass is indented under subclass E3.017. This subclass is substantially the same in scope as ECLA classification H04N 3/15F.

E3.023 With charge transfer within the image-sensor, e.g., time delay and integration (EPO):
This subclass is indented under subclass E3.017. This subclass is substantially the same in scope as ECLA classification H04N 3/15D.

E3.024 Using frame-interline transfer (EPO):
This subclass is indented under subclass E3.023. This subclass is substantially the same in scope as ECLA classification H04N 3/15D2.

E3.025 Using interline transfer (EPO):
This subclass is indented under subclass E3.023. This subclass is substantially the same in scope as ECLA classification H04N 3/15D4.

E3.026 Using frame transfer (EPO):
This subclass is indented under subclass E3.023. This subclass is substantially the same in scope as ECLA classification H04N 3/15D6.

E3.027 Using linear image-sensor (EPO):
This subclass is indented under subclass E3.017. This subclass is substantially the same in scope as ECLA classification H04N 3/15G.

SEE OR SEARCH THIS CLASS, SUBCLASS:
E3.023, for time delay and integration.

E3.028 With addressing of the image-sensor elements (EPO):
This subclass is indented under subclass E3.017. This subclass is substantially the same in scope as ECLA classification H04N 3/15C.

E3.029 For MOS image-sensors, e.g., MOS-CCD (EPO):
This subclass is indented under subclass E3.028. This subclass is substantially the same in scope as ECLA classification H04N 3/15C4.

E3.03 Using charge injection within the image-sensor (EPO):
This subclass is indented under subclass E3.028. This subclass is substantially the same in scope as ECLA classification H04N 3/15C6.

E3.031 The image being sequentially picked-up by one device at different imaging positions, e.g., by shifting the image-sensor (EPO):
This subclass is indented under subclass E3.017. This subclass is substantially the same in scope as ECLA classification H04N 3/15H.

E3.032 The image being simultaneously picked-up by more than one device, e.g., the scene being partitioned into sub-images (EPO):
This subclass is indented under subclass E3.017. This subclass is substantially the same in scope as ECLA classification H04N 3/15J.

E3.033 By deflecting electron beam in cathode-ray tube (EPO):
This subclass is indented under subclass E3.011. This subclass is substantially the same in scope as ECLA classification H04N 3/16.
(1) Note. This subclass provides, for example, for scanning corrections.

**E3.034 Generation of supply voltages, in combination with electron beam deflecting (EPO):**
This subclass is indented under subclass E3.033. This subclass is substantially the same in scope as ECLA classification H04N 3/18.

**E3.035 Maintaining dc voltage constant (EPO):**
This subclass is indented under subclass E3.033. This subclass is substantially the same in scope as ECLA classification H04N 3/185.

**E3.036 Using regulation in parallel (EPO):**
This subclass is indented under subclass E3.033. This subclass is substantially the same in scope as ECLA classification H04N 3/185P.

**E3.037 Using regulation in series (EPO):**
This subclass is indented under subclass E3.035. This subclass is substantially the same in scope as ECLA classification H04N 3/185S.

**E3.038 Arrangements or assemblies in supply circuits for the purpose of withstanding high voltages (EPO):**
This subclass is indented under subclass E3.035. This subclass is substantially the same in scope as ECLA classification H04N 3/19.

**E3.039 Prevention of damage to cathode-ray tubes in the event of failure of scanning (EPO):**
This subclass is indented under subclass E3.033. This subclass is substantially the same in scope as ECLA classification H04N 3/2.

**E3.04 Circuits for controlling dimension, shape or centering of picture on screen (EPO):**
This subclass is indented under subclass E3.033. This subclass is substantially the same in scope as ECLA classification H04N 3/22.

**E3.041 Controlling dimensions (EPO):**
This subclass is indented under subclass E3.04. This subclass is substantially the same in scope as ECLA classification H04N 3/223.

SEE OR SEARCH THIS CLASS, SUBCLASS: **E3.035** for controlling dimensions by maintaining the cathode-ray tube high voltage constant.

**E3.042 Centering (EPO):**
This subclass is indented under subclass E3.04. This subclass is substantially the same in scope as ECLA classification H04N 3/227.

**E3.043 Distortion correction, e.g. for pincushion distortion correction, S-correction (EPO):**
This subclass is indented under subclass E3.04. This subclass is substantially the same in scope as ECLA classification H04N 3/23.

**E3.044 Using active elements (EPO):**
This subclass is indented under subclass E3.043. This subclass is substantially the same in scope as ECLA classification H04N 3/233.

**E3.045 With calculating means (EPO):**
This subclass is indented under subclass E3.044. This subclass is substantially the same in scope as ECLA classification H04N 3/233C.
E3.046 Using passive elements, e.g., diodes (EPO):
This subclass is indented under subclass E3.043. This subclass is substantially the same
in scope as ECLA classification H04N 3/237.

E3.047 Blanking circuits (EPO):
This subclass is indented under subclass E3.033. This subclass is substantially the same
in scope as ECLA classification H04N 3/24.

E3.048 Modifications of scanning arrangements to improve focusing (EPO):
This subclass is indented under subclass E3.033. This subclass is substantially the same
in scope as ECLA classification H04N 3/26.

E3.049 Circuits special to multi-standard receivers (EPO):
This subclass is indented under subclass E3.033. This subclass is substantially the same
in scope as ECLA classification H04N 3/27.

SEE OR SEARCH THIS CLASS, SUBCLASS:
E5.114, for circuitry of multi-standard receivers in general.

E3.05 Producing multiple scanning, i.e., using more than one spot at the same time (EPO):
This subclass is indented under subclass E3.011. This subclass is substantially the same
in scope as ECLA classification H04N 3/28.

E3.051 Otherwise than with constant velocity or otherwise than in pattern formed by
unidirectional, straight, substantially horizontal or vertical lines (EPO):
This subclass is indented under subclass E3.011. This subclass is substantially the same
in scope as ECLA classification H04N 3/30.

E3.052 Velocity varied in dependence upon picture information (EPO):
This subclass is indented under subclass E3.051. This subclass is substantially the same
in scope as ECLA classification H04N 3/32.

E3.053 Elemental scanning area oscillated rapidly in direction transverse to main scanning
direction (EPO):
This subclass is indented under subclass E3.051. This subclass is substantially the same
in scope as ECLA classification H04N 3/34

E5.001 DETAILS OF TELEVISION SYSTEMS (EPO):
This main group provides for details of television methods and devices for transmitting
black-and-white picture signals. This subclass is substantially the same in scope as
ECLA classification H04N 5/00.

SEE OR SEARCH THIS CLASS, SUBCLASS:
E3.001, for scanning details or combination thereof with generation of supply voltages.
E9.001, for details of color television systems.

E5.002 Multimedia set-top circuitry for digital video services (EPO):
This subclass is indented under subclass E5.001. This subclass is substantially the same
in scope as ECLA classification H04N 5/00M.

E5.003 Downstream channel decoding therefor (EPO):
This subclass is indented under subclass E5.002. This subclass is substantially the same
in scope as ECLA classification H04N 5/00M2.
E5.004 **Involving conditional access (EPO):**  
This subclass is indented under subclass E5.002. This subclass is substantially the same in scope as ECLA classification H04N 5/00M4.

E5.005 **Transport demultiplexing therefor (EPO):**  
This subclass is indented under subclass E5.002. This subclass is substantially the same in scope as ECLA classification H04N 5/00M6.

E5.006 **Operative control therefor (EPO):**  
This subclass is indented under subclass E5.002. This subclass is substantially the same in scope as ECLA classification H04N 5/00M8.

E5.007 **Involving digital storage medium interfacing (EPO):**  
This subclass is indented under subclass E5.002. This subclass is substantially the same in scope as ECLA classification H04N 5/00M10.

E5.008 **Multimedia server circuitry for digital video services (EPO):**  
This subclass is indented under subclass E5.001. This subclass is substantially the same in scope as ECLA classification H04N 5/00N.

E5.009 **Synchronizing (EPO):**  
This subclass is indented under subclass E5.001. This subclass is substantially the same in scope as ECLA classification H04N 5/04.

E5.01 **Synchronizing circuits with arrangements for extending range of synchronization, e.g., by using switching between several time constants (EPO):**  
This subclass is indented under subclass E5.009. This subclass is substantially the same in scope as ECLA classification H04N 5/05.

E5.011 **Generation of synchronizing signals (EPO):**  
This subclass is indented under subclass E5.009. This subclass is substantially the same in scope as ECLA classification H04N 5/06.

E5.012 **Arrangements or circuits at the transmitter end (EPO):**  
This subclass is indented under subclass E5.011. This subclass is substantially the same in scope as ECLA classification H04N 5/067.

E5.013 **For mixing the synchronizing signals with the picture signal or mutually (EPO):**  
This subclass is indented under subclass E5.012. This subclass is substantially the same in scope as ECLA classification H04N 5/067B.

E5.014 **For mutually locking plural sources of synchronizing signals, e.g., studios or relay stations (EPO):**  
This subclass is indented under subclass E5.012. This subclass is substantially the same in scope as ECLA classification H04N 5/073.

E5.015 **For distributing synchronization pulses to different TV cameras (EPO):**  
This subclass is indented under subclass E5.014. This subclass is substantially the same in scope as ECLA classification H04N 5/073B.

E5.016 **Using digital storage buffer techniques (EPO):**  
This subclass is indented under subclass E5.014. This subclass is substantially the same in scope as ECLA classification H04N 5/073C.
E5.017 Separation of synchronizing signals from picture signals (EPO):
This subclass is indented under subclass E5.009. This subclass is substantially the same in scope as ECLA classification H04N 5/08.

E5.018 Separation of line synchronizing signal from frame synchronizing signal (EPO):
This subclass is indented under subclass E5.017. This subclass is substantially the same in scope as ECLA classification H04N 5/10.

(1) Note. This subclass includes the separation of frame synchronizing signals from line synchronizing signals.

E5.019 Devices in which the synchronizing signals are only operative if a phase difference occurs between synchronizing and synchronized scanning devices, e.g., flywheel synchronizing (EPO):
This subclass is indented under subclass E5.009. This subclass is substantially the same in scope as ECLA classification H04N 5/12.

E5.02 Whereby the synchronization signal directly commands a frequency generator (EPO):
This subclass is indented under subclass E5.019. This subclass is substantially the same in scope as ECLA classification H04N 5/12B.

E5.021 Whereby the synchronization signal indirectly commands a frequency generator (EPO):
This subclass is indented under subclass E5.019. This subclass is substantially the same in scope as ECLA classification H04N 5/12C.

E5.022 Studio circuitry; Studio devices; Studio equipment (EPO):
This subclass is indented under subclass E5.001. This subclass is substantially the same in scope as ECLA classification H04N 5/222.

