Systems

IBM 3210 Console Printer-Keyboards Component Description

This publication describes the physical and functional characteristics of the IBM 3210 Console Printer-Keyboards. The purpose of each of the control keys and indicator lights supplementing the keyboard is included.

For additional information on forms specifications, refer to *Form-Design Considerations--System Printers,* GA24-3488.

For additional information on 3210 operating procedures, refer to *IBM System/370 Model 145 Operating Procedures,* GA24-3554.

IBM

Preface

This manual is intended as an introduction to the IBM 3210
Console Printer-Keyboards. The 3210's are described here
according to the way in which they operate with IBM
System/370.

However, because the 3210 Model 2 is a standalone I/O
unit, the assigned functions of the control keys and indi-
cator lights described here may vary according to the
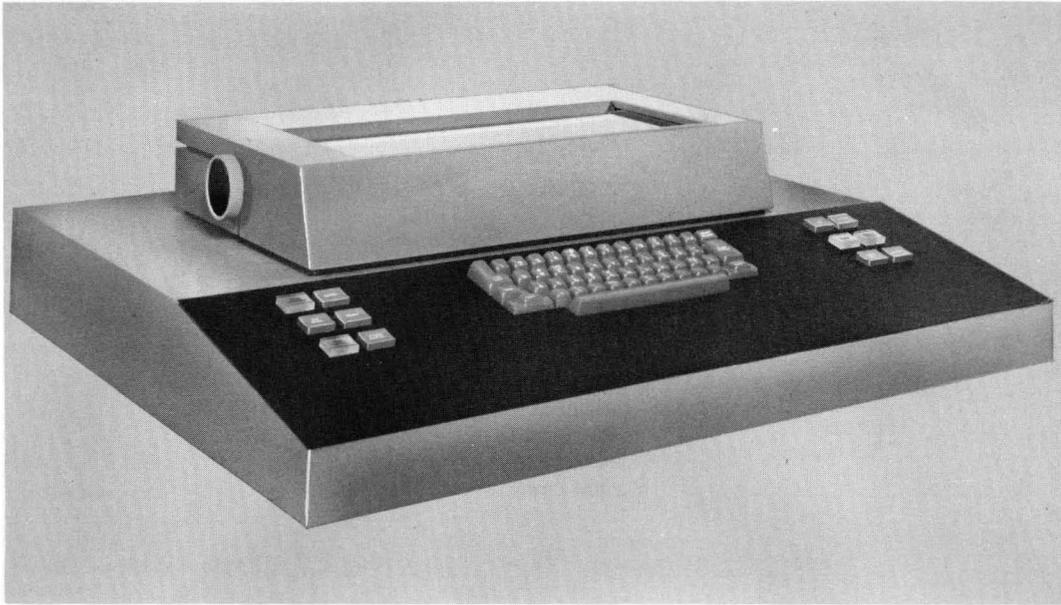particular requirements of another system.
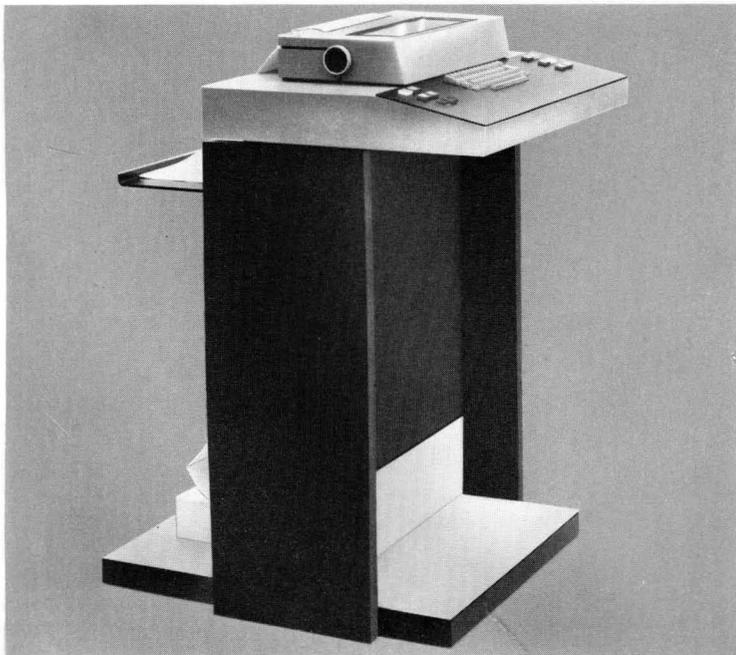
Contents

