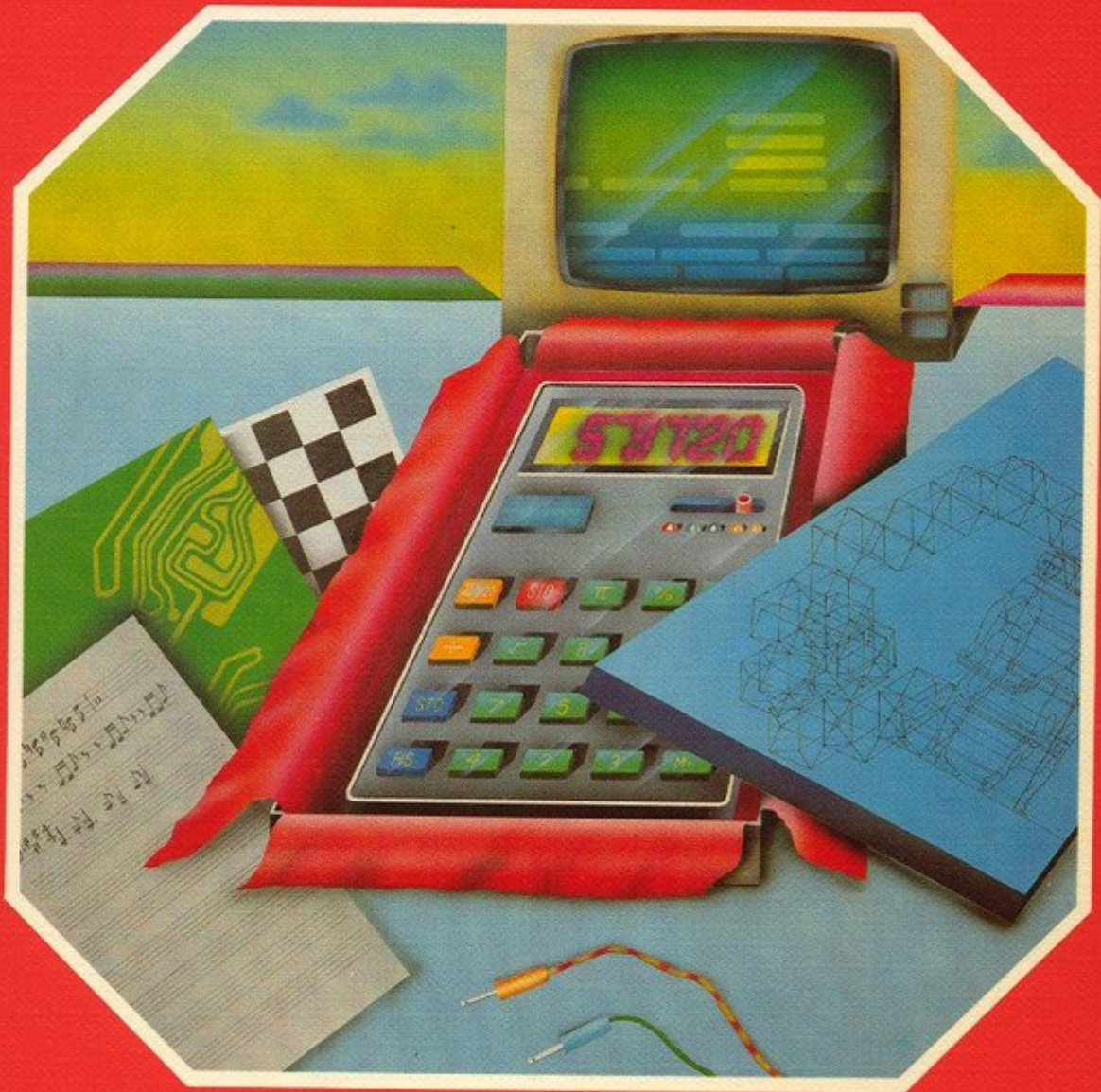DM 24.–

Taschenrechner

Erweiterungen im Selbstbau, Wissen, Programmierung, Programme.

