

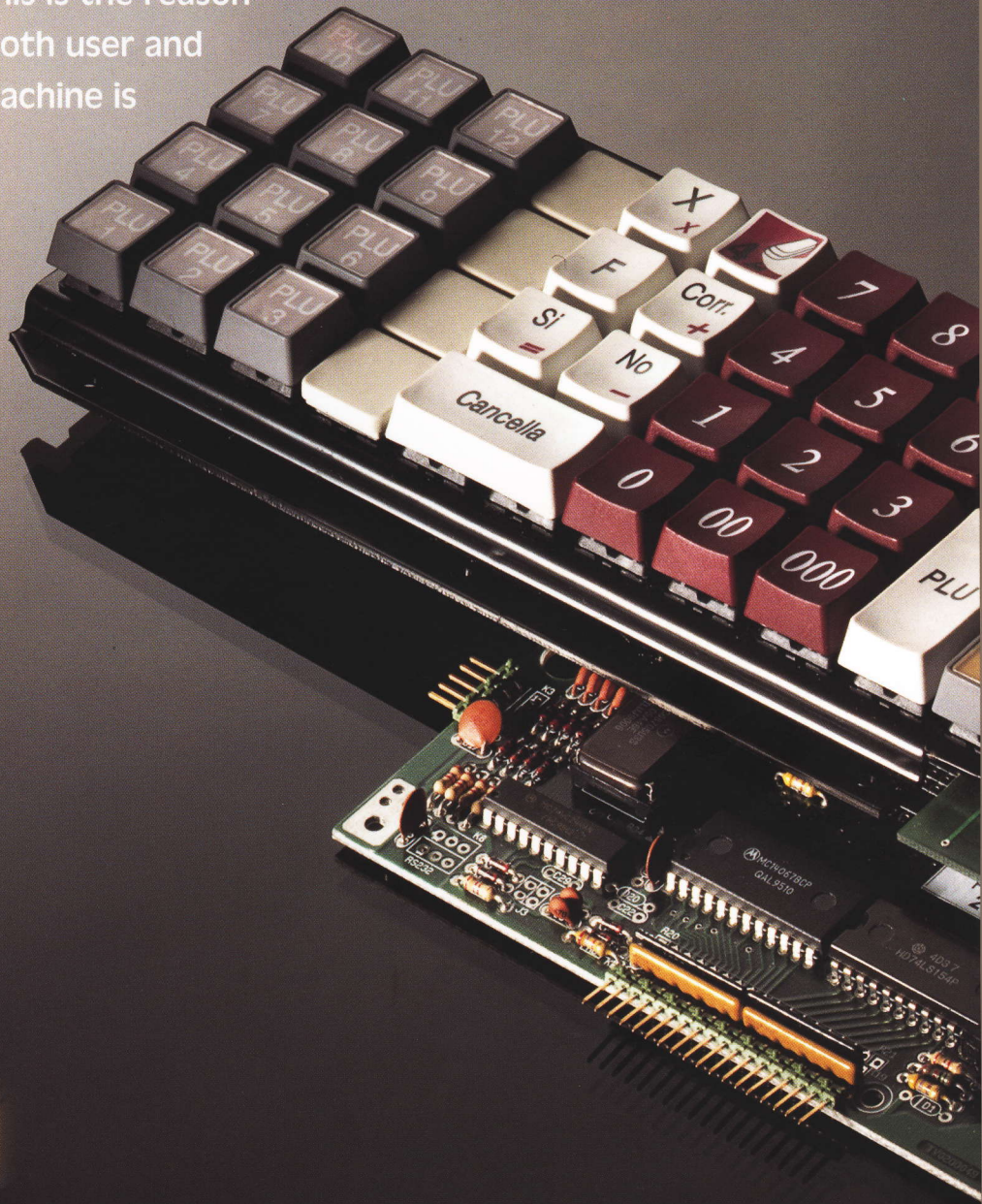
**TIP** **PRO**  
*keyboards*





# CUSTOMIZED

A keyboard is the interface between human and machine; what was once so distant and incomprehensible, but today it is most useful, even indispensable. Of all the peripheral equipment, it is the keyboard in particular, that is the most important part, and has done a lot to bring man and machine together. This is the reason why it had to be adapted to both user and machine. It's adjustment to machine is almost perfect. However, it's adaptation to man is only at the very beginning. The keyboard of the future will be an interdisciplinary product of modern industrial design, as well as of psychology, work study, ergonomics, and medicine...