E5.023 Prompting (EPO):
This subclass is indented under subclass E5.022. This subclass is substantially the same in scope as ECLA classification H04N 5/222P.

E5.024 Television cameras (EPO):
This subclass is indented under subclass E5.022. This subclass is substantially the same in scope as ECLA classification H04N 5/225.

E5.025 Constructional details (EPO):
This subclass is indented under subclass E5.024. This subclass is substantially the same in scope as ECLA classification H04N 5/225C.

SEE OR SEARCH THIS CLASS, SUBCLASS:
E5.048, for arrangements of cameras.

E5.026 Housings (EPO):
This subclass is indented under subclass E5.025. This subclass is substantially the same in scope as ECLA classification H04N 5/225C2.

E5.027 Mounting of pick-up device, deviation or focusing coils (EPO):
This subclass is indented under subclass E5.025. This subclass is substantially the same in scope as ECLA classification H04N 5/225C3.
E5.028 Mounting of optical parts, e.g., lenses, shutters, filters (EPO):
This subclass is indented under subclass E5.025. This subclass is substantially the same in scope as ECLA classification H04N 5/225C4.

E5.029 Provided with illuminating means (EPO):
This subclass is indented under subclass E5.024. This subclass is substantially the same in scope as ECLA classification H04N 5/225L.

E5.03 Means for changing the camera's field of view without moving the camera body, e.g., nutating or panning optics or image-sensors (EPO):
This subclass is indented under subclass E5.024. This subclass is substantially the same in scope as ECLA classification H04N 5/225V.

SEE OR SEARCH THIS CLASS, SUBCLASS:
E3.031, for picture signal generation using shifting image-sensors.

E5.031 Circuit details for pick-up tubes (EPO):
This subclass is indented under subclass E5.024. This subclass is substantially the same in scope as ECLA classification H04N 5/228.

E5.032 Beam current control (EPO):
This subclass is indented under subclass E5.031. This subclass is substantially the same in scope as ECLA classification H04N 5/228B.

E5.033 During retrace periods, e.g., circuits for ACT tubes, leg suppression (EPO):
This subclass is indented under subclass E5.032. This subclass is substantially the same in scope as ECLA classification H04N 5/228B2.

E5.034 Circuitry for compensating for variation in the brightness of the object (EPO):
This subclass is indented under subclass E5.024. This subclass is substantially the same in scope as ECLA classification H04N 5/235.

E5.035 Circuitry for evaluating the brightness variations of the object (EPO):
This subclass is indented under subclass E5.034. This subclass is substantially the same in scope as ECLA classification H04N 5/235B.

SEE OR SEARCH THIS CLASS, SUBCLASS:
E3.018, for such circuits within the image sensor.

E5.036 Combination of two or more compensation controls (EPO):
This subclass is indented under subclass E5.034. This subclass is substantially the same in scope as ECLA classification H04N 5/235C.

E5.037 By influencing the exposure time, e.g., shutter (EPO):
This subclass is indented under subclass E5.034. This subclass is substantially the same in scope as ECLA classification H04N 5/235E.

SEE OR SEARCH THIS CLASS, SUBCLASS:
E3.019 for such subject matter within the image sensor.

E5.038 By influencing the scene brightness using illuminating means (EPO):
This subclass is indented under subclass E5.034. This subclass is substantially the same in scope as ECLA classification H04N 5/235L.
E5.039 **By influencing at least one of the pick-up tube voltages (EPO):**
This subclass is indented under subclass E5.034. This subclass is substantially the same in scope as ECLA classification H04N 5/235T.

E5.04 **By influencing the optical part of the camera (EPO):**
This subclass is indented under subclass E5.034. This subclass is substantially the same in scope as ECLA classification H04N 5/238.

(1) **Note.** This subclass covers, for example, diaphragms, intensifiers, fiber bundles.

E5.041 **By influencing the picture signal (EPO):**
This subclass is indented under subclass E5.034. This subclass is substantially the same in scope as ECLA classification H04N 5/243.

(1) **Note.** This subclass covers, for example, signal amplitude gain control.

E5.042 **Devices for controlling television cameras, e.g., remote control (EPO):**
This subclass is indented under subclass E5.024. This subclass is substantially the same in scope as ECLA classification H04N 5/232.

E5.043 **Remote control signaling for television cameras or for parts of television camera, e.g., between main body and part of camera (EPO):**
This subclass is indented under subclass E5.042. This subclass is substantially the same in scope as ECLA classification H04N 5/232C.

SEE OR SEARCH THIS CLASS, SUBCLASS:
E5.015, for distributing sync-signals to television cameras.

E5.044 **For interchangeable parts of television camera (EPO):**
This subclass is indented under subclass E5.043. This subclass is substantially the same in scope as ECLA classification H04N 5/232C2.

E5.045 **Focusing (EPO):**
This subclass is indented under subclass E5.042. This subclass is substantially the same in scope as ECLA classification H04N 5/232F.

E5.046 **For stable pick-up of the scene in spite of camera body vibration (EPO):**
This subclass is indented under subclass E5.042. This subclass is substantially the same in scope as ECLA classification H04N 5/232S.

SEE OR SEARCH THIS CLASS, SUBCLASS:
E3.02, for image-sensor selective scanning, per se.

E5.047 **View-finder (EPO):**
This subclass is indented under subclass E5.042. This subclass is substantially the same in scope as ECLA classification H04N 5/232V.

E5.048 **Arrangements of television cameras (EPO):**
This subclass is indented under subclass E5.024. This subclass is substantially the same in scope as ECLA classification H04N 5/247.
SEE OR SEARCH THIS CLASS, SUBCLASS:

**E5.025**, for constructional details of cameras.

**E5.049** Picture signal generating by scanning motion picture films or slide opaques, e.g., for telecine (EPO):
This subclass is indented under subclass E5.022. This subclass is substantially the same in scope as ECLA classification H04N 5/253.

SEE OR SEARCH THIS CLASS, SUBCLASS:

**E3.002**, for scanning details of picture signal generators of this subclass type.
**E7.015**, for standard conversion for such picture signal generating of this subclass type.

**E5.05** Picture signal generators using flying-spot scanners (EPO):
This subclass is indented under subclass E5.022. This subclass is substantially the same in scope as ECLA classification H04N 5/257.

**E5.051** Studio circuits, e.g., for mixing, switching-over, change of character of image, other special effects (EPO):
This subclass is indented under subclass E5.022. This subclass is substantially the same in scope as ECLA classification H04N 5/262P.

**E5.052** Signal amplitude transition in the zone between image portions, e.g., soft edges (EPO):
This subclass is indented under subclass E5.051. This subclass is substantially the same in scope as ECLA classification H04N 5/262E.

**E5.053** For obtaining an image which is composed of whole input images, e.g., splitscreen (EPO):
This subclass is indented under subclass E5.051. This subclass is substantially the same in scope as ECLA classification H04N 5/262M.

**E5.054** For obtaining an image which is composed of images from a temporal image sequence, e.g., for a stroboscopic effect (EPO):
This subclass is indented under subclass E5.051. This subclass is substantially the same in scope as ECLA classification H04N 5/262S.

SEE OR SEARCH THIS CLASS, SUBCLASS;


**E5.055** Alteration of picture size, shape, position or orientation, e.g., zooming, rotation, rolling, perspective, translation (EPO):
This subclass is indented under subclass E5.051. This subclass is substantially the same in scope as ECLA classification H04N 5/262T.

**E5.056** Mixing (EPO):
This subclass is indented under subclass E5.051. This subclass is substantially the same in scope as ECLA classification H04N 5/265.

**E5.057** Signal distribution or switching (EPO):
This subclass is indented under subclass E5.051. This subclass is substantially the same in scope as ECLA classification H04N 5/268.
E5.058  **Means for inserting a foreground image in a background image, i.e., inlay, outlay (EPO):**
This subclass is indented under subclass E5.051. This subclass is substantially the same in scope as ECLA classification H04N 5/272.

E5.059  **Generation of keying signals (EPO):**
This subclass is indented under subclass E5.058. This subclass is substantially the same in scope as ECLA classification H04N 5/275.

E5.06  **Subtitling (EPO):**
This subclass is indented under subclass E5.051. This subclass is substantially the same in scope as ECLA classification H04N 5/278.

E5.061  **Mobile studios (EPO):**
This subclass is indented under subclass E5.022. This subclass is substantially the same in scope as ECLA classification H04N 5/28.

E5.062  **Picture signal circuitry for video frequency region (EPO):**
This subclass is indented under subclass E5.001. This subclass is substantially the same in scope as ECLA classification H04N 5/14.

E5.063  **Beam current control means (EPO):**
This subclass is indented under subclass E5.062. This subclass is substantially the same in scope as ECLA classification H04N 5/14B.

E5.064  **Edging; Contouring (EPO):**
This subclass is indented under subclass E5.062. This subclass is substantially the same in scope as ECLA classification H04N 5/14E.

E5.065  **Movement detection (EPO):**
This subclass is indented under subclass E5.062. This subclass is substantially the same in scope as ECLA classification H04N 5/14M.

E5.066  **Movement estimation (EPO):**
This subclass is indented under subclass E5.065. This subclass is substantially the same in scope as ECLA classification H04N 5/14M2

E5.067  **Scene change detection (EPO):**
This subclass is indented under subclass E5.062. This subclass is substantially the same in scope as ECLA classification H04N 5/14S.

E5.068  **Video amplifiers (EPO):**
This subclass is indented under subclass E5.062. This subclass is substantially the same in scope as ECLA classification H04N 5/14V.

E5.069  **Circuitry for reinsertion of dc and slowly varying components of signal; Circuitry for preservation of black or white level (EPO):**
This subclass is indented under subclass E5.062. This subclass is substantially the same in scope as ECLA classification H04N 5/16.

E5.07  **To maintain the black level constant (EPO):**
This subclass is indented under subclass E5.069. This subclass is substantially the same in scope as ECLA classification H04N 5/16B.
E5.071 By means of "clamp" circuit operated by switching circuit (EPO):
This subclass is indented under subclass E5.069. This subclass is substantially the same in scope as ECLA classification H04N 5/18.

E5.072 For the black level (EPO):
This subclass is indented under subclass E5.071. This subclass is substantially the same in scope as ECLA classification H04N 5/18B.

E5.073 Circuitry for controlling amplitude response (EPO):
This subclass is indented under subclass E5.062. This subclass is substantially the same in scope as ECLA classification H04N 5/20.

E5.074 Gamma control (EPO):
This subclass is indented under subclass E5.073. This subclass is substantially the same in scope as ECLA classification H04N 5/202.

E5.075 For correcting amplitude versus frequency characteristic (EPO):
This subclass is indented under subclass E5.073. This subclass is substantially the same in scope as ECLA classification H04N 5/205.