Figure 1. IBM 3210 Console Printer-Keyboard Model 1

Figure 2. IBM 3210 Console Printer-Keyboard Model 2

The 3210 Console Printer-Keyboards are auxiliary I/O terminal units that provide two-way communication between the operator and an attached data processing system. This communication is in the form of keyboard entry and printed output.

The 3210 printer-keyboard consists of the new Selectric® I/O-II printer keyboard mounted in an operator's console. Intended for use with IBM System/370, the 3210 is available in two models—one local, and one remote—that have the same capabilities except for alter/display.

MODEL 1

This model (Figure 1) is mounted on a table attached to the System CPU. It has the capability of altering or displaying data in storage.

MODEL 2

This model (Figure 2) is mounted on a pedestal and is attached to the CPU by an external signal cable. It has its own ac line cord and no alter/display capability. Accordingly, the Model 2 has no alter/display light or key (see *Control*

Keys and Indicator Lights). In the positions occupied by this light and key on the Model 1, the Model 2 has an ac power-on and an ac power-off switch. It also has its own ac power control system built into the pedestal.

PRINTER

The printer uses a 15-in. (381 mm) carriage with a pin-feed platen that accommodates marginally punched forms having a hole-to-hole width of 13-1/8 in. (333,4 mm). This carriage handles a maximum of one original and five carbon copies of pin-feed forms. For best results, however, no more than three carbon copies are recommended. Vertical line spacing is six lines to the inch (25,5 mm); horizontal spacing is ten characters to the inch.

The printer has fixed margins and no tab or backspace capabilities. It uses the standard Selectric® cartridge fabric ribbon and has no pressure rolls or paper bail. It uses a special print element having an arrangement of the 88 printable characters designed (Figure 3) to provide maximum throughput and fast response when keying.

Printer functions are print, space, and new line (carrier return accompanied by a line feed). Print and space

Δ

<	¢	;	!	+	%	&	¬	:	>	"
j	l	n	p	r	@	k	m	o	q	#
)	t	v	x	z	_	s	u	w	y	?
a	c	e	g	i	(	b	d	f	h		

Platen Side

1	3	5	7	9	0	2	4	6	8	=
J	L	N	P	R	*	K	M	O	Q	$
/	T	V	X	Z	–	S	U	W	Y	,
A	C	E	G	I	'	B	D	F	H	.

Operator's Side

Figure 3. Optimized Character Arrangement on Print Element

operations take place at speeds of 15.5 characters per second; carrier return speed is about 15 inches (381 mm) per second.

For additional information on forms specifications, refer to *Form-Design Considerations--System Printers,* GA24-3488.

For additional information on 3210 operating procedures, refer to *IBM System/370 Model 145 Operating Procedures,* GA24-3554.

KEYBOARD

The keyboard (Figure 4) has 44 operating character keys that can transmit 88 encoded characters to the attached system. The tab and backspace keys, although present, are blank and inoperable. The shift, lock, and return keys are standard, as is the space bar. The keyboard has no typamatic (continuously repetitive) keys.
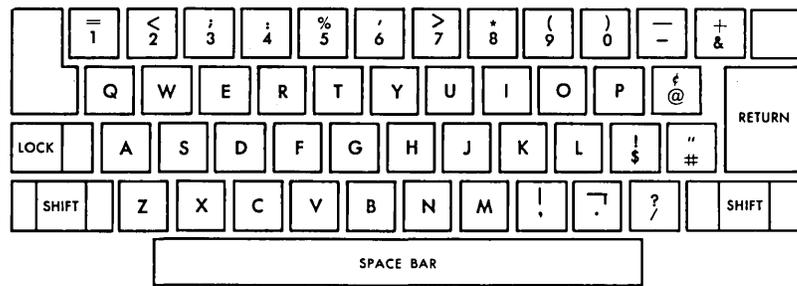
CONTROL KEYS AND INDICATOR LIGHTS

