

Section 4: Operation Sequence

Enter Configuration Mode

Procedure

1. Power off PC, connect the reader with PC and then power on.
2. Execute text editor program such as Microsoft Word, Notepad, PE2, Edit...etc.
3. Press [Ctrl]+[Alt]+[F10] to enter **Configuration Mode**.
4. Operating step-by-step following instructions as shown on the screen.
5. While in **Configuration Mode**, the green LED is always blinking. After exiting this **Configuration Mode**, the reader will be reset automatically.
6. The main menu of **Configuration Mode** is as below:

```
**** CONFIGURATION MODE ****
1:SET INTERFACE
2:SET MAGNETIC STRING
3:SET STRING EDITING
4:SET BUZZER
5:RESET TO DEFAULT
6:SHOW STATUS
7:SET KEYBOARD CONFIGURATION
0:EXIT SETUP MODE
```

Note: The bold and italics in the following block are inputted manually via keyboard.

0:Exit Setup Mode

Once user choose "0" to exit **Configuration Mode**, the reader will be reset and execute the modified settings.

1:Set Interface

In the main menu, user could choose "1" to enter **Set Interface** sub-menu.

```
1:SET KEYBOARD COUNTRY
2:SET TRANSMIT SPEED
3:FIRMWARE VERSION AND DATE
0:BACK
```

Choose "1:SET KEYBOARD COUNTRY"

This is used to inform the reader about the keyboard type that should be used when transmitting card data. The default setting is "U.S.". It will shown as below:

```
1:U.S.
2:GERMAN
3:FRENCH
4:UK ENGLISH
```

```

5:SPANISH
6:ITALY
7:DUTCH
8:PORTUGUESE
9:SWEDISH
A:DANISH
0:BACK
READER STATUS = U.S.

```

READER STATUS displays the country of keyboard interface in use. The user could choose **1~A** to change the keyboard interface. Choose **“0”** to return to last menu.

Choose **“2:SET TRANSMIT SPEED”**

This is used to set the speed of card data sent to the host. The default setting is 80 characters/sec. IT will be shown as below:

```

**** SET TRANSMIT SPEED ****
1:25 CHARACTER/SEC
2:40 CHARACTER/SEC
3:60 CHARACTER/SEC
4:80 CHARACTER/SEC
5:120 CHARACTER/SEC
0:BACK
READER STSTUS = 80 CHAR/SEC

```

Choose **“3:FIRMWARE VERSION AND DATE”**

Display the firmware version, release date, and the programmer of the reader. The message is shown as below as an example:

```
2100124B 05-JUL-2002 NICK
```

Where 2100124B represents the version of firmware and NICK is the programmer.

2:Set Magnetic String

In the main menu, user could choose **“2”** to enter **Set Magnetic String** sub-menu.

```

1:SET ENABLE TRACKS
2:SET REQUIRE TRACKS
3:CARRIAGE RETURN
4:TRANSMIT SS/ES
5:CAPS LOCK
6:TRACK OUTPUT ORDER
7:CHANGE CARRIAGE RETURN CODE
8:OUTPUT CR IF READ NOTHING
9:RAW DATA OUTPUT

```

```
0:BACK
```

Choose “1:SET ENABLE TRACKS”

This function is used to enable and disable specific tracks of data sent from the reader. The default setting is “TRACK 1, 2, 3”. For example, for a triple track reader it may be necessary in some applications to use only Track 2 data. In this case, this setting can make Track 2 enabled and disable Track 1&3.

```
**** ENABLE TRACKS ****
1:TRACK 1
2:TRACK 2
3:TRACK 1,2
4:TRACK 3
5:TRACK 1,3
6:TRACK 2,3
7:TRACK 1,2,3
0:BACK
READER STSTUS = TRACK 1,2,3
```

Choose “2:SET REQUIRE TRACKS”

This function is used to set **Require Track** as criteria of effective reading. The default setting is “ANY TRACK”. The criteria means if the **Require Track** has been read after swiping card. For example, if user set Track 2 as a criterion and gets Track 2 data exactly from the reading data, then it is a good reading and the reader sends all enabled track data to the host. If not, the reader doesn't transmit any data. The default setting is “any track will be considered a good read”. This feature is useful if your software requires specific tracks of the card data.

```
**** SET REQUIRE TRACKS ****
1:TRACK 1
2:TRACK 2
3:TRACK 1,2
4:TRACK 3
5:TRACK 1,3
6:TRACK 2,3
7:TRACK 1,2,3
8:ANY TRACK
0:BACK
READER STATUS = ANY TRACK
```

Choose “3:CARRIAGE RETURN”

This is used to set the output data with or without **Carriage Return** for each track. The default setting is “AFTER EACH TRACK”.

```
**** CARRIAGE RETURN ****
1:DON'T SEND CARRLAGE RETURN
```

```

2:AFTER ALL TRACKS
3:AFTER EACH TRACK
4:AFTER ALL DATA
0:BACK
READER STATUS = AFTER EACH TRACK

```

NOTE: "After all data" means to send CR out following card data plus something like preamble/postamble, and "after all track" means to do it right after sending out card data.

