

M-series TFT User Guide (V1.6.8)

Date : 2015/08/31

- 1. How to connect Winstar M-series TFT to your PC**
- 2. Winstar M-Series clever system kit**
- 3. Hardware control function**
- 4. Touch Panel Control function**
- 5. Firmware Update**



1. How to connect Winstar M-series TFT to your PC

2. Winstar M-Series clever system kit

3. Hardware control function

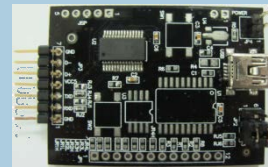
4. Touch Panel Control function

5. Firmware Update

Checklists for Clever system unit



PN : WF35M w/ RTP
M series TFT



PN : WWTFT-10#
USB Transfer Board

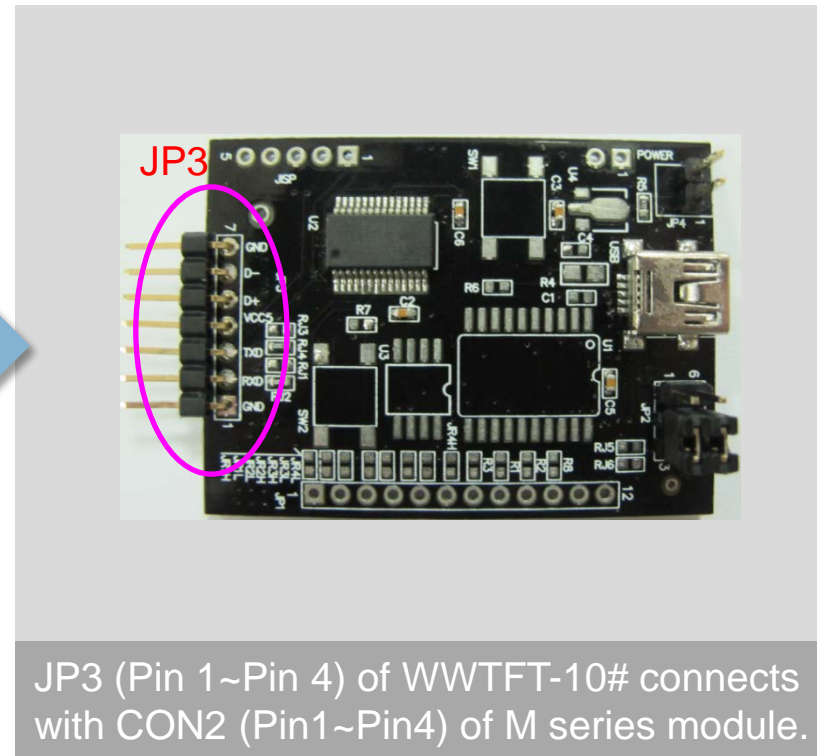
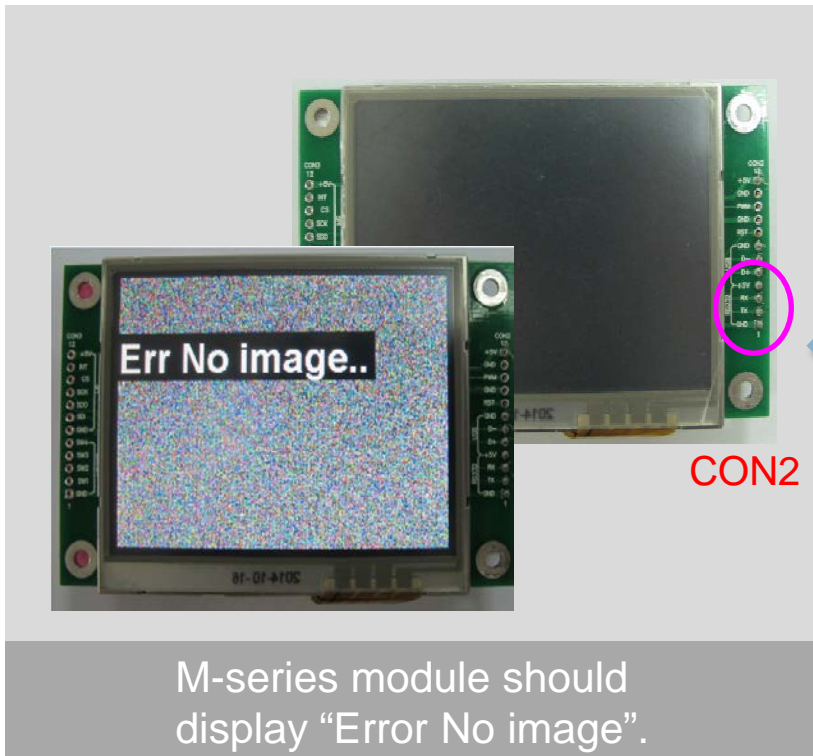


USB cable

Clever system kit	Hardware
<ol style="list-style-type: none">1. Winstar .exe2. FTD2XX_NET.XML3. FTD2XX_NET.dll4. USB driver5. HIDBootLoader_V1_6.exe	<ol style="list-style-type: none">1. M series TFT2. WWTFT-10#3. USB cable

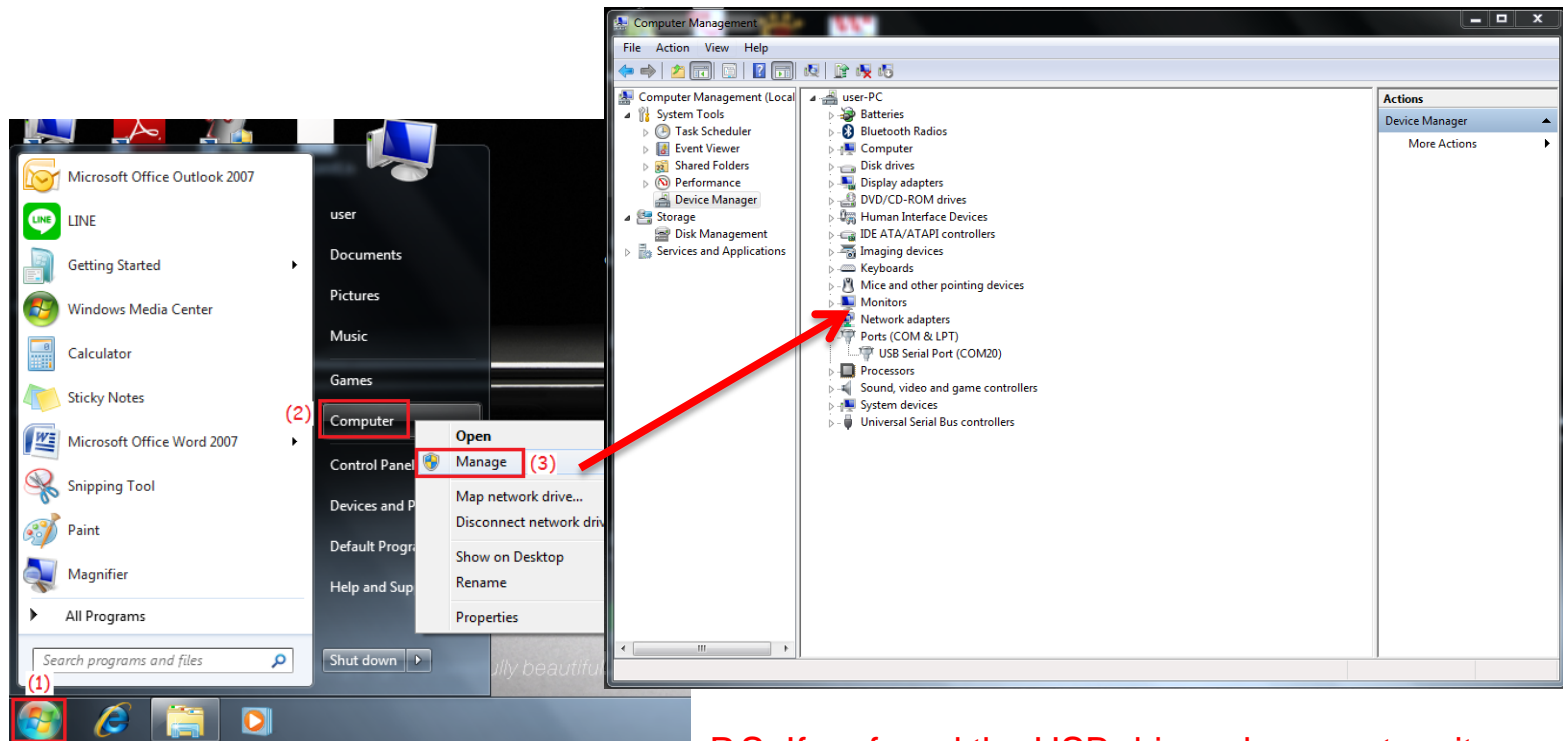
Hardware Connection

First, the Pin1 to Pin4 of JP3 connection on WWTFT-10#(USB transfer board) should connect to the Pin1 to Pin4 of CON2 connection on M series module. Once starting, the PC USB port should also connect with the USB transfer board. Then, the module will display “Error No image”.



Connection Check

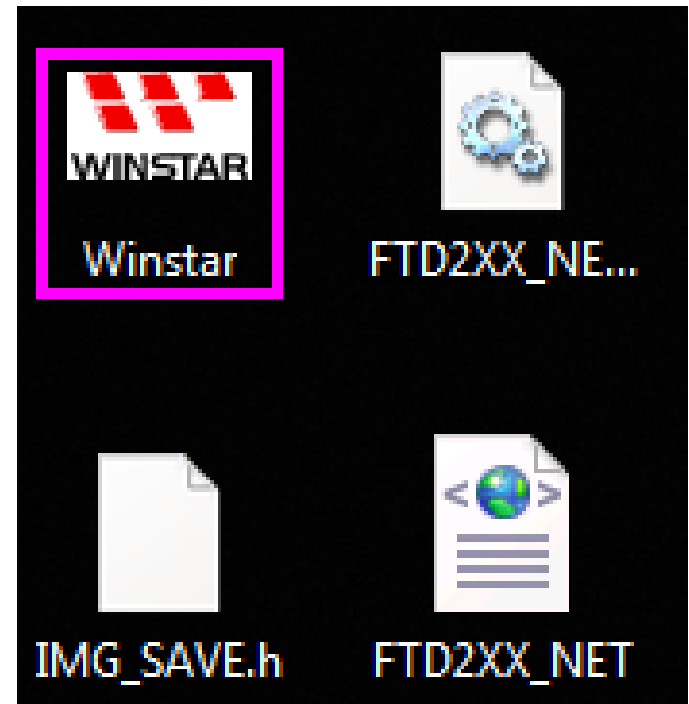
- ➔ For the first time installation, the USB driver will install automatically when getting USB transfer board connected with computer. Please make sure the PC can access with the Internet. Otherwise, the USB driver need to set up manually.
- ➔ Please select “Start menu”→“Computer” → ”Manage” → “Device Manger” → “Ports(COM&LPT)” → USB serial Port (COMx). The message of Ports (COM&LPT) should appear once the connection get success.



