# DSP802 Operation Manual

## Contents


1. **Information**
2. **Introduction**
3. **Installation**
4. **Pin Assignment**
5. **Character Tables**
6. **Software Control (Command List)**
7. **Specifications**
8. **Instruction of Demo Software**

# 1. INFORMATION

Model DSP802

A. Standard package:

| | |
|---|---|
| **1.Display main unit** | **1 pc** |
| **2.Interface cable for computer** | **1 pc** |

B. Optional accessories(USB version not support):

**1. Power supply adaptor DC 12V/120VAC**
**2. Power supply adaptor DC 12V/230VAC**
**3.Power plug cable for power source**
**4. Interface cable for printer**

C. Model Classification

**DSP802U – USB interface**
**DSP802R – RS232 interface**

This device complies with Part 15 of the FCC . Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

# 2. INTRODUCTION

DSP802 Customer Display is an artistic design POS system peripheral device. It is for use with ECR, POS system to display the purchased prices and the amount of change to customers. Also it is capable to display the advertising message.

The major features of DSP802 are:

**A. Displays up to 40 characters (20 columns x 2 lines).**
**B. Each character (5 x 3.5mm) is easy to read.**
**C. The vacuum fluorescent display (VFD) provides long life, high reliability and high display quality.**
**D. The blue-green display color is gentle to the eyes.**
**E. Provides good general utilities:**
**User-defined message can be downloaded.**
**International character sets.**
**Advertising message running.**
**F. Provides an interface based on RS-232C with baud rate selectable from 600 to 38400 BPS.**
**G. (USB version not support)Built-in connector with Serial POS-Printers. This means that you need only one com-port to control both display and printer.**

## 3. INSTALLATION

### RS232 version

A. If you could get the power source DC 12V from the computer(POS system), you might use the enclosed "Power Plug Cable" pack.

1. **Turn off the power of the computer(POS system).**
2. **Connect the power plug cable with the power source(DC 12V) inside the computer(POS system) and secure the RCA jack bracket on the rear panel of the computer(POS system).**
3. **Connect the RCA jack with the DC power jack on the DSP802 receptacle by using the RCA plug--DC plug adaptor cable.**
4. **Connect the DB9(female) connector to the computer(POS system).**
5. **Connect the DB9(male) connector with "Interface cable for printer"(optional) to the aux-device(printer) when you need this optional printer feature.**
6. **Turn on the power of the computer(POS system). The display will be ON.**

B. If you are using the external power-supply adaptor DC 12V(Option).

1. **Turn off the power of the computer(POS system).**
2. **Connect the D-sub 9 pin connector to the computer(POS system).**
3. **Connect the power supply unit with the DC power jack on the DSP802 receptacle.**
4. **Connect the DB9(male) connector with "Interface cable for printer"(optional) to the aux-device(printer) when you need this optional printer feature.**
5. **Turn on the computer(POS system) and the power supply unit. The display will be ON.**

USB version

Direct plug to USB port.

## 4. PIN ASSIGNMENT(RS232 version)

A. DB-9(female) pin

| Pin# | Signal |
|---|---|
| 2 | RXD |
| 3 | TXD |
| 5 | GROUND |

B. DC power jack

| Pin# | Signal |
|---|---|
| Center | +12VDC |
| Outer | GROUND |

## 5. CHARACTER TABLES

International character code tables

The symbols from character table are for reference only.

The font of all symbols/characters may be subjected to DSP802 display.

Table 1(U.S.A.)

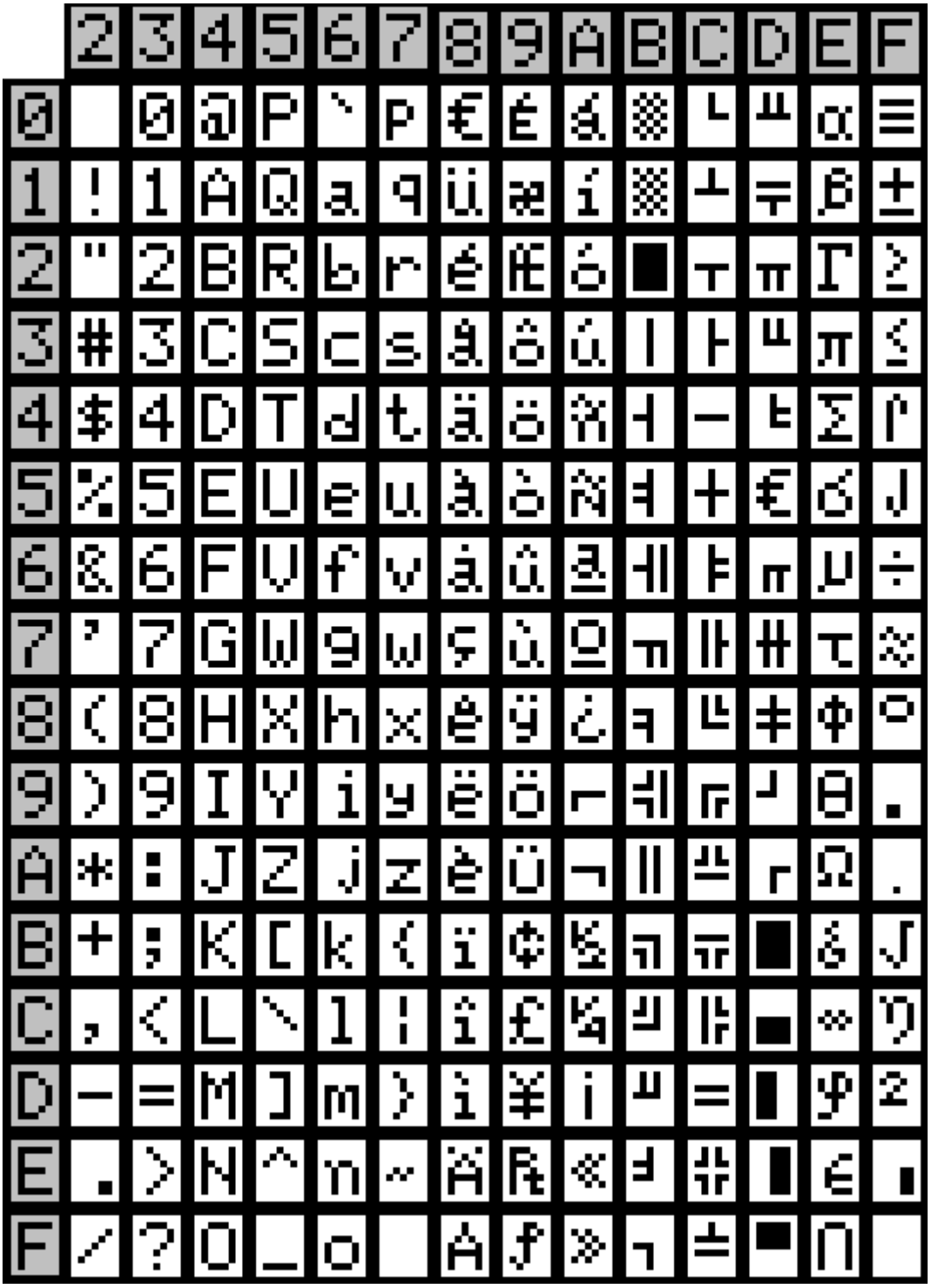


Table 2 International character difference among countries, others are as the same as Table 1.

| | Country name | 23 | 24 | 40 | 5B | 5C | 5D | 5E | 60 | 7B | 7C | 7D | 7E |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | U.S.A |  |  | |  |  | | |  | |  |  | |
| 1 | France |  | | | | | | | | | | | |
| 2 | Germany |  | |  |  | |  |  | |  |  | |  |
| 3 | U.K. |  |  | |  |  |  |  |  |  |  |  |  |
| 4 | Denmark I |  |  |  |  |  |  |  |  |  |  |  |  |
| 5 | Sweden |  |  |  |  |  |  |  |  |  |  |  |  |
| 6 | Italy |  |  |  |  |  |  |  |  |  |  |  |  |
| 7 | Spain |  |  |  |  |  |  |  |  |  |  |  |  |
| 8 | Japan |  |  |  |  |  |  |  |  |  |  |  |  |
| 9 | Norway |  |  |  |  |  |  |  |  |  |  |  |  |
| 10 | Denmark II |  |  |  |  |  |  |  |  |  |  |  |  |
| 11 | East Europe |  |  |  |  |  |  |  |  |  |  |  |  |
| 12 | Russian |  |  |  |  |  |  |  |  |  |  |  |  |
| 13 | Hebrew |  |  |  |  |  |  |  |  |  |  |  |  |
| 14 | Greek |  |  |  |  |  |  |  |  |  |  |  |  |

Table 3(France)

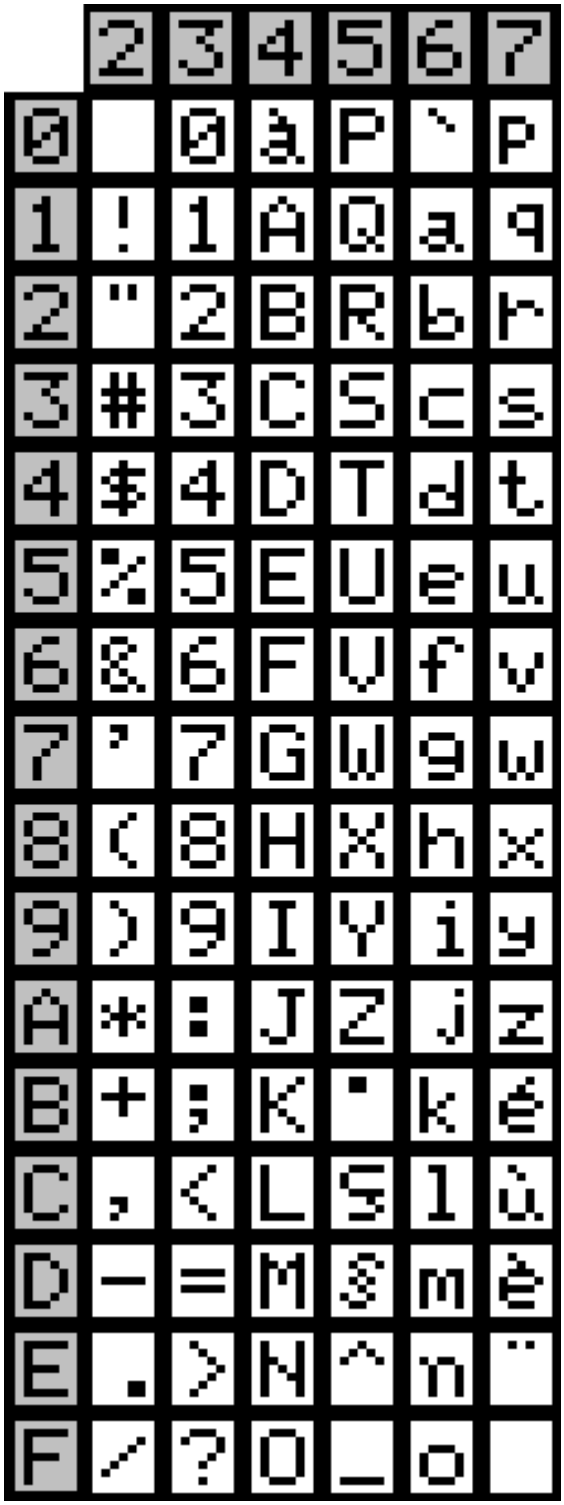


Table 4(Germany)

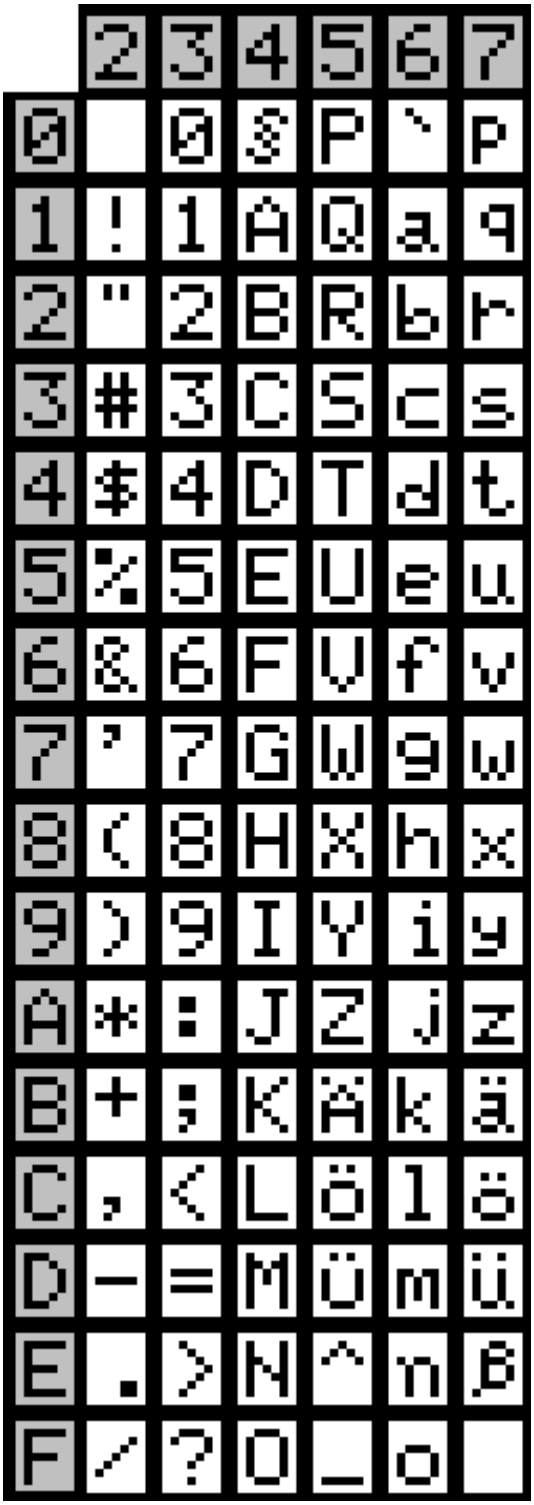


Table 5(U.K.)

