

## SECTION H — ELECTRICITY

### H03 BASIC ELECTRONIC CIRCUITRY

**H03D DEMODULATION OR TRANSFERENCE OF MODULATION FROM ONE CARRIER TO ANOTHER** (masers, lasers H01S; circuits capable of acting both as modulator and demodulator H03C, e.g. balanced modulators H03C 1/54; details applicable to both modulators and frequency-changers H03C; demodulating pulses which have been modulated with a continuously-variable signal H03K 9/00; transforming types of pulse modulation H03K 11/00; relay systems, e.g. repeater stations H04B 7/14; demodulators adapted for digitally modulated-carrier systems H04L 27/00; synchronous demodulators adapted for colour television H04N 9/66)

#### Note(s)

This subclass covers only:

- demodulation or transference of signals modulated on a sinusoidal carrier or on electromagnetic waves;
- comparing phase or frequency of two mutually-independent oscillations.

#### Subclass index

##### DEMODULATION

Amplitude; angle; combined; super-regenerative.....1/00, 3/00, 5/00, 9/00, 11/00

TRANSFERENCE.....7/00, 9/00

COMPARING PHASE OR FREQUENCY.....13/00

SUBJECT MATTER NOT PROVIDED FOR IN OTHER GROUPS OF THIS SUBCLASS.....99/00

**1/00 Demodulation of amplitude-modulated oscillations**  
(H03D 5/00, H03D 9/00, H03D 11/00 take precedence;  
amplitude demodulators adapted for digitally modulated  
carrier systems, e.g. using on-off keying, single  
sideband or vestigial sideband modulation  
H04L 27/06) **[1, 2006.01]**

- 1/02 • Details **[1, 2006.01]**
- 1/04 • • Modifications of demodulators to reduce  
interference by undesired signals **[1, 2006.01]**
- 1/06 • • Modifications of demodulators to reduce  
distortion, e.g. by negative feedback **[1, 2006.01]**
- 1/08 • by means of non-linear two-pole elements  
(H03D 1/22, H03D 1/26, H03D 1/28 take  
precedence) **[1, 2006.01]**
- 1/10 • • of diodes **[1, 2006.01]**
- 1/12 • • • with provision for equalising ac and dc  
loads **[1, 2006.01]**
- 1/14 • by means of non-linear elements having more than  
two poles (H03D 1/22, H03D 1/26, H03D 1/28 take  
precedence) **[1, 2006.01]**
- 1/16 • • of discharge tubes **[1, 2006.01]**
- 1/18 • • of semiconductor devices **[1, 2006.01]**
- 1/20 • • with provision for preventing undesired type of  
demodulation, e.g. preventing anode detection in a  
grid detection circuit **[1, 2006.01]**
- 1/22 • Homodyne or synchrodyne circuits **[1, 2006.01]**
- 1/24 • • for demodulation of signals wherein one sideband  
or the carrier has been wholly or partially  
suppressed **[1, 2006.01]**
- 1/26 • by means of transit-time tubes **[1, 2006.01]**
- 1/28 • by deflecting an electron beam in a discharge tube  
(H03D 1/26 takes precedence) **[1, 2006.01]**

**3/00 Demodulation of angle-modulated oscillations**  
(H03D 5/00, H03D 9/00, H03D 11/00 take precedence;  
frequency demodulators adapted for digitally modulated  
carrier systems, i.e. using frequency shift keying  
H04L 27/14; phase demodulators adapted for digitally  
modulated carrier systems, i.e. using phase shift keying  
H04L 27/22) **[1, 2006.01]**

- 3/02 • by detecting phase difference between two signals  
obtained from input signal (H03D 3/28-  
H03D 3/32 take precedence) **[1, 2006.01]**
- 3/04 • • by counting or integrating cycles of  
oscillations **[1, 2006.01]**
- 3/06 • • by combining signals additively or in product  
demodulators **[1, 2006.01]**
- 3/08 • • • by means of diodes, e.g. Foster-Seeley  
discriminator **[1, 2006.01]**
- 3/10 • • • in which the diodes are simultaneously  
conducting during the same half period of  
the signal, e.g. ratio detector **[1, 2006.01]**
- 3/12 • • • by means of discharge tubes having more than  
two electrodes **[1, 2006.01]**
- 3/14 • • • by means of semiconductor devices having  
more than two electrodes **[1, 2006.01]**
- 3/16 • • • by means of electromechanical  
resonators **[1, 2006.01]**
- 3/18 • • by means of synchronous gating  
arrangements **[1, 2006.01]**
- 3/20 • • • producing pulses whose amplitude or duration  
depends on the phase difference **[1, 2006.01]**
- 3/22 • • by means of active elements with more than two  
electrodes to which two signals are applied  
derived from the signal to be demodulated and  
having a phase difference related to the frequency  
deviation, e.g. phase detector **[1, 2006.01]**

