CPC COOPERATIVE PATENT CLASSIFICATION

H ELECTRICITY

(NOTE omitted)

H03 ELECTRONIC CIRCUITRY

H03F AMPLIFIERS

NOTE

This subclass covers:

- linear amplification, there being linear relationship between the amplitudes of input and output, and the output having substantially the same waveform as the input;
- dielectric amplifiers, magnetic amplifiers, and parametric amplifiers when used as oscillators or frequency-changers;
- constructions of active elements of dielectric amplifiers and parametric amplifiers if no provision exists elsewhere.

WARNINGS

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:

H03F 1/44	covered by	H03F 1/42
H03F 1/46	covered by	H03F 1/42
H03F 3/18	covered by	H03F 3/00
H03F 3/32	covered by	H03F 3/30
H03F 7/06	covered by	H03F 7/00

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.}

1/00 Details of amplifiers with only discharge tubes, only semiconductor devices or only unspecified devices as amplifying elements

1/02 . Modifications of amplifiers to raise the efficiency, e.g. gliding Class A stages, use of an auxiliary oscillation

1/0205 . . {in transistor amplifiers}

1/0211 . . . {with control of the supply voltage or current}

1/0216 . . . . {Continuous control}

1/0222 . . . . . {by using a signal derived from the input signal}

1/0227 . . . . . {using supply converters}

1/0233 . . . . . {by using a signal derived from the output signal, e.g. bootstrapping the voltage supply}

1/0238 . . . . . {using supply converters}

1/0244 . . . . {Stepped control}

1/025 . . . . . {by using a signal derived from the input signal}

1/0255 . . . . . {by using a signal derived from the output signal}

1/0261 . . . {with control of the polarisation voltage or current, e.g. gliding Class A}

1/0266 . . . . {by using a signal derived from the input signal}

1/0272 . . . . {by using a signal derived from the output signal}

1/0277 . . . {Selecting one or more amplifiers from a plurality of amplifiers}

1/0283 . . . {Reducing the number of DC-current paths}

1/0288 . . . {using a main and one or several auxiliary peaking amplifiers whereby the load is connected to the main amplifier using an impedance inverter, e.g. Doherty amplifiers}

1/0294 . . . {using vector summing of two or more constant amplitude phase-modulated signals}

1/04 . . in discharge-tube amplifiers

1/06 . . . to raise the efficiency of amplifying modulated radio frequency waves; to raise the efficiency of amplifiers acting also as modulators {(modulation H03C)}

1/07 . . . . Doherty-type amplifiers

1/08 . Modifications of amplifiers to reduce detrimental influences of internal impedances of amplifying elements (wide-band amplifiers with inter-stage coupling networks incorporating these impedances H03F 1/42)

1/083 . . {in transistor amplifiers (H03F 1/10 - H03F 1/22 take precedence)}

1/086 . . . {with FET's}

1/10 . . by use of amplifying elements with multiple electrode connections

1/12 . . by use of attenuating means {(attenuators H03G)}

1/13 . . . in discharge-tube amplifiers

1/14 . . by use of neutralising means

1/16 . . . in discharge-tube amplifiers

1/18 . . by use of distributed coupling {, i.e. distributed amplifiers (distributed amplifiers using coupling networks with distributed constants H03F 3/605)}

1/20 . . . in discharge-tube amplifiers

1/22 . . by use of cascode coupling, i.e. earthed cathode or emitter stage followed by earthed grid or base stage respectively

1/223 . . . {with MOSFET's}

1/226 . . . {with junction-FET's}

1/24 . . . in discharge-tube amplifiers

1/26 . Modifications of amplifiers to reduce influence of noise generated by amplifying elements

1/28 . . in discharge-tube amplifiers {(constructional modifications H01J 23/11)}
1/30 . Modifications of amplifiers to reduce influence of variations of temperature or supply voltage {or other physical parameters (in differential amplifiers H03F 3/45479)}
1/301 . . {in MOSFET amplifiers (H03F 1/303, H03F 1/305, H03F 1/308 take precedence)}
1/302 . . {in bipolar transistor amplifiers (H03F 1/303, H03F 1/305, H03F 1/307 take precedence)}
1/303 . . {using a switching device (H03F 1/305, H03F 3/005, H03F 3/38 take precedence)}
1/304 . . . {and using digital means}
1/305 . . {in case of switching on or off of a power supply}
1/306 . . {in junction-FET amplifiers (H03F 1/303, H03F 1/305, H03F 1/309 take precedence)}
1/307 . . {in push-pull amplifiers}
1/308 . . . {using MOSFET}
1/309 . . . {using junction-FET}
1/32 . Modifications of amplifiers to reduce non-linear distortion (by negative feedback H03F 1/34)
1/3205 . . {in field-effect transistor amplifiers}
1/3211 . . {in differential amplifiers}
1/3217 . . {in single ended push-pull amplifiers}
1/3223 . . {using feed-forward (H03F 1/3211 takes precedence)}
1/3229 . . . {using a loop for error extraction and another loop for error subtraction}
1/3235 . . . . {using a pilot signal}
1/3241 . . {using predistortion circuits (H03F 1/3211, H03F 1/3217 take precedence)}
1/3247 . . . {using feedback acting on predistortion circuits (H03F 1/3264 takes precedence)}
1/3252 . . . {using multiple parallel paths between input and output (H03F 1/3258, H03F 1/3282, H03F 1/3294 take precedence)}
1/3258 . . . {based on polynomial terms}
1/3264 . . . {in audio amplifiers}
1/327 . . . . {to emulate discharge tube amplifier characteristics}
1/3276 . . . {using the nonlinearity inherent to components, e.g. a diode}
1/3282 . . . {Acting on the phase and the amplitude of the input signal}
1/3288 . . . . {to compensate phase shift as a function of the amplitude}
1/3294 . . . {Acting on the real and imaginary components of the input signal}
1/33 . . in discharge-tube amplifiers
1/34 . Negative-feedback-circuit arrangements with or without positive feedback (H03F 1/02 - H03F 1/30, H03F 1/38 - H03F 1/50, H03F 3/50 take precedence {; for rejection of common mode signals H03F 3/45479})
1/342 . . {in field-effect transistor amplifiers}
1/345 . . {using hybrid or directional couplers}
1/347 . . {using transformers}
1/36 . . in discharge-tube amplifiers
1/38 . Positive-feedback circuit arrangements without negative feedback
1/40 . . in discharge-tube amplifiers
1/42 . Modifications of amplifiers to extend the bandwidth
1/48 . . of aperiodic amplifiers
1/483 . . . {with field-effect transistors}
1/486 . . . {with IC amplifier blocks}
1/50 . . . with tubes only
1/52 . Circuit arrangements for protecting such amplifiers {(monitoring arrangements G01R 31/28; increasing reliability in communication systems, e.g. using redundancy H04B 1/74)}
1/523 . . {for amplifiers using field-effect devices (H03F 1/526 takes precedence)}
1/526 . . {protecting by using redundant amplifiers}
1/54 . . with tubes only {(testing of vacuum tubes G01R 31/25)}
1/542 . . . {Replacing by standby devices}
1/544 . . . {Protection of filaments}
1/546 . . . {Delaying application of anode power supply with respect to application of filament heating power supply}
1/548 . . . {Protection of anode or grid circuit against overload}
1/56 . Modifications of input or output impedances, not otherwise provided for
1/565 . . {using inductive elements}

3/00 Amplifiers with only discharge tubes or only semiconductor devices as amplifying elements

NOTE

Groups H03F 3/20 - H03F 3/72 take precedence over groups H03F 3/02 - H03F 3/189.

{This Note corresponds to IPC Note (1) relating to H03F 3/02 - H03F 3/189.}

3/005 . {using switched capacitors, e.g. dynamic amplifiers; using switched capacitors as resistors in differential amplifiers (H03F 3/45 takes precedence)}
3/02 . with tubes only
3/04 . with semiconductor devices only
3/06 . . using hole storage effect
3/08 . . controlled by light
3/082 . . . {with FET's (H03F 3/085 takes precedence)}
3/085 . . . {using opto-couplers between stages}
3/087 . . . {with IC amplifier blocks (H03F 3/085 takes precedence)}
3/10 . . with diodes {(parametric amplifiers H03F 7/00)}
3/12 . . . with Esaki diodes
3/14 . . with amplifying devices having more than three electrodes or more than two PN junctions
3/16 . . with field-effect devices
3/165 . . . {with junction-FET's}
3/181 . Low-frequency amplifiers, e.g. audio preamplifiers
3/183 . . with semiconductor devices only
3/185 . . . with field-effect devices (H03F 3/187 takes precedence)
3/1855 . . . . {with junction-FET devices}
3/187 . . . in integrated circuits
3/189 . High-frequency amplifiers, e.g. radio frequency amplifiers
3/19 . . with semiconductor devices only
3/191 . . . Tuned amplifiers (H03F 3/193, H03F 3/195 take precedence)
3/193 . . . with field-effect devices (H03F 3/195 takes precedence)
3/1935 . . . . {with junction-FET devices}
3/195 . . . in integrated circuits