E5.076 For compensating for attenuation of high frequency components, e.g., crispening, aperture distortion correction (EPO):
This subclass is indented under subclass E5.075. This subclass is substantially the same in scope as ECLA classification H04N 5/208.

E5.077 Circuitry for suppressing or minimizing disturbance, e.g., moiré, halo (EPO):
This subclass is indented under subclass E5.062. This subclass is substantially the same in scope as ECLA classification H04N 5/21.

(1) Note. Subject matter of this subclass type may be combined with automatic gain control.

E5.078 In picture signal generation (EPO):
This subclass is indented under subclass E5.077. This subclass is substantially the same in scope as ECLA classification H04N 5/217.

E5.079 In solid-state picture signal generation (EPO):
This subclass is indented under subclass E5.078. This subclass is substantially the same in scope as ECLA classification H04N 5/217S.

E5.08 Suppression of excedentary charges, e.g., blooming, smearing (EPO):
This subclass is indented under subclass E5.079. This subclass is substantially the same in scope as ECLA classification H04N 5/217S2.

SEE OR SEARCH THIS CLASS, SUBCLASS:
E3.019 and E3.021, for subject matter of this subclass type within the image sensor.

E5.081 Correction or equalization of amplitude response, e.g., dark current, blemishes, non-uniformity (EPO):
This subclass is indented under subclass E5.079. This subclass is substantially the same in scope as ECLA classification H04N 5/217S3.
E5.082  By initial calibration, e.g., with memory means (EPO):
This subclass is indented under subclass E5.081. This subclass is substantially the same in scope as ECLA classification H04N 5/217S3B.

E5.083  Circuitry for suppressing or minimizing impulsive noise (EPO):
This subclass is indented under subclass E5.077. This subclass is substantially the same in scope as ECLA classification H04N 5/213.

E5.084  Ghost signal cancellation (EPO):
This subclass is indented under subclass E5.077. This subclass is substantially the same in scope as ECLA classification H04N 5/21A.

E5.085  Transforming light or analogous information into electric information (EPO):
This subclass is indented under subclass E5.001. This subclass is substantially the same in scope as ECLA classification H04N 5/30.

SEE OR SEARCH THIS CLASS, SUBCLASS:
E3.001, for scanning details.

E5.086 Transforming X-rays (EPO):
This subclass is indented under subclass E5.085. This subclass is substantially the same in scope as ECLA classification H04N 5/32.

E5.087  With video transmission of fluoroscopic images (EPO):
This subclass is indented under subclass E5.086. This subclass is substantially the same in scope as ECLA classification H04N 5/321.

E5.088  Image enhancement, e.g., by subtraction techniques using polyenergetic X-rays (EPO):
This subclass is indented under subclass E5.087. This subclass is substantially the same in scope as ECLA classification H04N 5/325.

E5.089  Using subtraction imaging techniques (EPO):
This subclass is indented under subclass E5.086. This subclass is substantially the same in scope as ECLA classification H04N 5/32S.

E5.09  Transforming infra-red radiation (EPO):
This subclass is indented under subclass E5.085. This subclass is substantially the same in scope as ECLA classification H04N 5/33.

E5.091  Using electrically scanned solid-state devices (EPO):
This subclass is indented under subclass E5.085. This subclass is substantially the same in scope as ECLA classification H04N 5/335.

E5.092  With digital output of the sensor cell, e.g., dynamic RAM image sensors (EPO):
This subclass is indented under subclass E5.091. This subclass is substantially the same in scope as ECLA classification H04N 5/335B.

E5.093  Transmitter circuitry (EPO):
This subclass is indented under subclass E5.001. This subclass is substantially the same in scope as ECLA classification H04N 5/38.

E5.094  Modulation circuits (EPO):
This subclass is indented under subclass E5.093. This subclass is substantially the same in scope as ECLA classification H04N 5/40.
E5.095 For transmitting at will black-and-white or color signals (EPO):
This subclass is indented under subclass E5.093. This subclass is substantially the same
in scope as ECLA classification H04N 5/42.

E5.096 Receiver circuitry (EPO):
This subclass is indented under subclass E5.001. This subclass is substantially the same
in scope as ECLA classification H04N 5/44.

E5.097 Tuning indicators; Automatic tuning control (EPO):
This subclass is indented under subclass E5.096. This subclass is substantially the same
in scope as ECLA classification H04N 5/50.

E5.098 Invisible or silent tuning (EPO):
This subclass is indented under subclass E5.097. This subclass is substantially the same
in scope as ECLA classification H04N 5/50B.

E5.099 For displaying additional information (EPO):
This subclass is indented under subclass E5.096. This subclass is substantially the same
in scope as ECLA classification H04N 5/445.

E5.1 Circuit details of the additional information generator, e.g.,
details of the character or
graphics signal generator, overlay mixing circuits (EPO):
This subclass is indented under subclass E5.099. This subclass is substantially the same
in scope as ECLA classification H04N 5/445C.

E5.101 Multiplexed with a digital video signal (EPO):
This subclass is indented under subclass E5.099. This subclass is substantially the same
in scope as ECLA classification H04N 5/445D.

E5.102 For displaying or controlling a single function of one single apparatus, e.g., TV
receiver or VCR (EPO):
This subclass is indented under subclass E5.099. This subclass is substantially the same
in scope as ECLA classification H04N 5/445F.

E5.103 The additional information being controlled by a remote control apparatus (EPO):
This subclass is indented under subclass E5.099. This subclass is substantially the same
in scope as ECLA classification H04N 5/445R.

E5.104 The additional information being displayed in a separate window, e.g., by using
splitscreen display (EPO):
This subclass is indented under subclass E5.099. This subclass is substantially the same
in scope as ECLA classification H04N 5/445W.

E5.105 Menu-type displays (EPO):
This subclass is indented under subclass E5.099. This subclass is substantially the same
in scope as ECLA classification H04N 5/445M.

E5.106 L.F. amplifier-circuits as far as concerned for B&W-TV (EPO):
This subclass is indented under subclass E5.096. This subclass is substantially the same
in scope as ECLA classification H04N 5/44B.

E5.107 For frame-grabbing (EPO):
This subclass is indented under subclass E5.096. This subclass is substantially the same
in scope as ECLA classification H04N 5/44F.
E5.108  For the reception of a digital modulated video signal (EPO):
This subclass is indented under subclass E5.096. This subclass is substantially the same in scope as ECLA classification H04N 5/44N.

E5.109  For progressive scanning (EPO):
This subclass is indented under subclass E5.096. This subclass is substantially the same in scope as ECLA classification H04N 5/44P.

E5.11  For flicker reduction (EPO):
This subclass is indented under subclass E5.096. This subclass is substantially the same in scope as ECLA classification H04N 5/44S.

E5.111 For displaying different aspect ratios (EPO):
This subclass is indented under subclass E5.096. This subclass is substantially the same in scope as ECLA classification H04N 5/44W.

SEE OR SEARCH THIS CLASS, SUBCLASS:
E3.033, for displaying different aspect ratios by electron beam deflection.

E5.112 Picture in picture (EPO):
This subclass is indented under subclass E5.111. This subclass is substantially the same in scope as ECLA classification H04N 5/45.

E5.113 Demodulation-circuits (EPO):
This subclass is indented under subclass E5.096. This subclass is substantially the same in scope as ECLA classification H04N 5/455.

E5.114 For receiving on more than one standard at will (EPO):
This subclass is indented under subclass E5.096. This subclass is substantially the same in scope as ECLA classification H04N 5/46.

SEE OR SEARCH THIS CLASS, SUBCLASS:
E3.049, for deflecting circuits of multi-standard receivers.

E5.115 Automatic gain control (EPO):
This subclass is indented under subclass E5.096. This subclass is substantially the same in scope as ECLA classification H04N 5/52.

E5.116 Keyed automatic gain control (EPO):
This subclass is indented under subclass E5.115. This subclass is substantially the same in scope as ECLA classification H04N 5/53.

E5.117 For positively-modulated picture signals (EPO):
This subclass is indented under subclass E5.115. This subclass is substantially the same in scope as ECLA classification H04N 5/54.

E5.118 For negatively-modulated picture signals (EPO):
This subclass is indented under subclass E5.115. This subclass is substantially the same in scope as ECLA classification H04N 5/56.

E5.119 Control of contrast or brightness (EPO):
This subclass is indented under subclass E5.096. This subclass is substantially the same in scope as ECLA classification H04N 5/57.
E5.12 In dependence upon ambient light (EPO):
This subclass is indented under subclass E5.119. This subclass is substantially the same in scope as ECLA classification H04N 5/58.

E5.121 In dependence upon beam current of cathode ray tube (EPO):
This subclass is indented under subclass E5.119. This subclass is substantially the same in scope as ECLA classification H04N 5/59.

E5.122 For the sound signals (EPO):
This subclass is indented under subclass E5.096. This subclass is substantially the same in scope as ECLA classification H04N 5/60.

SEE OR SEARCH THIS CLASS, SUBCLASS:
E5.098, for silent tuning, i.e., muting.

E5.123 For digital sound signals (EPO):
This subclass is indented under subclass E5.122. This subclass is substantially the same in scope as ECLA classification H04N 5/60N.

E5.124 According to the NICAM system (EPO):
This subclass is indented under subclass E5.123. This subclass is substantially the same in scope as ECLA classification H04N 5/60N2.

E5.125 For more than one sound signal, e.g., stereo, multilanguages (EPO):
This subclass is indented under subclass E5.122. This subclass is substantially the same in scope as ECLA classification H04N 5/60S.

E5.126 Intercarrier circuits, i.e., heterodyning sound and vision carriers (EPO):
This subclass is indented under subclass E5.122. This subclass is substantially the same in scope as ECLA classification H04N 5/62.

E5.127 Generation or supply of power specially adapted for television receivers (EPO):
This subclass is indented under subclass E5.001. This subclass is substantially the same in scope as ECLA classification H04N 5/63.

SEE OR SEARCH THIS CLASS, SUBCLASS:
E3.034, for generation of supply voltages in combination with electron beam deflecting.

E5.128 Constructionsal details of receivers, e.g., cabinets, dust covers (EPO):
This subclass is indented under subclass E5.001. This subclass is substantially the same in scope as ECLA classification H04N 5/64.

E5.129 Mounting of picture tube on chassis or in housing (EPO):
This subclass is indented under subclass E5.128. This subclass is substantially the same in scope as ECLA classification H04N 5/645.

E5.13 Disposition of sound reproducers (EPO):
This subclass is indented under subclass E5.128. This subclass is substantially the same in scope as ECLA classification H04N 5/64S.

