INDEX DOMINO

USER MANUAL

VERSION 4.0
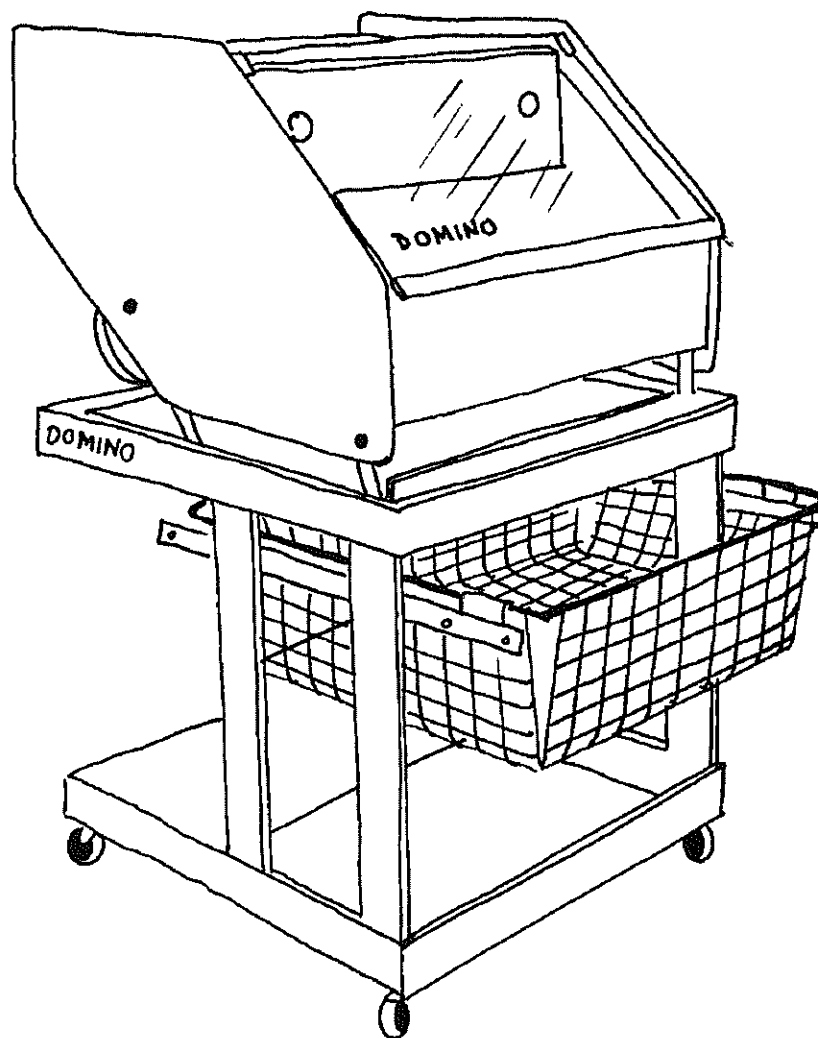
Table of Contents

1.   INTRODUCTION

INDEX DOMINO is a technically advanced printer that can produce both 6 dot and 8 dot INTERPOINT BRAILLE and a variety of graphic images.

It prints at an interline speed of 50 characters per second. The INDEX DOMINO has sixteen different Braille languages codes built-in. Interline speed represents a ratio of the speed used to produce a single line of braille. Full page output may be less, depending on formatting and/or transmission speed. The INDEX DOMINO is very easy to use, however, we suggest that you read through the introductory chapters prior to powering-on your INDEX DOMINO. Reading these instruction will enable you to become familiar with the printer and its features quickly, and will minimize potential problems. Keep the manual nearby for easy reference.

In the event of you requiring additional advice or technical support, please do not hesitate to contact your INDEX DOMINO supplier.
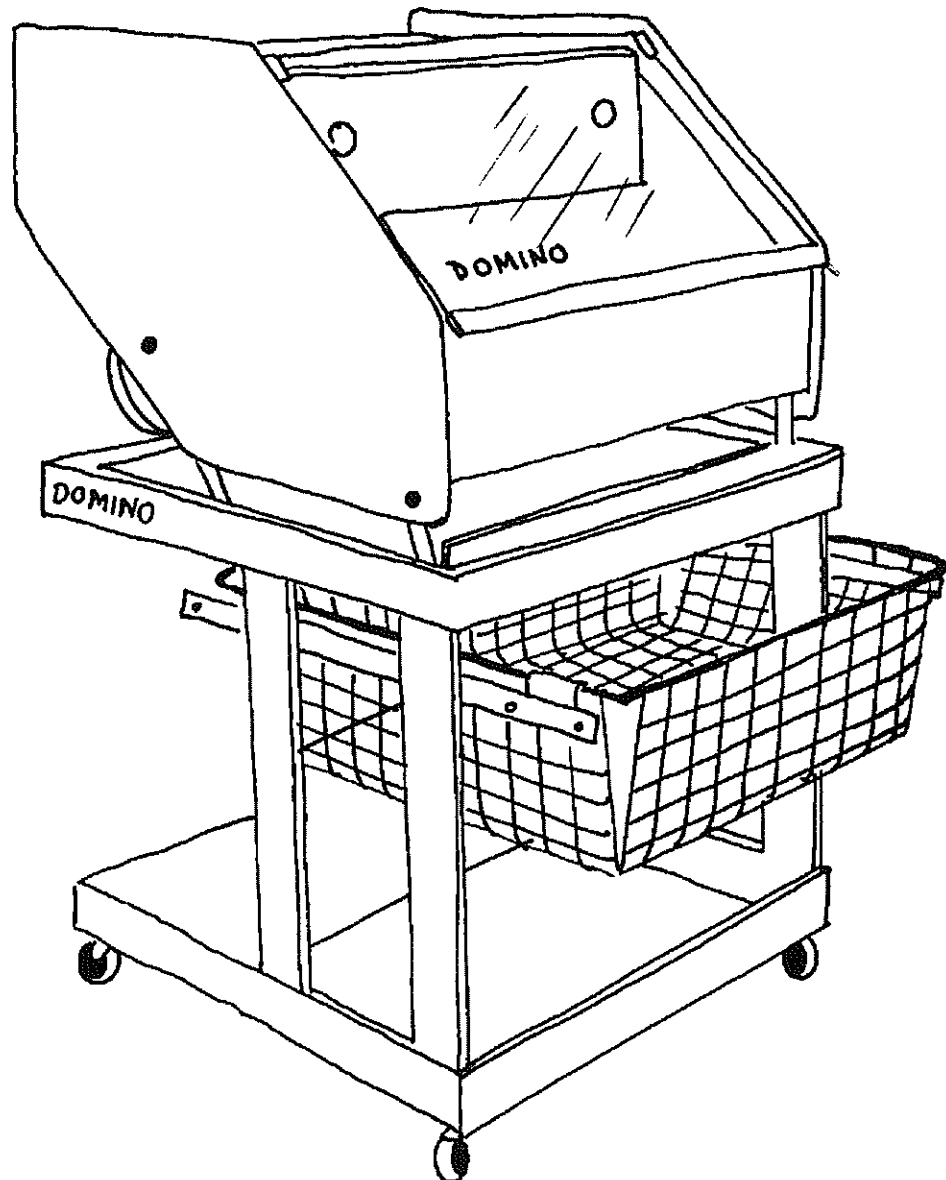
2.   GETTING STARTED