Choose "4:SET SS/ES SEND OR NOT"

This function is used to determine whether the SS and ES of each track will be sent with the card data. The default setting is "ENABLE". (SS: start sentinel; ES: end sentinel)

```

**** SS/ES SEND ****
1:SEND
2:NO SEND
0:BACK
READER STATUS = ENABLE

```

Choose "5:CAPS LOCK"

This function is used to set the send data as capital letters. The default setting is "ENABLE". No matter what the Caps Lock on the keyboard is ON or OFF, the reader is always sending out the capital letters while the setting is "ENABLE". Once this setting is "DISABLE", the letters of the sent data are consistent with the Caps Lock status.

The default setting is "ENABLE".

```

1:ENABLE
2:DISABLE
0:BACK
READER STATUS = ENABLE

```

Choose "6:TRACK OUTPUT ORDER"

The Track Output Order is used to control the order of each track output. The default setting is "1, 2, 3". You have to input the track in order; i.e.: FIRST, SECOND, and then THIRD.

```

1:TRACK 1
2:TRACK 2
3:TRACK 3
0:BACK
READER STATUS = 1,2,3
FIRST: 1
SECOND: 2
THIRD: 3

```

Choose "7:CHANGE CARRIAGE RETURN CODE"

The Change Carriage Return Code is used to change the code of carriage return. The default setting is [ENTER].

```
1:CHANGE
2:RESET
0:BACK
READER STATUS = [ENTER]
I
$
```

After setting, you may re-confirm it by entering "Change Carriage Return Code" section. You shall see:

```
1:CHANGE
2:RESET
0:BACK
READER STATUS = [SHIFT] 4
```

Choose "8: OUTPUT CR IF READ NOTHING"

The default setting is "DISABLE".

```
NO DATA, OUTPUT CARRIAGE RETURN
1:ENABLE
2:DISABLE
0:BACK
READER STATUS = DISABLE
```

Choose "9: Raw Data Output"

The default setting is "DISABLE".

```
**** SET RAW DATA OUTPUT ****
1:ENABLE
2:DISABLE
0:BACK
```

3:Set String Editing

In the main menu, select "3" to enter Set String Editing sub-menu.

```
1:SET PREFIX
2:SET SUFFIX
3:SET MAGNETIC STRIPE PREAMBLE
4:SET MAGNETIC STRIPE POSTAMBLE
5:BLOCK OUTPUT ORDER
6:SEND CONTROL
7:FIELD OUTPUT ORDER
8:EXP DATE FORMAT
9:EXP DATE SEPARATOR
```

```
0:BACK
```

Choose "1:SET PREFIX"

The track 1, 2, 3 *prefix* are 6-character strings that are transmitted prior to the track data. It will be shown as below:

```
1:TRACK 1
2:TRACK 2
3:TRACK 3
0:BACK
I
**** SET TRACK 1 PREFIX ****
1:ENABLE
2:DISABLE
0:BACK
READER STATUS = DISABLE
I
ENTER PREFIX (6 CHARS MAX) THEN PRESS `
WHEN FINISHED
IMPORTANT! [CAPS] KEY IS NOT ALLOWED
```

After selecting tracks, user set the *prefix* for the specific track. If track needs *prefix*, choose **1** then user can key-in 1~6 characters to be as the *prefix*; if not, choose **2**. The default setting is "DISABLE".

Choose "2:SET SUFFIX"

The track 1, 2, 3 *suffix* are 6-character strings that are transmitted after to the track data. It will be shown as below:

```
1:TRACK 1
2:TRACK 2
3:TRACK 3
0:BACK
I
**** SET TRACK 1 SUFFIX ****
1:ENABLE
2:DISABLE
0:BACK
READER STATUS = DISABLE
I
ENTER SUFFIX (6 CHARS MAX) THEN PRESS `
WHEN FINISHED
IMPORTANT! [CAPS] KEY IS NOT ALLOWED
```

After selecting tracks, user set the *suffix* of the specific track. If track needs *suffix*, choose **1** then user can key-in 1~6 characters to be as the *suffix*; if not, choose **2**. The default setting is “DISABLE”.

