



G80-1700

**Multi-Interface Keyboard
with 101 or 102 Keys.
For serial synchronous and
serial asynchronous Operation.**

*IBM is the registered trade mark of the IBM Corporation



Main Benefits

- Developed for serial synchronous and serial asynchronous operation.
- Equipped with serial TTL interface.
- Slide switch for setting national ASCII codes, IBM* MF-compatible formats and IBM* PC/XT formats (with Cherry keyboard driver).
- Excellent price/performance relationship, due to:
 - High-quality materials in compliance with UL 94, utilised to the very best advantage.
 - Automated manufacturing processes with integrated testing.
- State-of-the-art quality assurance in accordance with DIN/ISO 9001.
- Fault-preventing methods such as FMEA and SPC.
- Incorporation of the most recent findings on ergonomics, in compliance with ZH 1/618.
- 4-mm full-travel keyswitches.
- Superior Cherry MX keymodules with „Gold Crosspoint“ contacts.
- Reliability: MCBF = 1×10^9 key operations. MTBF = 80,000 hours.
- Long life expectancy of individual keys: $> 50 \times 10^6$ operations.

- Fatigue-free operation with no risk of multiple actuation, achieved by means of ergonomic cylindrical key set.
- "Deep dish" sculptured keycaps for the F and J index finger locations and a dimple on the 5 in the numeric pad for quick and accurate homing when touch-typing.
- Keycaps are matt-finished and easy to clean.
- Wear-resistant keycap symbols.

- Safety:



- Electromagnetic compatibility (EMC):

Post Vfg. 1046/1984
(VDE 0871, Klasse B)

CISPR 22
EN 550 22

FCC Part 15
Subpart J
Class B



Important Features

- The alphanumeric key layout of the 102-key version conforms with DIN 2137, Part 2, of October 1988: "German keyboard for word and data processing and extensions thereof (characters for standard depiction of weights and measures)"; the international characters use the standard ASCII code in compliance with DIN 66003 and DIN 66303.
- The 101-key version utilizes international ASCII characters in compliance with DIN 66003 and DIN 66303.
- The U. S. version has 101 keys.
- Other language versions have 102 keys.
- Reliable positive contact eliminates input errors.
- The IBM* overlay fits onto the housing.
- Full ASCII character set in asynchronous mode.
- IBM-compatible in synchronous mode.
- Linear feel. Other actuation types (soft tactile feedback, tactile „click“) also available.
- Superflat design, low height.
- Height of 3rd key row < 30 mm (measured with keyboard flat on tabletop), conforming to the most recent research findings on ergonomic requirements for display workstations. 6° angled stems.
- Separate cursor pad.
- N-key rollover.
- Available in U. S., German and French key layouts. Other language versions can be supplied on request.
- Safety: CSA C 22.2 no. 220 DIN/VDE 0805/05.90
 UL 478 EN 60 950:1988
 IEC 950:1986
- Electromagnetic 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
- Ergonomics: ZH/1/618/10.80

Mechanical Data

Total travel: 4 -0.4 mm
 Pretavel: 2 ± 0,6 mm
 Operating force: 60 ± 20 cN
 Storage temperature range: -40° C (-40° F) to +65° C (+149° F)
 Operating temperature range: 0° C (+32° F) to +50° C (+122° F)

Electrical Data

Power supply:
 +5 V DC
 Current consumption: 180 mA typical

Interfaces:
 Switchable between serial synchronous and serial asynchronous operation.

Data format:
 Data format and data transmission rate can be set in asynchronous mode by placing jumpers on the keyboard PCB.

Data outputs:
 TTL open collector.
 RS-232C on request.

Data buffer:
 All output codes are buffered in a 16-byte memory.

Keyboard input sequence:
 N-key rollover.

Autorepeat function:

All keys are equipped with an automatic repeat function, with the exception of the function and shift keys. The delay time and rate of repetition can be programmed from the system (in IBM mode).