2.1   Delivery Packing

The total delivery of your INDEX DOMINO should be contained in three cartons or boxes A.
Box with the Domino stand B. Box with master printer C. Box with slave printer.
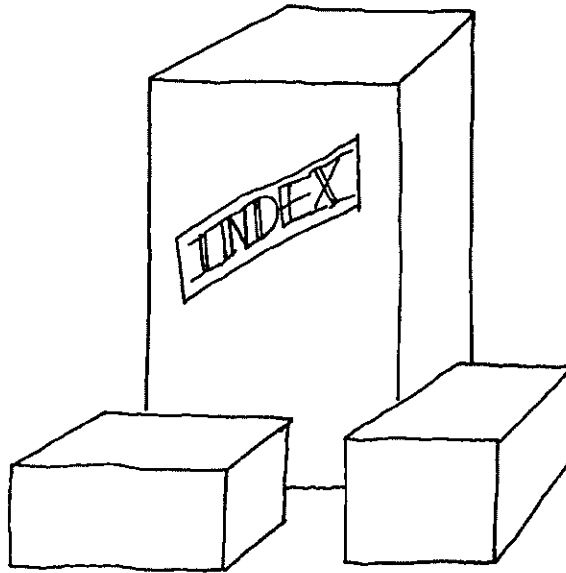
Box A. will contain the assembly instructions for the printer and also include: Paper Guide Four
screws Communication cable Tools Power cable Spare screws INDEX DOMINO documenta-
tion INDEX DOMINO Braille printer INDEX DOMINO User Manual SET-UP Disk.

2.2   Assembling the INDEX DOMINO

INDEX DOMINO is very easy to put together however before beginning we recommend that you read this chapter carefully.

The instructions should be followed step by step to ensure correct assembly.

1. Carefully unpack the three boxes and check to ensure that the shipment includes all the components in the listed 2.1. If anything is missing contact your supplier immediately.

2. Unscrew the three interpoint adjustment knobs to maximum out position. These are the large knobs on the outside of the cover. This will make it easier to put the master printer into the stand.
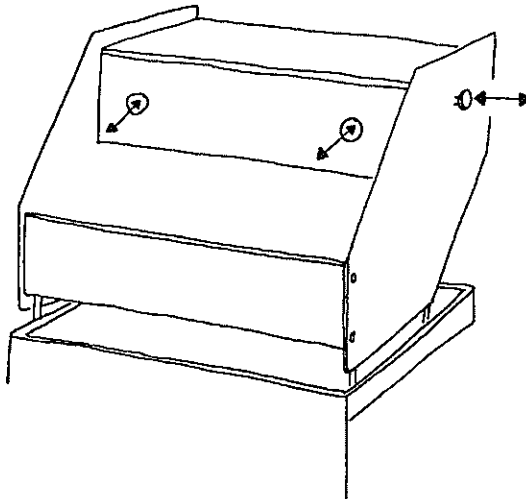
3. Remove the "Shipping screw" on both printers. The shipping screws are located near to the left tractor-feed on the printers. A Hex (Allen) key is provided with the tools for this purpose.

NOTE ! This screw must be replaced whenever the printer is shipped. (The printing head should be at left side and this can be achieved by simply switching the printer on at the mains, or by pressing the re-set button).

4. Tilt up the cover. Slide the slave-printer carefully into the front of the stand.

5. Mount the master printer carefully (up-side down) into the cover. Check to ensure that the chamfored edge is to the front. Secure in position with the four hex headed screws.

6. Connect and lock the internal communication cable to the sockets on the rear of the printers.

7. Screw the paper guide in position with the 4 screws provided.

8. Screw in the three interpoint adjustment screws until they are approximately 5-10 mm from their maximum position.

9. Insert the paper. (For full details see section 2.3).
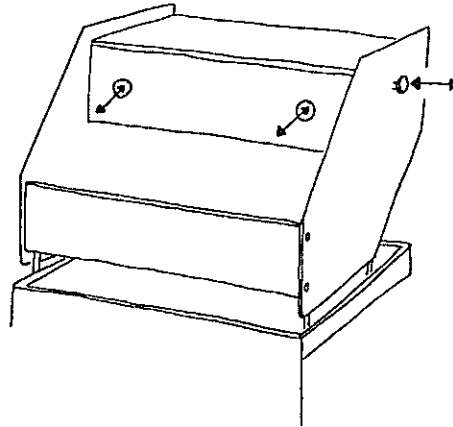
10. Perform a "SYSTEM RESET". Hold down the "Paper feed" + "set page" and power on the printer at the same time.

11. Put upper and lower impact level adjustment into middle position. These are the two knobs positioned at the front right hand side of the lower printer.

12. To commence an interpoint test printout, hold down the "paper feed" and then press the reset button on the rear of the printer. The printer must be on line with double sided Braille selected. The printer will now start to print out a sequence of braille with full 6-dot cells on the upper side and "g", dots 1234, on the under side.

13. Adjust the interpoint position with the three interpoint adjustment screws. Having made an adjustment to the interpoint settings you must wait until 14 lines have been printed before you can see how your adjustment has affected the print result. Make very small adjustments each time.

When you have a good printout don't forget to lock the screw with the lock-nut.
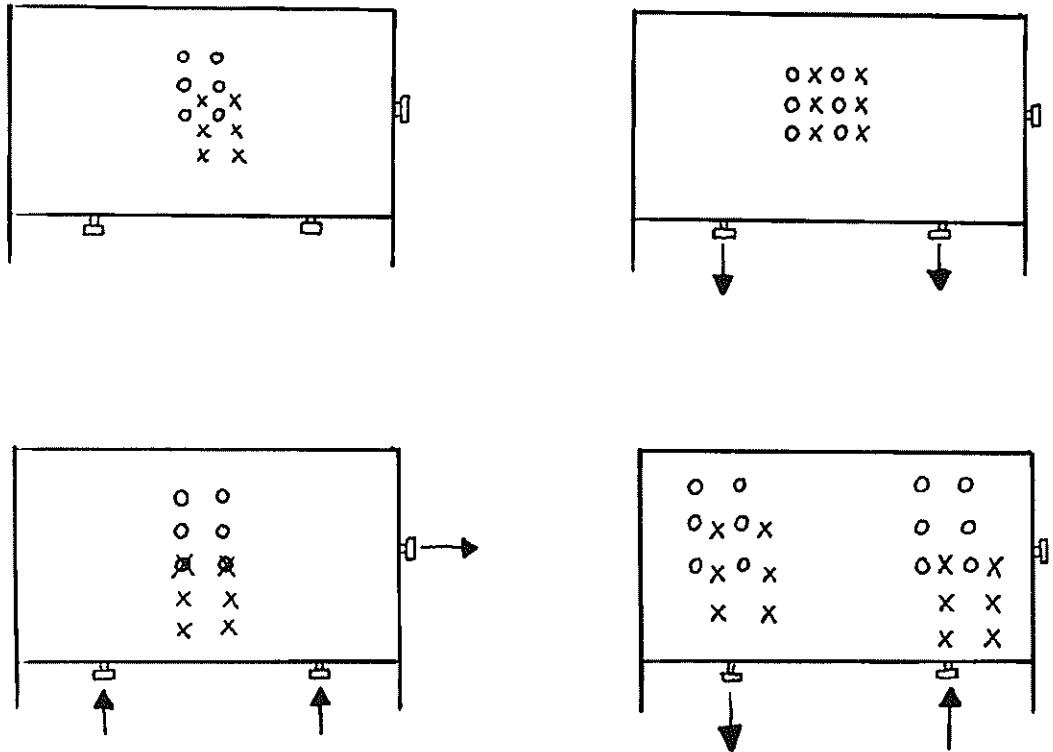
The power cable must always be connected to a grounded outlet.