E5.131 Holding-devices for protective discs or for picture masks (EPO):
This subclass is indented under subclass E5.128. This subclass is substantially the same in scope as ECLA classification H04N 5/65.
E5.132 Construction or mounting of chassis, e.g., for varying the elevation of the tube (EPO):
This subclass is indented under subclass E5.128. This subclass is substantially the same in scope as ECLA classification H04N 5/655.

E5.133 Transforming electric information into light information (EPO):
This subclass is indented under subclass E5.001. This subclass is substantially the same in scope as ECLA classification H04N 5/66.

SEE OR SEARCH THIS CLASS, SUBCLASS:
E3.001 for details of scanning.

E5.134 Circuit details for cathode-ray display tubes (EPO):
This subclass is indented under subclass E5.133. This subclass is substantially the same in scope as ECLA classification H04N 5/68.

SEE OR SEARCH THIS CLASS, SUBCLASS:
E3.033, for deviation circuits.

E5.135 Circuit details for electroluminescent devices (EPO):
This subclass is indented under subclass E5.133. This subclass is substantially the same in scope as ECLA classification H04N 5/70.

E5.136 Modifying the appearance of television pictures by optical filters or diffusing screens (EPO):
This subclass is indented under subclass E5.001. This subclass is substantially the same in scope as ECLA classification H04N 5/72.

E5.137 Projection arrangements for image reproduction, e.g., using eidophor (EPO):
This subclass is indented under subclass E5.001. This subclass is substantially the same in scope as ECLA classification H04N 5/74.

E5.138 Direct viewing projectors, e.g., an image displayed on a video CRT or LCD display being projected on a screen (EPO):
This subclass is indented under subclass E5.137. This subclass is substantially the same in scope as ECLA classification H04N 5/74D.

E5.139 Involving the use of a spatial light modulator, e.g., a light valve, controlled by a video signal (EPO):
This subclass is indented under subclass E5.137. This subclass is substantially the same in scope as ECLA classification H04N 5/74M.

E5.14 The modulator being a dielectric deformable layer controlled by an electron beam, e.g., eidophor projector (EPO):
This subclass is indented under subclass E5.139. This subclass is substantially the same in scope as ECLA classification H04N 5/74M2.

E5.141 The modulator being an array of liquid crystal cells (EPO):
This subclass is indented under subclass E5.139. This subclass is substantially the same in scope as ECLA classification H04N 5/74M4.

E5.142 The modulator being an array of deformable mirrors, e.g., digital micromirror device (DMD) (EPO):
This subclass is indented under subclass E5.139. This subclass is substantially the same in scope as ECLA classification H04N 5/74M6.

**E5.143 Constructional details of television projection apparatus (EPO):**
- This subclass is indented under subclass E5.137. This subclass is substantially the same in scope as ECLA classification H04N 5/74P.

**E5.144 For multi-screen projection (EPO):**
- This subclass is indented under subclass E5.143. This subclass is substantially the same in scope as ECLA classification H04N 5/74P5.

**E5.145 Of head mounted projectors (EPO):**
- This subclass is indented under subclass E5.143. This subclass is substantially the same in scope as ECLA classification H04N 5/74P7.

**E7.001 TELEVISION SYSTEMS (EPO)**
- This main group provides for television methods and devices for transmitting black-and-white picture signals. This subclass is substantially the same in scope as ECLA classification H04N 7/00.

**SEE OR SEARCH THIS CLASS SUBCLASS:**
- **E13.001**, for stereoscopic television systems
- **E11.001**, for systems specific to color television.
- **E5.001** and **E3.001**, for details of television systems.

**E7.002 Systems with supplementary picture signal insertion during a portion of the active part of a television signal, e.g., during top and bottom lines in a HDTV letter-box system (EPO):**
- This subclass is indented under subclass E7.001. This subclass is substantially the same in scope as ECLA classification H04N 7/00L.

**E7.003 Conversion of standards (EPO):**
- This subclass is indented under subclass E7.001. This subclass is substantially the same in scope as ECLA classification H04N 7/01.

**E7.004 High-definition television systems (EPO):**
- This subclass is indented under subclass E7.001. This subclass is substantially the same in scope as ECLA classification H04N 7/015.

**E7.005 Using spatial or temporal subsampling (EPO):**
- This subclass is indented under subclass E7.004. This subclass is substantially the same in scope as ECLA classification H04N 7/015B.

**E7.006 Using pixel blocks (EPO):**
- This subclass is indented under subclass E7.005. This subclass is substantially the same in scope as ECLA classification H04N 7/015B2.

**E7.007 With motion estimation, e.g., involving the use of motion vectors (EPO):**
- This subclass is indented under subclass E7.006. This subclass is substantially the same in scope as ECLA classification H04N 7/015B2M.

**E7.008 Involving the resampling of the incoming video signal (EPO):**
- This subclass is indented under subclass E7.004. This subclass is substantially the same in scope as ECLA classification H04N 7/01A.
E7.009 Using a storage device with different write and read speed (EPO):
This subclass is indented under subclass E7.004. This subclass is substantially the same in scope as ECLA classification H04N 7/01B.

E7.01 Using beam gun storage (EPO):
This subclass is indented under subclass E7.009. This subclass is substantially the same in scope as ECLA classification H04N 7/01B.

E7.011 Using magnetic recording (EPO):
This subclass is indented under subclass E7.009. This subclass is substantially the same in scope as ECLA classification H04N 7/01B.

E7.012 Involving interpolation processes (EPO):
This subclass is indented under subclass E7.004. This subclass is substantially the same in scope as ECLA classification H04N 7/01D.

E7.013 Involving the use of motion vectors (EPO):
This subclass is indented under subclass E7.012. This subclass is substantially the same in scope as ECLA classification H04N 7/01D.

E7.014 Dependent on presence/absence of motion, e.g., of motion zones (EPO):
This subclass is indented under subclass E7.012. This subclass is substantially the same in scope as ECLA classification H04N 7/01D.

E7.015 One of the standards corresponding to a cinematograph film standard (EPO):
This subclass is indented under subclass E7.004. This subclass is substantially the same in scope as ECLA classification H04N 7/01F.

E7.016 One of the standards being a high definition standard (EPO):
This subclass is indented under subclass E7.004. This subclass is substantially the same in scope as ECLA classification H04N 7/01H.

E7.017 Systems for the transmission of digital non-picture data, e.g., of text during the active part of a television frame (EPO):
This subclass is indented under subclass E7.001. This subclass is substantially the same in scope as ECLA classification H04N 7/025.

SEE OR SEARCH THIS SUBCLASS:
E7.031, for the transmission of non-picture data during the vertical blanking interval only.

E7.018 Display systems therefor (EPO):
This subclass is indented under subclass E7.017. This subclass is substantially the same in scope as ECLA classification H04N 7/025D.

E7.019 Subscription systems therefor (EPO):
This subclass is indented under subclass E7.017. This subclass is substantially the same in scope as ECLA classification H04N 7/03.

E7.02 Circuits for the digital non-picture data signal, e.g., for slicing of the data signal, for regeneration of the data-clock signal, for error detection or correction of the data signal (EPO):
This subclass is indented under subclass E7.01. This subclass is substantially the same in scope as ECLA classification H04N 7/035.

**E7.021 For regeneration of the clock signal (EPO):**
This subclass is indented under subclass E7.02. This subclass is substantially the same in scope as ECLA classification H04N 7/035C.

**E7.022 For discrimination of the binary level of the digital data, e.g., amplitude slicers (EPO):**
This subclass is indented under subclass E7.02. This subclass is substantially the same in scope as ECLA classification H04N 7/035D.

**E7.023 For error detection or correction (EPO):**
This subclass is indented under subclass E7.02. This subclass is substantially the same in scope as ECLA classification H04N 7/035E.

**E7.024 Systems for the simultaneous or sequential transmission of more than one television signal, e.g. additional information signals, the signals occupying wholly or partially the same frequency band (EPO):**
This subclass is indented under subclass E7.001. This subclass is substantially the same in scope as ECLA classification H04N 7/08.

(1) Note. The more than one television signal of this subclass type may share the same frequency band by, for example, time division.

**E7.025 The additional information signals being transmitted by means of a subcarrier (EPO):**
This subclass is indented under subclass E7.024. This subclass is substantially the same in scope as ECLA classification H04N 7/081.

**E7.026 With signal insertion during the vertical and the horizontal blanking interval (EPO):**
This subclass is indented under subclass E7.024. This subclass is substantially the same in scope as ECLA classification H04N 7/083.

(1) Note. An example of signals of this subclass type is MAC data signals.

**E7.027 With signal insertion during the horizontal blanking interval (EPO):**
This subclass is indented under subclass E7.024. This subclass is substantially the same in scope as ECLA classification H04N 7/084.

**E7.028 The inserted signal being digital (EPO):**
This subclass is indented under subclass E7.027. This subclass is substantially the same in scope as ECLA classification H04N 7/085.

**E7.029 The signal being time-compressed before its insertion and subsequently decompressed at reception (EPO):**
This subclass is indented under subclass E7.028. This subclass is substantially the same in scope as ECLA classification H04N 7/085B.

**E7.03 With signal insertion during the vertical blanking interval (EPO):**
This subclass is indented under subclass E7.024. This subclass is substantially the same in scope as ECLA classification H04N 7/087.
E7.031 The inserted signal being digital (EPO):
This subclass is indented under subclass E7.03. This subclass is substantially the same in scope as ECLA classification H04N 7/088.

E7.032 The signal being time-compressed before its insertion and subsequently decompressed at reception (EPO):
This subclass is indented under subclass E7.031. This subclass is substantially the same in scope as ECLA classification H04N 7/088A.

E7.033 For the transmission of character code signals, e.g., for teletext (EPO):
This subclass is indented under subclass E7.031. This subclass is substantially the same in scope as ECLA classification H04N 7/088B.

SEE OR SEARCH THIS CLASS, SUBCLASS:
E7.020, for circuits for the digital non-picture data signal.

E7.034 For the transmission of additional display-information, e.g., menu for program or channel selection (EPO):
This subclass is indented under subclass E7.031. This subclass is substantially the same in scope as ECLA classification H04N 7/088D.

E7.035 For the transmission of subtitles (EPO):
This subclass is indented under subclass E7.031. This subclass is substantially the same in scope as ECLA classification H04N 7/088D2.

E7.036 For the transmission of program or channel identifying signals (EPO):
This subclass is indented under subclass E7.031. This subclass is substantially the same in scope as ECLA classification H04N 7/088P.

E7.037 Subscription systems therefor (EPO):
This subclass is indented under subclass E7.031. This subclass is substantially the same in scope as ECLA classification H04N 7/088S.

E7.038 Using frequency interleaving, e.g., with precision offset (EPO):
This subclass is indented under subclass E7.024. This subclass is substantially the same in scope as ECLA classification H04N 7/08A.

