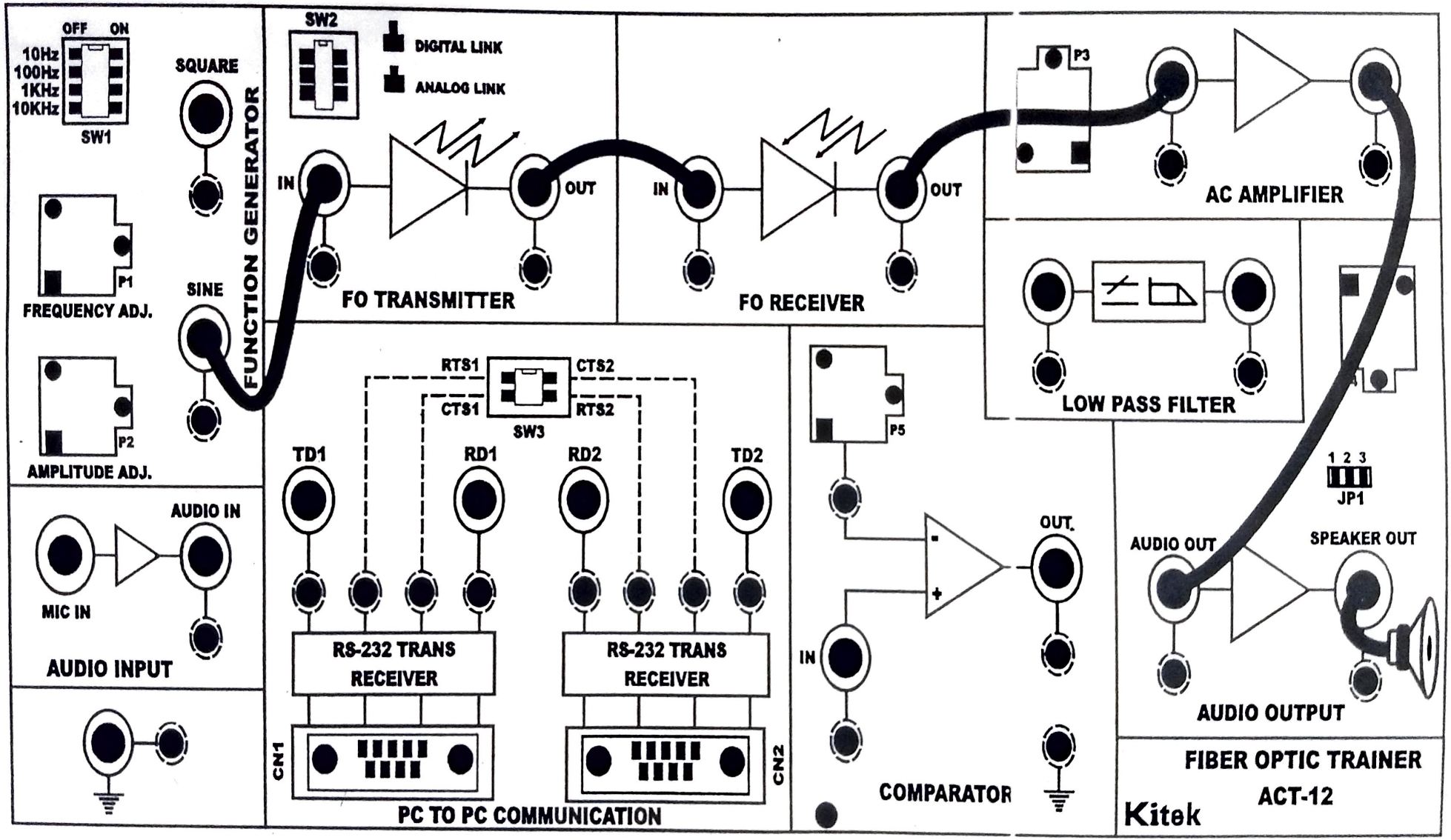
EXPERIMENT 8
SETTING UP OF FIBER VOICE LINK USING INTENSITY MODE

Objection :

The objective of this experiment is to study voice communication through fiber optic using amplitude modulation.

Procedure :

1. Connect the power supply to the board.
2. Make the following connections (as shown in diagram 14).
   a. Connect the FG output marked 1KHz sine wave to input if emitter.
   b. Plug in a 1 meter fiber optic link from output of emitter LED to the photo - transistor of the detector.
   c. Detector output (TP8) to input of amplifier TP18.
3. In the emitter block switch the mode select to analog.
4. Turn the 1KHz pot in function generator block to fully clockwise (maximum amplitude) position.
5. Switch ON the power supply.
6. With the help of dual trace oscilloscope observed the input signal at emitter (TP5). Also, observe the output from the detector. It should carry a smaller version of the original 1KHz sine wave, illustrating that the modulated light beam has been reconverted back into an electrical single.
7. The output from detector is further amplified by amplitude of the received signal, and also removes the DC component, which is present at detector output. Monitor the output of amplifier (TP19) and adjust the gain adjust pot until the monitored signal has same amplitude as that applied to emitter input (TP5).
8. While monitoring the output of amplifier TP19 change the amplitude of modulating sine wave by varying the 1KHz pot in the function generator block. Note that as expected, the amplitude of the output signal changes.
9. Disconnect the emitter input to 1KHz sine wave socket.
10. Make the following additional connections (as shown in diagram 14).
    a. Audio input block's input to microphone.
    b. Connect the output of audio input block to emitters input.
    c. AC Amplifier's output to input of audio block.
11. Switch ON the power supply.
12. Observe that same audio output is a available on the speaker as fed to the microphone.



FIBER OPTIC TRAINER