English translation

Mit mehr als 30 interessanten Bauanleitungen

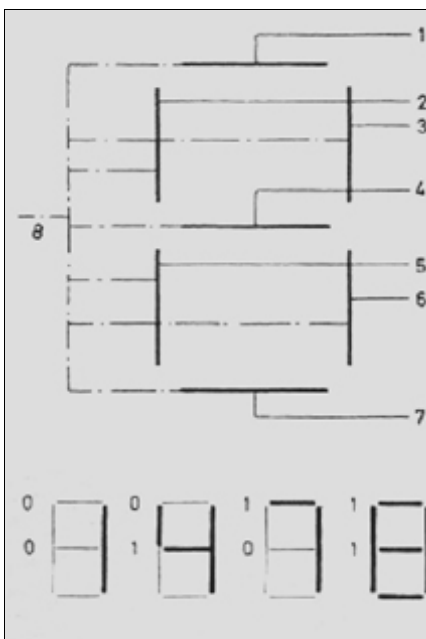# Switching interface for TI-59, TI-58, TI-57

Many good building instructions for a switching interface have already been published in CHIP. Why build another one? I was looking for a circuit that would make it possible to control multiple channels. The display of the computer as an interface is very suitable for this.

A 7-segment display is simple. If, for example, lines 1 and 8 are activated, the top segment lights up. Conversely: If the top segment lights up, a voltage can be tapped at 1 and 8.

This voltage is now amplified and switches a relay. The numbers 0 to 9 can appear in the display. Let us consider the upper and middle horizontal segment. The numbers 1, 4, 7, 8 are enough to fully control two channels. The TI-58, TI-59 models have ten digits. So 20 channels can be controlled. But there are problems:

- The costs for 20 channels and the workload would be high.
- 22 lines must be led outside by the researcher.
- In extreme cases, 20 relays must be switched through.

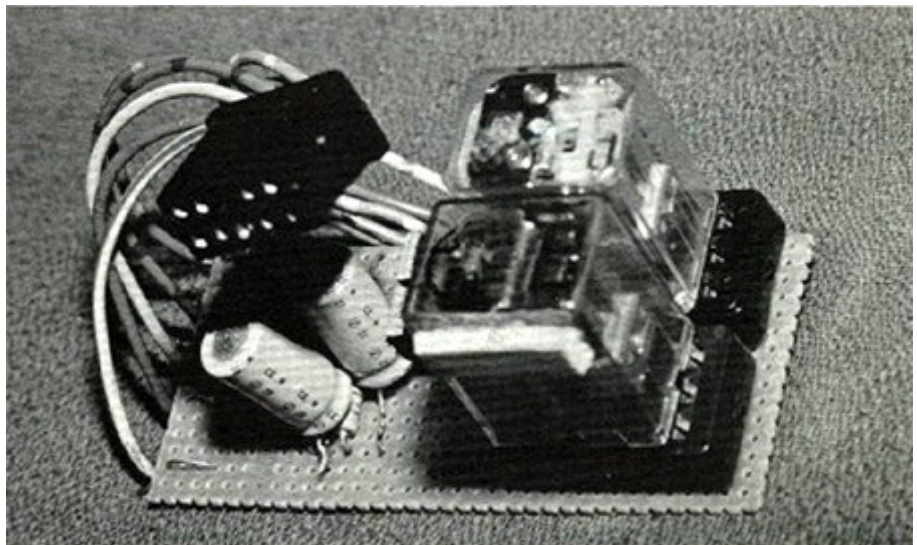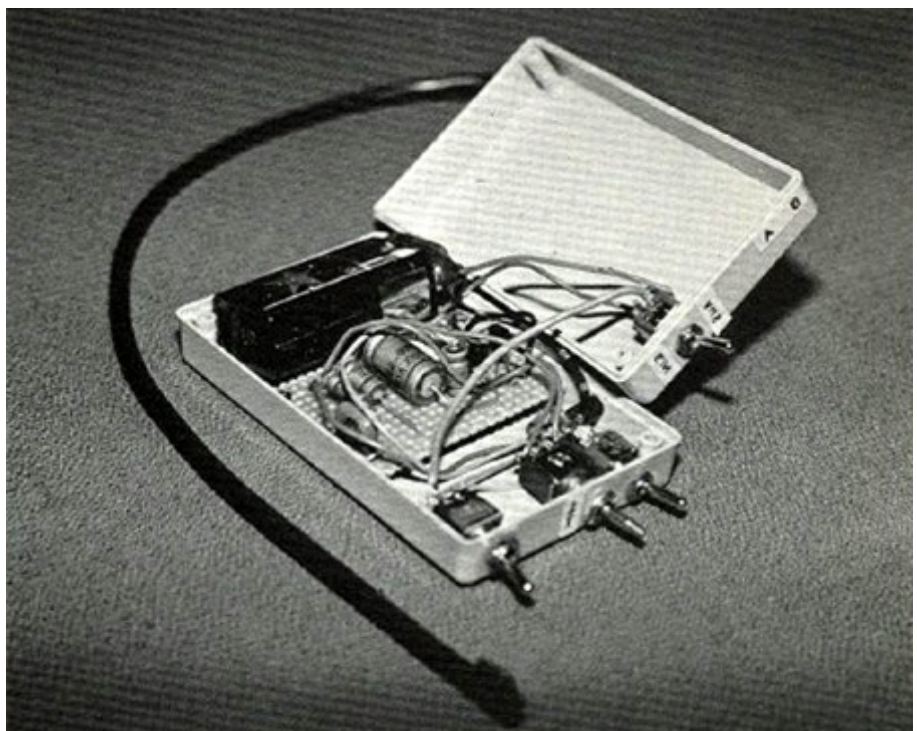So I decided to expand only two channels first.

