

ECLA**EUROPEAN CLASSIFICATION****G03H**

HOLOGRAPHIC PROCESSES OR APPARATUS (holograms, e.g. point holograms, used as ordinary optical elements [G02B5/32](#); producing stereoscopic or other three-dimensional effects [G02B27/22](#); diffraction-grating systems [G02B27/44](#); systems using moiré fringes [G02B27/60](#); optical logic elements [G02F3/00](#); stereo-photography [G03B35/00](#); photosensitive materials or processes for photographic purposes [G03C](#); [N: stereo-photographic or similar processes [G03C9/00](#)]; apparatus for processing exposed photographic materials [G03D](#); analogue computers performing mathematical operations with the aid of optical elements [G06E3/00](#); authentication by radiation, of concealed information carried by holograms or diffraction gratings [G06K19/16](#); holographic storage [G11B7/0065](#), [G11C13/04](#); [N: stereoscopic or other three dimensional effects in television systems [H04N13/00](#)]) [[C0805](#)]

Note

This subclass covers means for producing a record of the phase and amplitude information of a wave-front, which information can be used to reconstruct the original wave-front, or means to reconstruct the original wave-front from a record containing the phase and amplitude information of the wave-front.

G03H1/00

Holographic processes or apparatus using light, infra-red or ultra-violet waves for obtaining holograms or for obtaining an image from them; Details peculiar thereto

G03H1/00A

- [N: Adaptation of holography to specific applications (holographic optical element [G02B5/32](#); holographic scanner [G02B26/10H](#); recognition using holographic mask [G06K9/76](#); holographic memories [G11B7/0065](#), [G11C13/04C](#))] [[N1204](#)]

G03H1/00A1

- • [N: for security or authentication (holograms on information-bearing cards [B42D15/10D](#); testing papers with holograms [G07D7/00B2](#))] [[N1204](#)]

G03H1/02

- Details [N: of features involved during the holographic process; Replication of holograms without interference recording] [[C1205](#)]

G03H1/02F

- • [N: Form or shape of the hologram when not registered to the substrate, e.g. trimming the hologram to alphanumerical shape (substrates bearing a hologram [G03H1/02S](#))] [[N1204](#)]

G03H1/02H

- • [N: Hologram nature or properties] [[N1204](#)]

G03H1/02H1

- • • [N: Surface relief holograms (replicating hologram without interference recording [G03H1/02X](#))] [[N1204](#)]

G03H1/02H2

- • • [N: Volume holograms] [[N1204](#)]

G03H1/02L

- • [N: Laminate comprising a hologram layer] [[N1204](#)]

G03H1/02L5

- • • [N: having specific functional layer] [[N1204](#)]

G03H1/02S

- • [N: Substrate bearing the hologram] [[N1204](#)]

G03H1/02X

- • [N: Replicating a master hologram without interference recording (surface relief holograms [G03H1/02H1](#))] [[N1204](#)]

G03H1/02X2

- • • [N: by embossing] [[N1204](#)]

G03H1/04

- Processes or apparatus for producing holograms ([G03H1/26](#) takes precedence)

G03H1/04A

- • [N: Recording geometries or arrangements ([G03H1/04E](#), [G03H1/04P](#), [G03H1/16](#) take precedence)] [[N1204](#)]

