

EUROPEAN PATENT OFFICE
U.S. PATENT AND TRADEMARK OFFICE

CPC NOTICE OF CHANGES 1293

DATE: MAY 1, 2022

PROJECT MP10320

The following classification changes will be effected by this Notice of Changes :

<u>Action</u>	<u>Subclass</u>	<u>Group(s)</u>
SCHEME:		
Titles Changed:	H03C	SUBCLASS
	H03C	1/46, 1/52, 1/54, 3/06, 7/00, 7/02
Warnings Modified:	H03C	SUBCLASS
DEFINITIONS:		
Definitions Deleted: (no frozen (F) symbol definitions should be deleted)	H03C	2200/002, 2200/0025, 2200/007, 2200/0079
Definitions Modified:	H03C	SUBCLASS
	H03C	1/00, 1/50, 1/547
	H03C	3/00, 3/06, 3/09, 3/0908, 3/0933, 3/403
	H03C	5/00, 7/00, 7/025, 99/00, 2200/00

This Notice of Changes includes the following *[Check the ones included]:*

1. CLASSIFICATION SCHEME CHANGES

- A. New, Modified or Deleted Group(s)
- B. New, Modified or Deleted Warning(s)
- C. New, Modified or Deleted Note(s)
- D. New, Modified or Deleted Guidance Heading(s)

2. DEFINITIONS

- A. New or Modified Definitions (Full definition template)
- B. Modified or Deleted Definitions (Definitions Quick Fix)

3. REVISION CONCORDANCE LIST (RCL)

4. CHANGES TO THE CPC-TO-IPC CONCORDANCE LIST (CICL)

5. CHANGES TO THE CROSS-REFERENCE LIST (CRL)

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1. CLASSIFICATION SCHEME CHANGES

A. New, Modified or Deleted Group(s)

SUBCLASS H03C – MODULATION

<u>Type*</u>	<u>Symbol</u>	<u>Indent Level Number of dots (e.g. 0, 1, 2)</u>	<u>Title</u> “CPC only” text should normally be enclosed in {curly brackets}**	<u>Transferred to#</u>
M	H03C	SUBCLASS	MODULATION (masers or lasers H01S; coding, decoding or code conversion H03M)	
M	H03C 1/46	1	Modulators with mechanically-driven or acoustically-driven parts	
M	H03C 1/52	1	Modulators in which carrier or one sideband is wholly or partially suppressed (H03C 1/28 - H03C 1/34, H03C 1/46, H03C 1/48 take precedence)	
M	H03C 1/54	2	Balanced modulators, e.g. bridge type, ring type or double balanced type	
M	H03C 3/06	2	Means for changing frequency deviation	
M	H03C7/00	0	Modulating electromagnetic waves (devices or arrangements for the modulation of light G02F 1/00)	
M	H03C 7/02	1	in transmission lines, waveguides, cavity resonators or radiation fields of antennas	

*N = new entries where reclassification into entries is involved; C = entries with modified file scope where reclassification of documents from the entries is involved; Q = new entries which are firstly populated with documents via administrative transfers from deleted (D) entries. Afterwards, the transferred documents into the Q entry will either stay or be moved to more appropriate entries, as determined by intellectual reclassification; T = existing entries with enlarged file scope, which receive documents from C or D entries, e.g. when a limiting reference is removed from the entry title; M = entries with no change to the file scope (no reclassification); D = deleted entries; F = frozen entries will be deleted once reclassification of documents from the entries is completed; U = entries that are unchanged.

NOTES:

- **No {curly brackets} are used for titles in CPC only subclasses, e.g. C12Y, A23Y; 2000 series symbol titles of groups found at the end of schemes (orthogonal codes); or the Y section titles. The {curly brackets} are used for 2000 series symbol titles found interspersed throughout the main trunk schemes (breakdown codes).
- U groups: it is obligatory to display the required “anchor” symbol (U group), i.e. the entry immediately preceding a new group or an array of new groups to be created (in case new groups are not clearly subgroups of C-type groups). Always include the symbol, indent level and title of the U group in the table above.
- All entry types should be included in the scheme changes table above for better understanding of the overall scheme change picture. Symbol, indent level, and title are required for all types.
- “Transferred to” column must be completed for all C, D, F, and Q type entries. F groups will be deleted once reclassification is completed.
- When multiple symbols are included in the “Transferred to” column, avoid using ranges of symbols in order to be as precise as possible.