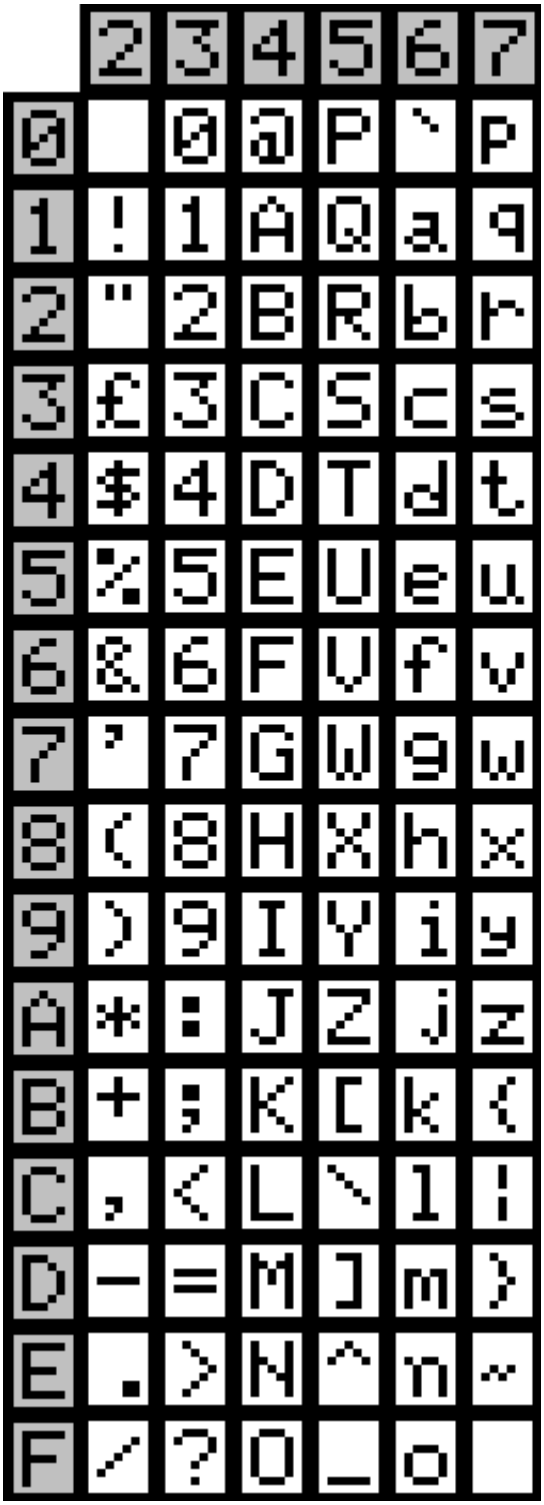


Table 6(Denmark I)

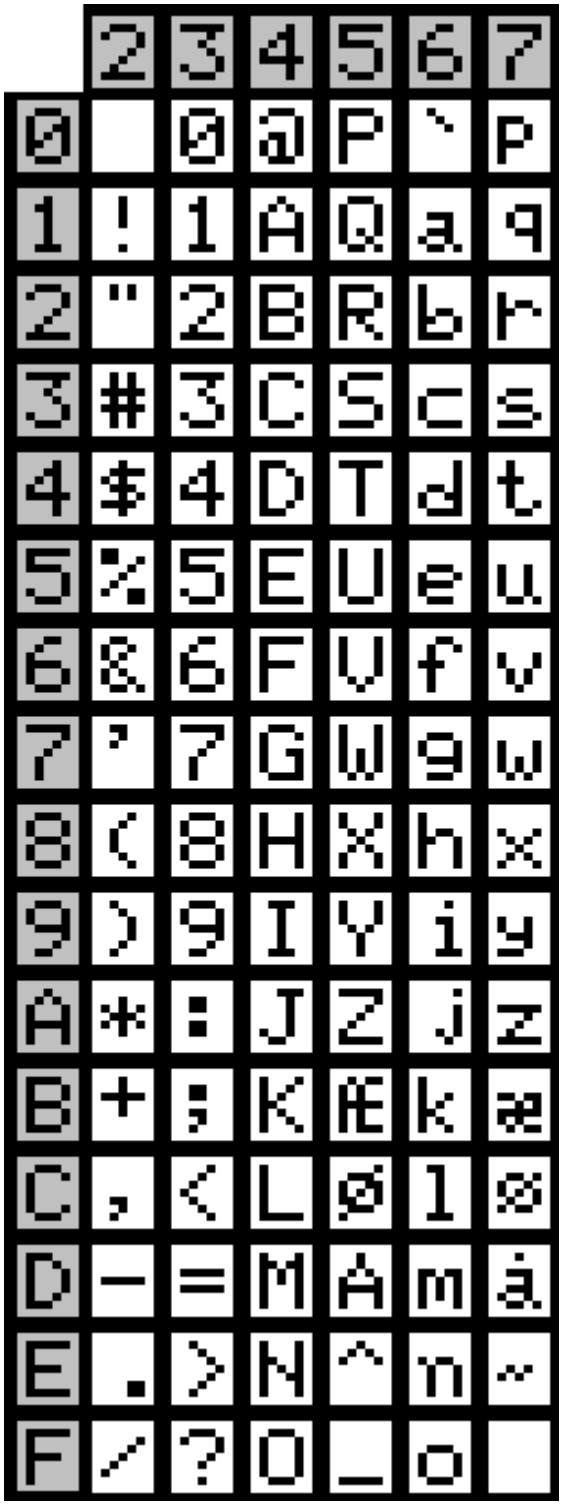


Table 7(Denmark II)

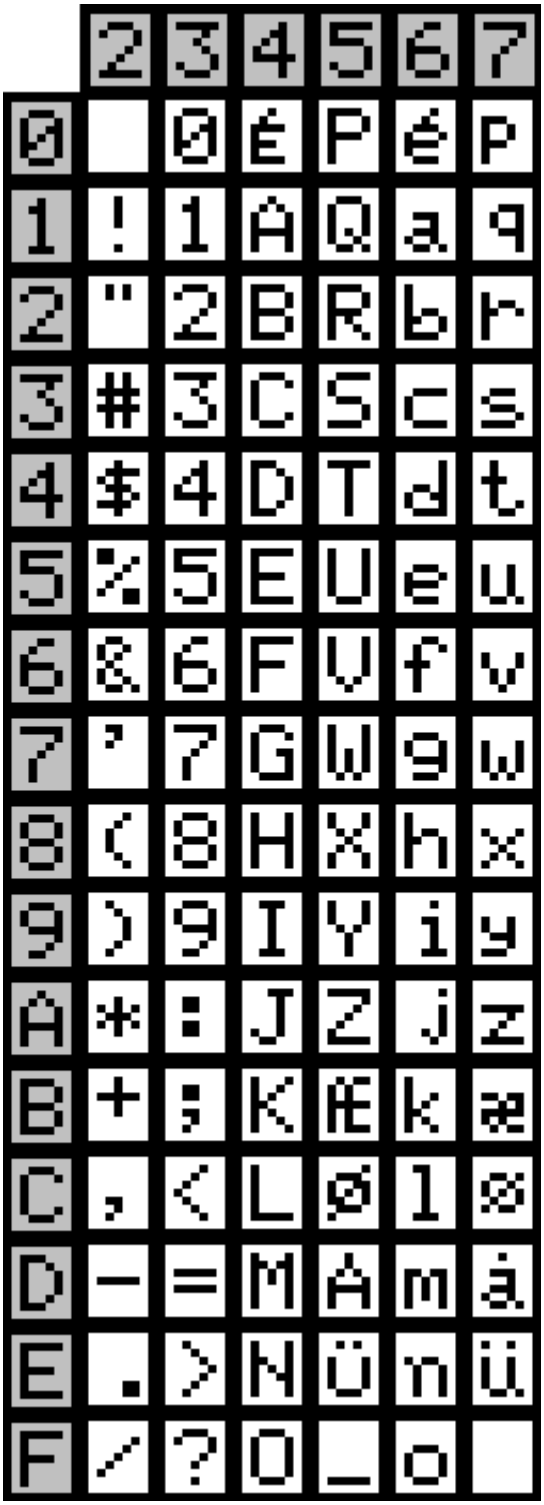


Table 8(Italy)

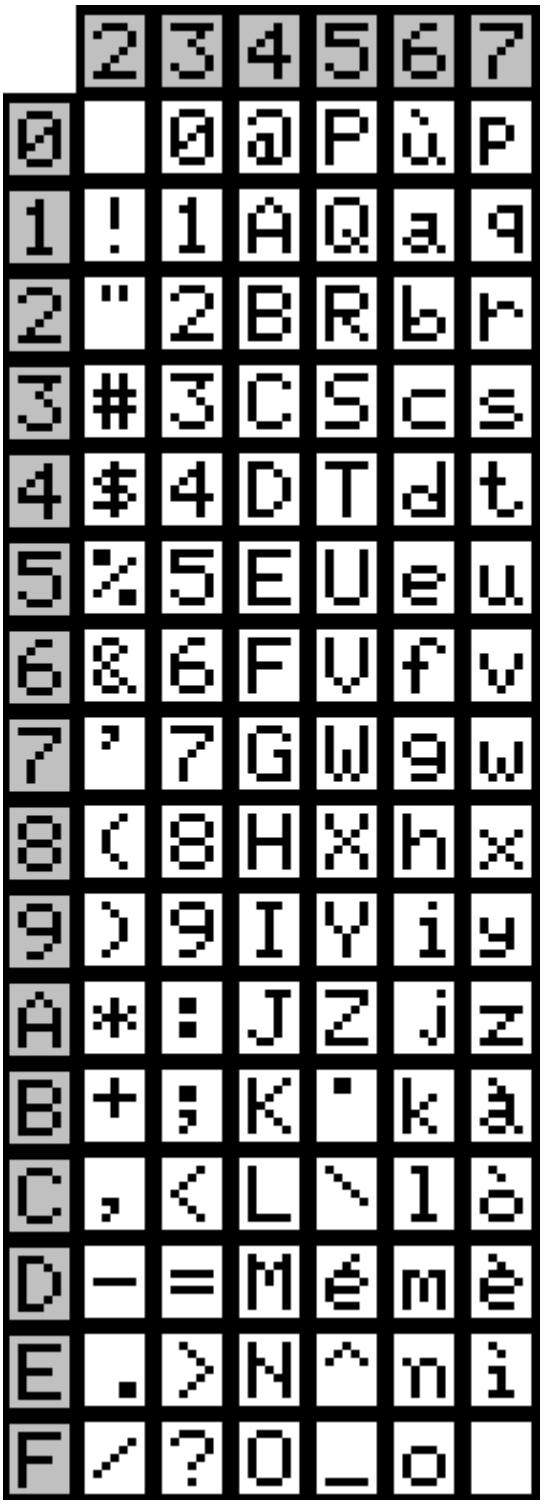


Table 9(Norway)

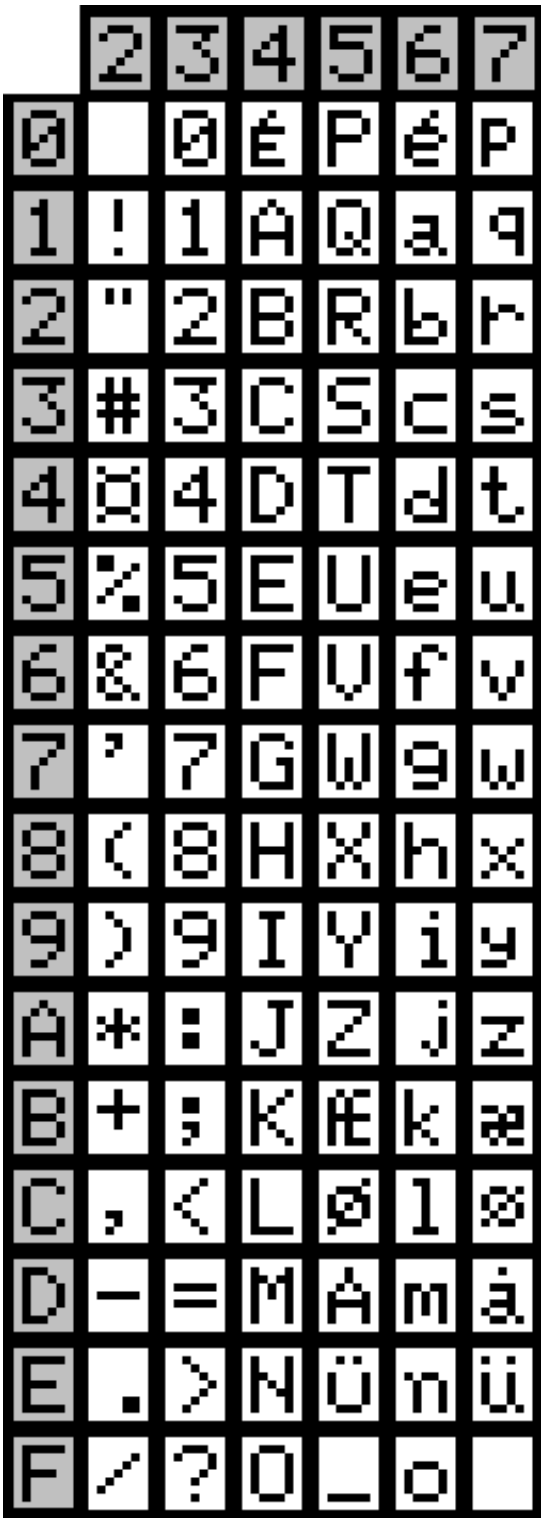


Table 10(IreLand)

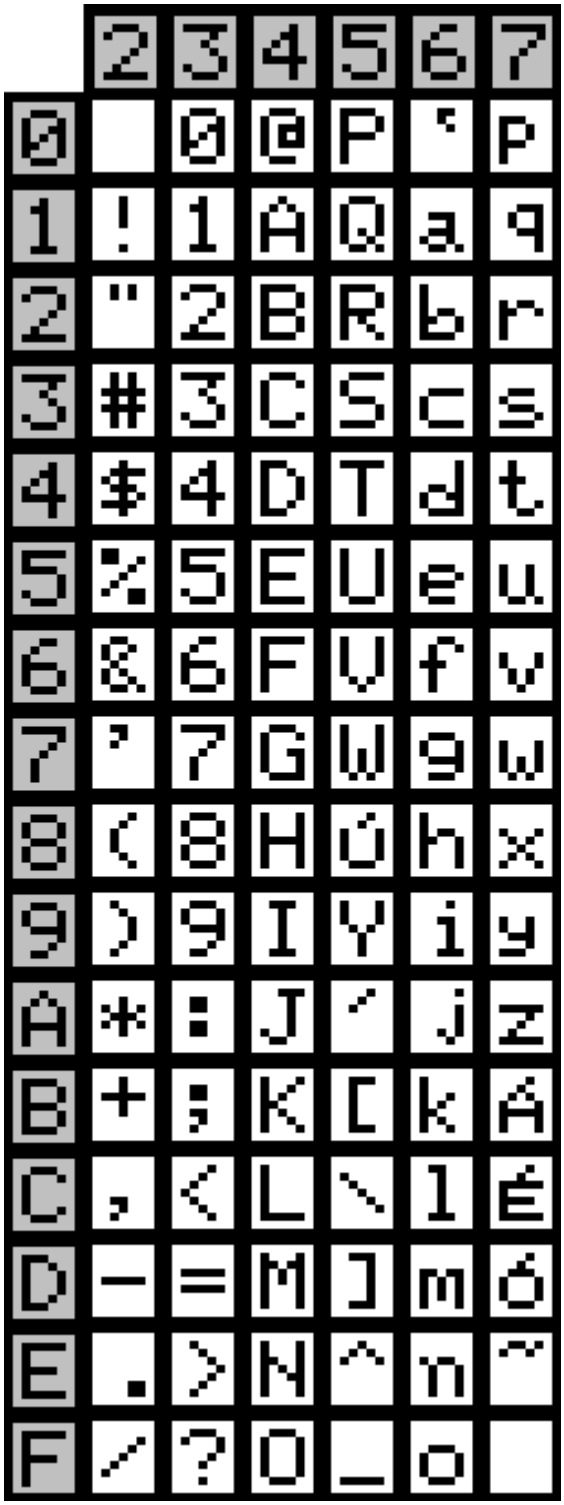


Table 11(Korea)

