CHERRY

G 80-2000

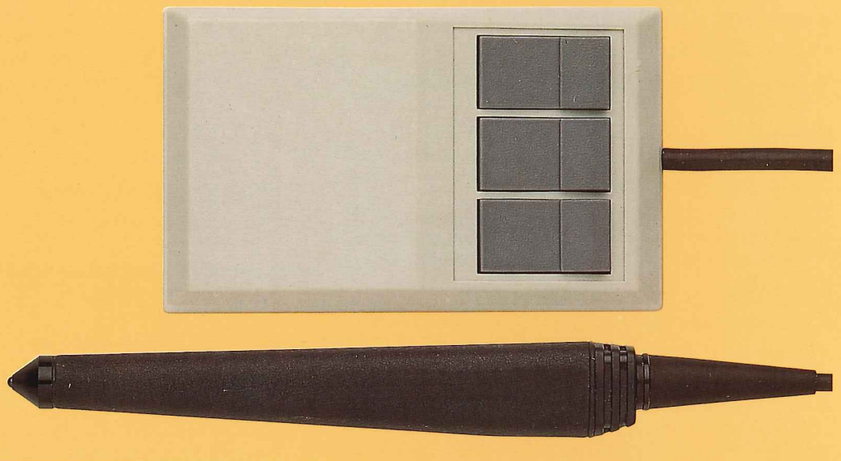
IBM*-compatible multi-option Keyboard. With integrated Card Reader. Bar Code Reader and Mouse connecting Facilities optional. Operator Guidance through LC-Display. 24 freely programmable Function Keys. For PC, XT, AT and PS/2 Systems.

* IBM is the registered trademark of the International Business Machines Corporation.

Printed on special bio-degradable paper.

Main Advantages

- 122 or 123 keys, of which 12 are freely programmable.
- Keyboard uses proven operating system CKOS (Cherry Keyboard Operating System).
- All selected parameters are stored and retained after switching off. (Storage time: typically 10 years).
- Cherry MX keys with »Gold Crosspoint« Contacts.
- Precision contacts eliminate input errors.
- Reliability: MCBF = 1×10^9 operations.
  MTBF ≥ 20.000 hours.
- Life of each keymodule > 50×10^6 operations.
- Functional housing with 2 m long, shielded and coiled cable, 5 pole DIN and 25 pole SUB-D-plug.
- Mechanically strong construction.
- Fatigue-free operation with no risk of multiple actuation, achieved by means of ergonomic cylindrical key set.
- "Deep Dish" for homekeys F and J and dimple on key 5 of numeric pad assure easy location of fingers when touch-typing.
- 2-shot moulded matt keycaps are non-reflecting, wear resistant and easy to clean.
- Keycaps in light body colour with darker legends (beige-gray, white-gray).
- Materials conforming to UL 94.



CHERRY

G80-2000

" compatible Keyboard.
ler, Barcode Reader and
Mouse Options.
mmable Function Keys.
C, XT, and AT Systems.

Important Features

Programming Mode

- Programming in off-line mode, i. e. no transmission to system.
- Menu.
- Operator guidance through LC-Display (2 lines with 16 characters each).
- Each of the 12 function keys may be programmed with 24 byte strings, of which 12 can be used in unshift-mode; all others in shift-mode. String length is 80 characters.
- Programming via Cherry key and cursor pad.
- Individual selection of options.

Approvals/Regulations

- Electro Magnetic Compatibility (EMC):
  – ESD (in compliance with IEC 801-2) 15 kV
  – RFI/EMI: Post-Vfg. 1046/1984 (VDE 0871 Class B).
  FCC Part 15, Subpart J, Class B
  CISPR 22/EN 55022
- Safety: DIN VDE 0805/05.90
  EN 60950: 1988
  IEC 950: 1986
  UL 478, fifth edition
  CSA C 22.2 No. 220-M1986

FCC Part 15 Subpart J Class B	Post Vfg. 1046/1984 (VDE 0871, Klasse B)	CISPR22 EN 55022

- Ergonomics: ZH 1/618

Typical Applications

- Word processing: programmable function keys make it possible to save copy which is retained even after POWER OFF typically 10 years.
- Data input via bar code and magnetic card readers: manual data input is no longer necessary as data is being entered automatically through magnetic card or bar code.
- Design and graphics applications: mouse supports Microsoft*-window technique and facilitates easier use through guidance via monitor.