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- For administrative transfer of documents, the following text should be used: “<administrative transfer to XX>”, “<administrative transfer to XX and YY simultaneously>”, or “<administrative transfer to XX, YY, ...and ZZ simultaneously>” when administrative transfer of the same documents is to more than one place.
- Administrative transfer to main trunk groups is assumed to be the source allocation type, unless otherwise indicated.
- Administrative transfer to 2000/Y series groups is assumed to be “additional information”.
- If needed, instructions for allocation type should be indicated within the angle brackets using the abbreviations “ADD” or “INV”: <administrative transfer to XX ADD> , <administrative transfer to XX INV>, or < administrative transfer to XX ADD, YY INV, ... and ZZ ADD simultaneously>.
- In certain situations, the “D” entries of 2000-series or Y-series groups may not require a destination (“Transferred to”) symbol, however it is required to specify “<no transfer>” in the “Transferred to” column for such cases.
- For finalisation projects, the deleted “F” symbols should have <no transfer> in the “Transferred to” column.
- For more details about the types of scheme change, see CPC Guide.

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B. New, Modified or Deleted Warning(s)

SUBCLASS H03C – MODULATION

<u>Type*</u>	<u>Location</u>	<u>Old Warning</u>	<u>New/Modified Warning</u>
M	H03C	<p>1 The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups: H03C1/38 - H03C1/44 covered by H03C 1/36</p> <p>2. 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>	<p>The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups: H03C1/38 - H03C1/44 covered by H03C 1/36</p>

*N = new warning, M = modified warning, D = deleted warning

NOTE: The “Location” column only requires the symbol PRIOR to the location of the warning. No further directions such as “before” or “after” are required.

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2. A. DEFINITIONS (Modified)

H03C

Relationships with other classification places

Replace: The SECOND paragraph in the Relationships with other classification places section with the updated one below:

H03C is used to classify modulators essentially at circuit level, e.g. transistor level. Higher level aspects, e.g. transmitters or transmission systems, particularly where the modulator type is only a black box or of a standard configuration, are generally classified in **H04B**, **H04L** or with the specific application. In general, Demodulation is covered in H03D. However, circuits usable both as modulator and demodulator are covered by H03C.

References

Limiting references

Replace: The existing Limiting references table with the modified one below.

Masers or lasers	H01S
Coding, decoding or code conversion	H03M

Informative references:

Insert: The following new Informative references section and table.

Measuring, testing	G01R
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Transference of modulation from one carrier to another and frequency changing	H03D 7/00
Amplifiers	H03F
Modulators specially adapted for use in dc amplifiers	H03F3/38
Pulse Technique, , e.g. modulating non-sinusoidal oscillations	H03K
Modulating pulses	H03K7/00
So-called modulators capable only of switching between predetermined states of amplitude, frequency or phase	H03K17/00
Transmission	H04B
Details of transmission systems, e.g. suppression of noise and interference	H04B 1/00
Monitoring and testing arrangements for transmission systems	H04B 17/00
Transmission of digital information	H04L
Modulated carrier transmission systems for digital information	H04L27/00
Synchronous modulators specially adapted for colour television	H04N9/65