E7.039 The signals being two or more video signals (EPO):
This subclass is indented under subclass E7.024. This subclass is substantially the same in scope as ECLA classification H04N 7/08C.

E7.04 Systems for the transmission of one television signal, i.e., both picture and sound, by a single carrier (EPO):
This subclass is indented under subclass E7.001. This subclass is substantially the same in scope as ECLA classification H04N 7/04.

E7.041 The carrier being frequency modulated (EPO):
This subclass is indented under subclass E7.04. This subclass is substantially the same in scope as ECLA classification H04N 7/045

E7.042 Systems for the simultaneous transmission of one television signal, i.e., both picture and sound, by more than one carrier (EPO):
This subclass is indented under subclass E7.001. This subclass is substantially the same in scope as ECLA classification H04N 7/06.
E7.043 Simultaneous transmission of separate parts of one picture (EPO):
This subclass is indented under subclass E7.042. This subclass is substantially the same in scope as ECLA classification H04N 7/06B.

E7.044 The carriers being allocated to more than one television channel (EPO):
This subclass is indented under subclass E7.042. This subclass is substantially the same in scope as ECLA classification H04N 7/06C.

E7.045 Systems in which the television signal is transmitted via one channel or a plurality of parallel channels, the bandwidth of each channel being less than the bandwidth of the television signal (EPO):
This subclass is indented under subclass E7.001. This subclass is substantially the same in scope as ECLA classification H04N 7/12.

SEE OR SEARCH THIS CLASS:
E3.001, for special scanning.
E7.004, high definition television systems.

E7.046 Involving expansion and subsequent compression of a signal segment, e.g., a frame, a line (EPO):
This subclass is indented under subclass E7.045. This subclass is substantially the same in scope as ECLA classification H04N 7/12C.

E7.047 The signal segment being a picture element (EPO):
This subclass is indented under subclass E7.046. This subclass is substantially the same in scope as ECLA classification H04N 7/12C2.

E7.048 Systems in which different parts of the picture signal frequency band are individually processed, e.g., suppressed, transposed (EPO):
This subclass is indented under subclass E7.045. This subclass is substantially the same in scope as ECLA classification H04N 7/12D.

E7.049 Adaptations for transmission by electric cable (EPO):
This subclass is indented under subclass E7.001. This subclass is substantially the same in scope as ECLA classification H04N 7/10.

E7.05 For domestic distribution (EPO):
This subclass is indented under subclass E7.049. This subclass is substantially the same in scope as ECLA classification H04N 7/10H.

E7.051 The cable being constituted by a pair of wires (EPO):
This subclass is indented under subclass E7.049. This subclass is substantially the same in scope as ECLA classification H04N 7/10W.

E7.052 Circuits therefor, e.g., noise reducers, equalizers, amplifiers (EPO):
This subclass is indented under subclass E7.049. This subclass is substantially the same in scope as ECLA classification H04N 7/10C.

E7.053 Switchers or splitters (EPO):
This subclass is indented under subclass E7.052. This subclass is substantially the same in scope as ECLA classification H04N 7/10C2.
E7.054 Secrecy systems; Subscription systems (EPO):
This subclass is indented under subclass E7.001. This subclass is substantially the same in scope as ECLA classification H04N 7/16.

E7.055 Systems rendering the television signal unintelligible and subsequently intelligible (EPO):
This subclass is indented under subclass E7.054. This subclass is substantially the same in scope as ECLA classification H04N 7/167.

E7.056 Providing digital key or authorization information for generation or regeneration of the scrambling sequence (EPO):
This subclass is indented under subclass E7.055. This subclass is substantially the same in scope as ECLA classification H04N 7/167D.

E7.057 Systems operating in the time domain of the television signal (EPO):
This subclass is indented under subclass E7.055. This subclass is substantially the same in scope as ECLA classification H04N 7/169.

E7.058 By displacing synchronization signals relative to active picture signals or vice versa (EPO):
This subclass is indented under subclass E7.057. This subclass is substantially the same in scope as ECLA classification H04N 7/169B.

E7.059 By changing or reversing the order of active picture signal portions (EPO):
This subclass is indented under subclass E7.057. This subclass is substantially the same in scope as ECLA classification H04N 7/169C.

E7.06 Authorizing the user terminal, e.g., by paying; registering the use of a subscription channel, e.g. billing (EPO):
This subclass is indented under subclass E7.054. This subclass is substantially the same in scope as ECLA classification H04N 7/16E.

E7.061 By receiver means only (EPO):
This subclass is indented under subclass E7.06. This subclass is substantially the same in scope as ECLA classification H04N 7/16E2.

E7.062 Coin-freed apparatus (EPO):
This subclass is indented under subclass E7.061. This subclass is substantially the same in scope as ECLA classification H04N 7/16E2B.

E7.063 Centralized control of user terminal; registering at central (EPO):
This subclass is indented under subclass E7.06. This subclass is substantially the same in scope as ECLA classification H04N 7/16E3.

SEE OR SEARCH THIS CLASS, SUBCLASS:
E7.074, for centralized control of user terminal subsequent to an upstream request signal.
E7.070, for registering at central by two-way working.

E7.064 Constructional details of the subscriber equipment (EPO):
This subclass is indented under subclass E7.054. This subclass is substantially the same in scope as ECLA classification H04N 7/16D.
E7.065  Passage/non-passage of the television signal, e.g., jamming, band suppression (EPO):
This subclass is indented under subclass E7.054. This subclass is substantially the same
in scope as ECLA classification H04N 7/16F.
SEE OR SEARCH THIS CLASS, SUBCLASS:
E7.055, for scrambling and descrambling.

E7.066  Systems operating in the amplitude domain of the television signal (EPO):
This subclass is indented under subclass E7.065. This subclass is substantially the same
in scope as ECLA classification H04N 7/171.

E7.067  By modifying synchronization signals (EPO):
This subclass is indented under subclass E7.066. This subclass is substantially the same
in scope as ECLA classification H04N 7/171B.

E7.068  By inverting the polarity of active picture signal portions (EPO):
This subclass is indented under subclass E7.066. This subclass is substantially the same
in scope as ECLA classification H04N 7/171C.

E7.069  With two-way working, e.g., subscriber sending a program selection signal (EPO):
This subclass is indented under subclass E7.054. This subclass is substantially the same
in scope as ECLA classification H04N 7/173.

E7.07  Transmission or handling of upstream communications (EPO):
This subclass is indented under subclass E7.069. This subclass is substantially the same
in scope as ECLA classification H04N 7/173B.

E7.071  Direct or substantially direct transmission and handling of requests (EPO):
This subclass is indented under subclass E7.07. This subclass is substantially the same in
scope as ECLA classification H04N 7/173B2.

E7.072  With deferred transmission or handling of upstream communications (EPO):
This subclass is indented under subclass E7.070. This subclass is substantially the same in
scope as ECLA classification H04N 7/173B3.

E7.073  Handling of requests in head-ends (EPO):
This subclass is indented under subclass E7.07. This subclass is substantially the same in
scope as ECLA classification H04N 7/173B4.

E7.074  Control of the passage of the selected program (EPO):
This subclass is indented under subclass E7.069. This subclass is substantially the same in
scope as ECLA classification H04N 7/173C.

E7.075  In an intermediate station common to a plurality of user terminals (EPO):
This subclass is indented under subclass E7.074. This subclass is substantially the same in
scope as ECLA classification H04N 7/173C2.

E7.076  At or near the user terminal (EPO):
This subclass is indented under subclass E7.074. This subclass is substantially the same in
scope as ECLA classification H04N 7/173C3.

E7.077  Systems for two-way working (EPO):
This subclass is indented under subclass E7.001. This subclass is substantially the same in
scope as ECLA classification H04N 7/14.
E7.078 Between two video terminals, e.g., videophone (EPO):
This subclass is indented under subclass E7.077. This subclass is substantially the same in scope as ECLA classification H04N 7/14A.

E7.079 Constructional details of the terminal equipment, e.g., arrangements of the camera and the display (EPO):
This subclass is indented under subclass E7.078. This subclass is substantially the same in scope as ECLA classification H04N 7/14A2.

E7.08 Camera and display on the same optical axis, e.g., optically multiplexing the camera and display for eye to eye contact (EPO):
This subclass is indented under subclass E7.078. This subclass is substantially the same in scope as ECLA classification H04N 7/14A2B.

E7.081 Communication arrangements, e.g., identifying the communication as a video-communication, intermediate storage of the signals (EPO):
This subclass is indented under subclass E7.078. This subclass is substantially the same in scope as ECLA classification H04N 7/14A3.

E7.082 Interfacing a video terminal to a particular transmission medium, e.g., ISDN (EPO):
This subclass is indented under subclass E7.078. This subclass is substantially the same in scope as ECLA classification H04N 7/14A4.

E7.083 Conference systems (EPO):
This subclass is indented under subclass E7.077. This subclass is substantially the same in scope as ECLA classification H04N 7/15.

SEE OR SEARCH THIS CLASS, SUBCLASS:
E7.078, for video-terminal details.

E7.084 Multipoint control units therefor (EPO):
This subclass is indented under subclass E7.083. This subclass is substantially the same in scope as ECLA classification H04N 7/15M.

E7.085 Closed circuit television systems, i.e., systems in which the signal is not broadcast (EPO):
This subclass is indented under subclass E7.001. This subclass is substantially the same in scope as ECLA classification H04N 7/18.

E7.086 For receiving images from a plurality of remote sources (EPO):
This subclass is indented under subclass E7.085. This subclass is substantially the same in scope as ECLA classification H04N 7/18C.

E7.087 For receiving images from a single remote source (EPO):
This subclass is indented under subclass E7.085. This subclass is substantially the same in scope as ECLA classification H04N 7/18D.

E7.088 From a mobile camera, e.g., for remote control (EPO):
This subclass is indented under subclass E7.087. This subclass is substantially the same in scope as ECLA classification H04N 7/18D2.

E7.089 Video door telephones (EPO):
This subclass is indented under subclass E7.087. This subclass is substantially the same in scope as ECLA classification H04N 7/18D3.
E7.09 Capturing isolated or intermittent images triggered by the occurrence of a predetermined event, e.g., an object reaching a predetermined position (EPO):
This subclass is indented under subclass E7.085. This subclass is substantially the same in scope as ECLA classification H04N 7/18E.

SEE OR SEARCH THIS CLASS, SUBCLASS:
E5.049, for signal generation from motion picture films.

E7.091 Special television systems not provided for by E7.002 to E7.085 (EPO):
This subclass is indented under subclass E7.001. This subclass is substantially the same in scope as ECLA classification H04N 7/00B.