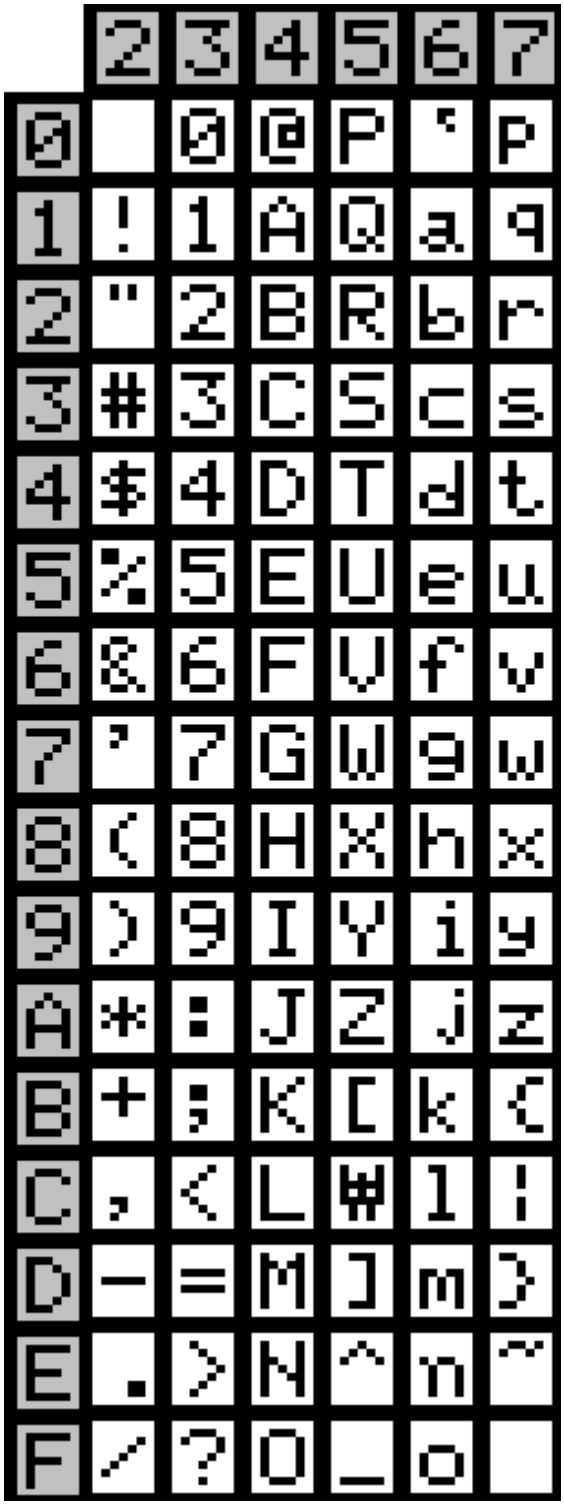


Table 12(Latinamerica)

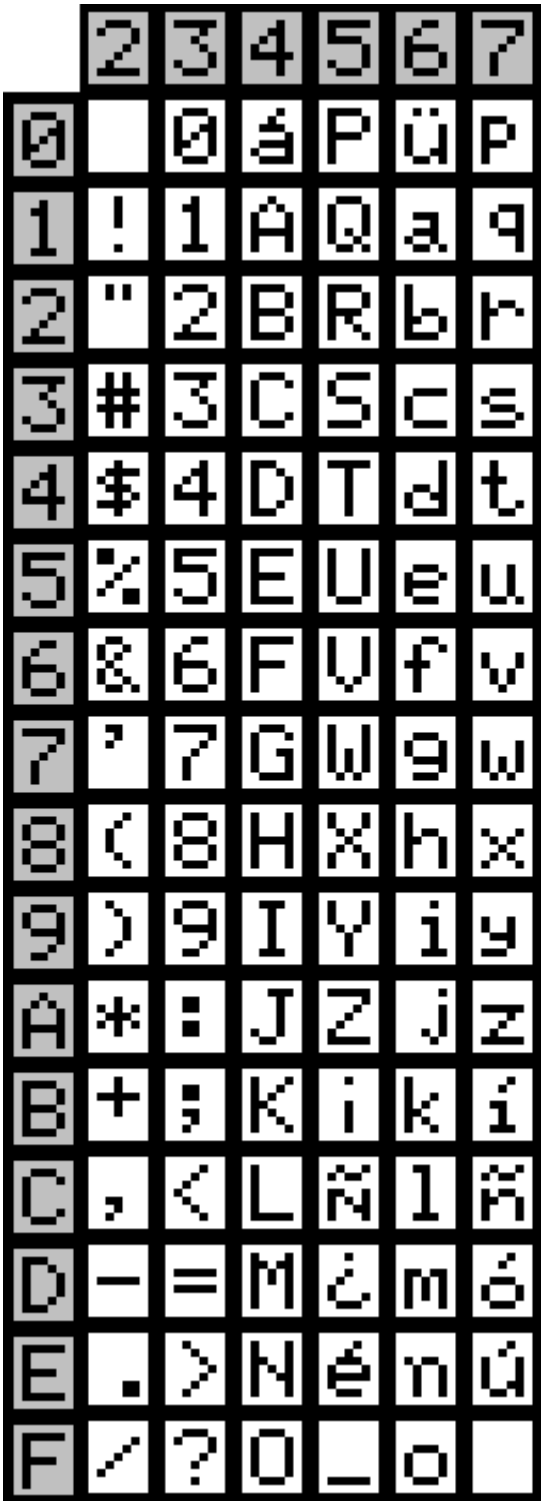


Table 13(Legal)

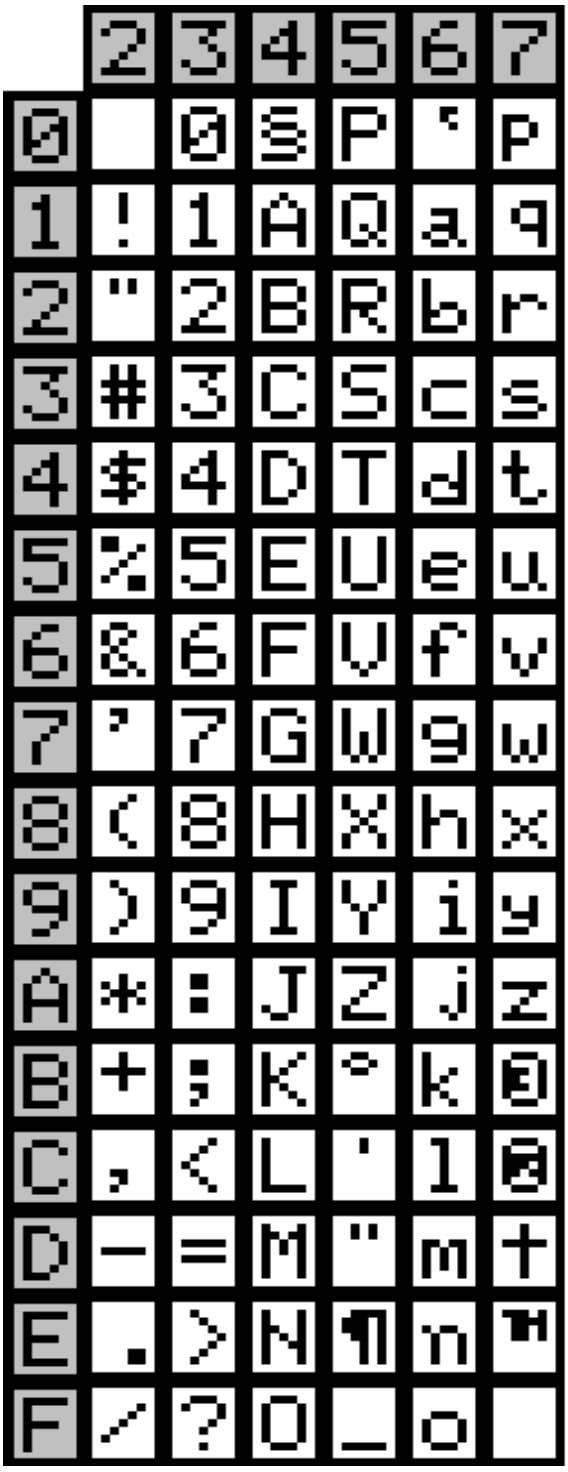


Table 14(Spain)

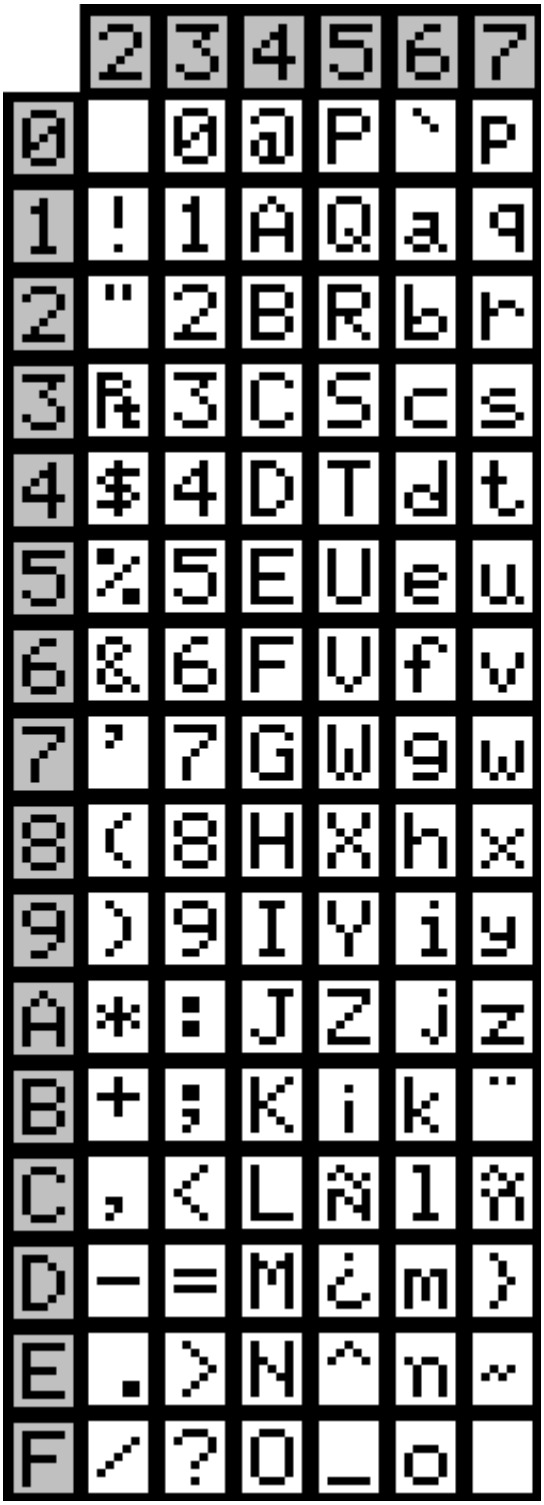


Table 15(Spain II)

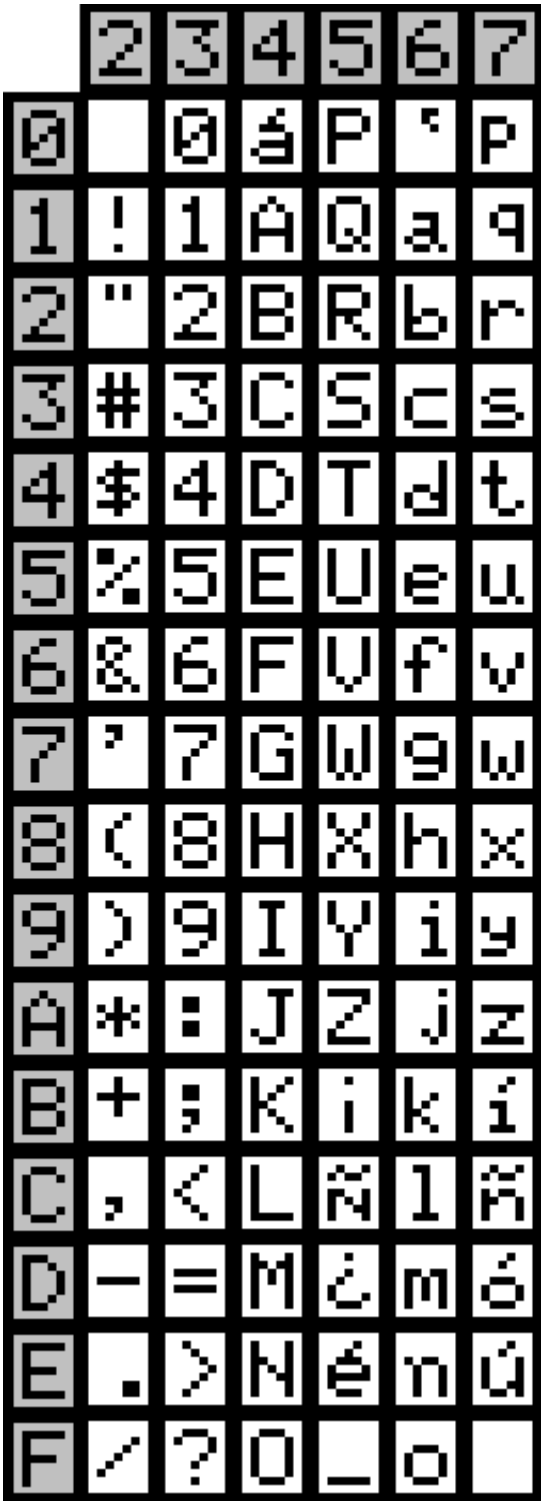


Table 16(Japan)

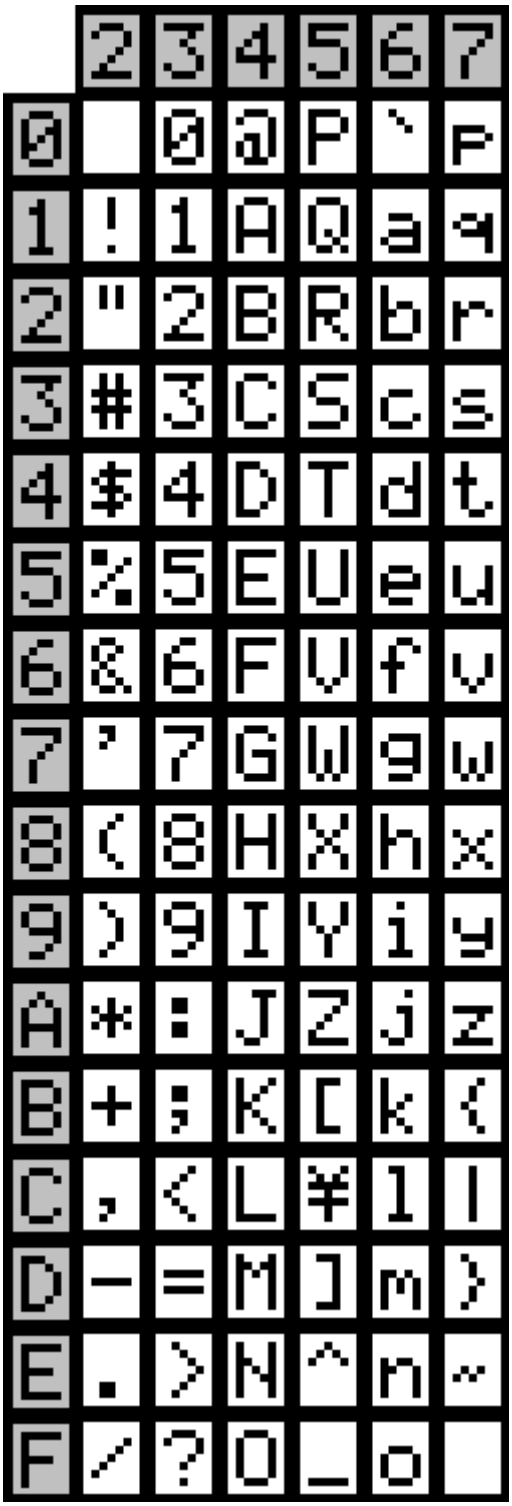


Table 17(Japan　page01)