3/20 . Power amplifiers, e.g. Class B amplifiers, Class C amplifiers (H03F 3/26 - H03F 3/30 take precedence)
3/21 . . with semiconductor devices only {(H03F 3/245 takes precedence)}
3/211 . . . {using a combination of several amplifiers (H03F 3/60 takes precedence)}
3/213 . . . in integrated circuits
3/217 . . . Class D power amplifiers; Switching amplifiers
3/2171 . . . . {with field-effect devices (H03F 3/2173 - H03F 3/2178 take precedence)}
3/2173 . . . . {of the bridge type}
3/2175 . . . . {using analogue-digital or digital-analogue conversion (H03F 3/2173 takes precedence)}
3/2176 . . . . {Class E amplifiers}
3/2178 . . . . {using more than one switch or switching amplifier in parallel or in series (H03F 3/2173, H03F 3/2175 take precedence)}
3/22 . . with tubes only (H03F 3/24 takes precedence)
3/24 . . of transmitter output stages
3/245 . . . {with semiconductor devices only}
3/26 . Push-pull amplifiers; Phase-splitters therefor (duplicated single-ended push-pull arrangements or phase-splitters therefor H03F 3/30)
3/265 . . {with field-effect transistors only}
3/28 . . with tubes only
3/30 . Single-ended push-pull {[SEPP]} amplifiers {(single-ended sense amplifiers G11C 7/067)}; Phase-splitters therefor
3/3001 . . {with field-effect transistors}
3/3008 . . . {Bifet SEPP output stages}
3/301 . . . {CMOS common drain output SEPP amplifiers (H03F 3/3008 takes precedence)}
3/3011 . . . . {with asymmetrical driving of the end stage}
3/3013 . . . . . {using a common drain driving stage, i.e. follower stage}
3/3015 . . . . . {using a common source driving stage, i.e. inverting stage}
3/3016 . . . . {with symmetrical driving of the end stage}
3/3018 . . . . . {using opamps as driving stages}
3/302 . . . . . {using two SEPP driving stages}
3/3022 . . . {CMOS common source output SEPP amplifiers (H03F 3/3008 takes precedence)}
3/3023 . . . . {with asymmetrical driving of the end stage}
3/3025 . . . . . {using a common drain driving stage, i.e. follower stage}
3/3027 . . . . . {using a common source driving stage, i.e. inverting stage}
3/3028 . . . . {with symmetrical driving of the end stage}
3/303 . . . . . {using opamps as driving stages}
3/3032 . . . . . {using two SEPP driving stages}
3/3033 . . . {NMOS SEPP output stages (H03F 3/3008 takes precedence)}
3/3035 . . . . {using differential amplifiers as phase-splitting elements}
3/3037 . . . . {with asymmetric control, i.e. one control branch containing a supplementary phase inverting stage}
3/3038 . . . {PMOS SEPP output stages (H03F 3/3008 takes precedence)}
3/304 . . . . {using differential amplifiers as phase-splitting element}
3/3042 . . . . {with asymmetric control, i.e. one control branch containing a supplementary phase inverting stage}
3/3044 . . . {Junction FET SEPP output stages (H03F 3/3008 takes precedence)}
3/3045 . . . . {with asymmetrical driving of the end stage}
3/3047 . . . . . {using a common drain driving stage, i.e. follower stage}
3/3049 . . . . . {using a common source driving stage, i.e. inverting stage}
3/305 . . . . {with symmetrical driving of the end stage}
3/3052 . . . . . {using opamps as driving stages}
3/3054 . . . . . {using two SEPP driving stages}
3/3055 . . . {Parallelled mixed SEPP stages, e.g. a CMOS common drain and a CMOS common source in parallel or bipolar SEPP and FET SEPP in parallel}
3/3057 . . . . {with asymmetrical driving of the end stage}
3/3059 . . . . {with symmetrical driving of the end stage}
3/3061 . . . {Bridge type, i.e. two complementary controlled SEPP output stages}
3/3062 . . . . {with asymmetrical driving of the end stage}
3/3064 . . . . {with symmetrical driving of the end stage}
3/3066 . . {the collectors of complementary power transistors being connected to the output}
3/3067 . . . {with asymmetrical driving of the end stage}
3/3069 . . {the emitters of complementary power transistors being connected to the output}
3/3071 . . . {with asymmetrical driving of the end stage}
3/3072 . . . . {using Darlington transistors (H03F 3/3074 takes precedence)}
3/3074 . . . . {using parallel power transistors}
3/3076 . . . {with symmetrical driving of the end stage}
3/3077 . . . . {using Darlington transistors (H03F 3/3079 takes precedence)}
3/3079 . . . . {using parallel power transistors}
3/3081 . . {Duplicated single-ended push-pull arrangements, i.e. bridge circuits (using FET's H03F 3/3061)}
3/3083 . . {the power transistors being of the same type (H03F 3/3001 takes precedence)}
3/3084 . . . {one of the power transistors being controlled by the output signal}
3/3086 . . . {two power transistors being controlled by the input signal}
3/3088 . . . . {with asymmetric control, i.e. one control branch containing a supplementary phase inverting transistor}
3/3089 . . . . {comprising field-effect transistors in the control circuit}
3/3091 . . . . {comprising two complementary transistors for phase-splitting}
3/3093 . . . . {comprising a differential amplifier as phase-splitting element}
3/3094 . . . . {Phase splitters therefor (H03F 3/3088, H03F 3/3091, H03F 3/3093, H03F 3/3096, H03F 3/3098 take precedence)}
3/3096 . . . . {using a single transistor with output on emitter and collector as phase splitter}
3/3098 . . . . {using a transformer as phase splitter}
3/34 . DC amplifiers in which all stages are DC-coupled (H03F 3/45 takes precedence)
3/343 . . with semiconductor devices only
3/3432 . . . {with bipolar transistors}

3/3435 . . . . {using Darlington amplifiers}
3/3437 . . . . . {with complementary transistors}
3/345 . . . with field-effect devices (H03F 3/347 takes precedence)
3/3455 . . . . {with junction-FET's}
3/347 . . . in integrated circuits
3/36 . . with tubes only
3/38 . DC amplifiers with modulator at input and demodulator at output; Modulators or demodulators specially adapted for use in such amplifiers {(switched capacitor amplifiers H03F 3/005)}
3/387 . . with semiconductor devices only
3/393 . . . with field-effect devices
3/40 . . with tubes only
3/42 . Amplifiers with two or more amplifying elements having their dc paths in series with the load, the control electrode of each element being excited by at least part of the input signal, e.g. so-called totem-pole amplifiers
3/423 . . {with MOSFET's}
3/426 . . {with junction-FET's}
3/44 . . with tubes only
3/45 . Differential amplifiers (differential sense amplifiers G11C 7/062)
3/45071 . . {with semiconductor devices only}
3/45076 . . . {characterised by the way of implementation of the active amplifying circuit in the differential amplifier}
3/4508 . . . . {using bipolar transistors as the active amplifying circuit (H03F 3/45278 takes precedence)}
3/45085 . . . . . {Long tailed pairs (H03F 3/45112, H03F 3/45139 take precedence)}
3/45089 . . . . . {Non-folded cascode stages}
3/45094 . . . . . {Folded cascode stages}
3/45098 . . . . . {PI types (H03F 3/45125, H03F 3/45152 take precedence)}
3/45103 . . . . . {Non-folded cascode stages}
3/45107 . . . . . {Folded cascode stages}
3/45112 . . . . . {Complementary long tailed pairs having parallel inputs and being supplied in parallel}
3/45116 . . . . . {Non-folded cascode stages}
3/45121 . . . . . {Folded cascode stages}
3/45125 . . . . . {Complementary PI types having parallel inputs and being supplied in parallel}
3/4513 . . . . . {Non-folded cascode stages}
3/45134 . . . . . {Folded cascode stages}
3/45139 . . . . . {Complementary long tailed pairs having parallel inputs and being supplied in series}
3/45143 . . . . . {Non-folded cascode stages}
3/45147 . . . . . {Folded cascode stages}
3/45152 . . . . . {Complementary PI types having parallel inputs and being supplied in series}
3/45156 . . . . . {Non-folded cascode stages}
3/45161 . . . . . {Folded cascode stages}
3/45165 . . . . . {Complementary cross coupled types}
3/4517 . . . . . {Complementary non-cross coupled types}
3/45174 . . . . . {Mirror types}
3/45179 . . . . {using MOSFET transistors as the active amplifying circuit (H03F 3/45278 takes precedence)}
3/45183 . . . . . {Long tailed pairs (H03F 3/4521, H03F 3/45237 take precedence)}
3/45188 . . . . . {Non-folded cascode stages}
3/45192 . . . . . {Folded cascode stages}
3/45197 . . . . . {Pl types (H03F 3/45224, H03F 3/45251 take precedence)}
3/45201 . . . . . {Non-folded cascode stages}
3/45206 . . . . . {Folded cascode stages}
3/4521 . . . . . {Complementary long tailed pairs having parallel inputs and being supplied in parallel}
3/45215 . . . . . {Non-folded cascode stages}
3/45219 . . . . . {Folded cascode stages}
3/45224 . . . . . {Complementary Pl types having parallel inputs and being supplied in parallel}
3/45228 . . . . . {Non-folded cascode stages}
3/45233 . . . . . {Folded cascode stages}
3/45237 . . . . . {Complementary long tailed pairs having parallel inputs and being supplied in series}
3/45242 . . . . . {Non-folded cascode stages}
3/45246 . . . . . {Folded cascode stages}
3/45251 . . . . . {Complementary Pl types having parallel inputs and being supplied in series}
3/45255 . . . . . {Non-folded cascode stages}
3/4526 . . . . . {Folded cascode stages}
3/45264 . . . . . {Complementary cross coupled types}
3/45269 . . . . . {Complementary non-cross coupled types}
3/45273 . . . . . {Mirror types}
3/45278 . . . . {using BiFET transistors as the active amplifying circuit}
3/45282 . . . . . {Long tailed pairs (H03F 3/45309, H03F 3/45336 take precedence)}
3/45286 . . . . . {Non-folded cascode stages}
3/45291 . . . . . {Folded cascode stages}
3/45295 . . . . . {Pl types (H03F 3/45322, H03F 3/45349 take precedence)}
3/453 . . . . . {Non-folded cascode stages}
3/45304 . . . . . {Folded cascode stages}
3/45309 . . . . . {Complementary long tailed pairs having parallel inputs and being supplied in parallel}
3/45313 . . . . . {Non-folded cascode stages}
3/45318 . . . . . {Folded cascode stages}
3/45322 . . . . . {Complementary Pl types having parallel inputs and being supplied in parallel}
3/45327 . . . . . {Non-folded cascode stages}
3/45331 . . . . . {Folded cascode stages}
3/45336 . . . . . {Complementary long tailed pairs having parallel inputs and being supplied in series}
3/4534 . . . . . {Non-folded cascode stages}
3/45345 . . . . . {Folded cascode stages}
3/45349 . . . . . {Complementary Pl types having parallel inputs and being supplied in series}
3/45354 . . . . . {Non-folded cascode stages}
3/45358 . . . . . {Folded cascode stages}
3/45363 . . . . . {Complementary cross coupled types}
3/45367 . . . . . {Complementary non-cross coupled types}
3/45372 . . . . . {Mirror types}
3/45376 . . . . {using junction FET transistors as the active amplifying circuit (H03F 3/45278 takes precedence)}