E7.092 Using at least one opto-electrical conversion device (EPO):
This subclass is indented under subclass E7.091. This subclass is substantially the same in scope as ECLA classification H04N 7/00B3.

E7.093 Adaptations for transmission via a GHz frequency band, e.g., via satellite (EPO):
This subclass is indented under subclass E7.001. This subclass is substantially the same in scope as ECLA classification H04N 7/20.

E7.094 Adaptations for optical transmission (EPO):
This subclass is indented under subclass E7.001. This subclass is substantially the same in scope as ECLA classification H04N 7/22.

E9.001 DETAILS OF COLOR TELEVISION SYSTEMS (EPO):
This subclass provides for details of television methods and devices wherein the picture signal includes portions indicating the existing color of an original object or scene. This subclass is substantially the same in scope as ECLA classification H04N 9/00.

E9.002 Picture signal generators (EPO):
This subclass is indented under subclass E9.001. This subclass is substantially the same in scope as ECLA classification H04N 9/04.

E9.003 With one pick-up device only (EPO):
This subclass is indented under subclass E9.002. This subclass is substantially the same in scope as ECLA classification H04N 9/07.

E9.004 Whereby the color signals are characterized by their phase (EPO):
This subclass is indented under subclass E9.003. This subclass is substantially the same in scope as ECLA classification H04N 9/077.

E9.005 Whereby the color signals are characterized by their frequency (EPO):
This subclass is indented under subclass E9.003. This subclass is substantially the same in scope as ECLA classification H04N 9/083.

E9.006 With more than one pick-up device (EPO):
This subclass is indented under subclass E9.002. This subclass is substantially the same in scope as ECLA classification H04N 9/09.

E9.007 Systems for avoiding or correcting misregistration of video signals (EPO):
This subclass is indented under subclass E9.006. This subclass is substantially the same in scope as ECLA classification H04N 9/093.
E9.008 Optical arrangements associated therewith, e.g., for beam-splitting, for color correction (EPO):

This subclass is indented under subclass E9.006. This subclass is substantially the same in scope as ECLA classification H04N 9/097.

E9.009 Scanning of color motion picture films, e.g., for telecine (EPO):

This subclass is indented under subclass E9.002. This subclass is substantially the same in scope as ECLA classification H04N 9/11.

E9.01 Using solid-state devices (EPO):

This subclass is indented under subclass E9.002. This subclass is substantially the same in scope as ECLA classification H04N 9/04B.

E9.011 Using optical-mechanical scanning means only (EPO):

This subclass is indented under subclass E9.002. This subclass is substantially the same in scope as ECLA classification H04N 9/10.

E9.012 Picture reproducers (EPO):

This subclass is indented under subclass E9.001. This subclass is substantially the same in scope as ECLA classification H04N 9/12.

E9.013 Using optical-mechanical scanning means only (EPO):

This subclass is indented under subclass E9.012. This subclass is substantially the same in scope as ECLA classification H04N 9/14.

E9.014 Using cathode ray tubes (EPO):

This subclass is indented under subclass E9.012. This subclass is substantially the same in scope as ECLA classification H04N 9/16.

E9.015 With variable depth of penetration of electron beam into the luminescent layer, e.g., penetrions (EPO):

This subclass is indented under subclass E9.014. This subclass is substantially the same in scope as ECLA classification H04N 9/27.

E9.016 Using separate electron beams for the primary color signals (EPO):

This subclass is indented under subclass E9.014. This subclass is substantially the same in scope as ECLA classification H04N 9/18.

E9.017 With more than one beam in a tube (EPO):

This subclass is indented under subclass E9.016. This subclass is substantially the same in scope as ECLA classification H04N 9/20.

E9.018 Using the same beam for more than one primary color information (EPO):

This subclass is indented under subclass E9.014. This subclass is substantially the same in scope as ECLA classification H04N 9/22.

E9.019 Using means, integral with, or external to, the tube, for producing signal indicating instantaneous beam position (EPO):

This subclass is indented under subclass E9.018. This subclass is substantially the same in scope as ECLA classification H04N 9/24.

E9.02 Using electron-optical color selection means, e.g., line grid, deflection means in or near the gun or near the phosphor screen (EPO):

This subclass is indented under subclass E9.018. This subclass is substantially the same in scope as ECLA classification H04N 9/26.
E9.021 *Arrangements for convergence or focusing (EPO):*
This subclass is indented under subclass E9.014. This subclass is substantially the same in scope as ECLA classification H04N 9/28.

E9.022 *Using quadruple lenses (EPO):*
This subclass is indented under subclass E9.021. This subclass is substantially the same in scope as ECLA classification H04N 9/285.

E9.023 *Using demagnetization or compensation of external magnetic fields (EPO):*
This subclass is indented under subclass E9.014. This subclass is substantially the same in scope as ECLA classification H04N 9/29.

E9.024 *Using solid-state color display devices (EPO):*
This subclass is indented under subclass E9.012. This subclass is substantially the same in scope as ECLA classification H04N 9/30.

E9.025 *Projection devices for color picture display (EPO):*
This subclass is indented under subclass E9.012. This subclass is substantially the same in scope as ECLA classification H04N 9/31.

E9.026 *Using laser beams scanning the display screen (EPO):*
This subclass is indented under subclass E9.025. This subclass is substantially the same in scope as ECLA classification H04N 9/31L.

E9.027 *Using light modulating optical valves (EPO):*
This subclass is indented under subclass E9.025. This subclass is substantially the same in scope as ECLA classification H04N 9/31V.

E9.028 *Conversion of monochrome picture signals to color picture signals for color picture display (EPO):*
This subclass is indented under subclass E9.001. This subclass is substantially the same in scope as ECLA classification H04N 9/43.

E9.029 *Color synchronization (EPO):*
This subclass is indented under subclass E9.001. This subclass is substantially the same in scope as ECLA classification H04N 9/44.

E9.03 *Generation or recovery of color sub-carriers (EPO):*
This subclass is indented under subclass E9.029. This subclass is substantially the same in scope as ECLA classification H04N 9/45.

E9.031 *Generation of color burst signals; Insertion of color burst signals in color picture signals or separation of color burst signals from color picture signals (EPO):*
This subclass is indented under subclass E9.029. This subclass is substantially the same in scope as ECLA classification H04N 9/455.

E9.032 *Synchronization of the PAL-switch (EPO):*
This subclass is indented under subclass E9.029. This subclass is substantially the same in scope as ECLA classification H04N 9/465.

E9.033 *For sequential signals (EPO):*
This subclass is indented under subclass E9.029. This subclass is substantially the same in scope as ECLA classification H04N 9/47.
E9.034 For mutually locking different synchronization sources (EPO):
This subclass is indented under subclass E9.029. This subclass is substantially the same in scope as ECLA classification H04N 9/475.

E9.035 Circuits for processing the brightness signal and the chrominance signal relative to each other, e.g., adjusting the phase of the brightness signal relative to the color signal, correcting differential gain or differential phase (EPO):
This subclass is indented under subclass E9.001. This subclass is substantially the same in scope as ECLA classification H04N 9/77.

SEE OR SEARCH THIS CLASS, SUBCLASS:
E9.047, for circuits for matrixing.

E9.036 For separating the brightness signal or the chrominance signal from the color television signal, e.g., using comb filter (EPO):
This subclass is indented under subclass E9.035. This subclass is substantially the same in scope as ECLA classification H04N 9/78.

E9.037 Circuits for processing color signals (EPO):
This subclass is indented under subclass E9.001. This subclass is substantially the same in scope as ECLA classification H04N 9/64.

E9.038 Multi-standard receivers (EPO):
This subclass is indented under subclass E9.037. This subclass is substantially the same in scope as ECLA classification H04N 9/64B.

E9.039 Multi-purpose receivers, e.g., for auxiliary information (EPO):
This subclass is indented under subclass E9.037. This subclass is substantially the same in scope as ECLA classification H04N 9/64A.

E9.04 Hue control means, e.g., flesh tone control (EPO):
This subclass is indented under subclass E9.037. This subclass is substantially the same in scope as ECLA classification H04N 9/64C.

E9.041 Beam current control means (EPO):
This subclass is indented under subclass E9.037. This subclass is substantially the same in scope as ECLA classification H04N 9/64D.

E9.042 For image enhancement, e.g., vertical detail restoration, cross-color elimination, contour correction, chrominance trapping filters (EPO):
This subclass is indented under subclass E9.037. This subclass is substantially the same in scope as ECLA classification H04N 9/64E.

E9.043 I.F amplifiers (EPO):
This subclass is indented under subclass E9.037. This subclass is substantially the same in scope as ECLA classification H04N 9/64M.

E9.044 Video amplifiers (EPO):
This subclass is indented under subclass E9.037. This subclass is substantially the same in scope as ECLA classification H04N 9/64V.

E9.045 For synchronous modulators (EPO):
This subclass is indented under subclass E9.037. This subclass is substantially the same in scope as ECLA classification H04N 9/65.
E9.046 For synchronous demodulators (EPO):
This subclass is indented under subclass E9.037. This subclass is substantially the same in scope as ECLA classification H04N 9/66.

E9.047 For matrixing (EPO):
This subclass is indented under subclass E9.037. This subclass is substantially the same in scope as ECLA classification H04N 9/67.

E9.048 For color killing (EPO):
This subclass is indented under subclass E9.037. This subclass is substantially the same in scope as ECLA classification H04N 9/70.

E9.049 Combined with color gain control (EPO):
This subclass is indented under subclass E9.048. This subclass is substantially the same in scope as ECLA classification H04N 9/71.

E9.05 For reinsertion of dc and slowly varying components of color signal (EPO):
This subclass is indented under subclass E9.037. This subclass is substantially the same in scope as ECLA classification H04N 9/72.

E9.051 Color balance circuits, e.g., white balance circuits, color temperature control (EPO):
This subclass is indented under subclass E9.037. This subclass is substantially the same in scope as ECLA classification H04N 9/73.

E9.052 For picture signal generators (EPO):
This subclass is indented under subclass E9.051. This subclass is substantially the same in scope as ECLA classification H04N 9/73B.

E9.053 For controlling the amplitude of color signals, e.g., automatic chroma control circuits (EPO):
This subclass is indented under subclass E9.037. This subclass is substantially the same in scope as ECLA classification H04N 9/68.

E9.054 For modifying the color signals by gamma correction (EPO):
This subclass is indented under subclass E9.053. This subclass is substantially the same in scope as ECLA classification H04N 9/69.

E9.055 For obtaining special effects (EPO):
This subclass is indented under subclass E9.037. This subclass is substantially the same in scope as ECLA classification H04N 9/74.

E9.056 Chroma key (EPO):
This subclass is indented under subclass E9.055. This subclass is substantially the same in scope as ECLA classification H04N 9/75.

