

CPC COOPERATIVE PATENT CLASSIFICATION

H ELECTRICITY

(NOTE omitted)

H03 BASIC ELECTRONIC CIRCUITRY

H03H IMPEDANCE NETWORKS, e.g. RESONANT CIRCUITS; RESONATORS (measuring, testing [G01R](#); arrangements for producing a reverberation or echo sound [G10K 15/08](#); impedance networks or resonators consisting of distributed impedances, e.g. of the waveguide type, [H01P](#); control of amplification, e.g. bandwidth control of amplifiers, [H03G](#); tuning resonant circuits, e.g. tuning coupled resonant circuits, [H03J](#); networks for modifying the frequency characteristics of communication systems [H04B](#))

NOTES

- This subclass covers :
 - networks comprising lumped impedance elements;
 - networks comprising distributed impedance elements together with lumped impedance elements;
 - networks comprising electromechanical or electro-acoustic elements;
 - networks simulating reactances and comprising discharge tubes or semiconductor devices;
 - constructions of electromechanical resonators.
- In this subclass, the following expression is used with the meaning indicated:
"passive elements" means resistors, capacitors, inductors, mutual inductors or diodes.
- Attention is drawn to the Notes following the titles of class [B81](#) and subclass [B81B](#) relating to "microstructural devices" and "microstructural systems".
- In this subclass, main groups with a higher number take precedence.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

<p>1/00 Constructional details of impedance networks whose electrical mode of operation is not specified or applicable to more than one type of network (constructional details of electromechanical transducers H03H 9/00)</p> <p>1/0007 . {of radio frequency interference filters}</p> <p>2001/0014 . {Capacitor filters, i.e. capacitors whose parasitic inductance is of relevance to consider it as filter}</p> <p>2001/0021 . {Constructional details}</p> <p>2001/0028 . . {RFI filters with housing divided in two bodies}</p> <p>2001/0035 . . {Wound magnetic core}</p> <p>2001/0042 . . {Wound, ring or feed-through type capacitor}</p> <p>2001/005 . . {Wound, ring or feed-through type inductor}</p> <p>2001/0057 . . {comprising magnetic material}</p> <p>2001/0064 . . {comprising semiconductor material}</p> <p>2001/0071 . . {comprising zig-zag inductor}</p> <p>2001/0078 . . {comprising spiral inductor on a substrate}</p> <p>2001/0085 . . {Multilayer, e.g. LTCC, HTCC, green sheets (inside PCB filters H05K)}</p> <p>2001/0092 . {Inductor filters, i.e. inductors whose parasitic capacitance is of relevance to consider it as filter}</p> <p>1/02 . of RC networks, e.g. integrated networks</p> <p>2/00 Networks using elements or techniques not provided for in groups H03H 3/00 - H03H 21/00</p> <p>2/001 . {comprising magnetostatic wave network elements}</p>	<p>2/003 . {comprising optical fibre network elements (optical elements <i>per se</i> G02B, G02F; transmission systems using light waves H04B 10/00)}</p> <p>2/005 . {Coupling circuits between transmission lines or antennas and transmitters, receivers or amplifiers}</p> <p>2/006 . . {Transmitter or amplifier output circuits}</p> <p>2/008 . . {Receiver or amplifier input circuits}</p> <p>3/00 Apparatus or processes specially adapted for the manufacture of impedance networks, resonating circuits, resonators</p> <p>3/007 . for the manufacture of electromechanical resonators or networks</p> <p>2003/0071 . . {of bulk acoustic wave and surface acoustic wave elements in the same process}</p> <p>3/0072 . . {of microelectro-mechanical resonators or networks (micromembranes or microbeams B81B 2203/01; manufacture of microstructural devices in general B81C)}</p> <p>3/0073 . . . {Integration with other electronic structures}</p> <p>3/0075 . . . {Arrangements or methods specially adapted for testing microelectro-mechanical resonators or networks}</p> <p>3/0076 . . . {for obtaining desired frequency or temperature coefficients}</p> <p>3/0077 {by tuning of resonance frequency}</p> <p>3/0078 {involving adjustment of the transducing gap}</p>
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H03H