3/45381 . . . . . {Long tailed pairs (H03F 3/45408, H03F 3/45434 take precedence)}
3/45385 . . . . . {Non-folded cascode stages}
3/4539 . . . . . {Folded cascode stages}
3/45394 . . . . . {Pl types (H03F 3/45421, H03F 3/45448 take precedence)}
3/45399 . . . . . {Non-folded cascode stages}
3/45403 . . . . . {Folded cascode stages}
3/45408 . . . . . {Complementary long tailed pairs having parallel inputs and being supplied in parallel}
3/45412 . . . . . {Non-folded cascode stages}
3/45417 . . . . . {Folded cascode stages}
3/45421 . . . . . {Complementary Pl types having parallel inputs and being supplied in parallel}
3/45426 . . . . . {Non-folded cascode stages}
3/4543 . . . . . {Folded cascode stages}
3/45434 . . . . . {Complementary long tailed pairs having parallel inputs and being supplied in series}
3/45439 . . . . . {Non-folded cascode stages}
3/45443 . . . . . {Folded cascode stages}
3/45448 . . . . . {Complementary Pl types having parallel inputs and being supplied in series}
3/45452 . . . . . {Non-folded cascode stages}
3/45457 . . . . . {Folded cascode stages}
3/45461 . . . . . {Complementary cross coupled types}
3/45466 . . . . . {Complementary non-cross coupled types}
3/4547 . . . . . {Mirror types}
3/45475 . . . . {using IC blocks as the active amplifying circuit}
3/45479 . . . {characterised by the way of common mode signal rejection}
3/45484 . . . . {in differential amplifiers with bipolar transistors as the active amplifying circuit (H03F 3/4578 takes precedence)}
3/45488 . . . . . {by using feedback means (H03F 3/4578 takes precedence)}
3/45493 . . . . . {Measuring at the loading circuit of the differential amplifier}
3/45497 . . . . . {Controlling the input circuit of the differential amplifier}
3/45502 . . . . . {Controlling the common emitter circuit of the differential amplifier}
3/45506 . . . . . {Controlling the active amplifying circuit of the differential amplifier}
3/45511 . . . . . {Controlling the loading circuit of the differential amplifier}
3/45515 . . . . . {Measuring at the active amplifying circuit of the differential amplifier}
3/4552 . . . . . {Controlling the input circuit of the differential amplifier}
3/45524 . . . . . {Controlling the common emitter circuit of the differential amplifier}
3/45529 . . . . . {Controlling the active amplifying circuit of the differential amplifier}
3/45533 . . . . . {Measuring at the common emitter circuit of the differential amplifier}
3/45538 . . . . . {Controlling the input circuit of the differential amplifier}
3/45542 . . . . . {Controlling the common emitter circuit of the differential amplifier}
3/45547 . . . . . {by using feedforward means (H03F 3/45596 takes precedence)}
3/45551 . . . . . {Measuring at the input circuit of the differential amplifier}
3/45556 . . . . . {Controlling the input circuit of the differential amplifier}
3/4556 . . . . . {Controlling the common emitter circuit of the differential amplifier}
3/45565 . . . . . {Controlling the active amplifying circuit of the differential amplifier}
3/45569 . . . . . {Controlling the loading circuit of the differential amplifier}
3/45573 . . . . . {Measuring at the active amplifying circuit of the differential amplifier}
3/45578 . . . . . {Controlling the loading circuit of the differential amplifier}
3/45582 . . . . . {Measuring at the common emitter circuit of the differential amplifier}
3/45587 . . . . . {Controlling the active amplifying circuit of the differential amplifier}
3/45591 . . . . . {Controlling the loading circuit of the differential amplifier}
3/45596 . . . . . {by offset reduction}
3/456 . . . . . {by using a feedback circuit}
3/45605 . . . . . {using switching means, e.g. sample and hold}
3/45609 . . . . . {by using a feedforward circuit}
3/45614 . . . . . {using switching means, e.g. sample and hold}
3/45618 . . . . . {by using balancing means}
3/45623 . . . . . {using switching means}
3/45627 . . . . . {by using cross switches}
3/45632 . . . . {in differential amplifiers with FET transistors as the active amplifying circuit (H03F 3/4578 takes precedence)}
3/45636 . . . . . {by using feedback means (H03F 3/45744 takes precedence)}
3/45641 . . . . . {Measuring at the loading circuit of the differential amplifier}
3/45645 . . . . . {Controlling the input circuit of the differential amplifier}
3/4565 . . . . . {Controlling the common source circuit of the differential amplifier}
3/45654 . . . . . {Controlling the active amplifying circuit of the differential amplifier}
3/45659 . . . . . {Controlling the loading circuit of the differential amplifier}
3/45663 . . . . . {Measuring at the active amplifying circuit of the differential amplifier}
3/45668 . . . . . {Controlling the input circuit of the differential amplifier}
3/45672 . . . . . {Controlling the common source circuit of the differential amplifier}
3/45677 . . . . . {Controlling the active amplifying circuit of the differential amplifier}
3/45681 . . . . . {Measuring at the common source circuit of the differential amplifier}
3/45686 . . . . . {Controlling the input circuit of the differential amplifier}
3/4569 . . . . . {Controlling the common source circuit of the differential amplifier}
3/45695 . . . . . {by using feedforward means (H03F 3/45744 takes precedence)}

3/45699 . . . . . {Measuring at the input circuit of the differential amplifier}
3/45704 . . . . . {Controlling the input circuit of the differential amplifier}
3/45708 . . . . . {Controlling the common source circuit of the differential amplifier}
3/45713 . . . . . {Controlling the active amplifying circuit of the differential amplifier}
3/45717 . . . . . {Controlling the loading circuit of the differential amplifier}
3/45721 . . . . . {Measuring at the active amplifying circuit of the differential amplifier}
3/45726 . . . . . {Controlling the loading circuit of the differential amplifier}
3/4573 . . . . . {Measuring at the common source circuit of the differential amplifier}
3/45735 . . . . . {Controlling the active amplifying circuit of the differential amplifier}
3/45739 . . . . . {Controlling the loading circuit of the differential amplifier}
3/45744 . . . . {by offset reduction}
3/45748 . . . . . {by using a feedback circuit}
3/45753 . . . . . {using switching means, e.g. sample and hold}
3/45757 . . . . . {by using a feedforward circuit}
3/45762 . . . . . {using switching means, e.g. sample and hold}
3/45766 . . . . . {by using balancing means}
3/45771 . . . . . {using switching means}
3/45775 . . . . . {by using cross switches}
3/4578 . . . {in differential amplifiers with BiFET transistors as the active amplifying circuit}
3/45784 . . . . {by using feedback means (H03F 3/45892 takes precedence)}
3/45789 . . . . . {Measuring at the loading circuit of the differential amplifier}
3/45793 . . . . . {Controlling the input circuit of the differential amplifier}
3/45798 . . . . . {Controlling the common source circuit of the differential amplifier}
3/45802 . . . . . {Controlling the active amplifying circuit of the differential amplifier}
3/45807 . . . . . {Controlling the loading circuit of the differential amplifier}
3/45811 . . . . . {Measuring at the active amplifying circuit of the differential amplifier}
3/45816 . . . . . {Controlling the input circuit of the differential amplifier}
3/4582 . . . . . {Controlling the common source circuit of the differential amplifier}
3/45825 . . . . . {Controlling the active amplifying circuit of the differential amplifier}
3/45829 . . . . . {Measuring at the common source circuit of the differential amplifier}
3/45834 . . . . . {Controlling the input circuit of the differential amplifier}
3/45838 . . . . . {Controlling the common source circuit of the differential amplifier}
3/45843 . . . . {by using feedforward means (H03F 3/45892 takes precedence)}
3/45847 . . . . . {Measuring at the input circuit of the differential amplifier}
3/45852 . . . . . {Controlling the input circuit of the differential amplifier}
3/45856 . . . . . {Controlling the common source circuit of the differential amplifier}
3/4586 . . . . . {Controlling the active amplifying circuit of the differential amplifier}
3/45865 . . . . . {Controlling the loading circuit of the differential amplifier}
3/45869 . . . . . {Measuring at the active amplifying circuit of the differential amplifier}
3/45874 . . . . . {Controlling the loading circuit of the differential amplifier}
3/45878 . . . . . {Measuring at the common source circuit of the differential amplifier}
3/45883 . . . . . {Controlling the active amplifying circuit of the differential amplifier}
3/45887 . . . . . {Controlling the loading circuit of the differential amplifier}
3/45892 . . . . {by offset reduction}
3/45896 . . . . . {by using a feedback circuit}
3/45901 . . . . . {using switching means, e.g. sample and hold}
3/45905 . . . . . {by using a feedforward circuit}
3/4591 . . . . . {using switching means, e.g. sample and hold}
3/45914 . . . . . {by using balancing means}
3/45919 . . . . . {using switching means}
3/45923 . . . . . {by using cross switches}
3/45928 . . . {using IC blocks as the active amplifying circuit}
3/45932 . . . . {by using feedback means (H03F 3/45968 takes precedence)}
3/45937 . . . . . {Measuring at the loading circuit of the differential amplifier}
3/45941 . . . . . {Controlling the input circuit of the differential amplifier}
3/45946 . . . . . {Controlling the loading circuit of the differential amplifier}
3/4595 . . . . {by using feedforward means (H03F 3/45968 takes precedence)}
3/45955 . . . . . {Measuring at the input circuit of the differential amplifier}
3/45959 . . . . . {Controlling the input circuit of the differential amplifier}
3/45964 . . . . . {Controlling the loading circuit of the differential amplifier}
3/45968 . . . . {by offset reduction}
3/45973 . . . . . {by using a feedback circuit}
3/45977 . . . . . {using switching means, e.g. sample and hold}
3/45982 . . . . . {by using a feedforward circuit}
3/45986 . . . . . {using switching means, e.g. sample and hold}
3/45991 . . . . . {by using balancing means}
3/45995 . . . . . {using switching means}
3/46 . Reflex amplifiers {(reflection amplifiers H03F 3/608)}
3/48 . . with tubes only
3/50 . Amplifiers in which input is applied to, or output is derived from, an impedance common to input and output circuits of the amplifying element, e.g. cathode follower
3/505 . . {with field-effect devices}
3/52 . . with tubes only

3/54 . Amplifiers using transit-time effect in tubes or semiconductor devices (parametric amplifiers H03F 7/00; solid state travelling-wave devices H10N 70/10)
3/55 . . with semiconductor devices only
3/56 . . using klystrons
3/58 . . using travelling-wave tubes
3/60 . Amplifiers in which coupling networks have distributed constants, e.g. with waveguide resonators (H03F 3/54 takes precedence)
3/601 . . {using FET's, e.g. GaAs FET's (H03F 3/607, H03F 3/608 take precedence)}
3/602 . . {Combinations of several amplifiers}
3/604 . . . {using FET's}
3/605 . . {Distributed amplifiers}
3/607 . . . {using FET's}
3/608 . . {Reflection amplifiers, i.e. amplifiers using a one-port amplifying element and a multiport coupler (H03F 7/00 takes precedence)}
3/62 . Two-way amplifiers
3/64 . . with tubes only
3/66 . Amplifiers simultaneously generating oscillations of one frequency and amplifying signals of another frequency
3/68 . Combinations of amplifiers, e.g. multi-channel amplifiers for stereophonics {(power amplifiers using a combination of several semiconductor amplifiers H03F 3/211; combinations of amplifiers using coupling networks with distributed constants H03F 3/602)}
3/70 . Charge amplifiers
3/72 . Gated amplifiers, i.e. amplifiers which are rendered operative or inoperative by means of a control signal

5/00 Amplifiers with both discharge tubes and semiconductor devices as amplifying elements

7/00 Parametric amplifiers
7/02 . using variable-inductance element; using variable-permeability element
7/04 . using variable-capacitance element; using variable-permittivity element

9/00 Magnetic amplifiers
9/02 . current-controlled, i.e. the load current flowing in both directions through a main coil
9/04 . voltage-controlled, i.e. the load current flowing in only one direction through a main coil, e.g. Logan circuits (H03F 9/06 takes precedence)
9/06 . Control by voltage time integral, i.e. the load current flowing in only one direction through a main coil, whereby the main coil winding also can be used as a control winding, e.g. Ramey circuits

11/00 Dielectric amplifiers

13/00 Amplifiers using amplifying element consisting of two mechanically- or acoustically-coupled transducers, e.g. telephone-microphone amplifier

15/00 Amplifiers using galvano-magnetic effects not involving mechanical movement, e.g. using Hall effect