P.S. If no found the USB drive, please set up it manually.

M-Series Clever system kit

- ➔ Please copy FTD2XX_NET.XML, FTD2XX_NET.dll and Winstar.exe to your own folder.
- ➔ When executing “Winstar.exe” application, it will generate “IMG_SAVE.h” file which records the images download history.



1. How to connect Winstar M-series TFT to your PC

▶ 2. **Winstar M-Series clever system kit**

3. Hardware control function

4. Touch Panel Control function

5. Firmware Update

Main Page

■ Main Instruction page

Clever System User API V1.6.8

Main Instruction | Load Image | Load Font Library | Peripheral Hardware Control | TP | Version Note

X Start: 000 Y Start: 000 Rotation: 0 Write to Layer: Display Layer

Text Color: [] Background Color: []

R: FF G: FF B: FF R: FF G: FF B: FF

Font: Default (Arial 36 Regular) Background: off Text Data: []

Paint Text

X Start: 000 Y Start: 000 X End: 320 Y End: 240 Erase: []

Clean Block

X Start: 000 Y Start: 000 Rotation: 0 Write to Layer: Display Layer X End: 000 Y End: 000 Image Name: []

Paint Image

X Start: 000 Y Start: 000 Rotation: 0 Write to Layer: Display Layer Set Color: []

R: FF G: FF B: FF Paint Point

X Start: 000 Y Start: 000 X End: 000 Y End: 000 Rotation: 0 Write to Layer: Display Layer Dot Size: 01 Set Color: []

R: FF G: FF B: FF Paint Line

Paint Square

Transmission Instruction for RS232: []

Transmission Instruction for SPI: []

Control Baud rate: 19200

Search Comport

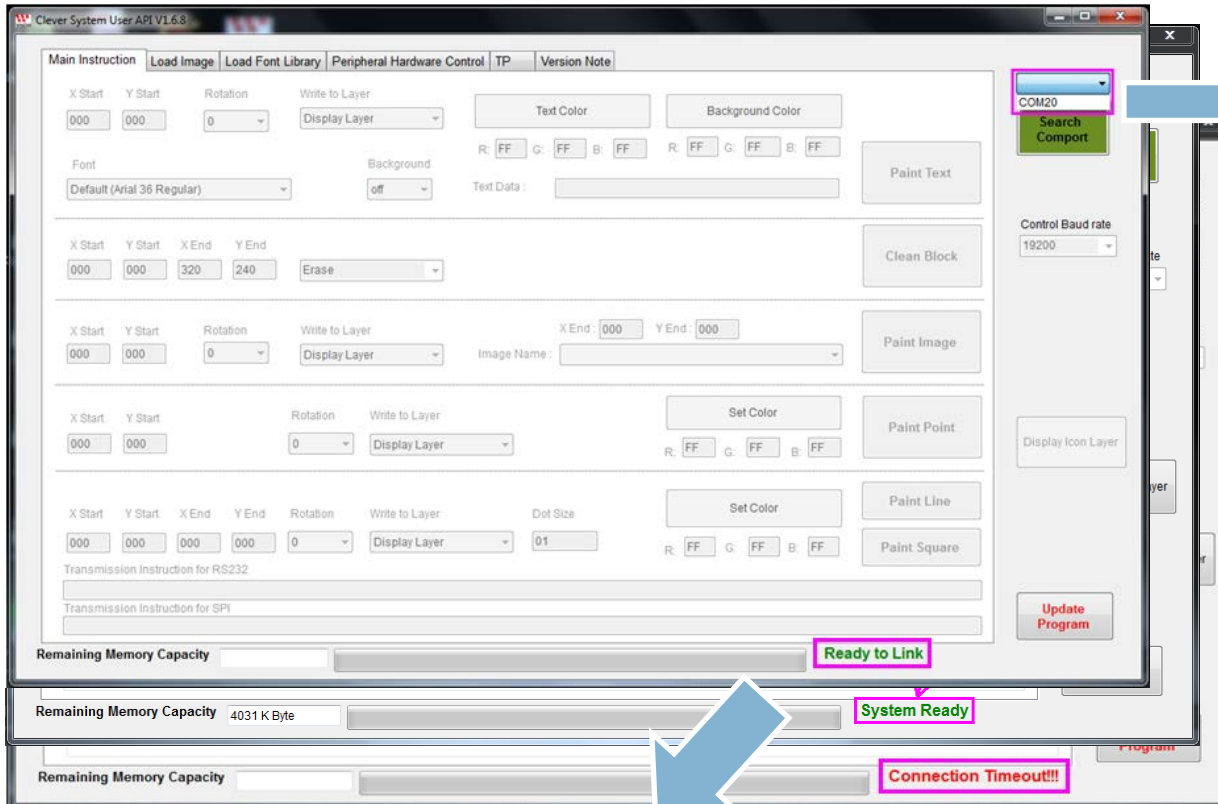
Display Icon Layer

Update Program

Remaining Memory Capacity: [] Ready to Link

Main Page

■ Main Instruction page



1. Select COM port

2. Messages that show system status :

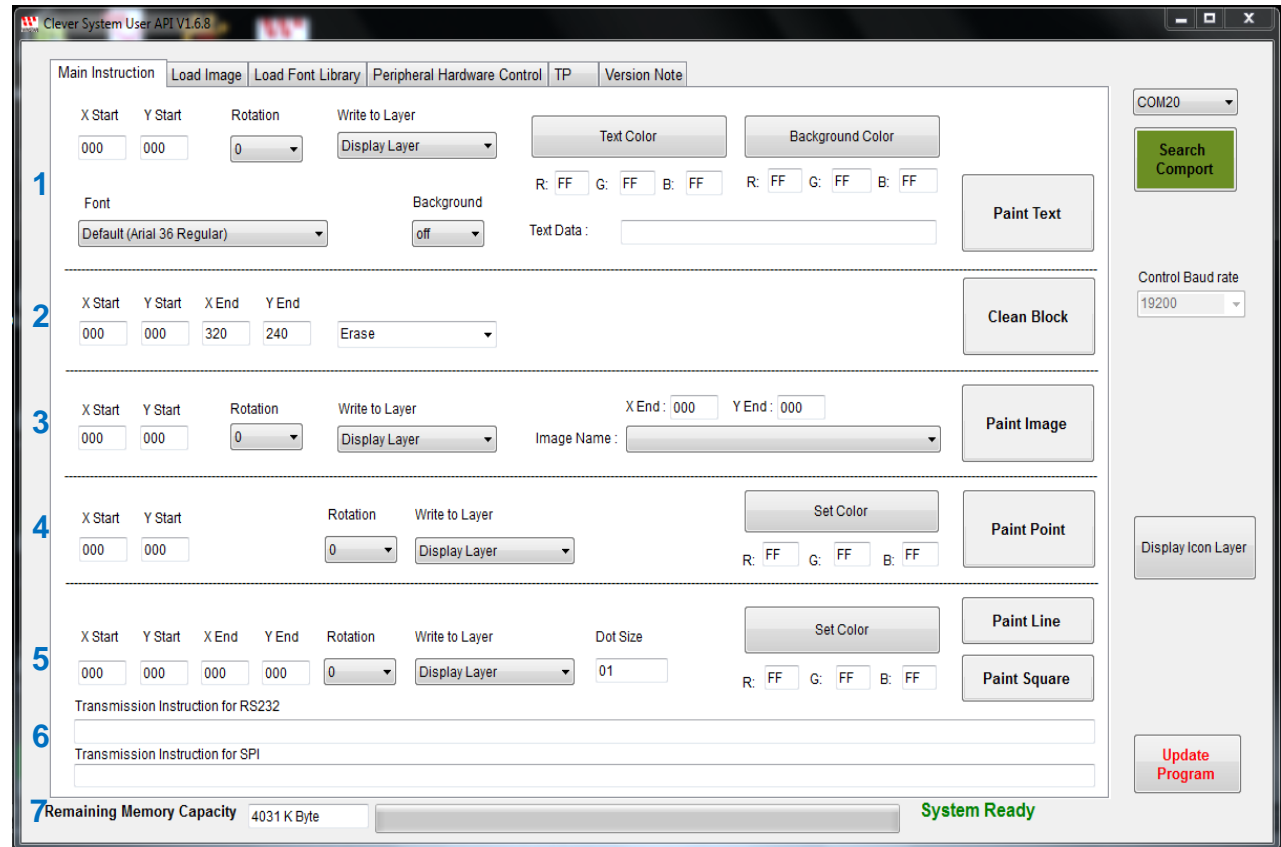
(a) Ready to Link : Wait for connecting

(b) System Ready : Connection is successful

(c) Connection Timeout: Status like failed connection, or timeout...