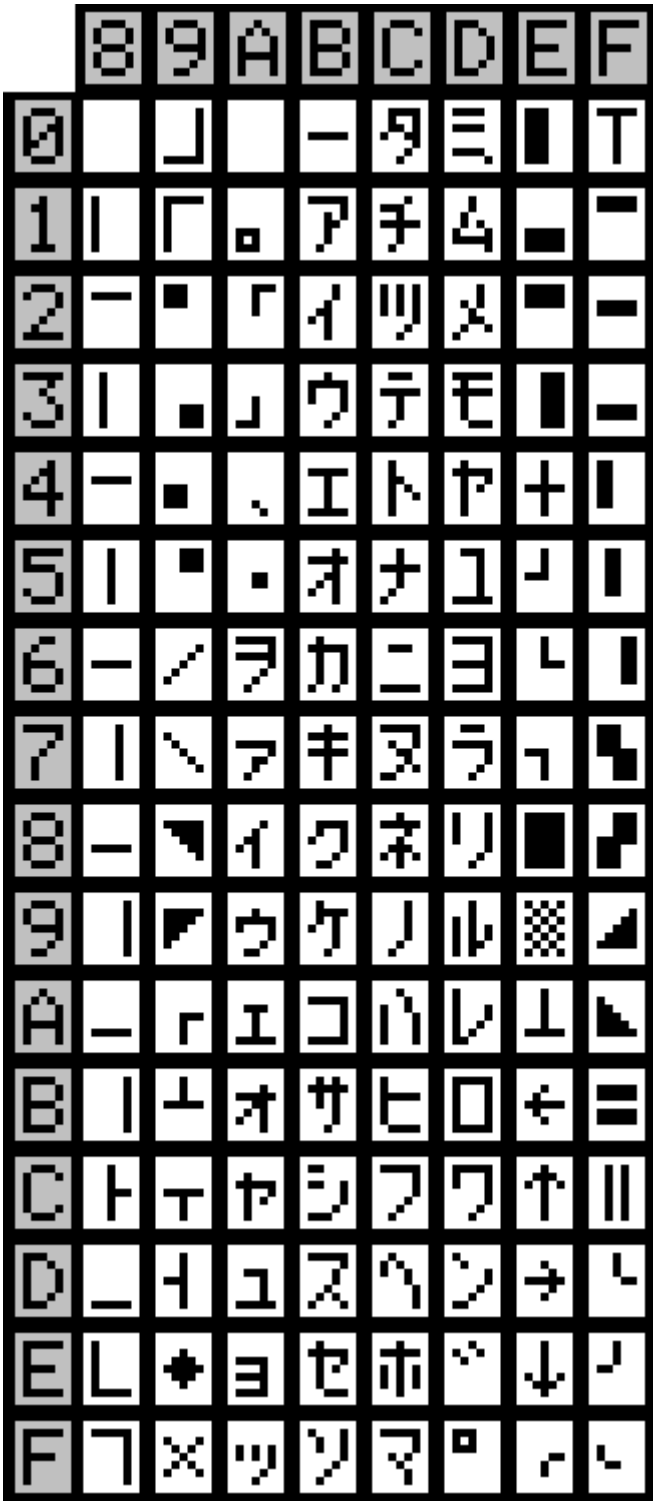


Table 18(Japan page255)

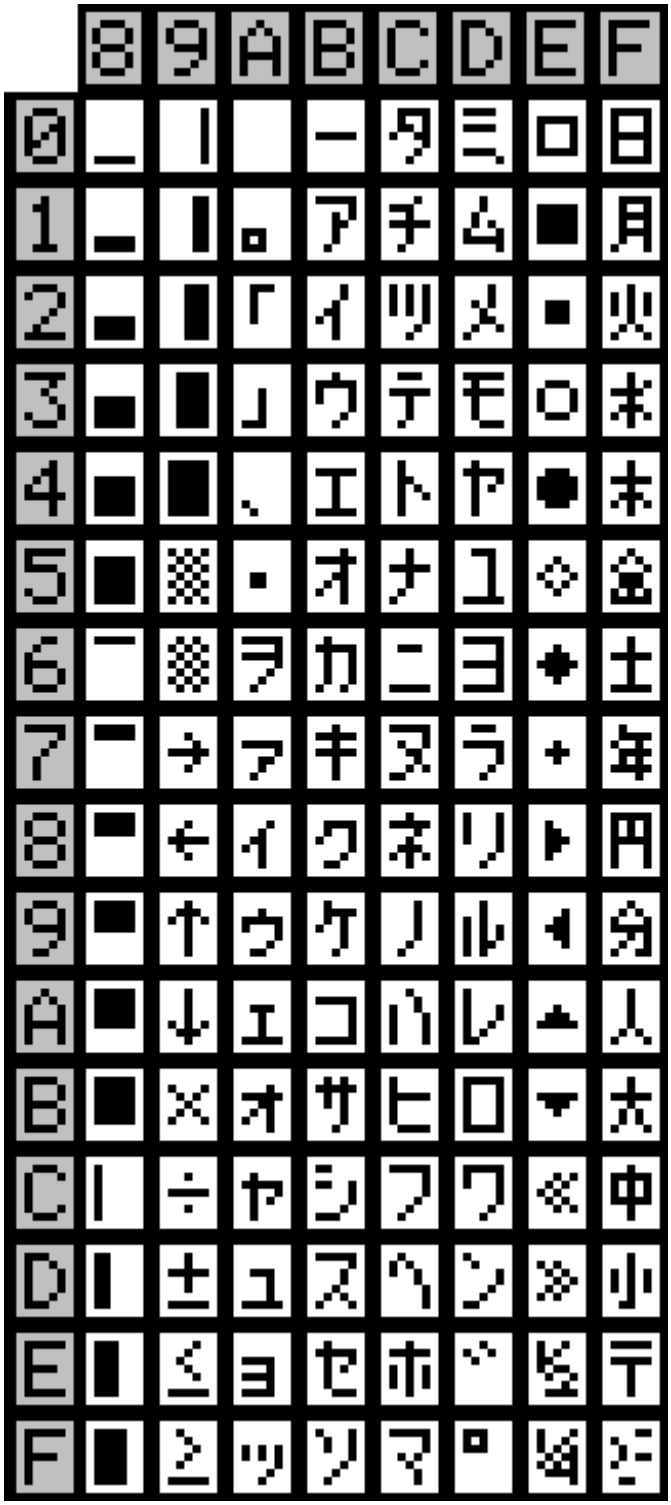


Table 19 CodePage852(East Europe)

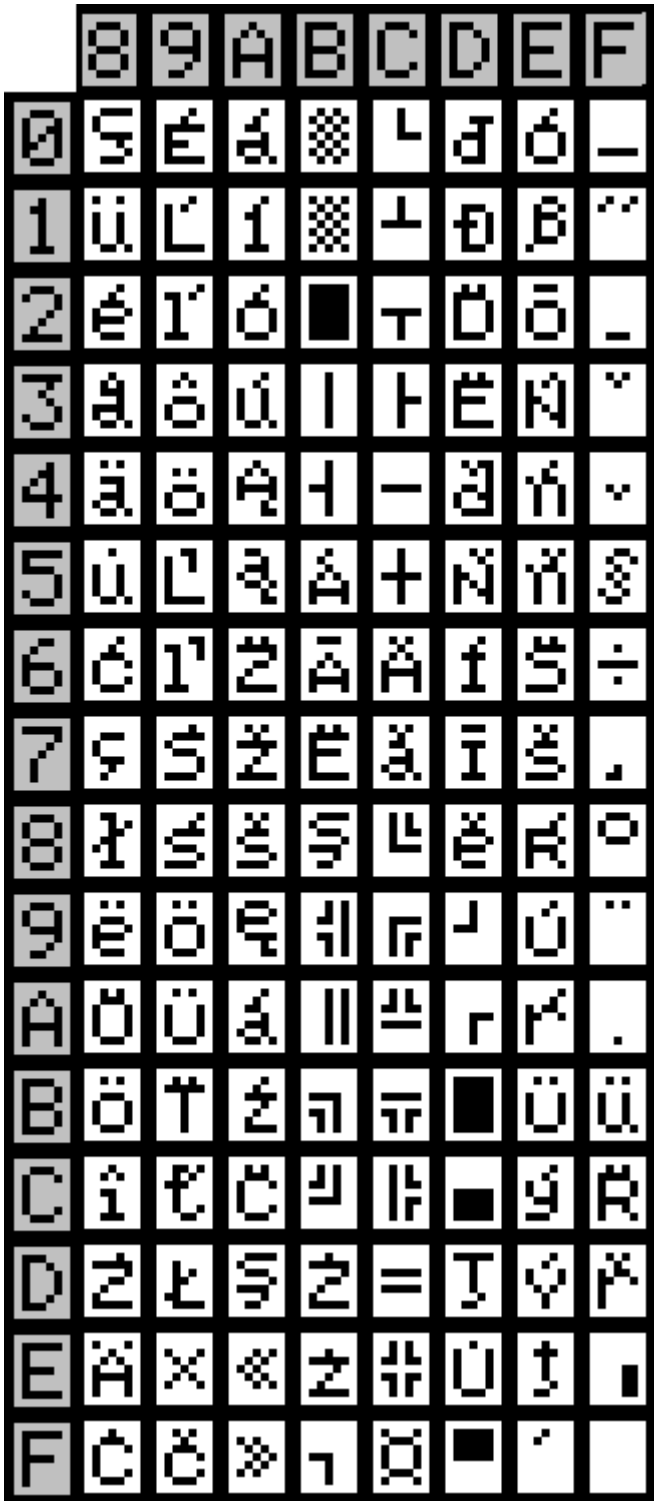


Table 20 Greek(page14)

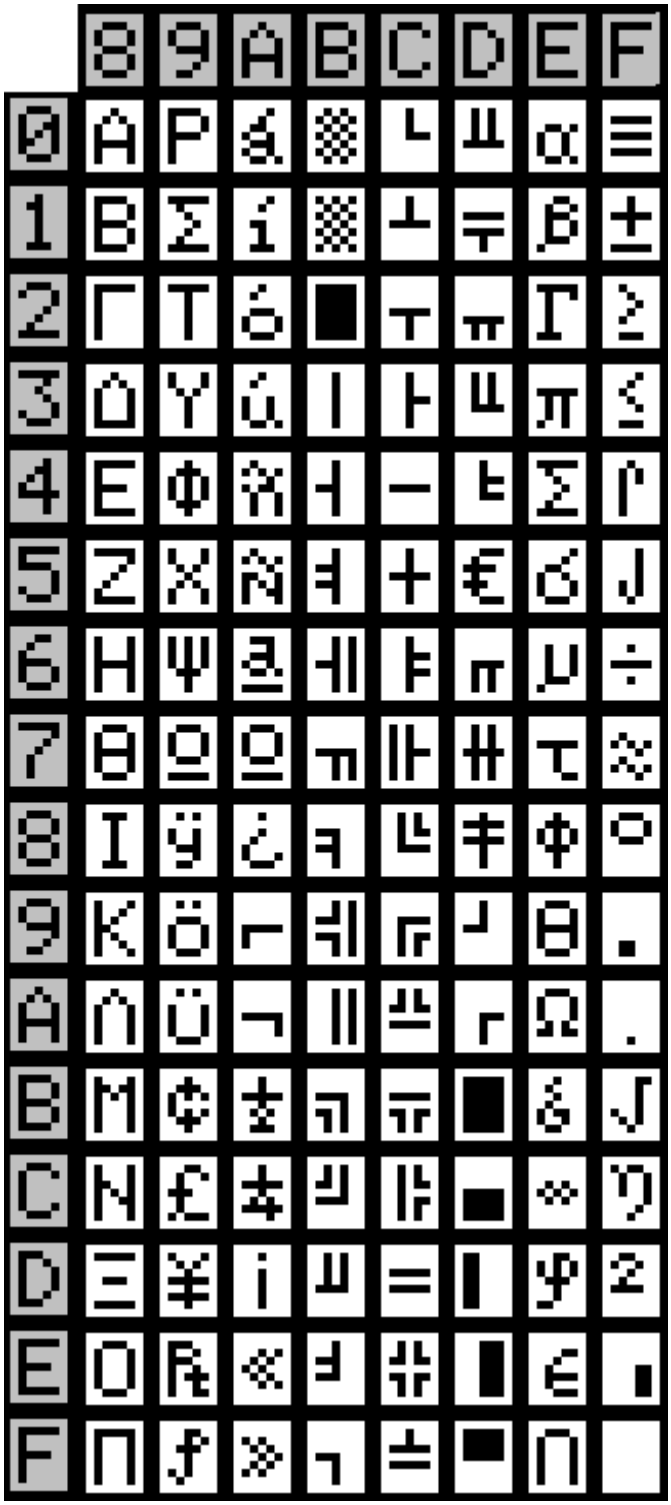


Table 21(Hebrew)

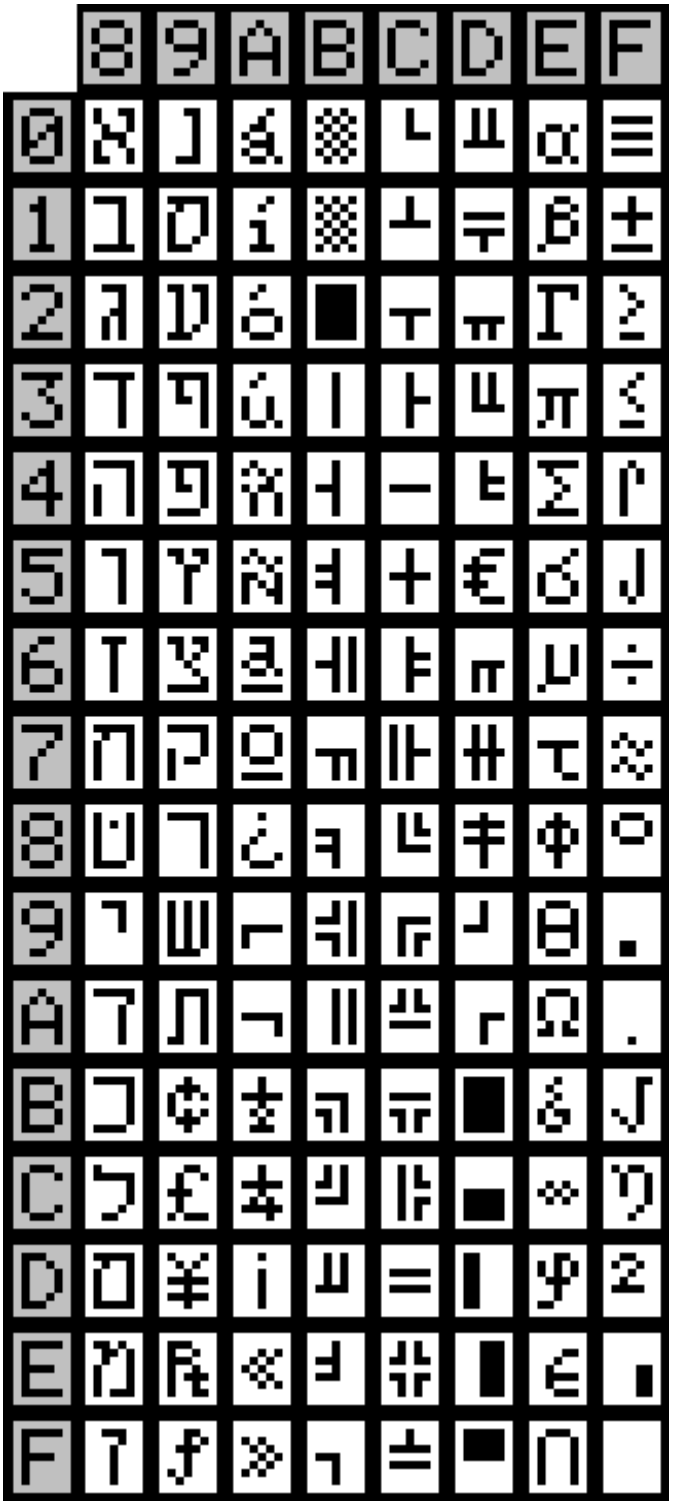


Table 22(Russian)