The circuit

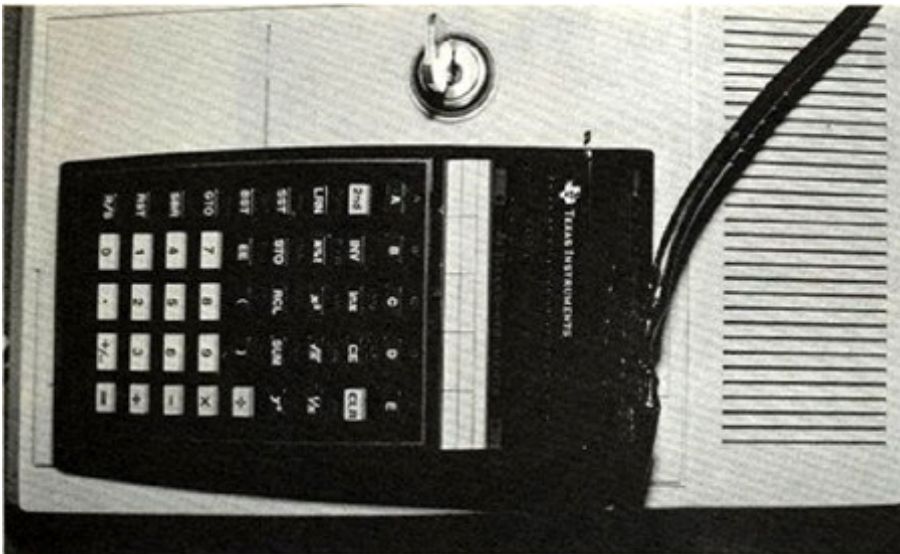The circuit diagram is very simple and can also be set up by computer fans who have little electronics experience.

Experimental setup of the switching interface with 2 relays

Open housing with battery for the switch interface

Segment structure and control

The calculator on the printer.
The cable on the computer is the connection to the switching interface.

General view of the system with pocket calculator, printer and switching interface with connecting cables.
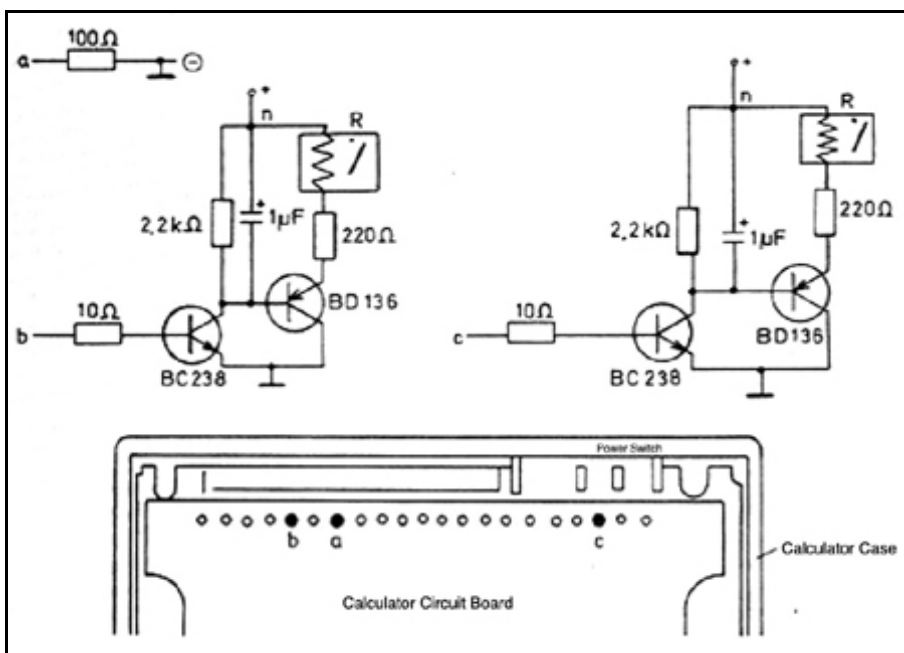
The circuit diagram shows the relatively simple structure for the switching interface.
The computer board shows the connections for the interface.