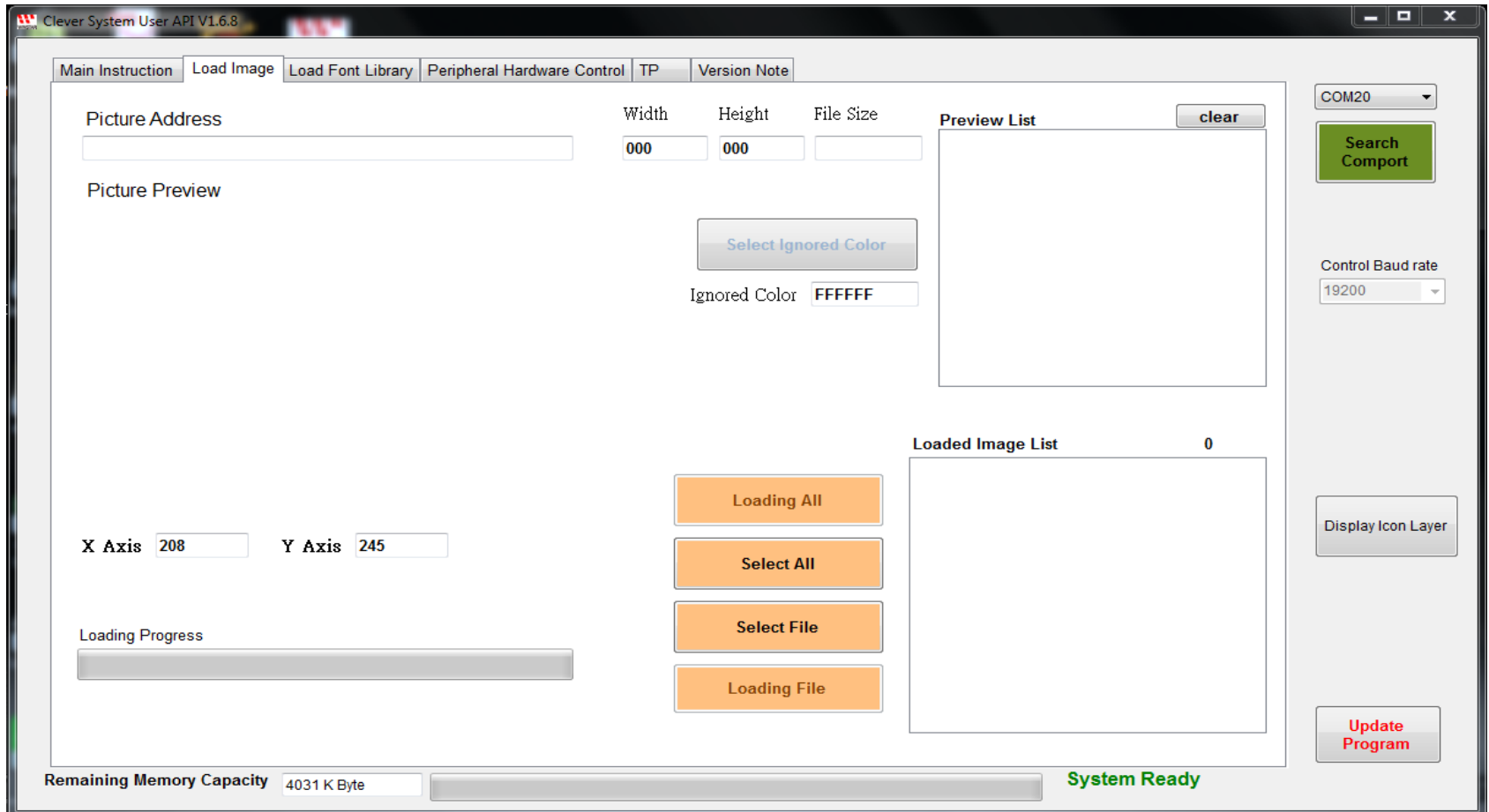
Main Page

- 1. Text function
- 2. Clean screen
- 3. Draw Image
- 4. Draw pixel
- 5. Draw line and square
- 6. Command area
- 7. Memory space



Load Image

■ Load Image page

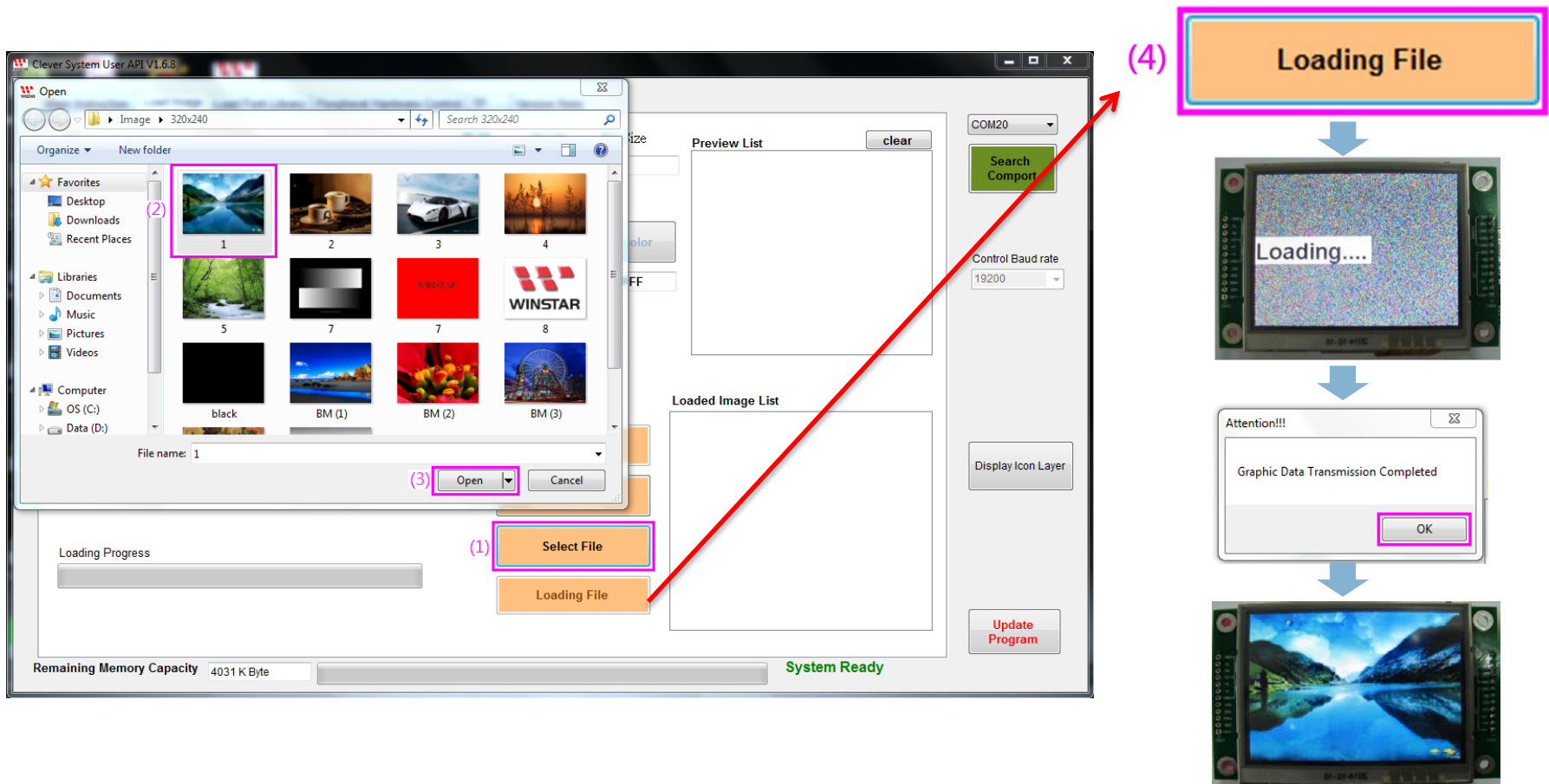


P.S. First image will be the starting picture

Load Image

1. Download single image

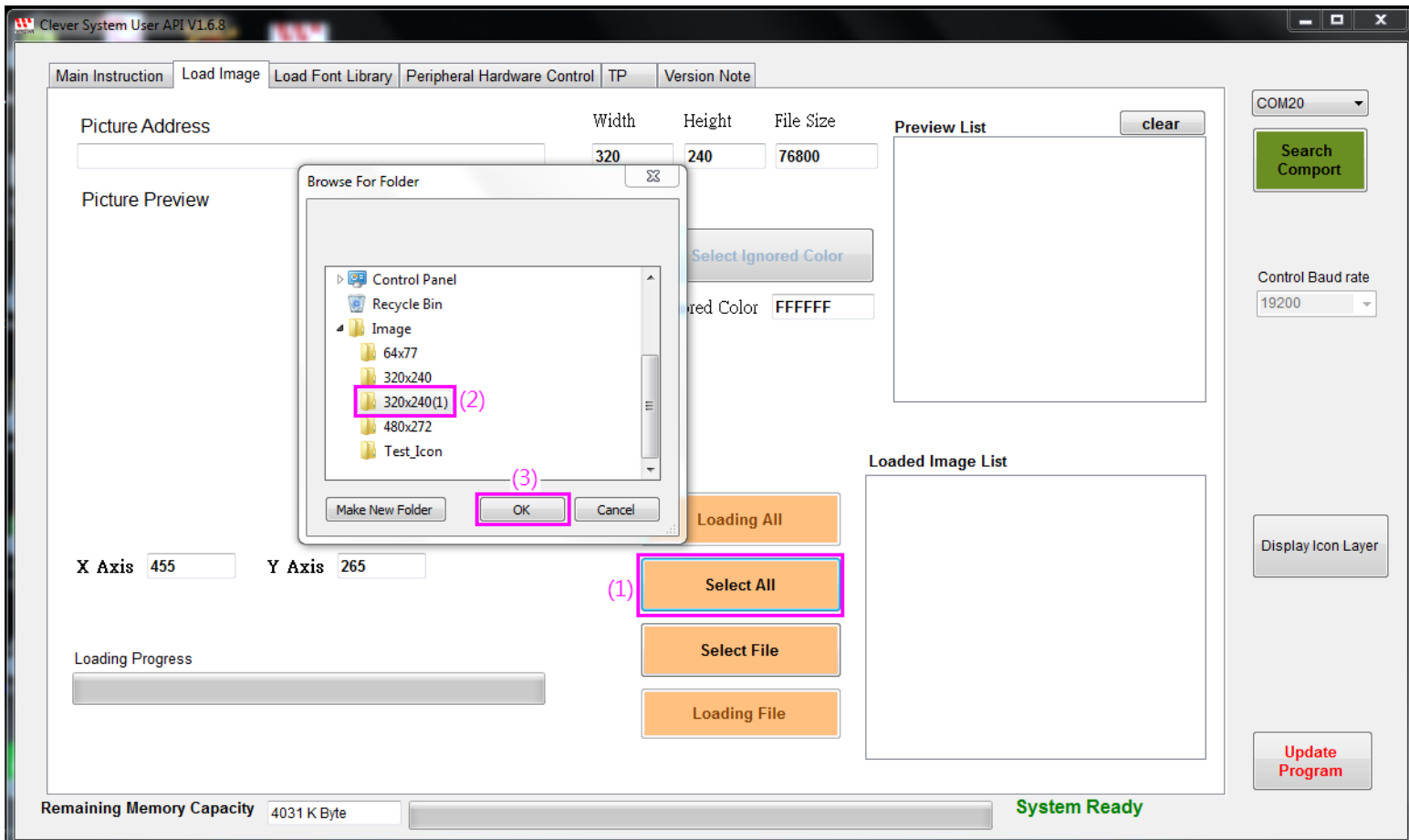
Select "Select File" → choose image → select "Open" → select "Loading File" → press "OK".