Power-up reset:

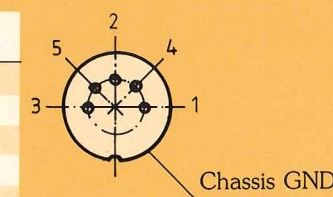
The keyboard triggers an automatic power-up reset.

Keyboard Cable

2 m shielded coiled cable, stone-grey, with 5-pin DIN connector.

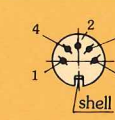
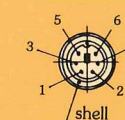
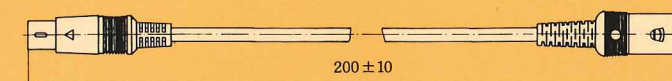
Pin Assignment

Pin	Assignment
1	CLOCK/R x D
2	DATA/T x D
3	–
4	GND
5	+5V



Adapter for PS/2 Systems

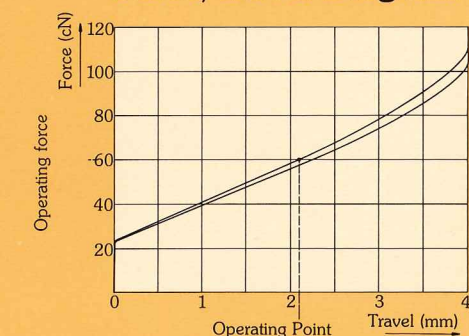
Mini DIN plug Pin	Diode coupling Pin
1 ← DATA →	2
2 ← FREE →	3
3 ← GND →	4
4 ← +5V →	5
5 ← CLOCK →	1
6 ← FREE →	/
shell ← shield →	shell



Operation Mode Switch

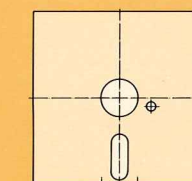
	SW 1	SW 2
ASCII format "US-English"	ON	ON
ASCII format "German"/"French"	OFF	ON
PC/XT	ON	OFF
AT 03 MF	OFF	OFF

Force/Travel Diagram



Keyboard Driver

A set of keyboard driver programs is available for PC/AT systems running under MS-DOS.



Order No. 650-0001

Operation Mode Switch





Asynchronous Interface:

The keyboard's interface is asynchronous. The data format and data transmission rate can be set by placing jumpers on the keyboard PCB.

Possible Data Formats:

- a) 1 start bit, 8 data bits, no parity, 1 stop bit
- b) 1 start bit, 8 data bits, no parity, 2 stop bit
- c) 1 start bit, 8 data bits, even parity, 1 stop bit
- d) 1 start bit, 8 data bits, odd parity, 1 stop bit

Jumper Placement:

Data format:	J9	J10
a)	0	0
b)	0	1
c)	1	0
d)	1	1

Possible Data Transmission Rates:

Jumper Placements:

Baud rate:	J4	J5	J6
1200 Baud	0	0	0
300 Baud	1	0	0
600 Baud	0	1	0
2400 Baud	1	1	0
4800 Baud	0	0	1
9600 Baud	1	0	1
19200 Baud	0	1	1

Default Settings:

The keyboards are set in the factory to the ASCII key codes corresponding to the language version in each case. The jumpers for the data transmission rates and the data format are not in place, i. e. the data are transmitted at a rate of 1200 baud using a format of 1 start bit, 8 data bits, no parity, and 1 stop bit.

Preparation of specifications of the components including their technical data is carried out due to internal Cherry tests in accordance with approved procedures only.

Notes for end users:

With respect to the variety of applications we suggest that you consult an expert regarding product modifications.