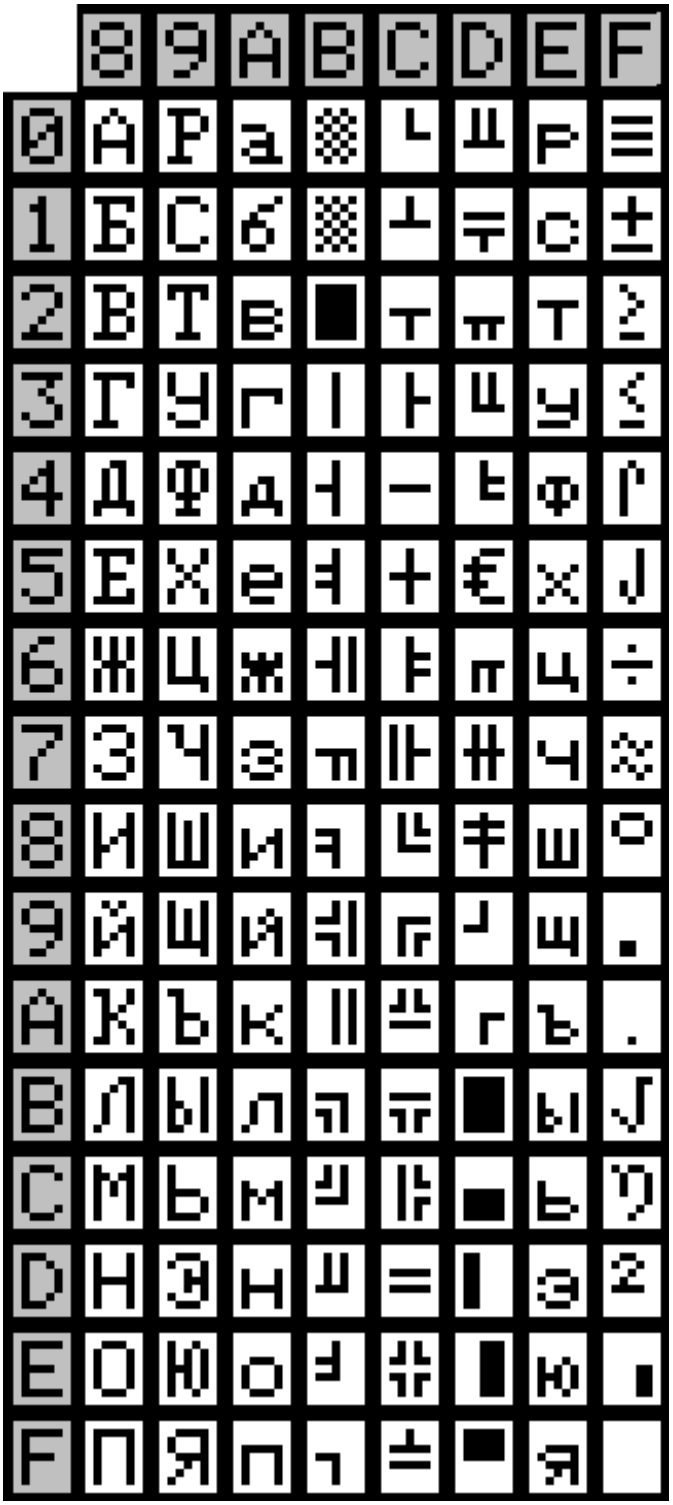


Table 23 PC852(page18)

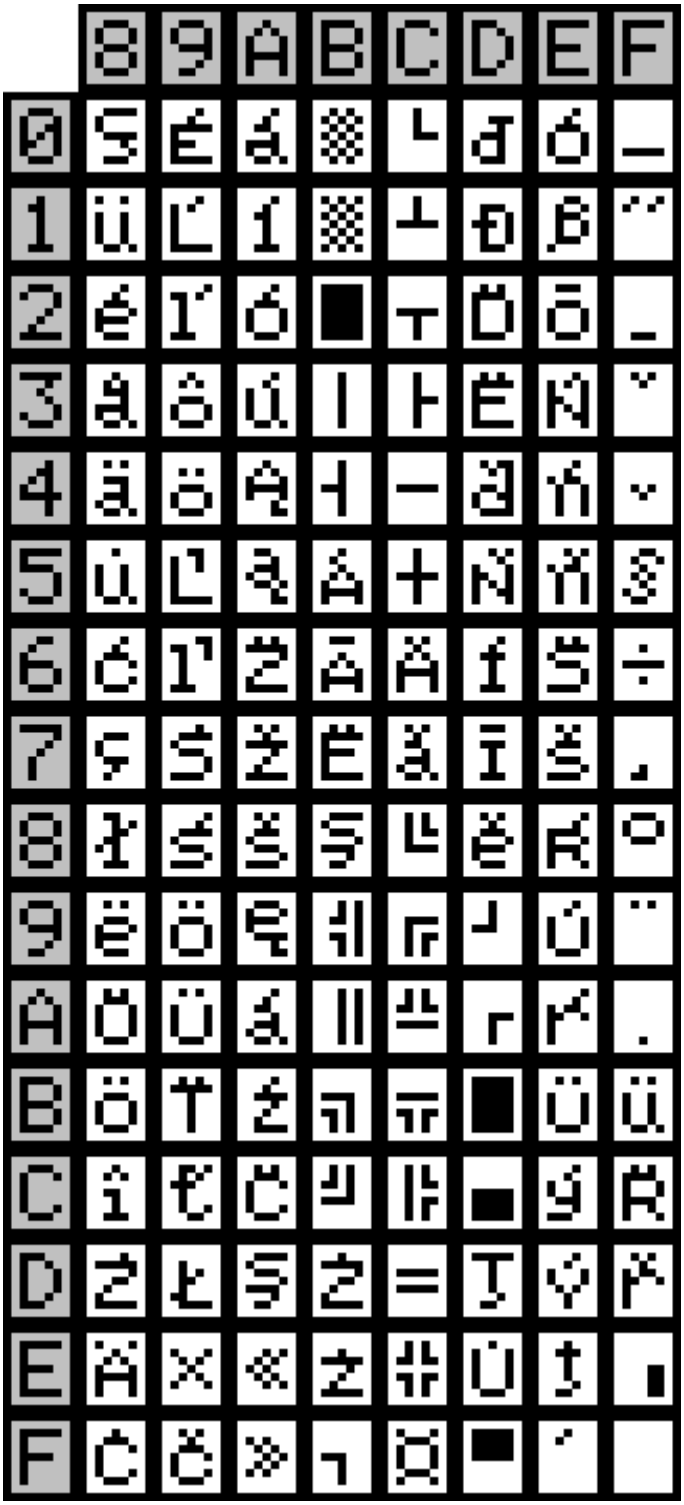


Table 24 PC863(page04)

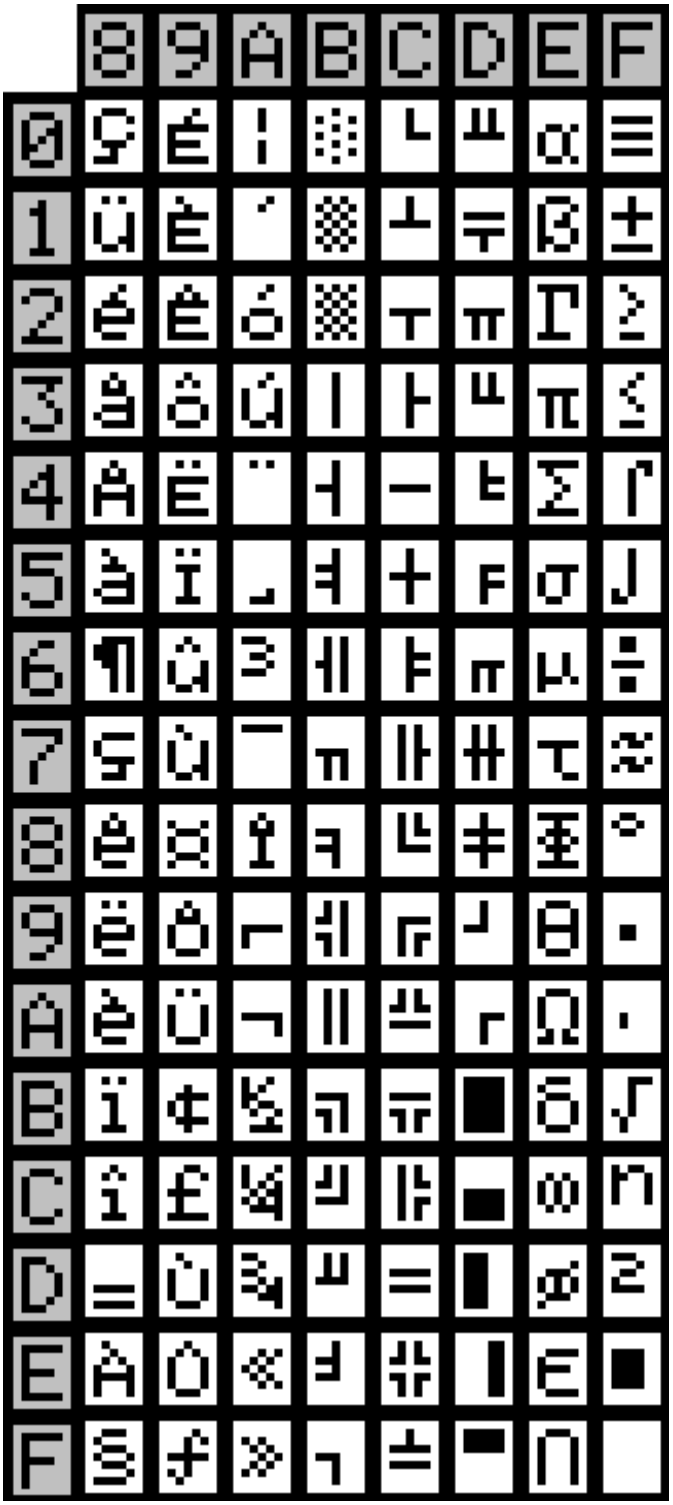


Table 25 PC865(page05)

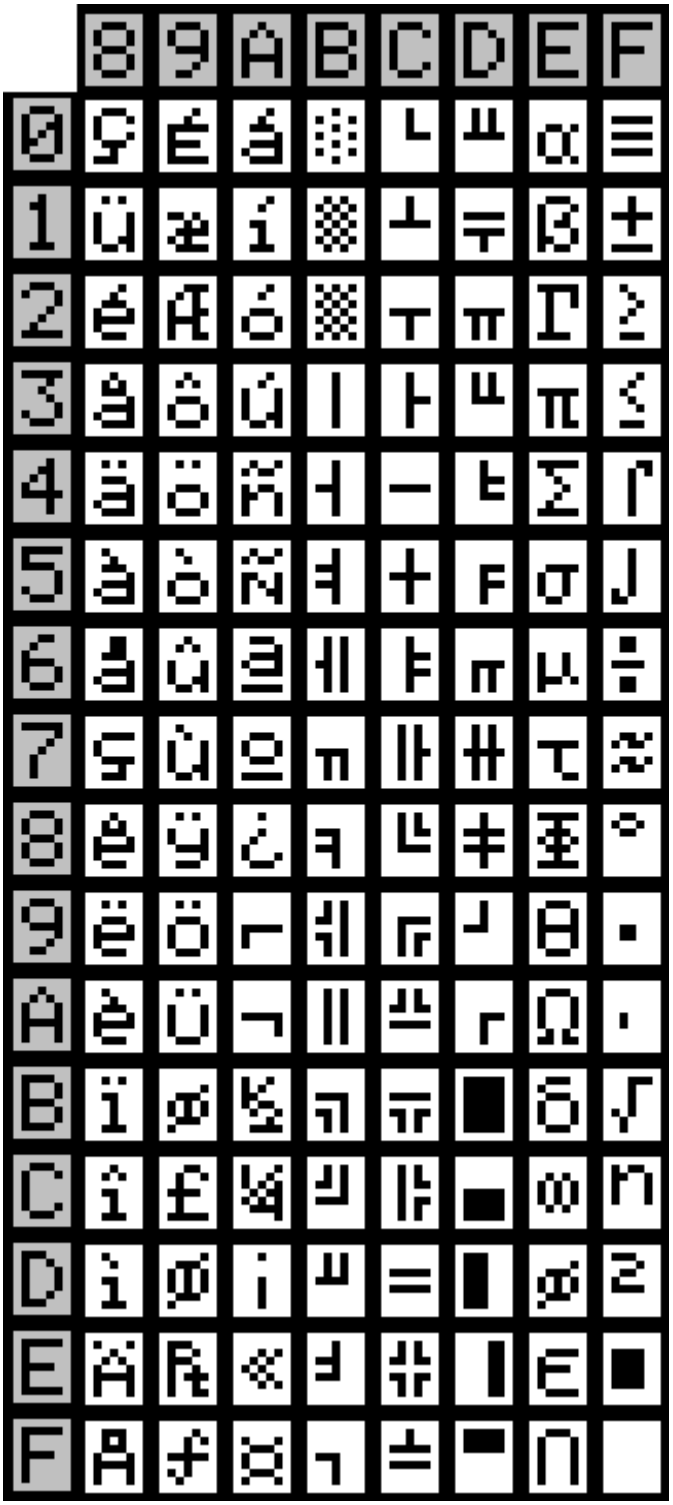


Table 26 PC865(page19)

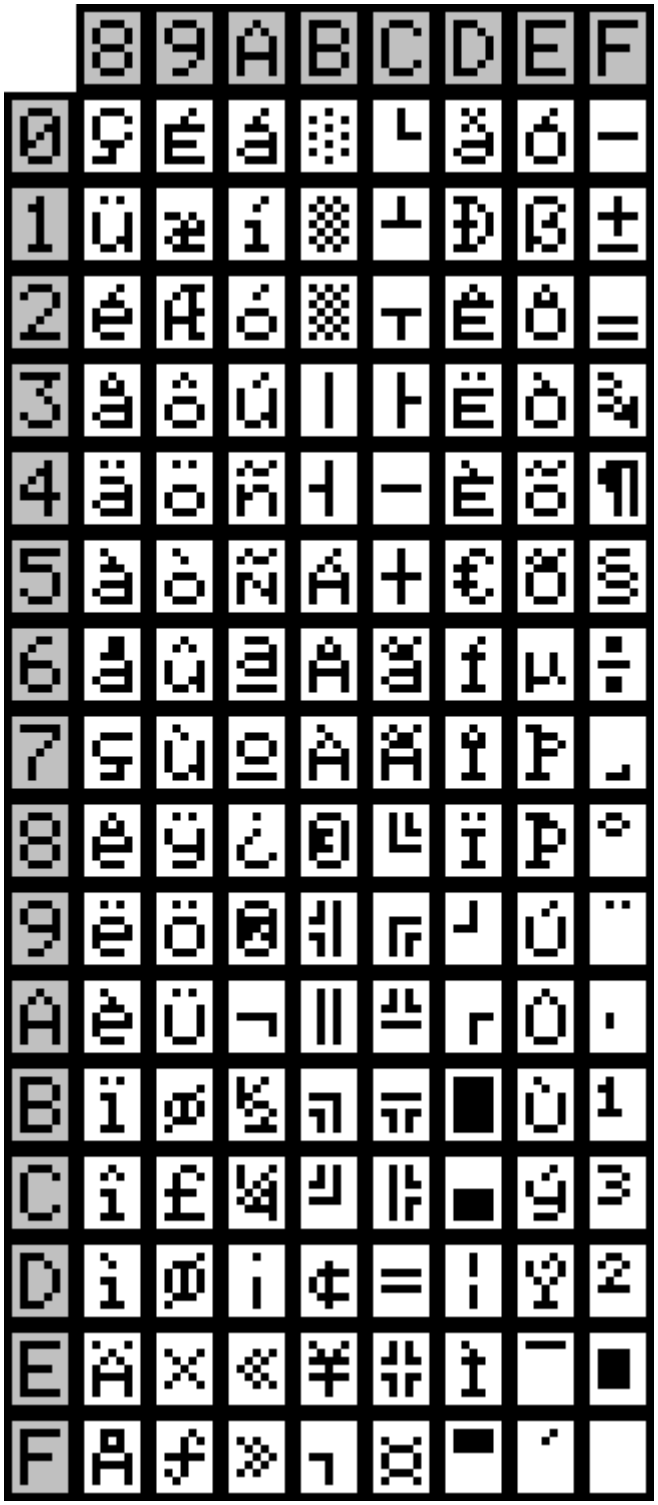


Table 27 PC866(page03)