Electrical Data

Power supply:
+ 5 V/DC ± 5 %, current input, typical 300 mA.

Keyboard interface: bi-directional, synchronous serially. The keyboard communicates with the system via the clock and data line.

Data format: Data transfer to and from the keyboard takes place in IBM* synchronous or in asynchronous format.

IBM*-format: – AT mode: idle state:
"Data & Clock" high.
– PC mode: idle state:
"Data" low, "Clock" high.
– Data output: open collector TTL.

RS 485/422 Interface: asynchronous format with 300 baud. The PC/XT codes are transmitted from here.

Data storage: all codes are being stored prior to output.

Keyboard input sequences: N-key-rollover.

Keyclick: an audible signal is generated when a key is depressed.

Codes: each key produces a code on opening and closing.
IBM* formates:
a) AT mode:
Make Code, Break Code = Code FOH + Make Code.
b) PC code:
Make Code, Break Code = Make Code + 80 H.

Autorepeat function:
All keys have an autorepeat function. Delay time and repeat frequency may be changed through the system (PC mode fixed; 10 Hz after 500 ms delay).
Status display for NUM LOCK, CAPS LOCK and SCROLL LOCK through integrated LEDs in keycaps.

Power ON reset:
The keyboard generates an automatic power ON reset.

Keyboard self-diagnostic test:
The keyboard performs a self-diagnostic test after power ON and upon request from the system.
After successful completion of the test the keyboard transmits the code AA Hex. Any other code is interpreted as a failure.

Temperature ranges:
Storage temperature: –40° C (–40° F) to +65° C (+149° F).
Operating temperature: 0° C (+32° F) to +50° C (+122° F).

Integrated Devices

Bar Code reading Unit:

Codes: – code 39 standard of full ASCII.
– code 2 of 5 interleaved.
– code 128.
– Codabar.
– UPC/EAN/JAN codes.

- Codes are being differentiated automatically during reading.
- Individual codes may be locked.
- A maximum of 32 characters may be read (not counting start and stop).
- Checksumm for code 39 and 2 of 5 with or without checksumm transmission.
- UPC/EAN/JAN codes with 2 or 5 supplementary digits
- Codabar: with or without start/stop characters.
- Buzzer signal after completion of operation.
  Signal time adjustable from 10 ms to 1.28 secs.
- Freely programmable header or terminator with 80 characters each.
- Barcode readers for various resolutions (accessories).

Serial asynchronous Interface:

- TTL (open collector).
- RS 232 (V 24).
- Bi-directional.
- With RTS and CTS handshake.
- Full duplex.
- Baud rates: 150, 300, 600, 1200, 2400, 4800, 9600, 19200.
- with or without parity.
- 7 or 8 data bits with 1 or 2 stop bits.
- Parity even/odd.
- Output of keyboard characters in ASCII or IBM* codes.
- ASCII characters received can be transformed into IBM* codes and transmitted via the keyboard interface.

Magnetic Card Reader (Insertion Reader)

- Track 2 (reading range: approx. 60 % in accordance with DIN 9785, Part 2).
- Freely definable header and terminator with 80 characters each per track.
- Track 1 and 3 upon request.

Mouse

- Mouse keys with programmable strings.
- Various transmission modes.
  Microsoft* mouse
  Summagraphics* mouse
  Genius* (system) mouse
  Cursor mouse.
- Sensitivity adjustable.

Calculator

- Numeric pad and display usable as separate calculator.
- 4 fundamental calculating functions.
- Freely definable header and terminator with 80 characters each.
- Results can be transmitted to the system if required.

Password

- Freely definable password.
- Input via card reader, bar code reader, keyboard.
- Keyboard clearance only after valid input.

DOS-Commands

Important DOS commands are already stored in the keyboard as sequential characters.

- CD \
- MD \
- RD \
- DIR A:/P
- DIR B:/P
- DIR C:/P
- CHKDSK
- FORMAT A:/S/V/4
- COPY
- TYPE
- EDLIN
- PATH.