IBM* Position Codes

Key	SET 1 and PC/XT	SET 2	SET 3	STATUS (for Set 3)	Key	SET 1 and PC/XT	SET 2	SET 3	STATUS (for Set 3)
1	29	0E	0E	T	55	35	4A	4A	T
2	02	16	16	T	57	36	59	59	MB
3	03	1E	1E	T	58	1D	14	11	MB
4	04	26	26	T	60	38	11	19	MB
5	05	25	25	T	61	39	29	29	T
6	06	2E	2E	T	62	E0, 38	E0, 11	39	M
7	07	36	36	T	64	E0, 1D	E0, 14	58	M
8	08	3D	3D	T	75	E0, 52	E0, 70	67	M
9	09	3E	3E	T	76	E0, 53	E0, 71	64	T
10	0A	46	46	T	79	E0, 4B	E0, 6B	61	T
11	0B	45	45	T	80	E0, 47	E0, 6C	6E	M
12	0C	4E	4E	T	81	E0, 4F	E0, 69	65	M
13	0D	55	55	T	83	E0, 48	E0, 75	63	T
14	0E	66	66	T	84	E0, 50	E0, 72	60	T
16	0F	0D	0D	T	85	E0, 49	E0, 7D	6F	M
17	10	15	15	T	86	E0, 51	E0, 7A	6D	M
18	11	1D	1D	T	89	E0, 4D	E0, 74	6A	T
19	12	24	24	T	90	45	77	76	M
20	13	2D	2D	T	91	47	6C	6C	M
21	14	2C	2C	T	92	4B	6B	6B	M
22	15	35	35	T	93	4F	69	69	M
23	16	3C	3C	T	95	E0, 35	E0, 4A	77	M
24	17	43	43	T	96	48	75	75	M
25	18	44	44	T	97	4C	73	73	M
26	19	4D	4D	T	98	50	72	72	M
27	1A	54	54	T	99	52	70	70	M
28	1B	5B	5B	T	100	37	7C	7E	M
29*	2B	5D	5C	T	101	49	7D	7D	M
30	3A	58	14	MB	102	4D	74	74	M
31	1E	1C	1C	T	103	51	7A	7A	M
32	1F	1B	1B	T	104	53	71	71	M
33	20	23	23	T	105	4A	7B	84	M
34	21	2B	2B	T	106	4E	79	7C	T
35	22	34	34	T	108	E0, 1C	E0, 5A	79	M
36	23	33	33	T	110	01	76	08	M
37	24	3B	3B	T	112	3B	05	07	M
38	25	42	42	T	113	3C	06	0F	M
39	26	4B	4B	T	114	3D	04	17	M
40	27	4C	4C	T	115	3E	0C	1F	M
41	28	52	52	T	116	3F	03	27	M
42**	2B	5D	53	T	117	40	0B	2F	M
43	1C	5A	5A	T	118	41	83	37	M
44	2A	12	12	MB	119	42	0A	3B	M
45**	56	61	13	T	120	43	01	47	M
46	2C	1A	1A	T	121	44	09	4F	M
47	2D	22	22	T	122	57	78	56	M
48	2E	21	21	T	123	58	07	5E	M
49	2F	2A	2A	T	124	E0, 2A,	E0, 12,	57	M
50	30	32	32	T		E0, 37	E0, 7C		
51	31	31	31	T	125	46	7E	5F	M
52	32	3A	3A	T	126	E1, 1D, 45	E1, 14, 77	62	M
53	33	41	41	T		E1, 9D, C5	E1, F0, 14,		
54	34	49	49	T			F0, 77		

