

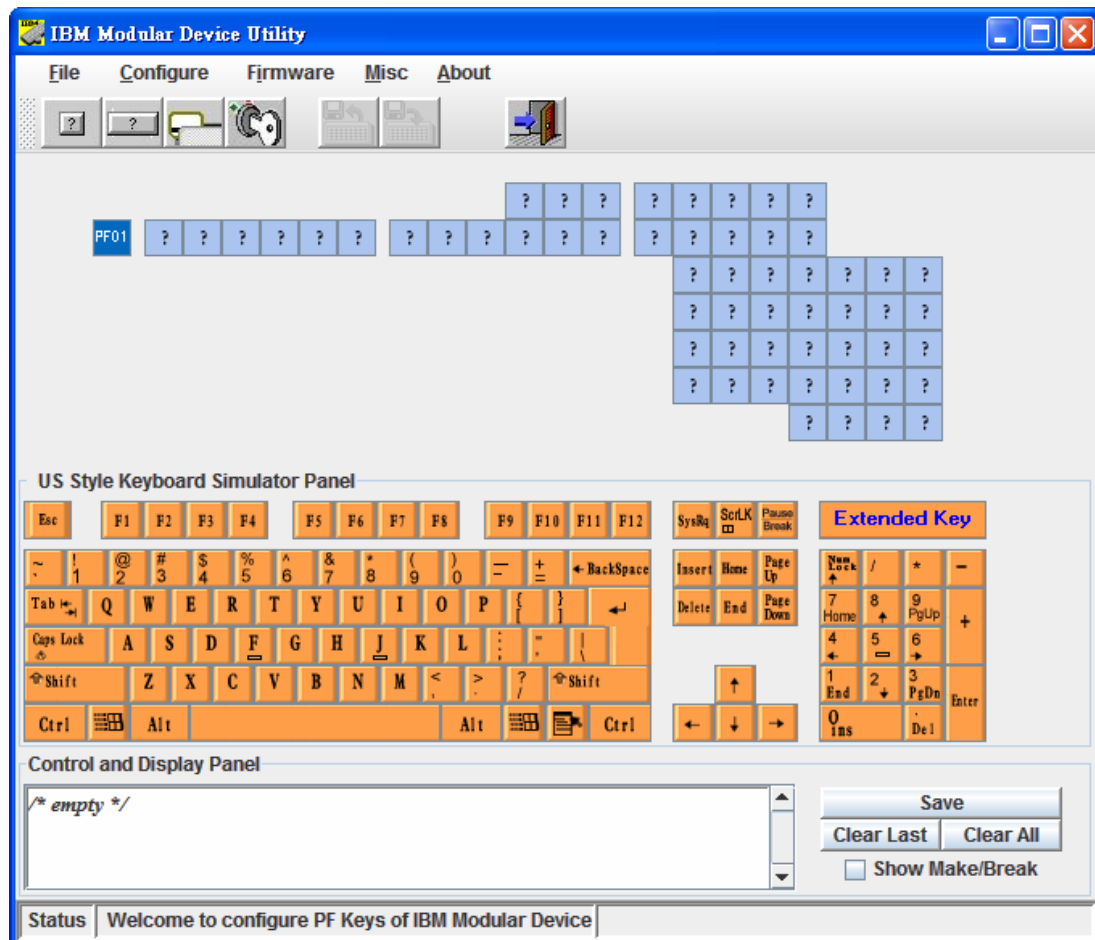
IBM Modular Device Windows Utility Guide

Version A10

1.	Overview	3
2.	Requirements	4
3.	Functions.....	5
3.1	File Menu:.....	5
3.1.1	New Configuration File:	5
3.1.2	Open Configuration File:	5
3.1.3	Save Configuration File:.....	5
3.1.4	Save Configuration File As:.....	6
3.1.5	Edit Configuration File Format:.....	6
3.1.6	Exit:	8
3.2	Configure Menu:	9
3.2.1	Select Device Type:.....	9
3.2.2	Select Device Language:	9
3.2.3	Program PF Keys:	10
3.2.4	Set Doubled Keys:	13
3.2.5	Edit MSR:	16
3.2.6	Edit Keylock:	20
3.3	Firmware Menu:	22
3.3.1	Refresh Connection Status:	23
3.3.2	Read Configuration from the Device:	24
3.3.3	Write Configuration to the Device:.....	24
3.3.4	Update Device Firmware:.....	25
3.4	Misc Menu:	25
3.4.1	Test PF Keys:	25
3.5	About Menu:	25
3.5.1	About the Configuration Utility:.....	25
4.	Miscellaneous	26
4.1	Preference Setting:	26
4.2	Windows Utility Restriction:	26
4.3	Device ID.....	26
5.	Example	28
5.1	Create a Configuration file (recommend process):	28

1. Overview

This document provides the user with a guide for using the IBM Modular Device Windows Utility. This utility is mainly used to configure the IBM Modular Device - write configuration data to the device, read configuration data from the device and update the device firmware.



PIC_01 IBM Modular Device Utility

2. Requirements

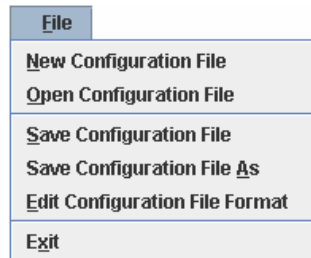
- One of the following IBM Modular Devices (Touch Display I/O Module, 67-Key, ANPOS II and Compact ANPOS II).
- IBM Modular Device Windows Utility for Win2000, XP, VISTA-32bit, Win7-32bit and LINUX (NLD9, SLES11).
- USB or PS/2 cable to connect PC and device.

3. Functions

There are five main menus in this utility: **F**ile, **C**onfigure, **F**irmware, **M**isc and **A**bout.



3.1 File Menu:



This menu is used to process the Configuration File. Device configuration settings such as Program PF Keys, Edit MSR, Edit Keylock, etc., can be saved as a Configuration File. User may open a Configuration File to the utility and write configuration settings of the utility to the device. User may also read configuration settings from the device to the utility, and save the configuration settings of the utility to a Configuration File. The read/write configuration setting will be introduced in **section 3.3.2** and **section 3.3.3**.

3.1.1 New Configuration File:

Create a new configuration setting for the utility. All PF keys and double keys settings will be cleared (each PF key is a non-grouped PF key and its content is empty), Keylock setting and MSR Header and Trailer settings will set to the default value and reset Keyboard Simulator Panel key to initial status (all keys are in released status). If any configuration setting was changed and saved to the utility but was not saved in a configuration file, it means the current configuration setting will be lost if we run the New Configuration File. Utility will display a message box 'Open configuration file will be overwritten' to remind user.

3.1.2 Open Configuration File:

Open a saved configuration file (xxx.cfg) to the utility. If any configuration setting was changed and saved to the utility but not saved in a configuration file, the current configuration setting will be lost if we run the Open Configuration File. Utility will display a message box 'Open configuration file will be overwritten' to remind user.

3.1.3 Save Configuration File:

Save utility configuration setting to a specified configuration file. Utility will provide a

default configuration file name which is related to the device type. If the device type is 67- Key, the default configuration file name is AIP46013.cfg (MSR reader type is None) or AIP46063.cfg (MSR reader type is ISO or JIS-II); if the device type is ANPOS, the default configuration file name is AIP46043.cfg; if the device type is CANPOS, the default configuration file name is AIP46093.cfg. If the device type is Touch Display I/O Module, the default configuration file name is AIP46714.cfg (Without Keypad) or AIP46734.cfg (With Keypad). User may change the configuration file name as required.

Once user runs Save Configuration File, the configuration file name will be kept in the utility. The next time user runs the Save Configuration File, utility will save to the configuration file name directly.

When user changes the device type (refer to **section 3.2.1**), MSR reader type(refer to **section 3.2.5**), Keypad selection item (refer to **section 3.1.5**), create New Configuration File (refer to **section 3.1.1**) or run Refresh Connection Status for different device type (refer to **section 3.3.1**); & run the Save Configuration, utility will change the saved configuration file name to a default configuration file name according to the setting. A pop up a message box will appear to remind user that the configuration file has been changed. Refer to **section 4.3** for the default configuration file names.

3.1.4 Save Configuration File As:

Save utility configuration setting to a new specified configuration file (xxx.cfg).

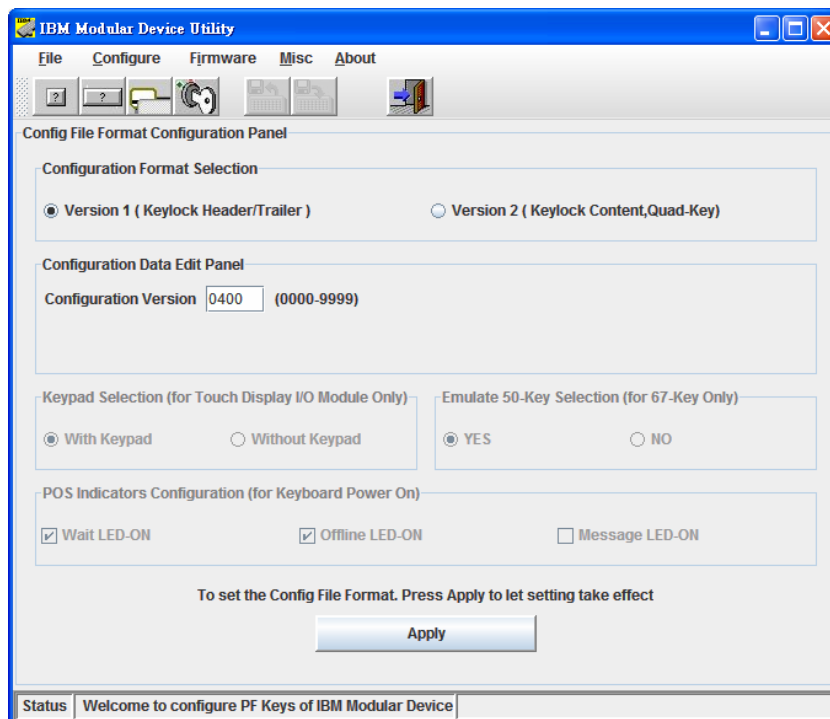
3.1.5 Edit Configuration File Format:

Configuration Format (V1 or V2) is used to determine the firmware behavior. Old firmware (V3.26 or earlier) only supports V1, new firmware (V3.27 or later versions) can support V1 and V2. User must select one Configuration Format from the windows utility (V1.0.22 or later versions, when device type is Touch Display I/O Module, it only support V2.), and run 'Write Configuration to the Device' to set the firmware Configuration Format. (eg: if device is old firmware and Configuration Format is set to V2, write configuration will cause an error message pop up). Previous versions of the windows utility (V1.0.19) only supports V1 and do not need to set Configuration Format (default is V1 already).