17/00 Amplifiers using electroluminescent element or photocell

19/00 Amplifiers using superconductivity effects

99/00 Subject matter not provided for in other groups of this subclass

2200/00 Indexing scheme relating to amplifiers
2200/03 . the amplifier being designed for audio applications
2200/06 . A balun, i.e. balanced to or from unbalanced converter, being present at the input of an amplifier
2200/09 . A balun, i.e. balanced to or from unbalanced converter, being present at the output of an amplifier
2200/102 . A non-specified detector of a signal envelope being used in an amplifying circuit
2200/105 . A non-specified detector of the power of a signal being used in an amplifying circuit
2200/108 . A coil being added in the drain circuit of a FET amplifier stage, e.g. for noise reducing purposes
2200/111 . the amplifier being a dual or triple band amplifier, e.g. 900 and 1800 MHz, e.g. switched or not switched, simultaneously or not
2200/114 . the amplifier comprising means for electro-magnetic interference [EMI] protection
2200/117 . A coil being coupled in a feedback path of an amplifier stage
2200/12 . A bias circuit for some stages being shown using transmission lines
2200/121 . A transistor in common gate configuration being used in a feedback circuit of an amplifier stage
2200/123 . A difference signal between an output and an input signal of an amplifier being coupled back at the input of the amplifier
2200/126 . A diode being coupled in a feedback path of an amplifier stage, e.g. active or passive diode
2200/129 . there being a feedback over the complete amplifier
2200/132 . Hybrid coupler placed in a feedback circuit of an amplifier
2200/135 . there being a feedback over one or more internal stages in the global amplifier
2200/138 . the feedback circuit comprising a parallel resonance circuit
2200/141 . the feedback circuit of the amplifier stage comprising a resistor and a capacitor in series, at least one of them being an active one
2200/144 . the feedback circuit of the amplifier stage comprising a passive resistor and passive capacitor
2200/147 . the feedback circuit comprising a series resonance circuit
2200/15 . the supply or bias voltage or current at the drain side of a FET being continuously controlled by a controlling signal
2200/151 . A source follower being used in a feedback circuit of an amplifier stage
2200/153 . Feedback used to stabilise the amplifier
2200/156 . One or more switches are realised in the feedback circuit of the amplifier stage
2200/159 . the feedback circuit being closed during a switching time
2200/162 . FETs are biased in the weak inversion region
2200/165 . A filter circuit coupled to the input of an amplifier
2200/168 . Two amplifying stages are coupled by means of a filter circuit
2200/171 . A filter circuit coupled to the output of an amplifier
2200/174 . Floating gate implemented in MOS technology
2200/177 . Folded cascode realised by a folding coil

2200/18 . the bias of the gate of a FET being controlled by a control signal
2200/181 . A coil being added in the gate circuit of a FET amplifier stage, e.g. for noise reducing purposes
2200/183 . the amplifier comprising a gated diode
2200/186 . the ground, reference potential being controlled
2200/189 . the ground, reference or shield potential difference between different chips being controlled
2200/192 . A hybrid coupler being used at the input of an amplifier circuit
2200/195 . A hybrid coupler being used as power measuring circuit at the input of an amplifier circuit
2200/198 . A hybrid coupler being used as coupling circuit between stages of an amplifier circuit
2200/201 . A hybrid coupler being used as power measuring inter-stage circuit between two stages of an amplifier circuit
2200/204 . A hybrid coupler being used at the output of an amplifier circuit
2200/207 . A hybrid coupler being used as power measuring circuit at the output of an amplifier circuit
2200/21 . Bias resistors are added at the input of an amplifier
2200/211 . the input of an amplifier can be attenuated by a continuously controlled transistor attenuator
2200/213 . A variable capacitor being added in the input circuit, e.g. base, gate, of an amplifier stage
2200/216 . A coil being added in the input circuit, e.g. base, gate, of an amplifier stage
2200/219 . Follower transistors are added at the input of the amplifier, e.g. source or emitter followers
2200/222 . A circuit being added at the input of an amplifier to adapt the input impedance of the amplifier
2200/225 . the input circuit of an amplifying stage comprising an LC-network
2200/228 . A measuring circuit being coupled to the input of an amplifier
2200/231 . the input of an amplifier can be switched on or off by a switch to amplify or not an input signal
2200/234 . the input amplifying stage being one or more operational amplifiers
2200/237 . A parallel resonance being added in series in the input circuit, e.g. base, gate, of an amplifier stage
2200/24 . the supply or bias voltage or current at the source side of a FET being continuously controlled by a controlling signal
2200/241 . A parallel resonance being added in shunt in the input circuit, e.g. base, gate, of an amplifier stage
2200/243 . A series resonance being added in series in the input circuit, e.g. base, gate, of an amplifier stage
2200/246 . A series resonance being added in shunt in the input circuit, e.g. base, gate, of an amplifier stage, e.g. as a trap
2200/249 . A switch coupled in the input circuit of an amplifier being controlled by a circuit, e.g. feedback circuitry being controlling the switch
2200/252 . Multiple switches coupled in the input circuit of an amplifier are controlled by a circuit, e.g. feedback circuitry being controlling the switch
2200/255 . Amplifier input adaptation especially for transmission line coupling purposes, e.g. impedance adaptation
2200/258 . the input of the amplifier has voltage limiting means
2200/261 . Amplifier which being suitable for instrumentation applications
2200/264 . An operational amplifier based integrator or transistor based integrator being used in an amplifying circuit
2200/267 . A capacitor based passive circuit, e.g. filter, being used in an amplifying circuit
2200/27 . A biasing circuit node being switched in an amplifier circuit
2200/271 . the DC-isolation amplifier, e.g. chopper amplifier, modulation/demodulation amplifier, uses capacitive isolation means, e.g. capacitors
2200/273 . the DC-isolation amplifier, e.g. chopper amplifier, modulation/demodulation amplifier, uses inductive isolation means, e.g. transformers
2200/276 . the DC-isolation amplifier, e.g. chopper amplifier, modulation/demodulation amplifier, uses optical isolation means, e.g. optical couplers
2200/279 . the level shifting stage between two amplifying stages being realised by an explicit differential amplifier
2200/282 . the level shifting stage between two amplifying stages being realised by a diode
2200/285 . the level shifting stage between two amplifying stages being realised by an emitter follower
2200/288 . the level shifting stage between two amplifying stages being realised by a resistor or potentiometer
2200/291 . the level shifting stage between two amplifying stages being realised by a source follower
2200/294 . the amplifier being a low noise amplifier [LNA]
2200/297 . the loading circuit of an amplifying stage comprising a capacitor
2200/301 . the loading circuit of an amplifying stage comprising a coil
2200/303 . the loading circuit of an amplifying stage comprising a diode or diode coupled transistor
2200/306 . the loading circuit of an amplifying stage being a parallel resonance circuit
2200/309 . the loading circuit of an amplifying stage being a series resonance circuit
2200/31 . the switching power stage comprising circuitry for emulating the behaviour of a bootstrap diode
2200/312 . the loading circuit of an amplifying stage comprising one or more switches
2200/315 . the loading circuit of an amplifying stage comprising a transmission line
2200/318 . A matching circuit being used as coupling element between two amplifying stages
2200/321 . Use of a microprocessor in an amplifier circuit or its control circuit
2200/324 . An amplitude modulator or demodulator being used in the amplifier circuit
2200/327 . Amplitude shift keying modulation being used in an amplifying circuit
2200/33 . Bridge form coupled amplifiers; H-form coupled amplifiers
2200/331 . Sigma delta modulation being used in an amplifying circuit
2200/333 . A frequency modulator or demodulator being used in the amplifier circuit
2200/336 . A I/Q, i.e. phase quadrature, modulator or demodulator being used in an amplifying circuit
2200/339 . Pulse amplitude modulation being used in an amplifying circuit
2200/342 . Pulse code modulation being used in an amplifying circuit

2200/345 . Pulse density modulation being used in an amplifying circuit
2200/348 . Pulse frequency modulation being used in an amplifying circuit
2200/351 . Pulse width modulation being used in an amplifying circuit
2200/354 . the amplifier comprising MOS which are biased in the moderate inversion region
2200/357 . the amplifier comprising MOS which are biased in the weak inversion region
2200/36 . the amplifier comprising means for increasing the bandwidth
2200/361 . Transistor with multiple collectors
2200/363 . Transistor with multiple emitters
2200/366 . Multiple MOSFETs are coupled in parallel
2200/369 . A negative impedance circuit being added to an amplifier circuit
2200/372 . Noise reduction and elimination in amplifier
2200/375 . Circuitry to compensate the offset being present in an amplifier
2200/378 . A variable capacitor being added in the output circuit, e.g. collector, drain, of an amplifier stage
2200/381 . An active variable resistor, e.g. controlled transistor, being coupled in the output circuit of an amplifier to control the output
2200/384 . Amplifier without output filter, i.e. directly connected to the load
2200/387 . A circuit being added at the output of an amplifier to adapt the output impedance of the amplifier
2200/39 . Different band amplifiers are coupled in parallel to broadband the whole amplifying circuit
2200/391 . the output circuit of an amplifying stage comprising an LC-network
2200/393 . A measuring circuit being coupled to the output of an amplifier
2200/396 . the output of an amplifier can be switched on or off by a switch to couple the output signal to a load
2200/399 . A parallel resonance being added in shunt in the output circuit, e.g. base, gate, of an amplifier stage
2200/402 . A series resonance being added in shunt in the output circuit, e.g. base, gate, of an amplifier stage
2200/405 . the output amplifying stage of an amplifier comprising more than three power stages
2200/408 . the output amplifying stage of an amplifier comprising three power stages
2200/411 . the output amplifying stage of an amplifier comprising two power stages
2200/414 . A switch being coupled in the output circuit of an amplifier to switch the output on/off
2200/417 . A switch coupled in the output circuit of an amplifier being controlled by a circuit
2200/42 . the input to the amplifier being made by capacitive coupling means
2200/421 . Multiple switches coupled in the output circuit of an amplifier are controlled by a circuit
2200/423 . Amplifier output adaptation especially for transmission line coupling purposes, e.g. impedance adaptation
2200/426 . the amplifier comprising circuitry for protection against overload
2200/429 . Two or more amplifiers or one amplifier with filters for different frequency bands are coupled in parallel at the input or output
2200/432 . Two or more amplifiers of different type are coupled in parallel at the input or output, e.g. a class D and a linear amplifier, a class B and a class A amplifier
2200/435 . A peak detection being used in a signal measuring circuit in a controlling circuit of an amplifier
2200/438 . Separate feedback of amplitude and phase signals being present
2200/441 . Protection of an amplifier being implemented by clamping means
2200/444 . Diode used as protection means in an amplifier, e.g. as a limiter or as a switch
2200/447 . the amplifier being protected to temperature influence
2200/45 . the load of the amplifier being a capacitive element, e.g. CRT
2200/451 . the amplifier being a radio frequency amplifier
2200/453 . Controlling being realised by adding a replica circuit or by using one among multiple identical circuits as a replica circuit
2200/456 . A scaled replica of a transistor being present in an amplifier
2200/459 . Ripple reduction circuitry being used in an amplifying circuit
2200/462 . the current being sensed
2200/465 . Power sensing
2200/468 . the temperature being sensed
2200/471 . the voltage being sensed
2200/474 . A current mirror being used as sensor
2200/477 . Paralleled transistors are used as sensors
2200/48 . the output of the amplifier being coupled out by a capacitor
2200/481 . A resistor being used as sensor
2200/483 . A shunting switch being paralleled to the sensor
2200/486 . the current in the load of an amplifying stage being sensed by a torus
2200/489 . A coil being added in the source circuit of a common source stage, e.g. as degeneration means
2200/492 . A coil being added in the source circuit of a transistor amplifier stage as degenerating element
2200/495 . A parallel resonance circuit being added in the source circuit of a FET amplifier
2200/498 . A resistor being added in the source circuit of a transistor amplifier stage as degenerating element
2200/501 . A series resonance circuit being added in the source circuit of a FET amplifier
2200/504 . the supply voltage or current being continuously controlled by a controlling signal, e.g. the controlling signal of a transistor implemented as variable resistor in a supply path for, an IC-block showed amplifier
2200/507 . A switch being used for switching on or off a supply or supplying circuit in an IC-block amplifier circuit
2200/51 . Capacitor in positive feedback circuit of an amplifier circuit to bootstrap a resistor
2200/511 . Many discrete supply voltages or currents or voltage levels can be chosen by a control signal in an IC-block amplifier circuit
2200/513 . the amplifier being made for low supply voltages
2200/516 . Some amplifier stages of an amplifier use supply voltages of different value
2200/519 . the bias or supply voltage or current of the drain side of a FET amplifier being controlled to be on or off by a switch