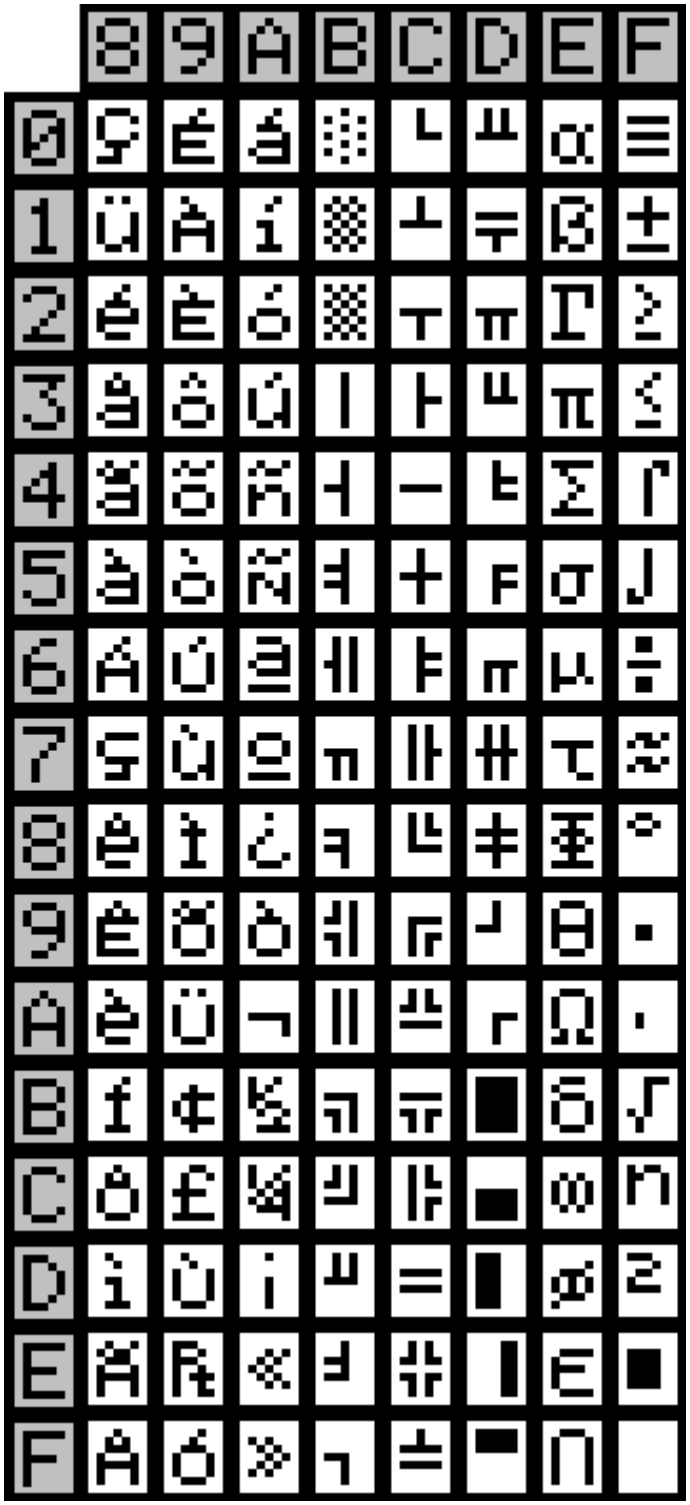
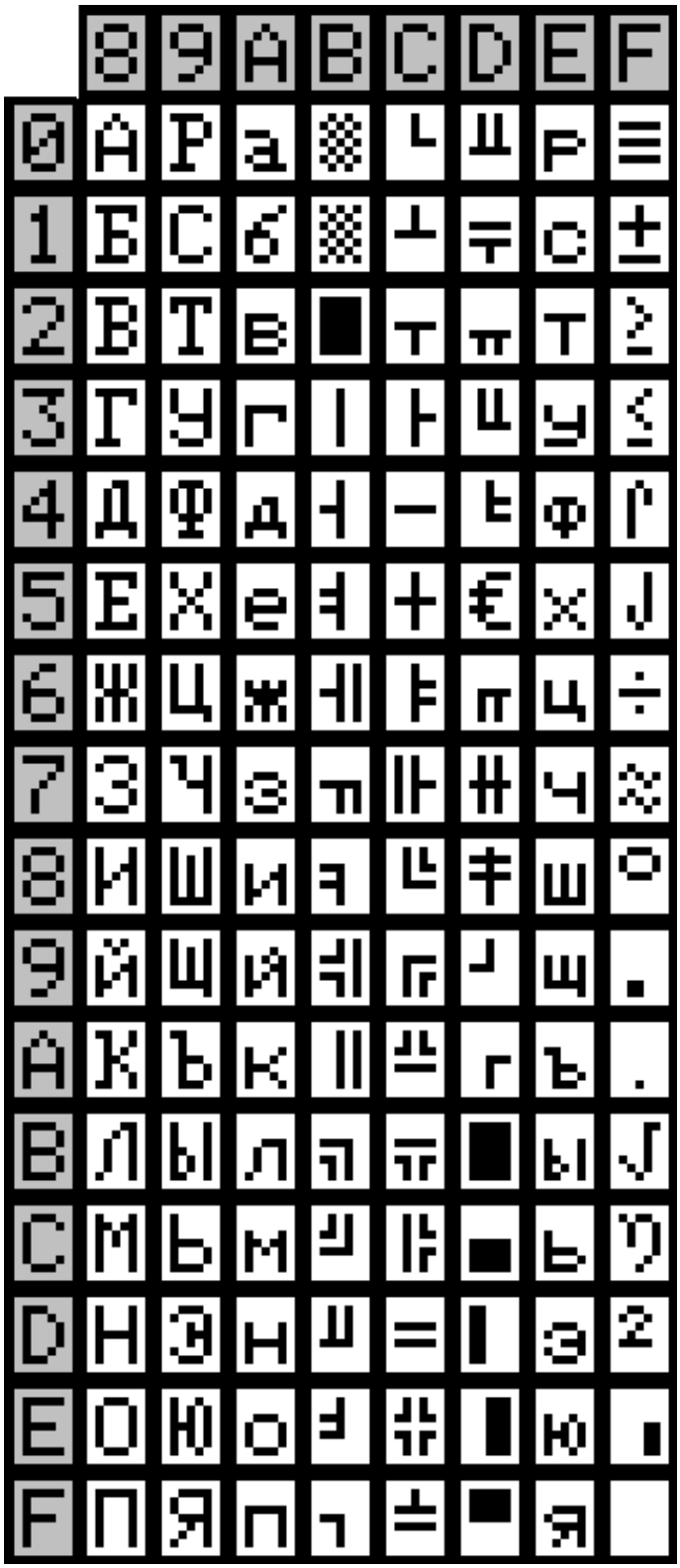


Table 28 PC866(page17)



# 6. SOFTWARE CONTROL: COMMAND GROUP

Command symbols definitions are as below:

**EOT** 04H
**SOH** 01H
**ETB** 17H
**ESC** 1BH
**US** 1FH
**ACK** 06H
**NACK** 15H

**DSP802 supports two command groups – Command group (Group A) and ESC command group (Group B). The two command groups can't be used together. The default setting is Command Group A. When power on, DSP802 will follow the command group you used last time. During operation, you can use command, ESC-Z to switch to another command set. Then the command group setting will be changed since next power on.**

**Group A. (command sets)**

**A1. Package Command Format**

| EOT | SOH | COMMAND | ETB |
|---|---|---|---|

Command List

| Command | Hexadecimal | Description |
|---|---|---|
| **B** | 42H | Set baud rate and parity |
| **I** | 49H | Select international character set |
| **S** | 53H | Save the current view message |
| **P** | 50H | Set cursor position |
| **C** | 43H | Clear display message |
| **D** | 44H | Display the saved DEMO message |
| **T** | 54H | Transmit the current view message to computer |
| **V** | 56H | Query the version of firmware |
| **O** | 4FH | Set stay-message or running-message on display |

**Note:** DSP802 will reply, after receive these commands.

**A2. ESC Command Format**

| ESC | COMMAND |
|---|---|

Command List

| Command | Hexadecimal | Description |
|---|---|---|
| **G** | 47H | Enable AUX-DEVICE (Printer) |
| **S** | 53H | Disable AUX-DEVICE (Printer) |
| **Z** | 5AH | Switch to command GROUP B |

## Group B.

### B1. ESC Command Format

| ESC | COMMAND |
|---|---|

Command List

| Command | Hexadecimal | Description |
|---|---|---|
| = | 3DH | Selection of peripheral device |
| @ | 40H | Initialization of a display |
| R | 52H | Selection of an international character set |
| t | 74H | Selection of a character code table |
| Z | 5AH | Switch to Command GROUP B |

### B2. US Command Format

| US | COMMAND |
|---|---|

Command List

| Command | Hexadecimal | Description |
|---|---|---|
| MD1 | 01H | Specify over-write mode |
| MD2 | 02H | Specify vertical scroll mode |
| MD3 | 03H | Specify horizontal scroll mode |
| C | 43H | Specify / Release of a cursor Display |
| E | 45H | Blink display screen |
| r | 72H | Reversed character setting / cancel |
| @ | 40H | Execute self-test |
| LF | 0AH | Move cursor up |
| CR | 0DH | Move cursor to right-most position |
| B | 42H | Move cursor to bottom position |
| $ | 24H | Move cursor to specified position |

### B3. Control Command Format

Command List

| Symbol | Hexadecimal | Description |
|---|---|---|
| BS | 08H | Move cursor left |
| HT | 09H | Move cursor right |
| LF | 0AH | Move cursor down |
| HOM | 0BH | Move cursor to home position |
| CR | 0DH | Move cursor to left-most position |
| CLR | 0CH | Clear screen |
| CAN | 18H | Clear cursor line |

## A. Group A Command Instructions (command sets)

### A1-1. Set Communication Baud-Rate & Parity

| ASCII | EOT | SOH | B | baudrate | parity | ETB |
|---|---|---|---|---|---|---|
| **HEX** | 04H | 01H | 42H | **n** | **p** | 17H |

[Description]

You can set communication parameter by this command.

[Parameter]

| baudrate | 38400 | 600 | 1200 | 2400 | 4800 | 9600 | 19200 |
|---|---|---|---|---|---|---|---|
| **n** | 36H | 35H | 34H | 33H | 32H | 31H | 30H |

**p**='N' means "non-parity, 8 data bits, 1 stop bit"

**p**='O' means "odd-parity, 7 data bits, 1 stop bit"

**p**='E' means "even-parity, 7 data its, 1 stop bit"

**p**='o' means "odd-parity, 8 data bits, 1 stop bit"

**p**='e' means "even-parity, 8 data its, 1 stop bit"

[Reply] DSP802 reply **ACK**(06H) when correct or **NACK**(15H) when failed.

[Default] **baudrate**=19200, **non**-parity, **8** data bits, **1** stop bit.

### A1-2. Select international code table

| ASCII | EOT | SOH | I | country | ETB |
|---|---|---|---|---|---|
| **HEX** | 04H | 01H | 49H | **n** | 17H |

[Description]

You can set one of international code table as character table for displaying. The same position in different international code table may be different. So, please refer **5. CHARACTER TABLES** to select correct code table.

[Parameters]

| country | U.S.A. | France | Germany | U.K. | Denmark I | Sweden | Italy | Spain |
|---|---|---|---|---|---|---|---|---|
| **n** | 30H | 31H | 32H | 33H | 34H | 35H | 36H | 37H |
| **country** | **Japan** | **Norway** | **Denmark II** | **East Europe** | **Russian** | **Hebrew** | **Greek** | |
| **n** | 38H | 39H | 3AH | 3BH | 3CH | 3DH | 3EH | |

[Reply] DSP802 reply **ACK**(06H) when correct or **NACK**(15H) when failed.

[Default] **country**=U.S.A.

### A1-3. Save the current view-message as advertising message

| ASCII | EOT | SOH | S | layer | ETB |
|---|---|---|---|---|---|
| **HEX** | 04H | 01H | 53H | 31H≦**n**≦33H | 17H |

[Description]

DSP802 is capable to save 3 layers of advertising messages. Each layer can have 40 characters. This commands save the current view-message as one of 3 layers. DSP802 demonstrate these layer-messages when execute **A1-6** command.

[Parameters]

**n**=31H, means the current view-message saved to layer1 advertising message

**n**=32H, means the current view-message saved to layer2 advertising message

**n**=33H, means the current view-message saved to layer3 advertising message

[Reply] DSP802 reply **ACK**(06H) when correct or **NACK**(15H) when failed.

### A1-4. Set cursor position

| ASCII | EOT | SOH | P | position | ETB |
|---|---|---|---|---|---|
| HEX | 04H | 01H | 50H | 31H≦**p**≦58H | 17H |

[Description]

You can locate cursor by this command. The position is regarded as linear.

[Parameters] The cursor can be set to the position from 1 to 40.

Position 1(**p**=31H) means the upper-left corner position.

Position 20(**p**=44H) means the upper-right corner position.

Position 21(**p**=45H) means the lower-left corner position.

Position 40(**p**=58H) means the lower-right corner position.

[Reply] DSP802 reply **ACK**(06H) when correct or **NACK**(15H) when failed.

### A1-5. Clear specific display area

| ASCII | EOT | SOH | C | start position | end position | ETB |
|---|---|---|---|---|---|---|
| HEX | 04H | 01H | 43H | 31H≦**p1**≦58H | 31H≦**p2**≦58H | 17H |

[Description]

Specific part of the current view messages can be cleared by this command.

[Parameters] **p1** and **p2** range same as **A1-4 Parameters**.

[Reply] DSP802 reply **ACK**(06H) when correct or **NACK**(15H) when failed.

### A1-6. DEMO the saved advertising message

| ASCII | EOT | SOH | D | layer | mode | ETB |
|---|---|---|---|---|---|---|
| HEX | 04H | 01H | 44H | 31H≦**1**≦37H | 31H≦**m**≦37H | 17H |

[Description]

1. There are three layers of saved advertising messages as described on **A1-3**.
2. There are three modes of display.
   mode1 is running the saved messages from right to left, which is a horizontal scroll mode.
   mode2 is running the saved messages from the lower line to the upper line, which is a vertical scroll mode.
   mode3 is displaying the saved messages with blinking.
3. For display layers,
   **l**=31 H means display the message saved on layer1.
   **l**=32H means display the message saved on layer2.

**l**=33H means display the message saved on layer3.

**l**=34H means display the two messages saved on layer1 + layer2.

**l**=35H means display the two messages saved on layer1 + layer3.

**l**=36H means display the two messages saved on layer2 + layer3.

**l**=37H means display all the three messages saved on layer1+layer2+ layer3.

4. For display modes,

   **m**=31 H means display the message with mode1. (horizontal scroll mode)

   **m**=32H means display the message with mode2. (vertical scroll mode)

   **m**=33H means display the message with mode3. (blinking mode).

   **m**=34H means display the message with both mode1 + mode2.

   **m**=35H means display the message with both mode1 + mode3.

   **m**=36H means display the message with both mode2 + mode3.

   **m**=37H means display the message with all modes, mode1+mode2+mode3. For this Demo display function, you must have saved the messages by "save the current view message" previously. For example, **l**=37H for displaying layers and **m**=34H for displaying modes, DSP802 would display all the three messages saved on layer1 + layer2 + layer3 with both mode1 + mode2 displaying modes.

5. Any new message from the computer would stop this Demo display function and DSP802 would display that new message from the computer.

[Reply] DSP802 reply **ACK**(06H) when correct or **NACK**(15H) when failed.

**A1-7. Transmit the current view message to computer**

| **ASCII** | **EOT** | **SOH** | **T** | **ETB** |
|---|---|---|---|---|
| **HEX** | 04H | 01H | 54H | 17H |

[Description]

You can get the current view message (40 characters) from DSP802.