Load Image

2. Download images file

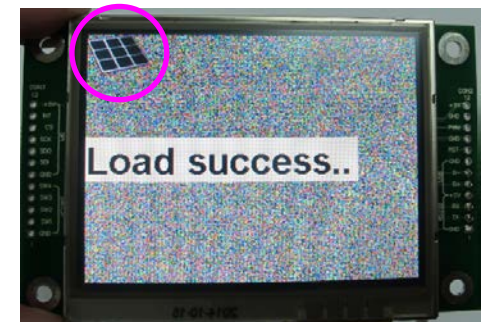
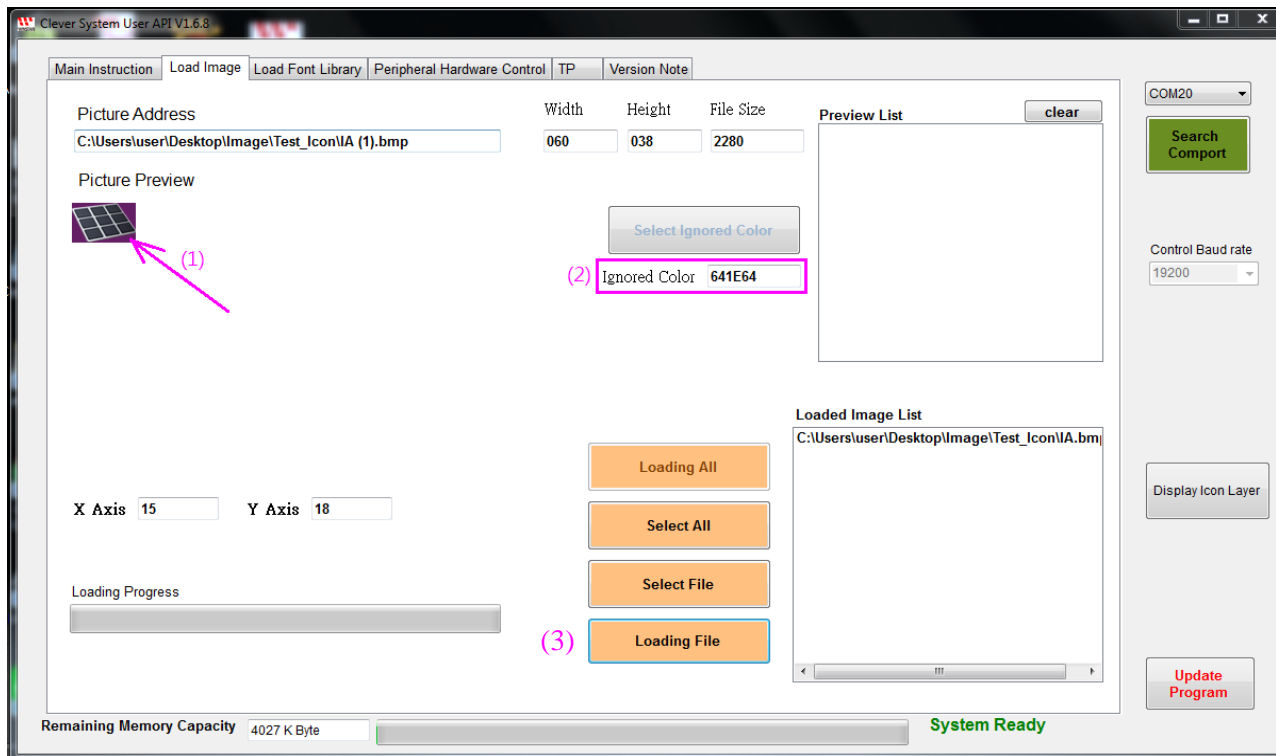
Choose "Select All" to select all images at same folder, which is available for download.



Load Image

3. Remove the image's background

- (1) Mouse over and click the to-be removed color in the preview picture
- (2) "Ignored Color" will show the color code value
- (3) Then select "Loading File". After download, the image without background will show on the screen.



Load Image

- Image Name: A list of loaded images are available to use.

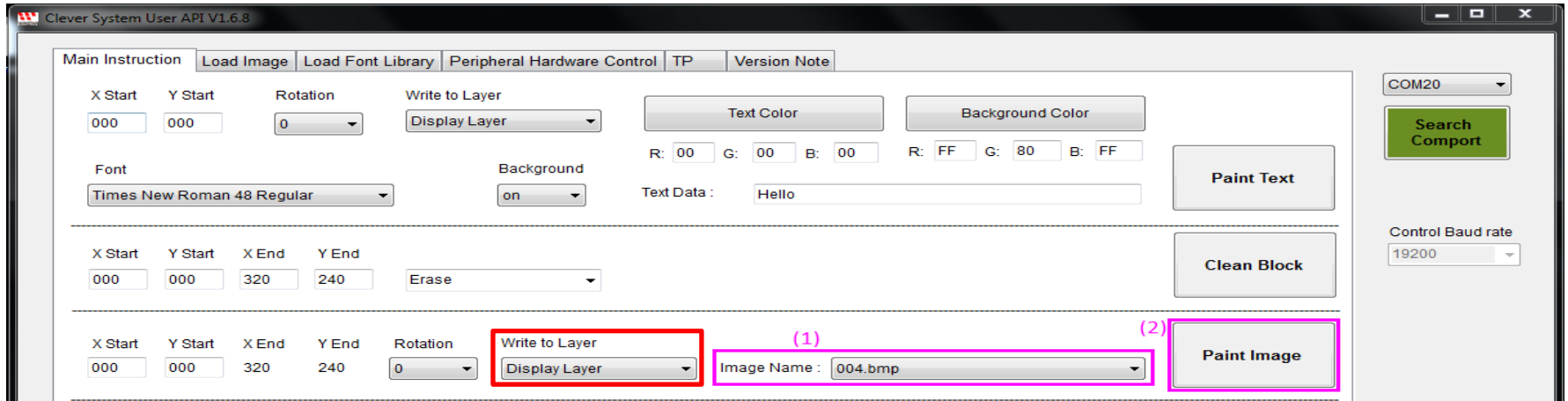
The screenshot shows the 'Clever System User API V1.6.8' application window. The 'Main Instruction' tab is set to 'Load Image'. The interface is divided into several sections for configuring different types of output:

- Text Painting:** Includes fields for X Start (000), Y Start (000), Rotation (0), Write to Layer (Display Layer), Text Color (R: 00, G: 00, B: 00), Background Color (R: FF, G: 80, B: FF), Font (Times New Roman 48 Regular), Background (on), and Text Data (Hello). A 'Paint Text' button is present.
- Clean Block:** Includes fields for X Start (000), Y Start (000), X End (320), Y End (240), and an 'Erase' dropdown. A 'Clean Block' button is present.
- Image Painting:** Includes fields for X Start (000), Y Start (000), X End (320), Y End (240), Rotation (0), and Write to Layer (Display Layer). The 'Image Name' dropdown is open, showing a list of files: 004.bmp, 003.jpg, 004.bmp, 5.jpg, and IA.bmp. A 'Paint Image' button is present.
- Point Painting:** Includes fields for X Start (000), Y Start (000), Rotation (0), and Write to Layer (Display Layer). A 'Paint Point' button is present.
- Line and Square Painting:** Includes fields for X Start (000), Y Start (000), X End (000), Y End (000), Rotation (0), Write to Layer (Display Layer), and Dot Size (01). A 'Set Color' button (R: FF, G: FF, B: FF) and 'Paint Line'/'Paint Square' buttons are present.

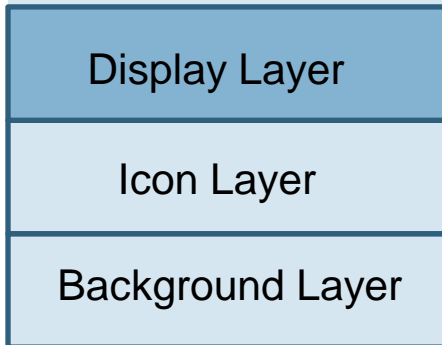
At the bottom, there is a 'Transmission Instruction for RS232' and 'Transmission Instruction for SPI' section with code snippets, a 'Remaining Memory Capacity' indicator (3558 K Byte), and a 'Code Generated' status.

Load Image

- Select the image you prefer, then choose “Display Layer” and press “Paint Image”.



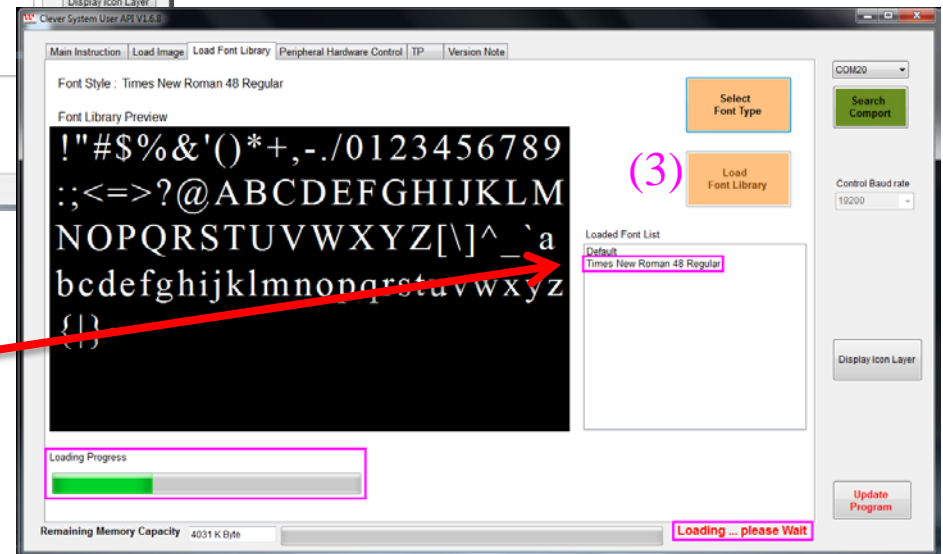
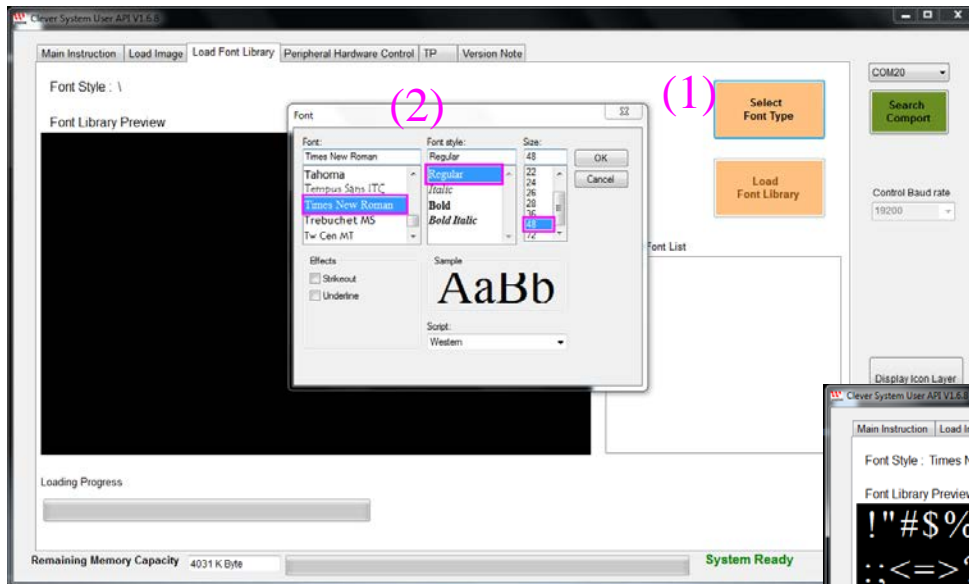
Frame buffer(SRAM)