- 3/013 . . for obtaining desired frequency or temperature coefficient ([\(H03H 3/0076\)](#) [H03H 3/04](#), [H03H 3/10](#) take precedence)
- 3/02 . . for the manufacture of piezo-electric or electrostrictive resonators or networks ([H03H 3/08](#) takes precedence)
- 2003/021 . . . {the resonators or networks being of the air-gap type}
- 2003/022 . . . {the resonators or networks being of the cantilever type}
- 2003/023 . . . {the resonators or networks being of the membrane type}
- 2003/025 . . . {the resonators or networks comprising an acoustic mirror}
- 2003/026 . . . {the resonators or networks being of the tuning fork type}
- 2003/027 . . . {the resonators or networks being of the microelectro-mechanical [MEMS] type}
- 2003/028 . . . {for obtaining desired values of other parameters}
- 3/04 . . . for obtaining desired frequency or temperature coefficient
 - 2003/0407 {Temperature coefficient}
 - 2003/0414 {Resonance frequency}
 - 2003/0421 {Modification of the thickness of an element}
 - 2003/0428 {of an electrode}
 - 2003/0435 {of a piezoelectric layer}
 - 2003/0442 {of a non-piezoelectric layer}
 - 2003/045 {Modification of the area of an element}
 - 2003/0457 {of an electrode}
 - 2003/0464 {operating on an additional circuit element, e.g. a passive circuit element connected to the resonator}
 - 2003/0471 {of a plurality of resonators at different frequencies}
 - 2003/0478 {in a process for mass production}
 - 2003/0485 {during the manufacture of a cantilever}
 - 2003/0492 {during the manufacture of a tuning-fork}
- 3/06 . . for the manufacture of magnetostrictive resonators or networks
- 3/08 . . for the manufacture of resonators or networks using surface acoustic waves
- 3/10 . . . for obtaining desired frequency or temperature coefficient
- 5/00 One-port networks comprising only passive electrical elements as network components**
- 5/003 . {comprising distributed impedance elements together with lumped impedance elements}
- 5/006 . {comprising simultaneously tunable inductance and capacitance}
- 5/02 . without voltage- or current-dependent elements
- 5/10 . . comprising at least one element with prescribed temperature coefficient
- 5/12 . with at least one voltage- or current-dependent element
- 7/00 Multiple-port networks comprising only passive electrical elements as network components** ([receiver input circuits H04B 1/18](#); [networks simulating a length of communication cable H04B 3/40](#))
- 7/002 . {Gyrators}
- 7/004 . {Capacitive coupling circuits not otherwise provided for}
- 2007/006 . {MEMS}
- 2007/008 . . {the MEMS being trimmable}
- 7/01 . Frequency selective two-port networks
 - 7/0107 . . {Non-linear filters}
 - 7/0115 . . {comprising only inductors and capacitors ([H03H 7/075](#), [H03H 7/09](#), [H03H 7/12](#), [H03H 7/13](#) take precedence)}
 - 7/0123 . . {comprising distributed impedance elements together with lumped impedance elements}
 - 2007/013 . . {Notch or bandstop filters}
 - 7/0138 . . {Electrical filters or coupling circuits}
 - 7/0146 . . . {Coupling circuits between two tubes, not otherwise provided for}
 - 7/0153 . . {Electrical filters; Controlling thereof}
 - 7/0161 . . . {Bandpass filters ([H03H 7/12](#) takes precedence)}
 - 7/0169 {Intermediate frequency filters}
 - 7/0176 {without magnetic core}
 - 7/0184 {with ferromagnetic core}
 - 2007/0192 . . {Complex filters}
 - 7/03 . . comprising means for compensation of loss
 - 7/06 . . including resistors ([H03H 7/075](#), [H03H 7/09](#), [H03H 7/12](#), [H03H 7/13](#) take precedence)
 - 7/065 . . . Parallel T-filters
 - 7/07 . . . Bridged T-filters
 - 7/075 . . Ladder networks, e.g. electric wave filters
 - 7/09 . . Filters comprising mutual inductance
 - 7/12 . . Bandpass or bandstop filters with adjustable bandwidth and fixed centre frequency ([H03H 7/09](#) takes precedence; [automatic control of bandwidth in amplifiers H03G 5/16](#))
 - 7/13 . . using electro-optic elements
 - 7/17 . . {Structural details of sub-circuits of frequency selective networks}
 - 7/1708 . . . {Comprising bridging elements, i.e. elements in a series path without own reference to ground and spanning branching nodes of another series path ([H03H 7/07](#) takes precedence)}
 - 7/1716 . . . {Comprising foot-point elements}
 - 7/1725 {Element to ground being common to different shunt paths, i.e. Y-structure}
 - 7/1733 {Element between different shunt or branch paths ([H03H 7/425](#) takes precedence)}
 - 7/1741 . . . {Comprising typical LC combinations, irrespective of presence and location of additional resistors (when resistors are present, also classify in [H03H 7/06](#) - [H03H 7/07](#))}
 - 7/175 {Series LC in series path ([H03H 7/1783](#) takes precedence)}
 - 7/1758 {Series LC in shunt or branch path ([H03H 7/1791](#) takes precedence)}
 - 7/1766 {Parallel LC in series path ([H03H 7/1783](#) takes precedence)}
 - 7/1775 {Parallel LC in shunt or branch path ([H03H 7/1791](#) takes precedence)}
 - 7/1783 {Combined LC in series path}
 - 7/1791 {Combined LC in shunt or branch path}
 - 7/18 . . Networks for phase shifting
 - 7/185 . . {comprising distributed impedance elements together with lumped impedance elements}

- 7/19 . . Two-port phase shifters providing a predetermined phase shift, e.g. "all-pass" filters
- 7/20 . . Two-port phase shifters providing an adjustable phase shift
- 7/21 . . providing two or more phase shifted output signals, e.g. n-phase output
- 7/24 . Frequency- independent attenuators
- 7/25 . . comprising an element controlled by an electric or magnetic variable ([H03H 7/27](#) takes precedence)
- 7/251 . . . {the element being a thermistor}
- 7/253 . . . {the element being a diode}
- 7/255 {the element being a PIN diode}
- 7/256 {the element being a VARACTOR diode}
- 7/258 . . . {using a galvano-magnetic device}
- 7/27 . . comprising a photo-electric element
- 7/30 . Time-delay networks ({[analogue shift registers G11C 27/04](#)})
- 7/32 . . with lumped inductance and capacitance
- 7/325 . . . {Adjustable networks}
- 7/34 . . with lumped and distributed reactance
- 7/345 . . . {Adjustable networks}
- 7/38 . Impedance-matching networks
- 7/383 . . {comprising distributed impedance elements together with lumped impedance elements}
- 2007/386 . . {Multiple band impedance matching}
- 7/40 . . Automatic matching of load impedance to source impedance
- 7/42 . Balance/unbalance networks
- 7/422 . . {comprising distributed impedance elements together with lumped impedance elements}
- 7/425 . . {Balance-balance networks}
- 7/427 . . . {Common-mode filters ([H02J 3/01](#) and [H02M 1/126](#) takes precedence)}
- 7/46 . Networks for connecting several sources or loads, working on different frequencies or frequency bands, to a common load or source ([for use in multiplex transmission systems H04J 1/00](#))
- 7/461 . . {particularly adapted for use in common antenna systems}
- 7/463 . . {Duplexers}
- 7/465 . . . {having variable circuit topology, e.g. including switches}
- 7/466 . . {particularly adapted as input circuit for receivers}
- 7/468 . . {particularly adapted as coupling circuit between transmitters and antennas}
- 7/48 . Networks for connecting several sources or loads, working on the same frequency or frequency band, to a common load or source ([phase shifters providing two or more output signals H03H 7/21](#))
- 7/482 . . {particularly adapted for use in common antenna systems}
- 7/485 . . {particularly adapted as input circuit for receivers}
- 7/487 . . {particularly adapted as coupling circuit between transmitters and antennas}
- 7/52 . One-way transmission networks, i.e. unilines
- 7/54 . Modifications of networks to reduce influence of variations of temperature
- 9/00 **Networks comprising electromechanical or electro-acoustic devices; Electromechanical resonators (making single crystals [C30B](#); selection of materials thereof [H01L](#); piezo-electric, electrostrictive or magnetostrictive devices *per se* [H01L 41/00](#); electromechanical transducers [H04R](#))**
- 9/0004 . {Impedance-matching networks ([H03H 9/145](#) takes precedence)}
- 9/0009 . . {using surface acoustic wave devices}
- 9/0014 . . {using bulk acoustic wave devices}
- 2009/0019 . {Surface acoustic wave multichip}
- 9/0023 . {Balance-unbalance or balance-balance networks}
- 9/0028 . . {using surface acoustic wave devices}
- 9/0033 . . . {having one acoustic track only}
- 9/0038 {the balanced terminals being on the same side of the track}
- 9/0042 {the balanced terminals being on opposite sides of the track}
- 9/0047 . . . {having two acoustic tracks ([H03H 9/008](#), [H03H 9/0085](#) take precedence)}
- 9/0052 {being electrically cascaded}
- 9/0057 {the balanced terminals being on the same side of the tracks}
- 9/0061 {the balanced terminals being on opposite sides of the tracks}
- 9/0066 {being electrically parallel}
- 9/0071 {the balanced terminals being on the same side of the tracks}
- 9/0076 {the balanced terminals being on opposite sides of the tracks}
- 9/008 . . . {having three acoustic tracks ([H03H 9/0085](#) takes precedence)}
- 9/0085 . . . {having four acoustic tracks}
- 9/009 {Lattice filters}
- 9/0095 . . {using bulk acoustic wave devices}
- 9/02 . Details
- 9/02007 . . {of bulk acoustic wave devices}
- 9/02015 . . . {Characteristics of piezoelectric layers, e.g. cutting angles}
- 9/02023 {consisting of quartz}
- 9/02031 {consisting of ceramic}
- 9/02039 {consisting of a material from the crystal group 32, e.g. langasite, langatate, langanite}
- 9/02047 . . . {Treatment of substrates}
- 9/02055 {of the surface including the back surface}
- 9/02062 . . . {Details relating to the vibration mode}
- 9/0207 {the vibration mode being harmonic}
- 9/02078 {the vibration mode being overmoded}
- 9/02086 . . . {Means for compensation or elimination of undesirable effects}
- 9/02094 {of adherence}
- 9/02102 {of temperature influence ([cutting angles H03H 9/02015](#))}
- 9/0211 {of reflections}
- 9/02118 {of lateral leakage between adjacent resonators}
- 9/02125 {of parasitic elements}
- 9/02133 {of stress}
- 9/02141 {of electric discharge due to pyroelectricity}
- 9/02149 {of ageing changes of characteristics, e.g. electro-acousto-migration}