Special Keys

- CHERRY key:
  Selection of programming mode.
- OPTION key:
  Periphery ON/OFF (bar code, card reader).
- MOUSE key:
  Mouse ON/OFF.
- Interface key:
  Asynchronous interface ON/OFF.
- Calculator key:
  Calculator ON/OFF.
- † key:
  Locks the keyboard.
  Increased force of actuation prevents unintentional actuation.
- RESET key:
  Keyboard transmits CTRL-ALT-DEL to the system.
  Increased force of actuation prevents unintentional actuation.
- STOP/GO key:
  Keyboard transmits CTRL-S to the system.
- ✥ key:
  Autorepeat frequency is being doubled for the duration of the actuation.

* IBM is the registered trademark of the International Business Machines Corporation.

* Summagraphics is the registered trademark of the Summagraphics Corporation.

* Microsoft is the registered trademark of the Microsoft Corporation.

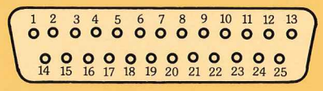
* Genius is the registered trademark of the Kun Ying Enterprise Corporation Ltd.

Pin Assignment

Asynchronous interface
25 pole SUB-D socket plug

Pin	Assignment
2	TXD
3	RXD
4	RTS
5	CTS
6	DSR connected to 20
7	GND
20	DTR connected to 6

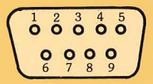
No other pins allocated.



Pin Assignment Mouse Interface

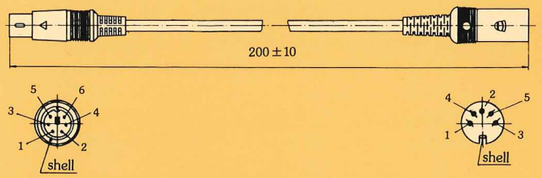
Keyboard: 9 pole SUB-D pin plug
Mouse: 9 pole SUB-D socket plug

Pin	Assignment
1	$\overline{UA1}$
2	UA2
3	UA1
4	$\overline{UA2}$
5	Key2
6	Key1
7	+5V
8	GND
9	Key3



Adapter for PS/2 Systems

Mini DIN plug Pin				Diode coupling Pin
1	←	DATA	→	2
2	←	FREE	→	3
3	←	GND	→	4
4	←	+5V	→	5
5	←	CLOCK	→	1
6	←	FREE	→	/
shell	←	shield	→	shell



Pin Assignment

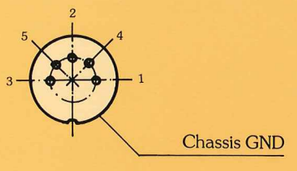
Connection for bar code reading unit
6 pole DIN 240 degree socket

Pin	Assignment
1	+5V
2	data
3	GND
4	free
5	free
6	free

Pin Assignment

Keyboard interface

Pin	Assignment TTL	RS485/422
1	CLOCK	–OUT
2	DATA	+OUT
3	free	
4	GND	GND
5	+5V	+5V



Part Numbers

Keyboard

Basic version incl. magnetic card reader and LC-display.

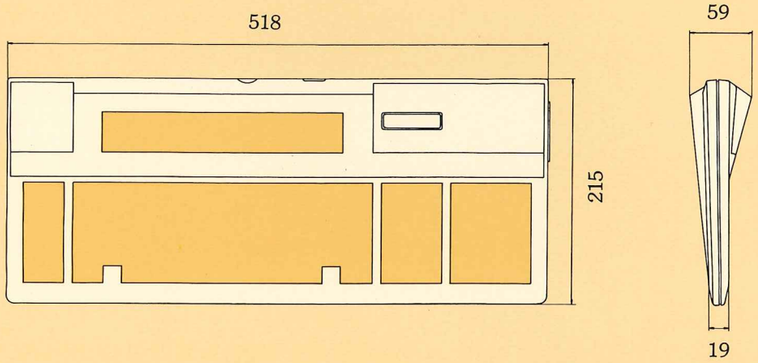
US-English	German	French
G80-2000 HBU	G80-2000 HBD	G80-2000 HBF

Accessories

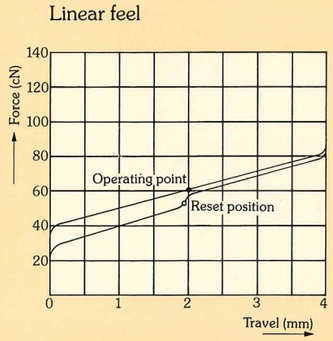
Barcode reading stylus of medium resolution: 630 – 0245
Mouse: 636-0044
Adapter for PS/2 systems: 617-0580
Keyboard-Driver: 650-0001