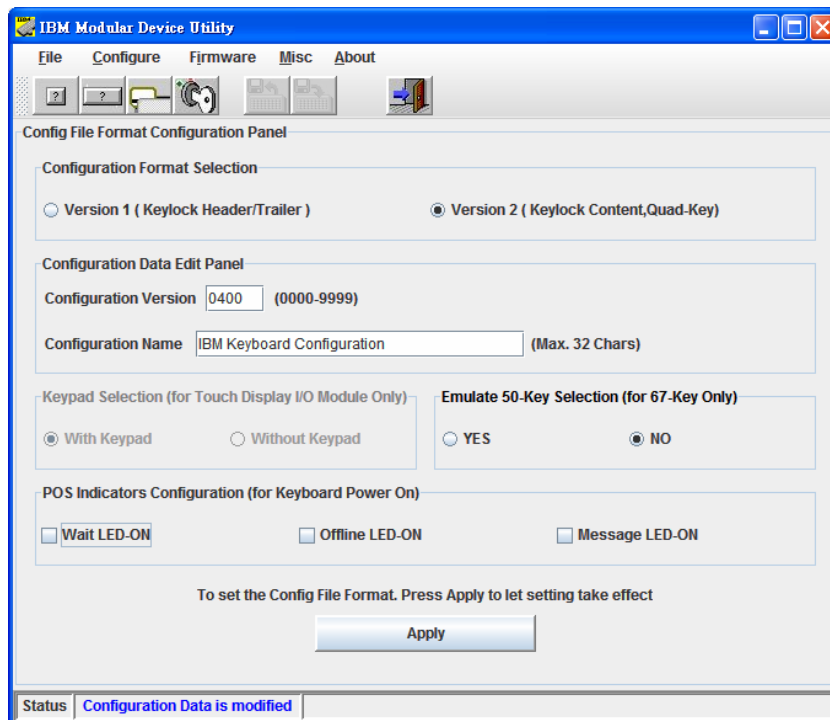
If firmware Configuration Format is V1, the firmware behavior is as follows: (Programmable PF Keys, Set Doubled Keys, Programmable MSR Header/Trailer, and Programmable Keylock Header/Trailer). If firmware Configuration Format is V2, the firmware behavior is as follows: (67-Key has Quad Key function, Emulate 50 Key setting, POS Indicators setting, Touch Display Module has Keypad selection function, Programmable PF Keys, Set Doubled (and Quad) Keys, Programmable MSR Header/Trailer, Programmable Keylock Content, Enable/Disable MSR Track, Disable Keyboard and MSR function in 4-Position Keylock). All configuration items are listed below:

1. Configuration Format Selection: to set Configuration Format to V1 or V2.
2. Configuration Version: to set the Configuration Version of the saved Configuration File.
3. Configuration Name: to set the Configuration Name of the saved Configuration File. This provides additional descriptive information for the saved configuration file. This item is active when Configuration Format is set to V2.
4. Keypad Selection (for Touch Display I/O Module Only): when device type is Touch Display I/O Module, this setting will set the keypad type for the saved Configuration File. It will affect the default configuration file name of the Saved Configuration File.
5. Emulate 50-Key Selection (for 67-Key Only): to set the emulate 50-Key function for the 67-Key keyboard. If select YES, 67-Key keyboard behavior is 50-Key (extra 17 keys don't work); if select NO, 67-Key keyboard behavior is 67-Key. This item is active when Configuration Format is set to V2 and device type is 67-key. If Configuration Format is set to V1, this item cannot be edited, and 67-Key keyboard default behavior is 50-Key (YES is selected by default).
6. POS Indicators Configuration (for Keyboard Power On): to set the Wait/Offline/Message LED status when keyboard power on. This item is active when Configuration Format is set to V2 and this function does not support Touch Display I/O Module. If Configuration Format is set to V1, this item cannot be edited, and default Wait/Offline/Message LED status is On/On/Off.

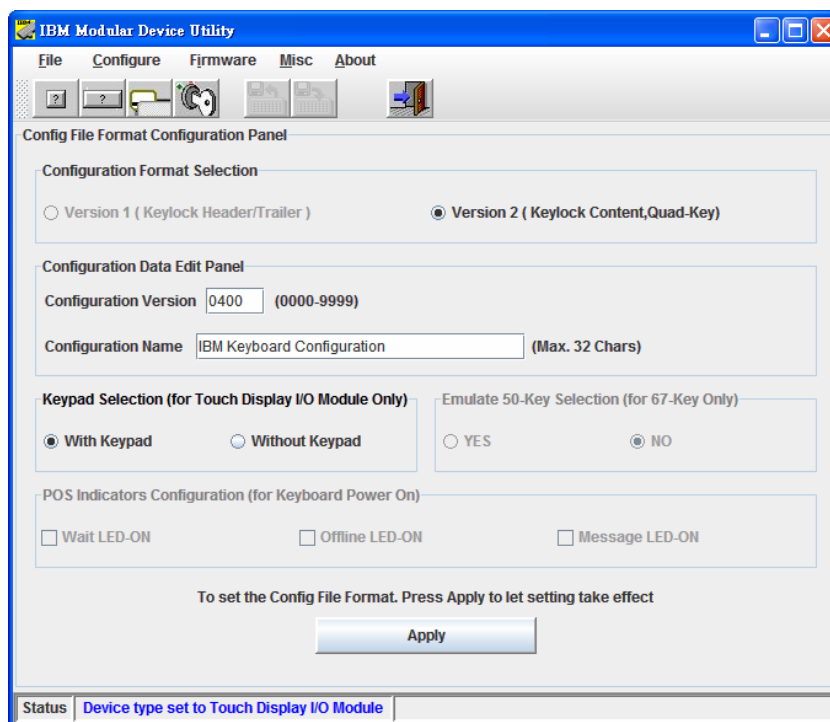
After all configuration items are being set, press 'Apply' button for setting to take effect.



PIC_02 Config File Format Configuration Panel (Select V1)



PIC_03a Config File Format Configuration Panel (Select V2 with 67-Key)



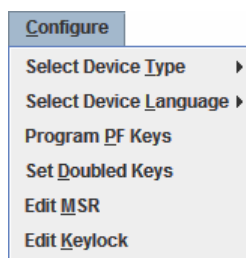
PIC_03b Config File Format Configuration Panel (Select V2 with Touch Display I/O Module)

3.1.6 Exit:

Close the windows utility. User may also run it from the toolbar button.

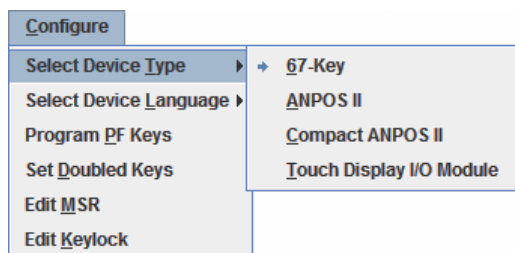


3.2 Configure Menu:



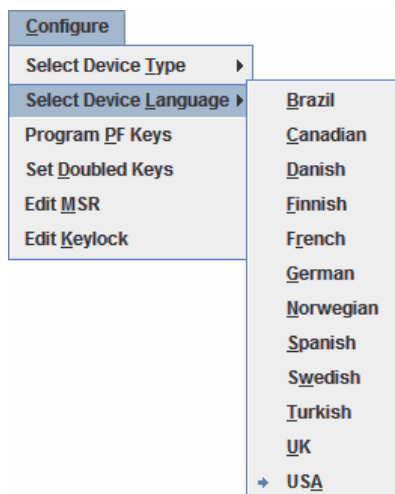
This menu is used to configure all keyboard configuration settings.

3.2.1 Select Device Type:



Select one of the device types (67-Key/ANPOS/CANPOS/Touch Display IO Module). This will change the device type of the PF-Key Panel (refer to **section 3.2.3**). The selected device type will be designated by an arrow icon pointing to it.

3.2.2 Select Device Language:



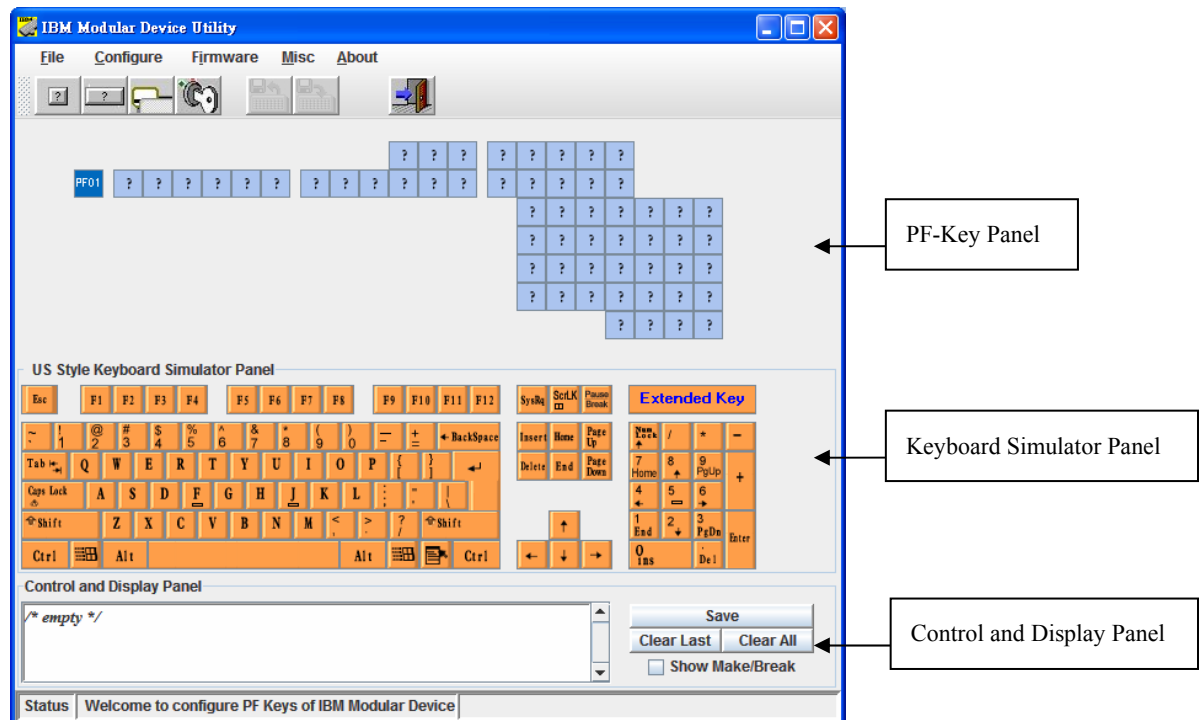
Select one of the device languages (Brazil/Canadian/Danish/Finnish/French/German/Norwegian/Spanish/Swedish/Turkish/UK/USA). This will change the device language of the Keyboard simulator panel (refer to **section 3.2.3**) and set a specific language for MSR Track Translation (refer to **section 3.2.5 MSR Track Translation**). The selected device language will be designated by an arrow icon pointing to it.