2200/522 . the bias or supply voltage or current of the gate side of a FET amplifier being controlled to be on or off by a switch
2200/525 . the bias or supply voltage or current of the source side of a FET amplifier being controlled to be on or off by a switch
2200/528 . the temperature dependence being controlled by referencing to the band gap
2200/531 . the temperature difference between different chips being controlled
2200/534 . Transformer coupled at the input of an amplifier
2200/537 . A transformer being used as coupling element between two amplifying stages
2200/54 . Two or more capacitor coupled amplifier stages in cascade
2200/541 . Transformer coupled at the output of an amplifier
2200/543 . A transmission line being used as coupling element between two amplifying stages
2200/546 . A tunable capacitance being present in an amplifier circuit
2200/549 . the amplifier comprising means to emulate the vacuum tube behaviour
2200/552 . the amplifier being made for video applications
2200/555 . A voltage generating circuit being realised for biasing different circuit elements
2200/57 . Separate feedback of real and complex signals being present
2200/61 . the cascode amplifier has more than one common gate stage
2200/63 . the amplifier being suitable for CATV applications
2200/66 . Clipping circuitry being present in an amplifier, i.e. the shape of the signal being modified
2200/69 . the amplifier stage being a common drain coupled MOSFET, i.e. source follower
2200/72 . the amplifier stage being a common gate configuration MOSFET
2200/75 . the amplifier stage being a common source configuration MOSFET
2200/78 . A comparator being used in a controlling circuit of an amplifier
2200/81 . Inputs or outputs are crossed during a first switching time, not crossed during a second switching time
2200/84 . A cross coupling circuit being realized by current mirrors
2200/87 . the cross coupling circuit being realised only by MOSFETs
2200/91 . the amplifier has a current mode topology
2200/93 . Two or more transistors are coupled in a Darlington composite transistor configuration, all transistors being of the same type
2200/96 . Two or more complementary transistors are coupled in a Darlington composite transistor configuration
2200/99 . A diode as rectifier being used as a detecting circuit in an amplifying circuit

2201/00 Indexing scheme relating to details of amplifiers with only discharge tubes, only semiconductor devices or only unspecified devices as amplifying elements covered by H03F 1/00

2201/32 . Indexing scheme relating to modifications of amplifiers to reduce non-linear distortion
2201/3203 . . the amplifier comprising means for back off control in order to reduce distortion
2201/3206 . . Multiple channels are combined and amplified by only one amplifier
2201/3209 . . the amplifier comprising means for compensating memory effects
2201/3212 . . Using a control circuit to adjust amplitude and phase of a signal in a signal path
2201/3215 . . To increase the output power or efficiency
2201/3218 . . the main amplifier or error amplifier being a feedforward amplifier
2201/3221 . . Predistortion by overamplifying in a feedforward stage the distortion signal to have a combined main signal and "negative" distortion to form the predistorted signal for a further stage. so that after amplification in the further stage only the amplified main signal remains
2201/3224 . . Predistortion being done for compensating memory effects
2201/3227 . . Adaptive predistortion based on amplitude, envelope or power level feedback from the output of the main amplifier
2201/3231 . . Adaptive predistortion using phase feedback from the output of the main amplifier
2201/3233 . . Adaptive predistortion using lookup table, e.g. memory, RAM, ROM, LUT, to generate the predistortion
2201/3236 . . A generated signal, e.g. a pulse or an inverted synchronous signal, being added to avoid certain conditions, e.g. clipping

2203/00 Indexing scheme relating to amplifiers with only discharge tubes or only semiconductor devices as amplifying elements covered by H03F 3/00

2203/20 . Indexing scheme relating to power amplifiers, e.g. Class B amplifiers, Class C amplifiers
2203/21 . . with semiconductor devices only
2203/211 . . . using a combination of several amplifiers
2203/21103 . . . . An impedance adaptation circuit being added at the input of a power amplifier stage
2203/21106 . . . . An input signal being distributed in parallel over the inputs of a plurality of power amplifiers
2203/21109 . . . . An input signal being distributed by switching to a plurality of paralleled power amplifiers
2203/21112 . . . . A filter circuit being added at the input of a power amplifier stage
2203/21115 . . . . An input signal dependant signal being measured by current measuring at the input of a power amplifier
2203/21118 . . . . An input signal dependant signal being measured by power measuring at the input of a power amplifier
2203/21121 . . . . An input signal dependant signal being measured by voltage measuring at the input of a power amplifier
2203/21124 . . . . A parallel resonance circuit being coupled at the input of a power amplifier
2203/21127 . . . . the input bias current of a power amplifier being controlled, e.g. by an active current source or a current mirror
2203/21131 . . . . the input bias voltage of a power amplifier being controlled, e.g. by a potentiometer or an emitter follower
2203/21133 . . . . A series resonance circuit being coupled at the input of a power amplifier

2203/21136 . . . . An input signal of a power amplifier being on/off switched
2203/21139 . . . . An impedance adaptation circuit being added at the output of a power amplifier stage
2203/21142 . . . . Output signals of a plurality of power amplifiers are parallel combined to a common output
2203/21145 . . . . Output signals are combined by switching a plurality of paralleled power amplifiers to a common output
2203/21148 . . . . An output signal of a power amplifier being controlled by controlling current signal, e.g. by controlled current mirror
2203/21151 . . . . An output signal of a power amplifier being controlled by controlling power signal, e.g. by an inductive coupler
2203/21154 . . . . An output signal of a power amplifier being controlled by controlling voltage signal
2203/21157 . . . . A filter circuit being added at the output of a power amplifier stage
2203/21161 . . . . An output signal dependant signal being measured by current measuring at the output of a power amplifier
2203/21163 . . . . An output signal dependant signal being measured by power measuring, e.g. by an inductive coupler, at the output of a power amplifier
2203/21166 . . . . An output signal dependant signal being measured by voltage measuring at the output of a power amplifier
2203/21169 . . . . A parallel resonance circuit being coupled at the output of a power amplifier
2203/21172 . . . . A series resonance circuit being coupled at the output of a power amplifier
2203/21175 . . . . An output signal of a power amplifier being on/off switched
2203/21178 . . . . Power transistors are made by coupling a plurality of single transistors in parallel
2203/21181 . . . . the supply current of a power amplifier being continuously controlled, e.g. by controlling current sources or resistors
2203/21184 . . . . the supply current of a power amplifier being continuously measured, e.g. by a resistor, a current mirror, to produce a controlling signal
2203/21187 . . . . the supply current of a power amplifier being measured discontinuously in time, e.g. by sampling, to produce a controlling signal
2203/21191 . . . . the supply current of a power amplifier being switchable controlled, e.g. by choosing different current sources or resistors
2203/21193 . . . . the supply voltage of a power amplifier being continuously controlled, e.g. by an active potentiometer
2203/21196 . . . . the supply voltage of a power amplifier being switchable controlled
2203/30 . Indexing scheme relating to single-ended push-pull [SEPP]; Phase-splitters therefor
2203/30003 . . the SEPP amplifier stage comprising calibration possibility
2203/30006 . . the push and the pull stages of the SEPP amplifier are both current mirrors
2203/30009 . . the push and pull stages of the SEPP amplifier are both cascode current mirrors
2203/30012 . . the two SEPP amplifying transistors are Darlington composite transistors
2203/30015 . . An input signal dependent control signal controls the bias of an output stage in the SEPP
2203/30018 . . A series coupled active resistor and capacitor are coupled in a feedback circuit of a SEPP amplifier
2203/30021 . . A capacitor being coupled in a feedback circuit of a SEPP amplifier
2203/30024 . . the SEPP bias current being controlled by a control signal from a feedback circuit
2203/30027 . . the SEPP bias voltage being controlled by a control signal from a feedback circuit
2203/30031 . . A resistor being coupled as feedback circuit in the SEPP amplifier
2203/30033 . . A series coupled resistor and capacitor are coupled in a feedback circuit of a SEPP amplifier
2203/30036 . . A feedback circuit to stabilise the SEPP being used
2203/30039 . . the SEPP bias current being controlled by a control signal from a feedforward circuit
2203/30042 . . the SEPP bias voltage being controlled by a control signal from a feedforward circuit
2203/30045 . . the SEPP power transistors comprising measuring push or pull transistors to produce a controlling signal
2203/30048 . . the SEPP amplifier has multiple SEPP outputs from paralleled output stages coupled in one or more outputs
2203/30051 . . the SEPP amplifying transistors are composed of multiple coupled transistors
2203/30054 . . the SEPP power transistors are realised as paralleled cascode coupled transistors, i.e. the push or the pull transistors
2203/30057 . . the SEPP power transistors are realised as paralleled FETs, i.e. the push or the pull transistor
2203/30061 . . One or more current mirrors are used as bias circuit or stages for the push or pull stages
2203/30063 . . A differential amplifier being used in the bias circuit or in the control circuit of the SEPP-amplifier
2203/30066 . . A optical element being used in the bias circuit of the SEPP-amplifier
2203/30069 . . A SEPP amplifier with a reactive element in the bias circuit
2203/30072 . . the SEPP has a power supply switchable by a controlling signal derived from the input signal
2203/30075 . . the SEPP has a power supply switchable by a controlling signal derived from the output signal
2203/30078 . . A resistor being added in the pull stage of the SEPP amplifier
2203/30081 . . the pull transistor circuit comprising one or more capacitors
2203/30084 . . the pull circuit of the SEPP amplifier being a cascode circuit
2203/30087 . . Only the bias of the pull transistor of the SEPP being dynamically controlled by the input signal
2203/30091 . . the pull side of the SEPP amplifier has an extra drive follower stage to control this pull side
2203/30093 . . the pull side of the SEPP amplifier has an extra drive inverter stage to control this pull side
2203/30096 . . An op amp being used as extra drive amp for the pull side of the SEPP
2203/30099 . . the pull transistor being gated by a switching element