2.3   Paper Insertion

1. Put the paperbox on the back part of the stand.

2. Tilt up the printer housing.
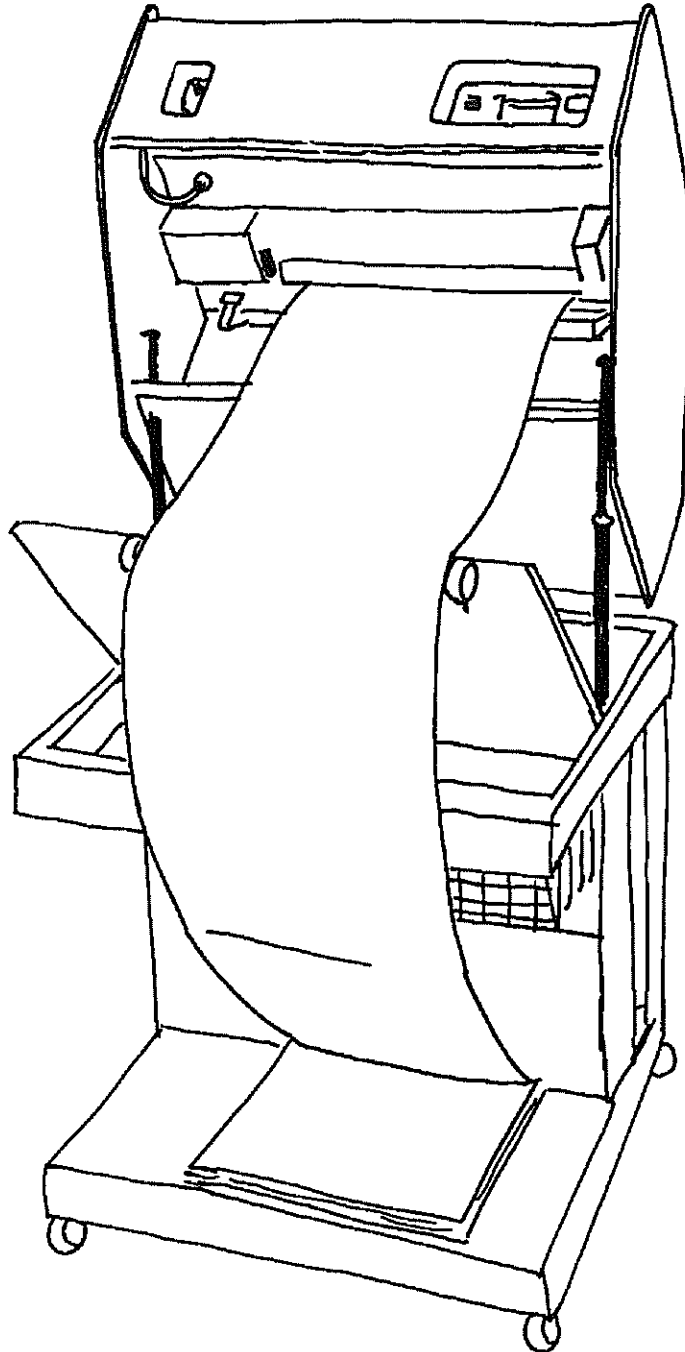
3. Feed the paper from the rear above the printing beam on the master printer puting it straight through both printer modules. It is helpful to fold over the leading sheet of paper at the perforation, thus feeding two sheets though.

4. Put down the printer housing.
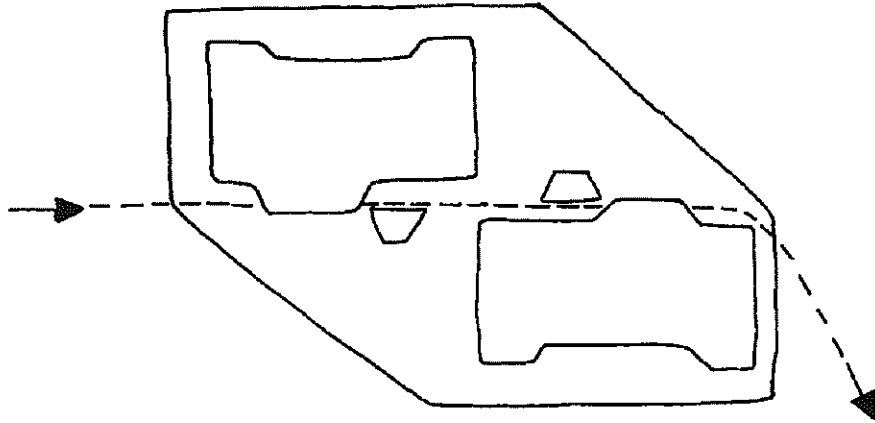
5. Fit the paper onto the tractor ensuring that the edge is straight and level, then close both tractor feed tops.

6. Adjust the paper control nuts on the back of the printer. The adjustment must be made in such a way that the paper goes just between the two nuts with less than .5mm clearance and straight into the tractor feed on the printer. It is essential for smooth paper flow that the box containing the paper and the paper guide are aligned correctly.
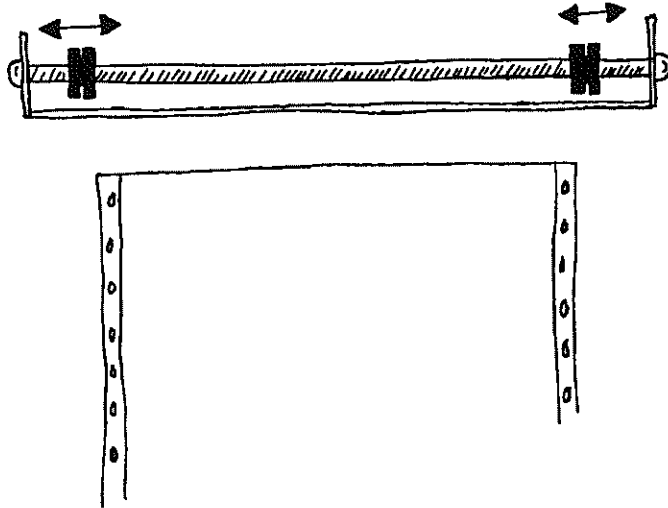
3.   INTERFACE PANEL
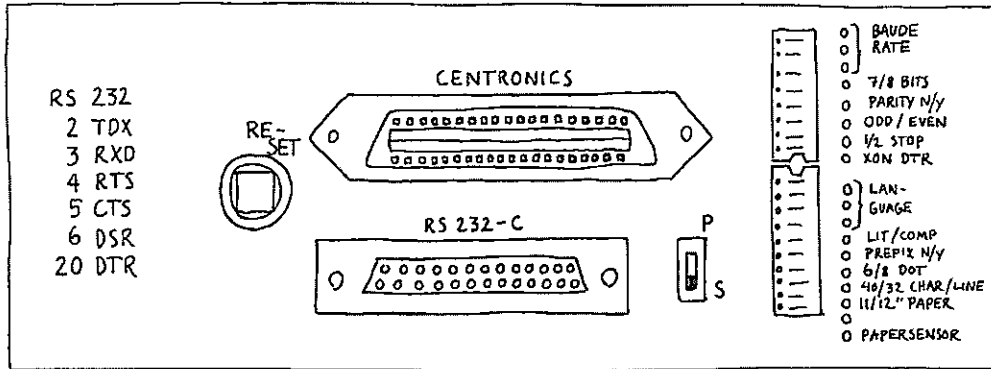
3.1   Connectors

