AN IMPEDANCE-MATCHING DEVICE FOR CASSETTE RECORDERS.

by William E. Elmendorf

At some time or other probably all lab directors have had a student bring a cassette recorder to the lab in the hope of copying a tape onto one of their cassettes. If the recorder had a high impedance auxiliary input, or if the lab was well-enough equipped, this posed no problem. However, if such was not the case, the resulting copy usually turned out rather badly.

The following circuit is offered in the hope that it may help those who may occasionally be faced with the problem of impedance mismatches between the output jack of whatever source is used for the master and the microphone input jack of a typical, inexpensive cassette recorder.

As can be seen, the circuit is very simple and can be assembled in a very short time by anyone handy with simple tools and a soldering iron. The unit can be built into almost any sort of housing—for example, a metal box used one brand of cough drops would make this a neat, compact unit. Pointer knobs could be used on the controls so that once the proper settings had been determined for any given recorded set-up, the case could be marked. Any type of jack can be used for input and output or, alternatively, the leads can be wired in by using one half of a mini-plug to mini-plug cable for input and the other half for output. In any event, the total cost should not exceed a few dollars.

\[ R_1 \text{ - at least } 100k \, \text{ohms.} \]

\[ R_2 \text{ - } 50 \, \text{k ohms.} \]

Hi - input from radio, phono, T.V., etc.

Lo - output to slave recorder

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In use this unit allows maximum flexibility for adjustments. The master tape recorder, T.V., radio, record player, etc.—is plugged into the HI side and the slave is plugged into LO. An earplug is inserted into the MONITOR jack of the slave. Then, using a space cassette and the slave on RECORD, the two controls are adjusted for satisfactory sound. When this point is reached, the space cassette can be replaced and the recording made in the usual manner.

If two machines are to be used together for a considerable period of time, it might be worthwhile to use the device described in this article to determine the optimum resistance values needed for these two machines. A simpler and less expensive version could then be made up using the closest resistance values of one-half watt fixed resistors in place of the more expensive potentiometers.

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