3.2.3 Program PF Keys:

‘Program PF keys’ is used to program the Programmable Function Key content. Each PF key can store a maximum of 16 keys. User may also run it from the toolbar button.



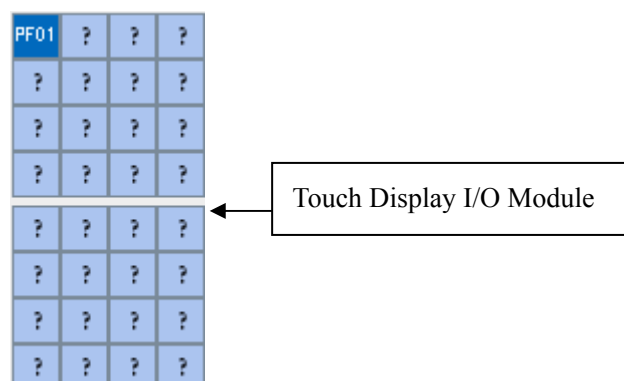
‘Program PF keys’ is set in Program PF Keys Panel. Program PF Keys Panel contains 3 sub-panels (PF-Key Panel, Keyboard Simulator Panel, and Control and Display Panel). Below is an example of the Program PF Keys Panel.

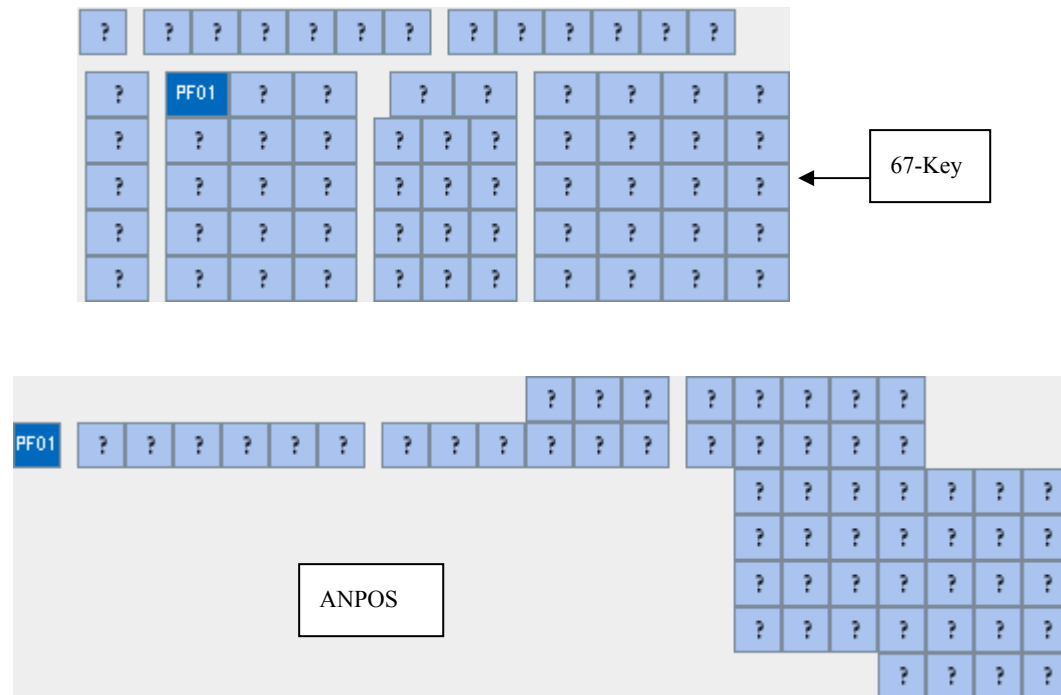


PIC_04 Program PF Keys Panel


PF-Key Panel:


Four device types can be displayed in the PF-Key Panel. Select the device type (67-Key/ANPOS/CANPOS/Touch Display IO Module) from menu ‘Configure→Select Device Type’. Please see picture below:




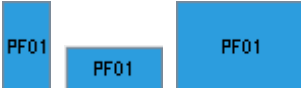



Different icons are used to indicate PF key status. Each PF key uses a PF key number (from PF01 to PFn). PF key number is visible only when PF key is active or PF key content is defined. If two single PF keys (vertical or horizontal adjacency) are grouped to a grouped PF key (double key), the left or top PF key number is used to indicate this grouped PF key. If four single PF keys (quaternary adjacency) are grouped to a grouped PF key, the left-top PF key number is used to indicate this grouped PF key (also known as Quad-Key). Program Quad-Key is active only when device type is 67-Key and Configuration Format is set to V2. Please see examples below:

 → PF Key content is undefined, and it is a single PF key.

 → PF Key content is undefined, and it is a grouped PF key.

 → PF-Key content is defined, and it is a single PF key.

 → PF Key content is defined, and it is a grouped PF key.

 → PF Key is active. A PF key can be programmed when it is an

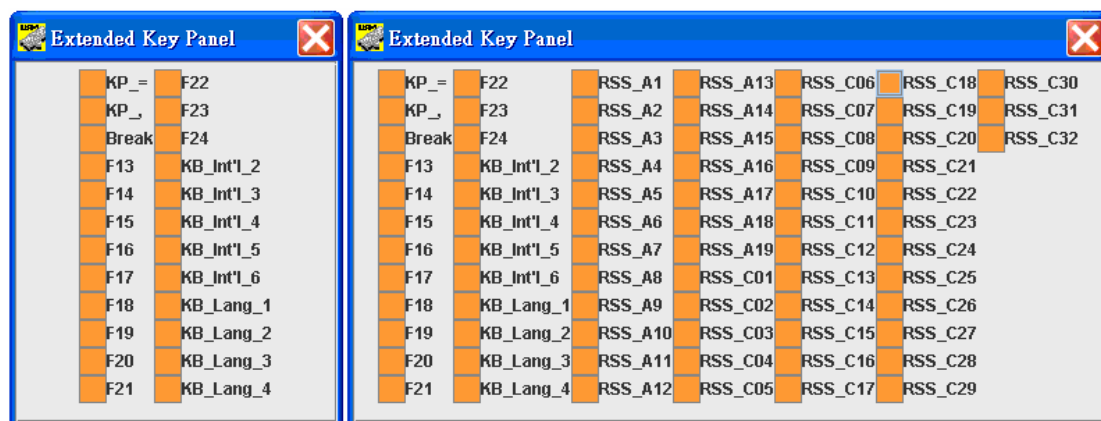
active PF Key. To activate a key, move the mouse cursor over the key to be programmed and press the left mouse button. The key icon will change from a question mark to Pn.

The doubled keys (grouped key) setup will allow two adjacent PF keys (vertical or horizontal adjacency) or four adjacent PF keys (quaternary adjacency; only works when 67-Key keyboard type is selected and Configuration Format is set to V2) to become a grouped PF key. Please refer to **section 3.2.4**.

Keyboard Simulator Panel:

There are 12 language simulator keyboards that can be displayed in the Keyboard Simulator Panel. Select a simulator keyboard from menu 'Configure→Select Device Language'. User can use this simulator keyboard or an external keyboard to program PF keys.

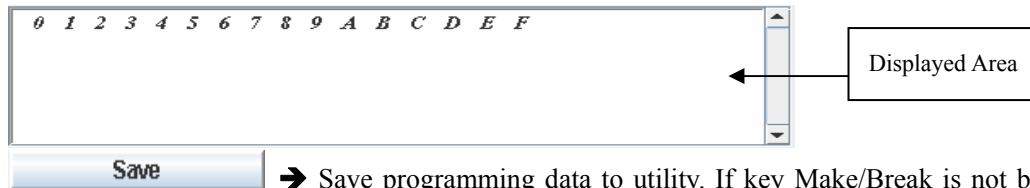
User can use all keys on the simulator keyboard to program PF keys. There is also an 'Extended Key' button on the simulator keyboard. Pressing this button will cause an 'Extended Key Panel' to pop up. In this panel, if Configuration Format is set to V1, there are a total of 24 extended keys that can be used to program the PF key; if Configuration Format is set to V2, there are a total of 75 extended keys that can be used to program the PF key. Below is the 'Extended Key Panel' for Configuration Format is set to V1 or V2.



PIC_05 Extended Key Panel (Configuration Format is V1 or V2)

Control and Display Panel:

This panel will display the programming data for a PF key. Each PF key can store a maximum of 16 keys. User may input PF key content via the simulated keyboard or an external keyboard. If user is unable to input PF key content using an external keyboard, place the mouse cursor on the PF key to be programmed and press the left mouse button to activate the PF key, or place the mouse cursor on the Displayed Area and press the left mouse button to activate Displayed Area. Utility can link external keyboard input to the Displayed Area only when the Displayed Area is active. Once PF key programming is completed, press the 'Save' button to save programming data to the utility.



Save → Save programming data to utility. If key Make/Break is not balanced (e.g: if context is $A B A^{\wedge}$, and the key B^{\wedge} is not being entered into Control and Display Panel), it will show error message and will not save context data.

Clear Last → Remove last input key in Control and Display Panel. When press "Clear Last" in PF-Key editing, it will remove last key content and change simulator key to earlier state; When the last 2 Make and Break is continuous for a key Depress and Release, press 'Clear Last' button will clear Make and break both for this key (eg: $A A^{\wedge} B B^{\wedge}$, press "Clear Last" will become $A A^{\wedge}$); When the last 2 Make and Break is not continuous for a key Depress and Release, press 'Clear Last' button will only clear last Make or break (eg: $A B A^{\wedge} B^{\wedge}$, press "Clear Last" will become $A B A^{\wedge}$).

Clear All → Remove all input keys in Control and Display Panel. Pressing "Clear All" in PF-Key editing will remove all key content and reset simulator key to initial status.

☐ **Show Make/Break** → To decide if user want to display Make/Break code information in Control and Display Panel. Pressing a key will generate a key Make Code. Releasing a key will generate a key Break code. We can display Make/Break code information by selecting the check box 'Show Make/Break'. For example, if we program a PF key as '*Left Shift Make + A Make + A Break + Left Shift Break*', it will display as '*Left_Shift A ^A ^ Left_Shift*' in the Control and Display Panel if the check box is selected.