2203/30102 . . the pull transistor has a measuring transistor for controlling purposes
2203/30105 . . the pull transistor of the asymmetrically driven SEPP amplifier being a driven current mirror
2203/30108 . . the pull transistor of the SEPP amplifier being a cascode current mirror
2203/30111 . . A resistor being added in the push stage of the SEPP amplifier
2203/30114 . . the push transistor circuit comprising one or more capacitors
2203/30117 . . the push circuit of the SEPP amplifier being a cascode circuit
2203/30121 . . Only the bias of the push transistor of the SEPP being dynamically controlled by the input signal
2203/30123 . . the push side of the SEPP amplifier has an extra drive follower stage to control this push side
2203/30126 . . the push side of the SEPP amplifier has an extra drive inverter stage to control this push side
2203/30129 . . An op amp being used as extra drive amp for the push side of the SEPP
2203/30132 . . the push transistor being gated by a switching element
2203/30135 . . the push transistor has a measuring transistor for controlling purposes
2203/30138 . . the push transistor of the asymmetrically driven SEPP amplifier being a driven current mirror
2203/30141 . . the push transistor of the SEPP amplifier being a cascode current mirror
2203/30144 . . the SEPP comprising a reactive element in the amplifying circuits
2203/30147 . . the current sink of the push driven, i.e. source driven SEPP amplifier being a current mirror
2203/30151 . . the current sink of the push driven, i.e. source driven SEPP amplifier being a cascode current mirror
2203/30153 . . the current source of the pull driven, i.e. sink driven SEPP amplifier being a current mirror
2203/30156 . . the current source of the pull driven, i.e. sink driven SEPP amplifier being a cascode current mirror
2203/45 . Indexing scheme relating to differential amplifiers
2203/45002 . . the addition of two signals being made by addition of two currents by coupling the outputs of two current mirrors in parallel
2203/45004 . . the addition of two signals being made by addition of two currents by coupling two current sources in parallel
2203/45006 . . the addition of two signals being made by two emitter or source coupled followers
2203/45008 . . the addition of two signals being made by a resistor addition circuit for producing the common mode signal
2203/45011 . . the addition of two signals being made in a source degeneration circuit of a current mirror for producing the common mode signal
2203/45012 . . the addition of two signals being made in a switched capacitor circuit for producing the common mode signal
2203/45014 . . the addition of two signals being made in the tail circuit of a differential amplifier for producing the common mode signal
2203/45016 . . the addition of two signals being made by paralleling two triode biased transistors for producing the common mode signal
2203/45018 . . the differential amplifier amplifying transistors have added cross couplings
2203/45021 . . One or more added diodes to the amplifying transistors in the differential amplifier
2203/45022 . . One or more added resistors to the amplifying transistors in the differential amplifier
2203/45024 . . the differential amplifier amplifying transistors are cascode coupled transistors
2203/45026 . . One or more current sources are added to the amplifying transistors in the differential amplifier
2203/45028 . . the differential amplifier amplifying transistors are folded cascode coupled transistors
2203/45031 . . the differential amplifier amplifying transistors are compositions of multiple transistors
2203/45032 . . the differential amplifier amplifying transistors are multiple paralleled transistors
2203/45034 . . One or more added reactive elements, capacitive or inductive elements, to the amplifying transistors in the differential amplifier
2203/45036 . . the differential amplifier amplifying transistors are single transistors
2203/45038 . . One or more current sources are added or changed as balancing means to reduce the offset of the dif amp
2203/45041 . . Fuses are blown to balance the dif amp to reduce the offset of the dif amp
2203/45042 . . One or more resistors are added or changed as balancing to reduce the offset of the dif amp
2203/45044 . . One or more switches are opened or closed to balance the dif amp to reduce the offset of the dif amp
2203/45046 . . the base current of the amplifying transistors of a dif amp being compensated for providing a greater input impedance of the amplifier
2203/45048 . . Calibrating and standardising a dif amp
2203/45051 . . Two or more differential amplifiers cascade coupled
2203/45052 . . the cascode stage of the cascode differential amplifier being controlled by a controlling signal, which controlling signal can also be the input signal
2203/45054 . . the cascode stage of the cascode dif amp being a current mirror
2203/45056 . . One or both transistors of the cascode stage of a differential amplifier being composed of more than one transistor
2203/45058 . . the cascode stage of the differential amplifier comprising a reactive element
2203/45061 . . the common mode reference signal being taken or deducted from the one or more inputs of the differential amplifier
2203/45062 . . the common mode signal, e.g. voltage or current being added to the cascode stage of the cascode or folded cascode differential amplifier
2203/45064 . . the resulting deducted common mode signal being added to the folding circuit of the folded differential amplifier
2203/45066 . . the resulting deducted common mode signal being added at the one or more inputs of the differential amplifier
2203/45068 . . the resulting deducted common mode signal being added at the one or more outputs of the differential amplifier

2203/45071 . . the resulting deducted common mode signal being added at the substrate or body regions of the components of the differential amplifier
2203/45072 . . the common mode voltage or current signal being added to the tail circuit of the differential amplifier
2203/45074 . . A comparator circuit compares the common mode signal to a reference before controlling the differential amplifier or related stages
2203/45076 . . the resulting deducted common mode signal being added to or controls the differential amplifier, and being a current signal
2203/45078 . . the common mode signal being taken or deducted from the one or more inputs of the differential amplifier
2203/45081 . . the common mode signal being level shifted before using it for controlling or adding
2203/45082 . . the common mode signal being taken or deducted from the one or more outputs of the differential amplifier
2203/45084 . . the common mode signal circuit comprising one or more inductive or capacitive elements, e.g. filter circuitry
2203/45086 . . the common mode signal being taken or deducted from the tail circuit of the differential amplifier
2203/45088 . . the resulting deducted common mode signal being added to or controls the differential amplifier, and being a voltage signal
2203/45091 . . Two complementary type differential amplifiers are paralleled, e.g. one of the p-type and one of the n-type
2203/45092 . . Two current sources bias one set of two common base transistors cascaded with two other common base transistors, the common base transistors being driven complementary
2203/45094 . . the dif amp being realized by coupling the emitters respectively sources of two common collector respectively drain transistors of a first type to the emitters respectively sources of two common base respectively gate transistors of a second complementary type
2203/45096 . . the difference of two signals being made by, e.g. combining two or more current mirrors, e.g. differential current mirror
2203/45098 . . Two current mirrors coupled in a subtracting configuration
2203/45101 . . Control of the DC level being present
2203/45102 . . A diode being used as clamping element at the input of the dif amp
2203/45104 . . A diode being used as clamping element at the loading circuit of the dif amp
2203/45106 . . A diode being used as clamping element at the output of the dif amp
2203/45108 . . A diode being used as level shifter between stages or in a follower in relation with a dif amp
2203/45111 . . Two dif amps of the same type are used one dif amp for each input signal
2203/45112 . . the biasing of the differential amplifier being controlled from the input or the output signal
2203/45114 . . the differential amplifier contains another differential amplifier in its feedback circuit
2203/45116 . . Feedback coupled to the input of the differential amplifier
2203/45118 . . At least one reactive element being added to at least one feedback circuit of a dif amp
2203/45121 . . A floating gate element being part of a dif amp
2203/45122 . . the folded cascode stage of the folded cascode differential amplifier being controlled by a controlling signal
2203/45124 . . the folded cascode stage of the folded cascode dif amp being a current mirror
2203/45126 . . One or both transistors of the folded cascode stage of a folded cascode dif amp are composed of more than one transistor
2203/45128 . . the folded cascode stage of the folded cascode dif amp contains a reactive element
2203/45131 . . A follower being added between the dif amp and other explicit stages in the amplifying circuit
2203/45132 . . A source follower using multiple single follower stages cascaded in a composed follower being added to the dif amp
2203/45134 . . the whole differential amplifier together with other coupled stages being fully differential realised
2203/45136 . . One differential amplifier in IC-block form being shown
2203/45138 . . Two or more differential amplifiers in IC-block form are combined, e.g. measuring amplifiers
2203/45141 . . A cross coupled pair of transistors being added in the input circuit of a differential amplifier
2203/45142 . . At least one diode being added at the input of a dif amp
2203/45144 . . At least one follower being added at the input of a dif amp
2203/45146 . . At least one op amp being added at the input of a dif amp
2203/45148 . . At least one reactive element being added at the input of a dif amp
2203/45151 . . At least one resistor being added at the input of a dif amp
2203/45152 . . Balancing means being added at the input of a dif amp to reduce the offset of the dif amp
2203/45154 . . the bias at the input of the amplifying transistors being controlled
2203/45156 . . At least one capacitor being added at the input of a dif amp
2203/45158 . . One or more diodes coupled at the inputs of a dif amp as clamping elements
2203/45161 . . One or more diodes coupled at the inputs of a dif amp as level shifting circuit elements
2203/45162 . . A parallel resonance circuit being added in the one or more input circuits of the dif amp
2203/45164 . . A series resonance circuit being added in the one or more input circuits of the dif amp
2203/45166 . . Only one input of the dif amp being used for an input signal
2203/45168 . . A dif amp being used as input stage to one or more other non-differential stages
2203/45171 . . the input signal being switched to the one or more input terminals of the differential amplifier
2203/45172 . . A transformer being added at the input of the dif amp
2203/45174 . . the application of the differential amplifier being in an integrator circuit
2203/45176 . . A cross coupling circuit, e.g. consisting of two cross coupled transistors, being added in the load circuit of the amplifying transistors of a differential amplifier

2203/45178 . . the differential amplifier contains one or more extra resistors in the active load circuit
2203/45181 . . Compensation of unbalanced loading in dif amps, e.g. unbalancing by connecting unequal circuits on both load circuits of the dif amp
2203/45182 . . the differential amplifier contains one or more cascode current mirrors in the load
2203/45184 . . the differential amplifier has one or more cascode current sources in the load
2203/45186 . . the differential amplifier contains clamping components in the load circuit
2203/45188 . . the differential amplifier contains one or more current sources in the load
2203/45191 . . One or more diodes not belonging to a current mirror as loads of a dif amp
2203/45192 . . the differential amplifier contains current mirrors comprising diodes which act as a load for the differential amplifier
2203/45194 . . At least one active load circuit of the two load circuits in a differential amplifier being realised with a combination of more than one transistor
2203/45196 . . A differential amplifier with one or more parallel coupled LC-circuits as load
2203/45198 . . A parallel resonance circuit being added in the one or more load circuits of the dif amp
2203/45201 . . the differential amplifier contains one or more reactive elements, i.e. capacitive or inductive elements, in the load
2203/45202 . . the differential amplifier contains only resistors in the load
2203/45204 . . A series resonance circuit being added in the one or more load circuits of the dif amp
2203/45206 . . One or two switches are coupled in the loading circuit of the dif amp
2203/45208 . . the dif amp being of the long tail pair type, one current source being coupled to the common emitter of the amplifying transistors
2203/45211 . . the amplifying transistors have multiple collectors with a cross coupling
2203/45212 . . the differential amplifier being designed to have a reduced offset
2203/45214 . . Offset in a differential amplifier being reduced by control of the substrate voltage, the voltage being either fixed or variable
2203/45216 . . A cross coupling circuit being added at the output terminals of the amplifying transistors of a differential amplifier
2203/45218 . . Diode clamping means are present at the output of a differential amplifier
2203/45221 . . the output signal being taken from the two complementary outputs of the differential amplifier
2203/45222 . . the differential amplifier output being directly controlled by a feedback or feedforward circuit coupled at the output of the dif amp
2203/45224 . . One output of the differential amplifier being taken into consideration
2203/45226 . . the output signal being switched taken from the one or more output terminals of the differential amplifier
2203/45228 . . A transformer being added at the output or the load circuit of the dif amp
2203/45231 . . Two dif amps of the cascode type are paralleled at their input gates or bases
2203/45232 . . Two dif amps of the folded cascode type are paralleled at their input gates or bases
2203/45234 . . Two dif amps, one of them being of the cascade type and the other one of the folded cascade type, are paralleled at their input gates or bases
2203/45236 . . Two dif amps realised in MOS or JFET technology, one of them being of the p-channel type and the other one of the n-channel type, are coupled in parallel with their gates
2203/45238 . . Two dif amps realised in FET technology, the dif amps being either both of the NMOS type or both of the PMOS type, are coupled in parallel with their gates and their drains
2203/45241 . . Two dif amps realised in MOS or JFET technology, the dif amps being either both of the p-channel type or both of the n-channel type, are coupled in parallel with their gates
2203/45242 . . Two dif amps are paralleled at their inputs, the dif amps being of different types, e.g. one long tail type and one complementary or pi type
2203/45244 . . the differential amplifier contains one or more explicit bias circuits, e.g. to bias the tail current sources, to bias the load transistors
2203/45246 . . the dif amp being biased in the subthreshold region
2203/45248 . . the dif amp being designed for improving the slew rate
2203/45251 . . the dif amp has a cross coupling circuit in the source circuit of the amplifying transistors
2203/45252 . . Diodes are added in the source circuit of the amplifying FETs of the dif amp
2203/45254 . . A parallel resonance circuit being added in the one or more source circuits of the amplifying FETs of the dif amp
2203/45256 . . One or more reactive elements are added in the source circuit of the amplifying FETs of the dif amp
2203/45258 . . Resistors are added in the source circuit of the amplifying FETs of the dif amp
2203/45261 . . A series resonance circuit being added in the one or more source circuits of the amplifying FETs of the dif amp
2203/45262 . . the two amplifying FETs, amplifying two complementary input signals, are not source coupled, i.e. no tail being present
2203/45264 . . the dif amp comprising frequency or phase stabilisation means
2203/45266 . . the stage cascaded to the dif amp being an asymmetrical follower stage
2203/45268 . . A common gate stage being coupled at the one or more outputs of the dif amp
2203/45271 . . the output current being reduced by a transistor which being controlled by the input signal to sink current
2203/45272 . . the output current being increased by a transistor which being controlled by the input signal to source current
2203/45274 . . Level shifting stages are added to the differential amplifier at a position other than the one or more inputs of the dif amp
2203/45276 . . An op amp as stage being coupled to the output of a dif amp
2203/45278 . . Two SEPP stages are added to the differential amplifier, the outputs of the two SEPP stages being the two outputs of the whole amplifier

