



PC-83 and PC-84 IBM® Plug Compatible Keyboards



Keyboard Specifications

These specifications are subject to change without notice

PC-83

1.0 SCOPE

This document is a product specification for defining HI-TEK's PC-83 IBM® Plug Compatible keyboard, HI-TEK Part Number 200550, a product that is designed to meet the low profile DIN standard.

This keyboard utilizes the Series 725™ Low Profile single station keyswitch as the basic switching mechanism.

2.0 MECHANICAL

2.1 Outline dimensions

2.1.1 PC-83 Keyboard. Figure #1.

2.2 Array configuration

2.2.1 Keyboard keycap and character layout. Figure #2

2.3 Materials

2.3.1 Enclosure

Molded polystyrene foam. UL Flammability Rating 94 HB.

2.3.2 Keycaps

Polyester thermoplastics. UL Flammability Rating 94 HB.

2.3.3 Printed circuit board

.062 thick CEM-1 with 1 oz. copper on both sides. UL Flammability Rating 94 VO.

2.3.4 Switch housing

Molded polyphenylene oxide thermoplastic. UL Flammability Rating 94 VO.

2.3.5 Switch plunger

Molded acetal thermoplastic. UL Flammability Rating 94 HB.

2.3.6 Spring

302 or 304 stainless steel

2.3.7 Contacts

Spring temper phosphor bronze with gold alloy inlay

2.3.8 Stiffener panel

Cold rolled steel

2.3.9 Bottom plate

Cold rolled steel

2.4 Finishes

2.4.1 Enclosure

Exterior surface is filled, sanded and painted with base coat and spatter coat medium texture with Sherwin & Williams Polane Driftwood F63A40.

2.4.2 Spring

Non-metallic coating

2.4.3 Stiffener panel

Painted with primer and semi-gloss black enamel, epoxy or urethane based paint.

2.4.4 Bottom plate

Painted with semi-gloss black enamel, epoxy or urethane based paint.

2.4.5 Keycap colors

Functional keys — Gray

HI-TEK color code: 900 (equivalent to Borg Warner color T33309).

Data keys — White

HI-TEK color code: 880 (equivalent to Borg Warner color T22061).

Nomenclature (legend) color — Black

HI-TEK color code: 010 (equivalent to Borg Warner color T4500).

2.4.6 Keycap texture

Mold Tech 1055-3

2.5 Individual Switch Specifications

2.5.1 Keyswitch movement (Total travel)

.140 \pm .020 inch (3.56 \pm .5mm)

2.5.2 Operating movement (Travel to make)

.070 \pm .020 inch (1.78 \pm .5mm)

2.5.3 Operating force

2.5.3.1 Momentary action 2.0 \pm 0.5 oz. (57.1 \pm 14.2 grams)

2.5.3.2 Space bar 3.0 \pm 0.5 oz. (85.6 \pm 14.2 grams)

2.5.4 Feel

Basic switch has a linear feel.

2.5.5 Wobble

Lateral movement will not exceed .020 inch (.5mm) in either axis.

2.5.6 Life

100 million cycles

2.6 Legends

Helvetica — .180 high

Helvetica rounded - .100 high

Sublimation printed. Black color.

2.7 Keycap shapes

Keycaps are on .75 inch centers in both horizontal and vertical directions. The side profile is shown in Fig. 3.

3.0 FUNCTIONAL

Model PC-83 Keyboard

3.1 Auto repeat

When a key is pressed for 0.5 second or longer, the keyboard will continuously output the character at the rate of once every 0.09 seconds. The following keys do not auto repeat.

- A. Scroll Lock
- B. Caps Lock
- C. Num Lock
- D. Ctrl
- E. Shift

3.2 Locking functions

The keyboard does not provide any locking features. This is a function of the software in the computer. When the following keys are pressed, corresponding LED's in the keycap are alternately turned on and off each time the key is pressed and released:

- A. Num Lock
- B. Caps Lock

If either of the above keys are depressed after the "CTRL" key has been depressed and held down, the LEDs will not toggle.

When the keyboard is reset by pressing CTRL, ALT and DEL keys, the LED's are turned off.

3.3 Multikey rollover:

The keyswitches are electrically connected in an X-Y matrix as shown in Figure #4. When multiple keys are depressed at the same time, the keyboard will correctly output the codes for these keys in the same order that they were depressed, with the following exception: When three keys which form three corners of a rectangle in the X-Y matrix are depressed consecutively and held down, the output code for the last key depressed is locked out. When one of the first two keys which formed the 3-key rectangle is released, the code for the last key depressed will be output.

3.4 Software debounce:

Multiple entry due to contact bounce is avoided. This task is accomplished by the internal 8049 or 8749 microprocessor under software control.

3.5 Buffering

The keyboard will buffer up to 30 characters if the computer is not ready to receive more information. If the computer holds the data line low, then the keyboard will store the keystrokes in its own internal buffer until the data line is brought high again. The stored key codes are then output in the correct order of entry.

3.6 Input-output data logic level:

Data input and output is standard TTL logic level. Output will drive 3 standard TTL loads. Input loading is 1000 ohms.

3.7 Reset

A single level of $- .5$ to $+ .6$ V.D.C. on the reset line for 50 milliseconds or more will reset the keyboard.

3.8 Keyboard self test

The keyboard has a self test feature. This self test feature performs the following tests:

- (1) Tests the microprocessor RAM for bad memory cells.
- (2) Scans the switch matrix searching for shorted switches.

The keyboard response to the self test is as follows:

- (1) A hex code of AA is transmitted to the computer if the keyboard passes the self test feature.
- (2) If a shorted switch is detected, the scan code of the shorted switch is transmitted back to the computer.

The keyboard self test feature will be initiated when the keyboard has received an "FF" code from the computer.

3.9 Minimum key depression time

The key must be depressed for a minimum of 15 milli-seconds for data entry.

3.10 Output code

Each time a key is depressed or released, the keyboard transmits a code to the computer. This code is called a scan code.

The keys on the keyboard are assigned arbitrary key position numbers as shown in Figure 5. These numbers are for reference only and DO NOT appear on the keycaps of the keyboard. Also, these numbers do not necessarily coincide with the numbers marked on the top of the keycaps. Again, they are arbitrary assignments for reference only.

When a key is depressed, the keyboard outputs a scan code corresponding to the key position number. Scan codes are shown in Figure 6.

When the key is released the keyboard adds 80 hex to the key positions number and outputs this code to the computer. There is no auto repeat on key up, therefore the key up scan code is output only once. The timing diagram is shown in Figure 7. The least significant bit is transmitted first.

4.0 ELECTRICAL

4.1 Contact system

SP ST normally open (Form A)

4.2 Input Voltage

4.75 to 5.25 V.D.C.

4.3 Input current

500 milliamperes maximum

4.4 Case ground

Bottom plate of case is electrically tied to minus (common) of power supply.

4.5 Keyboard connection

See Connection Diagram of Figures 8 and 9.

5.0 ENVIRONMENTAL

5.1 Temperature

5.1.1 Operating: +32°F to +122°F (0°C to +50°C)

5.1.2 Storage: -40°F to +131°F (-40°C to +55°C)

5.2 Relative humidity

0 to 95 percent

5.3 Corrosive atmosphere

The keyboard is designed to withstand the following concentrations of corrosive gases:

Hydrogen Sulfide

H₂S 5.0 Micrograms per cubic meter

Sulphur Dioxide

SO₂ 1,300 Micrograms per cubic meter

Ozone

O₃ 250 Micrograms per cubic meter

5.4 Vibration

Mil-Std-810 B, Method 514, procedure x per paragraph 4.5.1.3, curve "AY" of figure 514.1 VII. Omit resonance search and dwell. Test in three perpendicular planes. From 5-200-5 Hz for one hour in each plane.

