

ADD-ON STEREO CHANNEL SELECTOR



The add-on circuit presented here is useful for stereo systems. This circuit has provision for connecting stereo outputs from four different sources/channels as inputs and only one of them is selected/ connected to the output at any one time.

When power supply is turned 'on', channel A (A2 and A1) is selected. If no audio is present in channel A, the circuit waits for some time and then selects the next channel (channel B). This search operation continues until it detects audio signal in one of the channels. The inter-channel wait or delay time can be adjusted with the help of preset VR1. If still longer time is needed, one may replace capacitor C1 with a capacitor of higher value.

Suppose channel A is connected to a tape recorder and channel B is connected to a radio receiver. If initially

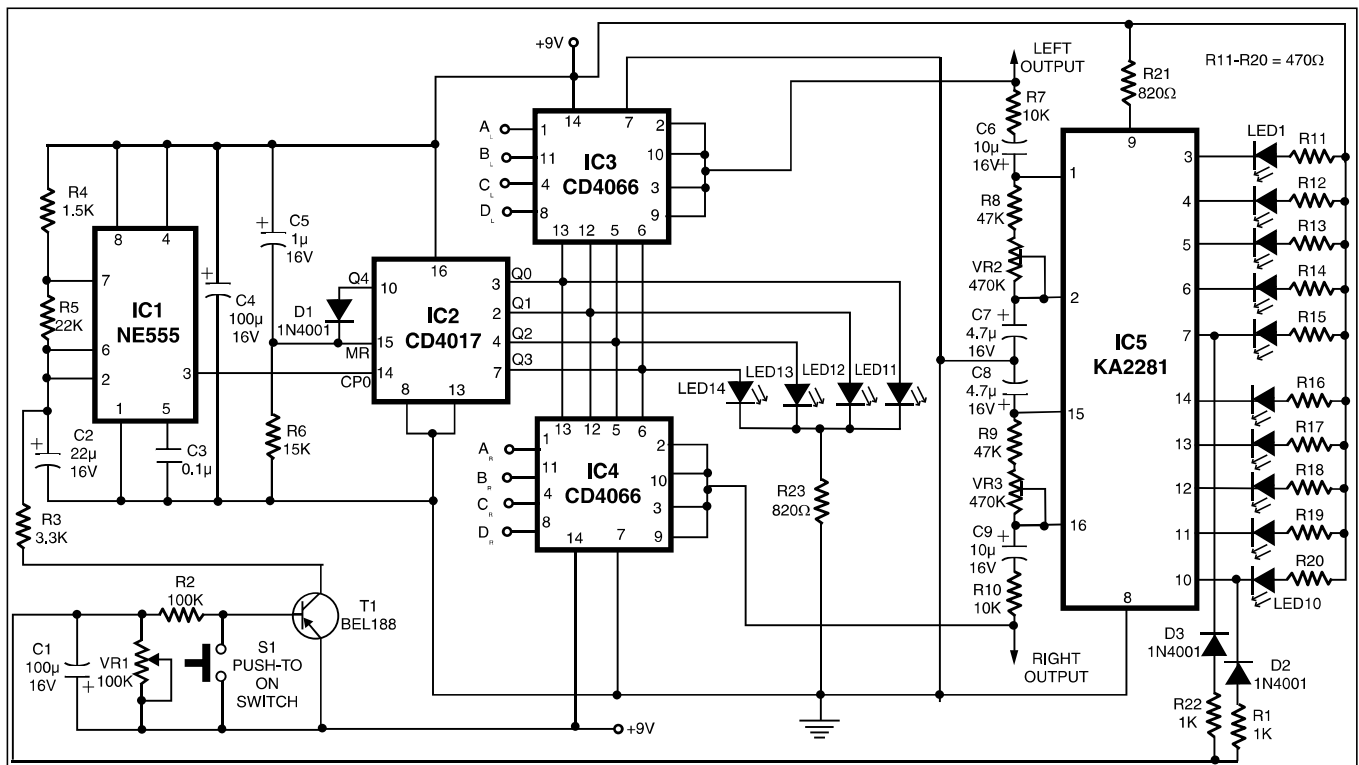
channel A is selected, the audio from the tape recorder will be present at the output. After the tape is played completely, or if there is sufficient pause between consecutive recordings, the circuit automatically switches over to the output from the radio receiver. To manually skip over from one (selected) active channel, simply push the skip switch (S1) momentarily once or more, until the desired channel inputs gets selected. The selected channel (A, B, C, or D) is indicated by the glowing of corresponding LED (LED11, LED12, LED13, or LED14 respectively).

IC CD4066 contains four analogue switches. These switches are connected to four separate channels. For stereo operation, two similar CD4066 ICs are used as shown in the circuit. These analogue switches are controlled by IC CD4017 outputs. CD4017 is a 10-bit ring

counter IC. Since only one of its outputs is high at any instant, only one switch will be closed at a time. IC CD4017 is configured as a 4-bit ring counter by connecting the fifth output Q4 (pin 10) to the reset pin. Capacitor C5 in conjunction with resistor R6 forms a power-on-reset circuit for IC2, so that on initial switching 'on' of the power supply, output Q0 (pin 3) is always 'high'. The clock signal to CD4017 is provided by IC1 (NE555) which acts as an astable multivibrator when transistor T1 is in cut-off state.

IC5 (KA2281) is used here for not only indicating the audio levels of the selected stereo channel, but also for forward biasing transistor T1. As soon as a specific threshold audio level is detected in a selected channel, pin 7 and/or pin 10 of IC5 goes 'low'. This low level is coupled to the base of transistor T1, through diode-resistor combination of D2-R1/D3-R22. As a result, transistor T1 conducts and causes output of IC1 to remain 'low' (disabled) as long as the selected channel output exceeds the preset audio threshold level.

Presets VR2 and VR3 have been included for adjustment of individual audio threshold levels of left stereo channels, as desired. Once the multivibrator action of IC1 is disabled, output of IC2 does not change further. Hence, search-



ing through the channels continues until it receives an audio signal exceeding the preset threshold value. The skip

switch S1 is used to skip a channel even if audio is present in the selected channel. The number of channels can be eas-

ily extended up to ten, by using additional 4066 ICs.