Load Font Library

■ Load Font page

1. Choose your preference Windows font from “Select Font Type”
2. Select Font style
3. Loading font by selecting “Load Font Library”



4. In “Loaded Font List”, a new font library file is built.

Load Font Library

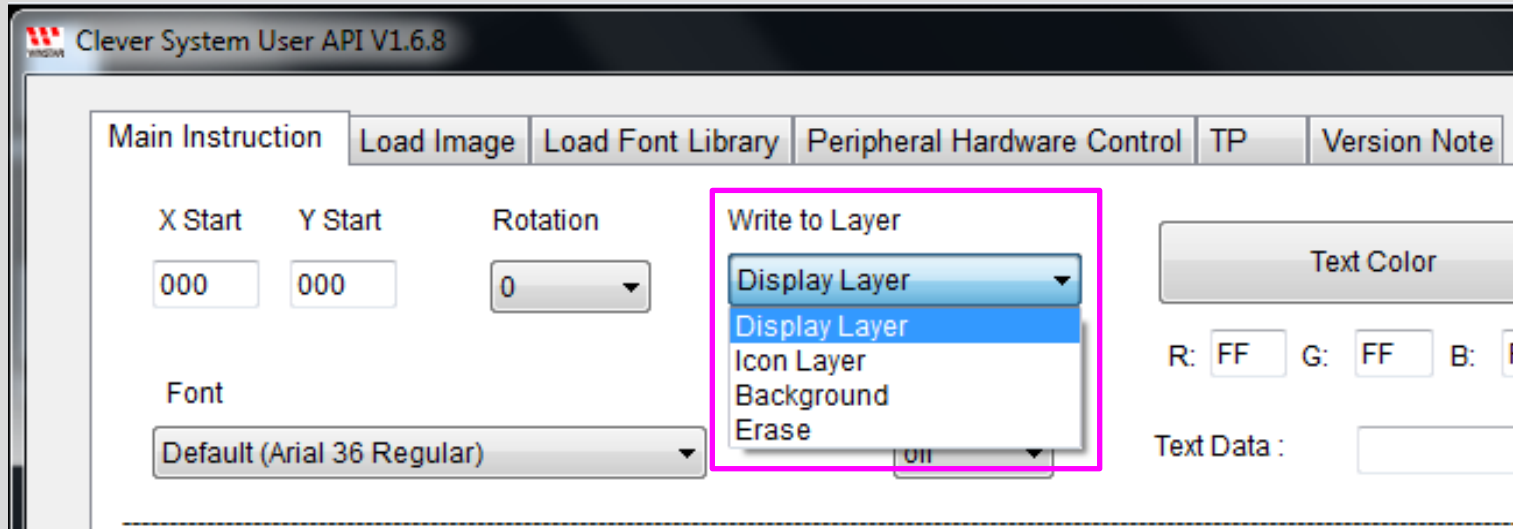
- Font: A list of loaded fonts are available to use.

The screenshot displays the 'Clever System User API V1.6.8' interface with the 'Load Font Library' tab selected. The 'Font' dropdown menu is highlighted with a pink box, showing the following options:

- Default (Arial 36 Regular)
- Default (Arial 36 Regular)
- Times New Roman 48 Regular

The interface includes various controls for text and image operations, such as 'Text Color', 'Background Color', 'Paint Text', 'Clean Block', 'Paint Image', 'Paint Point', 'Paint Line', and 'Paint Square'. The status bar at the bottom shows 'Remaining Memory Capacity 3562 K Byte' and 'System Ready'.

Display Memory Layer Structure



Frame buffer(SRAM)

Display Layer

Icon Layer

Background Layer

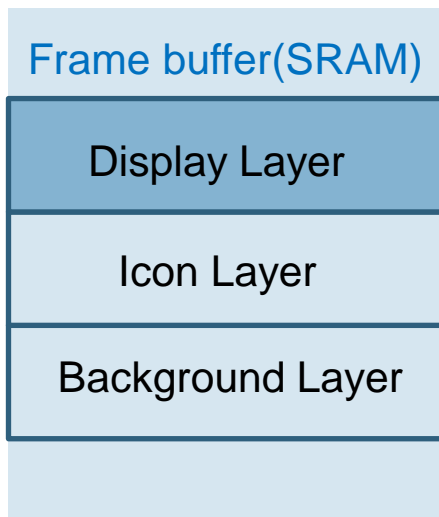
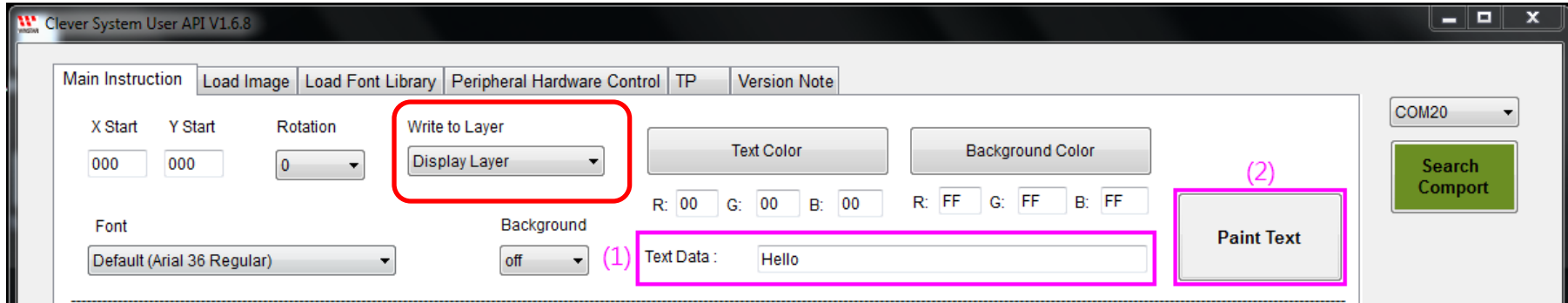
Images and Texts will display on the TFT screen.

Edit image and texts in this layer only

Default background image

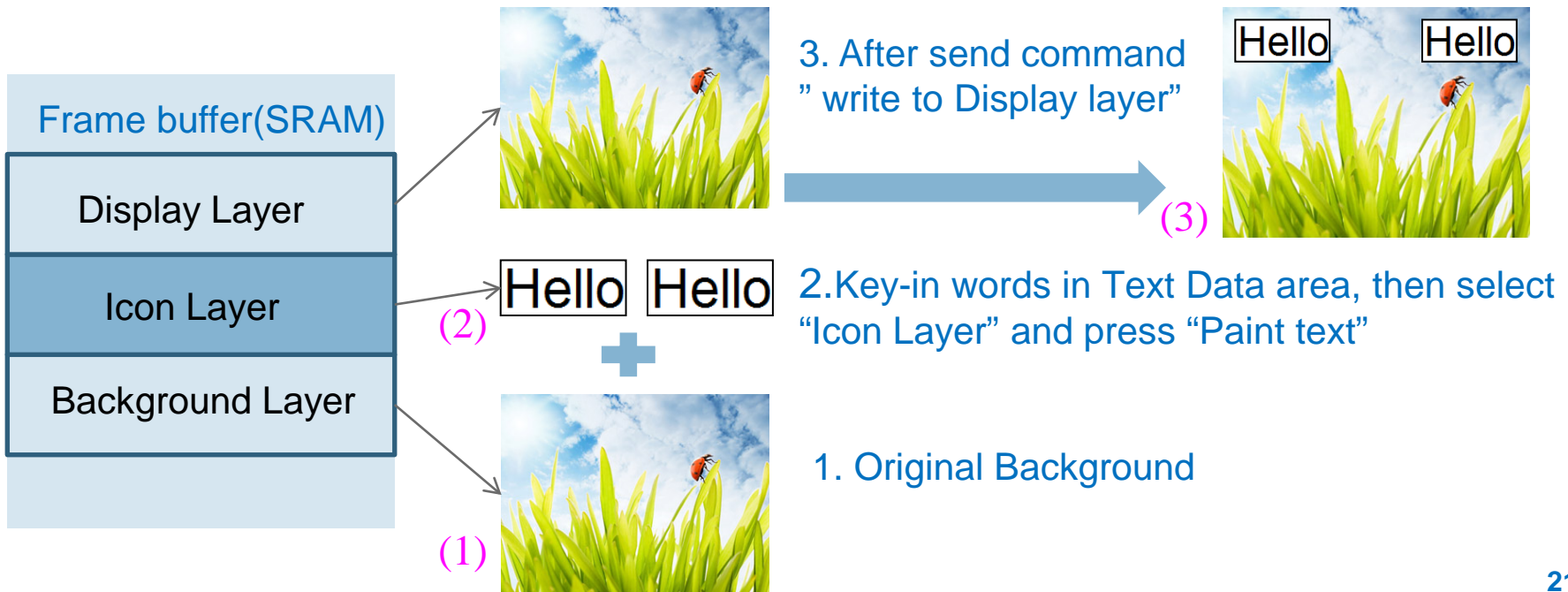
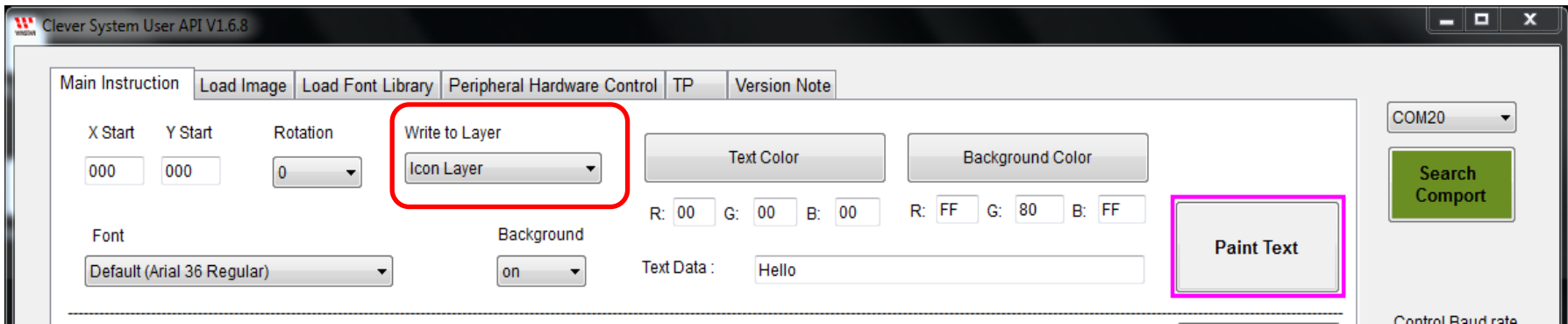
Display Memory Layer Structure