5.5 Shock

A keyboard that is hard mounted in a rigid carrier which protects the keys and electrical leads shall withstand a 40 g, 1/2 sine, 10 ms duration shock in each direction along the three mutually perpendicular axis.

5.6 Electro-magnetic compatibility

The keyboard has been tested for and has passed the EMI requirements of a class B device.

5.7 Electrostatic discharge

The keyboard has been tested for resistance to damage from electrostatic discharge by an independent testing agency. The keyboard withstood repeated ESD of up to 25KV. (Ref. Test Report TR413445)

5.8 Keycap abrasion and wear resistance

Keycaps were exposed to an eraser loaded to 2 ozs. being wiped cross the keycap legend. The printed keycaps were cycled in parallel with standard two shot keycaps. Deep grooves (\approx .005") were worn on the two shot legends before there was any noticeable wear on the printed keycap legends.

5.9 Keycap legends — Resistance to hand lotions

After extensive testing of printed keycaps exposed to Jergens hand lotion and Oil of Olay at 50°C, it was determined that hand lotions had no adverse effects on the printed legends.

PC-84

- 1.0 This supplement is a product specification for HI-TEK's PC-84 IBM® plug compatible keyboard, HI-TEK Part Number 200557. This product is designed to meet the low profile DIN standard. Any deviation from the PC-83 specifications will be noted below.

2.0 MECHANICAL

2.1 Outline Dimensions

- 2.1.1 PC-84 keyboard. Figure #10

2.2 Array Configuration

- 2.2.1 Keyboard keycap and character layout. Figure #11

3.0 FUNCTIONAL

Model PC-84 Keyboard

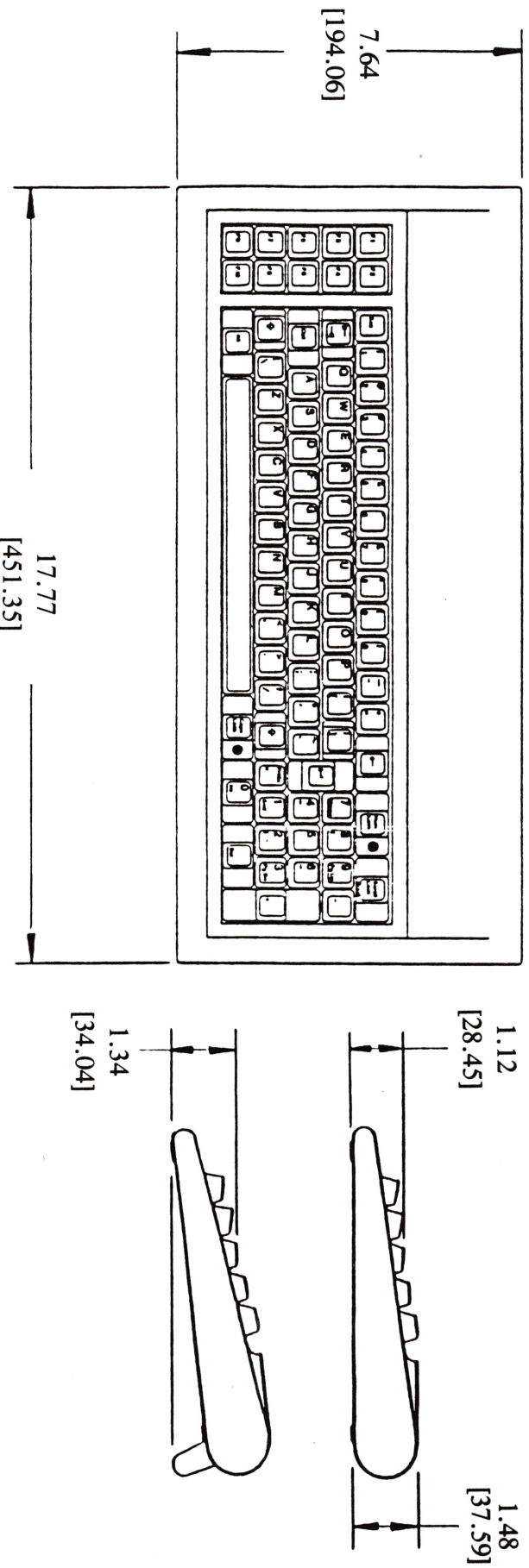
- 3.3 X-Y matrix for the PC-84 is shown in Figure #12

3.10 Output Code

The keys on the PC-84 keyboard are assigned arbitrary key position numbers as shown in Figure #13. The scan codes for the PC-84 are shown in Figure #14.

FIGURE 1

OUTLINE DIMENSIONS
PC-83



DIMENSIONS IN [] ARE IN MILLIMETERS

FIGURE 2

ARRAY CONFIGURATION

PC-83

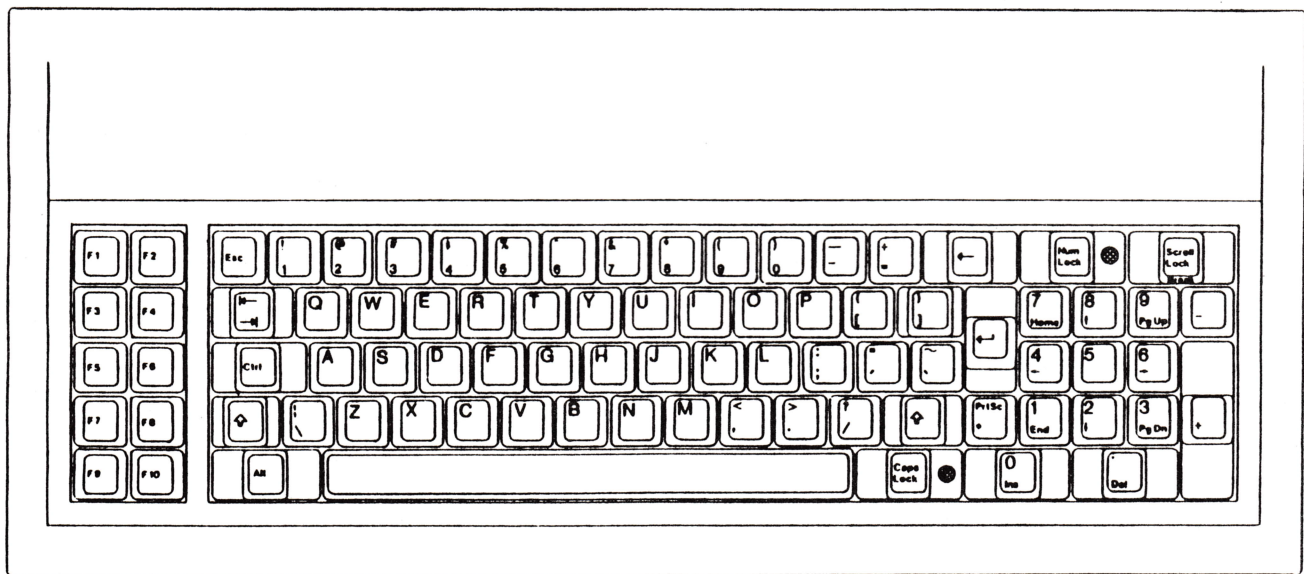
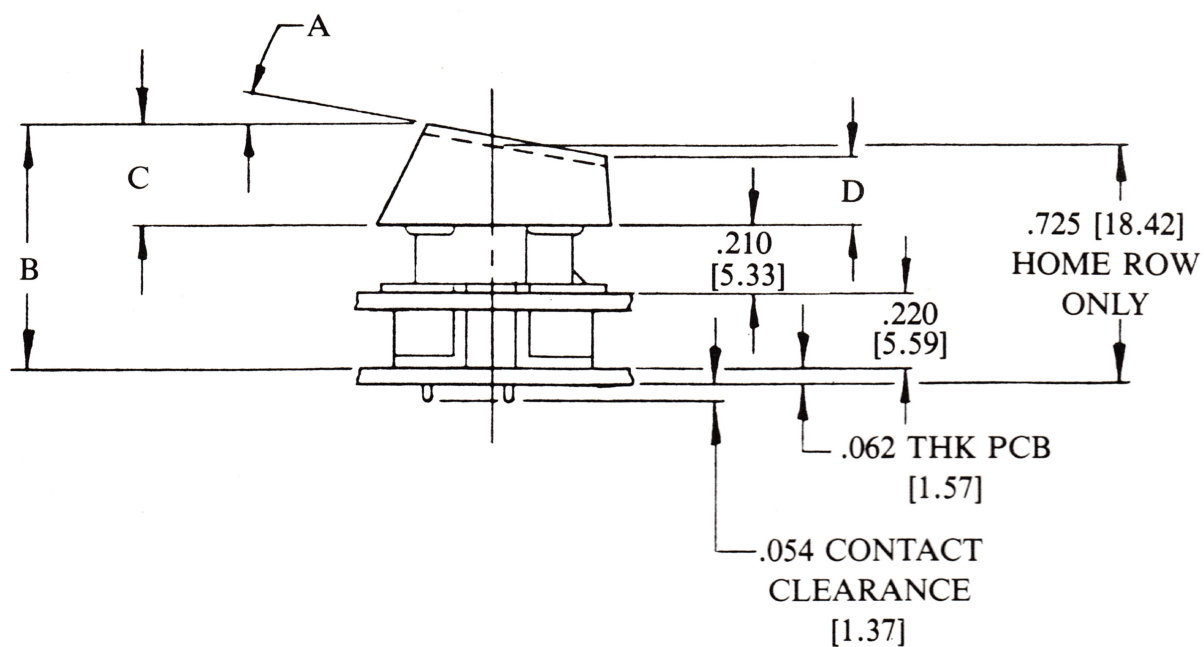