The Interface Panel for the printer is located on the right hand side of the back panel and has on it the serial and Centronics interface connectors, the RESET button, two blocks of dip-switches in a vertical row, and the serial/parallel selector slide switch. The RESET BUTTON is located on the far right-hand side of the interface panel.

The serial/parallel slide switch, located between the dip switches and the serial connector, is used to change between serial and Centronics interfaces. To effect this change it is necessary to press the RESET button on the same panel after setting the serial/parallel switch. The two blocks of dip-switches are used to set the communication parameters on the serial interface and to select the braille code and mode on the printer. The values of the upper block of dip-switches are utilized whenever the printer is powered up or the RESET button is pressed. The values of the lower dip-switch block, which effect the language codes, are only utilized when a SYSTEM RESET* is made. The printer program is designed in this way to enable the simple and efficient use of the SET-UP program.

* NOTE: Be careful not to confuse the SYSTEM RESET with the RESET button.

The interface panel is clearly labelled in print indicating the exact function of each switch and connector.

The factory setting of the serial interface is as follows:

Communication values: 9600 baud, 8 bits, No parity, 1 stop bit.

3.2   Reset Button

The RESET button is situated on the right hand side of the interface panel. This button may be used to clear the printer buffer, however, the "parameter values" previously selected in the set-up program will be retained.

NOTE! After a RESET is it necessary to set the Top Of Form for the paper. (See section 4.3.1).
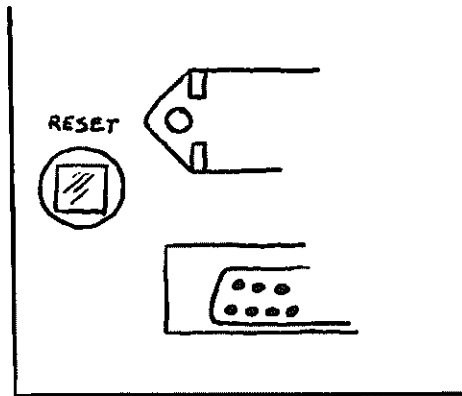
4.   TOP-SWITCH PANEL
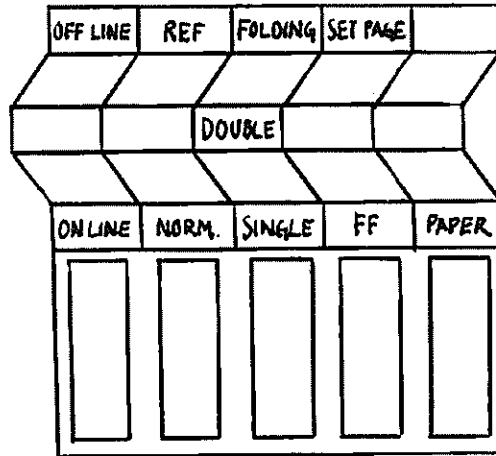
4.1   ON/OFF-line (First switch from the left)

To obtain print-out from the INDEX DOMINO this switch must be in the ON-line position
(toward the front edge). To operate SET PAGE-FORM FEED and PAPER FEED the switch must
be in the OFF LINE position (toward the back edge). To operate the COPY FUNCTION of the
printer the switch must be in the ON-LINE position, otherwise the switches will perform their
normal functions.

4.2   Normal/Re-formatted

4.2.1   Normal (NOR to the front edge)

In the NORMAL position, the text will be printed in the same lay-out as the text file, similar to a
normal ink printer. The text file should be arranged so that the line and page length cor-
responds to the page lay-out settings of INDEX DOMINO.

4.2.2   Re-formatted (REF center position).

In the REF position, the text is re-formatted in such a way that "unnecessary" empty lines and spaces are removed. This creates a more user friendly presentation of the material especially if the text-file was prepared for an ink-printer. The INDEX DOMINO performs this task without the document text requiring to be edited. In the reformatted mode the following changes will be made to the text-file:

Multiple spaces will be reduced to one space.

One CR will be erased More than one CR will be substituted by one CR + two spaces (Example: new paragraphs will be indicated by two spaces at the start of a new line). More than 4 CR will create a blank line.

Single Form Feed (FF) will be erased. More than two FF will create a new page.

4.3   Single/double/z-folding (Third switch from the left)

4.3.1   Single (Single to the front edge)

Single side print mode, is similar to normal desk-top braille printers, and exactly like the functions on the Index Classic or Basic printers.

In single side print mode you have the option to print in six dots and 4 dots graphic. To create the graphic file you can use the drawing program "DRAW.EXE". To create a graphic immage of normal capital letters and figures you can use the program "LETTER.EXE". This program are available on the "Index support disk" from your Index distributor.

4.3.2   Double (Double - middle position)

In double side-mode, the INDEX DOMINO will work as a normal double sided braille printer.

The printout will be in the following way:

Paper one - up page 1.
Paper one - down page 2.

Paper two - up page 3.
Paper two - down page 4.

4.3.3   Folding (Folding toward back position)

This function enables easy paper handling. After the printout you can take the paper, and bind the left side in a file. Then cut the exposed paper perforation between the pages, and you have your braille book.
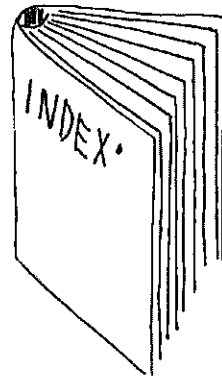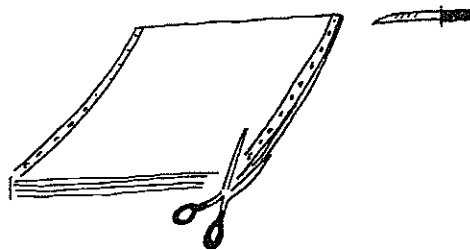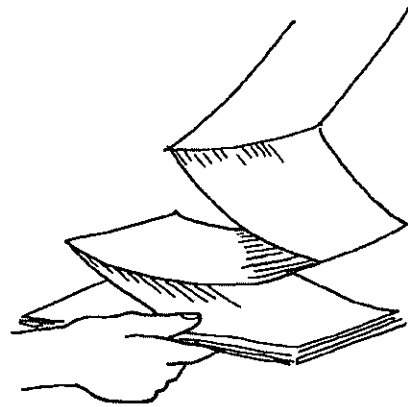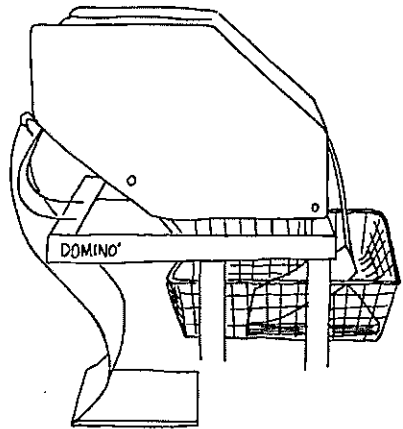
Paper one - up page 1.
Paper one - down page 2

Paper two - up page 4 (up-side down).
Paper two - down page 3 (up-side down).