Working example below:

1. Select a device type from menu 'Configure→Select Device Type'.
2. Select a simulator keyboard from menu 'Configure→Select Device Language'.
3. Set doubled keys in the Double-Key Definition Panel (refer to **section 3.2.4**).
4. Toggle to Program PF Keys Panel.
5. Place mouse cursor on a PF key, press the left mouse button and this PF key will become active. Only the active PF Key can be programmed.
6. Input PF key content using the simulator keyboard, extended key panel or from external keyboard. The input content will display in the Control and Display Panel.
7. Press 'Save' button to save this PF key programming data.

3.2.4 Set Doubled Keys:

'Set Doubled Keys' is used to program 2 or 4 adjacent PF keys to a grouped PF key or

de-group a grouped PF key to 2 or 4 PF keys. Once PF keys are programmed to a grouped PF key, pressing the PF keys simultaneously will be treated the same as pressing a single PF key. User may also run it from the toolbar button. Grouped 4 PF keys (quaternary adjacency) to 1 group PF key (called Quad-Key) is active when device type is 67-Key and Configuration Format is V2.

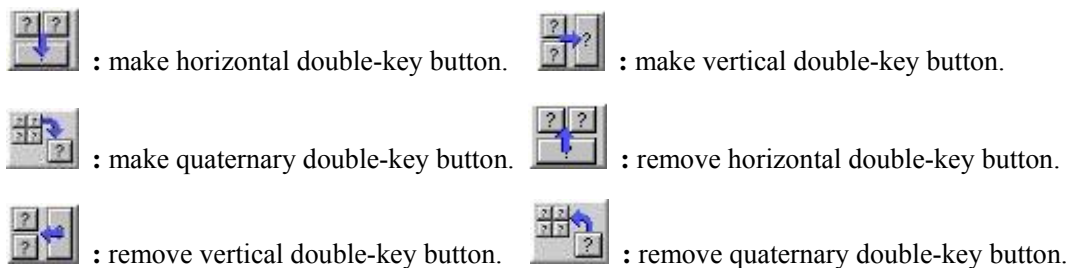


‘Set Doubled Keys’ is set in the Double-Key Definition Panel. The Double-Key Definition Panel contains PF-Key Panel and Group Key Setting Button.

PF-Key Panel:

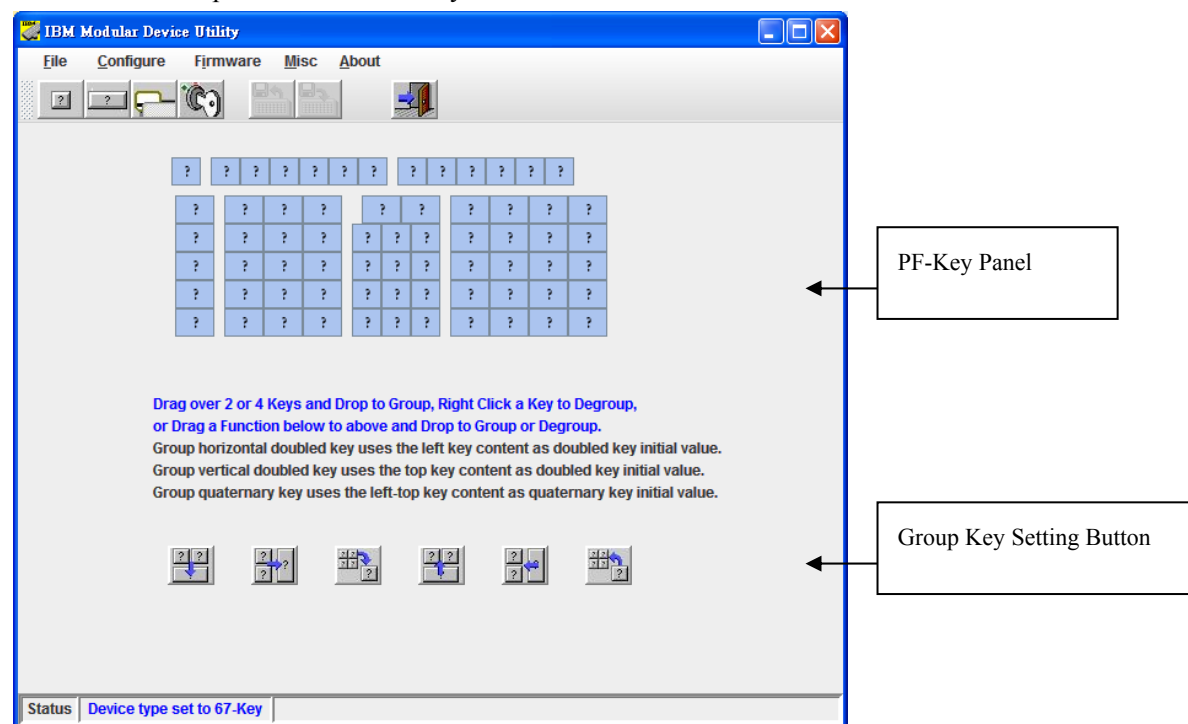
Display one of the Device types (67-Key/ANPOS/CANPOS/Touch Display IO Module). The panel appeared will be used to program the grouped key.

Group Key Setting Button:



The ‘make quaternary double-key’ and ‘remove quaternary double-key’ buttons are active when device type is 67-Key and Configuration Format is set to V2.

Below is an example of the Double-Key Definition Panel.



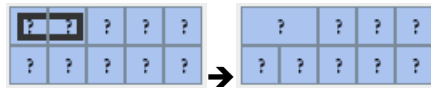
PIC_06 Double-Key Definition Panel

There are two methods to program 2 or 4 adjacent PF keys to a grouped PF key or de-group

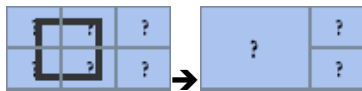
a grouped PF key to 2 or 4 PF keys. Not all adjacent PF keys can be grouped. Only same size, same block and un-grouped PF keys can be grouped.

Method1: Press a PF key in the PF-Key Panel. Drag over 2 or 4 keys and drop to create a grouped key. Right click mouse button to a grouped key to de-group. Please see examples below.

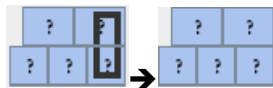
Example 1: (Group 2 PF keys)



Example 2: (Group 4 PF keys in 67-Key keyboard)



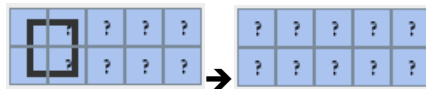
Example 3: (Cannot group 2 PF keys in different size)



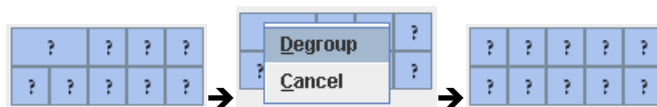
Example 4: (Cannot group 2 PF keys in different block)



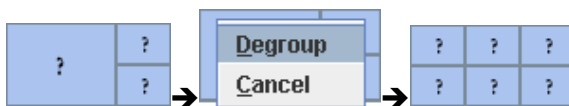
Example 5: (Cannot group 4 PF keys in CANPOS keyboard)




Example 6: (Right click to a grouped PF key to de-group to 2 PF keys)

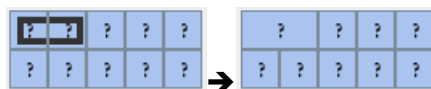



Example 7: (Right click to a grouped PF key to de-group to 4 PF keys)




Method2: Press a Group Key Setting Button, drag it to the PF-Key Panel, and drop it on the PF keys required to make a grouped PF key or remove a grouped PF key. Please see below examples.

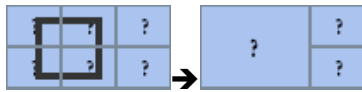
Example 1: make horizontal grouped PF key ()




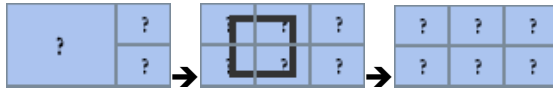
Example 2: remove vertical grouped PF key ()



Example 3: make quaternary grouped PF key ().



Example 4: remove quaternary grouped PF key ().



If 2 PF keys (left/right) are grouped, the grouped key initial value is the left key content. If 2 PF keys (top/bottom) are grouped, the grouped key initial value is the top key content. If 4 PF keys (left-top/right-top/left-bottom/right-bottom) are grouped, the grouped key initial value is the top-left key content. If PF key is un-grouped and its content is empty (undefined), firmware will set a default initial value for this PF key. Examples below:

If P1 content is 'AA' and P2 content is 'BB', the grouped key P1 initial value is 'AA'. If user writes configuration data to firmware, pressing this grouped key will send out 'AA'.

If P1 content is '' (undefined) and P2 content is 'BB', the grouped key P1 initial value is '' (undefined). If user writes configuration data to firmware, pressing this grouped key will not send out anything.

If P1 is un-grouped and its content is empty (undefined); when user writes this configuration data to firmware, pressing P1 will send out a default initial value.

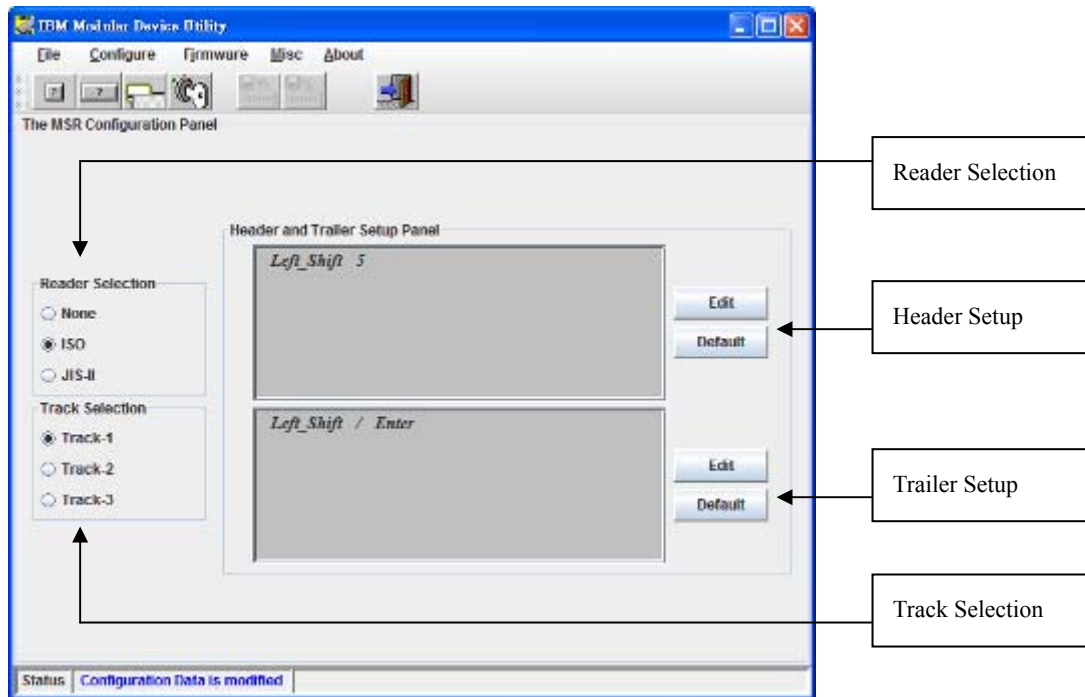
3.2.5 Edit MSR:

'Edit MSR' is used to edit MSR Track Header and Trailer if Configuration Format is set to V1; or to edit MSR Track Header and Trailer and Enable/Disable MSR Track if Configuration Format is set to V2. Each Track Header and Trailer can store a maximum of 16 keys. User may also run it from the toolbar button.