External flag for TI-58/59

Which TI-59 player nature has not already looked enviously at the joysticks of the TV computers with which one can influence the game without having to press around on a keyboard? This is now possible with little effort for TI-59 owners!

In principle it looks like this:

A multivibrator continuously presses the A or B key, depending on whether the joystick is held on the left or right.

For example, you have the following program:

LBL A
 + 1 = R / S
LBL B
 - 1 = R / S

the computer counts up or down depending on the master's will.

Here is a typical program for this interface:

A Mars Landing (TI-59)

You sit in the spaceship and have the task of landing on the Mars soil, from which you are 2000 m away. You can see their position on the monitor (printer strip).

The Mars soil is on the left edge.

You can regulate the speed with the joystick.

Have fun! It's not easy!

It starts with C. For the plug connection, plugs were chosen that are also common in model aircraft construction, in remote control reception systems.
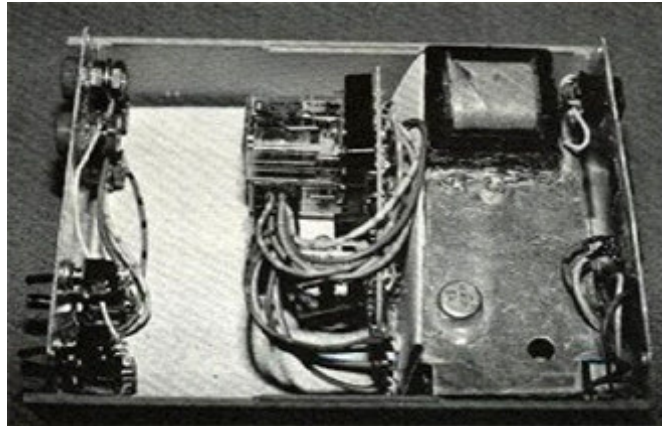
Open housing for the additional device.