Housing

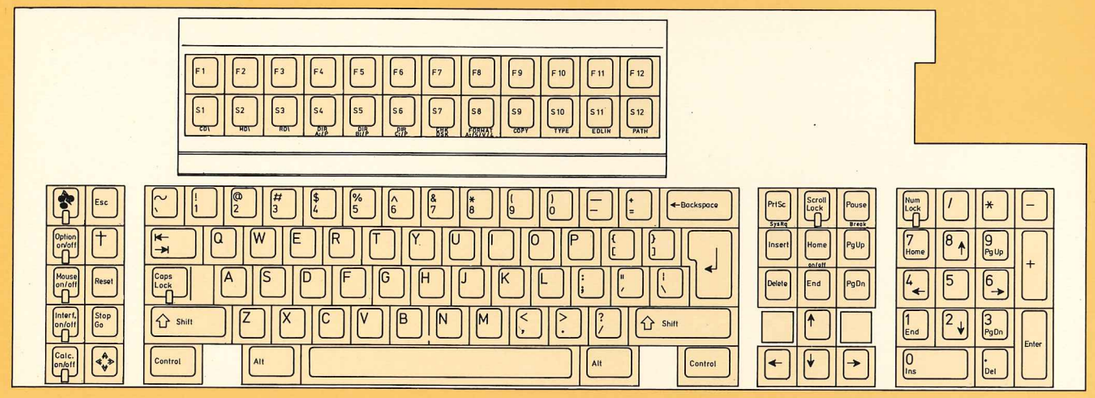
Housing Dimensions



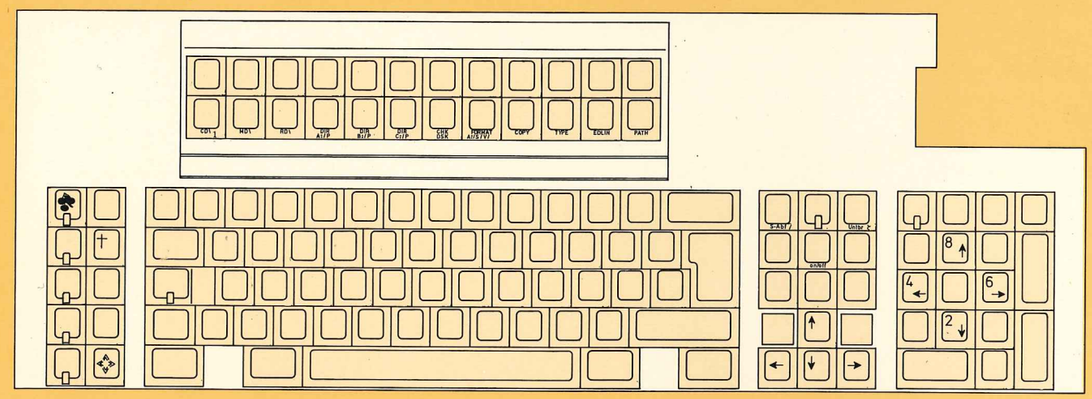
Force/Travel Diagram



Keyboard G80-2000 HBU – US-English Version



Other Country Versions



For detailled information regarding specific country layouts please refer to our brochure "Multi Function Keyboard Layouts".