9/02157 . . .	{Dimensional parameters, e.g. ratio between two dimension parameters, length, width or thickness}	2009/02456	{Parasitic elements or effects, e.g. parasitic capacitive coupling between input and output}
2009/02165 . . .	{Tuning}	2009/02464	{Pull-in}
2009/02173 . . .	{of film bulk acoustic resonators [FBAR]}	2009/02472	{Stiction}
2009/02181	{by application of heat from a heat source}	2009/0248	{Strain}
2009/02188	{Electrically tuning}	2009/02488	{Vibration modes}
2009/02196	{operating on the FBAR element, e.g. by direct application of a tuning DC voltage}	2009/02496	{Horizontal, i.e. parallel to the substrate plane}
2009/02204	{operating on an additional circuit element, e.g. applying a tuning DC voltage to a passive circuit element connected to the resonator}	2009/02503	{Breath-like, e.g. Lam? mode, wine-glass mode}
2009/02212	{Magnetically tuning}	2009/02511	{Vertical, i.e. perpendicular to the substrate plane}
9/0222 . . .	{of interface-acoustic, boundary, pseudo-acoustic or Stonely wave devices}	2009/02519	{Torsional}
9/02228 . . .	{Guided bulk acoustic wave devices or Lamb wave devices having interdigital transducers situated in parallel planes on either side of a piezoelectric layer}	2009/02527	{Combined}
9/02236 . . .	{of surface skimming bulk wave devices}	9/02535 . . .	{of surface acoustic wave devices}
9/02244 . . .	{of microelectro-mechanical resonators}	9/02543 . . .	{Characteristics of substrate, e.g. cutting angles}
2009/02251	{Design}	9/02551	{of quartz substrates}
9/02259	{Driving or detection means}	9/02559	{of lithium niobate or lithium-tantalate substrates}
2009/02267	{having dimensions of atomic scale, e.g. involving electron transfer across vibration gap}	9/02566	{of semiconductor substrates}
9/02275	{Comb electrodes}	9/02574	{of combined substrates, multilayered substrates, piezo-electrical layers on not-piezo- electrical substrate}
2009/02283	{Vibrating means}	9/02582	{of diamond substrates}
2009/02291	{Beams}	9/0259	{of langasite substrates}
2009/02299	{Comb-like, i.e. the beam comprising a plurality of fingers or protrusions along its length}	9/02598	{of langatate substrates}
2009/02307	{Dog-bone-like structure, i.e. the elongated part of the "bone" is doubly clamped}	9/02606	{of langanite substrates}
2009/02314	{forming part of a transistor structure}	9/02614	{Treatment of substrates, e.g. curved, spherical, cylindrical substrates ensuring closed round-about circuits for the acoustical waves}
2009/02322	{Material}	9/02622	{of the surface, including back surface}
2009/0233	{comprising perforations}	9/02629	{of the edges}
9/02338	{Suspension means}	9/02637	{Details concerning reflective or coupling arrays}
2009/02346	{Anchors for ring resonators}	9/02645	{Waffle-iron or dot arrays}
2009/02354	{applied along the periphery, e.g. at nodal points of the ring}	9/02653	{Grooves or arrays buried in the substrate}
9/02362	{Folded-flexure}	9/02661	{being located inside the interdigital transducers}
2009/0237	{applied at the center}	9/02669	{Edge reflection structures, i.e. resonating structures without metallic reflectors, e.g. Bleustein-Gulyaev-Shimizu [BGS], shear horizontal [SH], shear transverse [ST], Love waves devices}
9/02377	{Symmetric folded-flexure}	9/02677	{having specially shaped edges, e.g. stepped, U-shaped edges}
2009/02385	{Anchors for square resonators, i.e. resonators comprising a square vibrating membrane}	9/02685	{Grating lines having particular arrangements}
9/02393	{Post-fabrication trimming of parameters, e.g. resonance frequency, Q factor}	9/02692	{Arched grating lines}
9/02401	{by annealing}	9/027	{U-shaped grating lines}
9/02409	{by application of a DC-bias voltage (H03H 9/02417 takes precedence)}	9/02708	{Shifted grating lines}
9/02417	{involving adjustment of the transducing gap}	9/02716	{Tilted, fan shaped or slanted grating lines}
9/02425	{by electrostatically pulling the beam}	9/02724	{Comb like grating lines}
9/02433	{Means for compensation or elimination of undesired effects}	9/02732	{Bilateral comb like grating lines}
2009/0244	{Anchor loss}	9/0274	{Intra-transducers grating lines}
9/02448	{of temperature influence}	9/02748	{Dog-legged reflectors}
		9/02755	{Meandering floating or grounded grating lines}
		9/02763	{Left and right side electrically coupled reflectors}
		9/02771	{Reflector banks}

