

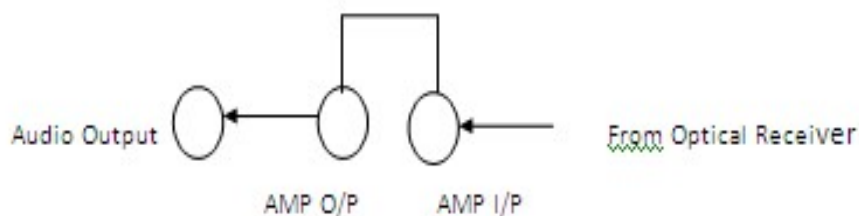
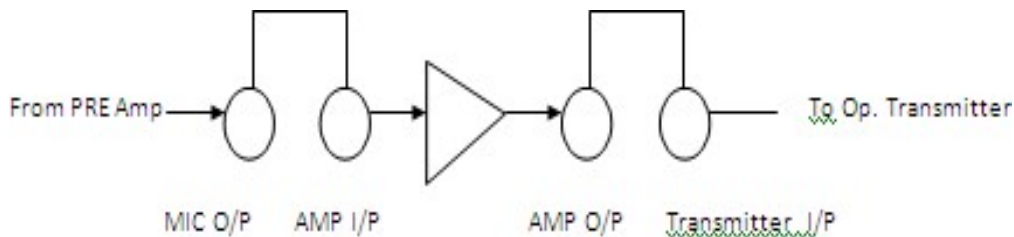
Experiment No. 2

Aim: To establish voice link using optical fiber.

Objectives: To observe transmission and reception of voice signals through OF.

Equipments/Components: kit 1 and kit 2, CRO, Microphone, Loudspeaker (or Function generator), 1 Meter fiber cable, etc.

Circuit/Block Diagram:



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BLOCK DIAGRAM FOR OPTICAL VOICE LINK

Theory: Fiber Optic Link can be used for transmission of digital as well as analog signals. Basically fiber optic link contains three main elements, a transmitter, an optical fiber and a receiver. The transmitter module take the input signal in electrical form and then transform it into optical (light) energy containing the same information. The optical fiber is a medium which carries this energy to the receiver. At the receiver, light is converted back into electrical form with the same pattern as originally fed to the transmitter.

Procedure :

1. Connect the dynamic microphone provided with the kit to the socket marked MIC Input in the audio preamplifier section of kit 1.
2. Connector speakers provided with the kit to the socket marked speaker in the audio amplifier section of kit 2.
3. Now in the above experiment of simple analog link, remove the signal generator output from AMP Input post and supply MIC output from MIC Output post in kit 1.
4. Similarly connect output signal of photo detector from post detector output to the post audio output.
5. Adjust optical fiber control post P1 in kit 1 and voice control post P1 in kit 2 to setup fiber optic audio link

Result:

Conclusion