G03H1/04A1	. . . [N: In-line recording arrangement] [N1204]
G03H1/04A2	. . . [N: Image plane or focused image holograms, i.e. an image of the object or holobject is formed on, in or across the recording plane] [N1204]
G03H1/04A3	. . . [N: Total internal reflection [TIR] holograms, e.g. edge lit or substrate mode holograms] [N1204]
G03H1/04A4	. . . [N: Optical element in the object space affecting the object beam, not otherwise provided for] [N1204]
G03H1/04E	. . [N: Digital holography, i.e. recording holograms with digital recording means (holobject computation G03H1/08H)] [N1204]
G03H1/04L	. . [N: Particular recording light; Beam shape or geometry (G03H1/06 takes precedence)] [N1204]
G03H1/04P	. . [N: Holographic printer (G03H1/26S takes precedence)] [N1204]
G03H1/04Q	. . [N: Improving or monitoring the quality of the record, e.g. by compensating distortions, aberrations] [N1204]
G03H1/04S	. . [N: Special holograms not otherwise provided for, e.g. conosopic, referenceless holography] [N1204]
G03H1/06	. . using incoherent light
G03H1/08	. . Synthesising holograms, [N: i.e. holograms synthesized from objects or objects from holograms] (using electric digital computers G06F; G06T) [C0805]
G03H1/08C	. . . [N: Methods of numerical synthesis, e.g. coherent ray tracing [CRT], diffraction specific] [N1204]
G03H1/08D	. . . [N: Encoding method mapping the synthesized field into a restricted set of values representative of the modulator parameters, e.g. detour phase coding] [N1204]
G03H1/08H	. . . [N: Digital holographic imaging, i.e. synthesizing holobjects from holograms] [N1204]
G03H1/08M	. . . [N: Processes or apparatus adapted to convert digital holographic data into a hologram (G03H1/22S takes precedence)] [N1204]
G03H1/10	. . using modulated reference beam
G03H1/12	. . . Spatial modulation, e.g. ghost imaging
G03H1/14	. . . Temporal modulation, e.g. extending depth of field or phase compensation for object motion
G03H1/16	. . using Fourier transform ([N: G03H1/10], G03H1/12, G03H1/14 take precedence; analogue computers G06G, e.g. G06G7/19)
G03H1/18	. . Particular processing of hologram record carriers, e.g. for obtaining blazed holograms [N: (photographic processing in general G03C, G03D)] [C0805]
G03H1/18A	. . . [N: Pre-exposure processing, e.g. hypersensitisation] [N1204]
G03H1/18B	. . . [N: Post-exposure processing, e.g. latensification] [N1204]
G03H1/20	. . Copying holograms by holographic [N: i.e. optical] means [C1205]
G03H1/20C	. . . [N: Contact copy when the reconstruction beam for the master H1 also serves as reference beam for the copy H2] [N1204]
G03H1/22	. Processes or apparatus for obtaining an optical image from holograms (G03H1/26 to G03H1/34 take precedence)
G03H1/22A	. . [N: Reconstruction geometries or arrangements] [N1204]
G03H1/22A1	. . . [N: using downstream optical component] [N1204]
G03H1/22H	. . [N: Holobject properties] [N1204]
G03H1/22L	. . [N: Particular reconstruction light (G03H1/24 takes precedence); Beam properties]

- [N1204](#)]
- [G03H1/22S](#) . . [N: Addressing the hologram to an active spatial light modulator] [\[N1204\]](#)
- [G03H1/24](#) . . using white light [\[N: e.g. rainbow holograms\]](#)
- [G03H1/26](#) . Processes or apparatus specially adapted to produce multiple [\[N: sub-\]](#) holograms or to obtain images from them, e.g. multicolour technique [\[C1205\]](#)
- [G03H1/26M](#) . . [N: Multiplexing processes, e.g. aperture, shift, or wavefront multiplexing] [\[N1204\]](#)
- [G03H1/26M2](#) . . . [N: Angle multiplexing; Multichannel holograms (G03H1/26S takes precedence)] [\[N1204\]](#)
- [G03H1/26S](#) . . [N: Holographic stereogram] [\[N1204\]](#)
- [G03H1/28](#) . . superimposed holograms only
- [G03H1/30](#) . . discrete holograms only
- [G03H1/32](#) . Systems for obtaining speckle elimination
- [G03H1/34](#) . Systems for reducing the space-spatial bandwidth product
- [G03H3/00](#)** **Holographic processes or apparatus using ultrasonic, sonic or infrasonic waves for obtaining holograms; Processes or apparatus for obtaining an optical image from them** ([G03H1/22](#) takes precedence; [N: acoustic non-destructive testing using holographic methods [G01N29/06D1](#); seismology using acoustic vibrations [G01V1/00](#); non-holographic methods for visualizing acoustic waves [G10K15/00](#)]) [\[C0805\]](#)
- [G03H5/00](#)** **Holographic processes or apparatus using particles or using waves other than those covered by groups [G03H1/00](#) or [G03H3/00](#) for obtaining holograms; Processes or apparatus for obtaining an optical image from them** ([G03H1/22](#) takes precedence; construction of electron microscopes [H01J37/26](#); [N: investigating or analysing materials by the use of microwaves [G01N22/00](#), by the use of particles wave or X-rays [G01N23/00](#), [G21K7/00](#)]) [\[C0805\]](#)