Class -A, B and AB Push Pull Amplifier

Model : SD-115

SINCOM SD-115 Class-A,B and AB Push Pull Amplifier is All-In-One remarkable 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-A, Class-B and Class-AB Push Pull Amplifier in a simple experimental way.

Features

- User friendly Design
- Separate modules of Class-A, Class-B and Class-AB Push Pull Amplifier
- Class-A amplifier circuit uses BJT NPN BC548 with Self base biasing
- 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-A and 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 ±10%, 50Hz
DC Power Supply	: IC Regulated Fixed +12V/500mA
Amplifier Type	: Class-A, Class-B and Class-AB Push Pull Amplifier
Transistor Type and Package	: Bi-Polar Silicon-NPN, TO-92 Package
Transistor Used	: Five BC548
Biasing Method	: Voltage Divider (Class-A,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.
- Output Frequency Response : 100Hz-20KHz approx.
- **For Class-A Amplifier**
  - Base Resistors : Two No.
  - Emitter Resistors : One No.
  - Collector Load : 10KΩ Fixed Resistive Load
- **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^{0}C, 80% RH

Learning Scope

- To Study Class-A 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-A Power amplifier.
- To Study Class-B 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 and Cross Over Distortion of class-B Push-Pull Power amplifier.
- 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.

Other Instruments Required : Oscilloscope, Function Generator 1MHz.

Accessories Included : Set of Patch Cord and Details Instruction Manual

Subject to Change