H03J  TUNING RESONANT CIRCUITS; SELECTING RESONANT CIRCUITS (indicating arrangements for measuring G01D; measuring, testing G01R; remote-control in general G05, G08; automatic control or stabilisation of generators H03L)

NOTE
This subclass covers also the control of tuning, including the combined control of tuning and other functions, e.g. combinations of tuning control and volume control, combinations of control of local oscillator and of supplementary resonant circuits.

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.

1/00 Details of adjusting, driving, indicating, or mechanical control arrangements for resonant circuits in general (machine elements in general F16; coupling of knobs to shafts F16D).

1/0008 . . . (using a central processing unit, e.g. a microprocessor (digital tuning in general H03J 5/0245))

1/0016 . . . [indicating arrangements (digital indication of tuning in general H03J 1/048)]

1/0025 . . . (in a remote control unit (remote control tuning in general H03J 9/00))

1/0033 . . . (for voltage synthesis with a D/A converter)

1/0041 . . . (for frequency synthesis with counters or frequency dividers)

1/005 . . . [in a loop]

1/0058 . . . [provided with channel identification means (arrangements for monitoring the use made of broadcast services H04H 60/31)]

1/0066 . . . [with means for analysing the received signal strength (H03J 1/0083 takes precedence)]

1/0075 . . . [where the receiving frequencies of the stations are stored in a permanent memory, e.g. ROM]

1/0083 . . . [using two or more tuners]

1/0091 . . . [provided with means for scanning over a band of frequencies (H03J 1/0058 takes precedence)]

1/02 . Indicating arrangements (indicating correct tuning H03J 3/12)

1/025 . . . [with voiced announcement]

1/04 . . . [with optical indicating means]

1/041 . . . [Pointers, markers, or the like, for tuning dials; Folding dials]

1/042 . . . [Means insuring a precise reading of the dial, e.g. special scale, local illumination possibly temporary, luminous point moving with the pointer]

1/044 . . . [Illumination of the tuning dial; On and off switching of the illumination; Circuits related with illumination]

1/045 . . . [Indication of the tuning band, the bandwidth, tone control, the channel number, the frequency, or the like]

1/047 . . . . [using electronic means, e.g. LED's (display of electronic variables in general G01R 13/00, for discontinuous display G01R 13/04)]

1/048 . . . . [with digital indication (using a microprocessor H03J 1/0016)]

1/06 . . . Driving or adjusting arrangements; combined with other driving or adjusting arrangements, e.g. of gain control

1/063 . . . [Special arrangements taken in correlation with the wear; Suppressing backlash; Locking in a desired position]

1/066 . . . [Constructional details regarding potentiometric setting of voltage or current variable reactances]

NOTE
Groups H03J 1/14, H03J 1/16 take precedence over groups H03J 1/08 - H03J 1/12.

1/08 . . . Toothed-gear drive; Worm drive

1/10 . . . Rope drive; Chain drive

1/12 . . . Friction drive

1/14 . . . Special arrangements for fine and coarse tuning

1/16 . . . Single control means independently performing two or more functions

1/18 . Control by auxiliary power

1/182 . . . [using a ring of magnets or the like]

1/185 . . . [the auxiliary power producing an adjustment dependent on the current intensity]

1/187 . . . [the auxiliary power balancing automatically a Wheatstone bridge or the like, that has been unbalanced by the controlling device]

1/20 . . . the auxiliary power being switched on as long as controlling current is switched on

1/22 . . . with stepping arrangements actuated by control pulses
Discontinuous tuning; Selecting predetermined frequencies; Selecting frequency bands with or without continuous tuning in one or more of the bands, e.g. push-button tuning, turret tuner (H03J 7/00, H03J 9/00 take precedence; for bandspeading H03J 5/00)

5/002 . . . with variable tuning element having a number of predetermined settings and adjustable to a desired one of these settings

5/0209 . . . (Discontinuous tuning using an electrical variable impedance element, e.g. a voltage variable reactive diode, by selecting the corresponding analogue value between a set of non preset values)

5/0218 . . . (Discontinuous tuning using an electrical variable impedance element, e.g. a voltage variable reactive diode, by selecting the corresponding analogue value between a set of preset values)

5/0227 . . . (using a counter)

5/0236 . . . (with possibility to skip over certain counter positions, i.e. channel skipping, or scanning the counter position with a variable frequency rate)
Automatic frequency control; Automatic scanning over a band of frequencies

Automatic frequency control (H03J 7/18 takes precedence; automatic tuning control for television receivers H04N 5/50)

Means preventing a wrong working of the automatic frequency control in case of fading or bad signal/noise ratio

where the frequency control is accomplished by varying the electrical characteristics of a non-mechanically adjustable element or where the nature of the frequency controlling element is not significant

[with reactance tube]

[Modification of automatic frequency control sensitivity or linearising automatic frequency control operation; Modification of the working range (H03J 7/10 takes precedence)]

[Automatic frequency control using an auxiliary signal, e.g. low frequency scanning of the locking range or superimposing a special signal on the input signal]

using counters or frequency dividers

[the counter or frequency divider being used in a phase locked loop]

using varactors, i.e. voltage variable reactive diodes (H03J 7/06 takes precedence)

Modification of automatic frequency control sensitivity or linearising automatic frequency control operation

Combination of automatic frequency control voltage with stabilised varactor supply voltage

Controlling the magnetic state of inductor cores (H03J 7/06 takes precedence)

where the frequency control is accomplished by mechanical means, e.g. by a motor

Automatic scanning over a band of frequencies

[combined with selection between different stations transmitting the same programm, e.g. by analysis of the received signal strength]

[using two or more tuners]

where the scanning is accomplished by varying the electrical characteristics of a non-mechanically adjustable element (H03J 7/183 takes precedence)

in which an automatic frequency control circuit is brought into action after the scanning action has been stopped (H03J 7/182 takes precedence)

using varactors, i.e. voltage variable reactive diodes (H03J 7/28 takes precedence)

in which an automatic frequency control circuit is brought into action after the scanning action has been stopped

using counters or frequency dividers

[the counter or frequency divider being used in a phase locked loop]
Remote control device controlling cursor and/or including a cursor detecting device
Remote control device with display showing data to be transmitted to the controlled apparatus
Remote control device with display showing program content
Remote control device with display
Remote control device with touch screen display
Adjusting the seek sensitivity of a scanning or sweeping receiver
Automatic self-alignment of a receiver
Self-calibration of a receiver
Radio receiver with speech synthesis ability, used for conveying information that is shown on the display
Several sweeping or scanning speeds
Tuning of tracking filter
Tuning of filter by controlling transconductance
Tuning of oscillator by controlling transconductance
Inductance tunable by switching in/out parts of the inductor
Circuit arrangements for, e.g. increasing the tuning range, linearizing the voltage-capacitance relationship, lowering noise, constant slope in different bands
Control voltage applied to the anode of the varicap
Control voltage applied to the cathode of the varicap
Variable capacitors implemented using microelectro-mechanical systems [MEMS]
Conversion to a zero or near-zero intermediate frequency