- 9/02779 {Continuous surface reflective arrays}
- 9/02787 {having wave guide like arrangements}
- 9/02795 {Multi-strip couplers as track changers}
- 9/02803 {Weighted reflective structures}
- 9/02811 {Chirped reflective or coupling arrays}
- 9/02818 . . . {Means for compensation or elimination of undesirable effects}
- 9/02826 {of adherence}
- 9/02834 {of temperature influence (cut angles [H03H 9/02543](#))}
- 9/02842 {of reflections ([H03H 9/6406](#) takes precedence)}
- 9/0285 {of triple transit echo}
- 9/02858 {of wave front distortion}
- 9/02866 {of bulk wave excitation and reflections}
- 9/02874 {of direct coupling between input and output transducers}
- 9/02881 {of diffraction of wave beam}
- 9/02889 {of influence of mass loading}
- 9/02897 {of strain or mechanical damage, e.g. strain due to bending influence}
- 9/02905 {Measures for separating propagation paths on substrate}
- 9/02913 {Measures for shielding against electromagnetic fields (shielding of electrical components in general [H05K 9/00](#))}
- 9/02921 {Measures for preventing electric discharge due to pyroelectricity}
- 9/02929 {of ageing changes of characteristics, e.g. electro-acousto-migration}
- 9/02937 {of chemical damage, e.g. corrosion}
- 9/02944 {of ohmic loss}
- 9/02952 {of parasitic capacitance}
- 9/0296 . . . {Surface acoustic wave [SAW] devices having both acoustic and non-acoustic properties}
- 9/02968 {with optical devices ([mounting in enclosures H03H 9/12](#))}
- 9/02976 {with semiconductor devices}
- 9/02984 . . . {Protection measures against damaging}
- 9/02992 . . . {Details of bus bars, contact pads or other electrical connections for finger electrodes}
- 9/05 . . . Holders; Supports
- 9/0504 . . . {for bulk acoustic wave devices}
- 9/0509 {consisting of adhesive elements}
- 9/0514 {consisting of mounting pads or bumps}
- 9/0519 {for cantilever ([H03H 9/1021](#) takes precedence)}
- 9/0523 {for flip-chip mounting}
- 9/0528 {consisting of clips}
- 9/0533 {consisting of wire}
- 9/0538 . . . {Constructional combinations of supports or holders with electromechanical or other electronic elements}
- 9/0542 {consisting of a lateral arrangement ([H03H 9/0566](#) takes precedence)}
- 9/0547 {consisting of a vertical arrangement ([H03H 9/0566](#) takes precedence)}
- 9/0552 {the device and the other elements being mounted on opposite sides of a common substrate}
- 9/0557 {the other elements being buried in the substrate}
- 9/0561 {consisting of a multilayered structure}
- 9/0566 {for duplexers}
- 9/0571 {including bulk acoustic wave [BAW] devices}
- 9/0576 {including surface acoustic wave [SAW] devices}
- 9/058 {for surface acoustic wave devices}
- 9/0585 {consisting of an adhesive layer}
- 9/059 {consisting of mounting pads or bumps}
- 9/0595 . . . {the holder support and resonator being formed in one body}
- 9/08 . . . Holders with means for regulating temperature
- 9/09 . . . Elastic or damping supports
- 9/10 . . . Mounting in enclosures ([constructional combinations of enclosure with electromechanical and other electronic elements H03H 9/0538](#))}
- 9/1007 {for bulk acoustic wave [BAW] devices}
- 9/1014 {the enclosure being defined by a frame built on a substrate and a cap, the frame having no mechanical contact with the BAW device}
- 9/1021 {the BAW device being of the cantilever type}
- 9/1028 {the BAW device being held between spring terminals}
- 9/1035 {the enclosure being defined by two sealing substrates sandwiching the piezoelectric layer of the BAW device}
- 9/1042 {the enclosure being defined by a housing formed by a cavity in a resin}
- 9/105 {the enclosure being defined by a cover cap mounted on an element forming part of the BAW device}
- 9/1057 {for microelectro-mechanical devices}
- 9/1064 {for surface acoustic wave [SAW] devices}
- 9/1071 {the enclosure being defined by a frame built on a substrate and a cap, the frame having no mechanical contact with the SAW device}
- 9/1078 {the enclosure being defined by a foil covering the non-active sides of the SAW device}
- 9/1085 {the enclosure being defined by a non-uniform sealing mass covering the non-active sides of the BAW device}
- 9/1092 {the enclosure being defined by a cover cap mounted on an element forming part of the surface acoustic wave [SAW] device on the side of the IDT's}
- 9/12 for networks with interaction of optical and acoustic waves
- 9/125 . . . Driving means, e.g. electrodes, coils
- 9/13 . . . for networks consisting of piezo-electric or electrostrictive materials ([H03H 9/145](#) takes precedence)
- 9/131 {consisting of a multilayered structure}
- 9/132 {characterized by a particular shape}
- 9/133 {for electromechanical delay lines or filters}
- 9/135 . . . for networks consisting of magnetostrictive materials ([H03H 9/145](#) takes precedence)
- 9/145 . . . for networks using surface acoustic waves
- 9/14502 {Surface acoustic wave [SAW] transducers for a particular purpose}
- 9/14505 {Unidirectional SAW transducers}