*Keyboard with 101 keys only

**Keyboard with 102 keys only

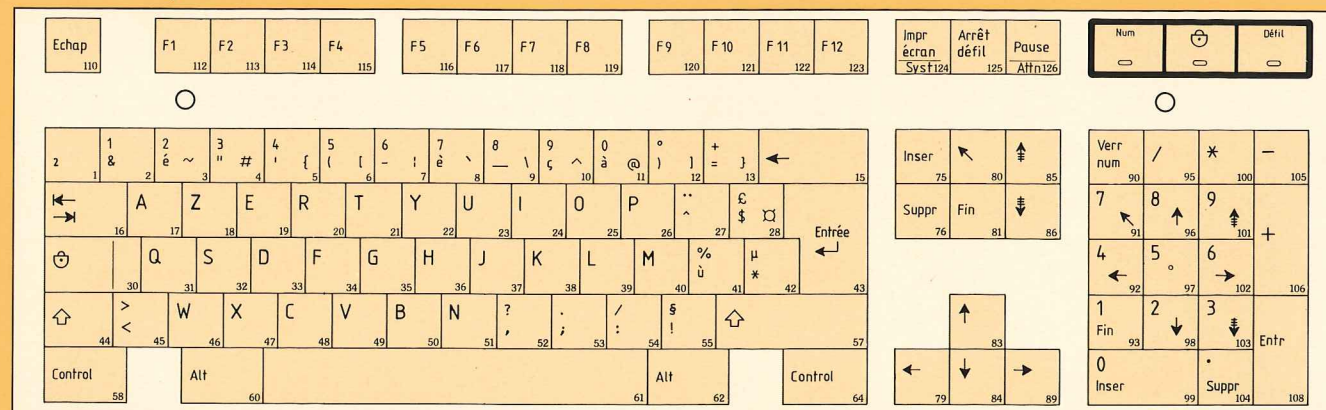
T: Typematic

M: only Make-Code

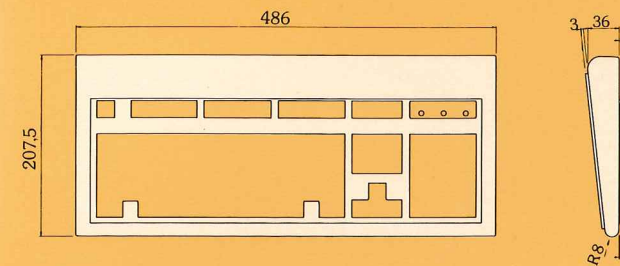
M/B: Make-/Break-Code

Key	Unsh	Shift	Ctrl	ShCo	Num	NumSh	Caps	CapSh	CaNum	CaNuSh
79	12	12	12	12	12	12	12	12	12	12
80	B7	B7	B7	B7	B7	B7	B7	B7	B7	B7
81	B1	B1	B1	B1	B1	B1	B1	B1	B1	B1
82	--	--	--	--	--	--	--	--	--	--
83	11	11	11	11	11	11	11	11	11	11
84	14	14	14	14	14	14	14	14	14	14
85	89	89	89	89	89	89	89	89	89	89
86	B3	B3	B3	B3	B3	B3	B3	B3	B3	B3
87	--	--	--	--	--	--	--	--	--	--
88	--	--	--	--	--	--	--	--	--	--
89	13	13	13	13	13	13	13	13	13	13
90					NUM LOCK					
91	B7	37	B7	--	37	B7	B7	37	37	B7
92	12	34	12	--	34	12	12	34	34	12
93	B1	31	B1	--	31	B1	B1	31	31	B1
94	--	--	--	--	--	--	--	--	--	--
95	2F	2F	2F	--	2F	2F	2F	2F	2F	2F
96	11	38	11	--	38	11	11	38	38	11
97	00	35	00	--	35	00	00	35	35	00
98	14	32	14	--	32	14	14	32	32	14
99	B0	30	B0	--	30	B0	B0	30	30	B0
100	2A	2A	2A	--	2A	2A	2A	2A	2A	2A
101	89	39	89	--	39	89	89	39	39	89
102	13	36	13	--	36	13	13	36	36	13
103	B3	33	B3	--	33	B3	B3	33	33	B3
104	7F	2E	7F	--	2E	7F	7F	2E	2E	7F
105	2D	2D	2D	--	2D	2D	2D	2D	2D	2D
105	2B	2B	2B	--	2B	2B	2B	2B	2B	2B
107	--	--	--	--	--	--	--	--	--	--
108	0D	0D	0D	--	0D	0D	0D	0D	0D	0D
109	--	--	--	--	--	--	--	--	--	--
110	1B	1B	1B	1B	1B	1B	1B	1B	1B	1B
111	--	--	--	--	--	--	--	--	--	--
112	80	80	80	80	80	80	80	80	80	80
113	81	81	81	81	81	81	81	81	81	81
114	82	82	82	82	82	82	82	82	82	82
115	83	83	83	83	83	83	83	83	83	83
116	84	84	84	84	84	84	84	84	84	84
117	85	85	85	85	85	85	85	85	85	85
118	86	86	86	86	86	86	86	86	86	86
119	87	87	87	87	87	87	87	87	87	87
120	88	88	88	88	88	88	88	88	88	88
121	8A	8A	8A	8A	8A	8A	8A	8A	8A	8A
122	8C	8C	8C	8C	8C	8C	8C	8C	8C	8C
123	8F	8F	8F	8F	8F	8F	8F	8F	8F	8F
124	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
125	8B	8B	8B	8B	8B	8B	8B	8B	8B	8B
126	00	00	00	00	00	00	00	00	00	00