FIGURE 3

SPECIFICATIONS, SERIES 725

PC-83 and PC-84

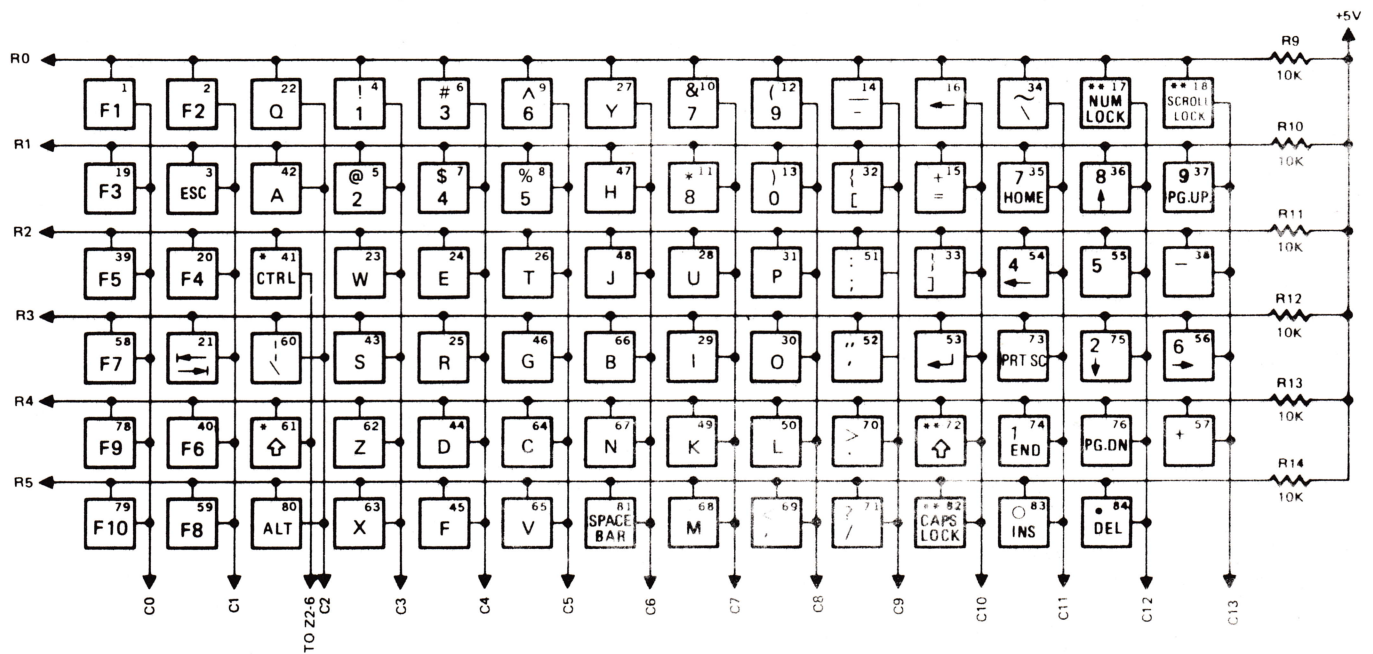


DIMENSIONS IN [] ARE IN MILLIMETERS

SERIES 725 DIMENSION TABLE					METRIC [MM]		
DIM ROW	A	B	C	D	B	C	D
S/B	18°	.825	.400	.230	20.96	10.16	5.84
1	18°	.825	.400	.230	20.96	10.16	5.84
HOME ROW 2	10°	.725	.300	.200	18.42	7.62	5.08
3	5°	.725	.300	.250	18.42	7.62	6.35
4	0°	.785	.360	.360	19.94	9.14	9.14
5	0°	.785	.360	.360	19.94	9.14	9.14

FIGURE 4

X-Y MATRIX
PC-83



EXAMPLE:

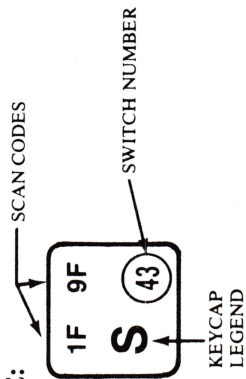


FIGURE 5

SWITCH LAYOUT

PC-83

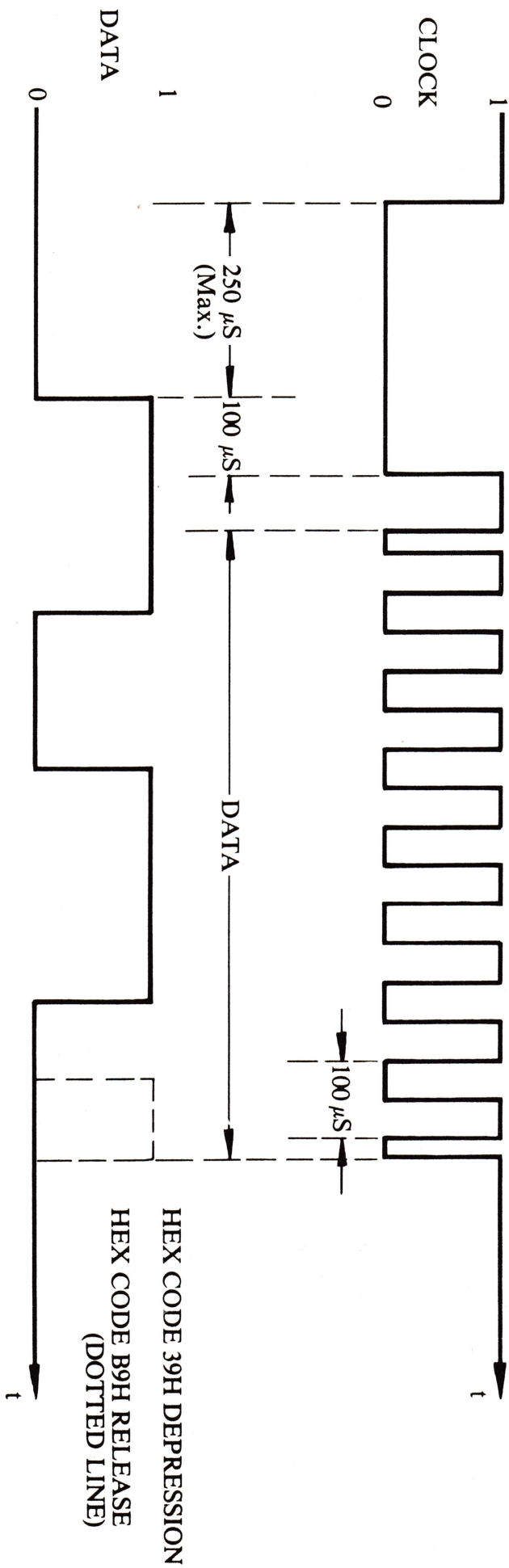
3B BB F1 (1)	3C BC F2 (2)	3D BD F3 (3)	3E BE F4 (4)	3F BF F5 (5)	40 C0 F6 (6)	41 C1 F7 (7)	42 C2 F8 (8)	43 C3 F9 (9)	44 C4 F10 (10)
01 81 Esc (3)	02 82 ! (4)	03 83 @ (5)	04 84 # (6)	05 85 \$ (7)	06 86 % (8)	07 87 & (9)	08 88 ' (10)	09 89 ((11)	0A 8A) (12)
0B 8B , (13)	0C 8C - (14)	0D 8D + (15)	0E 8E ← (16)	0F 8F → (17)	10 90 Q (20)	11 91 W (21)	12 92 E (22)	13 93 R (23)	14 94 T (24)
15 95 Y (25)	16 96 U (26)	17 97 I (27)	18 98 O (28)	19 99 P (29)	1A 9A [(30)	1B 9B] (31)	1C 9C ↵ (32)	1D 9D Ctrl (33)	1E 9E A (34)
1F 9F S (35)	20 90 D (36)	21 91 F (37)	22 92 G (38)	23 93 H (39)	24 94 J (40)	25 95 K (41)	26 96 L (42)	27 97 ; (43)	28 98 ' (44)
29 99 , (45)	2A 9A Z (46)	2B 9B , (47)	2C 9C V (48)	2D 9D X (49)	2E 9E C (50)	2F 9F B (51)	2G 9G N (52)	2H 9H M (53)	2I 9I < (54)
2J 9J , (55)	2K 9K , (56)	2L 9L , (57)	2M 9M , (58)	2N 9N , (59)	2O 9O , (60)	2P 9P , (61)	2Q 9Q , (62)	2R 9R , (63)	2S 9S , (64)
2T 9T , (65)	2U 9U , (66)	2V 9V , (67)	2W 9W , (68)	2X 9X , (69)	2Y 9Y , (70)	2Z 9Z , (71)	2AA 9AA , (72)	2AB 9AB , (73)	2AC 9AC , (74)
2AD 9AD , (75)	2AE 9AE , (76)	2AF 9AF , (77)	2AG 9AG , (78)	2AH 9AH , (79)	2AI 9AI , (80)	2AJ 9AJ , (81)	2AK 9AK , (82)	2AL 9AL , (83)	2AM 9AM , (84)
2AN 9AN , (85)	2AO 9AO , (86)	2AP 9AP , (87)	2AQ 9AQ , (88)	2AR 9AR , (89)	2AS 9AS , (90)	2AT 9AT , (91)	2AU 9AU , (92)	2AV 9AV , (93)	2AW 9AW , (94)
2AX 9AX , (95)	2AY 9AY , (96)	2AZ 9AZ , (97)	2BA 9BA , (98)	2BB 9BB , (99)	2BC 9BC , (100)	2BD 9BD , (101)	2BE 9BE , (102)	2BF 9BF , (103)	2BG 9BG , (104)
2BH 9BH , (105)	2BI 9BI , (106)	2BJ 9BJ , (107)	2BK 9BK , (108)	2BL 9BL , (109)	2BM 9BM , (110)	2BN 9BN , (111)	2BO 9BO , (112)	2BP 9BP , (113)	2BQ 9BQ , (114)
2BR 9BR , (115)	2BS 9BS , (116)	2BT 9BT , (117)	2BU 9BU , (118)	2BV 9BV , (119)	2BW 9BW , (120)	2BX 9BX , (121)	2BY 9BY , (122)	2BZ 9BZ , (123)	2CA 9CA , (124)
2CB 9CB , (125)	2CC 9CC , (126)	2CD 9CD , (127)	2CE 9CE , (128)	2CF 9CF , (129)	2CG 9CG , (130)	2CH 9CH , (131)	2CI 9CI , (132)	2CJ 9CJ , (133)	2CK 9CK , (134)
2CL 9CL , (135)	2CM 9CM , (136)	2CN 9CN , (137)	2CO 9CO , (138)	2CP 9CP , (139)	2CQ 9CQ , (140)	2CR 9CR , (141)	2CS 9CS , (142)	2CT 9CT , (143)	2CU 9CU , (144)
2CV 9CV , (145)	2CW 9CW , (146)	2CX 9CX , (147)	2CY 9CY , (148)	2CZ 9CZ , (149)	2DA 9DA , (150)	2DB 9DB , (151)	2DC 9DC , (152)	2DD 9DD , (153)	2DE 9DE , (154)
2DF 9DF , (155)	2DG 9DG , (156)	2DH 9DH , (157)	2DI 9DI , (158)	2DJ 9DJ , (159)	2DK 9DK , (160)	2DL 9DL , (161)	2DM 9DM , (162)	2DN 9DN , (163)	2DO 9DO , (164)
2DP 9DP , (165)	2DQ 9DQ , (166)	2DR 9DR , (167)	2DS 9DS , (168)	2DT 9DT , (169)	2DU 9DU , (170)	2DV 9DV , (171)	2DW 9DW , (172)	2DX 9DX , (173)	2DY 9DY , (174)
2DZ 9DZ , (175)	2EA 9EA , (176)	2EB 9EB , (177)	2EC 9EC , (178)	2ED 9ED , (179)	2EE 9EE , (180)	2EF 9EF , (181)	2EG 9EG , (182)	2EH 9EH , (183)	2EI 9EI , (184)
2EJ 9EJ , (185)	2EK 9EK , (186)	2EL 9EL , (187)	2EM 9EM , (188)	2EN 9EN , (189)	2EO 9EO , (190)	2EP 9EP , (191)	2EQ 9EQ , (192)	2ER 9ER , (193)	2ES 9ES , (194)
2EY 9EY , (195)	2EZ 9EZ , (196)	2FA 9FA , (197)	2FB 9FB , (198)	2FC 9FC , (199)	2FD 9FD , (200)	2FE 9FE , (201)	2FF 9FF , (202)	2FG 9FG , (203)	2FH 9FH , (204)
2FI 9FI , (205)	2FJ 9FJ , (206)	2FK 9FK , (207)	2FL 9FL , (208)	2FM 9FM , (209)	2FO 9FO , (210)	2FP 9FP , (211)	2FQ 9FQ , (212)	2FR 9FR , (213)	2FS 9FS , (214)
2FT 9FT , (215)	2FU 9FU , (216)	2FV 9FV , (217)	2FW 9FW , (218)	2FX 9FX , (219)	2FY 9FY , (220)	2FZ 9FZ , (221)	2GA 9GA , (222)	2GB 9GB , (223)	2GC 9GC , (224)
2GD 9GD , (225)	2GE 9GE , (226)	2GG 9GG , (227)	2GH 9GH , (228)	2GI 9GI , (229)	2GJ 9GJ , (230)	2GK 9GK , (231)	2GL 9GL , (232)	2GM 9GM , (233)	2GN 9GN , (234)
2GO 9GO , (235)	2GP 9GP , (236)	2GQ 9GQ , (237)	2GR 9GR , (238)	2GS 9GS , (239)	2GT 9GT , (240)	2GU 9GU , (241)	2GV 9GV , (242)	2GW 9GW , (243)	2GX 9GX , (244)
2GY 9GY , (245)	2GZ 9GZ , (246)	2HA 9HA , (247)	2HB 9HB , (248)	2HC 9HC , (249)	2HD 9HD , (250)	2HE 9HE , (251)	2HF 9HF , (252)	2HG 9HG , (253)	2HH 9HH , (254)
2HI 9HI , (255)	2HJ 9HJ , (256)	2HK 9HK , (257)	2HL 9HL , (258)	2HM 9HM , (259)	2HO 9HO , (260)	2HP 9HP , (261)	2HQ 9HQ , (262)	2HR 9HR , (263)	2HS 9HS , (264)
2HY 9HY , (265)	2HZ 9HZ , (266)	2IA 9IA , (267)	2IB 9IB , (268)	2IC 9IC , (269)	2ID 9ID , (270)	2IE 9IE , (271)	2IF 9IF , (272)	2IG 9IG , (273)	2IH 9IH , (274)
2IY 9IY , (275)	2IZ 9IZ , (276)	2JA 9JA , (277)	2JB 9JB , (278)	2JC 9JC , (279)	2JD 9JD , (280)	2JE 9JE , (281)	2JF 9JF , (282)	2JG 9JG , (283)	2JH 9JH , (284)
2JI 9JI , (285)	2JJ 9JJ , (286)	2JK 9JK , (287)	2JL 9JL , (288)	2JM 9JM , (289)	2JO 9JO , (290)	2JP 9JP , (291)	2JQ 9JQ , (292)	2JR 9JR , (293)	2JS 9JS , (294)
2JY 9JY , (295)	2JZ 9JZ , (296)	2KA 9KA , (297)	2KB 9KB , (298)	2KC 9KC , (299)	2KD 9KD , (300)	2KE 9KE , (301)	2KF 9KF , (302)	2KG 9KG , (303)	2KH 9KH , (304)
2KI 9KI , (305)	2KJ 9KJ , (306)	2KK 9KK , (307)	2KL 9KL , (308)	2KM 9KM , (309)	2KO 9KO , (310)	2KP 9KP , (311)	2KQ 9KQ , (312)	2KR 9KR , (313)	2KS 9KS , (314)
2KY 9KY , (315)	2KZ 9KZ , (316)	2LA 9LA , (317)	2LB 9LB , (318)	2LC 9LC , (319)	2LD 9LD , (320)	2LE 9LE , (321)	2LF 9LF , (322)	2LG 9LG , (323)	2LH 9LH , (324)
2LI 9LI , (325)	2LJ 9LJ , (326)	2LK 9LK , (327)	2LL 9LL , (328)	2LM 9LM , (329)	2LO 9LO , (330)	2LP 9LP , (331)	2LQ 9LQ , (332)	2LR 9LR , (333)	2LS 9LS , (334)
2LY 9LY , (335)	2LZ 9LZ , (336)	2MA 9MA , (337)	2MB 9MB , (338)	2MC 9MC , (339)	2MD 9MD , (340)	2ME 9ME , (341)	2MF 9MF , (342)	2MG 9MG , (343)	2MH 9MH , (344)