H03C 1/00

Definition statement

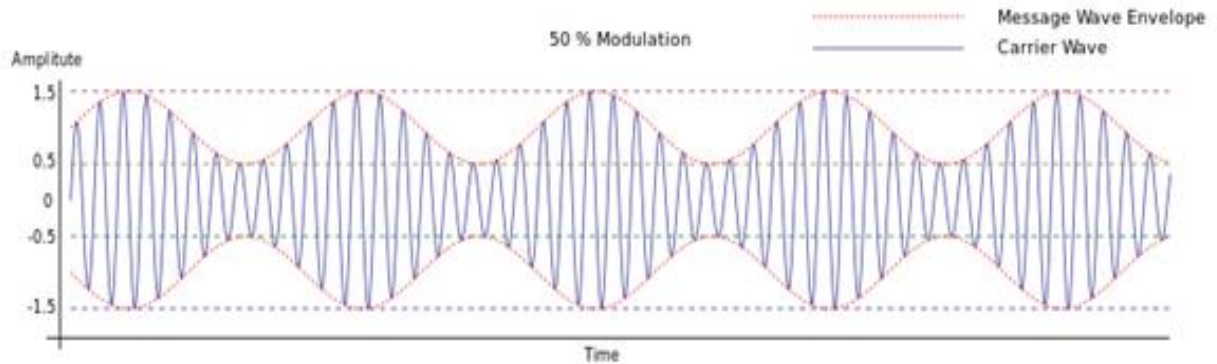
Replace: The existing Definition statement with the updated one below. Image is not changing.

Circuits and methods usable for modulation of a sinusoidal electromagnetic carrier wave whereby its amplitude is modified according to a modulating signal with frequency lower than that of the carrier. The modulating signal can be digital, resulting e.g. in Amplitude Shift Keying, or analog (see the example below).

Example: Waveform of amplitude modulated carrier wave

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- Means in, or combined with, modulating stage for reducing angle modulation
- Reduction of distortion in amplitude modulators
- Amplitude modulation by means of variable impedance
- Amplitude modulation by means of discharge devices
- Amplitude modulation by means of transit time tube
- Amplitude modulation by deflection of electron beam in discharge tubes
- Amplitude modulation by means of semiconductor devices having at least three electrodes, e.g. transistors
- Amplitude modulation by means of light sensitive elements, e.g. photo detectors
- Amplitude modulators with mechanically or acoustically driven parts
- Amplitude modulation by means of Hall effect devices
- Conversion of angle to amplitude modulation, e.g. by combining two phase shifted signals
- Amplitude modulation including suppression of carrier or one side-band

Modulators in which amplitude of carrier component in output is dependent upon strength of modulation signal

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References**Limiting references:**Delete: The following two rows from the Limiting references table:

Mixers per se	H03D 7/00
Pulse amplitude modulation	H03K 7/02

Informative references:Replace: The Informative references table with the updated one below:

Mixers per se	H03D 7/00
Balanced arrangements for transference of modulation from one carrier to another	H03D 7/14 , H03D 7/1425 , H03D 7/1441
Modifications of amplifiers to raise the efficiency, e.g. summing of phase-modulated signals	H03F 1/02
Summing of phase-modulated signals	H03F 1/0294
Automatic control of gain	H03G
Pulse amplitude modulation	H03K 7/02
Details of transmission systems	H04B 1/00
Modulated carrier transmission systems including digital amplitude modulation circuits	H04L 27/02

Synonyms and KeywordsInsert: The following two rows in the Synonyms and Keywords table of abbreviations.