Paper three - up page 5.
Paper three - down page 6.

Paper four - up page 8 (up-side down).
Paper four - down page 7 (up-side down).

4.3   Set Page/Form Feed (fourth switch from left)

The FORM FEED (front edge) controls the advancement of the paper to the top of the next page.

The SET PAGE (back edge) control determines the reference position of the page length function and gives a FF. After using SET-PAGE you can direct switch on line and begin the printout.

4.3.1   To Set - Top of Form (TOF)

1. Put INDEX DOMINO in OFF-line mode.

2. Advance the paper with PAPER FEED (wide switch on the right) so that the page perforation fold lies exactly along the top front edge of the reading plate.

3. Press SET PAGE. You have now set the reference point for the page length function.

4. Set INDEX DOMINO in ON-line mode. The printer is now ready to receive the text-file.

4.4   Paper forward. (far right switch)

This paper is used to move the paper forward. It is not possible to move the paper backward with the paper control. To move the paper backwards power off the printer and pull the paper by hand.

5. MULTIPLE COPY FUNCTION

The multiple copy function is set up from the Top Switch Control Panel and the Reset Button. The copying operation is then controlled either via ESC sequences at the beginning of the text file or directly from the Top Switch Control Panel and the Reset Button, depending on the preference of the operator.

The multiple copy function will work in all printmodes single/double/folding and graphic.

5.1 Start copy

1. The INDEX DOMINO must be in the "ON LINE" mode prior to commencement of the function set up.

2. Press and hold down the PAPER FORWARD (front edge) AND SET PAGE (back edge) buttons at the same time press the RESET button. (Note. These are the two buttons on the right of the Top Switch and the single button on the right side of the rear interface panel.

3. You will hear a short beep to indicate that the INDEX DOMINO is ready to receive the text file.

5.2 Control - Top Switch Panel

Start the copy function with sequence 1-3, followed by:

4. Send the text file from the computer to the INDEX DOMINO. A series of long beeps will indicate that the text file has been successfully received by the INDEX DOMINO. (About 20 seconds after the text-file has been received by the printer).

Remember that you cannot send more text than the 30Kb memory of the printer will hold.

5. To select the number of copies to be printed, up to a maximum of 9999, you are required to press a combination or sequence of the PAPER FORWARD (front edge) and FORM FEED (front edge) buttons on the Top Switch Control Panel. The FORM FEED has a value of ten copies and the PAPER ADVANCE a value of one. To reset the copy function to zero, press the SET PAGE.

6. To commence the multiple copying operation press the PAPER FORWARD (front edge) and FORM FEED (front edge) buttons together.

7. The completion of the multiple copy function will be indicated by a series of short bleeps from the INDEX DOMINO, further copies or additional text files can now be printed by commencing the above sequence of instructions. The RESET button should be pressed to return the printer to the normal print mode.

5.3   Control - ESC Sequences

On completion of the instructions 1-3 (above) and it has been indicated by the audible signal that the INDEX DOMINO is in the Multiple Copy mode, insert the following sequence at the beginning of the text-file: EscCtrlN9999cr. (cr = carriage return).

(Note. There must be no spaces in the ESC sequence which must end with a CR).

nnnn indicates the number of copies to be produced. The text-file should then be sent to the printer. INDEX DOMINO will then commence printing the instructed number of copies. The completion of the multiple copy function will be indicated by a series of short bleeps from the INDEX DOMINO. Further copies, or additional text files can now be printed by re-commencing the above sequence of instructions.

The RESET button must be pressed to return the printer to the normal print mode.

6.   INTERFACE TECHNICAL INFORMATION

6.1   Serial Communication - RS232C

The slide switch situated between the serial connector and the dip-switches on the interface panel of the printer must be in the down position, marked "S" for Serial. Whenever this switch is moved the RESET button must be pressed. The connector cable should not exceed 50 feet in length as this can effect the data transmission.

6.1.1   Dip-Switch Settings

The dip-switches that control the communication values on the printer are situated on the interface panel on the back of the printer. (The vertical row of switches). The upper switches numbered 1-8 from the top, should be set as indicated in the table below. Following any changes in the dip-switch settings the RESET button must be pressed.
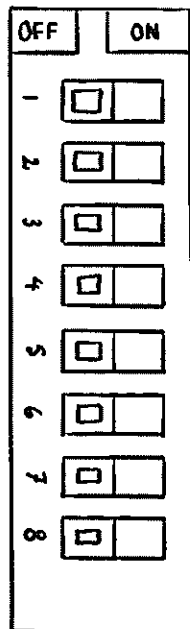
Baudrate sw 1-3 (right = ON).

	(1)	(2)	(3)
19600	on	on	on.
9600	off	on	on.
4800	on	off	on.
1200	on	on	off.
600	off	on	off.
300	off	off	on.
110	off	off	off.

7/8 Databits (4)   on = 8 data bits
                    off = 7 data bits
Parity (5)   on = parity check
                    off = no parity
Parity (6)   on = even parity
                    off = odd parity
Stopbits (7)   on = 2-stopbits
                    off = 1-stopbit
Handshake (8)   on = DTR
                    off = XON/XOFF.

6.1.2   Pin Configuration

Index is designed like DTR (Data Terminal Ready) Equipment, according to the RS232-C standard, with a female 25 pin D-Type connector.

When using DTR handshake you must link pin 4 and 5 on the INDEX DOMINO (and normally on the computer-side also).

With XON/XOFF communication it is possible to use a three wire connection using pins 2,3 & 7 on the INDEX DOMINO but linking pins 4 to 5 and 6 to 20.

Pin 1 GND   = Protected Ground
Pin 2 TXD   = OUT, Transmitting Data
Pin 3 RXD   = IN, Receive Data
Pin 4 RST   = OUT, Request to send
Pin 5 CTS   = IN, Clear to send
Pin 6 DSR   = IN, Data set ready
Pin 7 SG   = Signal ground
Pin 20 DTR   = OUT, Data terminal ready.

6.1.3   IBM PC - INDEX DOMINO Connection

When connecting the printer to an IBM PC, XT or AT or IBM compatible computers, the parallel printer port can be redirected to the serial port. The simplest way to do this is with the following DOS commands which will normally be in the AUTOEXEC.BAT file:

MODE LPT1: = COM1:

MODE COM1:9600,n,8,1,p.

This will transfer the parallel printer output to the serial port (COM1:), and the communication values will have been set to 9600 baud, no parity, 8 data bits, 1 stop bit and p to enable the transmission of data from the computer to the printer.

