FUTURE KIT

HIGH QUALITY ELECTRONIC KITS

FUTURE KIT

VIDEO AMPLIFIER 1 TO 4 CH

CODE 655 LEVEL 2

This circuit may be used to amplifier the video signal. The circuit has a input and four outputs.

Specification:

- supply voltage : 12 VDC
- consumption : 150mA@Vin=2.5Vp-p,1kHz
- adjustable gain : approx. 1-4dB.
- input and output impedance : 75 ohms.
- dimension : 2.17 x 2.88 inches.

How it works:

The power supply is based on the availability of a dc source capable of supplying 12 volts at the required current. Diode D1 acts as a polarity reversal proection and three-pin voltage rerulator, IC1, steps down the input voltage to +9V for the operate from. Capacitor C1-C3 are power supply filter capacitor. The video signal is fed through VIDEO IN and capacitor C4 to transistors TR1 and TR2, which amplifier the video signal. With have VR1 is used to adjust the bias of TR1, and VR2 is used to adjust the gain of the video amplifier. A video amplifier is fed to the base of TR3-TR6, which increse the available driver current for each channel. After the signal is fed to VIDEO OUT for each channel.

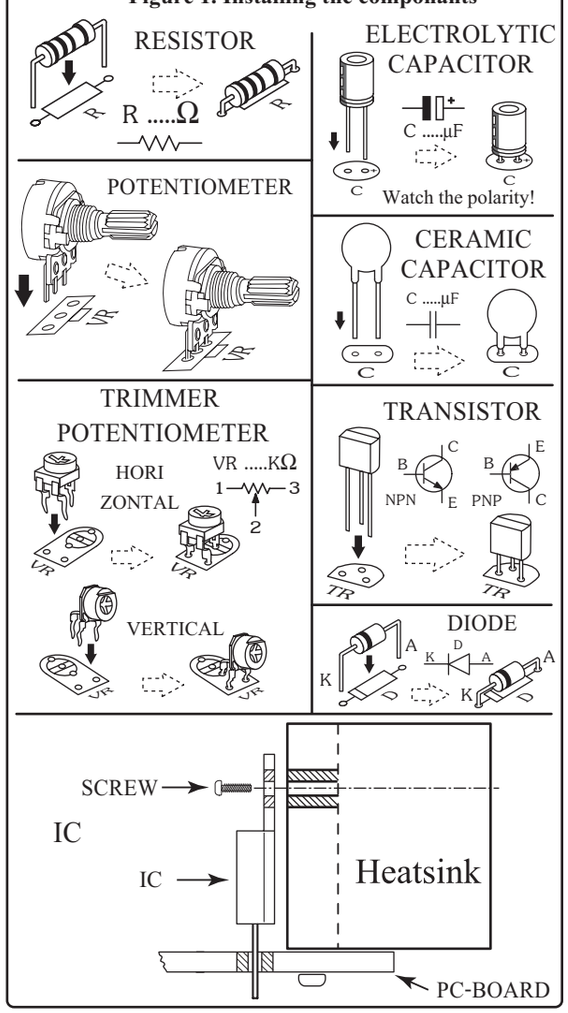
PCB assembly:

Shown in Figure 3 is the assembled PCB. Starting with the lowest height components first, taking care not to short any tracks or touch the edge connector with solder. Some tracks run under components, and care should be taken not to short out these tracks. If the pins will not enter the holes with ease, use a small drill to slightly enlarge the opening. All components with axial leads should be carefully bent to fit the position on the PCB and then soldered into place. Make sure that the electrolytic capacitors are inserted the correct way around. Some components are particularly sensitive to heat (ie: Transistors, IC's, diodes etc.) extra care must be taken to only apply the iron for as little time as possible, using a pair of pliers to grip the leads will help conduct heat away. Trim components leads with wire cutters to prevent excess lengths causing a short circuit. Now check that you really did mount them all the right way round!

Testing:

Connect the completed circuit as shown in Figure 3. Connect the circuit to the power supply 12 volts. Setup the system with VCR and television working. Adjust VR1 and VR2 until picture of television to clear.