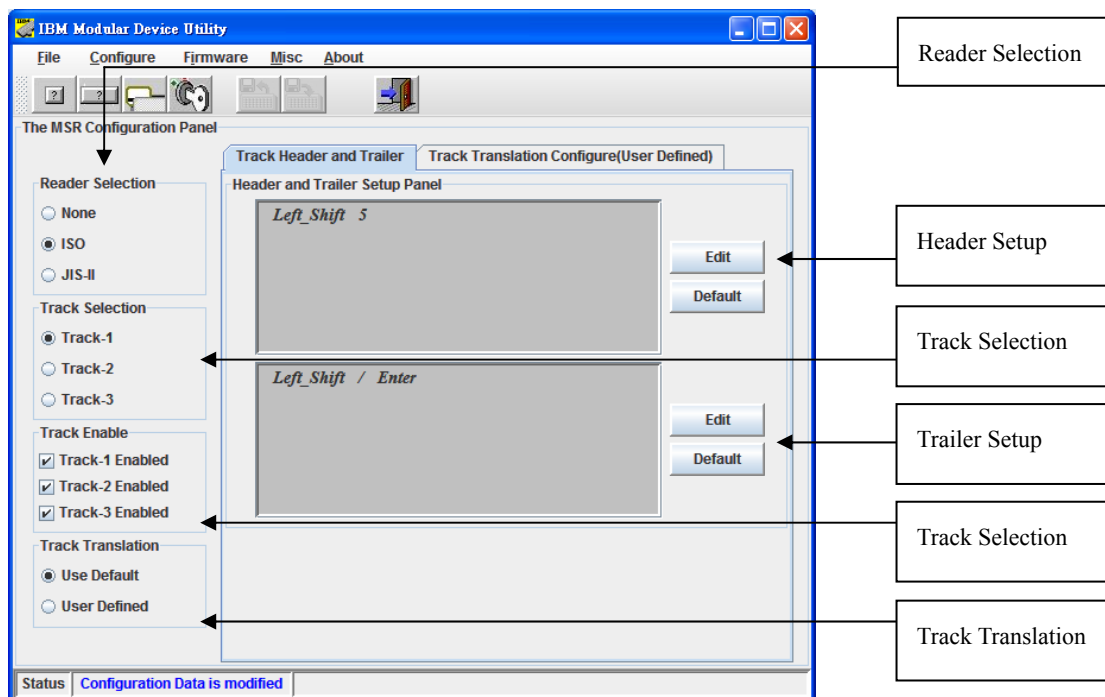


Edit MSR Header and Trailer:

'Edit MSR' is set in the MSR Configuration Panel. When we enter the MSR Configuration Panel, the default reader type is ISO, default selected Track is Track-1, and the Header and Trailer Setup Panel will display default Header (%) and Trailer (? Enter) for Track-1. If the Configuration Format is set to V2, a Track Enable checkbox appeared, and all Tracks are enabled by default.



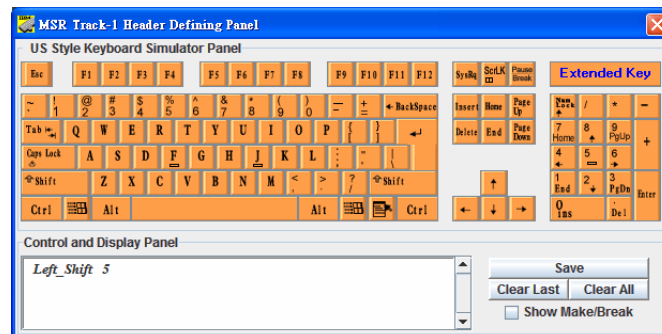
PIC_07 MSR Configuration Panel (Configuration Format is V1)



PIC_08 MSR Configuration Panel – Track Header and Trailer (Configuration Format is V2)

Select a reader type from Reader Selection. If user selects reader type JIS-II, the MSR Track-3 of the Track Selection will become disabled (gray out) since JIS-II only has two Tracks (Track-1, Track-2). If user selects reader type to 'None', all setting items except Reader Selection will be disabled (gray out). Once user selects a new reader type, each Track Header/Trailer setting will change to its default Header/Trailer for this reader type. Select a Track from Track Selection.

Press Edit button to enter ‘MSR Track-X Header Defining Panel’ or ‘MSR Track-X Trailer Defining Panel’ to edit Header/Trailer for the selected Track. Press Default button to load default Header/Trailer value for the selected Track. Below is the ‘MSR Track-1 Header Defining Panel’:



Below are all Track default settings for Header/ Trailer for ISO and JIS-II Reader.

ISO Reader: Track-1 default Header: %
 Track-2 default Header: ;
 Track-3 default Header: ;
 Track 1/2/3 default Trailer: ? Enter
 JIS-II Reader: Track-1 default Header: %
 Track-2 default Header: ;
 Track 1/2 default Trailer: ? Enter

Configure MSR Track Enable:

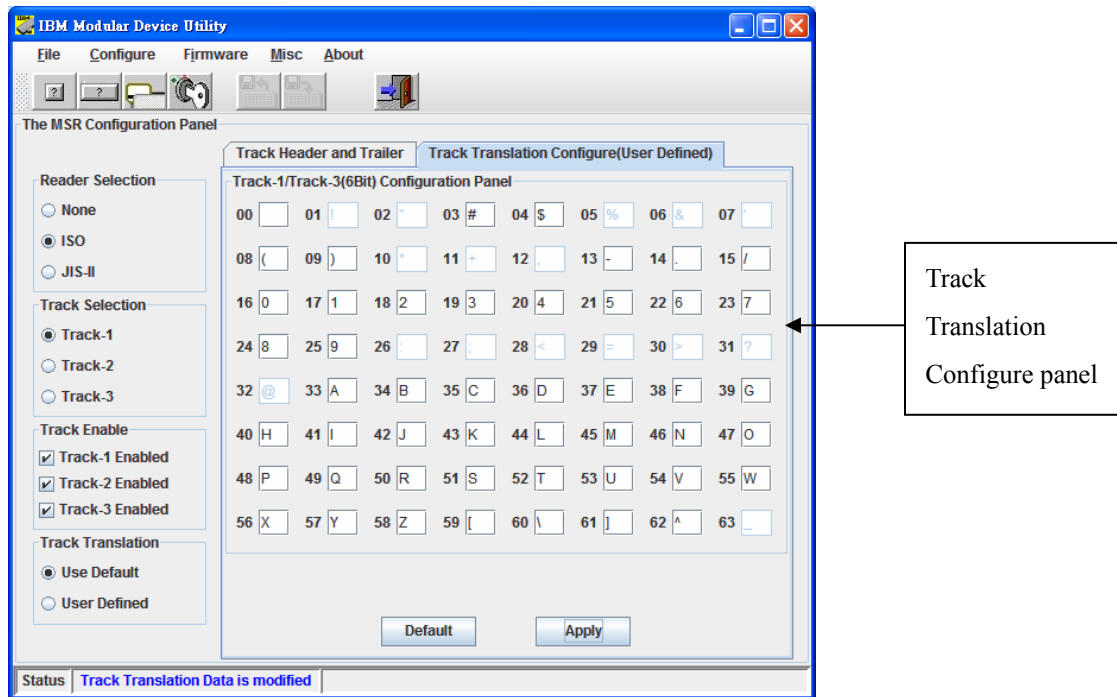
Track Enable function provides each MSR Track’s Enable/Disable setting ability. When the Track-x Enabled is checked, it means Track-x is enabled.

This function supports only Configuration Format **V2**.

MSR Track Translation:

MSR Track Translation let user can configure the MSR Translation Table to support on Multi-Language OS. The MSR Translation Table can convert MSR each Track Raw Data to a sequence of ASCII code. The MSR Track Translation is implemented for IBM Modular Device (67-Key/ANPOS/CANPOS/Touch Display IO Module), and use Utility to configure the MSR Translation Table. Each time user configure the MSR Translation Table, user must select a specific Language OS. IBM Modular Device and Utility can support below Language OS (Brazil, Canadian, Danish, Finnish, French, German, Norwegian, Spanish, Swedish, Turkish, UK and US), fill out the MSR Translation Table, and write the configured results to IBM Modular Device. After that, swap MSR Card will generate a sequence of ASCII code Output according to the MSR Translation Table definition.

The MSR Track Translation only supports Configuration Format **V2**. When the ‘Track Translation’ is set to ‘**Use Default**’, device will use a default MSR Translation Table which supports OS Language is US. When the ‘Track Translation’ is set to ‘**User Defined**’, user can program the MSR Translation Table for one of supported Language OS in Track Translation Configure panel. **If User OS Language is USA and do not have special requirement, please select ‘Use Default’.**



PIC_09 MSR Configuration Panel - Track Translation Configure (Configuration Format is V2)

In Track Translation Configure Panel, user can program Track-1/Track-2/Track-3 translation table. Track-3 can be configured with Track-1 or Track-2 depends on MSR card data format (6-bit/4-bit); when MSR card data format is 6-bit, Track-3's translation table will refer to Track-1's translation table; if MSR card data format is 4-bit, Track-3's translation table will refer to Track-2's translation table.

MSR Card each Track consists of a sequence of data we called Char-ID. User can program each Char-ID to a visible character (ASCII), but it has some restrictions as below:

1. Each Char-ID length is **1** character.
2. Each Char-ID is in the visible ASCII code range: **0x20 - 0x7E**.
3. Cannot program Hardware Control Code (Track-1): **! " & ' * + , ; < = > _ @**
4. Cannot program Hardware Control Code (Track-2): **< > :**
5. Cannot program Start/End signal (Track-1/Track-2): **% ; : ?**

After configure the Translation Table (It will translate each Char-ID to a visible ASCII Value) and write it to device; swap the MSR card will output MSR each Track data from a sequence of Char-ID to a sequence of ASCII value according to the Translation Table.