## H03D

- 3/24 • • Modifications of demodulators to reject or remove amplitude variations by means of locked-in oscillator circuits [1, 2006.01]
- 3/26 • by means of sloping amplitude/frequency characteristic of tuned or reactive circuit (H03D 3/28-H03D 3/32 take precedence) [1, 2006.01]
- 3/28 • Modifications of demodulators to reduce effect of temperature variations [1, 2006.01]
- 3/30 • by means of transit-time tubes [1, 2006.01]
- 3/32 • by deflecting an electron beam in a discharge tube (H03D 3/30 takes precedence) [1, 2006.01]
- 3/34 • by means of electromechanical devices (H03D 3/16 takes precedence) [3, 2006.01]
- 5/00 **Circuits for demodulating amplitude-modulated or angle-modulated oscillations at will** (H03D 9/00, H03D 11/00 take precedence; demodulators adapted for digitally modulated carrier systems characterised by combinations of amplitude and angle modulation, e.g. quadrature amplitude modulation H04L 27/38) [1, 2006.01]
- 7/00 **Transference of modulation from one carrier to another, e.g. frequency-changing** (H03D 9/00, H03D 11/00 take precedence; dielectric amplifiers, magnetic amplifiers, parametric amplifiers used as frequency-changers H03F) [1, 2006.01]
- 7/02 • by means of diodes (H03D 7/14-H03D 7/22 take precedence) [1, 2006.01]
- 7/04 • • having negative resistance characteristic, e.g. tunnel diode [1, 2006.01]
- 7/06 • by means of discharge tubes having more than two electrodes (H03D 7/14-H03D 7/22 take precedence) [1, 2006.01]
- 7/08 • the signals to be mixed being applied between the same two electrodes [1, 2006.01]
- 7/10 • • the signals to be mixed being applied between different pairs of electrodes [1, 2006.01]
- 7/12 • by means of semiconductor devices having more than two electrodes (H03D 7/14-H03D 7/22 take precedence) [1, 2006.01]
- 7/14 • Balanced arrangements [1, 2006.01]
- 7/16 • Multiple frequency-changing (superheterodyne receivers H04B 1/26) [1, 2006.01]
- 7/18 • Modifications of frequency-changers for eliminating image frequencies [1, 2006.01]
- 7/20 • by means of transit-time tubes [1, 2006.01]
- 7/22 • by deflecting an electron beam in a discharge tube (H03D 7/20 takes precedence) [1, 2006.01]
- 9/00 **Demodulation or transference of modulation of modulated electromagnetic waves** (devices or arrangements for demodulating light, transferring the modulation of modulated light or for changing the frequency of light G02F 2/00) [1, 2006.01]
- 9/02 • Demodulation using distributed inductance and capacitance, e.g. in feeder lines [1, 2006.01]
- 9/04 • • for angle-modulated oscillations [1, 2006.01]
- 9/06 • Transference of modulation using distributed inductance and capacitance [1, 2006.01]
- 11/00 **Super-regenerative demodulator circuits** [1, 2006.01]
- 11/02 • for amplitude-modulated oscillations [1, 2006.01]
- 11/04 • • by means of semiconductor devices having more than two electrodes [1, 2006.01]
- 11/06 • for angle-modulated oscillations [1, 2006.01]
- 11/08 • • by means of semiconductor devices having more than two electrodes [1, 2006.01]
- 13/00 **Circuits for comparing the phase or frequency of two mutually-independent oscillations** (arrangements for measuring phase angle between a voltage and a current or between voltages or currents G01R 25/00) [1, 2006.01]
- 99/00 **Subject matter not provided for in other groups of this subclass** [2006.01]