E9.057 For mixing of color signals (EPO):
This subclass is indented under subclass E9.055. This subclass is substantially the same in scope as ECLA classification H04N 9/76.

E11.001 COLOR TELEVISION SYSTEMS (EPO):
This main group provides for television methods and devices wherein the picture signal includes portions indicating the existing color of an original object or scene. This subclass is substantially the same in scope as ECLA classification H04N 11/00.
SEE OR SEARCH THIS CLASS, SUBCLASS:

E9.001, for details of color television systems

E11.002 High definition systems (EPO):
This subclass is indented under subclass E11.001. This subclass is substantially the same in scope as ECLA classification H04N 11/00H.

E11.003 Involving two-channel transmission (EPO):
This subclass is indented under subclass E11.002. This subclass is substantially the same in scope as ECLA classification H04N 11/00H2.

E11.004 Involving bandwidth reduction, e.g., subsampling (EPO):
This subclass is indented under subclass E11.002. This subclass is substantially the same in scope as ECLA classification H04N 11/00H4.

E11.005 With transmission of the extra information by means of quadrature modulation (EPO):
This subclass is indented under subclass E11.002. This subclass is substantially the same in scope as ECLA classification H04N 11/00H6.

E11.006 With bandwidth reduction (EPO):
This subclass is indented under subclass E11.001. This subclass is substantially the same in scope as ECLA classification H04N 11/02.

E11.007 Transmission systems characterized by the manner in which the individual color picture signal components are combined (EPO):
This subclass is indented under subclass E11.001. This subclass is substantially the same in scope as ECLA classification H04N 11/06.

E11.008 Using sequential signals only (EPO):
This subclass is indented under subclass E11.007. This subclass is substantially the same in scope as ECLA classification H04N 11/08.

SEE OR SEARCH THIS CLASS, SUBCLASS:

E11.01 for dot sequential systems.

E11.009 In which color signals are inserted in the blanking interval of brightness signal (EPO):
This subclass is indented under subclass E11.008. This subclass is substantially the same in scope as ECLA classification H04N 11/10.

E11.01 Using simultaneous signals only (EPO):
This subclass is indented under subclass E11.007. This subclass is substantially the same in scope as ECLA classification H04N 11/12.

E11.011 In which one signal, modulated in phase and amplitude, conveys color information and a second signal conveys brightness information, e.g., NTSC-system (EPO):
This subclass is indented under subclass E11.01. This subclass is substantially the same in scope as ECLA classification H04N 11/14.

E11.012 The chrominance signal alternating in phase, e.g., PAL-system (EPO):
This subclass is indented under subclass E11.011. This subclass is substantially the same in scope as ECLA classification H04N 11/16.
E11.013 A resolution-increasing signal being multiplexed to the PAL-system signal, e.g., PAL-PLUS-system (EPO):
This subclass is indented under subclass E11.012. This subclass is substantially the same in scope as ECLA classification H04N 11/16P.

E11.014 Encoding means therefor (EPO):
This subclass is indented under subclass E11.012. This subclass is substantially the same in scope as ECLA classification H04N 11/16B.

E11.015 Decoding means therefor (EPO):
This subclass is indented under subclass E11.012. This subclass is substantially the same in scope as ECLA classification H04N 11/16C.

E11.016 Encoding means therefor (EPO):
This subclass is indented under subclass E11.011. This subclass is substantially the same in scope as ECLA classification H04N 11/14B.

E11.017 Decoding means therefor (EPO):
This subclass is indented under subclass E11.011. This subclass is substantially the same in scope as ECLA classification H04N 11/14C.

E11.018 Using simultaneous and sequential signals, e.g., SECAM-system (EPO):
This subclass is indented under subclass E11.007. This subclass is substantially the same in scope as ECLA classification H04N 11/18.

E11.019 Encoding means therefor (EPO):
This subclass is indented under subclass E11.007. This subclass is substantially the same in scope as ECLA classification H04N 11/18B.

E11.02 Decoding means therefor (EPO):
This subclass is indented under subclass E11.007. This subclass is substantially the same in scope as ECLA classification H04N 11/18C.

E11.021 Conversion of the manner in which the individual color picture signal components are combined, e.g., conversion of color television standards (EPO):
This subclass is indented under subclass E11.007. This subclass is substantially the same in scope as ECLA classification H04N 11/20.

E11.022 In which simultaneous signals are converted into sequential signals or vice versa (EPO):
This subclass is indented under subclass E11.021. This subclass is substantially the same in scope as ECLA classification H04N 11/22.

E13.001 STEREOSCOPIC TELEVISION SYSTEMS; DETAILS THEREOF (EPO):
This subclass provides for television methods and devices, including details thereof, wherein the picture signal includes information indicating the three-dimensional nature of the original object or scene. This subclass is substantially the same in scope as ECLA classification H04N 13/00.

E13.002 Systems where the three-dimensional effect is obtained by means of at least two 2D image signals from different viewpoint locations representing the interocular distance (EPO):
This subclass is indented under subclass E13.001. This subclass is substantially the same in scope as ECLA classification H04N 13/00S.
E13.003 Stereoscopic image signal generation (EPO):
This subclass is indented under subclass E13.002. This subclass is substantially the same
in scope as ECLA classification H04N 13/00S2.

E13.004 Using a stereoscopic image camera (EPO):
This subclass is indented under subclass E13.003. This subclass is substantially the same
in scope as ECLA classification H04N 13/00S2A.

E13.005 Having a single 2D image pickup sensor (EPO):
This subclass is indented under subclass E13.004. This subclass is substantially the same
in scope as ECLA classification H04N 13/00S2A1.

E13.006 Using spectral multiplexing, i.e., simultaneously capturing several geometrical
viewpoints separated by different spectral characteristics (EPO):
This subclass is indented under subclass E13.005. This subclass is substantially the same
in scope as ECLA classification H04N 13/00S2A1B.

E13.007 Using spatial multiplexing, i.e., simultaneously capturing several geometrical
viewpoints on different parts of the image pickup sensor (EPO):
This subclass is indented under subclass E13.005. This subclass is substantially the same
in scope as ECLA classification H04N 13/00S2A1D.

E13.008 Using the relative movement between camera and object (EPO):
This subclass is indented under subclass E13.005. This subclass is substantially the same
in scope as ECLA classification H04N 13/00S2A1M.

E13.009 Using temporal multiplexing, i.e., alternatively capturing several geometrical
viewpoints separated in time (EPO):
This subclass is indented under subclass E13.005. This subclass is substantially the same
in scope as ECLA classification H04N 13/00S2A1A.

E13.01 Having a parallax barrier (EPO):
This subclass is indented under subclass E13.005. This subclass is substantially the same
in scope as ECLA classification H04N 13/00S2A1P.

E13.011 Having a fly-eye lenticular screen (EPO):
This subclass is indented under subclass E13.005. This subclass is substantially the same
in scope as ECLA classification H04N 13/00S2A1T.

E13.012 Having a lenticular screen (EPO):
This subclass is indented under subclass E13.005. This subclass is substantially the same
in scope as ECLA classification H04N 13/00S2A1S.

E13.013 Having a varifocal lens or mirror (EPO):
This subclass is indented under subclass E13.005. This subclass is substantially the same
in scope as ECLA classification H04N 13/00S2A1V.

E13.014 Having two 2D image pickup sensors representing the interocular distance (EPO):
This subclass is indented under subclass E13.004. This subclass is substantially the same
in scope as ECLA classification H04N 13/00S2A2.

E13.015 Having more than two 2D image pickup sensors (EPO):
This subclass is indented under subclass E13.004. This subclass is substantially the same
in scope as ECLA classification H04N 13/00S2A3.
E13.016 Calibration aspects (EPO):
This subclass is indented under subclass E13.004. This subclass is substantially the same in scope as ECLA classification H04N 13/00S2A7.

E13.017 Having several image pickup sensors with different characteristics other than location or field of view, e.g., different resolution, color pickup characteristic or additional depth information or, where the image signals of one image pickup sensor are used to control the characteristics of at least one other image pickup sensor (EPO):
This subclass is indented under subclass E13.004. This subclass is substantially the same in scope as ECLA classification H04N 13/00S2A8.

E13.018 In combination with an electromagnetic radiation source for illuminating the subject (EPO):
This subclass is indented under subclass E13.004. This subclass is substantially the same in scope as ECLA classification H04N 13/00S2A9.

E13.019 Color aspects (EPO):
This subclass is indented under subclass E13.003. This subclass is substantially the same in scope as ECLA classification H04N 13/00S2B.

E13.02 With monoscopic to stereoscopic image conversion (EPO):
This subclass is indented under subclass E13.003. This subclass is substantially the same in scope as ECLA classification H04N 13/00S2C.

E13.021 For generating stereoscopic image signals corresponding to more than two geometrical viewpoints (EPO):
This subclass is indented under subclass E13.003. This subclass is substantially the same in scope as ECLA classification H04N 13/00S2L.

E13.022 From a 3D object model, e.g., computer generated stereoscopic image signals (EPO):
This subclass is indented under subclass E13.003. This subclass is substantially the same in scope as ECLA classification H04N 13/00S2M.

E13.023 The virtual viewpoint location being selected by the observer, e.g., observer tracking (EPO):
This subclass is indented under subclass E13.022. This subclass is substantially the same in scope as ECLA classification H04N 13/00S2M1.

E13.024 For generating monoscopic and stereoscopic images or mixed monoscopic/stereoscopic images, e.g., monoscopic and stereoscopic image generating modes or a stereoscopic image overlay window in a monoscopic image background (EPO):
This subclass is indented under subclass E13.003. This subclass is substantially the same in scope as ECLA classification H04N 13/00S2N.

E13.025 Synchronization or controlling aspects (EPO):
This subclass is indented under subclass E13.003. This subclass is substantially the same in scope as ECLA classification H04N 13/00S2Y.
E13.026 Stereoscopic image displaying (EPO):
This subclass is indented under subclass E13.002. This subclass is substantially the same in scope as ECLA classification H04N 13/00S4.

E13.027 Using an autostereoscopic display, i.e., viewing by the user without the aid of special glasses (EPO):
This subclass is indented under subclass E13.026. This subclass is substantially the same in scope as ECLA classification H04N 13/00S4A.

E13.028 Using a fly-eye lenticular screen (EPO):
This subclass is indented under subclass E13.027. This subclass is substantially the same in scope as ECLA classification H04N 13/00S4A2.

E13.029 Using a lenticular screen (EPO):
This subclass is indented under subclass E13.027. This subclass is substantially the same in scope as ECLA classification H04N 13/00S4A1.

E13.03 Using a parallax barrier, e.g., spatial light modulator (EPO):
This subclass is indented under subclass E13.027. This subclass is substantially the same in scope as ECLA classification H04N 13/00S4A3.