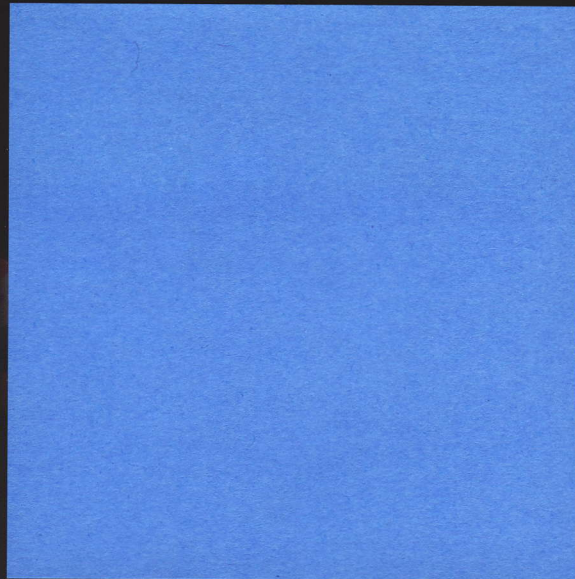
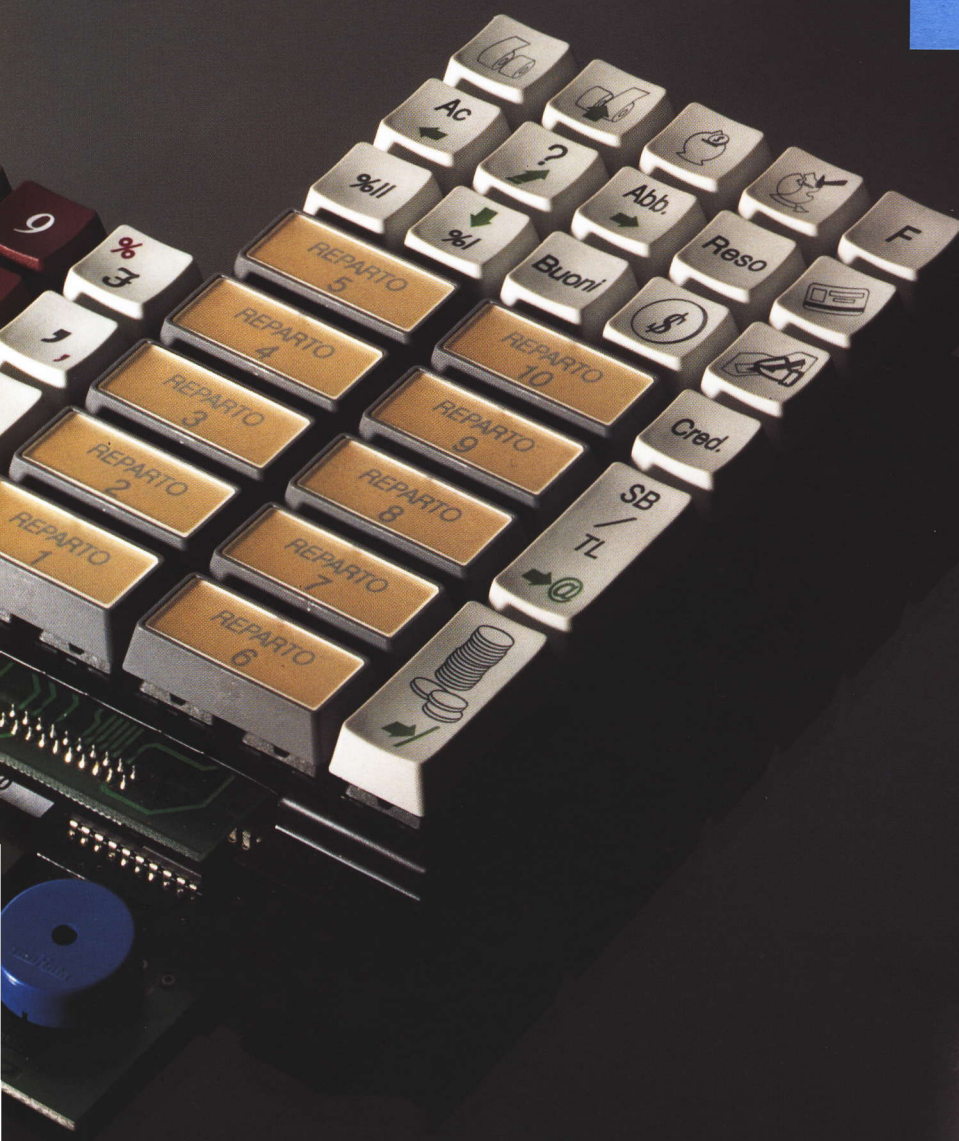


## keycaps, keyswitches, printing

- keycaps for keyswitches with 2,5 and 4 mm travel, grid spacing 16 and 19,05 mm
- keycaps for keyswitches with "click-effect" with travel from 0,3 to 0,8 mm, grid spacing 16 and 19,05 mm
- different types of keycaps : single, double and quadruple in different colors
- printing of signs: sublimation or printing with two-component colors
- sign selection: from a wide range of existing signs or upon request