2MI 9MI , (345)	2MJ 9MJ , (346)	2MK 9MK , (347)	2ML 9ML , (348)	2MM 9MM , (349)	2MO 9MO , (350)	2MP 9MP , (351)	2MQ 9MQ , (352)	2MR 9MR , (353)	2MS 9MS , (354)
2MY 9MY , (355)	2MZ 9MZ , (356)	2NA 9NA , (357)	2NB 9NB , (358)	2NC 9NC , (359)	2ND 9ND , (360)	2NE 9NE , (361)	2NF 9NF , (362)	2NG 9NG , (363)	2NH 9NH , (364)
2NI 9NI , (365)	2NJ 9NJ , (366)	2NK 9NK , (367)	2NL 9NL , (368)	2NM 9NM , (369)	2NO 9NO , (370)	2NP 9NP , (371)	2NQ 9NQ , (372)	2NR 9NR , (373)	2NS 9NS , (374)
2NY 9NY , (375)	2NZ 9NZ , (376)	2OA 9OA , (377)	2OB 9OB , (378)	2OC 9OC , (379)	2OD 9OD , (380)	2OE 9OE , (381)	2OF 9OF , (382)	2OG 9OG , (383)	2OH 9OH , (384)
2OI 9OI , (385)	2OJ 9OJ , (386)	2OK 9OK , (387)	2OL 9OL , (388)	2OM 9OM , (389)	2OO 9OO , (390)	2OP 9OP , (391)	2OQ 9OQ , (392)	2OR 9OR , (393)	2OS 9OS , (394)
2OY 9OY , (395)	2OZ 9OZ , (396)	2PA 9PA , (397)	2PB 9PB , (398)	2PC 9PC , (399)	2PD 9PD , (400)	2PE 9PE , (401)	2PF 9PF , (402)	2PG 9PG , (403)	2PH 9PH , (404)
2PI 9PI , (405)	2PJ 9PJ , (406)	2PK 9PK , (407)	2PL 9PL , (408)	2PM 9PM , (409)	2PO 9PO , (410)	2PP 9PP , (411)	2PQ 9PQ , (412)	2PR 9PR , (413)	2PS 9PS , (414)
2PY 9PY , (415)	2PZ 9PZ , (416)	2QA 9QA , (417)	2QB 9QB , (418)	2QC 9QC , (419)	2QD 9QD , (420)	2QE 9QE , (421)	2QF 9QF , (422)	2QG 9QG , (423)	2QH 9QH , (424)
2QI 9QI , (425)	2QJ 9QJ , (426)	2QK 9QK , (427)	2QL 9QL , (428)	2QM 9QM , (429)	2QO 9QO , (430)	2QP 9QP , (431)	2QQ 9QQ , (432)	2QR 9QR , (433)	2QS 9QS , (434)
2QY 9QY , (435)	2QZ 9QZ , (436)	2RA 9RA , (437)	2RB 9RB , (438)	2RC 9RC , (439)	2RD 9RD , (440)	2RE 9RE , (441)	2RF 9RF , (442)	2RG 9RG , (443)	2RH 9RH , (444)
2RI 9RI , (445)	2RJ 9RJ , (446)	2RK 9RK , (447)	2RL 9RL , (448)	2RM 9RM , (449)	2RO 9RO , (450)	2RP 9RP , (451)	2RQ 9RQ , (452)	2RR 9RR , (453)	2RS 9RS , (454)
2RY 9RY , (455)	2RZ 9RZ , (456)	2SA 9SA , (457)	2SB 9SB , (458)	2SC 9SC , (459)	2SD 9SD , (460)	2SE 9SE , (461)	2SF 9SF , (462)	2SG 9SG , (463)	2SH 9SH , (464)
2SI 9SI , (465)	2SJ 9SJ , (466)	2SK 9SK , (467)	2SL 9SL , (468)	2SM 9SM , (469)	2SO 9SO , (470)	2SP 9SP , (471)	2SQ 9SQ , (472)	2SR 9SR , (473)	2SS 9SS , (474)
2SY 9SY , (475)	2SZ 9SZ , (476)	2TA 9TA , (477)	2TB 9TB , (478)	2TC 9TC , (479)	2TD 9TD , (480)	2TE 9TE , (481)	2TF 9TF , (482)	2TG 9TG , (483)	2TH 9TH , (484)
2TI 9TI , (485)	2TJ 9TJ , (486)	2TK 9TK , (487)	2TL 9TL , (488)	2TM 9TM , (489)	2TO 9TO , (490)	2TP 9TP , (491)	2TQ 9TQ , (492)	2TR 9TR , (493)	2TS 9TS , (494)
2TY 9TY , (495)	2TZ 9TZ , (496)	2UA 9UA , (497)	2UB 9UB , (498)	2UC 9UC , (499)	2UD 9UD , (500)	2UE 9UE , (501)	2UF 9UF , (502)	2UG 9UG , (503)	2UH 9UH , (504)
2UI 9UI , (505)	2UJ 9UJ , (506)	2UK 9UK , (507)	2UL 9UL , (508)	2UM 9UM , (509)	2UO 9UO , (510)	2UP 9UP , (511)	2UQ 9UQ , (512)	2UR 9UR , (513)	2US 9US , (514)
2UY 9UY , (515)	2UZ 9UZ , (516)	2VA 9VA , (517)	2VB 9VB , (518)	2VC 9VC , (519)	2VD 9VD , (520)	2VE 9VE , (521)	2VF 9VF , (522)	2VG 9VG , (523)	2VH 9VH , (524)
2VI 9VI , (525)	2VJ 9VJ , (526)	2VK 9VK , (527)	2VL 9VL , (528)	2VM 9VM , (529)	2VO 9VO , (530)	2VP 9VP , (531)	2VQ 9VQ , (532)	2VR 9VR , (533)	2VS 9VS , (534)
2VY 9VY , (535)	2VZ 9VZ , (536)	2WA 9WA , (537)	2WB 9WB , (538)	2WC 9WC , (539)	2WD 9WD , (540)	2WE 9WE , (541)	2WF 9WF , (542)	2WG 9WG , (543)	2WH 9WH , (544)
2WI 9WI , (545)	2WJ 9WJ , (546)	2WK 9WK , (547)	2WL 9WL , (548)	2WM 9WM , (549)	2WO 9WO , (550)	2WP 9WP , (551)	2WQ 9WQ , (552)	2WR 9WR , (553)	2WS 9WS , (554)
2WY 9WY , (555)	2WZ 9WZ , (556)	2XA 9XA , (557)	2XB 9XB , (558)	2XC 9XC , (559)	2XD 9XD , (560)	2XE 9XE , (561)	2XF 9XF , (562)	2XG 9XG , (563)	2XH 9XH , (564)
2XI 9XI , (565)	2XJ 9XJ , (566)	2XK 9XK , (567)	2XL 9XL , (568)	2XM 9XM , (569)	2XO 9XO , (570)	2XP 9XP , (571)	2XQ 9XQ , (572)	2XR 9XR , (573)	2XS 9XS , (574)
2XY 9XY , (575)	2XZ 9XZ , (576)	2YA 9YA , (577)	2YB 9YB , (578)	2YC 9YC , (579)	2YD 9YD , (580)	2YE 9YE , (581)	2YF 9YF , (582)	2YG 9YG , (583)	2YH 9YH , (584)
2YI 9YI , (585)	2YJ 9YJ , (586)	2YK 9YK , (587)	2YL 9YL , (588)	2YM 9YM , (589)	2YO 9YO , (590)	2YP 9YP , (591)	2YQ 9YQ , (592)	2YR 9YR , (593)	2YS 9YS , (594)
2YY 9YY , (595)	2YZ 9YZ , (596)	2ZA 9ZA , (597)	2ZB 9ZB , (598)	2ZC 9ZC , (599)	2ZD 9ZD , (600)	2ZE 9ZE , (601)	2ZF 9ZF , (602)	2ZG 9ZG , (603)	2ZH 9ZH , (604)
2ZI 9ZI , (605)	2ZJ 9ZJ , (606)	2ZK 9ZK , (607)	2ZL 9ZL , (608)	2ZM 9ZM , (609)	2ZO 9ZO , (610)	2ZP 9ZP , (611)	2ZQ 9ZQ , (612)	2ZR 9ZR , (613)	2ZS 9ZS , (614)
2ZY 9ZY , (615)	2ZZ 9ZZ , (616)	2AA 9AA , (617)	2AB 9AB , (618)	2AC 9AC , (619)	2AD 9AD , (620)	2AE 9AE , (621)	2AF 9AF , (622)	2AG 9AG , (623)	2AH 9AH , (624)
2AI 9AI , (625)	2AJ 9AJ , (626)	2AK 9AK , (627)	2AL 9AL , (628)	2AM 9AM , (629)	2AO 9AO , (630)	2AP 9AP , (631)	2AQ 9AQ , (632)	2AR 9AR , (633)	2AS 9AS , (634)
2AY 9AY , (635)	2AZ 9AZ , (636)	2BA 9BA , (637)	2BB 9BB , (638)	2BC 9BC , (639)	2BD 9BD , (640)	2BE 9BE , (641)	2BF 9BF , (642)	2BG 9BG , (643)	2BH 9BH , (644)
2BI 9BI , (645)	2BJ 9BJ , (646)	2BK 9BK , (647)	2BL 9BL , (648)	2BM 9BM , (649)	2BO 9BO , (650)	2BP 9BP , (651)	2BQ 9BQ , (652)	2BR 9BR , (653)	2BS 9BS , (654)
2BY 9BY , (655)	2BZ 9BZ , (656)	2CA 9CA , (657)	2CB 9CB , (658)	2CC 9CC , (659)	2CD 9CD , (660)	2CE 9CE , (661)	2CF 9CF , (662)	2CG 9CG , (663)	2CH 9CH , (664)
2CI 9CI , (665)	2CJ 9CJ , (666)	2CK 9CK , (667)	2CL 9CL , (668)	2CM 9CM , (669)	2CO 9CO , (670)	2CP 9CP , (671)	2CQ 9CQ , (672)	2CR 9CR , (673)	2CS 9CS , (674)
2CY 9CY , (675)	2CZ 9CZ , (676)	2DA 9DA , (677)	2DB 9DB , (678)	2DC 9DC , (679)	2DD				