Cable INDEX DOMINO IBM-PC.

INDEX DOMINO - 25 Pin D-Type male, PC - 25 Pin D-Type female.

Pin connections:- INDEX DOMINO to PC 1-1, 2-3, 3-2, 5-4, 4-5, 20-6, 7-7, 6-20.

6.2   Centronics Communication (Parallel)

The slide switch situated between the serial connector and the dip-switches must be in the up position which is indicated by the letter "P" (Parallel). Whenever this slide switch is moved the RESET button must be pressed to complete the change. The cable for the parallel output is standardized in accordance with the Centronics standard. The length of the cable should not exceed ten feet in length. Use only cable of good quality with shielded conductors.

We recommend you set up the Centronics port on the computer with the following command which can be inserted in the AUTOEXEC.BAT file.

MODE LPT1:,,,p.

7.   CONTROLS

7.1   System Reset

To reset the printer to the selected dip-switch settings perform the following sequence:

NOTE: Performing a SYSTEM RESET will erase ALL parameter values selected by the set-up program. However, both operator defined tables will be protected.

1. Switch off the power to the printer.

2. Hold down both the SET PAGE (back edge) and PAPER FORWARD (front edge) top-switches, and switch on the power. After the system reset is completed you will hear a beep (after 5 seconds).

3. The parameter values of the INDEX DOMINO are now set-up according to the dip-switch selection.

7.2   Impact Level

The Impact level control is situated directly before the top switch control Panel on top of the printer. The left control adjusts dots on the lower side of the paper (master printer). The right control adjusts dot quality on the upper side of the paper (slave printer).

This control may be used to adjust the print quality when using a variety of paper thickness. Many different paper qualities can be used with INDEX DOMINO; high quality braille paper will normally result in better quality braille copy. However, normal print paper can be used for draft copies.

The recommended method of adjusting the impact level is to commence printing the "Self Test - Printout" with the levels set at minimum, then gradually increase the impact level (during printout) first on the master printer and then on the slave printer until the optimum quality is obtained. The impact level should not be set higher than necessary as this may in fact reduce the quality of print and increase the operating sound levels.

7.3   Paper Indicator

The INDEX DOMINO has a paper sensor which emits an audible signal when it is out of paper. This feature may be over-ridden by changing the setting of "position 10" of the lowest position of the lower dip-switch block.

ON = right position - Overcome the papersensor.

OFF = left position - Papersensor in use.

8.   PRO-PRINTER EMULATION

INDEX DOMINO emulates the IBM PRO-PRINTER, and in the computer program in which the printer is to be chosen you should set the program for "IBM PRO-PRINTER. Control commands sent out from the program will be used or removed by INDEX DOMINO as appropriate.

For further information regarding pro-printer emulation please refer to Appendix "A" at the back of this manual.

9.   SET-UP INDEX DOMINO (Via software program)

9.1   Set-up Program - INDEX DOMINO

The SET-UP program for the INDEX DOMINO is designed as an aid to "setting up" the parameters of the printer easily and efficiently.

In many instances, it is not neccessary to use this program which is supplied on a disc with your INDEX DOMINO. We advise that it is only used when special features are required that are not handled in your Braille transcription software.

NOTE: All the values which are selected will remain the same until a SYSTEM RESET has been executed or new values are programmed.

9.2   Installation

This SET-UP program can be operated with an IBM-PC, XT or AT and IBM compatible devices. To obtain a satisfactory screen lay-out you should have a "CONFIG.SYS" with the "DEVICE = ANSI.SYS" statement in the file on the boot disk. ANSI.SYS must also be on the disk.

The INDEX DOMINO should be connected to the computer in the approved manner and must be in the ON LINE mode. If the printer is to be operated on serial interface the parameters should be selected on COM1: or COM2:. The recommended method to set-up the serial interface is with a MODE file in the AUTOEXEC.BAT file. This will select the parameters for the serial interface when you boot the system.

Providing no changes have been made on the printer, the MODE statement will appear as follows:

MODE COM1:9600,N,8,1,P (Connected to COM1:) or MODE COM2:9600,N,8,1,P (Connected to COM2:).

Although it is preferable that the DOS utility EDLIN be used, changes to the CONFIG.SYS or AUTOEXEC.BAT files can be made using a regular word-processing program. Always make a copy of the original file prior to making changes. When the changes have been made the file must be stored as an ASCII file not as a document, this process being dependent on the program being used to create the file.

9.3   Start Set-Up Program

The SET-UP program is selected by entering INDEX DOMINO followed by a carriage return (CR) at the DOS prompt. The program version will be displayed followed by the current default settings. The main menu can be selected by entering CR.

The default values which are displayed, will be those last selected on the SET-UP program and will normally be those on the printer. However, if there is any doubt, these values on the SET-UP program may be simply installed on the printer by selecting item "7: Copy default setting" from the main menu followed by CR.

9.4   Main Menu

1: Select printer port
2: Edit braille code
3: Select language
4: Set up page layout
5: Special features
6: Copy default settings.

Items from the menu may be selected by entering the desired module number or by use of the cursor arrows followed by CR. To escape to a higher level or exit the program use the ESC key.

9.4.1   1: Select Printer Port

Select the port to which the INDEX DOMINO is connected, either LPT1:, LPT2:, COM1:, or COM2:.

9.4.1   2: Edit Braille Code

This module may be utilized to change or amend the relationship between the ASCII code and the braille character on any of the source tables available with the SET-UP program. Such changes can be stored on the disk and on the printer as "OPERATOR TABLE A or B" (two separate tables).The source table will determine whether this will be computer or literary braille. There are a number of menues available within this module as follows:

9.4.2.   1: Select Source Table

This is a listing of the ASCII braille codes available within the program, with selection being made by use of the cursor arrows followed by CR. (Note: The "OPERATOR A or B" tables are those last saved on the disk.) Dot Configuration.

The first page of the selected table will be displayed on the screen. To select a particular character from this screen use the cursor arrows up or down. To move to another page use PAGE UP/ DOWN. To move directly to a particular character or symbol, press the appropriate key (only after PgUp). The program cursor will then be placed on the character selected. The braille dot configuration displayed can be changed by pressing CURSOR ARROW RIGHT once, then the numeric values of the new dot combination followed by CR. There is no limit to the number of characters you may change within any one language table.

9.4.2.   2: Change Dot Configuration

This first page of the selected table will be displayed on the screen. To select a particular character from this screen use the cursor arrows up or down. To move to another page use PAGE UP/DOWN. To move directly to a particular character or symbol, press the appropriate key (only after PgUp). The program cursor will then be placed on the character selected. The braille dot configuration displayed can be changed by pressing CURSOR ARROW RIGHT once, then the numeric values of the new dot combination followed by a CR. After that you have the opportunity to save the new combination by pressing CR or ignore it by pressing ESC. There is no limit to the number of character you may change within any one language table.

9.4.2.   3: Prefix and Double-Character

It is possible to have one ASCII character displayed by TWO braille characters. To select this function press the CURSOR ARROW LEFT key once, the following menu will be displayed.

1: Edit double-braille
2: Edit number prefix
3: Edit capital prefix
4: Edit capital prefix (multiple letter selection)
5: List prefix.