# KEYBOARDS

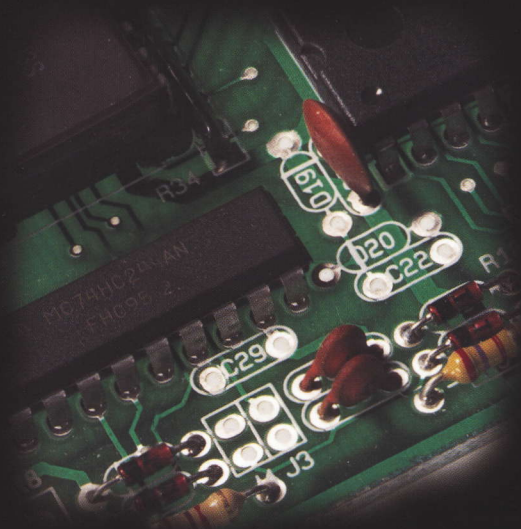


## keyswitches:

- with travel 4 mm, linear or "click-effect": MX (Cherry)
- with travel 2,5 mm: ML (Cherry)
- with travel 0,8 mm: Racon 12 (Rafi), IP 65 protected
- with travel 0,5 mm: RF15 or RF19 (Rafi)
- with travel 0,3 mm: B3F (Omron)

## Electronic control:

- communication interface for PC XT and AT, PS/2, RS232, RS485 or customized
- customized or programmable code page
- data acquisition from magnetic or bar-code readers
- installation of additional LED indicators, LCD display, electric keylock, track ball, touch pad ...
- design for industrial applications, watchdog timer






## T16X family

built in keyswitch:  
switchings, grid sp

**T162:** 252 keyswitches, dim

**Custom**



Programmable keyboards can be adapted to user's specific demands either by form and function or by selection of codes. The matrix arrangement enables combining of keyswitches by using single, double or quadruple keycaps. Available are keycaps in wide range of colors and also keycaps with transparent covers which enables the user to position his own legends underneath and easily change them later.

All models are made for personal computers and have possibility to work in parallel with additional keyboard. Programmable keyboards are available in one or two layer version - each key can be programmed with one or two strings of codes.

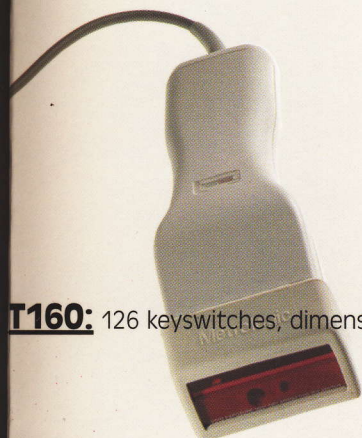
Various models of our programmable keyboards are equipped with magnetic card and bar-code readers. Custom modifications can be made with installation of LED indicators, LCD display, electric keylock, adaptation of the communication protocol, print of keycaps with optional signs ...



# PROGRAMMABLE KEYBOARDS

MX Cherry, 4 mm travel, operating life min. 50 million  
spacing 19,05 mm, operating force 60 cN

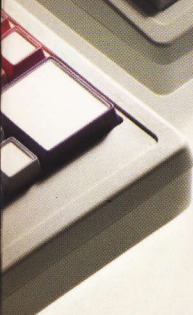
dimension 580x220x42 mm, weight 2710 g



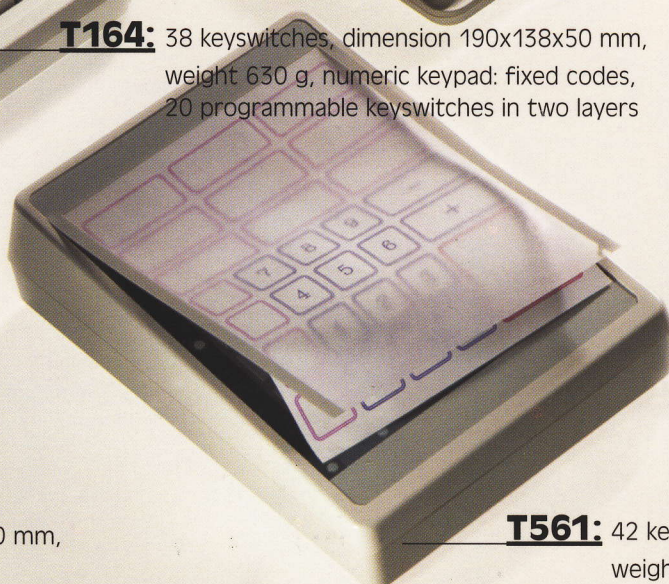
**T160:** 126 keyswitches, dimension 370x185x42 mm, weight 1450 g