- Key-in words in Text Data area, then select “Display Layer” and press “Paint text”



Display Memory Layer Structure

- Icon layer purpose: Show all icon or words in assigned locations at once.



1. How to connect Winstar M-series TFT to your PC

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3. **Hardware control function**

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5. Firmware Update

Hardware Control Page

■ Peripheral Hardware Control page

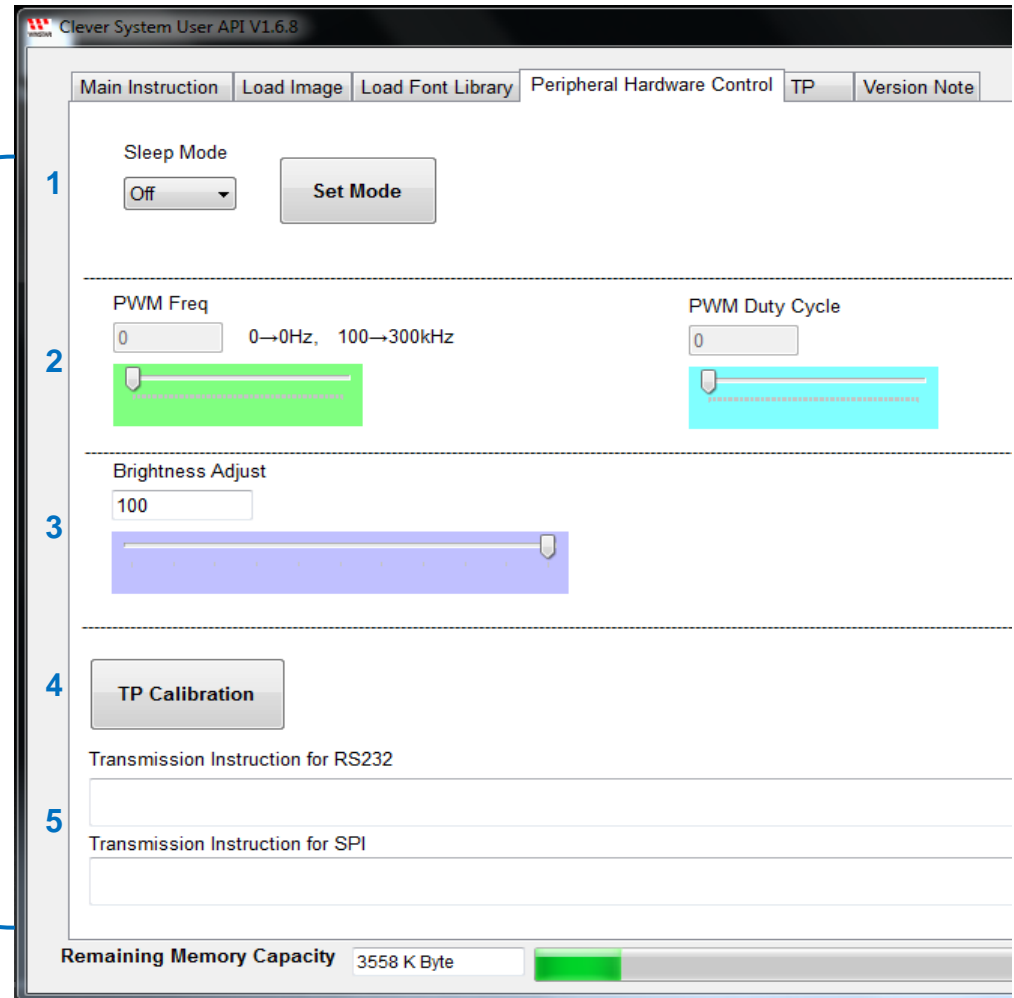
Sleep mode :
On=sleep mode
Off =normal mode

PWM signal :
Frequency from 100~300KHz

Brightness Adjustment :
adjust range 0~100

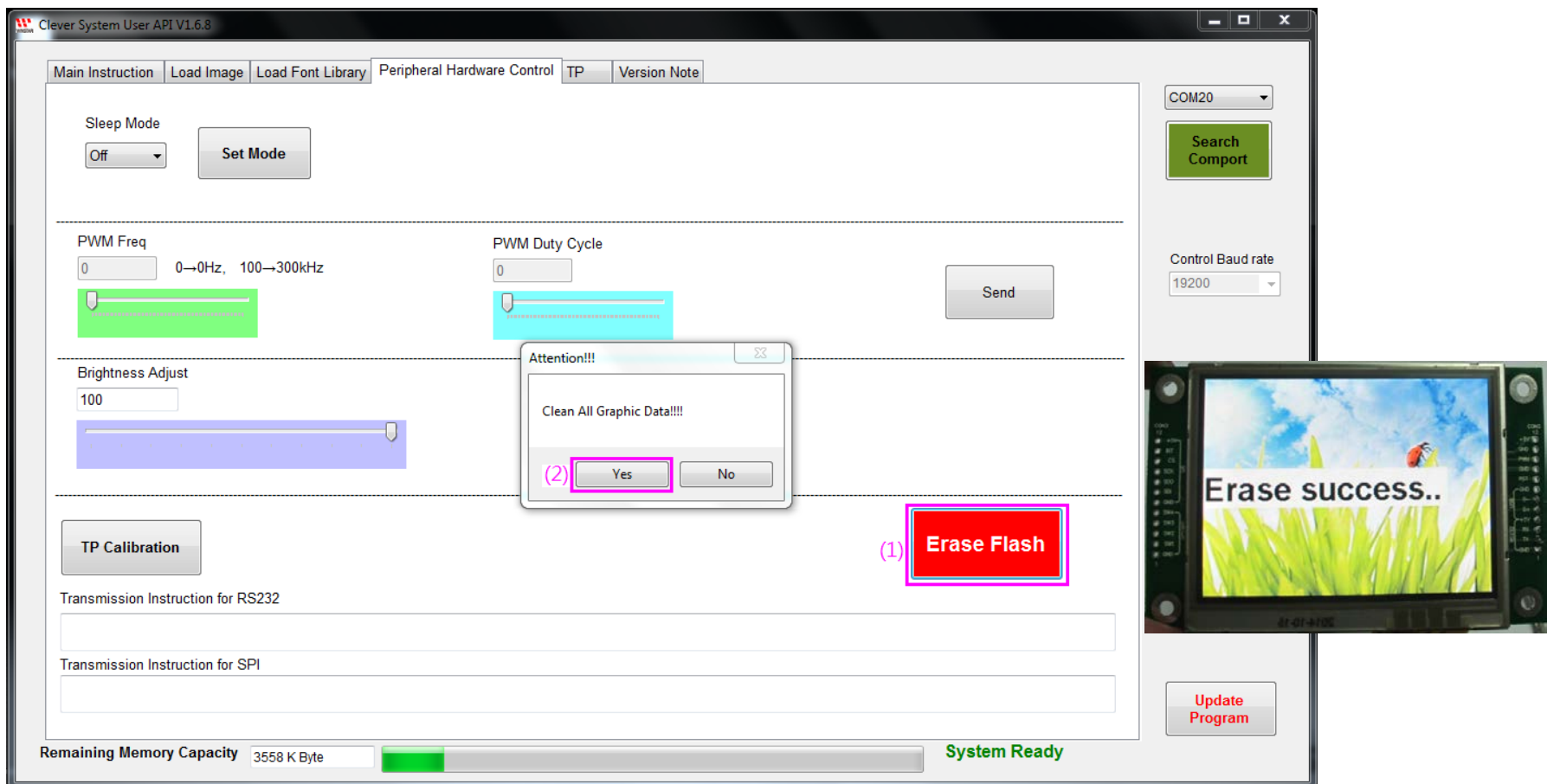
TP Calibration :
touch panel calibration

Command area



Hardware Control Page

- Peripheral Hardware Control page
- Select “Erase Flash” to **Erase All flash memory.**

