

## SECTION H — ELECTRICITY

### H03 BASIC ELECTRONIC CIRCUITRY

**H03G CONTROL OF AMPLIFICATION** (impedance networks, e.g. attenuators, H03H; control of transmission in lines H04B 3/04)

#### Note(s)

- This subclass covers:
  - control of gain of amplifiers or frequency-changers;
  - control of frequency range of amplifiers;
  - limiting amplitude or rate of change of amplitude.
- Attention is drawn to the Note following the title of subclass H03F.

#### Subclass index

GAIN CONTROL.....	3/00
TONE CONTROL.....	5/00
COMPRESSORS OR EXPANDERS; LIMITERS.....	7/00, 11/00
COMBINATION OF TWO OR MORE TYPES OF CONTROL.....	9/00
DETAILS.....	1/00
SUBJECT MATTER NOT PROVIDED FOR IN OTHER GROUPS OF THIS SUBCLASS.....	99/00

#### **1/00 Details of arrangements for controlling amplification**

- 1/02 • Remote control of amplification, tone, or bandwidth (remote control in general G05, G08; combined with remote tuning or selection of resonant circuits H03J)
- 1/04 • Modifications of control circuit to reduce distortion caused by control (modifications to reduce influence of variations of internal impedance of amplifying elements caused by control H03F 1/08)

#### **3/00 Gain control in amplifiers or frequency changers** (gated amplifiers H03F 3/72; peculiar to television receivers H04N)

- 3/02 • Manually-operated control
- 3/04 • • in untuned amplifiers
- 3/06 • • • having discharge tubes
- 3/08 • • • • incorporating negative feedback
- 3/10 • • • • having semiconductor devices
- 3/12 • • • • incorporating negative feedback
- 3/14 • • in frequency-selective amplifiers
- 3/16 • • • having discharge tubes
- 3/18 • • • having semiconductor devices
- 3/20 • Automatic control (combined with volume compression or expansion H03G 7/00)
- 3/22 • • in amplifiers having discharge tubes
- 3/24 • • • Control dependent upon ambient noise level or sound level
- 3/26 • • • Muting amplifier when no signal is present
- 3/28 • • • • in frequency-modulation receivers
- 3/30 • • in amplifiers having semiconductor devices
- 3/32 • • • the control being dependent upon ambient noise level or sound level
- 3/34 • • • Muting amplifier when no signal is present

#### **5/00 Tone control or bandwidth control in amplifiers**

- 5/02 • Manually-operated control (variable bandpass or bandstop filters H03H 7/12)
- 5/04 • • in untuned amplifiers
- 5/06 • • • having discharge tubes
- 5/08 • • • • incorporating negative feedback
- 5/10 • • • • having semiconductor devices
- 5/12 • • • • incorporating negative feedback
- 5/14 • • in frequency-selective amplifiers
- 5/16 • Automatic control
- 5/18 • • in untuned amplifiers
- 5/20 • • • having discharge tubes
- 5/22 • • • having semiconductor devices
- 5/24 • • in frequency-selective amplifiers
- 5/26 • • • having discharge tubes
- 5/28 • • • having semiconductor devices

#### **7/00 Volume compression or expansion in amplifiers**

- 7/02 • having discharge tubes
- 7/04 • • incorporating negative feedback
- 7/06 • having semiconductor devices
- 7/08 • • incorporating negative feedback

#### **9/00 Combinations of two or more types of control, e.g. gain control and tone control**

- 9/02 • in untuned amplifiers (combined tone controls for low and high frequencies H03G 5/00)
- 9/04 • • having discharge tubes
- 9/06 • • • for gain control and tone control
- 9/08 • • • • incorporating negative feedback
- 9/10 • • • for tone control and volume expansion or compression
- 9/12 • • having semiconductor devices
- 9/14 • • • for gain control and tone control
- 9/16 • • • • incorporating negative feedback

H03G

- 9/18

- • • for tone control and volume expansion or compression
- 9/20

- in frequency-selective amplifiers
- 9/22

- • having discharge tubes
- 9/24

- • having semiconductor devices
- 9/26

- in untuned amplifying stages as well as in frequency-selective amplifying stages (gain control in both stages H03G 3/00; tone control or bandwidth control H03G 5/00)
- 9/28

- • all amplifying stages having discharge tubes
- 9/30

- • all amplifying stages having semiconductor devices
- 11/00

**Limiting amplitude; Limiting rate of change of amplitude**
- 11/02

- by means of diodes (H03G 11/04, H03G 11/06, H03G 11/08 take precedence)
- 11/04

- Limiting level dependent on strength of signal; Limiting level dependent on strength of carrier on which signal is modulated
- 11/06

- Limiters of angle-modulated signals; such limiters combined with discriminators (discriminators having an inherent limiting action H03D 3/00)
- 11/08

- Limiting rate of change of amplitude
- 99/00

**Subject matter not provided for in other groups of this subclass [2006.01]**