Choose ”3:SET MAGNETIC STRIPE PREAMBLE”

The *preamble* is a 6-character string that is transmitted before all card data. This string allows you to ensure that the cursor is positioned at the desired location at the time of a card swipe.

```
**** SET PREAMBLE ****
1:ENABLE
2:DISABLE
0:BACK
READER STATUS = DISABLE
I
ENTER PREAMBLE (6 CHARS MAX) THEN
PRESS ` WHEN FINISHED
IMPORTANT! [CAPS] KEY IS NOT ALLOWED
```

If choose **1**, then user can key-in 1~6 characters to be as the *preamble*; if not, choose **2**. The default setting is “DISABLE”.

Choose ”4:SET MAGNETIC STRIPE POSTAMBLE”

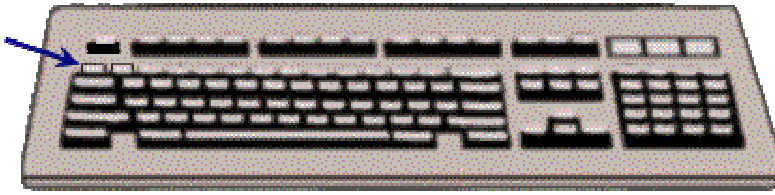
The *postamble* is a 6-character string that is transmitted after all card data. This string allows you to ensure that the cursor is positioned at the desired location at the time of a card swipe.

```
**** SET POSTAMBLE ****
1:ENABLE
2:DISABLE
0:BACK
READER STATUS = DISABLE
I
ENTER POSTAMBLE (6 CHARS MAX) THEN
PRESS ` WHEN FINISHED
IMPORTANT! [CAPS] KEY IS NOT ALLOWED
```

If choose **1**, then you can key-in 1~6 characters to be as the *postamble*; if not, choose **2**. The default setting is “DISABLE”.

Note: For 1~4 item in the Set String Editing mode, if user key-in up to 6 characters, this mode will be finished automatically, if less than 6 characters, user can press the key ` escaping this mode.

The key ` is the character for U.S. keyboard configuration. For the same function, please press the exact position on the keyboard as below.



Choose "5:BLOCK OUTPUT ORDER"

The Block Output Order is used to control the order and appearance of each block output. Each track has three blocks (A, B, C) which could be set conforming to ISO, DMV, AAMVA or Trade show card, and the characters of each block could be set during 1~109.

EXAMPLE: Controlling the output data format of block A on track 1 is ISO standard card, 15th character to 30th character. The procedure is as follows:

Step 1: Choosing **1** to set data format of **TRACK 1**.

```
**** SET BLOCK OUTPUT ORDER ****
1:TRACK 1
2:TRACK 2
3:TRACK 3
0:BACK
```

Step 2: Choosing **1** to set **BLOCK A**.

```
1:BLOCK A
2:BLOCK B
3:BLOCK C
0:BACK
```

Step 3: Choosing **3** to set the card type is **ISO** standard.

```
** SET TRACK1 BLOCK A **
READER STATUS = DISABLE
1:DMV
2:AAMVA
3:ISO
4:TRADE SHOW CARD
9:DISABLE
0:BACK
```

Step 4: To set the range of the transmitting data format.

START = 15

END = 30

Example: For track 1, if you set block A is ISO type 1-4, block B is DMV type 6-9 and block C is ISO type 11-25, then

1. while you swipe a ISO card, it'll output char 1-4 plus 11-25 of track 1 data.
2. while you swipe a DMV card. It'll output char 6-9 of track 1 data.

3.while you swipe a AAMVA card/ it'll output all char of track1 data.

Choose "6:SEND CONTROL"

This function is used to control the reader send out data until users press a specific key or any key after swiping cards. After choosing **1** and a beep sound, a user starts to set the key, which will become to control the send data. That means the reader will not send data until users press the exact key. If choose **2**, the reader will send data once pressing any key excluding extension key(s). The default setting is "DISABLE".

```
1:SET KEY
2:ANY KEY
3:DISABLE
0:BACK
READER STATUS = DISABLE
```

Choose "7:FIELD OUTPUT ORDER"

The Field Output Order is used to control the order and appearance of each field output. Each card has three fields could be set (i.e.: Name, Account, and Expire Date). You may set one, two, or three fields that depend on actual application. The default setting is "DISABLE".

```
1:ENABLE
2:DISABLE
0:BACK
READER STATUS = DISABLE
```