Important notice for users

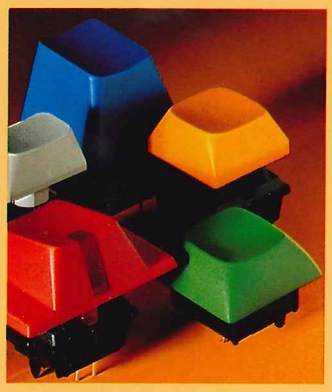
All of the information contained in this brochure is valid at the time of printing only. We reserve the right to make technical changes without notice.
We generally recommend that you request confirmation of the currently valid technical status of the products in the form of a drawing or specifications. The indicated data and texts are intended exclusively to describe the products, and do not constitute any legal guarantee whatsoever of any attributes or characteristics.
The life of products and the definitions applied to technical information are based on tests that have been performed in-house by Cherry along the lines of generally acknowledged standards and/or codes. If products are to be used under conditions deviating from those of the tests, then it is up to the user to make sure that they operate reliably under the actual conditions of use. We are willing to provide assistance for this from case to case.
Improper handling, storage, manipulation and further processing can result in defects damage and disturbances during use.
We call attention to the fact that we disclaim any and all warranties and liability in the event that our products are changed by users, unless such changes have been explicitly approved by us in writing for the specific application in question. This applies in particular whenever repairs and maintenance work have been improperly performed.
No damage claims against us – no matter on what legal grounds – are admissible unless we are found guilty of wilfulness or gross negligence. However, this restriction does not apply to claims for damages asserted under the terms of the German Product Liability Law (Produkthaftungsgesetz).
With the issuance of this brochure, all previous brochures covering the products described in it lose their validity.

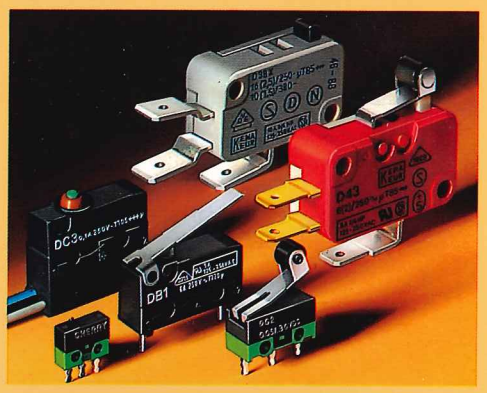
CHERRY®

Electronical and Electrotechnical Products for the Future.

Keyboards of high technology and excellent quality.
With high switching reliability even for speed typing. Standard or customized, intelligent or non-encoded versions. Connectable to all popular EDP systems. Modern design. Harmony in colours. Variety of sizes and heights. Ergonomic styling. With or without housing.

Keymodules. For high technology keyboards.
M 8, M 9, MX. Keyswitches with exceptional performance. High switching reliability by »Gold Crosspoint« contacts. Low profile design. Excellent touch feeling. Variety of keycap styles and colours. Ideal for ergonomically designed keyboards.

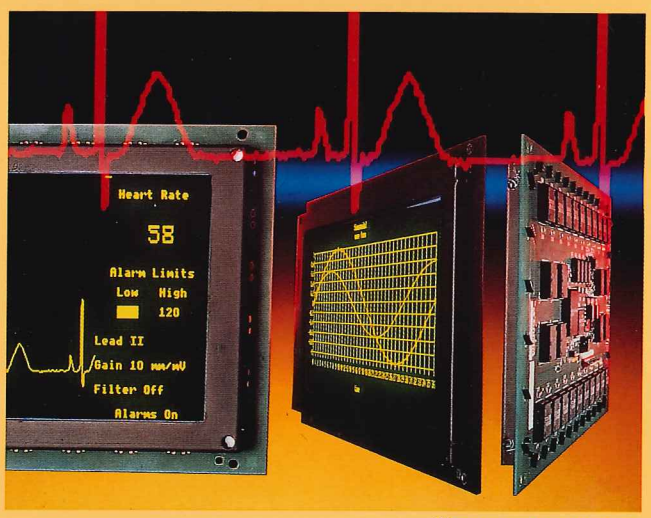




Selector switches with assured security and long life.
Available in many standard and customized codes. Thumbwheel, leverwheel or push versions. Gang assemblies. Solderpins, connectors or plain soldering. Standard, miniature and subminiature sizes. Also illuminated by LEDs or lamps. Customized lettering and stop limitation is available.

Snap switches for the future.
For precise switching and highest reliability. Large range of standard and non-standard models. Many different connecting possibilities. Standard, miniature and subminiature sizes. And a large number of auxiliary actuators.

New generation digitisers.
Extraordinary precision, enhanced resolution, increased speed, improved shielding, simple set-up and ease of use are the features of Cherry digitisers. The total digitiser package comes complete with stylus pen, cursor, power supply and comprehensive manual.



New generation displays.
For text and graphic applications. With absolute and continuous brightness of all letters. Stable display picture. Long life. Slim profile. Light weight. Low power consumption.

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