- 9/14508 {Polyphase SAW transducers}
- 9/14511 {SAW transducers for non-piezoelectric substrates}
- 9/14514 {Broad band transducers}
- 9/14517 {Means for weighting}
- 9/1452 {by finger overlap length, apodisation}
- 9/14523 {Capacitive tap weighted transducers}
- 9/14526 {Finger withdrawal}
- 9/14529 {Distributed tap}
- 9/14532 {Series weighting; Transverse weighting}
- 9/14535 {Position weighting}
- 9/14538 {Formation}
- 9/14541 {Multilayer finger or busbar electrode}
- 9/14544 {Transducers of particular shape or position (weighting [H03H 9/14517](#))}
- 9/14547 {Fan shaped; Tilted; Shifted; Slanted; Tapered; Arched; Stepped finger transducers}
- 9/1455 {constituted of N parallel or series transducers}
- 9/14552 {comprising split fingers}
- 9/14555 {Chirped transducers ([H03H 9/6406](#) takes precedence)}
- 9/14558 {Slanted, tapered or fan shaped transducers ([H03H 9/14561](#), [H03H 9/14564](#) take precedence)}
- 9/14561 {Arched, curved or ring shaped transducers}
- 9/14564 {Shifted fingers transducers}
- 9/14567 {Stepped-fan shaped transducers}
- 9/1457 {Transducers having different finger widths}
- 9/14573 {Arrow type transducers}
- 9/14576 {Transducers whereby only the last fingers have different characteristics with respect to the other fingers, e.g. different shape, thickness or material, split finger}
- 9/14579 {the last fingers having a different shape}
- 9/14582 {the last fingers having a different pitch}
- 9/14585 {the last fingers being split}
- 9/14588 {Horizontally-split transducers}
- 9/14591 {Vertically-split transducers}
- 9/14594 {Plan-rotated or plan-tilted transducers}
- 9/14597 {Matching SAW transducers to external electrical circuits}
- 9/15 Constructional features of resonators consisting of piezo-electric or electrostrictive material ([H03H 9/25](#) takes precedence)
- 2009/155 {using MEMS techniques}
- 9/17 having a single resonator (crystal tuning forks [H03H 9/21](#))
- 9/171 {implemented with thin-film techniques, i.e. of the film bulk acoustic resonator [FBAR] type}
- 9/172 {Means for mounting on a substrate, i.e. means constituting the material interface confining the waves to a volume}
- 9/173 {Air-gaps}
- 9/174 {Membranes}
- 9/175 {Acoustic mirrors}
- 9/176 {consisting of ceramic material ([H03H 9/177](#), [H03H 9/178](#) take precedence)}
- 9/177 {of the energy-trap type}
- 9/178 {of a laminated structure of multiple piezoelectric layers with inner electrodes}
- 9/19 consisting of quartz
- 9/205 having multiple resonators (crystal tuning forks [H03H 9/21](#))
- 9/21 Crystal tuning forks
- 9/215 consisting of quartz
- 9/22 Constructional features of resonators consisting of magnetostrictive material
- 9/24 Constructional features of resonators of material which is not piezo-electric, electrostrictive, or magnetostrictive
- 9/2405 {of microelectro-mechanical resonators}
- 2009/241 {Bulk-mode MEMS resonators}
- 2009/2415 {with concave shape [CBAR]}
- 2009/2421 {with I shape [IBAR]}
- 9/2426 {in combination with other electronic elements}
- 9/2431 {Ring resonators}
- 9/2436 {Disk resonators}
- 2009/2442 {Square resonators}
- 9/2447 {Beam resonators ([H03H 9/2468](#) takes precedence)}
- 9/2452 {Free-free beam resonators}
- 9/2457 {Clamped-free beam resonators}
- 9/2463 {Clamped-clamped beam resonators}
- 9/2468 {Tuning fork resonators}
- 9/2473 {Double-Ended Tuning Fork [DETF] resonators}
- 9/2478 {Single-Ended Tuning Fork resonators}
- 9/2484 {with two fork tines, e.g. Y-beam cantilever}
- 9/2489 {with more than two fork tines}
- 9/2494 {H-shaped, i.e. two tuning forks with common base}
- 9/25 Constructional features of resonators using surface acoustic waves {(devices for manipulating acoustic surface waves in general [G10K 11/36](#))}
- 9/30 Time-delay networks
- 9/36 with non-adjustable delay time ([H03H 9/40](#), [H03H 9/42](#) take precedence)
- 9/38 with adjustable delay time ([H03H 9/40](#), [H03H 9/42](#) take precedence)
- 9/40 Frequency dependent delay lines, e.g. dispersive delay lines ([H03H 9/42](#) takes precedence)
- 9/42 using surface acoustic waves {(devices for manipulating acoustic surface waves in general [G10K 11/36](#))}
- 9/423 {with adjustable delay time}
- 9/426 {Magneto-elastic surface waves}
- 9/44 Frequency dependent delay lines, e.g. dispersive delay lines
- 9/46 Filters (multiple-port electromechanical filters [H03H 9/70](#))
- 9/462 {Microelectro-mechanical filters}
- 9/465 {in combination with other electronic elements}
- 9/467 {Post-fabrication trimming of parameters, e.g. center frequency}
- 9/48 Coupling means therefor

- 9/485 . . . {for microelectro-mechanical filters}
- 9/50 . . . Mechanical coupling means
- 9/505 {for microelectro-mechanical filters}
- 9/52 . . . Electric coupling means
- 9/525 {for microelectro-mechanical filters}
- 9/54 . . comprising resonators of piezo-electric or electrostrictive material ([H03H 9/64 takes precedence](#))
- 9/542 . . . {including passive elements ([H03H 9/545 takes precedence](#))}
- 9/545 . . . {including active elements}
- 9/547 . . . {Notch filters, e.g. notch BAW or thin film resonator filters}
- 9/56 . . . Monolithic crystal filters
- 9/562 {comprising a ceramic piezoelectric layer}
- 9/564 {implemented with thin-film techniques}
- 9/566 {Electric coupling means therefor ([H03H 9/0095 takes precedence](#))}
- 9/568 {consisting of a ladder configuration}
- 9/58 . . . Multiple crystal filters
- 9/581 {comprising ceramic piezoelectric layers}
- 9/582 {implemented with thin-film techniques}
- 9/583 {comprising a plurality of piezoelectric layers acoustically coupled}
- 9/584 {Coupled Resonator Filters [CFR]}
- 9/585 {Stacked Crystal Filters [SCF]}
- 9/586 {Means for mounting to a substrate, i.e. means constituting the material interface confining the waves to a volume}
- 9/587 {Air-gaps}
- 9/588 {Membranes}
- 9/589 {Acoustic mirrors}
- 9/60 Electric coupling means therefor ([H03H 9/0095 takes precedence](#))
- 9/605 {consisting of a ladder configuration}
- 9/62 . . comprising resonators of magnetostrictive material ([H03H 9/64 takes precedence](#))
- 9/64 . . using surface acoustic waves
- 9/6403 . . . {Programmable filters}
- 9/6406 . . . {Filters characterised by a particular frequency characteristic}
- 9/6409 {SAW notch filters}
- 9/6413 {SAW comb filters}
- 9/6416 {SAW matched filters, e.g. surface acoustic wave compressors, chirped or coded surface acoustic wave filters}
- 9/642 {SAW transducers details for remote interrogation systems, e.g. surface acoustic wave transducers details for ID-tags ([remote interrogation systems per se G06K 7/10009, G01S 13/74](#))}
- 9/6423 . . . {Means for obtaining a particular transfer characteristic}
- 9/6426 {Combinations of the characteristics of different transducers}
- 9/643 {the transfer characteristic being determined by reflective or coupling array characteristics}
- 9/6433 {Coupled resonator filters}
- 9/6436 {having one acoustic track only}
- 9/644 {having two acoustic tracks}
- 9/6443 {being acoustically coupled}
- 9/6446 {by floating multistrip couplers ([H03H 9/645, H03H 9/6453 take precedence](#))}
- 9/645 {by grating reflectors overlapping both tracks}
- 9/6453 {by at least an interdigital transducer overlapping both tracks}
- 9/6456 {being electrically coupled}
- 9/6459 {via one connecting electrode}
- 9/6463 {the tracks being electrically cascaded}
- 9/6466 {each track containing more than two transducers}
- 9/6469 {via two connecting electrodes}
- 9/6473 {the electrodes being electrically interconnected}
- 9/6476 {the tracks being electrically parallel}
- 9/6479 {Capacitively coupled SAW resonator filters}
- 9/6483 {Ladder SAW filters}
- 9/6486 {having crossing or intersecting acoustic tracks, e.g. intersection in a perpendicular or diagonal orientation}
- 9/6489 {Compensation of undesirable effects}
- 9/6493 {Side lobe suppression}
- 9/6496 {Reducing ripple in transfer characteristic}
- 9/66 . . Phase shifters
- 9/68 . . using surface acoustic waves
- 9/70 . . Multiple-port networks for connecting several sources or loads, working on different frequencies or frequency bands, to a common load or source
- 9/703 . . . {Networks using bulk acoustic wave devices}
- 9/706 {Duplexers}
- 9/72 . . . Networks using surface acoustic waves
- 9/725 {Duplexers}
- 9/74 . . Multiple-port networks for connecting several sources or loads, working on the same frequency or frequency band, to a common load or source ([networks for phase shifting H03H 9/66](#))
- 9/76 . . Networks using surface acoustic waves
- 11/00 Networks using active elements**
- 11/02 . . Multiple-port networks
- 11/025 . . . {using current conveyors}
- 11/04 . . Frequency selective two-port networks
- 11/0405 {Non-linear filters}
- 2011/0411 {Rank order or median filters}
- 11/0416 {using positive impedance converters ([H03H 11/08 takes precedence](#))}
- 11/0422 {using transconductance amplifiers, e.g. gmC filters}
- 11/0427 {Filters using a single transconductance amplifier; Filters derived from a single transconductor filter, e.g. by element substitution, cascading, parallel connection ([H03H 11/0433 - H03H 11/0472 take precedence](#))}
- 11/0433 {Two integrator loop filters ([H03H 11/0455 takes precedence](#))}
- 11/0438 {Tow-Thomas biquad}
- 11/0444 {Simulation of ladder networks}
- 11/045 {Leapfrog structures}
- 11/0455 {Multiple integrator loop feedback filters}