FIGURE 6

PC-83 CODE CHART

Switch	Desig.	Down	Up		Switch	Desig.	Down	Up		Switch	Desig.	Down	Up
1	F1	3B	BB		29	I	17	97		57	NOT USED		
2	F2	3C	BC		30	O	18	98		58	F7	41	C1
3	Esc	01	81		31	P	19	99		59	F8	42	C2
4	!	02	82		32	{	1A	9A		60	! \	2B	AB
5	@	03	83		33	}	1B	9B		61	⬆	2A	AA
6	#	04	84		34	~	29	A9		62	Z	2C	AC
7	\$	05	85		35	7 Home	47	C7		63	X	2D	AD
8	%	06	86		36	8 ↑	48	C8		64	C	2E	AE
9	^	07	87		37	9 Pg Up	49	C9		65	V	2F	AF
10	&	08	88		38	—	4A	CA		66	B	30	B0
11	*	09	89		39	F5	3F	BF		67	N	31	B1
12	(	0A	8A		40	F6	40	C0		68	M	32	B2
13	)	0B	8B		41	Ctrl	1D	9D		69	<	33	B3
14	_	0C	8C		42	A	1E	9E		70	>	34	B4
15	+ =	0D	8D		43	S	1F	9F		71	? /	35	B5
16	←	0E	8E		44	D	20	A0		72	⬆	36	B6
17	Num Lock	45	C5		45	F	21	A1		73	PrtSc *	37	B7
18	Scroll Lock Break	46	C6		46	G	22	A2		74	1 End	4F	CF
19	F3	3D	BD		47	H	23	A3		75	2 ↓	50	D0
20	F4	3E	BE		48	J	24	A4		76	3 Pg Dn	51	D1
21	⬅ ➡	0F	8F		49	K	25	A5		77	+	4E	CE
22	Q	10	90		50	L	26	A6		78	F9	43	C3
23	W	11	91		51	: ;	27	A7		79	F10	44	C4
24	E	12	92		52	" ' ,	28	A8		80	Alt	38	B8
25	R	13	93		53	⬅	1C	9C		81	Spacebar	39	B9
26	T	14	94		54	4 ←	4B	CB		82	Caps Lock	3A	BA
27	Y	15	95		55	5	4C	CC		83	O Ins	52	D2
28	U	16	96		56	6 →	4D	CD		84	. Del	53	D3