Figure 5 shows the operator control keys and indicator lights that flank the 3210 keyboard. Depending on the model, the two lower left positions are either alter/display lights and switches, or power on/off switches, as indicated in the drawing. No associated logic is furnished with the 3210 printer-keyboards. Any logical function performed as a result of key operation is a function of the user attachment. The functions assigned the control keys and lights in this manual are those used by the 3210 with the IBM System/370. Conceivably, other users might assign them other functions.
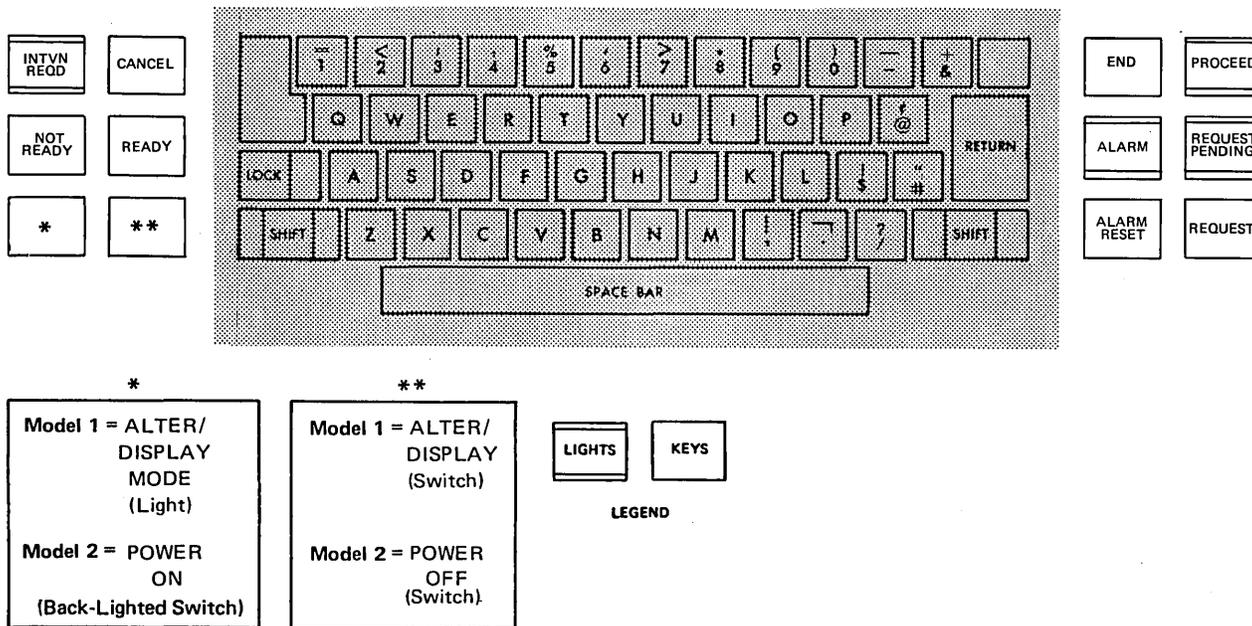

Figure 4. 3210 Keyboard

Figure 5. Operator's Control Keys and Indicator Lights

6

Control Keys

Key	Function
Alarm Reset	Resets the alarm indicator.
Alter/Display	On the Model 1 only, causes the attachment to service the manual alter or display operations. *Note:* The CPU stop key must be pressed before the alter/display key can be used.
Cancel	Terminates a read operation only.
End	Terminates a read, write, or store operation.
Not Ready	Makes the printer-keyboard *not ready* and puts it in an offline condition.
Power Off	On the Model 2 only, is in the position occupied by the alter/display key on the Model 1. It removes ac power from the printer drive motor.
Power On	On the Model 2 only, is in the position occupied by the alter/display mode light on the Model 1. It turns on ac power to the printer drive motor. When ac power is on, the label on this key is illuminated.
Ready	Places the printer in a ready state after forms have been correctly positioned and the top cover closed.
Request	Signals the attachment that the operator desires to enter data from the keyboard.