French Layout



Housing Dimensions



Ordering Codes

US-International	German	French
G80-1700HAU	G80-1700HAD	G80-1700HAF



Switch to 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.

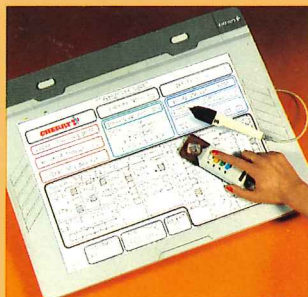
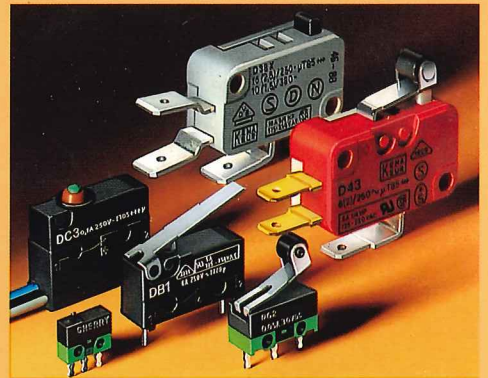
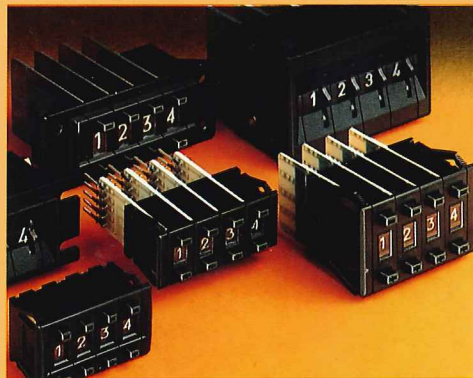


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Available in many standard and customized codes. Thumbwheel, leverwheel or push versions. Gang assemblies. Solderpins, connectors or plain soldering. Standard, miniature and subminiature sizes. Also illuminated by LEDs or lamps. Customized lettering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

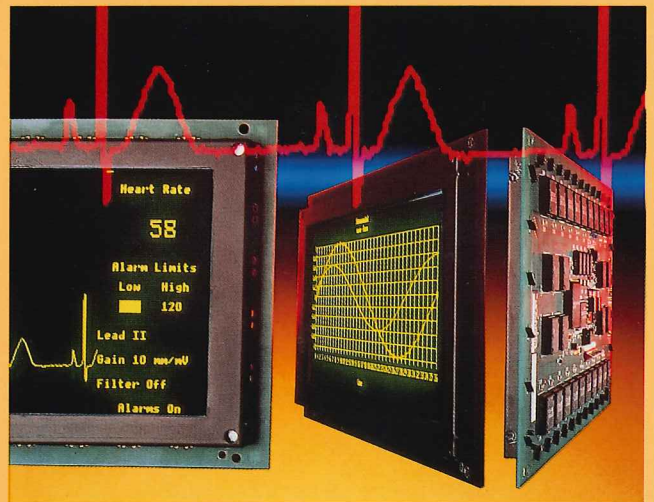
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