FIGURE 7
TIMING DIAGRAM
PC-83 and PC-84



IBM® PC COMPATIBLE WAVE FORMS
EACH DIVISION EQUALS $100\ \mu\text{SEC}$

FIGURE 8

PC-83 and PC-84

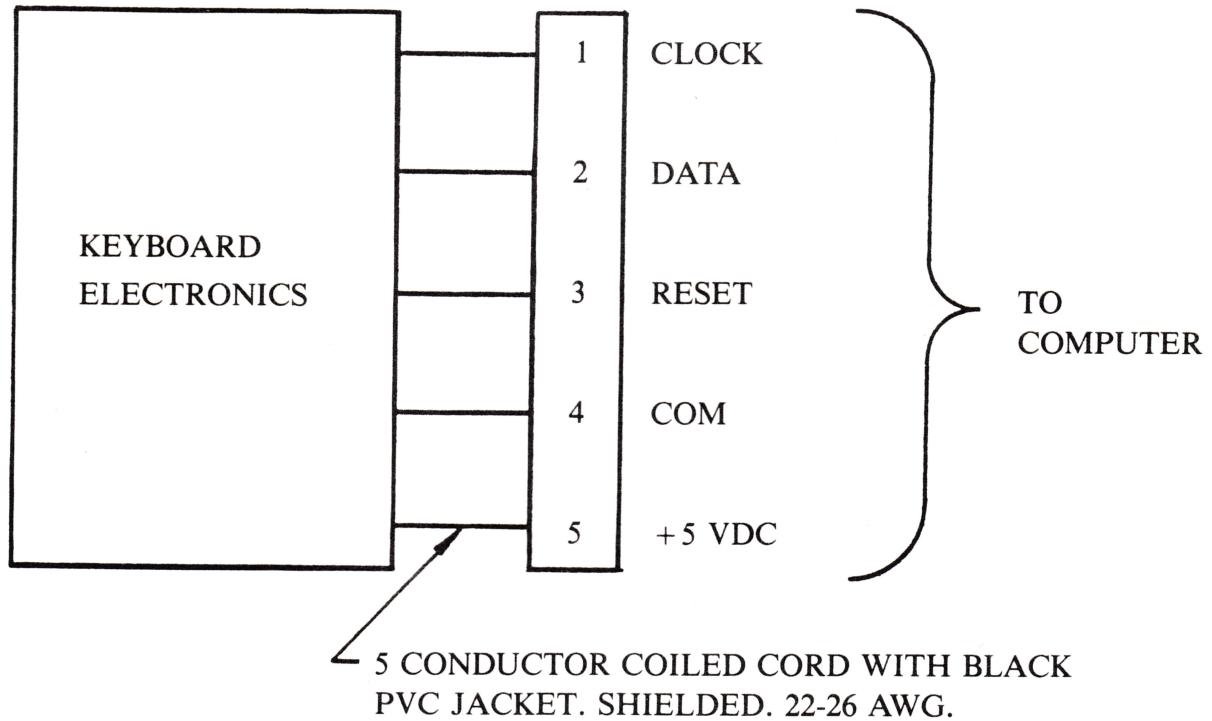
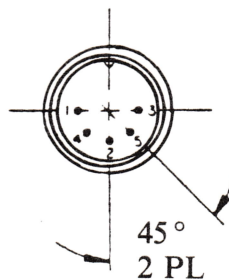


FIGURE 9

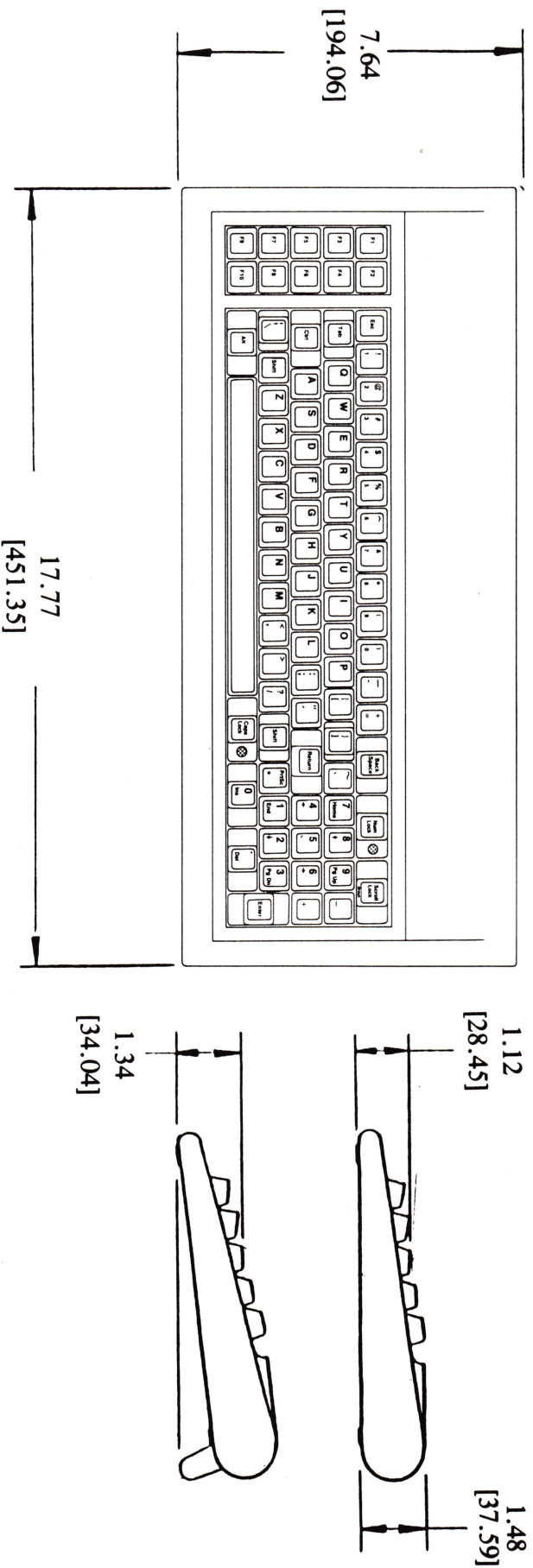
PC-83 and PC-84



KEYBOARD CONNECTOR TO MATE WITH DIN STYLE 5 PIN
AT 180° FEMALE CONNECTOR.
(REF. SWITCHCRAFT P/N 57NC5F OR EQUIV.)