Open calculator from the back of the computer board.
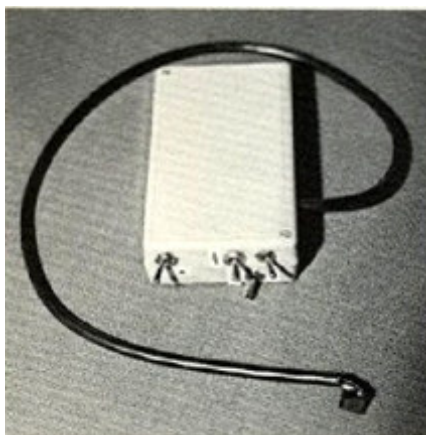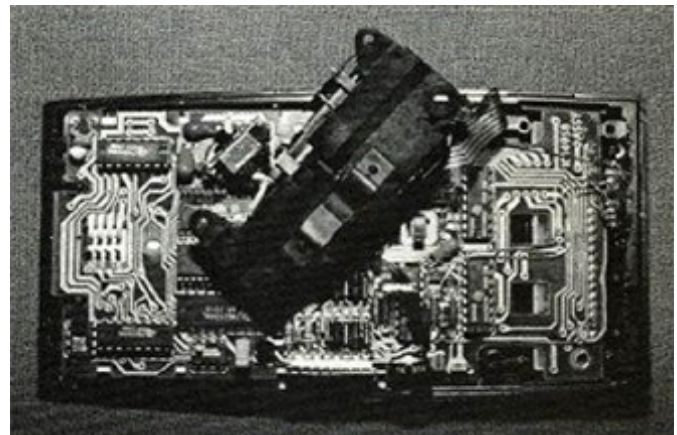
Additional device for the expansion of the calculator TI-58/59.
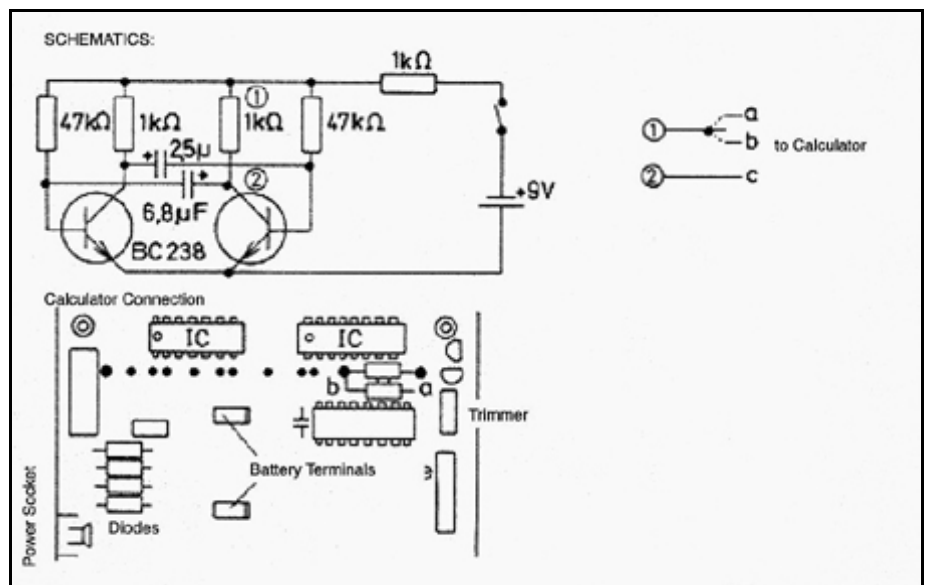
Circuit of the additional device with the connection designations in the calculator. Use only a very small soldering iron!

```
000  76 LBL      035  00  0       070  42 STO      105  54  54
001  11  A       036  00  0       071  00  00      106  69 OP
002  93  .       037  95  =       072  25 CLR      107  03  03
003  05  5       038  91 R/S      073  03  3       108  69 OP
004  44 SUM      039  43 RCL      074  66 PAU      109  05  05
005  00  00      040  00  00      075  99 PRT      110  61 GTO
006  61 GTO      041  67 EQ       076  25 CLR      111  34 ΓX
007  00  00      042  23 LNX      077  02  2       112  76 LBL
008  16  16      043  91 R/S      078  66 PAU      113  35 1/X
009  76 LBL      044  76 LBL      079  99 PRT      114  43 RCL
010  12  B       045  13  C       080  25 CLR      115  53  53
011  93  .       046  69 OP       081  01  1       116  69 OP
012  05  5       047  00  00      082  66 PAU      117  01  01
013  22 INV      048  43 RCL      083  99 PRT      118  43 RCL
014  44 SUM      049  59  59      084  69 OP       119  52  52
015  00  00      050  69 OP       085  00  00      120  69 OP
016  43 RCL      051  01  01      086  43 RCL      121  02  02
017  00  00      052  43 RCL      087  50  50      122  43 RCL
018  44 SUM      053  58  58      088  69 OP       123  51  51
019  01  01      054  69 OP       089  03  03      124  69 OP
020  43 RCL      055  02  02      090  69 OP       125  03  03
021  01  01      056  43 RCL      091  05  05      126  69 OP
022  69 OP       057  57  57      092  25 CLR      127  05  05
023  07  07      058  69 OP       093  91 R/S      128  61 GTO
024  25 CLR      059  03  03      094  76 LBL      129  34 ΓX
025  43 RCL      060  69 OP       095  23 LNX
026  01  01      061  05  05      096  43 RCL
027  22 INV      062  76 LBL      097  56  56
028  77 GE       063  34 ΓX       098  69 OP
029  35 1/X      064  02  2       099  01  01
030  67 EQ       065  00  0       100  43 RCL
031  00  00      066  42 STO      101  55  55
032  39  39      067  01  01      102  69 OP
033  65  ×       068  01  Þ       103  02  02
034  01  1       069  94 +/-      104  43 RCL
```

```
2232007300.      50
3122000000.      51
2713311641.      52
1435411523.      53
1641312200.      54
1700271331.      55
4317241523.      56
1724310073.      57
2113151700.      58
2431371735.      59
```

Program for a Mars landing with the TI-59 calculator