DSB SC	Double side band suppressed carrier
VSB	vestigial side band

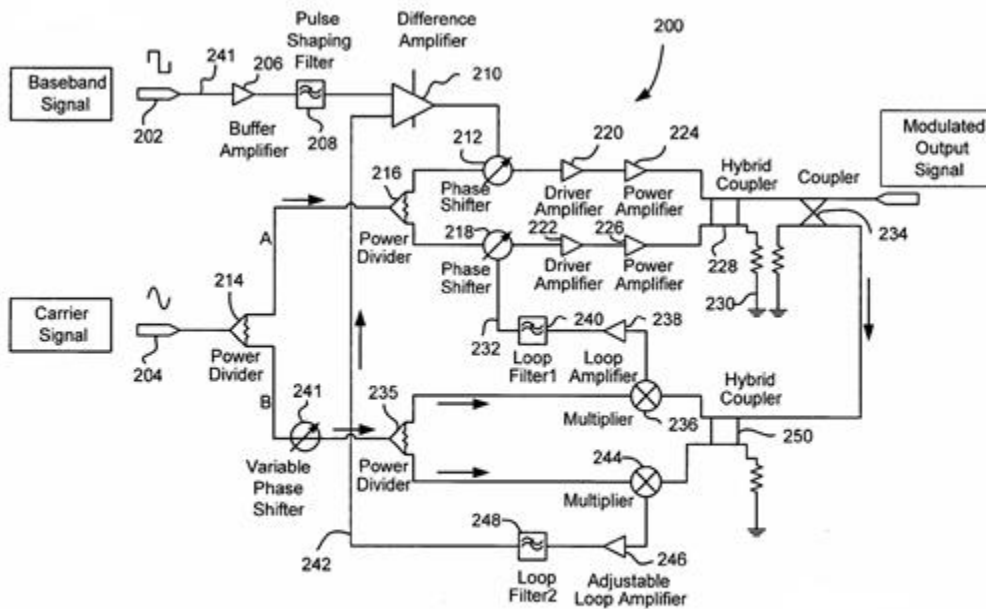
H03C 1/50

Definition statement

Replace: The existing Definition statement, INCLUDING the image, with the updated Definition statement and image below:

- Generation of an amplitude modulated signal by combining phase modulated signals
- Out-phasing modulators

Example:



Conversion of angle modulation (212) in amplitude modulation (228).

H03C 3/00

Definition statement

Replace: The existing Definition statement text with the updated text below.

- Circuits and methods usable for angle, i.e. frequency and/or phase modulation
- Means in, or combined with, modulating stage for reducing amplitude modulation
- Linearization of angle modulators
- PLL modulators and other modulators with regulation of mean frequency
- Angle modulation by variation of reactance
- Angle modulation by variation of resistance
- Angle modulation by variation of impedance driven mechanically or acoustically
- Angle modulation using transit-time or discharge tubes
- Angle modulation using light-sensitive elements
- Conversion of amplitude modulation to angle modulation, e.g. using quadrature modulators
- Angle modulation using electromechanical devices

References

Limiting references:

Delete: The following three rows from the Limiting references table:

Frequency tuning of oscillators	H03B
Tuning of resonant circuits	H03J
Pulse/frequency modulators	H03K 7/04, H03K 7/06

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Informative references:

Replace: The Informative references table with the updated table below:

Generation of oscillations including frequency tuning	H03B
Mixers per se	H03D 7/00
Reduction of nonlinear distortion in amplifiers (particularly regarding H03C 3/406 and H03C 5/00)	H03F 1/32
Tuning of resonant circuits	H03J
Pulse/frequency modulators	H03K 7/04, H03K 7/06
PLLs and other frequency regulation arrangements in general	H03L 7/00
PLL with fractional dividers	H03L 7/1974
Transmitters and details of transmission	H04B 1/00
Modulated carrier transmission systems including digital phase or frequency modulation circuits	H04L 27/10, H04L 27/18

Glossary of terms

Replace: The last row of the Glossary of terms with the updated row below:

by means of	The actual amplitude modulation is performed by these "means". It does not mean that such "means" are merely present in the circuit but fulfilling another purpose.
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H03C3/06**References:**

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Informative references:

Replace: The existing Informative references table with the updated one below:

