

Class -B and Class-AB Push Pull Amplifier

Model : SD-114

SINCOM SD-114 Class-B and Class-AB Push Pull Amplifier is Two-In-One simply designed trainer for the purpose to study the concept, operation, Frequency response and determine the Bandwidth, Voltage gain and other parameters of a Class-B and Class-AB Push Pull Amplifier in a simple experimental way.

Features

- ❖ User friendly Design
- ❖ Separate modules of Class-B and Class-AB Push Pull Amplifier
- ❖ Class-B Push Pull amplifier circuit uses two NPN BJTs wired with Input and Output Driver Transformers.
- ❖ Class-AB Push Pull amplifier circuit uses two NPN BJTs connected in a Push-Pull mode with voltage divider base biasing, emitter feedback resistor, Input & Output Driver Transformers.
- ❖ Silicon NPN BJT of TO-92 package on board
- ❖ Wide Bandwidth AF Amplifier
- ❖ Resistive Load and Loud Speaker as Inductive Load for Class-AB
- ❖ Resistive Load for Class-AB
- ❖ Audio Tone Output for Class-AB
- ❖ Input and Output Driver Transformers
- ❖ In-Built Fixed regulated DC Power Supply
- ❖ Very Easy for Operation
- ❖ Multi color Circuit Diagram is printed on the front panel of the white board
- ❖ Enclosed in an attractive, light weight, High Quality, Poly Coated Imported Pine Wooden cabinet
- ❖ Facility to connect external Function Generator and Oscilloscope
- ❖ Interconnections by 2mm high quality banana sockets and pins
- ❖ Maximum Test points to explore all the corners of experiment
- ❖ 1 Year Warranty

Technical Specifications

▪ AC Mains Power Supply	: 230V \pm 10%, 50Hz
▪ DC Power Supply	: IC Regulated Fixed +12V/500mA
▪ Amplifier Type	: Class-B and Class-AB Push Pull Amplifier
▪ Transistor Type and Package	: Bi-Polar Silicon-NPN, TO-92 Package
▪ Transistor Used	: Four BC548 for Class B and Class-AB
▪ Biasing Method	: Voltage Divider (Class-AB), Fixed Bias (Class-B)
▪ Transistor Configuration	: CE mode
▪ Max. Collector Emitter Voltage	: 12 VDC
▪ BJT Junction Voltage	: 0.7V
▪ Emitter Base Voltage V_{BE}	: 5V
▪ Input Output Coupling Capacitors	: Two No. Electrolytic type
▪ Input Signal Type	: Sine wave
▪ Max. Input Frequency Range	: 60Hz-500KHz approx.



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- Output Frequency Response : 100Hz-20KHz approx.
- **For Class-B Amplifier**
 - Input Output Coupling Transformer : 6V AF Driver Transformer secondary centre tap
 - Output Load : 10KΩ Fixed Resistive Load
- **For Class-AB Amplifier**
 - Input Output Coupling Transformer : 6V AF Driver Transformer secondary centre tap
 - Base Resistors : Two No.
 - Emitter Resistors : One No.
 - Resistive Output Load : 10KΩ Fixed Resistive Load
 - Inductive Output Load : 4Ω Loud Speaker Inductive Load
- Weight : 3.0 kg (approx)
- Dimensions (mm) : L 245 x W 320 x H 115
- Interconnections : 2mm Banana sockets
- Operating Temperature : 0-50°C, 80% RH

Learning Scope

- To Study Class-AB Push-Pull Power Amplifier circuit. To Observe & Note change in O/P w.r.t. change in I/P Frequency.
- To Plot frequency response & To Determine Bandwidth, Voltage Gain, Efficiency of class-AB Push-Pull Power amplifier.
- To study Complementary Symmetry Push-Pull Amplifier circuit. To Observe & Note change in O/P w.r.t. change in I/P Frequency & to study the effect of each transistor on O/P.
- To Plot frequency response & Determine Bandwidth, Voltage Gain, Efficiency & Distortion.

Other Instruments Required : Oscilloscope, Function Generator 1MHz.

Accessories Included : Set of Patch Cord and Details Instruction Manual