

# 2-LINE INTERCOM-CUM-TELEPHONE LINE CHANGEOVER CIRCUIT

The circuit presented here can be used for connecting two telephones in parallel and also as a 2-line intercom.

Usually a single telephone is connected to a telephone line. If another telephone is required at some distance, a parallel line is taken for connecting the other telephone. In this simple parallel line operation, the main problem is loss of privacy besides interference from the other phone. This problem is obviated in the circuit presented here.

Under normal condition, two telephones (telephone 1 and 2) can be used as intercom while telephone 3 is connected to the lines from exchange. In

changeover mode, exchange line is disconnected from telephone 3 and gets connected to telephone 2.

For operation in intercom mode, one has to just lift the handset of phone 1 and then press switch S1. As a result, buzzer PZ2 sounds. Simultaneously, the side tone is heard in the speaker of handset of phone 1. The person at phone 2 could then lift the handset and start conversation. Similar procedure is to be followed for initiation of the conversation from phone 2 using switch S2. In this mode of operation, a 3-pole, 2-way slide-switch S3 is to be used as shown in the figure.

In the changeover mode of operation,

switch S3 is used to changeover the telephone line for use by telephone 2. The switch is normally in the intercom mode and telephone 3 is connected to the exchange line. Before changing over the exchange line to telephone 2, the person at telephone 1 may inform the person at telephone 2 (in the intercom mode) that he is going to changeover the line for use by him (the person at telephone 2). As soon as changeover switch S3 is flipped to the other position, 12V supply is cut off and telephones 1 and 3 do not get any voltage or ring via the ring-tone-sensing unit.

Once switch S3 is flipped over for use of exchange line by the person at telephone 2, and the same (switch S3) is not

flipped back to normal position after a telephone call is over, the next telephone call via exchange lines will go to telephone 2 only and the ring-tone-sensing circuit will still work. This enables the person at phone 3 to know that a call has gone through. If the handset of telephone 3 is lifted, it is found to be dead. To make telephone 3 again active, switch S3 should be changed over to its normal position.