Indicator Lights

These incandescent bulbs, when lit, shine through their translucent plastic lenses to illuminate the engraved labels.

Light	Function
Alarm	Indicates that an alarm command was issued by the attached system. On the 3210 printer keyboard, the alarm consists of this visual indicator only. The actual alarm is an audio-tone emitting device in the CPU.
Alter/Display Mode	Indicates that the printer-keyboard attachment is in a status in which it can perform manual alter or display operations.
Intvn Reqd (Intervention Required)	Indicates that some condition exists that requires operator attention, such as forms runout, cover open, (or ac power off on the Model 2).

Light	Function
Power On	On the Model 2 only, is part of the power-on switch (key). It lights whenever the operation of the power-on key has turned on ac power to the printer. The light remains on until the ac power is shut off.
Proceed	Indicates that the system is ready to accept data from the keyboard.
Request Pending	Indicates that a request key operation has been initiated but that the system is not yet ready to accept data from the keyboard.

Cover Interlock Switch

The 3210 printer-keyboards are equipped with a cover interlock switch that signals the system that operator intervention is required to close the cover.

PAPER-HANDLING FACILITIES

The Model 1 has two shelves at the back to hold paper forms. The supply of blank forms is placed on the lower shelf. The paper then is threaded through a slot in the upper shelf and inserted through an opening at the top of the printer where the marginal perforations can engage the platen feed pins. As printing progresses and the forms advance through the printer, they emerge through the same opening by which they entered and are stacked on the upper shelf.

The Model 2 has only a single (stacking) shelf that holds the printed forms as they emerge from the printer. The supply of blank forms is placed on the base of the machine (refer to Figure 2), and the paper is threaded through the slot in the stacking shelf and inserted in the printer in the same manner as for the Model 1.

Forms length is limited by the shelf size to 11 inches (279,4 mm).

MACHINE POWER

The Model 1 derives all its power, both ac and dc, from the attachment circuitry in the CPU.

The Model 2, however, has a power-on switch and line cord that provide the ac power to the drive motor in the printer. All other (dc) power and signal lines must be supplied by the attached system through the printer-keyboard interface connectors and the external connecting-cable provided with this model.

READER'S COMMENT FORM

IBM 3210 Console Printer-Keyboards
Component Description
Systems

Order No. GA24-3552-1

- Are you able to find information in this publication easily?

- Are the illustrations adequate, clear, and concise?

- Which of the following are included in your occupational responsibilities?
    - System operating. . . . .
    - Programming. . . . .
    - Supervising. . . . .
    - Instructing. . . . .
    - Other. . . . .

- We would appreciate your comments; please give specific page and line references where appropriate.

Reply Requested?

Yes ☐

No ☐

NAME . . . .

STREET . . . .

CITY . . . .

STATE . . . . . ZIP CODE . . .

GA24-3552-1

YOUR COMMENTS, PLEASE . . . .

Your answers to the questions on the back of this form, together with your comments,
will help us produce better publications for your use. Each reply will be carefully
reviewed by the persons responsible for writing and publishing this material. All
comments and suggestions become the property of IBM.

Please note: Requests for copies of publications and for assistance in utilizing your
IBM system should be directed to your IBM representative or to the IBM branch
office serving your locality.

Fold   Fold

FIRST CLASS
PERMIT NO. 170
ENDICOTT, N.Y.

BUSINESS REPLY MAIL

NO POSTAGE STAMP NECESSARY IF MAILED IN THE UNITED STATES

POSTAGE WILL BE PAID BY . . . .

IBM Corporation
P.O. Box 6
Endicott, N.Y. 13760

Attention: Product Publications, Dept. 171

Fold   Fold

IBM
®

International Business Machines Corporation
Data Processing Division
112 East Post Road, White Plains, N.Y. 10601
[USA Only]

IBM World Trade Corporation
821 United Nations Plaza,
New York, New York 10017
[International]

GA24-3552-1

IBM.