FIGURE 10

OUTLINE DIMENSIONS
PC-84



DIMENSIONS IN [] ARE IN MILLIMETERS

FIGURE 11
ARRAY CONFIGURATION
PC-84

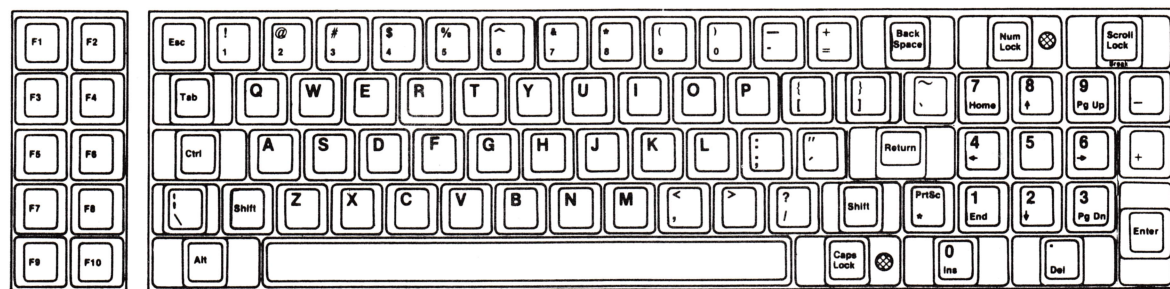


FIGURE 12

X-Y MATRIX
PC-84

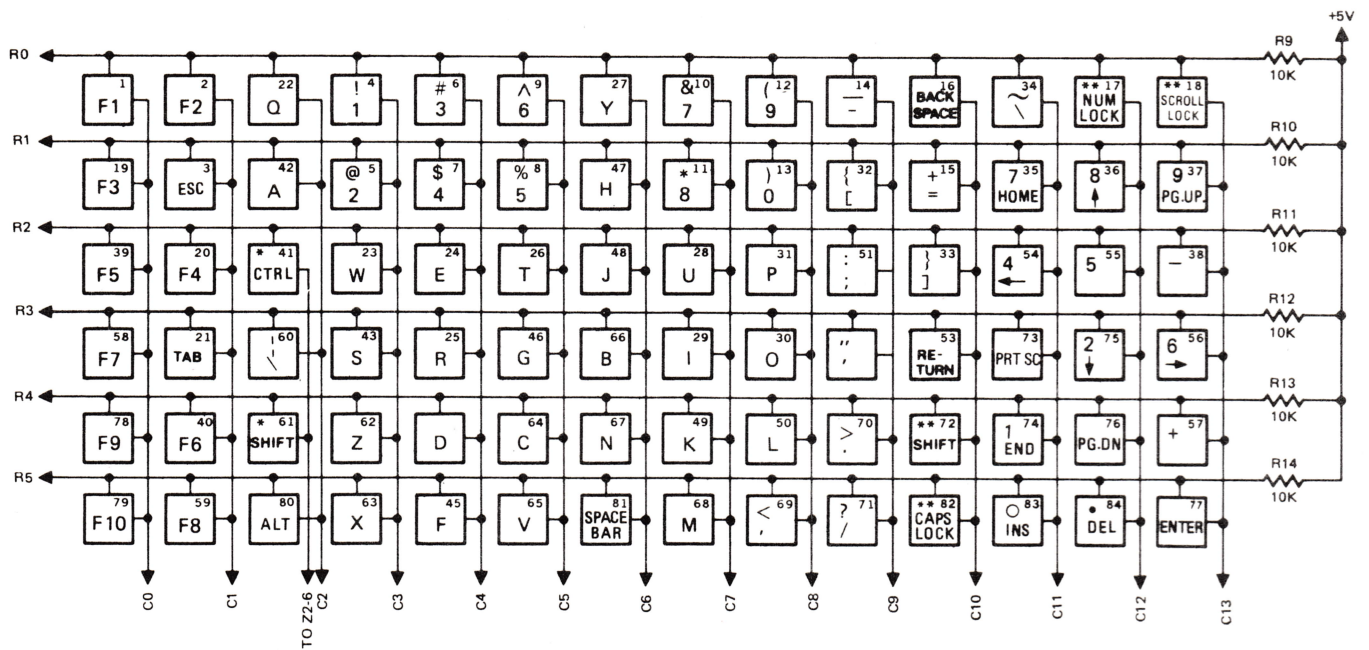


FIGURE 13

SWITCH LAYOUT

PC-84

EXAMPLE:

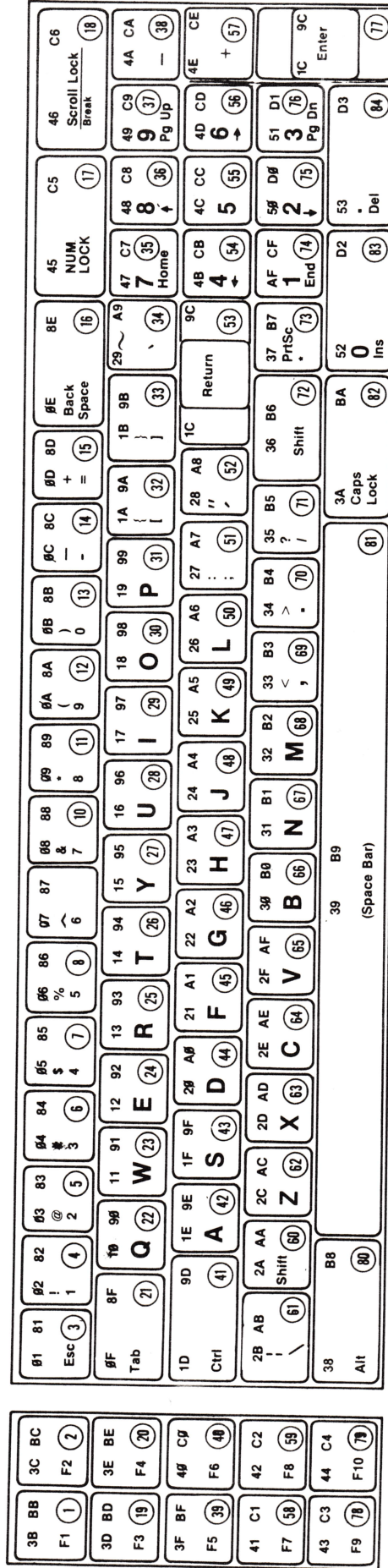
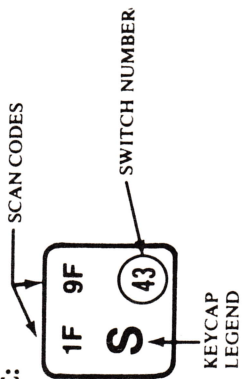


FIGURE 14

PC-84 CODE CHART

Switch	Desig.	Down	Up		Switch	Desig.	Down	Up		Switch	Desig.	Down	Up
1	F1	3B	BB		29	I	17	97		57	+	4E	CE
2	F2	3C	BC		30	O	18	98		58	F7	41	C1
3	Esc	01	81		31	P	19	99		59	F8	42	C2
4	!	02	82		32	{	1A	9A		60	Left Shift	2A	AA
5	@	03	83		33	}	1B	9B		61	\	2B	AB
6	#	04	84		34	~	29	A9		62	Z	2C	AC
7	\$	05	85		35	7 Home	47	C7		63	X	2D	AD
8	%	06	86		36	8 ↑	48	C8		64	C	2E	AE
9	^	07	87		37	9 Pg Up	49	C9		65	V	2F	AF
10	&	08	88		38	—	4A	CA		66	B	30	B0
11	*	09	89		39	F5	3F	BF		67	N	31	B1
12	(	0A	8A		40	F6	40	C0		68	M	32	B2
13	)	0B	8B		41	Ctrl	1D	9D		69	<	33	B3
14	—	0C	8C		42	A	1E	9E		70	>	34	B4
15	+	0D	8D		43	S	1F	9F		71	? /	35	B5
16	Back Space	0E	8E		44	D	20	A0		72	Right Shift	36	B6
17	Num Lock	45	C5		45	F	21	A1		73	PrtSc *	37	B7
18	Scroll Lock Break	46	C6		46	G	22	A2		74	1 End	4F	CF
19	F3	3D	BD		47	H	23	A3		75	2 ↓	50	D0
20	F4	3E	BE		48	J	24	A4		76	3 Pg Dn	51	D1
21	Tab	0F	8F		49	K	25	A5		77	Enter	1C	9C
22	Q	10	90		50	L	26	A6		78	F9	43	C3
23	W	11	91		51	:	27	A7		79	F10	44	C4
24	E	12	92		52	" ,	28	A8		80	Alt	38	B8
25	R	13	93		53	Return	1C	9C		81	Spacebar	39	B9
26	T	14	94		54	4 ←	4B	CB		82	Caps Lock	3A	BA
27	Y	15	95		55	5	4C	CC		83	O Ins	52	D2
28	U	16	96		56	6 →	4D	CD		84	Del	53	D3

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