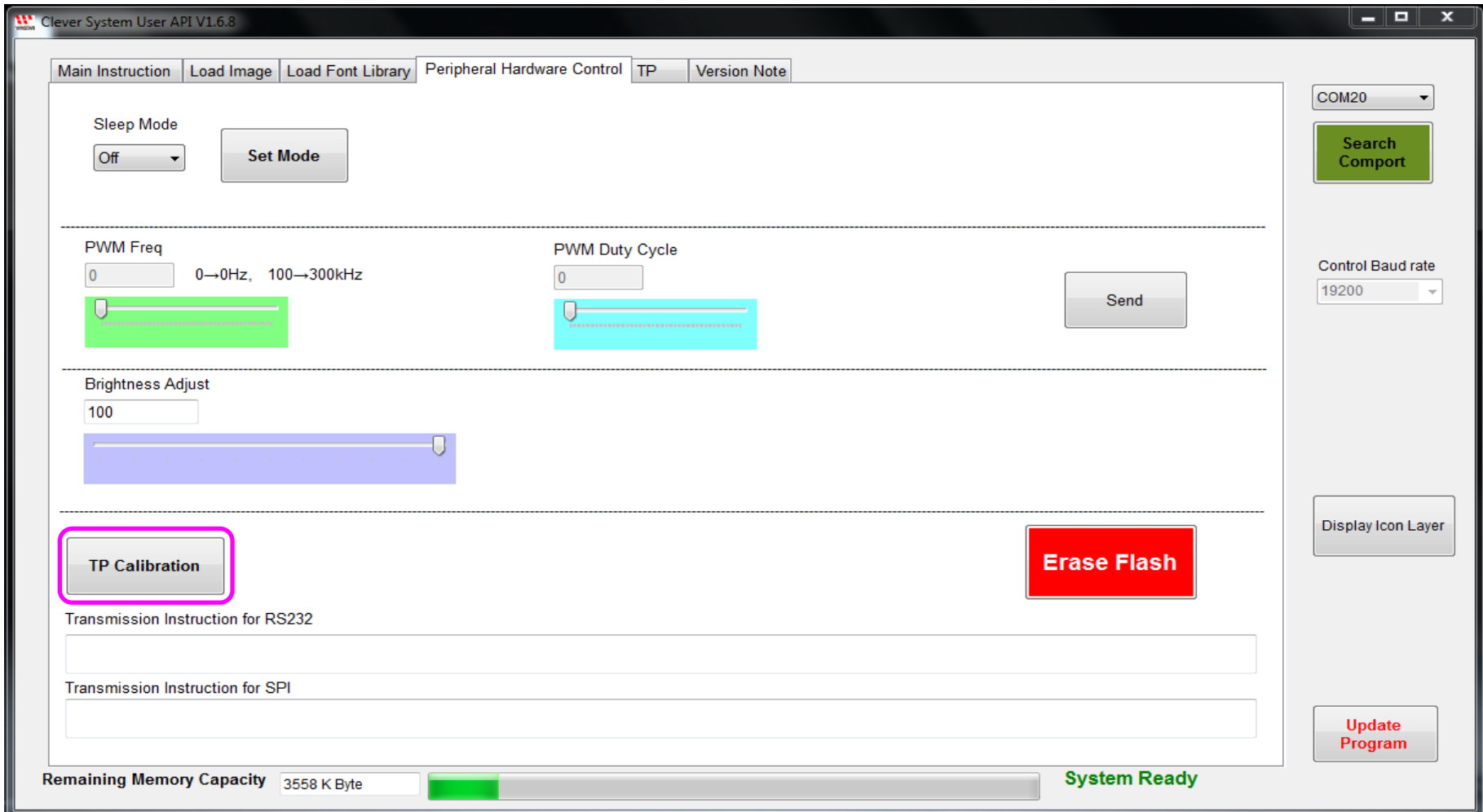


The screenshot displays the 'Peripheral Hardware Control' page of the 'Clever System User API V1.6.8' software. The interface includes several control sections: 'Sleep Mode' (set to 'Off'), 'PWM Freq' (0 to 300kHz), 'PWM Duty Cycle' (0), 'Brightness Adjust' (100), and 'TP Calibration'. A 'Send' button is present for the PWM controls. On the right side, there are settings for 'COM20', 'Search Comport', and 'Control Baud rate' (19200). At the bottom, it shows 'Remaining Memory Capacity' (3558 K Byte) and 'System Ready' status. A red box labeled (1) highlights the 'Erase Flash' button. A dialog box labeled 'Attention!!!' with the text 'Clean All Graphic Data!!!' and 'Yes'/'No' buttons is open, with the 'Yes' button highlighted by a pink box and labeled (2). A small inset image of a device screen shows the text 'Erase success..'.

1. How to connect Winstar M-series TFT to your PC
2. Winstar M-Series clever system kit
3. Hardware control function
- ▶ 4. **Touch Panel Control function**
5. Firmware Update

Touch Panel Calibration

- Select “TP Calibration”, three black blocks will show on the screen.

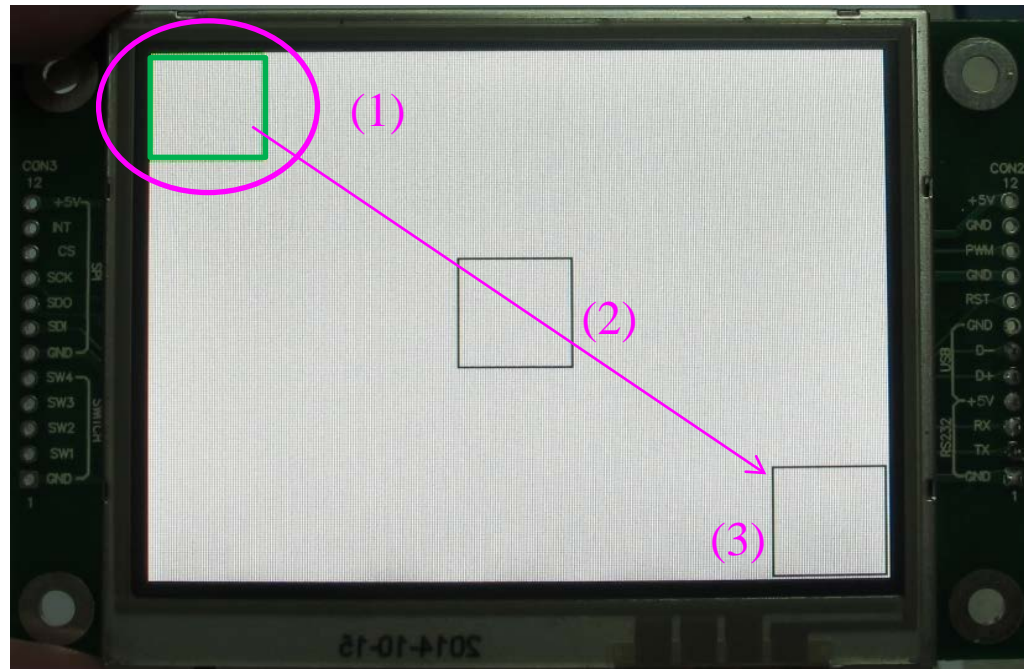


The screenshot displays the 'Clever System User API V1.6.8' software interface. The 'TP' tab is selected in the top navigation bar. The 'TP Calibration' button is highlighted with a red border. Other visible elements include:

- Sleep Mode:** Set to 'Off' with a 'Set Mode' button.
- PWM Freq:** Set to '0' with a range of '0→0Hz, 100→300kHz' and a green slider.
- PWM Duty Cycle:** Set to '0' with a cyan slider and a 'Send' button.
- Brightness Adjust:** Set to '100' with a purple slider.
- Buttons:** 'Erase Flash' (red), 'Search Comport' (green), 'Display Icon Layer', and 'Update Program' (red).
- Right Panel:** 'COM20' dropdown, 'Control Baud rate' dropdown (set to 19200).
- Bottom Bar:** 'Remaining Memory Capacity' (3558 K Byte) and 'System Ready' status.

Touch Panel Calibration

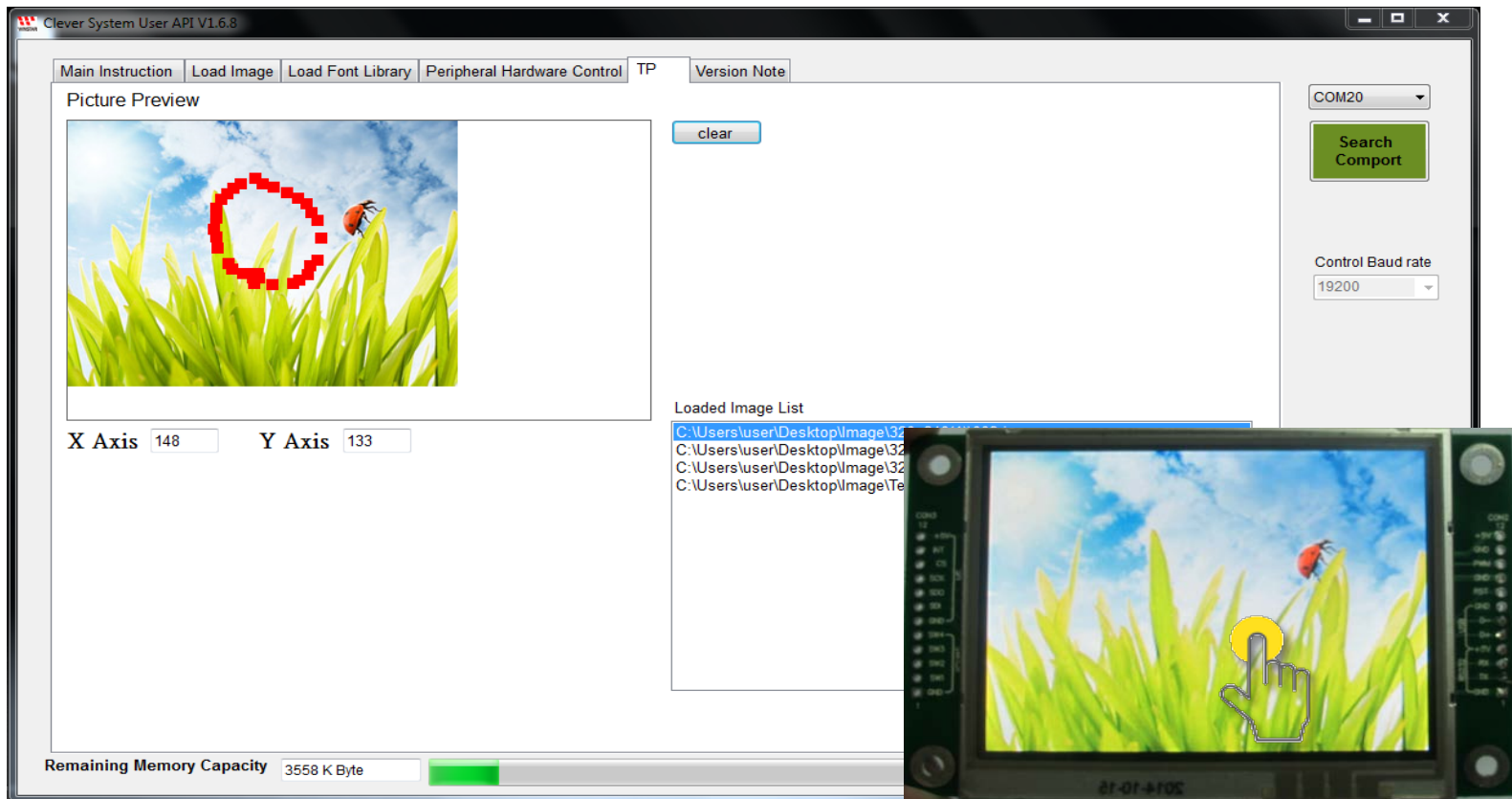
- Select “TP Calibration”, three black blocks will show on the screen.
- Touch the left upper first, then touch the middle, and touch the right below position. Then you will finish the TP calibration.



p.s. If you touch one of three black blocks, it will turn to green block.