If item "1" is selected you may edit up to sixteen symbols within the table which can be represented by two braille characters. It is important to remember that braille characters edited by utilizing the DOUBLE-BRAILLE will appear AFTER the symbol in the normal table. When editing this module you either enter "C" to Change or "R" to Reset. If "C" to change is selected, you enter the symbol to be displayed by two characters followed by the new dot combination.

This sequence must be repeated for each symbol to be changed up to a maximum of sixteen. If Items " 2, 3 or 4" are selected you should then enter "C" followed by the new braille dot combination. If "R" Reset is selected, the character will be replaced by the default values. If item 5 is selected a list of all current prefixes will be displayed.

9.4.3   Save Operator Table A/B

When all the changes have been made, enter ESC to return to the main menu. You will be prompted to select a table on which to store the changes, as follows:

1: Operator table A
or
2: Operator table B
or
3: Quit.

NOTE ! When you make your selection to store a changed table in this fashion it will DELETE THE CURRENT TABLE on both the disk and on the INDEX DOMINO. When you make your selection the following message will be displayed "WAIT SAVING OPERATOR TABLE". Following the transmission of the revised table from the PC to INDEX DOMINO the program will advance directly to module "3: Select language" of the main program menu.

9.4.4   Select Language

This offers a selection of languages available on INDEX DOMINO including the following:

Computer or literary braille Six or eight dot braille Capital prefix IBM standard or normal.

Computer braille can be either six or eight dot braille, but does not normally utilize double-character braille or prefix.

Literary braille always utilizes the NUMBER PREFIX but the CAPITAL PREFIX is an optional selection.

The IBM STANDARD or NORMAL function enables the INDEX DOMINO to be operated either with computers utilizing seven bit codes or with the IBM-PC eight bit codes. Most braille tables are only defined for 127 characters. By selecting the IBM Standard the INDEX DOMINO utilizes the upper case symbols thereby increasing the number of characters available and enabling the normal operation of the IBM-PC.

9.4.5   Set Page Lay-out

This module offers a selection of paper lengths, paper widths, position of the left margin and the number of characters per line. Select the desired item and enter "C" = Change, followed by the selected option. To return to the default values enter R = Reset.

9.4.6   Special Features

The options available on this module are as follows:

Wordwrap or splitword:

Wordwrap will only print complete words. Split words at the end of a line will be moved to the following line.

Auto Line Feed (LF) ON/OFF: This depends on the program being used. With AUTO LF OFF the computer must transmit CR (carriage return) + LF (line feed) at end of each line, with AUTO LF ON, INDEX DOMINO automatically preforms LF after CR.

AUTO PAGE NUMBERING ON/OFF:

With AUTO PAGE NUMBERING ON the number of the first page may be set. (The page number will appear in the center of the page at the bottom).

Copy Default Setting This option offers a fast and efficient way of transmitting all default values from a SET-UP disk directly to INDEX DOMINO either with or without the OPERATOR TABLE A/B being included.

9.4.7   Set Up from Dip-Switches

The lower block of Dip-Switches (10 switches) may be used to select the following options:

Language (1-3);
Computer or literary braille (4);
Capital prefix (5);
6/8 dot braille (6);
40/32 Character/line (7);
11/12 Inch paper (8);
Switch (9) is not used;
Over-ride paper censor (10).

Language Switch	no 1	no 2	no 3
Swedish	off	off	off
N.American	on	off	off
English	off	on	off
German	on	on	off
French	off	off	on
Italian	on	off	on
Operator	on	on	on.

NOTE! INDEX DOMINO will read the setting of the lower block of dip-switch (position 1-8) ONLY AFTER A SYSTEM RESET. (Hold down paper forward, set page, and power up INDEX DOMINO). Any changes made to the parameter values by utilizing the SET-UP program will remain in effect until such time as a SYSTEM RESET is made. If it is essential that when the language parameters are set by the dip-switches a SYSTEM RESET must be performed.

9.5   Set-Up "Without" Set-Up Program

It is not always possible to select the parameter values by using the SET-UP program or the dip-switches. In such situations it is also possible to select parameter values, by transmitting ESC sequences to the printer from a terminal or from a computer with a terminal program. The ESC sequences transmitted to the printer in this way are identical to the values created by the SET-UP program.

All control commands must be made in the following sequence and format (Note: ESC = Esc key on the keyboard), for example to select "Automatic Page Numbering On".

9.5.1   Start and End Set-Up Mode

Start the set-up sequence with "Esc8", followed by selected control code "EscPY", then a "CR" and finally to end the set-up mode with "Esc9". NOTE There must be NO spaces in the command sequence. Esc8EscPYcrEsc9.

To start and end the Set-up mode the following commands must always be given.

ESC8 - Start INDEX DOMINO in SET-UP Mode
ESC9 - End SET-UP Mode.

9.5.2   ESC Command Tables

ESC Commands Tables.

```
ESCFx -      Wordwrap
             Y = Complete word
             N = Split words
ESCPx -      Page numbering
             Y = Auto page numbering
             N = No auto page numbering
ESCP -       First page page number
CTRLYxxxx- xxxx = First page page-number in the printout.
ESCMxxx-   Left margin, given in numbers of character spaces
ESCWxx Line length xx = Line length in numbers of characters, excluding left margin.
ESC5x Auto line-feed
             Y = Auto line-feed
             N = No auto line-feed.
```

10.   SELF-TEST

10.1   Self-test, ASCII and Printer Set-Up

The "Self-test, ASCII & PRINTER SETUP" will print the current printer setting and ASCII to Braille translation, to run this feature complete the following sequence:

1. Hold down the top switch FORM FEED (front edge) and POWER ON the printer.

2. The self-test stops after two pages, page one with information about software version, language & communication. Page two will show the current braille table used by the printer.

10.2   Self-Test, Interpoint adjustment

It is suggested that during this adjustment you have the assistance of an experienced Braille reader to hand to sample to printout quality.

This self-test is designed to enable a trouble free adjustment of the interpoint position and a way to test the a continuous printout. The printout will produce a pattern of full cells (dot 1,2,3,4,5,6) on the upper side of the paper and "g" (dot 1,2,4,5) on the down side of the paper. During the self-test the printer must be "ON LINE" and in double printmode position.

The position on the adjusting screws should be approximately 5 mm from the fully in position when you start the interpoint adjustment. Also make sure that the paper is in the correct position and that there is no distance between the paper and the "paper controller" on the back of the printer.

With the two adjusting screws on the front of the printer you can adjust the interline position vertically between front and back side of the paper. To give a good printout the vertically interpoint must be adjusted so that dot 1,4 prints prints between dot 2 and 3 on the full cell on the upper side of the paper.

The horizontal adjustment is made with the single adjusting screw on right side of the printer. Adjust the horizontally position so that the printouts come between the dots on the other side.

When adjusting the interpoint you have to wait about 14 lines before you can see what effect your adjustment has made. Make small adjustments and wait until you have seen the effect of the adjustment before you make any further adjustment. When you are satisfied with the interpoint adjustment, do not forget to lock the three adjustment screws with the lock nut on each screw.