11/0461	{Current mode filters}	11/1278	{Modifications to reduce detrimental influences of amplifier imperfections, e.g. limited gain-bandwidth product, limited input impedance}
11/0466	{Filters combining transconductance amplifiers with other active elements, e.g. operational amplifiers, transistors, voltage conveyors}	11/1282	{Modifications to reduce influence of variations of temperature}
11/0472	{Current or voltage controlled filters}	11/1286	{Sallen-Key biquad}
2011/0477 . . .	{using current feedback operational amplifiers}		WARNING
2011/0483 . . .	{using operational transresistance amplifiers [OTRA]}		Not complete, pending reorganisation, see provisionally also H03H 11/126 - H03H 11/1282
2011/0488 . . .	{Notch or bandstop filters}		
2011/0494 . . .	{Complex filters}		
11/06	comprising means for compensation of loss	11/1291	{Current or voltage controlled filters}
11/08	using gyrators	11/1295	{Parallel-T filters}
11/10	using negative impedance converters (H03H 11/08 takes precedence)	11/14	using electro-optic devices
11/11	{using current conveyors}	11/16	Networks for phase shifting
11/12	using amplifiers with feedback (H03H 11/0422), H03H 11/08 , H03H 11/10 take precedence)	11/18	Two-port phase shifters providing a predetermined phase shift, e.g. "all-pass" filters
11/1204	{Distributed RC filters}	11/20	Two-port phase shifters providing an adjustable phase shift
11/1208	{comprising an electromechanical resonator}	11/22	providing two or more phase shifted output signals, e.g. n-phase output
11/1213	{using transistor amplifiers (H03H 11/1204 takes precedence; parallel-T filters H03H 11/1295)}	11/24	Frequency-independent attenuators
11/1217	{using a plurality of operational amplifiers (H03H 11/1204 takes precedence; parallel-T filters H03H 11/1295)}	11/245	{using field-effect transistor}
11/1221	{Theory; Synthesis (H03H 11/1226 - H03H 11/1252 take precedence)}	11/26	Time-delay networks (analogue shift registers G11C 27/04)
11/1226	{Filters using operational amplifier poles}	11/265	{with adjustable delay}
11/123	{Modifications to reduce sensitivity}	11/28	Impedance matching networks
11/1234	{Modifications to reduce detrimental influences of amplifier imperfections, e.g. limited gain-bandwidth product, limited input impedance}	11/30	Automatic matching of source impedance to load impedance
11/1239	{Modifications to reduce influence of variations of temperature}	11/32	Balance-unbalance networks
11/1243	{Simulation of ladder networks}	11/34	Networks for connecting several sources or loads working on different frequencies or frequency bands, to a common load or source (for use in multiplex transmission systems H04J 1/00)
11/1247	{Leapfrog structures}	11/342	{particularly adapted for use in common antenna systems}
	WARNING	11/344	{Duplexers}
	Not complete, pending reorganisation, see provisionally also H03H 11/1217 - H03H 11/1252	11/346	{particularly adapted as input circuit for receivers}
11/1252	{Two integrator-loop-filters}	11/348	{particularly adapted as coupling circuit between transmitters and antenna}
11/1256	{Tow-Thomas biquad}	11/36	Networks for connecting several sources or loads, working on the same frequency band, to a common load or source (phase shifters providing two or more output signals H03H 11/22)
	WARNING	11/362	{particularly adapted for use in common antenna systems}
	Not complete, pending reorganisation, see provisionally also H03H 11/1217 - H03H 11/1252	11/365	{particularly adapted as input circuit for receivers}
11/126	{using a single operational amplifier (H03H 11/1204 takes precedence; parallel-T filters H03H 11/1295)}	11/367	{particularly adapted as coupling circuit between transmitters and antenna}
11/1265	{Synthesis (H03H 11/1269 - H03H 11/1282 take precedence)}	11/38	One-way transmission networks, i.e. unilines
11/1269	{Filters using the operational amplifier pole}	11/40	Impedance converters
11/1273	{Modifications to reduce sensitivity}	11/405	{Positive impedance converters (H03H 11/42 takes precedence; used in frequency selective networks H03H 11/0416)}
		11/42	Gyrators (used in frequency selective networks H03H 11/08)
		11/44	Negative impedance converters (H03H 11/42 takes precedence; used in frequency selective networks H03H 11/10)
		11/46	One-port networks

