

# CPC COOPERATIVE PATENT CLASSIFICATION

**H03C MODULATION** (measuring, testing [G01R](#); masers, lasers [H01S](#); modulators specially adapted for use in the amplifiers [H03F 3/38](#); modulating pulses [H03K 7/00](#); so-called modulators capable only of a switching between predetermined states of amplitude, frequency or phase [H03K 17/00](#), [H04L](#); coding, decoding or code conversion, in general [H03M](#); synchronous modulators specially adapted for colour television [H04N 9/65](#))

## NOTES

1. This subclass covers only modulation, keying, or interruption of sinusoidal oscillations or electromagnetic waves, the modulating signal having any desired waveform.
2. In this subclass, circuits usable both as modulator and demodulator are classified in the group dealing with the type of modulator involved.

## WARNING

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups :

[H03C 1/38 - H03C 1/44](#) covered by [H03C 1/36](#)

<b>1/00</b>	<b>Amplitude modulation</b> ( <a href="#">H03C 5/00</a> , <a href="#">H03C 7/00</a> take precedence)	1/542	. . . {comprising semiconductor devices with at least three electrodes}
1/02	. Details	1/545	. . . . {using bipolar transistors}
1/04	. . Means in or combined with modulating stage for reducing angle modulation	1/547	. . . . {using field-effect transistors}
1/06	. . Modification of modulator to reduce distortion, e.g. by feedback, and clearly applicable to more than one type of modulator	1/56	. . . comprising variable two-pole elements only
1/08	. by means of variable impedance element ( <a href="#">H03C 1/28 - H03C 1/34</a> , <a href="#">H03C 1/46 - H03C 1/52</a> , <a href="#">H03C 1/62</a> take precedence)	1/58	. . . . comprising diodes
1/10	. . the element being a current-dependent inductor	1/60	. . with one sideband wholly or partially suppressed
1/12	. . the element being a voltage-dependent capacitor	1/62	. Modulators in which amplitude of carrier component in output is dependent upon strength of modulating signal, e.g. no carrier output when no modulating signal is present ( <a href="#">H03C 1/28 - H03C 1/34</a> , <a href="#">H03C 1/46</a> , <a href="#">H03C 1/48</a> take precedence)
1/14	. . the element being a diode		
1/16	. by means of discharge device having at least three electrodes ( <a href="#">H03C 1/28 - H03C 1/34</a> , <a href="#">H03C 1/50</a> , <a href="#">H03C 1/52</a> , <a href="#">H03C 1/62</a> take precedence)	<b>3/00</b>	<b>Angle modulation</b> ( <a href="#">H03C 5/00</a> , <a href="#">H03C 7/00</a> take precedence)
1/18	. . carrier applied to control grid	3/005	. {Circuits for asymmetric modulation}
1/20	. . . modulating signal applied to anode	3/02	. Details
1/22	. . . modulating signal applied to same grid	3/04	. . Means in or combined with modulating stage for reducing amplitude modulation
1/24	. . . modulating signal applied to different grid	3/06	. . Means for changing frequency deviation {(for demodulation <a href="#">H03D 3/003</a> , <a href="#">H03D 3/242</a> )}
1/26	. . . modulating signal applied to cathode	3/08	. . Modification of modulator to linearise modulation, e.g. by feedback, and clearly applicable to more than one type of modulator
1/28	. by means of transit-time tube	3/09	. . Modifications of modulator for regulating the mean frequency
1/30	. . by means of a magnetron	3/0908	. . . {using a phase locked loop}
1/32	. by deflection of electron beam in discharge tube	3/0916	. . . . {with frequency divider or counter in the loop}
1/34	. by means of light-sensitive element	3/0925	. . . . . {applying frequency modulation at the divider in the feedback loop}
1/36	. by means of semiconductor device having at least three electrodes ( <a href="#">H03C 1/34</a> , <a href="#">H03C 1/50</a> , <a href="#">H03C 1/52</a> , <a href="#">H03C 1/62</a> take precedence)	3/0933	. . . . . {using fractional frequency division in the feedback loop of the phase locked loop}
1/46	. Modulators with mechanically or acoustically driven parts	3/0941	. . . . . {applying frequency modulation at more than one point in the loop}
1/48	. by means of Hall-effect devices	3/095	. . . . . {applying frequency modulation to the loop in front of the voltage controlled oscillator}
1/50	. by converting angle modulation to amplitude modulation ( <a href="#">H03C 1/28 - H03C 1/34</a> , <a href="#">H03C 1/46</a> , <a href="#">H03C 1/48</a> take precedence)	3/0958	. . . . . {applying frequency modulation by varying the characteristics of the voltage controlled oscillator}
1/52	. Modulators in which carrier or one sideband are wholly or partially suppressed ( <a href="#">H03C 1/28 - H03C 1/34</a> , <a href="#">H03C 1/46</a> , <a href="#">H03C 1/48</a> take precedence)	3/0966	. . . . . {modulating the reference clock}
1/54	. . Balanced modulators, e.g. bridge type, ring type, double balanced type		