**T163:** 60 keyswitches,  
dimension 270x150x40 mm,  
weight 1020 g



**T161:** 42 keyswitches,  
dimension 138x190x60 mm,  
weight 780 g



**T164:** 38 keyswitches, dimension 190x138x50 mm,  
weight 630 g, numeric keypad: fixed codes,  
20 programmable keyswitches in two layers



**T560:** 119 keyswitches,  
dimension 370x185x38 mm,  
weight 1300 g,  
grid spacing 19,05 mm

## **T56X family:**

built in keyswitch: B3F Omron,  
0,3 mm travel, operating life min.  
300.000 switchings,  
operating force 260 cN

**T561:** 42 keyswitches, dimension 138x190x50 mm,  
weight 720 g, grid spacing 18 mm



# KEYBOARDS FOR INDUSTRIAL APPLICATIONS

**T745-M:** dimension 19"x1HEx353 mm, weight 4110 g, full travel keyswitches MX (Cherry)

**T745-B:** dimension 19"x1HEx353 mm, weight 4380 g, IP 65 protection (front side only)

**T541:** dimension 490x240x40 mm, weight 1600 g, IP65 protection

**T645:** dimension 95TEx4H, weight 1400 g, IP65 (front side only)

**T545:** dimension, weight 12, (front side)

A keyboard family designed for industrial environment includes desktop, built-in and drawer version.

All keyboards contain high-quality mechanical keyswitches (click-effect) covered by a protective and decorative polyester membrane which protects the keyswitches from dust and liquids.

All control units include CMOS circuits and watch-dog timer.

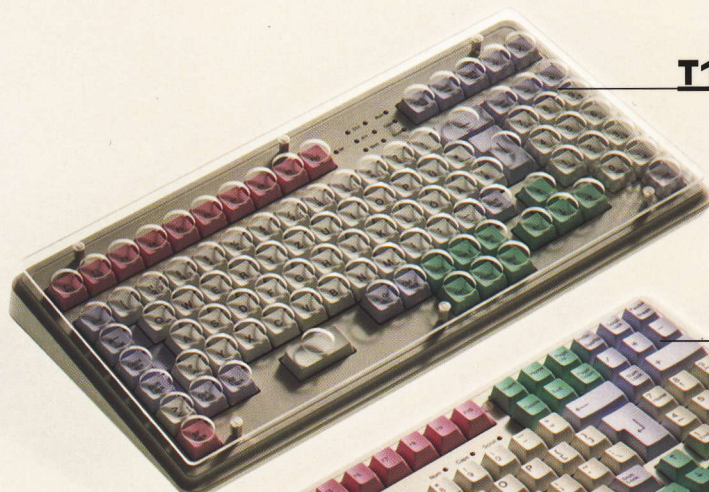
All models are made for personal computers and have 101/102 keyswitches B3F Omron with 0,3 mm travel, operating life 300.000 switchings, operating force 260 cN. Temperature range for all models is from 0 to 70 °C.

CUS



# ADAPTED KEYBOARDS

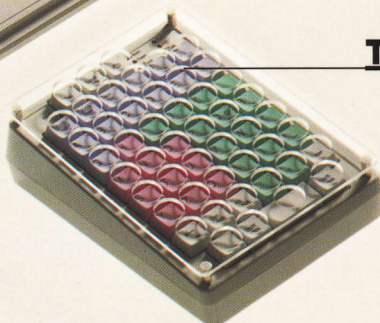
## FOR PERSONS WITH HANDICAPPED MOTOR ACTIVITY OF HANDS



**T170:** dimension 370x185x50 mm, weight 1330 g, possibility of parallel connection of PC keyboard



**T175:** dimension 370x185x45 mm, weight 1160 g, without plexiglas mask



**T172:** dimension 138x190x52 mm, weight 690 g, possibility of parallel connection of PC keyboard, reduced number of keyswitches

protection

370x185x38 mm,  
0 g, IP65 protection  
(only)

om:

This special family of keyboards for personal computers differs from conventional ones in the following features:

- fully supports typing with only one finger because of the built-in electronic functions (CTRL, ALT and SHIFT LOCK with LED indicators)
- autorepeat speed setting, delay after which autorepeat function starts, sound signal at the activation of a CTRL and ALT LOCK functions or at activation of any keyswitch
- plexiglas mask which provides a support for the hand and at the same time prevents an uncontrolled activation of keyswitches

All keyboards have built-in keyswitches MX Cherry with "click-effect", travel 4 mm, operating life min. 50 million switchings, grid spacing 19,05 mm, operating force 50 cN