11/48	. . . simulating reactances	17/0009	. {Time-delay networks}
11/481	. . . {Simulating capacitances}	17/0018	. . . {Realizing a fractional delay}
	WARNING	17/0027	. . . {by means of a non-recursive filter}
	Not complete, pending reorganisation, see provisionally also H03H 11/48 - H03H 11/52	17/0036	. . . {by means of a recursive filter}
11/483	. . . {Simulating capacitance multipliers}	17/0045	. {Impedance matching networks}
	WARNING	17/0054	. {Attenuators}
	Not complete, pending reorganisation, see provisionally also H03H 11/48 - H03H 11/52	17/0063	. {R, L, C, simulating networks}
11/485	. . . {Simulating inductances using operational amplifiers}	2017/0072	. {Theoretical filter design}
	WARNING	2017/0081	. . . {of FIR filters}
	Not complete, pending reorganisation, see provisionally also H03H 11/48 - H03H 11/52	2017/009	. . . {of IIR filters}
11/486	. . . {Simulating inductances using transconductance amplifiers}	17/02	. Frequency selective networks {(digital computers for complex mathematical operations G06F 17/10)}
	WARNING	17/0201	. . . {Wave digital filters}
	Not complete, pending reorganisation, see provisionally also H03H 11/48 - H03H 11/52	17/0202	. . . {Two or more dimensional filters; Filters for complex signals (multidimensional convolutions G06F 17/153)}
11/488	. . . {Simulating inductances using current conveyors}	2017/0204	. . . {Comb filters}
	WARNING	2017/0205	. . . {Kalman filters}
	Not complete, pending reorganisation, see provisionally also H03H 11/48 - H03H 11/52	2017/0207	. . . {Median filters}
11/50	. . . using gyrators	2017/0208	. . . {using neural networks}
11/52	. . . simulating negative resistances	2017/021	. . . {Wave digital filters}
11/525	. . . {Simulating frequency dependent negative resistance [FDNR]}	17/0211	. . . {using specific transformation algorithms, e.g. WALSH functions, Fermat transforms, Mersenne transforms, polynomial transforms, Hilbert transforms (correlation computation G06F 17/156)}
	WARNING	17/0213	. . . {Frequency domain filters using Fourier transforms}
	Not complete, pending reorganisation, see provisionally also H03H 11/48 - H03H 11/52	2017/0214	. . . . {with input-sampling frequency and output-delivery frequency which differ, e.g. interpolation, extrapolation; anti-aliasing}
11/53	. . . {simulating resistances; simulating resistance multipliers}	17/0216	. . . {Quefrequency domain filters}
	WARNING	17/0217	. . . {Number theoretic transforms}
	Not complete, pending reorganisation, see provisionally also H03H 11/48 - H03H 11/52	17/0219	. . . {Compensation of undesirable effects, e.g. quantisation noise, overflow (stability problems H03H 17/0461)}
11/54	. Modifications of networks to reduce influence of variations of temperature	2017/022	. . . {Rounding error}
15/00	Transversal filters (electromechanical filters H03H 9/46 , H03H 9/70)	2017/0222	. . . {Phase error}
2015/002	. {Computation saving measures}	17/0223	. . . {Computation saving measures; Accelerating measures (computations per se G06F)}
2015/005	. {comprising capacitors implemented with MEMS technology}	17/0225	. . . {Measures concerning the multipliers}
2015/007	. {Programmable filters}	17/0226	. . . . {comprising look-up tables}
15/02	. using analogue shift registers	17/0227	. . . {Measures concerning the coefficients}
15/023	. . {with parallel-input configuration}	17/0229	. . . . {reducing the number of taps}
2015/026	. {Matched filters in charge domain}	17/023	. . . . {reducing the wordlength, the possible values of coefficients}
17/00	Networks using digital techniques	2017/0232	. . . . . {Canonical signed digit [CSD] or power of 2 coefficients}
		17/0233	. . . {Measures concerning the signal representation}
		17/0235	. . . . {reducing the wordlength of signals}
		17/0236	. . . . {using codes}
		17/0238	. . . {Measures concerning the arithmetic used (performing computations G06F 7/60)}
		17/0239	. . . . {Signed digit arithmetic}
		17/0241	. . . . {Distributed arithmetic}
		17/0242	. . . . {Residue number arithmetic}
		2017/0244	. . . {Measures to reduce settling time}
		2017/0245	. . . {Measures to reduce power consumption (H03H 17/0223 takes precedence)}
		2017/0247	. . . {Parallel structures using a slower clock}
		17/0248	. . {Filters characterised by a particular frequency response or filtering method}

- 17/025 . . . {Notch filters}
- 17/0251 . . . {Comb filters}
- 17/0252 . . . {Elliptic filters}
- 17/0254 . . . {Matched filters}
- 17/0255 . . . {Filters based on statistics ([adaptive filters H03H 21/0029](#))}
- 17/0257 {KALMAN filters}
- 17/0258 {ARMA filters}
- 17/026 . . . {Averaging filters}
- 17/0261 . . . {Non linear filters}
- 17/0263 {Rank order filters}
- 17/0264 . . . {Filter sets with mutual related characteristics}
- 17/0266 {Filter banks}
- 17/0267 {comprising non-recursive filters}
- 17/0269 {comprising recursive filters}
- 17/027 {Complementary filters; Phase complementary filters}
- 17/0272 {Quadrature mirror filters}
- 17/0273 {Polyphase filters}
- 17/0275 {comprising non-recursive filters}
- 17/0276 {having two phases}
- 17/0277 {comprising recursive filters}
- 17/0279 {having two phases}
- 17/028 . . . {Polynomial filters}
- 17/0282 . . . {Sinc or gaussian filters ([H03H 17/0671 takes precedence](#))}
- 17/0283 . . {Filters characterised by the filter structure ([H03H 17/0202](#), [H03H 17/0219](#) - [H03H 17/0248 take precedence](#))}
- 17/0285 . . . {Ladder or lattice filters}
- 17/0286 . . . {Combinations of filter structures}
- 17/0288 {Recursive, non-recursive, ladder, lattice structures}
- 17/0289 {Digital and active filter structures}
- 17/0291 {Digital and sampled data filters}
- 17/0292 . . . {Time multiplexed filters; Time sharing filters}
- 17/0294 . . {Variable filters; Programmable filters}
- 2017/0295 . . . {Changing between two filter characteristics}
- 2017/0297 . . . {Coefficients derived from input parameters}
- 2017/0298 . . {DSP implementation}
- 17/04 . . . Recursive filters
- 17/0405 . . . {comprising a ROM addressed by the input and output data signals}
- 17/0411 . . . {using DELTA modulation}
- 17/0416 . . . {with input-sampling frequency and output-delivery frequency which differ, e.g. extrapolation; Anti-aliasing}
- 17/0422 {the input and output signals being derived from two separate clocks, i.e. asynchronous sample rate conversion}
- 17/0427 {characterized by the ratio between the input-sampling and output-delivery frequencies}
- 17/0433 {the ratio being arbitrary or irrational}
- 17/0438 {the ratio being integer}
- 17/0444 {where the output-delivery frequency is higher than the input sampling frequency, i.e. interpolation}
- 17/045 {where the output-delivery frequency is lower than the input sampling frequency, i.e. decimation}
- 17/0455 {the ratio being rational}
- 17/0461 {Quantisation; Rounding; Truncation; Overflow oscillations or limit cycles eliminating measures}
- 2017/0466 {Reduction of limit cycle oscillation}
- 2017/0472 {based on allpass structures}
- 2017/0477 {Direct form I}
- 2017/0483 {Transposed}
- 2017/0488 {Direct form II}
- 2017/0494 {Transposed}
- 17/06 . . . Non-recursive filters
- 17/0607 . . . {comprising a ROM addressed by the input data signals}
- 17/0614 . . . {using Delta-modulation}
- 17/0621 . . . {with input-sampling frequency and output-delivery frequency which differ, e.g. extrapolation; Anti-aliasing}
- 17/0628 {the input and output signals being derived from two separate clocks, i.e. asynchronous sample rate conversion}
- 17/0635 {characterized by the ratio between the input-sampling and output-delivery frequencies}
- 17/0642 {the ratio being arbitrary or irrational}
- 17/065 {the ratio being integer}
- 17/0657 {where the output-delivery frequency is higher than the input sampling frequency, i.e. interpolation}
- 17/0664 {where the output-delivery frequency is lower than the input sampling frequency, i.e. decimation}
- 17/0671 {Cascaded integrator-comb [CIC] filters}
- 2017/0678 {with parallel structure, i.e. parallel CIC [PCIC]}
- 17/0685 {the ratio being rational}
- 2017/0692 {Transposed}
- 17/08 . . . Networks for phase shifting
- 19/00 Networks using time-varying elements, e.g. N-path filters**
- 19/002 . . {N-path filters}
- 19/004 . . {Switched capacitor networks}
- 19/006 . . . {simulating one-port networks}
- 19/008 . . {with variable switch closing time}
- 21/00 Adaptive networks**
- 21/0001 . . {Analogue adaptive filters}
- 21/0003 . . . {comprising CCD devices}
- 21/0005 . . . {comprising SAW devices}
- 21/0007 . . . {comprising switched capacitor [SC] devices}
- 2021/0009 . . . {Details}
- 2021/001 . . . {Analog multipliers}
- 21/0012 . . {Digital adaptive filters}
- 21/0014 . . . {Lattice filters}
- 21/0016 . . . {Non linear filters}
- 21/0018 . . . {Matched filters}
- 21/002 . . . {Filters with a particular frequency response ([H03H 21/0014](#) - [H03H 21/0018 take precedence](#))}
- 21/0021 . . . {Notch filters}
- 21/0023 . . . {Comb filters}
- 21/0025 . . . {Particular filtering methods}
- 21/0027 . . . {filtering in the frequency domain}
- 21/0029 . . . {based on statistics}
- 21/003 {KALMAN filters}