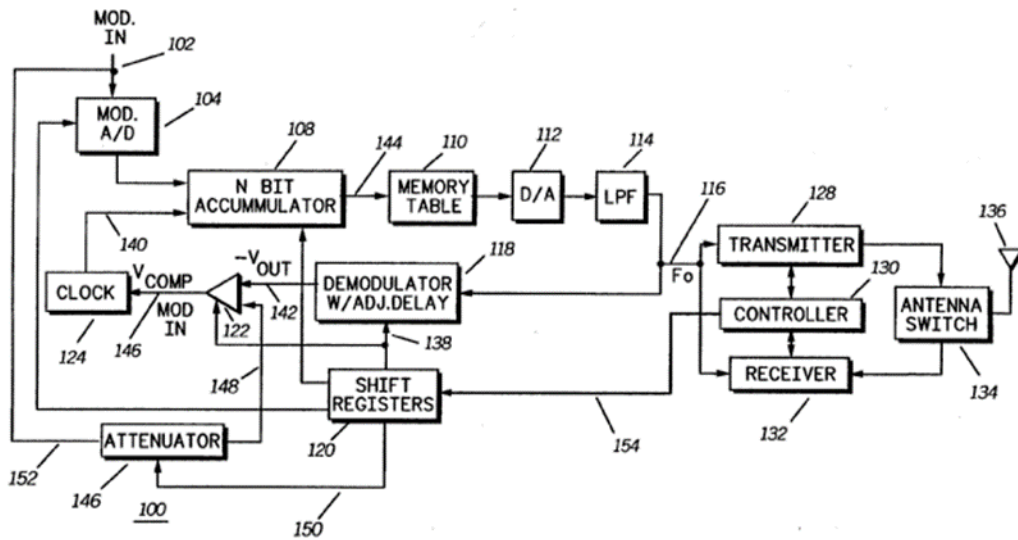
Demodulation of angle-modulated oscillations	H03D 3/00
Arrangements for reducing frequency deviation, e.g. by negative frequency feedback	H03D 3/003
Details by means of a variable resistive element, e.g. tube	H03D 3/24
The oscillator combined with means for controlling the frequency of a further oscillator, e.g. for negative frequency feedback	H03D 3/242

H03C 3/09**Definition statement**

Replace: The existing Definition statement text AND image with the updated text and image below:

Modifications of angle modulators for regulating the mean frequency, e.g. by using feedback techniques to reduce jitter and spurious output frequencies in direct synthesisers with a modulation output.

Example:



Regulation of mean frequency in a modulator without PLL, using a demodulator in the feedback path

H03C 3/0908

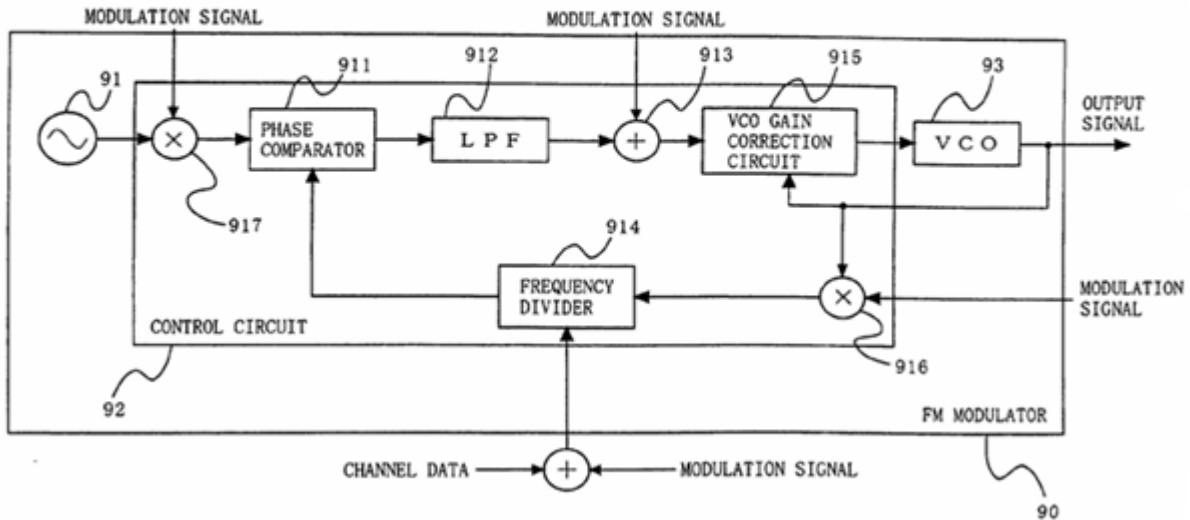
Definition statement

Replace: The existing Definition statement and images with the updated text and image below:

Example:

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Regulation of mean frequency in a modulator with PLL, using three point modulation (H03C 3/0941) in divider (H03C 3/0925), reference clock (H03C 3/0966) and in front of the VCO (H03C 3/095) and at a mixer (H03C 3/0983).