3/0975	. . . . {applying frequency modulation in the phase locked loop at components other than the divider, the voltage controlled oscillator or the reference clock}	7/027	. . . . {using diodes}
3/0983	. . . . {containing in the loop a mixer other than for phase detection}	7/04	. . Polarisation of transmitted wave being modulated {(H03C 7/022 takes precedence)}
3/0991	. . . . {including calibration means or calibration methods}	99/00	<b>Subject matter not provided for in other groups of this subclass</b>
3/10	. by means of variable impedance (H03C 3/30 - H03C 3/38 take precedence)	2200/00	<b>Indexing scheme relating to details of modulators or modulation methods covered by H03C</b>
3/12	. . by means of a variable reactive element	2200/0004	. Circuit elements of modulators
3/14	. . . simulated by circuit comprising active element with at least three electrodes, e.g. reactance-tube circuit	2200/0008	. . Variable capacitors, e.g. a varicap, a varactor or a variable capacitance of a diode or transistor
3/145	. . . . {by using semiconductor elements}	2200/0012	. . Emitter or source coupled transistor pairs or long tail pairs
3/16	. . . . in which the active element simultaneously serves as the active element of an oscillator	2200/0016	. . Pre-emphasis or de-emphasis circuits
3/18	. . . the element being a current-dependent inductor	2200/002	. . Filters with particular characteristics
3/20	. . . the element being a voltage-dependent capacitor	2200/0025	. . Gilbert multipliers
3/22	. . . the element being a semiconductor diode, e.g. varicap diode	2200/0029	. . Memory circuits, e.g. ROMs, RAMs, EPROMs, latches, shift registers
3/222	. . . . {using bipolar transistors (H03C 3/227 takes precedence)}	2200/0033	. . Transmission lines, e.g. striplines, microstrips or coplanar lines
3/225	. . . . {using field effect transistors (H03C 3/227 takes precedence)}	2200/0037	. Functional aspects of modulators
3/227	. . . . {using a combination of bipolar transistors and field effect transistors}	2200/0041	. . Calibration of modulators
3/24	. . by means of a variable resistive element, e.g. tube	2200/0045	. . Pulse width, duty cycle or on/off ratio
3/245	. . . {by using semiconductor elements}	2200/005	. . Modulation sensitivity
3/26	. . . comprising two elements controlled in push-pull by modulating signal	2200/0054	. . . Filtering of the input modulating signal for obtaining a constant sensitivity of frequency modulation
3/28	. . using variable impedance driven mechanically or acoustically	2200/0058	. . Quadrature arrangements
3/30	. by means of transit-time tube	2200/0062	. . Lowering the supply voltage and saving power
3/32	. . the tube being a magnetron	2200/0066	. . Reduction of carrier leakage or the suppression of the carrier
3/34	. by deflection of electron beam in discharge tube	2200/007	. . with one sideband wholly or partially suppressed
3/36	. by means of light-sensitive element	2200/0075	. . FM modulation down to DC
3/38	. by converting amplitude modulation to angle modulation	2200/0079	. . Measures to linearise modulation or reduce distortion of modulation characteristics
3/40	. . using two signal paths the outputs of which have a predetermined phase difference and at least one output being amplitude-modulated	2200/0083	. . . Predistortion of input modulating signal to obtain a linear modulation characteristic
3/403	. . . {using two quadrature frequency conversion stages in cascade}	2200/0087	. . Measures to address temperature induced variations of modulation
3/406	. . . {using a feedback loop containing mixers or demodulators}	2200/0091	. . . by stabilising the temperature
3/42	. by means of electromechanical devices (H03C 3/28 takes precedence)	2200/0095	. . . by compensating temperature induced variations
5/00	<b>Amplitude modulation and angle modulation produced simultaneously or at will by the same modulating signal (H03C 7/00 takes precedence)</b>		
5/02	. by means of transit-time tube		
5/04	. . the tube being a magnetron		
5/06	. by deflection of electron beam in discharge tube		
7/00	<b>Modulating electromagnetic waves (modulating light G02F 1/00; for generating oscillations H03B, H03K)</b>		
7/02	. in transmission line, waveguide, cavity resonator, or radiation field of aerial		
7/022	. . {using ferromagnetic devices, e.g. ferrites}		
7/025	. . {using semiconductor devices}		