2203/45281 . . One SEPP output stage being added to the differential amplifier
2203/45282 . . the differential amplifier being coupled to a symmetrical follower output stage
2203/45284 . . Sensing the temperature dependence by a temperature dependant sensor, e.g. a resistor, a diode
2203/45286 . . the temperature dependence of a differential amplifier being controlled
2203/45288 . . Differential amplifier with circuit arrangements to enhance the transconductance
2203/45291 . . the active amplifying circuit [AAC] comprising balancing means
2203/45292 . . the AAC comprising biasing means controlled by the signal
2203/45294 . . the AAC comprising biasing means to stabilise itself
2203/45296 . . the AAC comprising one or more discrete capacitive elements, e.g. a transistor coupled as capacitor
2203/45298 . . the AAC comprising one or more combinations of discrete capacitor and resistor elements, e.g. active elements using a transistor as a capacitor or as a resistor
2203/45301 . . there are multiple cascaded folded or not folded common gate stages of a cascode dif amp
2203/45302 . . the common gate stage of a cascode dif amp being controlled
2203/45304 . . the common gate stage of a BIFET cascode dif amp being implemented fully by FETs
2203/45306 . . the common gate stage implemented as dif amp eventually for cascode dif amp
2203/45308 . . the common gate stage of a cascode dif amp being implemented as one mirror circuit
2203/45311 . . the common gate stage of a cascode dif amp being implemented by multiple transistors
2203/45312 . . there being only one common gate stage of a cascode dif amp
2203/45314 . . the AAC comprising clamping means, e.g. diodes
2203/45316 . . the AAC comprising one or more discrete inductive elements or coils
2203/45318 . . the AAC comprising a cross coupling circuit, e.g. two extra transistors cross coupled
2203/45321 . . the common source stage of a BIFET cascode dif amp being implemented fully by FETs
2203/45322 . . One or more current sources are added to the AAC
2203/45324 . . the AAC comprising a Darlington transistor circuit
2203/45326 . . the AAC comprising one or more extra diodes, e.g. as level shifter, as diode coupled transistors
2203/45328 . . the AAC comprising one diode coupled AAC-transistor in a follower combination with the other AAC circuit part
2203/45331 . . the AAC comprising one or more diodes coupled as a shunt between the AAC-transistors in the AAC
2203/45332 . . the AAC comprising one or more capacitors as feedback circuit elements
2203/45334 . . the AAC comprising one or more dif amps as feedback circuit elements
2203/45336 . . the AAC comprising one or more resistors as feedback circuit elements
2203/45338 . . the AAC comprising one or more series circuits of a resistor and a capacitor as feedback circuit elements
2203/45341 . . the AAC comprising controlled floating gates
2203/45342 . . the AAC comprising control means on a back gate of the AAC
2203/45344 . . At least one of the AAC sub-circuits being a current mirror
2203/45346 . . the AAC comprising one or more FETs with multiple drains
2203/45348 . . the AAC comprising one or more FETs with multiple gates
2203/45351 . . the AAC comprising one or more FETs with multiple sources
2203/45352 . . the AAC comprising a combination of a plurality of transistors, e.g. Darlington coupled transistors
2203/45354 . . the AAC comprising offset means
2203/45356 . . the AAC comprising one or more op-amps, e.g. IC-blocks
2203/45358 . . the AAC comprising multiple transistors parallel coupled at their sources and drains only, e.g. in a cascode dif amp, only those forming the composite common source transistor
2203/45361 . . the AAC comprising multiple transistors parallel coupled at their drains only, e.g. in a cascode dif amp, only those forming the composite common source transistor
2203/45362 . . the AAC comprising multiple transistors parallel coupled at their gates and drains only, e.g. in a cascode dif amp, only those forming the composite common source transistor
2203/45364 . . the AAC comprising multiple transistors parallel coupled at their gates and sources only, e.g. in a cascode dif amp, only those forming the composite common source transistor
2203/45366 . . the AAC comprising multiple transistors parallel coupled at their gates only, e.g. in a cascode dif amp, only those forming the composite common source transistor
2203/45368 . . the AAC comprising multiple transistors parallel coupled at their sources only, e.g. in a cascode dif amp, only those forming the composite common source transistor
2203/45371 . . the AAC comprising parallel coupled multiple transistors at their source and gate and drain or at their base and emitter and collector, e.g. in a cascode dif amp, only those forming the composite common source transistor or the composite common emitter transistor respectively
2203/45372 . . the AAC comprising one or more potentiometers
2203/45374 . . the AAC comprising one or more discrete resistors
2203/45376 . . the AAC comprising one or more discrete resistors as shunts between collectors or drains
2203/45378 . . the AAC comprising saturation or cutoff avoiding means, e.g. as a feedback circuit
2203/45381 . . the AAC comprising multiple transistors coupled in shunt
2203/45382 . . the AAC comprising common gate stages in the source circuit of the AAC before the common source coupling
2203/45384 . . the AAC comprising common gate stages in the source circuit of the AAC before the common source coupling in which the common gate stage being controlled

2203/45386 . . the AAC comprising one or more coils in the source circuit
2203/45388 . . the AAC comprising diodes in the source circuit of the AAC before the common source coupling
2203/45391 . . the AAC comprising potentiometers in the source circuit of the AAC before the common source coupling
2203/45392 . . the AAC comprising resistors in the source circuit of the AAC before the common source coupling
2203/45394 . . the AAC of the dif amp comprising FETs whose sources are not coupled, i.e. the AAC being a pseudo-differential amplifier
2203/45396 . . the AAC comprising one or more switches
2203/45398 . . the AAC comprising a voltage generating circuit as bias circuit for the AAC
2203/45401 . . the common mode controlling loop [CMCL] comprising a transistor resistor addition circuit
2203/45402 . . the CMCL comprising a buffered addition circuit, i.e. the signals are buffered before addition, e.g. by a follower
2203/45404 . . the CMCL comprising capacitors containing, not in parallel with the resistors, an addition circuit
2203/45406 . . the CMCL comprising a common source node of a long tail FET pair as an addition circuit
2203/45408 . . the CMCL comprising a short circuited differential output of a dif amp as an addition circuit
2203/45411 . . the CMCL comprising a diode addition circuit, e.g. using diode connected transistors
2203/45412 . . the CMCL comprising a folding circuit as addition circuit
2203/45414 . . the CMCL comprising a current mirror addition circuit
2203/45416 . . the CMCL comprising no addition of the dif signals to produce a common mode signal
2203/45418 . . the CMCL comprising a resistor addition circuit
2203/45421 . . the CMCL comprising a switched capacitor addition circuit
2203/45422 . . the CMCL comprising one or more capacitors not as integrating capacitor, e.g. for stability purposes
2203/45424 . . the CMCL comprising a comparator circuit
2203/45426 . . the CMCL comprising a comparator circuit with extra buffering means before comparison of the common mode signal, e.g. by a follower
2203/45428 . . the CMCL comprising a comparator circuit using a four inputs dif amp
2203/45431 . . the CMCL output control signal being a current signal
2203/45432 . . the CMCL output control signal being a current signal and being buffered before used to control
2203/45434 . . the CMCL output control signal being a voltage signal
2203/45436 . . the CMCL output control signal being a voltage signal and being buffered before used to control
2203/45438 . . the CMCL uses digital signals
2203/45441 . . the CMCL comprising an integrating circuit
2203/45442 . . the CMCL comprising multiple loops for the same stage or for different stages in the amplifier
2203/45444 . . the CMCL comprising a sample and hold circuit
2203/45446 . . there are two or more CMCLs
2203/45448 . . the common source circuit [CSC] comprising an addition circuit made by mirrors
2203/45451 . . the CSC comprising an addition circuit made by added current sources
2203/45452 . . the CSC comprising balancing means
2203/45454 . . the CSC comprising biasing means controlled by the input signal
2203/45456 . . the CSC comprising bias stabilisation means, e.g. DC-level stability, positive or negative temperature coefficient dependent control
2203/45458 . . the CSC comprising one or more capacitors
2203/45461 . . the CSC comprising one or more switched capacitors
2203/45462 . . the CSC comprising a cascode circuit
2203/45464 . . the CSC comprising one or more coils
2203/45466 . . the CSC being controlled, e.g. by a signal derived from a non specified place in the dif amp circuit
2203/45468 . . the CSC comprising a cross coupling circuit, e.g. comprising two cross-coupled transistors
2203/45471 . . the CSC comprising one or more extra current sources
2203/45472 . . the CSC comprising one or more diodes
2203/45474 . . the CSC comprising controlled one or more floating gates
2203/45476 . . the CSC comprising a mirror circuit
2203/45478 . . the CSC comprising a cascode mirror circuit
2203/45481 . . the CSC comprising only a direct connection to the supply voltage, no other components being present
2203/45482 . . the CSC comprising offset means
2203/45484 . . the CSC comprising one or more op-amps
2203/45486 . . the CSC comprising two or more paralleled transistors as current source
2203/45488 . . the CSC being a pi circuit and a capacitor being used at the place of the resistor
2203/45491 . . the CSC being a pi circuit and the resistor being implemented by one or more transistors
2203/45492 . . the CSC being a pi circuit and the resistor being implemented by one or more controlled transistors
2203/45494 . . the CSC comprising one or more potentiometers
2203/45496 . . the CSC comprising one or more extra resistors
2203/45498 . . the CSC comprising only resistors
2203/45501 . . the CSC comprising a L-C parallel resonance circuit
2203/45502 . . the CSC comprising a L-C series resonance circuit
2203/45504 . . the CSC comprising more than one switch
2203/45506 . . the CSC comprising only one switch
2203/45508 . . the CSC comprising a voltage generating circuit as bias circuit for the CSC
2203/45511 . . the feedback circuit [FBC] comprising one or more transistor stages, e.g. cascaded stages of the dif amp, and being coupled between the loading circuit [LC] and the input circuit [IC]
2203/45512 . . the FBC comprising one or more capacitors, not being switched capacitors, and being coupled between the LC and the IC
2203/45514 . . the FBC comprising one or more switched capacitors, and being coupled between the LC and the IC
2203/45516 . . the FBC comprising a coil and being coupled between the LC and the IC
2203/45518 . . the FBC comprising one or more diodes and being coupled between the LC and the IC
2203/45521 . . the FBC comprising op amp stages, e.g. cascaded stages of the dif amp and being coupled between the LC and the IC