H03C 3/0933

References

Delete: The Limiting references section and table.

Insert: The new Informative references section and table below.

Informative references:

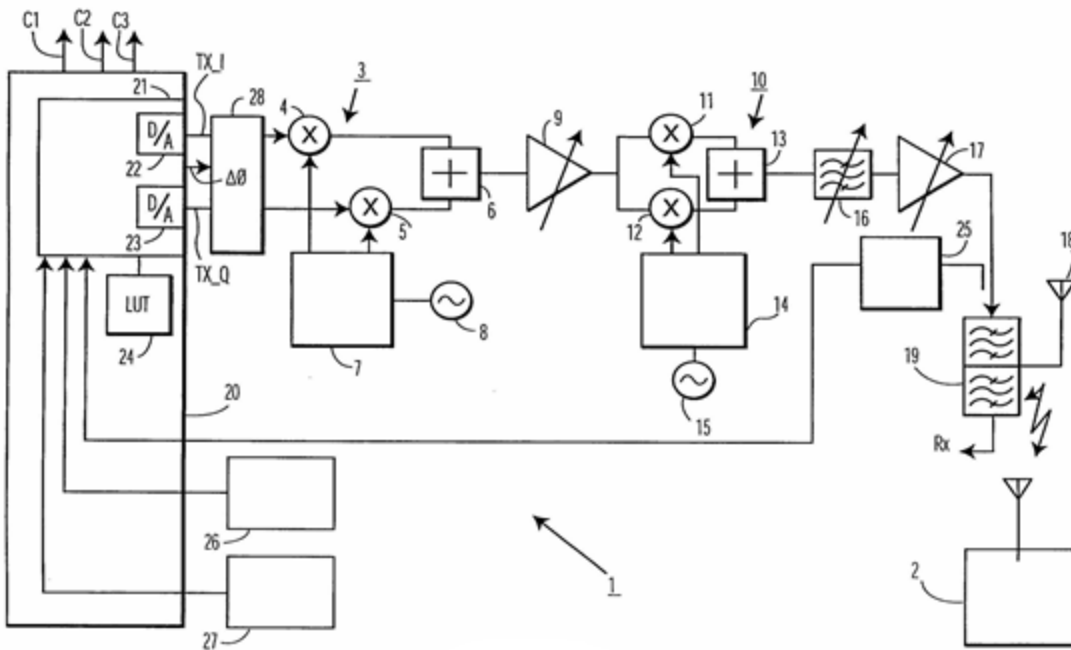
Attention is drawn to the following places, which may be of interest for search:

PLL synthesisers with fractional dividers	H03L 7/1974
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H03C 3/403