[Reply] The DSP802 reply current view message by following format

| **ASCII** | **SOH** | **current view message** | **ETB** |
|---|---|---|---|
| **HEX** | 01H | XXXX(40 characters) | 17H |

or **NACK**(15H) when fail.

**A1-8. Query the version of firmware**

| **ASCII** | **EOT** | **SOH** | **V** | **ETB** |
|---|---|---|---|---|
| **HEX** | 04H | 01H | 54H | 17H |

[Description] You can get the version of firmware.

[Reply] The DSP802 reply current version of firmware

**A1-9. Set stay-message or running-message on display**

| **ASCII** | **EOT** | **SOH** | **O** | **n** | **ETB** |
|---|---|---|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| **HEX** | 04H | 01H | 4FH | 30H/31H | 17H |

[Description] **n**=30H, The DSP802 will display stay-message from saved layer after you power on.

**n**=31H, The DSP802 will display running-message from saved layer after you power on.

[Reply] DSP802 reply **ACK**(06H) when correct or **NACK**(15H) when failed.

**A2-1. Enable AUX-DEVICE (printer)**

| **ASCII** | **ESC** | **G** |
|---|---|---|
| **HEX** | 1BH | 47H |

[Description]

You can enable the aux-device (printer). After execute this command, all messages will pass through aux-device, and DSP802 doesn't care it. Besides **B1-1 & B1-2.**

**A2-2. Disable AUX-DEVICE (printer)**

| **ASCII** | **ESC** | **S** |
|---|---|---|
| **HEX** | 1BH | 53H |

[Description]

You can disable the aux-device (printer). After execute this command, all messages will not pass through aux-device

**A2-3. Switch to command GROUP B**

| **ASCII** | **ESC** | **S** | **1** |
|---|---|---|---|
| **HEX** | 1BH | 5AH | 31H |

[Description]

The above command format is required to switch Command Group A to Group B.

## B. Group B Command Instructions

### B1-1. Selection of peripheral device(Aux-device)

| ASCII | ESC | = | peripheral |
|---|---|---|---|
| HEX | 1BH | 3DH | n |

[Description]

1. When the aux-device(printer) is selected, all the data from the host computer is transmitted to the aux-device via the display.
2. When the display is selected, all the data from the host computer is processed internally in the display. And no data is transmitted to the aux-device.
3. When both the aux-device and display are selected, all the data from the host computer is processed internally in the display and transmitted to the aux-device simultaneously.
4. Whether or not the value of n is within range, a command code is sent to the aux-device. Therefore, when display is selected by <ESC=2>, this command sends <1BH> <3DH> <02H> to the aux-device and stops transmitting data to aux-device. Later, when the aux-device is selected by <ESC=1>, this command sends command code <1BH> <3DH> <01H> to the aux-device and starts transmitting data to the aux-device.
5. The same procedure is performed for <ESC=3> after executing <ESC=2>.
6. If <ESC=2> is received again after selecting display by executing <ESC=2>, the 3-byte data is executed only inside of the display, and nothing is sent to aux-device.
7. If the value n in <ESC=n> after executing <ESC=2> is out of range, nothing is sent to the aux-device.

[Parameters]

| n | aux-device | display |
|---|---|---|
| 1 | **ON** | **OFF** |
| 2 | **OFF** | **ON** |
| 3 | **ON** | **ON** |

| n | peripheral device | 1 | 0 |
|---|---|---|---|
| Bit0 | aux-device (printer) | **selected** | **cancelled** |
| Bit1 | Display | **selected** | **cancelled** |
| Bit2~Bit7 | Reserved | X | X |

### B1-2. Initialization of a display

| ASCII | ESC | @ |
|---|---|---|
| HEX | 1BH | 40H |

[Description] After execute this command, DSP802 will be initialized, the cursor moves to the home position.

### B1-3. Selection of an international character set

| ASCII | ESC | R | country |
|---|---|---|---|
| HEX | 1BH | 52H | 00H≦**n**≦0EH |

[Description] please see **A1-2** command.

[Parameters]

| country | U.S.A. | France | Germany | U.K. | Denmark I | Sweden | Italy | Spain |
|---|---|---|---|---|---|---|---|---|
| n | 00H | 01H | 02H | 03H | 04H | 05H | 06H | 07H |
| **country** | **Japan** | **Norway** | **Denmark II** | **SpainII** | **Latin America** | **Korea** | **Ireland** | **Legal** |
| **n** | 08H | 09H | 0AH | 0BH | 0CH | 0DH | 0EH | 0FH |

### B1-4. Selection of a character code table

| ASCII | ESC | t | Page |
|---|---|---|---|
| HEX | 1BH | 74H | n |

[Description]

This command selects a **Page n** from the character code table as below. The alphanumeric characters (20H to 7FH) are the same for each page. But the graphic characters (80H to FFH) are different on each page. The default setting is **Page 0**.

[Parameters]

| n | Character code table |
|---|---|
| 0 | **Page 0** (PC437 (U.S.A., standard Europe)) (see Table1) |
| 1 | **Page 1** (Katakana) (see Table 17) |
| 3 | **Page 3** (see Table 27) |
| 4 | **Page 4** (see Table 24) |
| 5 | **Page 5** (see Table 25) |
| 14 | **Page 14** (Greek) (see Table 20) |
| 17 | **Page 17** (see Table 28) |
| 18 | **Page 18** (see Table 23) |
| 19 | **Page 19** (see Table26) |
| 255 | **Page 255** (see Table 18) |

Others of **Page n** are the same as **Page 0**.

### B1-5. Switch to command GROUP A

| ASCII | ESC | S | 0 |
|---|---|---|---|
| HEX | 1BH | 5AH | 30H |

[Description]

The above command format is required to switch command Group B to Group A.

### B2-1. Specify over-writing mode

| ASCII | US | MD1 |
|---|---|---|
| HEX | 1FH | 01H |

[Description] Specify the overwrite mode as the screen display mode.

**B2-2. Specify vertical scroll mode**

| ASCII | US | MD2 |
|---|---|---|
| HEX | 1FH | 02H |

[Description] Specify the vertical scroll mode as the screen display mode.

**B2-3. Specify horizontal scroll mode**

| ASCII | US | MD3 |
|---|---|---|
| HEX | 1FH | 03H |

[Description] Specify horizontal scroll mode as the screen display mode.

**B2-4. Specify and release of a cursor displaying**

| ASCII | US | C | value |
|---|---|---|---|
| HEX | 1FH | 43H | n |

[Description] Specify a cursor displaying or release.

A cursor displaying is specified if **n**= 01H or 31H.

A cursor displaying is cancelled if **n**= 00H or 30H.

**B2-5. Blink display screen**

| ASCII | US | E | value |
|---|---|---|---|
| HEX | 1FH | 45H | n |

[Description]

You can control blink speed by this command. The blink time is the shortest if n=01H, and the longest if n=FEH. The DSP802 will stop blinking if n=00H. The DSP802 will switch the screen off if n=FFH.

**B2-6. Specify and release of a reverse character**

| ASCII | US | r | value |
|---|---|---|---|
| HEX | 1FH | 72H | n |

[Description]

Execute reversed character if **n**=01H or 31H or cancel if **n**=00H or 30H.

**B2-7. Self Test**

| ASCII | US | @ |
|---|---|---|
| HEX | 1FH | 40H |

[Description]

DSP802 will execute self-test by this command. When self-test completed, cursor moves to home position and display is cleared.

**B2-8. The cursor moves up**

| **ASCII** | **US** | **LF** |
|---|---|---|
| **HEX** | 1FH | 0AH |

[Description]

The cursor moves up by one line.

When the cursor is on the upper line, this command operates differently depending on the display mode.

1. Overwrite mode:
   The cursor is moved to the same column on the lower line.
2. Vertical scroll mode:
   The characters displayed on the upper line are scrolled to the lower line, and the upper line is cleared. The cursor remains at the same position.
3. Horizontal scroll mode:
   The cursor is not moved.

**B2-9. The cursor moves to right-most position**

| **ASCII** | **US** | **CR** |
|---|---|---|
| **HEX** | 1FH | 0DH |

[Description] The cursor moves to the right end on the same line.

**B2-10. The cursor moves to bottom position**

| **ASCII** | **US** | **B** |
|---|---|---|
| **HEX** | 1FH | 42H |

[Description]

The cursor moves to the right-end position on the lower line(bottom position).

**B2-11. The cursor moves to specified position**

| **ASCII** | **US** | **$** | **column** | **row** |
|---|---|---|---|---|
| **HEX** | 1FH | 24H | 01H≦**n**≦14H | **m**=01H or 02H |

[Description]

The cursor moves to **n**th column and **m**th row position. DSP802 will ignore this command and keep same cursor position, if **n** or **m** is over the range of the screen.

**B3-1. Moves cursor left**

| **ASCII** | **BS** |
|---|---|

| HEX | 08H |
|---|---|

[Description] The cursor moves to left position by one character.

**B3-2. Moves cursor right**

| ASCII | HT |
|---|---|
| HEX | 09H |

[Description] The cursor moves to right position by one character.

**B3-3. The cursor moves down**

| ASCII | LF |
|---|---|
| HEX | 0AH |

[Description]

The cursor moves down by one line.

When the cursor is on the lower line, this command operates differently depending on the display mode.

1. Overwrite mode:
   The cursor is moved to the same column on the upper line.
2. Vertical scroll mode:
   The characters displayed on the lower line are scrolled to the upper line, and the lower line is cleared. The cursor remains at the same position.
3. Horizontal scroll mode:
   The cursor is not moved.

**B3-4. The cursor moves to home position**

| ASCII | HOM |
|---|---|
| HEX | 0BH |

[Description] The cursor moves to Home position.

**B3-5. The cursor moves to left-most position**

| ASCII | CR |
|---|---|
| HEX | 0DH |

[Description] The cursor moves to left end of the same line.

**B3-6. Clear screen**

| ASCII | CLR |
|---|---|
| HEX | 0CH |

[Description]

Display screen is cleared. After execution command, the cursor moves to Home position.

**B3-7. Clear cursor line**

| ASCII | CAN |
|---|---|
| HEX | 18H |

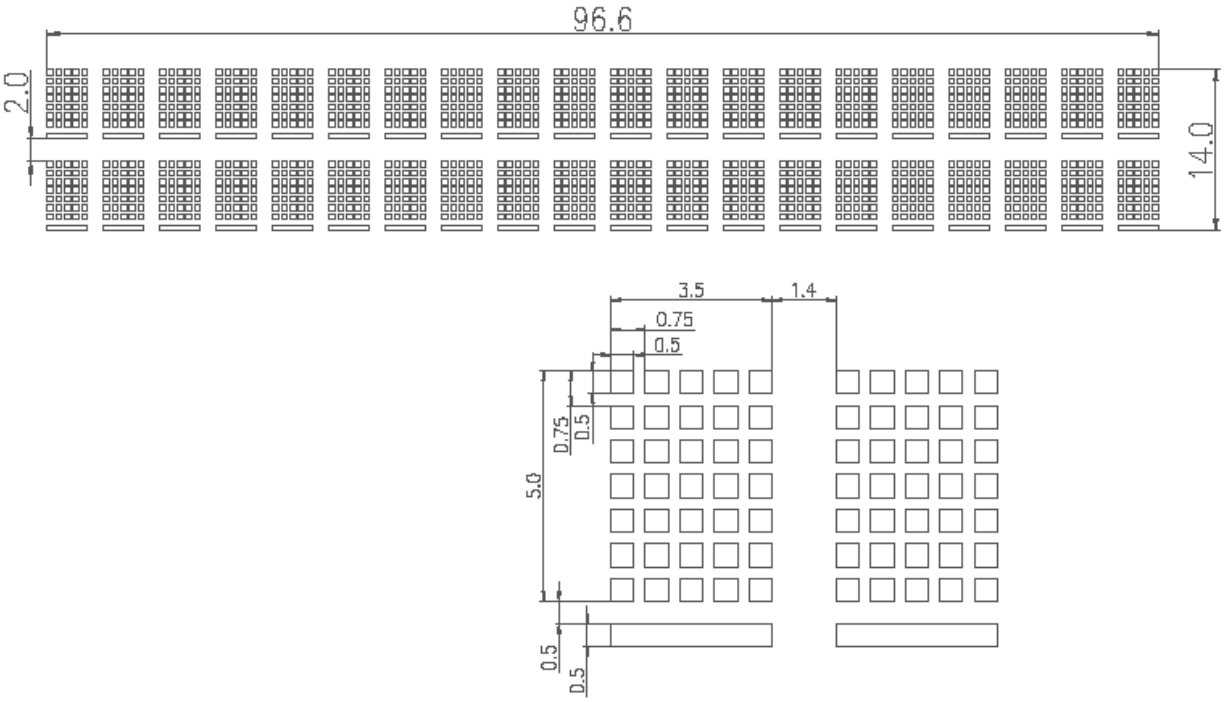
[Description]

Clear the line containing the cursor. After executing this command, the cursor moves to the left-end position of the line.

## 7. SPECIFICATIONS

A. Display

- Vacuum fluorescent display (VFD).
- Number of characters: 40 (20 columns x 2 lines).
- Display color: Blue-green.
- Character font: 5 x 7 dot matrix.
- Character size: H5 x W3.5 mm.
- Character type: Alpha numeric: 95
  International characters: 32
  Graphic characters: 128
- Power consumption: 200mA Max. 12VDC(RS232 version)
  500mA Max. 5VDC(USB version)




B. Dimension

- Unit: **H240** * **W175** * **D35**mm.
- Weight: Approx. 875 grams.

C. Parallel interface for printer (RS232 version only)

- Display interface: RS-232C.
- Data transmission method: Serial

D. Reliability: MTBF 20,000 hours (power on hour)

E. Operating environment

- Temperature: 5 to 45 degree C.
- Humidity: 10 to 85% relative

F. Storage environment

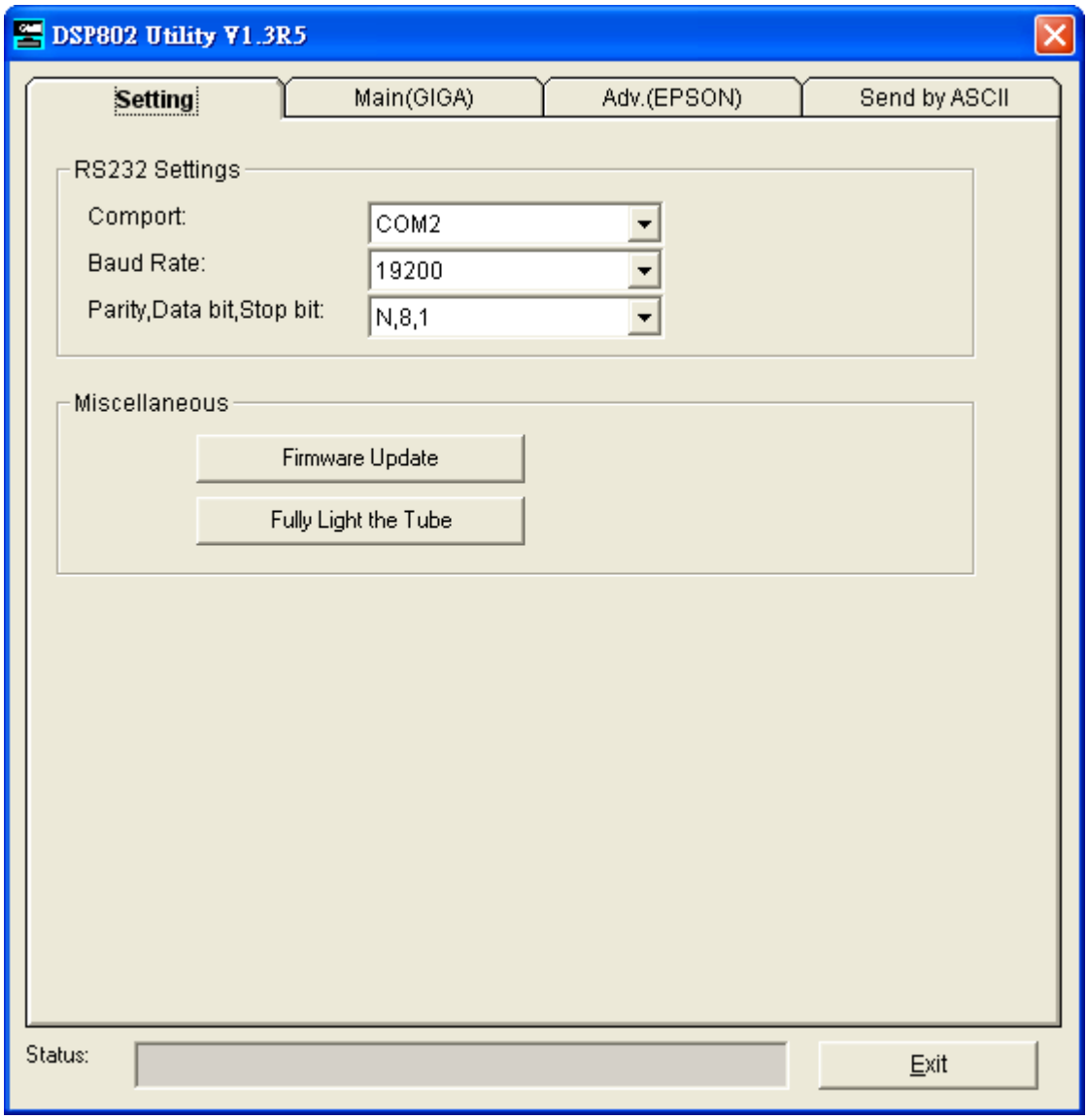
- Temperature: -10 to 50 degree C.
- Humidity: 10 to 90% relative.

