

portion extending rearwardly therefrom. The tubular portion of members 55, 56, 57, 58, and 59 are disposed through holes 60, 61, 62, 63, and 64, respectively, from the front of mounting plate 10. For example, LED 32 is inserted into the back of member 55 and a closing ring 50 locks the tubular portion of member 55 around the LED. At the same time ring 50 and the button-like shoulder of member 55 cooperate to hold the assembly in place within opening 43. The same locking arrangement applies for LED's 33, 34, 35, and 36 and their respective mounting members.

The three female test jacks 37, 38, and 39 are mounted from the front side of the mounting plate by disposing their shafts through holes 65, 66, and 67, respectively, and are retained in position by respective nuts 68, 69, and 70.

The seven-segment assembly 26 is mounted behind an aperture 88 in plate 10 and includes a viewing plate 92 which is secured against the back surface of the mounting plate 10 by a pair of mounting blocks 94 and 96. The viewing plate fully covers the aperture 88 and is usually tinted to accentuate the display.

Disposed against the rear surface of blocks 94 and 96 is a narrow printed circuit (PC) board 100 which supports three seven-segment devices 102 which are held in alignment with view plate 92 and aperture 88. Leads of the seven-segment devices extend through the printed circuit board to contact traces formed thereupon. The leads are soldered to the traces and are thereby electrically connected to wire wrap terminal pins 104.

The entire seven-segment assembly is held together by a pair of bolts 106 and 108 which extend through corresponding apertures in the mounting plate, mounting blocks and PC board 100. Suitable washers, lock washers and nuts are disposed over the ends of the respective bolts and tightened thereupon to rigidly bolt the seven-segment assembly both together and to plate 10.

Attached to the standoffs 12 are terminal boards 13 and 15, the former being strictly a holder of interconnect pins and the latter being a small printed circuit board carrying a plurality of biasing or other functional circuit elements. The construction of these boards can best be seen in FIGS. 3 and 4 which is an exploded rear perspective view of the arrangement.

Terminal board 13 contains three rows of terminal pins 122 which pass through and extend outwardly on both sides of the board. The three rows of pins are aligned vertically along the board. The board 15 contains two rows of terminal pins 123 which pass through and extend outwardly on only one side of the board. On the opposite side, a plurality of resistors R are connected to various ones of the pins 123 by means of printed circuit traces. In this embodiment, the circuit traces are formed along both sides of board 15 in order to connect the resistive elements to the terminal pins in a predetermined manner.

The standoff members 124 are tubular in shape and made of an insulating material such as a phenolic resin. Formed on both sides of each standoff member 124 are holes 125 and 126. In this embodiment, screws 127 and 128 are disposed through holes 129 and 130, respectively, in terminal board 13; and, holes 131 and 132 in standoff members 12 to threadably engage the holes 126 in the tubular standoff 124 and firmly secure them against one side of standoff member 12. In this way, the ends of terminal board 13 are securely mounted to the sides of standoff members 12.

Likewise, bolts 133 and 134 are disposed through holes 135 and 136, respectively, in PC board 15 to threadably engage the holes 125 and thereby secure the board 15 to the other ends of the tubular standoff members 124. Board 15 is thereby separated from standoff member 12 by the length of the tubular standoff members 124 and as previously described, the entire arrangement is attached to the back surface of the component mounting plate 10.

In this embodiment all indicator and control component leads are wired either directly to the pins 122 on one side of terminal board 13, or thereto via one of the circuits of board 15. This means that in connecting the electrical device to a PC card all connection between the board and the device can be made directly to the other ends of pins 122. This reduces installation time, provides more orderly manner of corrections, and reduces the likelihood of error.

Although the invention has been described in the terms of a preferred embodiment, it is contemplated that various alterations and modifications will become apparent to those skilled in the art after having read the preceding detailed description. For example, the mounting plates described could be formed of an inexpensive molded plastic instead of aluminum. Moreover, the apertures formed in the mounting plate can assume an almost infinite variety of patterns and shapes. Likewise, the resistive or other components may be arranged differently and be of an almost infinite variety of values chosen to suit a particular set of applications. It is therefore intended that the appended claims be interpreted to include all such alterations and modifications as fall within the true spirit and scope of my invention.

What is claimed is:

1. An indicator and control device for PC boards and the like comprising:

an elongated generally rectangular component mounting plate having a front surface, a rear surface and a longitudinal axis, said plate being provided with at least one elongated aperture lying parallel to and laterally offset from said longitudinal axis, and at least one other aperture;

an elongated indicator means affixed to said rear surface so as to be viewable through said elongated aperture;

a manually operable electrical component mounted within said other aperture;

a pair of insulating standoff members disposed along said longitudinal axis and provided with slots for receiving an edge of a circuit board;

means attaching said standoff members to the rear surface of said mounting plate,

a first terminal board attached to one side of said standoff members and having biasing elements mounted thereon;

a second terminal board attached to the opposite side of said standoff members; and

means for electrically interconnecting said indicator means, said electrical component, the biasing elements of said first terminal board and said second board, whereby said indicator and control device may be attached to a PC board by lodging an edge thereof within the slots of said standoff members, and may be electrically connected thereto by wiring said second terminal board to the electrical circuits of said PC board.

2. An indicator and control device as recited in claim 1 wherein said second terminal board includes a plural-