Definition statement

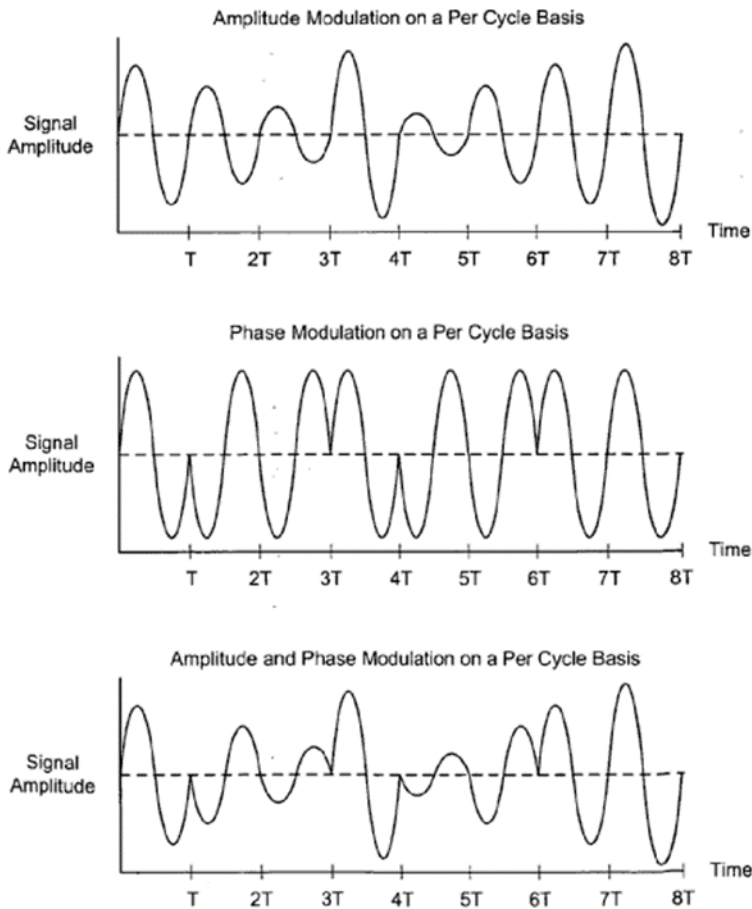
Replace: The existing image and patent number with the updated image below.



H03C 5/00

Definition statement

Replace: The existing image and patent number with the updated image below.



Polar modulation resulting in simultaneous amplitude and phase modulation.

References

Limiting references

Delete: The following rows from the Limiting references table:

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Conversion of angle to amplitude modulation	H03C 1/50
Conversion of amplitude to angle modulation	H03C 3/38

Informative references:

Insert: The following new Informative references section and table.

Conversion of angle to amplitude modulation	H03C 1/50
Conversion of amplitude to angle modulation	H03C 3/38
Modifications of amplifiers to raise the efficiency of amplifying modulated radio frequency waves in discharge-tube amplifiers; to raise the efficiency of amplifiers acting also as modulators in discharge-tube amplifiers	H03F 1/06
Phase-modulated carrier systems	H04L 27/18
Amplitude- and phase-modulated carrier systems, e.g. quadrature-amplitude modulated carrier systems	H04L 27/34

H03C 7/00**Definition statement**

Replace: The existing Definition statement with the modified one below.

- Modulation of electromagnetic waves, e.g. microwaves.
- Modulation of electromagnetic waves in transmission lines, waveguides, cavity resonators or radiation field of antennas.

References**Limiting references**

Replace: The text for the following reference with the updated text below:

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Devices or arrangements for modulating light	G02F 1/00
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Informative references:

Replace: The existing Informative references table with the updated one below.

Generation of oscillations, directly or by frequency-changing	H03B
Pulse Technique, e.g. modulating non-sinusoidal oscillations	H03K

H03C 7/025**Definition statement**

Delete: The patent number from the Definition statement.

H03C 99/00**Definition statement**

Replace: The existing Definition statement with the updated one below.

Modulation, keying, or interruption of sinusoidal oscillations or electromagnetic waves not covered by other groups of this subclass.

References

Delete: The Limiting references section and table.

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H03C2200/00

Definition statement

Delete: The reference symbols at the end of the following two paragraphs, so they read as follows:

- Particular circuit elements of modulators.
- Functional aspects of modulators.

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2. B. DEFINITIONS QUICK FIX

<u>Symbol</u>	<u>Location of change</u> (e.g., section title)	<u>Existing reference symbol or text</u>	<u>Action; New symbol; New text</u>
H03C 2200/002			Delete the entire Definition
H03C 2200/0025			Delete the entire Definition
H03C 2200/007			Delete the entire Definition
H03C 2200/0079			Delete the entire Definition

NOTES:

- The table above is used for corrections or modifications to existing definitions, e.g. delete an entire definition or part thereof; propose new wording or modify wording of a section, change the symbol the definition is associated with, change or delete a reference symbol, etc.
- Do not delete (F) symbol definitions.