Working example below:

1. Set Configuration Format to **V2**.
2. Enter MSR configuration Panel and select "User Defined" in 'Track Translation'.
3. Select a specific OS Language from menu "Configure→Select Device Language".
4. Select Track-1 and enter 'Track Translation Configuration Panel'; let Char-ID No.16 set to 'A' (default is '0') and press 'Apply' to save Track-1 Translation Table.
5. Write Configuration file to IBM Modular Device.

6. Swap MSR card, you may find that the Char-ID No. 16 output will translate to 'A'.

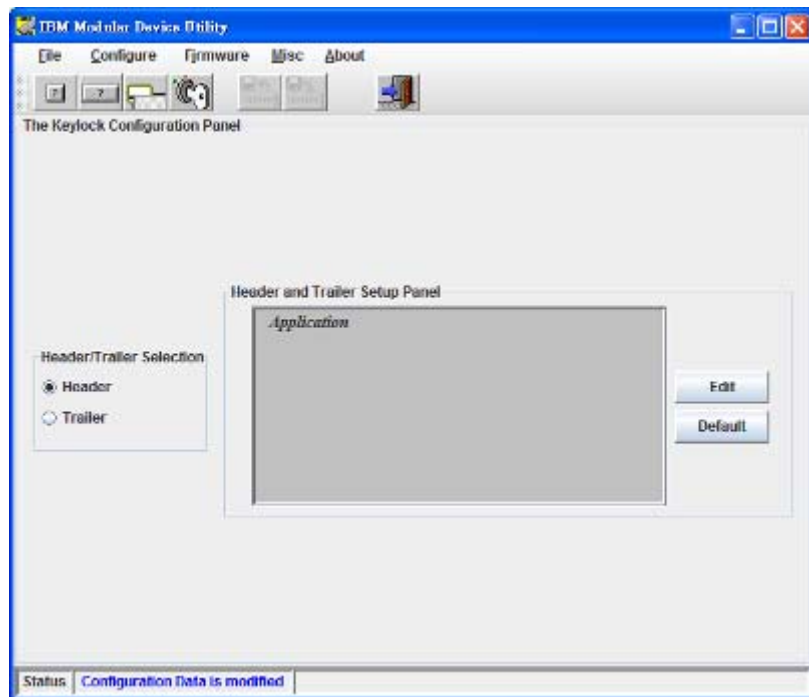
3.2.6 Edit Keylock:

'Edit Keylock' is used to edit the Keylock Header and Trailer for V1 Configuration Format or to edit Keylock Content and Disable Keyboard and MSR function in 4-Position Keylock for V2 Configuration Format. The Keylock Header and Trailer or Content can store up to a maximum of 16 keys. User may also run it from the toolbar button.



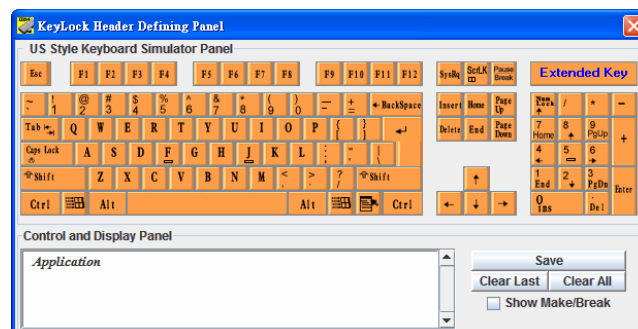
Edit Keylock Header and Trailer:

Edit Keylock Header and Trailer in the Keylock Configuration Panel when Configuration Format is set to V1. The default Header is 'Application'. Refer to the picture below:



PIC_10 Keylock Configuration Panel (Configuration Format is V1)

Press Edit button to enter 'Keylock Header Defining Panel' or 'Keylock Trailer Defining Panel' to edit Keylock Header/Trailer. Press Default button to load default Keylock Header/Trailer value. Below is the 'Keylock Header Defining Panel':



Below is the Keylock default Header/ Trailer.

Default Header: ***Application***

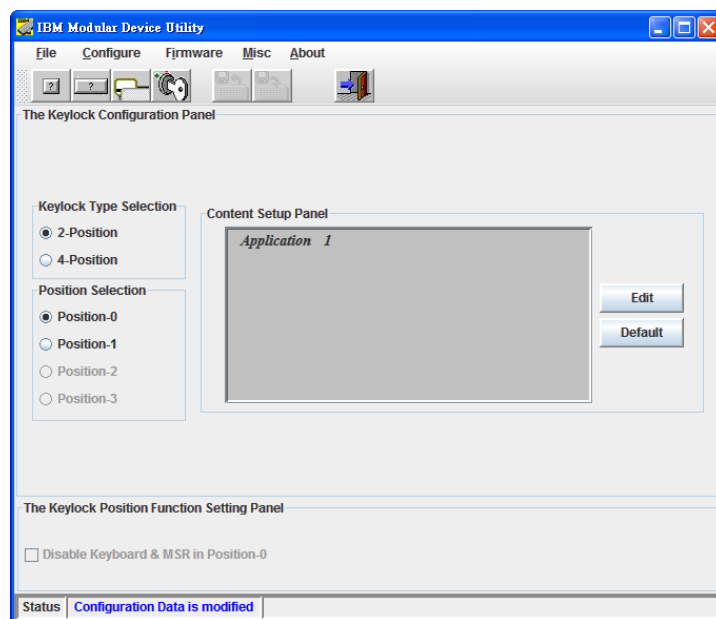
Default Trailer: ***/* empty */***

Below is an example on how to edit the Keylock Header/ Trailer:

1. Edit Header to ‘A’, Trailer to ‘B’ and write configuration to the device.
2. Switch to Keylock Position#X, Keylock will send out ‘A’ + Position#X + ‘B’. eg: Switch to Pos#1, Keylock will send out ‘A1B’; switch to Pos#2, Keylock will send out ‘A2B’.

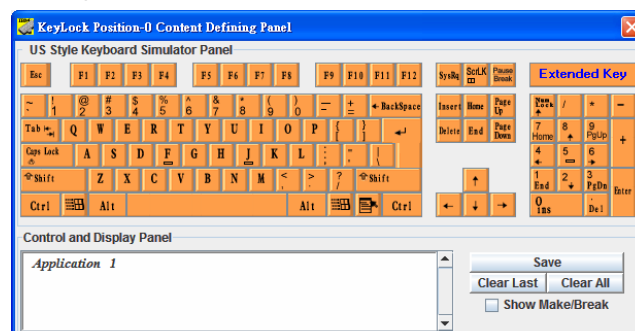
Edit Keylock Content:

Edit Keylock Content in the Keylock Configuration Panel when Configuration Format is set to V2. The default Keylock Type is 2-Position, the default Position selection is Position-0, and Position-0 default Content is ‘Application’+’I’. Please see the picture below:



PIC_11 Keylock Configuration Panel (Configuration Format is V2)

Select a Keylock Type from Keylock Type Selection. (Touch Display I/O Module does not support 4-Position Keylock. when device type is Touch Display I/O Module, Item ‘4-Position’ will be disabled) Select a Position from Position Selection. Press Edit button to enter ‘Keylock Position-X Content Defining Panel’ to edit Keylock Content for the selected position. Press Default button to load default Keylock Content for the selected position. Below is the ‘Keylock Position-0 Content Defining Panel’:



Below is the Keylock default Content for each Position:

Position-0 default Content: *Application 1*

Position-1 default Content: *Application 2*

Position-2 default Content: *Application 3*

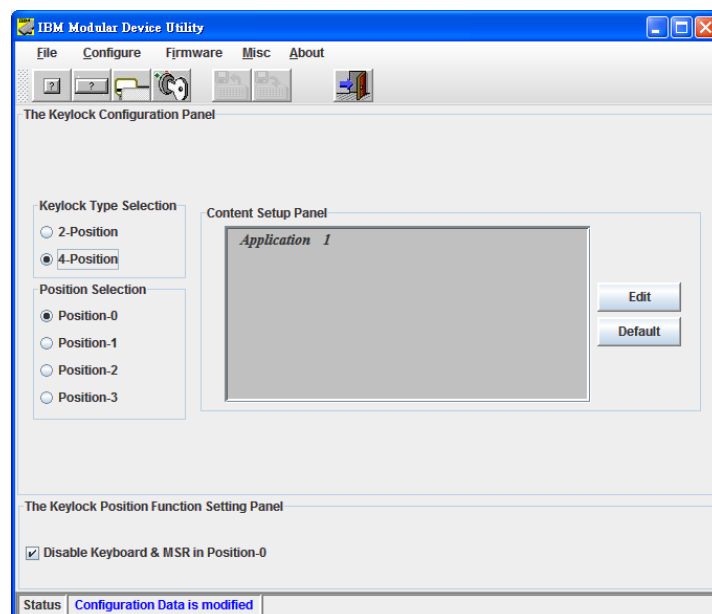
Position-3 default Content: *Application 4*

Below is an example of how to edit the Keylock Content:

1. Edit Position-0 Content to 'AA', Position-1 Content to 'BB', Position-2 Content to 'CC', Position-3 Content to 'DD' and write configuration to the device.
2. Switch to Keylock Position#X, Keylock will send out Position#X's Content. eg: Switch to Pos#0, Keylock will send out 'AA'; switch to Pos#1, Keylock will send out 'BB'; switch to Pos#2, Keylock will send out 'CC'; switch to Pos#3, Keylock will send out 'DD'.

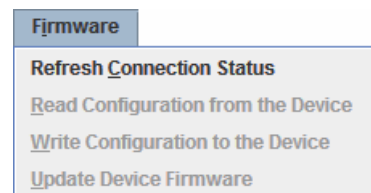
Disable Keyboard and MSR function:

Disable Keyboard and MSR in Position-0 can be programmed in The Keylock Position Function Setting Panel when Configuration Format is set to V2 and Keylock Type is set to 4-Position. For this setting, switching to Keylock Position-0 will deactivate the Keyboard and MSR function, i.e. no output will be generated when the MSR Card is swiped or any key is struck.



PIC_12 Keylock Configuration Panel (Configuration Format V2 and Keylock Type is 4-Position)

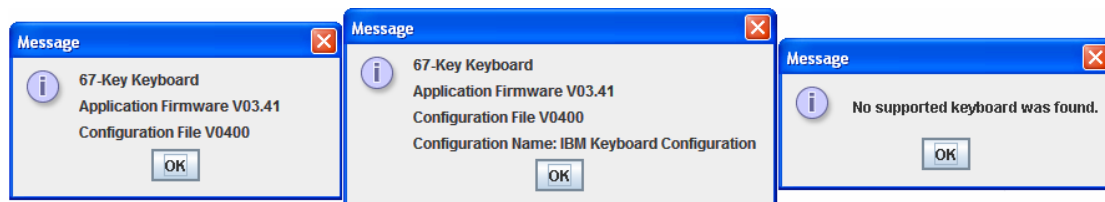
3.3 Firmware Menu:



This menu is used to communicate between Windows Utility and IBM Modular Device.