- 21/0032 {ARMA filters}
- 2021/0034 . . . {Blind source separation}
- 2021/0036 {of convolutive mixtures}
- 2021/0038 {of instantaneous mixtures}
- 2021/004 {using state space representation}
- 2021/0041 . . . {Subband decomposition}
- 21/0043 . . {Adaptive algorithms}
- 2021/0045 . . . {Equation error}
- 2021/0047 {Combined output and equation error}
- 2021/0049 . . . {Recursive least squares algorithm}
- 2021/005 {with forgetting factor}
- 2021/0052 {combined with stochastic gradient algorithm}
- 2021/0054 {Affine projection}
- 2021/0056 . . . {Non-recursive least squares algorithm [LMS]}
- 2021/0058 {Block LMS, i.e. in frequency domain}
- 2021/0059 {Delayed LMS}
- 2021/0061 {Normalized LMS [NLMS]}
- 2021/0063 {Proportionate NLMS}
- 2021/0065 {Sign-sign LMS}
- 21/0067 . . {Means or methods for compensation of undesirable effects}
- 2021/0069 . . . {Finite wordlength}
- 2021/007 . . {Computation saving measures; Accelerating measures}
- 2021/0072 . . . {Measures relating to the coefficients}
- 2021/0074 {Reduction of the update frequency}
- 2021/0076 . . . {Measures relating to the convergence time [\(H03H 2021/0072 takes precedence\)](#)}
- 2021/0078 {varying the step size}
- 2021/0079 . . . {using look-up tables}
- 2021/0081 . . {Details}
- 2021/0083 . . . {Shadow filter, i.e. one of two filters which are simultaneously adapted, wherein the results of adapting the shadow filter are used for adapting the other filter}
- 2021/0085 . . {Applications}
- 2021/0087 . . . {Prediction}
- 2021/0089 . . . {System identification, i.e. modeling}
- 2021/009 {with recursive filters}
- 2021/0092 . . . {Equalization, i.e. inverse modeling}
- 2021/0094 . . . {Interference Cancelling}
- 2021/0096 . . {with input-sampling frequency and output-delivery frequency which differ, e.g. extrapolation; anti-aliasing}
- 2021/0098 . . {Adaptive filters comprising analog and digital structures}
- 2210/00 Indexing scheme relating to details of tunable filters**
- 2210/01 . . Tuned parameter of filter characteristics
- 2210/012 . . Centre frequency; Cut-off frequency
- 2210/015 . . Quality factor or bandwidth
- 2210/017 . . Amplitude, gain or attenuation
- 2210/02 . . Variable filter component
- 2210/021 . . Amplifier, e.g. transconductance amplifier
- 2210/023 . . . Tuning of transconductance via tail current source
- 2210/025 . . Capacitor
- 2210/026 . . Inductor
- 2210/028 . . Resistor
- 2210/03 . . Type of tuning
- 2210/033 . . Continuous
- 2210/036 . . Stepwise
- 2210/04 . . Filter calibration method
- 2210/043 . . by measuring time constant
- 2210/046 . . Master -slave
- 2218/00 Indexing scheme relating to details of digital filters**
- 2218/02 . . Coefficients
- 2218/025 . . updated selectively, e.g. by, in the presence of noise, temporally cancelling the update and outputting a predetermined value
- 2218/04 . . In-phase and quadrature [I/Q] signals
- 2218/06 . . Multiple-input, multiple-output [MIMO]; Multiple-input, single-output [MISO]
- 2218/08 . . Resource sharing
- 2218/085 . . Multipliers
- 2218/10 . . Multiplier and or accumulator units
- 2218/12 . . Signal conditioning
- 2218/14 . . Non-uniform sampling
- 2220/00 Indexing scheme relating to structures of digital filters**
- 2220/02 . . Modular, e.g. cells connected in cascade
- 2220/04 . . Pipelined
- 2220/06 . . Systolic
- 2220/08 . . Variable filter length
- 2222/00 Indexing scheme relating to digital filtering methods**
- 2222/02 . . using fuzzy logic
- 2222/04 . . using neural networks
- 2222/06 . . using wavelets
- 2240/00 Indexing scheme relating to filter banks**
- 2250/00 Indexing scheme relating to dual- or multi-band filters**
- 2260/00 Theory relating to impedance networks**