Step 1: Choosing **1** to enable field output order.

```
1:NAME
2:ACCOUNT
3:EXPIRE DATE
0:BACK
FIRST:3
SECOND:1
THIRD:2
```

EXAMPLE: Setting the Field Output Order as Expire Date, Name, and Account in order. The procedure is as follows:

Step 1: Choosing **1** to enable field output order.

```
1:NAME
2:ACCOUNT
3:EXPIRE DATE
0:BACK
FIRST:
```

Step 2: Key in **3** to choose Expire Date as the first output field.

```
FIRST: 3
SECOND:
```

Step 3: Key in **1** to choose Name as the second output field.

```
FIRST: 3
SECOND: 1
THRID:
```

Step 4: Key in **2** to choose Account as the third output field.

After setting done, you may re-confirm it by entering "Field Output Setting" section. You shall see:

```
1:ENABLE
2:DISABLE
0:BACK
READER STATUS = EXPIRE
DATE,NAME,ACCOUNT
```

Choose "8:EXP DATE FORMAT"

The Expire Date Format is used to set the format of expiration date of the Field Output Order. This function only is effective while Field Output Order is enable, and won't impact on general card data output. The default setting is "YYMM".

```
1:YYMM
2:MMYY
0:BACK
READER STATUS = YYMM
```

Choose "9:EXP DATE SEPARATOR"

The Expire Date Separator is used to set a specific character to separate the MM and YY that is defined in Expire Date Format. This function only is effective while Field Output Order is enable, and won't impact on general card data output. The default setting is "DISABLE".

```
1:CHANGE
2:RESET
0:BACK
READER STATUS = DISABLE
```

4:Set Buzzer

In the main menu, choose **4** to enter "Set Buzzer" mode. Clicking **1** to makes the Buzzer of the reader active, or click **2** makes Buzzer of the reader inactive. This function only is effective while swiping card, and won't impact on general operation. The default setting is "ENABLE".

```
**** SET BUZZER ENABLE/DISABLE ****
1:ENABLE
2:DISABLE
0:BACK
READER STATUS = ENABLE
```

5:Reset to Default

In the main menu, choose **5** to enter “**Reset to Default**” mode. Clicking **1** to reset all defaults returns the unit to initial factory settings.

```
1:RESET TO DEFAULT
0:BACK
```

6:Show Status

In the main menu, click **6** to display all of the existing settings of the reader.

For example:

```
KEYBOARD COUNTRY=U.S.
TRANSMIT SPEED=80 CHAR/SEC
ENABLE TRACKS=TRACK 1,2,3
REQUIRE TRACKS=ANY TRACK
CARRIAGE RETURN=AFTER EACH TRACK
SS/ES SEND=ENABLE
CAPS LOCK=ENABLE
BUZZER=ENABLE
DATA OUTPUT=1,2,3
PRESS 0 TO BACK
```

To press any key checks other settings of the reader, and press **0** escaping “**Show Status**” mode backing to the main menu.

```
TRACK 1 PREFIX=DISABLE
TRACK 2 PREFIX=DISABLE
TRACK 3 PREFIX=DISABLE
TRACK 1 SUFFIX=DISABLE
TRACK 2 SUFFIX=DISABLE
TRACK 3 SUFFIX=DISABLE
PREAMBLE=DISABLE
POSTAMBLE=DISABLE
PRESS 0 TO BACK
```

To press any key checks other settings of the reader, and press **0** escaping “**Show Status**” mode backing to the main menu.

```
TRACK1 BLOCK A=DISABLE
TRACK1 BLOCK B=DISABLE
TRACK1 BLOCK C=DISABLE.
TRACK2 BLOCK A=DISABLE
TRACK2 BLOCK B=DISABLE
TRACK2 BLOCK C=DISABLE
TRACK3 BLOCK A=DISABLE
TRACK3 BLOCK B=DISABLE
```

TRACK3 BLOCK C=DISABLE

After showing all of the settings, press any key to back to the main menu.

7:Set Keyboard Configuration

In the main menu, choose **7** to enter “**SET KEYBOARD CONFIGURATION**” sub-menu. Clicking **2** to let the reader detect if the keyboard is connected or not automatically. If user chooses **1**, then the keyboard has to be existed. The default setting is “**STANDARD**”.

1:KEYBOARD STANDARD CONFIGURATION
2:KEYBOARD SPECIFIC CONFIGURATION
0:BACK
KEYBOARD = STANDARD CONFIGURATION