3.3.1 Refresh Connection Status:

'Refresh Connection Status' is used to check the IBM Modular Device connection status. When we need to run 'Read Configuration from the Device', 'Write Configuration to the Device', and 'Update Device Firmware' functions, we need to make sure the IBM Modular Device is connected. To check device connection status, use the 'Refresh Connection Status'. When the utility opens, it will automatically run the 'Refresh Connection Status' once, or user can run from menu 'Firmware→ Refresh Connection Status'. If the 'Refresh Connection Status' detects that a device that is connected, it will display a information message to indicate the device type (67-Key/ANPOS/CANPOS/Touch Display IO Module), Application Firmware Version, Configuration File Version, Configuration Name (only displayed when the Device Configuration Format is V2). It will also enable 'Read Configuration from the Device', 'Write Configuration to the Device', and 'Update Device Firmware' menu items. Otherwise, it will show a message box to indicate device was not found and other menu items will remain inactive. Please see the picture below:



PIC_13 Device Connection Detection Message

If the configuration file doesn't initialize in IBM Modular Device, it will show a message box to indicate device was not initialize (refer to PIC_14), In this case, please perform 'Write Configuration File to Device'.



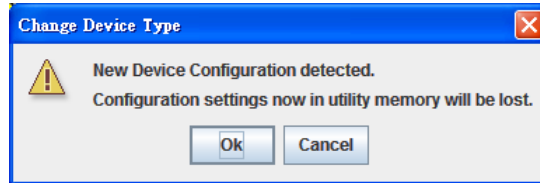
PIC_14 Device Connection Detection Message for doesn't initialize

After running the 'Refresh Connection Status', Utility will read Device ID and update related item status include Device type, MSR type, Keypad selection (for Touch Display I/O Module only). However, there are some item status will not be updated since no information via Device ID and those items will keep the last status. The detailed description is as following

1. ANPOS: Device type will set to ANPOS, MSR type will not be updated.
2. CANPOS: Device type will set to CANPOS, MSR type will not be updated.
3. Touch Display I/O Module: Device type will set to Touch Display I/O Module, MSR type will set to ISO/JIS-II and Keypad selection will set to with/without Keypad.

4. 67-Key without MSR: Device type will set to 67-Key, MSR type will set to None.
5. 67-Key with MSR: Device type will set to 67-Key, MSR type will not be updated but there is one exception in this case. If the last MSR status is None, it will be updated to ISO.

If any configures are changed and not saved to a configuration file but run 'Refresh Connection Status', it will pop up a warning box to ask user if wants to update status or not. Please see the picture below:



PIC_15 Update configure status check

3.3.2 Read Configuration from the Device:

'Read Configuration from the Device' is used to read IBM Modular Device configuration setting to the utility. If this item is disabled, please run 'Refresh Connection Status' first. User may also run it from the toolbar button.



If we want to make slight modification for the IBM Modular Device, we can run 'Read Configuration from the Device', make slight modification for the configuration setting, and write configuration data to the IBM Modular Device.

'Read Configuration from the Device' will get all settings of configuration file stored in device but those setting may be different from real device (ex: MSR type of device is ISO, but configuration file's MSR type is JIS-II). User must check module type again, if user wants to write configuration to the device, **please make sure user have selected correct module type.**

3.3.3 Write Configuration to the Device:

'Write Configuration to the Device' is used to write utility configuration setting to the IBM Modular Device. If this item is disabled, run 'Refresh Connection Status' first. User may also run it from the toolbar button.

Besides checking the device types (67-Key/ANPOS/CANPOS /Touch Display IO Module), utility will not restrict any settings of configuration file during 'Write Configuration to the Device', it means **user has the responsibility to select correct module type for write configuration or improper module setting may result in unexpected behavior.**



3.3.4 Update Device Firmware:

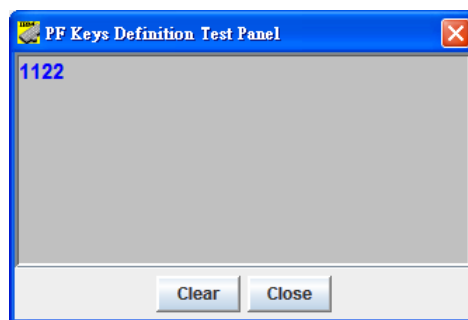
‘Update Device Firmware’ is used to renew the IBM Modular Device firmware. Only matched firmware file can update the device (ex: ANPOS Keyboard only can use ANPOS’s firmware to update). The default firmware file name is *AIPXXXX.dat* (the XXXX is Device ID, please refer to **section 4.3**). If this item is disabled, run ‘Refresh Connection Status’ first.

3.4 Misc Menu:



3.4.1 Test PF Keys:

‘Test PF Keys’ is used to test and verify that programmed PF key content is correct. User can program the PF key (as described earlier), write PF key programmed data to the IBM Modular Device, then run the ‘Test PF Keys’. It will open a PF Keys Definition Test Panel. Press the programmed PF keys of the IBM Modular Device in this test panel. User can verify whether the programmed PF key content is correct or not (PIC_16 below):



PIC_16 PF Keys Definition Test Panel

3.5 About Menu:



3.5.1 About the Configuration Utility:

‘About the Configuration Utility’ is used to show the utility version information:



PIC_17 About the Configuration Utility

4. Miscellaneous

4.1 Preference Setting:

Windows utility has a preference file (kbpref.ini) to save the preference setting information. Preference setting will save the device type, device language, Configuration Version, Configuration Name and Configuration Format information. Windows utility will save these settings to the kbpref.ini file when utility is exited normally. Next time the utility starts, utility will load the preference settings to the windows utility.

4.2 Windows Utility Restriction:

Utility has some restrictions for the Read/Write Configuration. Because the old firmware (V3.26) only supports Configuration Format V1, conditions below will cause errors to occur:

1. Device Configuration Format is **V2**, but firmware is **V3.26**. Firmware **V3.26** doesn't support device configuration format **V2**. When utility reads configuration, it will cause an error message 'firmware Version and Config Format not Match ...' to occur.
2. Utility configuration format selects **V2**, but firmware is **V3.26**. Firmware **V3.26** doesn't support the device configuration format **V2**. Utility **V1.0.20** or later version write configuration will cause an error message 'firmware Version and Config Format not Match ...' to occur,

The problems can be solved by methods below:

1. Update firmware to newer version (**V3.27** or later). New firmware can support configuration formats V1 and V2.
2. Utility configuration format selects V1. Write configuration format V1 to device. Old firmware can support configuration format V1.

4.3 Device ID

Device Type		MSR Type	Device ID	Default Name
ANPOS		None/ISO/JIS-II	4604	AIP46043
CANPOS		None/ISO/JIS-II	4609	AIP46093
67-Key		None	4601	AIP46013
		ISO/JIS-II	4606	AIP46063
Touch Display I/O Module	without Keypad	ISO	4671	AIP46714
		JIS-II	4672	AIP46724
	with Keypad	ISO	4673	AIP46734
		JIS-II	4674	AIP46744

For different device type & module for IBM Modular Device, there are different Device IDs.

Please refer to below:

1. Save Configuration File.

While performing Save Configuration file, use the Utility default features to generate Device ID. This is to prepare for Configuration File Name. eg if the saved device is CANPOS the Default Configuration File is *AIP46093.cfg*; 4609 in the filename means it is generated for CANPOS.

2. Update Device Firmware

The device needs to be refreshed by the correct Firmware File. e.g if the device is ANPOS, the firmware used has to be ANPOS type. Default Firmware file is *AIP46043.DAT*; 4604 in the file means it is for the use of ANPOS.

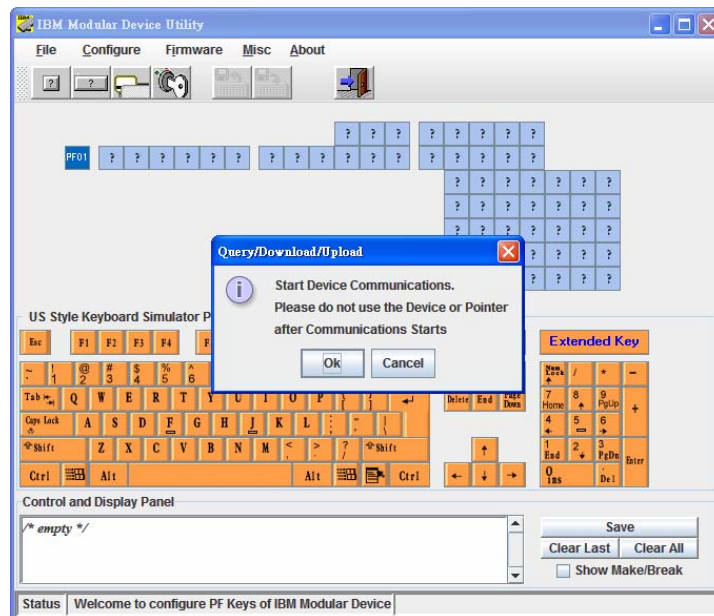
The devices & their related firmware files are listed in the table below:

FW File Device	ANPOS (AIP46043.dat)	CANPOS (AIP46093.dat)	67-Key (AIP46013.dat)	67-Key/MSR (AIP46063.dat)	Touch Display I/O Module (AIP46714.dat)	Touch Display I/O Module with Keypad (AIP46734.dat)
ANPOS	○	×	×	×	×	×
CANPOS	×	○	×	×	×	×
67-Key	×	×	○	○	×	×
67-Key/MSR	×	×	○	○	×	×
Touch Display I/O Module	×	×	×	×	○	○
Touch Display I/O Module with Keypad	×	×	×	×	○	○

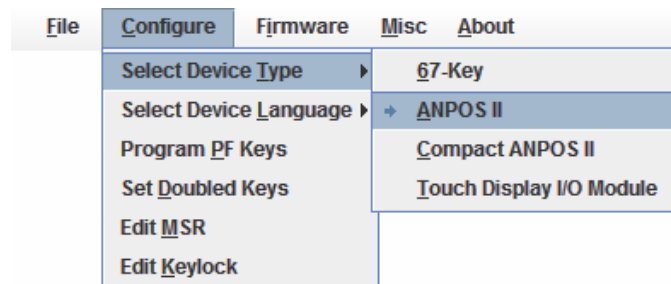
5. Example

5.1 Create a Configuration file (recommend process):

1. Open IBM Modular Device Utility.
2. If device is connecting, press 'OK' in message box to refresh status and go to step 4.