E13.031 Using an array of controllable light sources or a moving aperture or light source (EPO):
This subclass is indented under subclass E13.027. This subclass is substantially the same in scope as ECLA classification H04N 13/00S4A7.

E13.032 Using a varifocal lens or mirror (EPO):
This subclass is indented under subclass E13.027. This subclass is substantially the same in scope as ECLA classification H04N 13/00S4A9.

E13.033 Color aspects (EPO):
This subclass is indented under subclass E13.026. This subclass is substantially the same in scope as ECLA classification H04N 13/00S4B.

E13.034 Calibration aspects (EPO):
This subclass is indented under subclass E13.026. This subclass is substantially the same in scope as ECLA classification H04N 13/00S4C.

E13.035 Using a digital micro mirror device (DMD) (EPO):
This subclass is indented under subclass E13.026. This subclass is substantially the same in scope as ECLA classification H04N 13/00S4E.

E13.036 For viewing by the user with the aid of special glasses or head mounted displays (HMD), i.e., stereoscopic displaying (EPO):
This subclass is indented under subclass E13.026. This subclass is substantially the same in scope as ECLA classification H04N 13/00S4G.

E13.037 With spectral multiplexing, i.e., simultaneously displaying left and right images separated using glasses with different spectral characteristics, e.g., anaglyph method or Pohlfrich method (EPO):
This subclass is indented under subclass E13.036. This subclass is substantially the same in scope as ECLA classification H04N 13/00S4G1.
E13.038 With polarization multiplexing, i.e., simultaneously displaying left and right images separated using glasses with different polarizing characteristics (EPO):
This subclass is indented under subclass E13.036. This subclass is substantially the same in scope as ECLA classification H04N 13/00S4G3.

E13.039 With spatial multiplexing, i.e., simultaneously displaying left and right images on different parts of the display screen and using glasses to optically recombine the stereoscopic image, e.g., with prisms or mirrors (EPO):
This subclass is indented under subclass E13.036. This subclass is substantially the same in scope as ECLA classification H04N 13/00S4G5.

E13.04 With temporal multiplexing, i.e., alternatively displaying left and right images separated in time and using glasses to alternatively block the right and left eye (EPO):
This subclass is indented under subclass E13.036. This subclass is substantially the same in scope as ECLA classification H04N 13/00S4G7.

E13.041 With head mounted left-right displays (EPO):
This subclass is indented under subclass E13.036. This subclass is substantially the same in scope as ECLA classification H04N 13/00S4G9.

E13.042 Using a half transparent mirror or prism (EPO):
This subclass is indented under subclass E13.026. This subclass is substantially the same in scope as ECLA classification H04N 13/00S4H.

E13.043 For displaying simultaneously more than two geometrical viewpoints, i.e., look-around effect without observer tracking (EPO):
This subclass is indented under subclass E13.026. This subclass is substantially the same in scope as ECLA classification H04N 13/00S4L.

E13.044 For displaying monoscopic and stereoscopic images or mixed monoscopic/stereoscopic images, e.g., monoscopic and stereoscopic image displaying modes or a stereoscopic image overlay window in a monoscopic image background (EPO):
This subclass is indented under subclass E13.026. This subclass is substantially the same in scope as ECLA classification H04N 13/00S4M.

E13.045 Using observer tracking (EPO):
This subclass is indented under subclass E13.026. This subclass is substantially the same in scope as ECLA classification H04N 13/00S4T.

E13.046 For several observers (EPO):
This subclass is indented under subclass E13.045. This subclass is substantially the same in scope as ECLA classification H04N 13/00S4T1.

E13.047 For tracking with gaze detection, i.e., detecting the lines of sight of the observers eyes (EPO):
This subclass is indented under subclass E13.045. This subclass is substantially the same in scope as ECLA classification H04N 13/00S4T11.

E13.048 For tracking with variable interocular distance or rotational head movements around the vertical axes (EPO):
This subclass is indented under subclass E13.045. This subclass is substantially the same in scope as ECLA classification H04N 13/00S4T2.
E13.049 For tracking forward-backward translational head movements, i.e., longitudinal movements (EPO):
This subclass is indented under subclass E13.045. This subclass is substantially the same in scope as ECLA classification H04N 13/00S4T3.

E13.05 For tracking left-right translational head movements, i.e., lateral movements (EPO):
This subclass is indented under subclass E13.045. This subclass is substantially the same in scope as ECLA classification H04N 13/00S4T5.

E13.051 For tracking rotational head movements in a plane parallel to the screen (EPO):
This subclass is indented under subclass E13.045. This subclass is substantially the same in scope as ECLA classification H04N 13/00S4T7.

E13.052 For tracking vertical translational head movements (EPO):
This subclass is indented under subclass E13.045. This subclass is substantially the same in scope as ECLA classification H04N 13/00S4T9.

E13.053 Alternating rapidly the location of the left-right image components on the display screen (EPO):
This subclass is indented under subclass E13.026. This subclass is substantially the same in scope as ECLA classification H04N 13/00S4U.

E13.054 Using a volumetric display, i.e., systems where the image is built up from picture elements distributed over a volume (EPO):
This subclass is indented under subclass E13.026. This subclass is substantially the same in scope as ECLA classification H04N 13/00S4V.

E13.055 The picture elements emitting light where a pair of light beams intersect in a transparent material (EPO):
This subclass is indented under subclass E13.054. This subclass is substantially the same in scope as ECLA classification H04N 13/00S4V1.

E13.056 The volume being generated by a moving, e.g., vibrating or rotating, surface (EPO):
This subclass is indented under subclass E13.054. This subclass is substantially the same in scope as ECLA classification H04N 13/00S4V3.

E13.057 With depth sampling, i.e., the volume being constructed from a stack or sequence of 2D image planes (EPO):
This subclass is indented under subclass E13.054. This subclass is substantially the same in scope as ECLA classification H04N 13/00S4V5.

E13.058 Using an image projection screen (EPO):
This subclass is indented under subclass E13.026. This subclass is substantially the same in scope as ECLA classification H04N 13/00S4P.

E13.059 Synchronization or controlling aspects (EPO):
This subclass is indented under subclass E13.026. This subclass is substantially the same in scope as ECLA classification H04N 13/00S4Y.

E13.06 Stereoscopic image signal coding, multiplexing, processing, recording or transmission (EPO):
This subclass is indented under subclass E13.002. This subclass is substantially the same in scope as ECLA classification H04N 13/00S6.
E13.061 Color aspects (EPO):
This subclass is indented under subclass E13.06. This subclass is substantially the same in scope as ECLA classification H04N 13/00S6B.

E13.062 Coding or decoding stereoscopic image signals (EPO):
This subclass is indented under subclass E13.06. This subclass is substantially the same in scope as ECLA classification H04N 13/00S6C.

E13.063 Mixing stereoscopic image signals (EPO):
This subclass is indented under subclass E13.06. This subclass is substantially the same in scope as ECLA classification H04N 13/00S6M.

E13.064 Processing stereoscopic image signals (EPO):
This subclass is indented under subclass E13.06. This subclass is substantially the same in scope as ECLA classification H04N 13/00S6P.

E13.065 Transformation of stereoscopic image signals corresponding to virtual viewpoints, e.g., spatial image interpolation (EPO):
This subclass is indented under subclass E13.064. This subclass is substantially the same in scope as ECLA classification H04N 13/00S6P1.

E13.066 The virtual viewpoint location being selected by the observer, e.g., observer tracking with look around effect (EPO):
This subclass is indented under subclass E13.065. This subclass is substantially the same in scope as ECLA classification H04N 13/00S6P1V.

E13.067 Improving the 3D impression of a displayed stereoscopic image, e.g., with filtering or addition of monoscopic depth cues (EPO):
This subclass is indented under subclass E13.064. This subclass is substantially the same in scope as ECLA classification H04N 13/00S6P3.

E13.068 Format conversion of stereoscopic images, e.g., frame-rate, size,... (EPO):
This subclass is indented under subclass E13.064. This subclass is substantially the same in scope as ECLA classification H04N 13/00S6P5.

E13.069 Equalizing the characteristics of different image components in stereoscopic images, e.g., average brightness or color balance (EPO):
This subclass is indented under subclass E13.064. This subclass is substantially the same in scope as ECLA classification H04N 13/00S6P7.

E13.07 Switching stereoscopic image signals (EPO):
This subclass is indented under subclass E13.06. This subclass is substantially the same in scope as ECLA classification H04N 13/00S6S.

E13.071 Transmission of stereoscopic image signals (EPO):
This subclass is indented under subclass E13.06. This subclass is substantially the same in scope as ECLA classification H04N 13/00S6T.

E13.072 Multiplexing or demultiplexing different image signal components in stereoscopic image signals (EPO):
This subclass is indented under subclass E13.06. This subclass is substantially the same in scope as ECLA classification H04N 13/00S6U.

E13.073 Synchronization or controlling aspects (EPO):
This subclass is indented under subclass E13.06. This subclass is substantially the same in scope as ECLA classification H04N 13/00S6Y.
E13.074 Picture signal generators (EPO):
This subclass is indented under subclass E13.001. This subclass is substantially the same in scope as ECLA classification H04N 13/02.

E13.075 Picture reproducers (EPO):
This subclass is indented under subclass E13.001. This subclass is substantially the same in scope as ECLA classification H04N 13/02.

E15.001 STEREOSCOPIC COLOR TELEVISION SYSTEMS; DETAILS THEREOF (EPO):
This subclass provides for television methods and devices, including details thereof, wherein the picture signal includes information indicating both the color and the three-dimensional nature of the original object or scene. This subclass is substantially the same in scope as ECLA classification H04N 15/00.

E17.001 DIAGNOSIS, TESTING OR MEASURING FOR TELEVISION SYSTEMS OR THEIR DETAILS (EPO):
This group of subclasses provides for methods and devices separate from the television system or components thereof for monitoring, testing, or measuring parameters of the television system or its components. This subclass is substantially the same in scope as ECLA classification H04N 17/00.

E17.002 For television cameras (EPO):
This subclass is indented under subclass E17.001. This subclass is substantially the same in scope as ECLA classification H04N 17/00C.

E17.003 For digital television systems (EPO):
This subclass is indented under subclass E17.001. This subclass is substantially the same in scope as ECLA classification H04N 17/00N.

E17.004 For color television signals (EPO):
This subclass is indented under subclass E17.001. This subclass is substantially the same in scope as ECLA classification H04N 17/02.

E17.005 For receivers (EPO):
This subclass is indented under subclass E17.001. This subclass is substantially the same in scope as ECLA classification H04N 17/04.

E17.006 Self-contained testing apparatus (EPO):
This subclass is indented under subclass E17.005. This subclass is substantially the same in scope as ECLA classification H04N 17/04B.