## 8. Instruction of Demo Software

**A. Please put demo disc and install the demo software as instruction.**

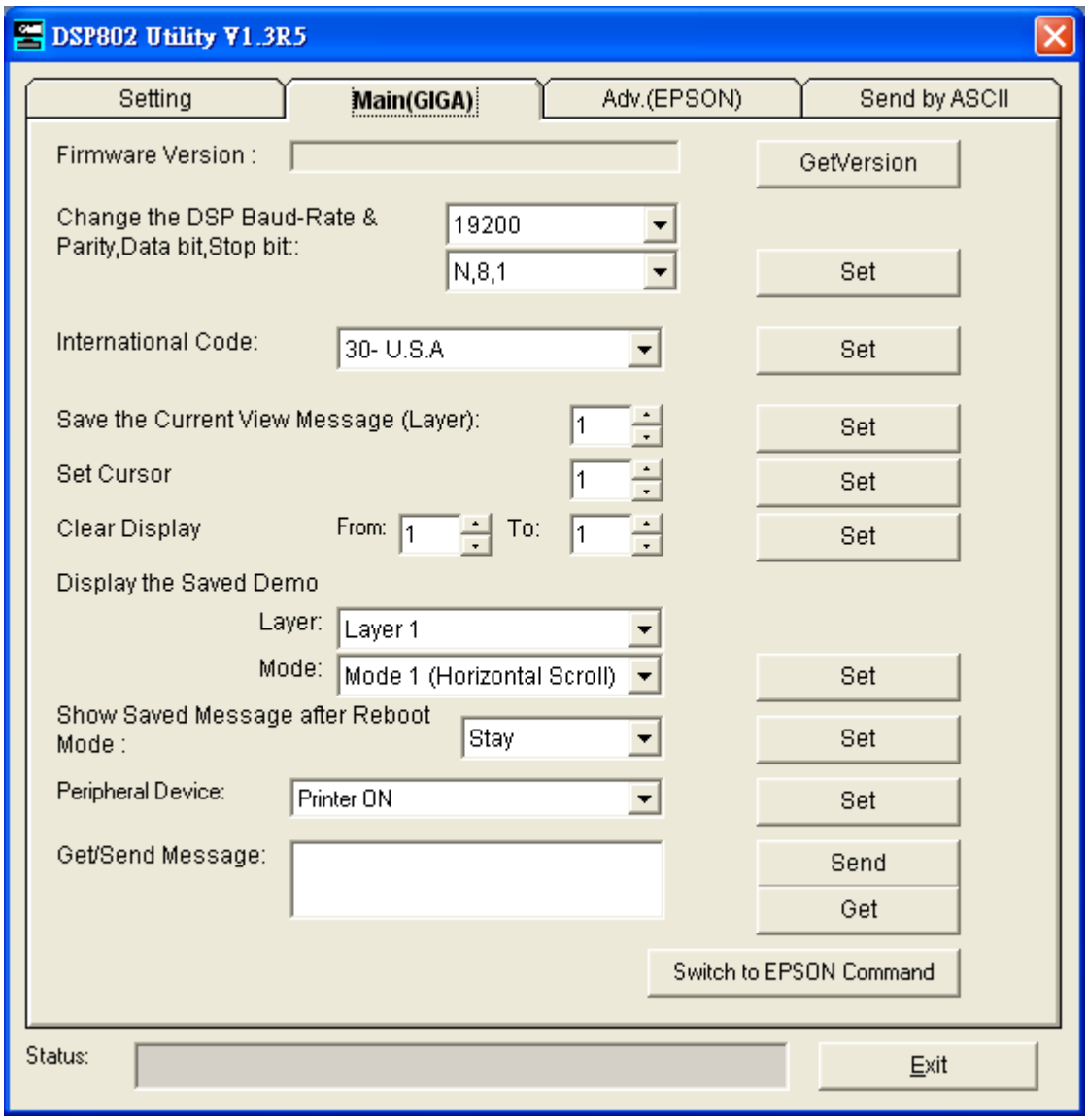
**B. After installation, you can run program under your specified program group.**

**C. While you execute it, the first page show as the below figure.**

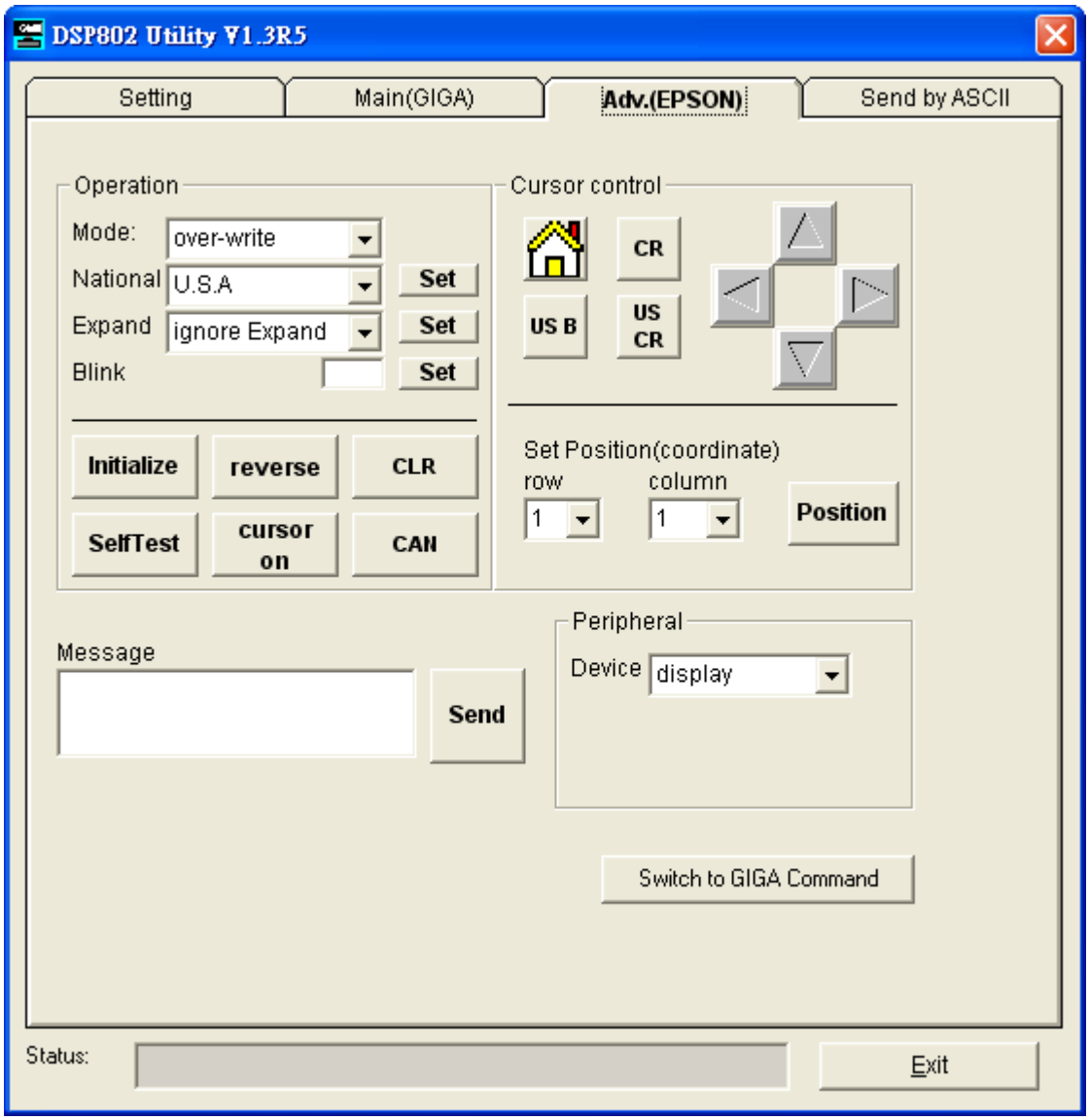



**Please check the "RS232 Settings", these communication parameters must be same as the DSP802 parameters. If anyone is different, DSP802 will not display correctly.**

**D. When DSP802 communication parameters are as the same as your computer, you can control the DSP802 via your computer. So, please select the "Group A" tabbed page. You will see the window as the below figure. Please refer command Group A. It shows all on this page**

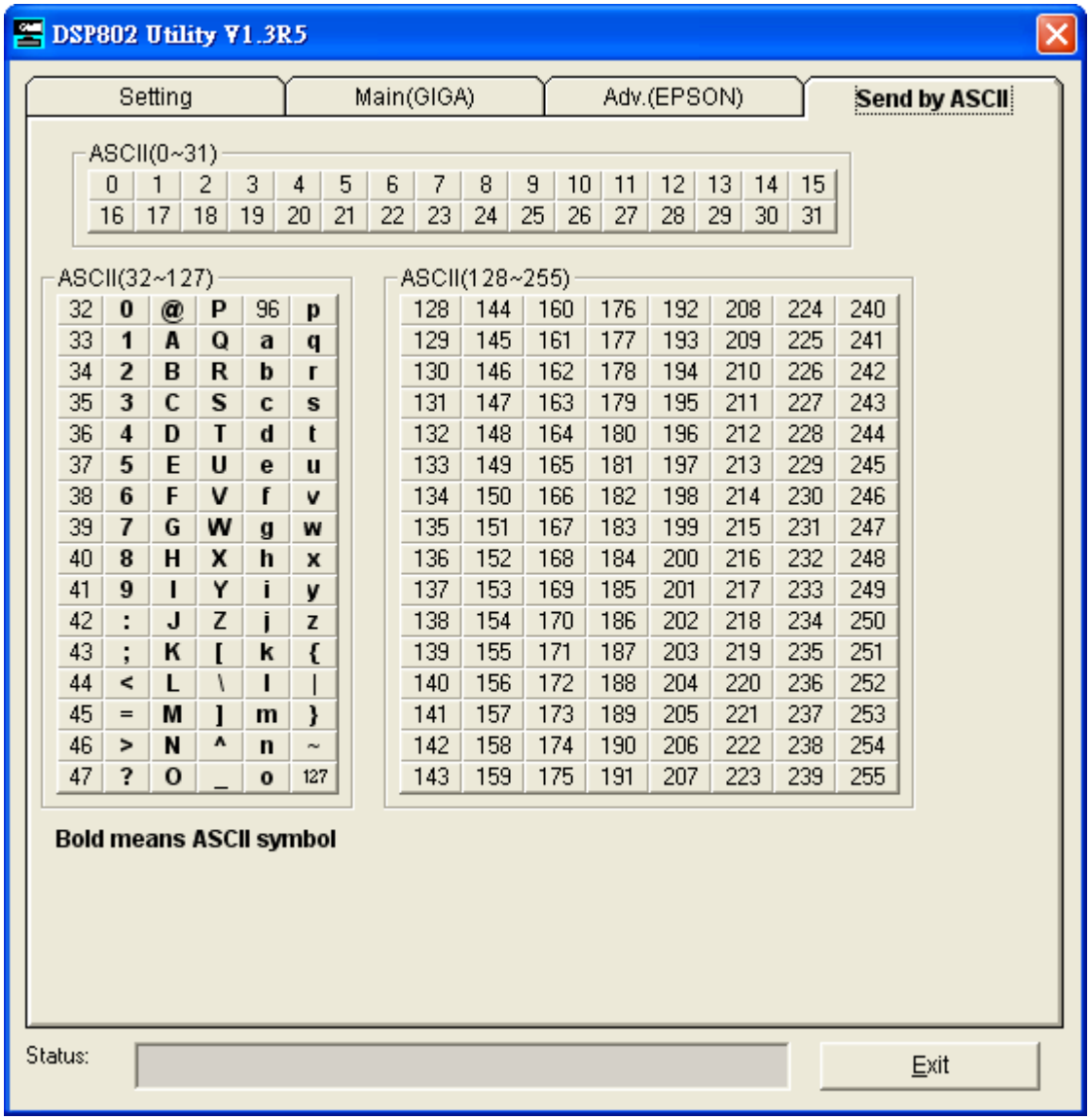

DSP802 Utility V1.3R5
Setting
Main(GIGA)
Adv.(EPSON)
Send by ASCII
Firmware Version :
GetVersion
Change the DSP Baud-Rate &
Parity,Data bit,Stop bit::
19200
N,8,1
Set
International Code:
30- U.S.A
Set
Save the Current View Message (Layer):
1
Set
Set Cursor
1
Set
Clear Display
From:
1
To:
1
Set
Display the Saved Demo
Layer:
Layer 1
Mode:
Mode 1 (Horizontal Scroll)
Set
Show Saved Message after Reboot
Mode :
Stay
Set
Peripheral Device:
Printer ON
Set
Get/Send Message:
Send
Get
Switch to EPSON Command
Status:
Exit

**E. The Group B tab implements the Group B command set.**




**F. You can press ASCII code on the "Send by ASCII" tabbed page**

**This function let you try the command set directly.**


DSP802 Utility V1.3R5
Setting
Main(GIGA)
Adv.(EPSON)
Send by ASCII
ASCII(0~31)
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
ASCII(32~127)
32 0 @ P 96 p
33 1 A Q a q
34 2 B R b r
35 3 C S c s
36 4 D T d t
37 5 E U e u
38 6 F V f v
39 7 G W g w
40 8 H X h x
41 9 I Y i y
42 : J Z j z
43 ; K [ k {
44 < L \ l |
45 = M ] m }
46 > N ^ n ~
47 ? O _ o 127
ASCII(128~255)
128 144 160 176 192 208 224 240
129 145 161 177 193 209 225 241
130 146 162 178 194 210 226 242
131 147 163 179 195 211 227 243
132 148 164 180 196 212 228 244
133 149 165 181 197 213 229 245
134 150 166 182 198 214 230 246
135 151 167 183 199 215 231 247
136 152 168 184 200 216 232 248
137 153 169 185 201 217 233 249
138 154 170 186 202 218 234 250
139 155 171 187 203 219 235 251
140 156 172 188 204 220 236 252
141 157 173 189 205 221 237 253
142 158 174 190 206 222 238 254
143 159 175 191 207 223 239 255
Bold means ASCII symbol
Status:
Exit