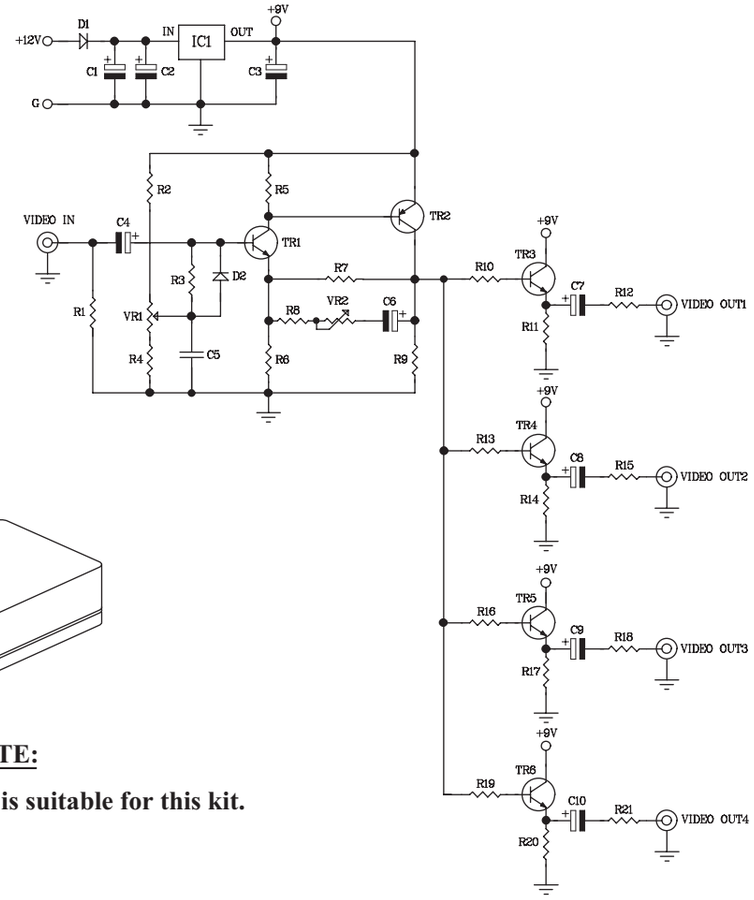
Figure 1. Installing the componants

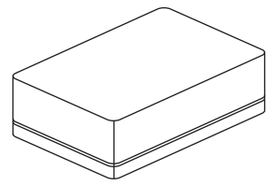


Troubleshooting:

The most problem like the fault soldering. Check all the soldering joint suspicious. If you discover the short track or the short soldering joint, re-solder at that point and check other the soldering joint. Check the position of all component on the PCB. See that there are no components missing or inserted in the wrong places. Make sure that all the polarised components have been soldered the right way round.

Figure 2.
The video amplifier
1 to 4 CH circuit





NOTE:

FUTURE BOX FB05 is suitable for this kit.

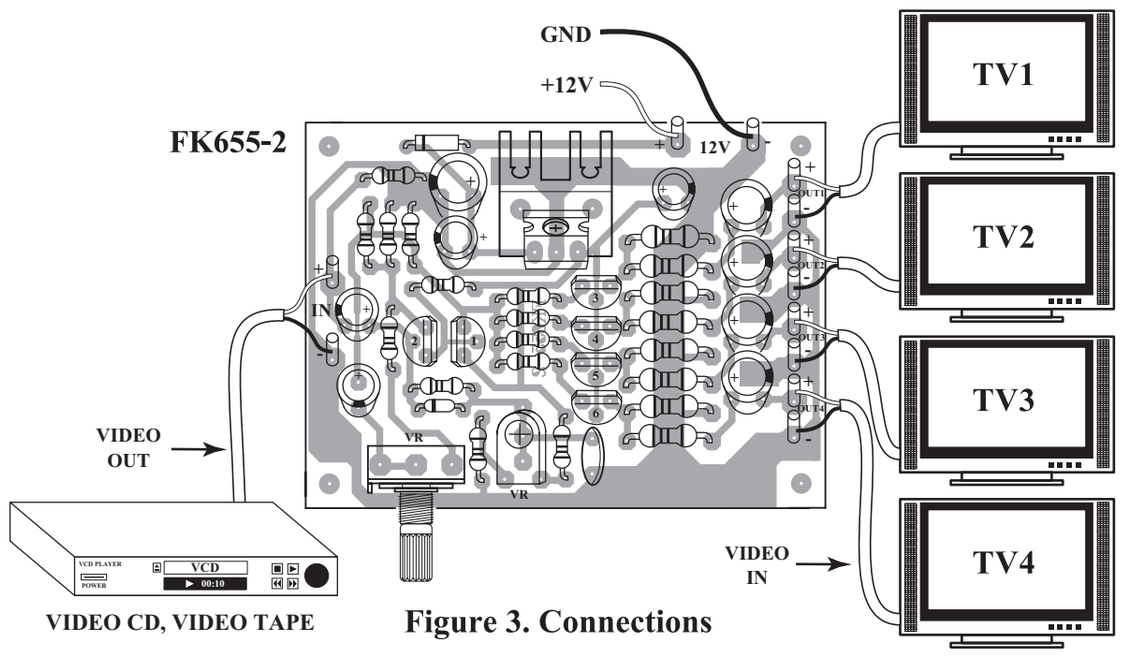


Figure 3. Connections