To start the self test printout, follow this sequence:

1. Hold down the SET PAGE (back edge).

2. At the same time - POWER ON. When the printing sequence commences release the top-switch.

3. To stop the self test press the RESET button.

11.   INDEX DOMINO GRAPHIC FUNCTIONS

The INDEX DOMINO has two separate graphic functions installed, which are capable of producing graphic printouts with a variety of software for braille graphics. The dot configuration or spacing is uniform and pre-set, producing four dots per centimeter. The INDEX DOMINO is set in the graphic mode by an ESC sequence transmitted as part of the graphics file to be printed, a similar ESC sequence is used to end the graphic mode.

NOTE! Graphic mode can only be used in single side mode, if a graphic command is sent to the INDEX DOMINO Double or Folding mode ALL graphic information will be erased from the text-file.

11.1   Graphic Mode - Four Dot (ONLY IN SINGLE SIDED MODE

To start graphic mode enter "EscCtrlG".

To exit graphic mode enter "EscCtrlF".

In this mode, INDEX DOMINO only uses the four "less significant" bits in the computer code, there is no translation into Braille. See figure A table of the graphic matrices of INDEX DOMINO in four dot graphic code.

11.2   Graphic Mode - Three Dot (ONLY IN SINGLE SIDE MODE

This feature may be operated while using any of the selectable six dot computer braille "Language" codes available; together with a number of American braille graphic programs originally produced for "The Perky".

To start 3 dot graphic mode enter "EscCtrlA" To end 3 dot graphic mode enter "EscCtrlB".

The number of lines per page and characters per line may be set by utilizing the INDEX DOMINO SET-UP program.

11.3   Large Print Graphic Program (ONLY IN SINGLE SIDE MODE)

This program may be used to produce a "Large Print" graphic braille display of upper-case letters and figures. The program is on the INDEX DOMINO Set-Up Program disk under the "LETTER" directory and operates only on the LPT1: port. To operate the program follow this sequence:

At the DOS prompt :CD LETTER and press Return :LETTER and press return.

A series of menues will be displayed offering a selection of paper width; font size; this is followed by a prompt to enter the text to be printed, after which a selection of "Print to LPT1:", or "Save on Disk" will be offered. All Capital letters A-Z and numbers 0-9 can be printed with this program.

Function keys.

The function key effect with the function key followed by enter.

F1 = Help screen.
F2 = Save the file on disk. Filename in DOS format.
F3 = Append new text on a existing file.
F4 = Send text to INDEX DOMINO (LPT1).
F5 = Width, Change between A4 and A5.
F6 = Dir, Shows directory.
F8 = Exit to Dos.
F10 = Back to menu, change character set or paper width.

12.   FAULT DETECTING

NOTE: Before you start the printer make sure you have removed both shipping screws.

Always perform a SYSTEM RESET before you start with any service work. It can save you a lot of work and you can be sure that the printer is set according the dip-switches on the interface panel.

Strange character: Check language Check communication Using operator table without installing it on Index.

Printer powers up making a beeping noise, but does not print out: Check ON/OFF switch Check right connector connected on the back panel, slideswitch + reset. Wrong cable.

Continuous long beep: No paper or Major electronic failure.

Dot quality not OK: Adjust impact level during "self-test printout" Mechanical failure on the printinghead or printing beam. Wrong character-set No system reset after setting the dip-switch.

The printer is not working according to setting on set-up disk: Check that the printer is connected to the correct computer port. Check communication parameters. Check cable and connectors.

Empty line between each braille-line: Check that Auto LF is off.

Empty page between each page: Check that the number of lines in the printer and on the software are the same.

13. Factory Installed Parameter Values

Wordwrap On
No page numbering
Margin = 3
Characters Cell width = 2.625 mm
Character spacing = 3.5 mm
Line length = 40 characters
Line feed = 5 mm
Page length = 29 lines/12 inch paper6 dot braille.

14. Technical Description

Interline Print speed = 100 CPS (characters/sec)
Noise level = 65-68 dB(A)
Printer buffer = 30 kB
Serial communication = RS-232
Centronics communication
Braille languages; Swedish, French, British, North American, German, Italian, Spanish and Operator
Definable Code mode; Six and Eight Dot Computer or Literary Braille
Braille (grade one) with Number Prefix and Optional Capital Prefix
Braille Cells; Adjustable distances for dot and cell spacing;
Print mode = Normal, Re-formatted, Split page (Sideways)
Maximum line length 240 characters.
Graphic, 3 and 4 dot System.
Transparent print-out mode
Copy function
Page numbering.

APPENDIX "A".

PRO-PRINTER EMULATION

The simplest method of installing an application program with the INDEX DOMINO is to select "IBM PRO-PRINTER" when installing the program in the computer. The INDEX DOMINO utilizes and interprets the control commands in a similar way to the IBM-PROPRINTER. The control commands which are only applicable to ink-printers are removed automatically from the text file.

Table of ESC Sequences
*ESC A Text Line Spacing
*ESC B Vertical Tabs
*ESC C Form Length
*ESC D Horizontal Tabs
*ESC E Emphasized Print
*ESC F Cancel Emphasized Print
*ESC G Near Letter Quality
*ESC H Cancel Near Letter Quality
*ESC I Font Selection
*ESC J Variable Line Space
*ESC K Normal Density Bit Image Graphics
*ESC L Dual Density Bit Image Graphics.

* = This ESC sequence is removed from the Text file.
# = This ESC sequence controls INDEX DOMINO in a similar way to the IBM Proprinter.

ESC N Automatic Perforation Skip
ESC N n (Hex value number of lines)
ESC O Cancel Automatic Perforation skip
ESC O (Cancel Perforation Skip)
*ESC P Proportional Space Mode
*ESC Q Deselect Proprinter XL
*ESC R Reset Tabs
*ESC S Sub/Superscript Print
*ESC T Cancel Sub/Superscript Print
#ESC U Uni-directional Print
ESC U1 Right Way Printing
ESC U0 Bi-directional printing
*ESC W Double Wide Print
*ESC X Set Horizontal Margins
*ESC y Dual Density Bit-Image Graphics
*ESC Z High Density Bit-Image Graphics
*ESC 0 1/8 Inch Line Spacing
*ESC 1 7/72 Inch Line Spacing
*ESC 2 Start Text Line Spacing
*ESC 3 Graphic Line Spacing
*ESC 4 Set Top of Form
#ESC 5 Automatic Line feed
ESC51 Auto Line Feed ON
ESC50 Auto Line Feed OFF
#ESC 6 Select Character set 2
#ESC 7 Select Character set 1
*ESC Continuous Overscore
*ESC Continuous Underscore
*ESC : 12 CPI Print

*ESC Font Image Download
#ESC \ Select all Characters Chart.

ESC\n1 (n2 x 256) Transparent mode where n1 and n2 (Hex) are the number of characters in the transparent string. In the string there is no translation "bit 1" corresponds to "dot 1"," bit 2" to "dot 2" and so on.

ESC Sequences - INDEX DOMINO Command.

ESC ctrl C Select 6-dot braille cell
ESC ctrl DSelect 8-dot braille cell.

ESC ctrl A Start 3-dot graphic
ESC ctrl B End 3-dot graphic.

ESC ctrl G Start 4 dot graphic
ESC ctrl F End 4 dot graphic .