

REAR-VIEW MONITOR

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C MOS colour micro-cameras are readily available from component vendors at reasonable prices. Using such a camera (model FQY888C), you can make a rear-view monitor for your car as described here.

The circuit works off the DC sup-

and camera (see Figs 2 and 3) through the phono plug and phono socket.

When the car is moving forward, transistor T1 doesn't conduct and relay RL1 remains de-energised. As a result, external video from the car's AV system connects to the car's TV video input, allowing you to enjoy your favourite programmes. LED2 glows to

the master power-'on'/'off' switch (S1) of the car TV to enable the TV even if its indicator LED2 is switched off by the relay contacts. Power supply for the CMOS camera is provided by the car battery through IC1. LED3 raises the output voltage of IC1 to near 11.2V and indicates that the camera is working.

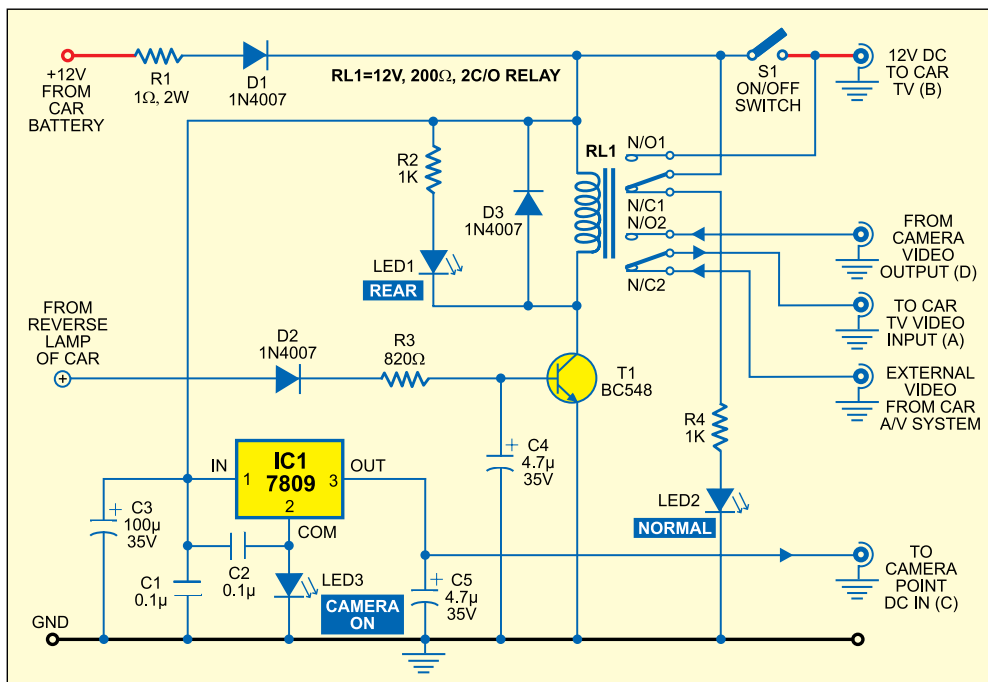


Fig. 1: Rear-view monitor

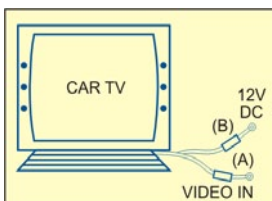


Fig. 2: Car TV

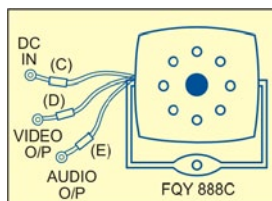


Fig. 3: Camera

ply directly available from the car's battery. Resistor R1 limits the inrush current and diode D1 protects against wrong polarity. Capacitors C1 and C3 act as the noise suppressor and reservoir filter, respectively.

Before connecting the circuit to the car battery and switching on the car TV, connect points A through E of Fig. 1 to the respective points of the car TV

indicate that the car TV is showing the external AV programme.

When reversing the car, the reverse-lamp supply is turned on as per the mechanical arrangement of the gear lever (not shown in the figure) and positive supply from the lamp terminal is fed to the base of relay-driver transistor T1 via diode D2 and resistor R3. As a result, relay RL1 energises and the video signal output from the camera connects to the car TV via normally-open contact N/O2 of relay RL1 and the TV starts showing rear view of the car.

N/O1 contacts of relay RL1 bypass

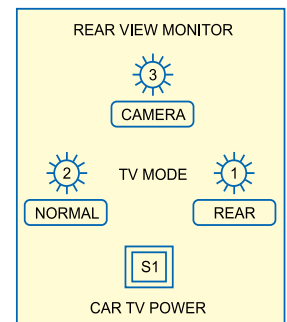


Fig. 4: Front layout of control panel

For safety, you can feed the camera supply through the third contacts of relay RL1 (not shown in the circuit) or use an 'on'/'off' switch between pin 1 of IC1 and the cathode of diode D1.

The circuit can be easily assembled on a medium-size veroboard.

You can make it compact by using a PCB-mountable relay. Fixing the camera in the car and focusing it need some patience.

The FQY 888C CMOS camera used here was procured from a component vendor called Eastern Enterprises, Chennai. Since it operates off 6 to 12V DC (120 MW), around 11.2V is applied to it. The camera has three leaded outputs: a yellow RC socket (marked 'D') for video output, a white RC socket (marked 'E') for audio output and a red RC socket (marked 'C') for DC supply. If you are using a different model, carefully study the product catalogue before final wiring. ●