2203/45522 . . the FBC comprising one or more potentiometers
2203/45524 . . the FBC comprising one or more active resistors and being coupled between the LC and the IC
2203/45526 . . the FBC comprising a resistor-capacitor combination and being coupled between the LC and the IC
2203/45528 . . the FBC comprising one or more passive resistors and being coupled between the LC and the IC
2203/45531 . . the FBC comprising a parallel resonance circuit and being coupled between the LC and the IC
2203/45532 . . the FBC comprising a series resonance circuit and being coupled between the LC and the IC
2203/45534 . . the FBC comprising multiple switches and being coupled between the LC and the IC
2203/45536 . . the FBC comprising a switch and being coupled between the LC and the IC
2203/45538 . . the IC comprising balancing means, e.g. trimming means
2203/45541 . . the IC comprising dynamic biasing means, i.e. controlled by the input signal
2203/45542 . . the IC comprising bias stabilisation means, e.g. DC level stabilisation, and temperature coefficient dependent control, e.g. by DC level shifting
2203/45544 . . the IC comprising one or more capacitors, e.g. coupling capacitors
2203/45546 . . the IC comprising one or more capacitors feedback coupled to the IC
2203/45548 . . the IC comprising one or more capacitors as shunts to earth or as short circuit between inputs
2203/45551 . . the IC comprising one or more switched capacitors
2203/45552 . . the IC comprising clamping means, e.g. diodes
2203/45554 . . the IC comprising one or more coils
2203/45556 . . the IC comprising a common gate stage as input stage to the dif amp
2203/45558 . . the IC being coupled at the sources of the source coupled pair
2203/45561 . . the IC being controlled, e.g. by a signal derived from a non specified place in the dif amp circuit
2203/45562 . . the IC comprising a cross coupling circuit, e.g. comprising two cross-coupled transistors
2203/45564 . . the IC comprising one or more extra current sources
2203/45566 . . the IC comprising one or more dif stages in cascade with the dif amp
2203/45568 . . the IC comprising one or more diodes as shunt to the input leads
2203/45571 . . the IC comprising two diodes, e.g. Gilbert circuit
2203/45572 . . the IC comprising one or more Zener diodes to the input leads
2203/45574 . . the IC comprising four or more input leads connected to four or more AAC-transistors
2203/45576 . . the IC comprising input impedance adapting or controlling means
2203/45578 . . the IC comprising one or more diodes as level shifters
2203/45581 . . the IC comprising one or more resistors as level shifters
2203/45582 . . the IC comprising one or more voltage sources as level shifters
2203/45584 . . the IC comprising extra differentially coupled transistors for controlling purposes only
2203/45586 . . the IC comprising offset generating means
2203/45588 . . the IC comprising offset compensating means
2203/45591 . . the IC comprising one or more potentiometers
2203/45592 . . the IC comprising one or more buffer stages other than emitter or source followers between the input signal leads and input leads of the dif amp, e.g. inverter stages
2203/45594 . . the IC comprising one or more resistors, which are not biasing resistor
2203/45596 . . the IC comprising one or more biasing resistors
2203/45598 . . the IC comprising an input shunting circuit comprising a resistor and a capacitor in series
2203/45601 . . the IC comprising one or more passive resistors by feedback
2203/45602 . . the IC comprising one or more active resistors by feedback
2203/45604 . . the IC comprising a input shunting resistor
2203/45606 . . the IC comprising one or more parallel resonance circuits
2203/45608 . . the IC comprising one or more series resonance circuits
2203/45611 . . the IC comprising only one input signal connection lead for one phase of the signal
2203/45612 . . the IC comprising one or more input source followers as input stages in the IC
2203/45614 . . the IC comprising two cross coupled switches
2203/45616 . . the IC comprising more than one switch, which are not cross coupled
2203/45618 . . the IC comprising only one switch
2203/45621 . . the IC comprising a transformer for phase splitting the input signal
2203/45622 . . the IC comprising a voltage generating circuit
2203/45624 . . the LC comprising balancing means, e.g. trimming means
2203/45626 . . the LC comprising biasing means controlled by the input signal
2203/45628 . . the LC comprising bias stabilisation means, e.g. DC level stabilisation means, and temperature coefficient dependent control, e.g. DC level shifting means
2203/45631 . . the LC comprising one or more capacitors, e.g. coupling capacitors
2203/45632 . . the LC comprising one or more capacitors coupled to the LC by feedback
2203/45634 . . the LC comprising one or more switched capacitors
2203/45636 . . the LC comprising clamping means, e.g. diodes
2203/45638 . . the LC comprising one or more coils
2203/45641 . . the LC being controlled, e.g. by a signal derived from a non specified place in the dif amp circuit
2203/45642 . . the LC, and possibly also cascaded stages following it, being (are) controlled by the common mode signal derived to control a dif amp
2203/45644 . . the LC comprising a cross coupling circuit, e.g. comprising two cross-coupled transistors
2203/45646 . . the LC comprising an extra current source
2203/45648 . . the LC comprising two current sources, which are not cascode current sources
2203/45651 . . the LC comprising two cascode current sources
2203/45652 . . the LC comprising one or more further dif amp stages, either identical to the dif amp or not, in cascade
2203/45654 . . the LC comprising one or more extra diodes not belonging to mirrors

2203/45656 . . the LC comprising one diode of a current mirror, i.e. forming an asymmetrical load
2203/45658 . . the LC comprising two diodes of current mirrors
2203/45661 . . the LC comprising one or more controlled floating gates
2203/45662 . . the LC comprising inductive coupled loading elements
2203/45664 . . the LC comprising one or more cascaded inverter stages as output stage at one output of the dif amp circuit
2203/45666 . . the LC comprising two anti-phase controlled inverter circuits as output stages, e.g. fully differential
2203/45668 . . the LC comprising a level shifter circuit, which does not comprise diodes
2203/45671 . . the LC comprising one or more diodes as level shifter
2203/45672 . . the LC comprising one or more resistors as level shifter
2203/45674 . . the LC comprising one current mirror
2203/45676 . . the LC comprising one cascode current mirror
2203/45678 . . the LC comprising offset generating means
2203/45681 . . the LC comprising offset compensating means
2203/45682 . . the LC comprising one or more op-amps
2203/45684 . . the LC comprising one or more buffers or driving stages not being of the emitter respectively source follower type, between the output of the dif amp and the output stage
2203/45686 . . the LC comprising one or more potentiometers, which are not shunting potentiometers
2203/45688 . . the LC comprising one or more shunting potentiometers
2203/45691 . . the LC comprising one or more transistors as active loading resistors
2203/45692 . . the LC comprising one or more resistors in series with a capacitor coupled to the LC by feedback
2203/45694 . . the LC comprising more than one shunting resistor
2203/45696 . . the LC comprising more than two resistors
2203/45698 . . the LC comprising one or more resistors coupled to the LC by feedback (active or passive)
2203/45701 . . the LC comprising one resistor
2203/45702 . . the LC comprising two resistors
2203/45704 . . the LC comprising one or more parallel resonance circuits
2203/45706 . . the LC comprising one or more series resonance circuits
2203/45708 . . the LC comprising one SEPP circuit as output stage
2203/45711 . . the LC comprising two anti-phase controlled SEPP circuits as output stages, e.g. fully differential
2203/45712 . . the LC comprising a capacitor as shunt
2203/45714 . . the LC comprising a coil as shunt
2203/45716 . . the LC comprising a RC-series circuit as shunt, e.g. for stabilisation
2203/45718 . . the LC comprising a resistor as shunt
2203/45721 . . the LC comprising only an output circuit for one phase of the signal
2203/45722 . . the LC comprising one or more source followers, as post buffer or driver stages, in cascade in the LC
2203/45724 . . the LC comprising two cross coupled switches
2203/45726 . . the LC comprising more than one switch, which are not cross coupled
2203/45728 . . the LC comprising one switch
2203/45731 . . the LC comprising a transformer
2203/45732 . . the LC comprising a voltage generating circuit
2203/50 . Indexing scheme relating to amplifiers in which input being applied to, or output being derived from, an impedance common to input and output circuits of the amplifying element, e.g. cathode follower
2203/5003 . . the sources of two source followers are differentially coupled
2203/5006 . . the input signal being capacitively coupled to the gate of the source follower
2203/5009 . . the output signal being capacitively coupled to the source of the source follower
2203/5012 . . the source follower has a controlled source circuit, the controlling signal being derived from the drain circuit of the follower
2203/5015 . . the source follower has a controlled source circuit, the controlling signal being derived from the gate circuit of the follower
2203/5018 . . the source follower has a controlled source circuit, the controlling signal being derived from the source circuit of the follower
2203/5021 . . the source follower has a controlled source circuit
2203/5024 . . the source follower has a controlled source circuit, the source circuit being controlled via a capacitor, i.e. AC-controlled
2203/5027 . . the source follower has a current mirror output circuit in its source circuit
2203/5031 . . the source circuit of the follower being a current source
2203/5033 . . Two source followers are controlled at their inputs by a differential signal
2203/5036 . . the source follower has a resistor in its source circuit
2203/5039 . . the source circuit of the follower has one or more capacitors between source and supply
2203/5042 . . the source circuit of the follower has one or more coils between source and supply
2203/5045 . . the source follower has a level shifter between source and output, e.g. a diode-connected transistor
2203/72 . Indexing scheme relating to gated amplifiers, i.e. amplifiers which are rendered operative or inoperative by means of a control signal
2203/7203 . . the gated amplifier being switched on or off by a switch in the bias circuit of the amplifier controlling a bias current in the amplifier
2203/7206 . . the gated amplifier being switched on or off by a switch in the bias circuit of the amplifier controlling a bias voltage in the amplifier
2203/7209 . . the gated amplifier being switched from a first band to a second band
2203/7212 . . the gated amplifier being switched on or off by switching off or on a feedback control loop of the amplifier
2203/7215 . . the gated amplifier being switched on or off by a switch at the input of the amplifier
2203/7218 . . the gated amplifier being switched on or off by clamping by a switch at the input of the amplifier
2203/7221 . . the gated amplifier being switched on or off by a switch at the output of the amplifier

2203/7224	. .	the gated amplifier being switched on or off by clamping by a switch at the output of the amplifier
2203/7227	. .	the gated amplifier being switched on or off by a switch in the supply circuit of the amplifier
2203/7231	. .	the gated amplifier being switched on or off by putting into cascade or not, by choosing between amplifiers by one or more switch(es)
2203/7233	. .	the gated amplifier, switched on or off by putting into parallel or not, by choosing between amplifiers by one or more switch(es), being impedance adapted by switching an adapted passive network
2203/7236	. .	the gated amplifier being switched on or off by putting into parallel or not, by choosing between amplifiers by (a) switch(es)
2203/7239	. .	the gated amplifier being switched on or off by putting into parallel or not, by choosing between amplifiers and shunting lines by one or more switch(es)