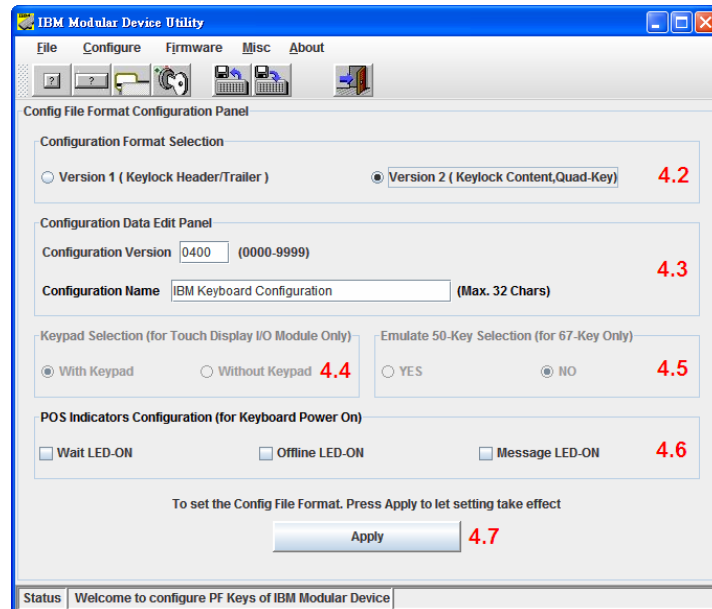


3. Select proper option :
 - 3.1. Select proper Device Type from menu "Configure→Select Device Type".
 - 3.2. Select proper Language Type from menu "Configure→Select Device Language".



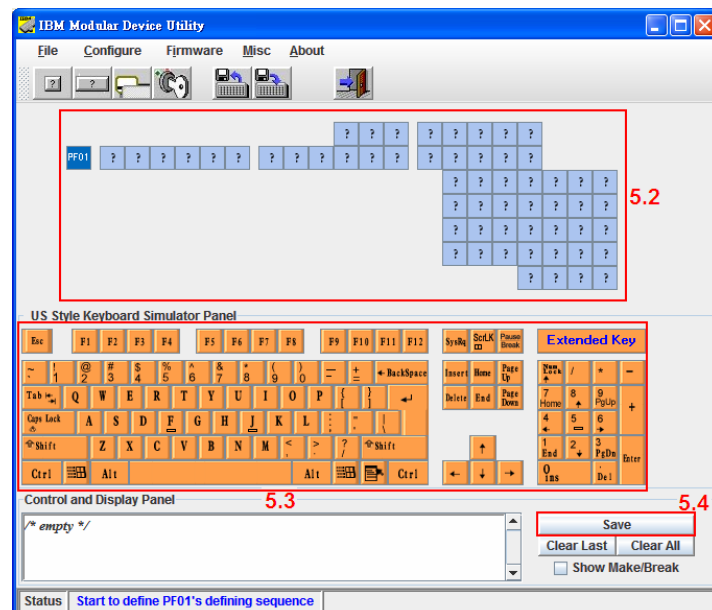
4. Edit Configuration Format :
 - 4.1. Switch to Configure File Format Configuration Panel from menu "File→Edit Configuration File Format".
 - 4.2. Select Configuration Format from "Configuration Format Selection" (recommended use V2).
 - 4.3. Edit Configuration Data for Configuration Version, Configuration Name.
 - 4.4. **If device type is Touch Display I/O Module, please select correct status of "Keypad Selection".**

- 4.5. If device type is 67-Key, user can enable emulate 50-Key function from “Emulate 50-Key Selection”.
- 4.6. If device type is ANPOS/ANPOS/CANPOS, user can program LED indicator status from “POS Indicator Configuration”.
- 4.7. Press “Apply” to update programming data.
- 4.8. Detailed contents please refer to **3.1.5 Edit Configuration File Format**.



5. Program PF-Keys:

- 5.1. Switch to Program PF-Keys Panel from menu “Configure→ Program PF Keys”.
- 5.2. Select PF-Key.
- 5.3. Edit PF-Key content.
- 5.4. Press ‘Save’ to save edit content.
- 5.5. Detailed contents please refer to **3.2.3 Program PF Keys**.

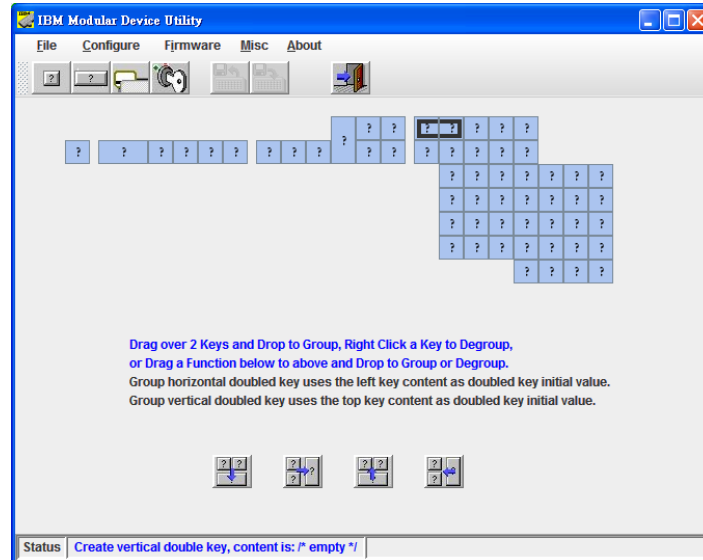


6. Set PF-Key Group:

6.1. Switch to Set PF-Key Group Panel from menu “Configure→ Set Doubled Keys”.

6.2. Set PF-Key group.

6.3. Detailed contents please refer to **3.2.4 Set Doubled Keys**.



7. Edit MSR Configuration :

7.1. Switch to MSR Configuration Panel from menu “Configure→ Edit MSR”.

7.2. **Please select correct MSR type from “Reader Selection”.**

7.3. Select programming track from ‘Track Selection’.

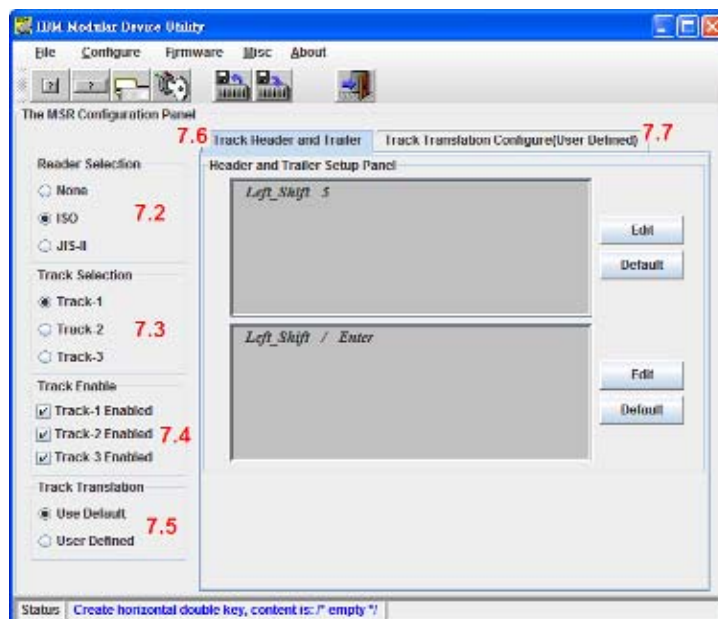
7.4. Enable/Disable each track from ‘Track Enable’.

7.5. Enable/Disable MSR Translation.

7.6. Edit track Head/Trailer content (Track select by step-7.3).

7.7. Edit track Translation content (Track select by step-7.3).

7.8. Detailed contents please refer to **3.2.5 Edit MSR**.



8. Edit Keylock Configuration :

8.1. Switch to Keylock Configuration Panel from menu “Configure→ Edit Keylock”.

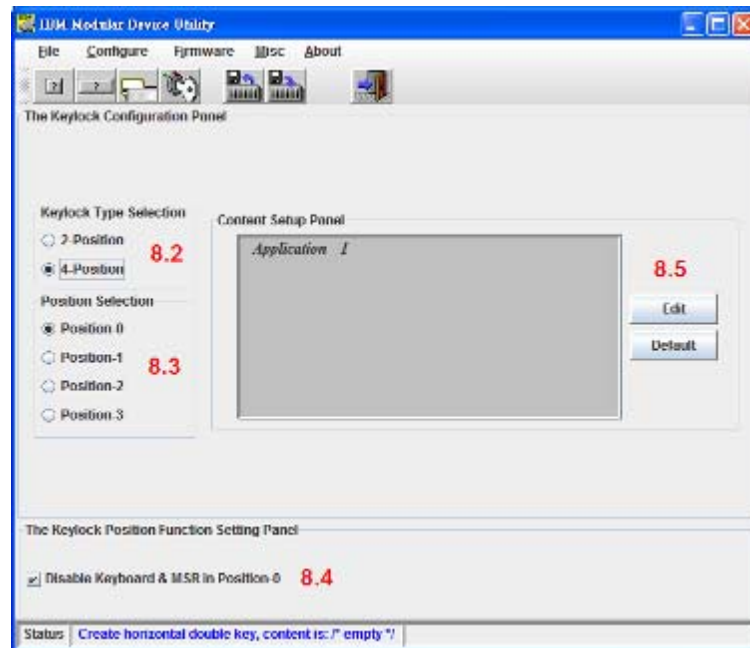
8.2. Select Keylock type from “Keylock Type Selection”.

8.3. Select programming position from ‘Position Selection’.

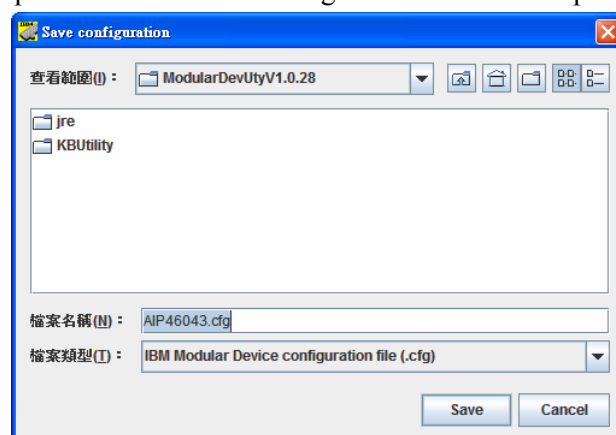
8.4. If Keylock type selects 4-Position, user can set ‘Disable keyboard & MSR in Position-0’ status.

8.5. Edit position content (Track select by step-8.3).

8.6. Detailed contents please refer to **3.2.6 Edit Keylock**.



9. Save Configuration File, select “File→Save Configuration File”, it will show a dialog box then press ‘Save’ to save Configuration file or do step 10.



10. Write current configuration setting to device from menu “Firmware→Write Configuration to the Device”.