Touch Panel Control Function

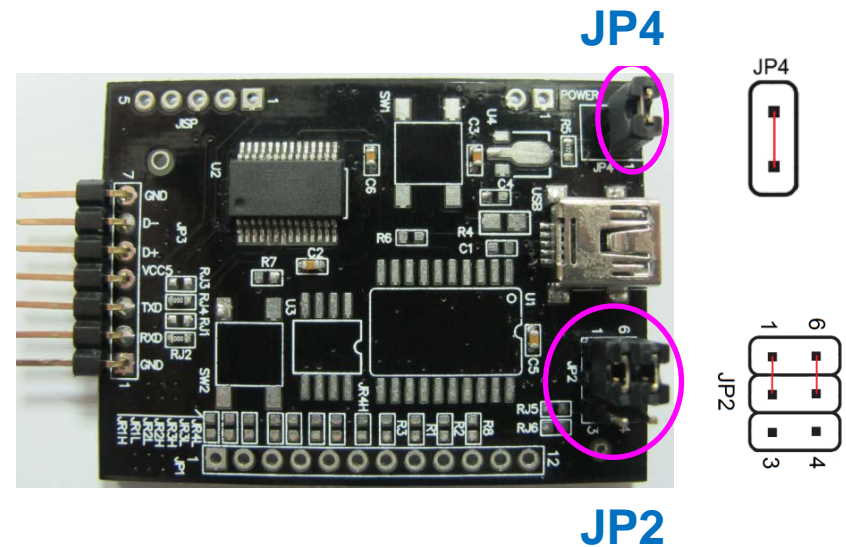
- TP page
- The Picture Preview will show the blocks of touch position when you touch the panel. For example: drawing the circle on the module then the picture preview will show the circle.



1. How to connect Winstar M-series TFT to your PC
2. Winstar M-Series clever system kit
3. Hardware control function
4. Touch Panel Control function
- ▶ 5. **Firmware Update**

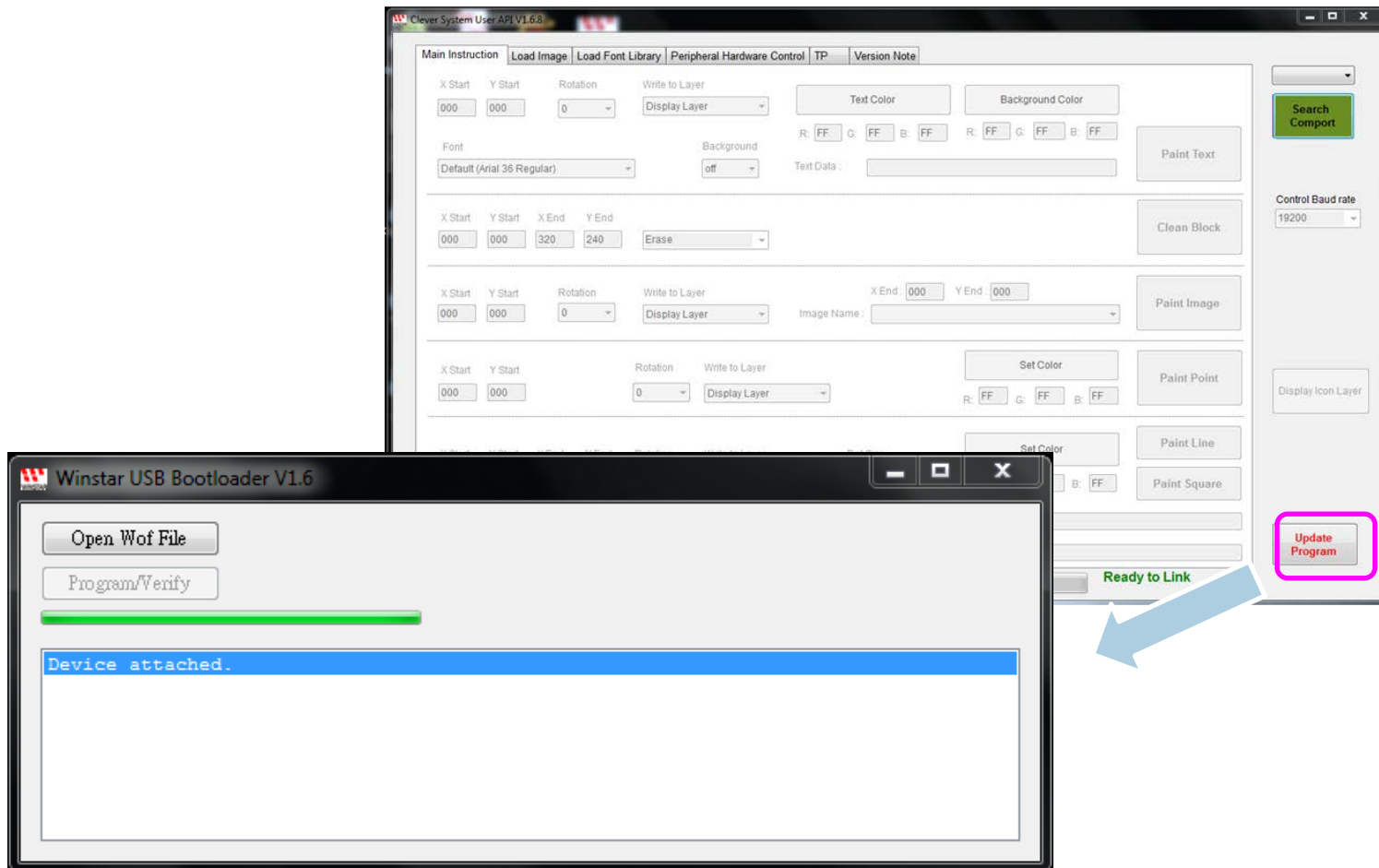
Step 1~3: Change Hardware

1. USB transfer board:
 - (1) Short JP2 pin1 & Pin2, short Pin5 & Pin6.
 - (2) Short JP4
2. JP3 (Pin1~Pin7) of WWTFT-10# connects with CON2 (Pin1~Pin7) of M series module.
3. Connect to PC USB port and then power on USB transfer board and M-series.



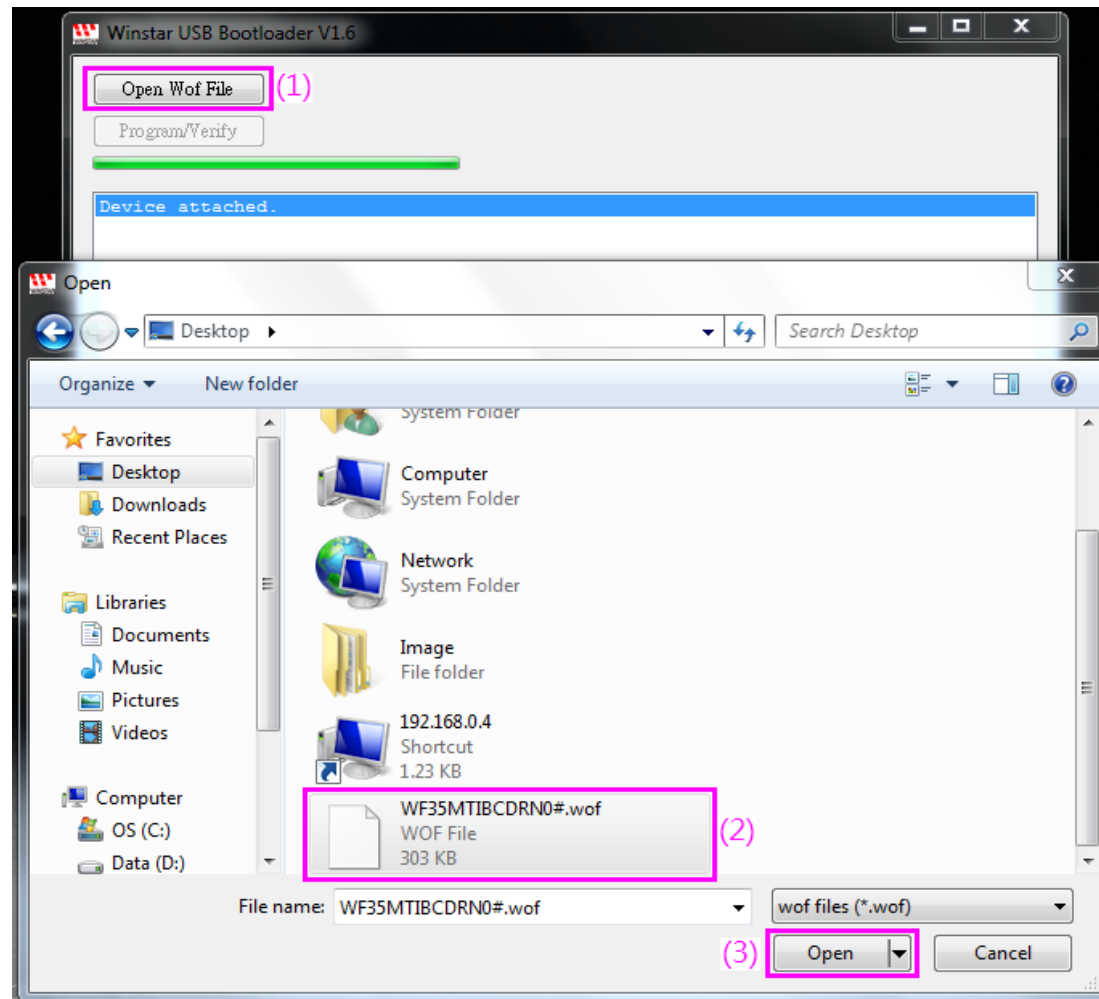
Step 4: Select Update program

4. Open Winstar clever system kit, Select “Update Program” can open HIDBootLoader_V1_6.exe directly.



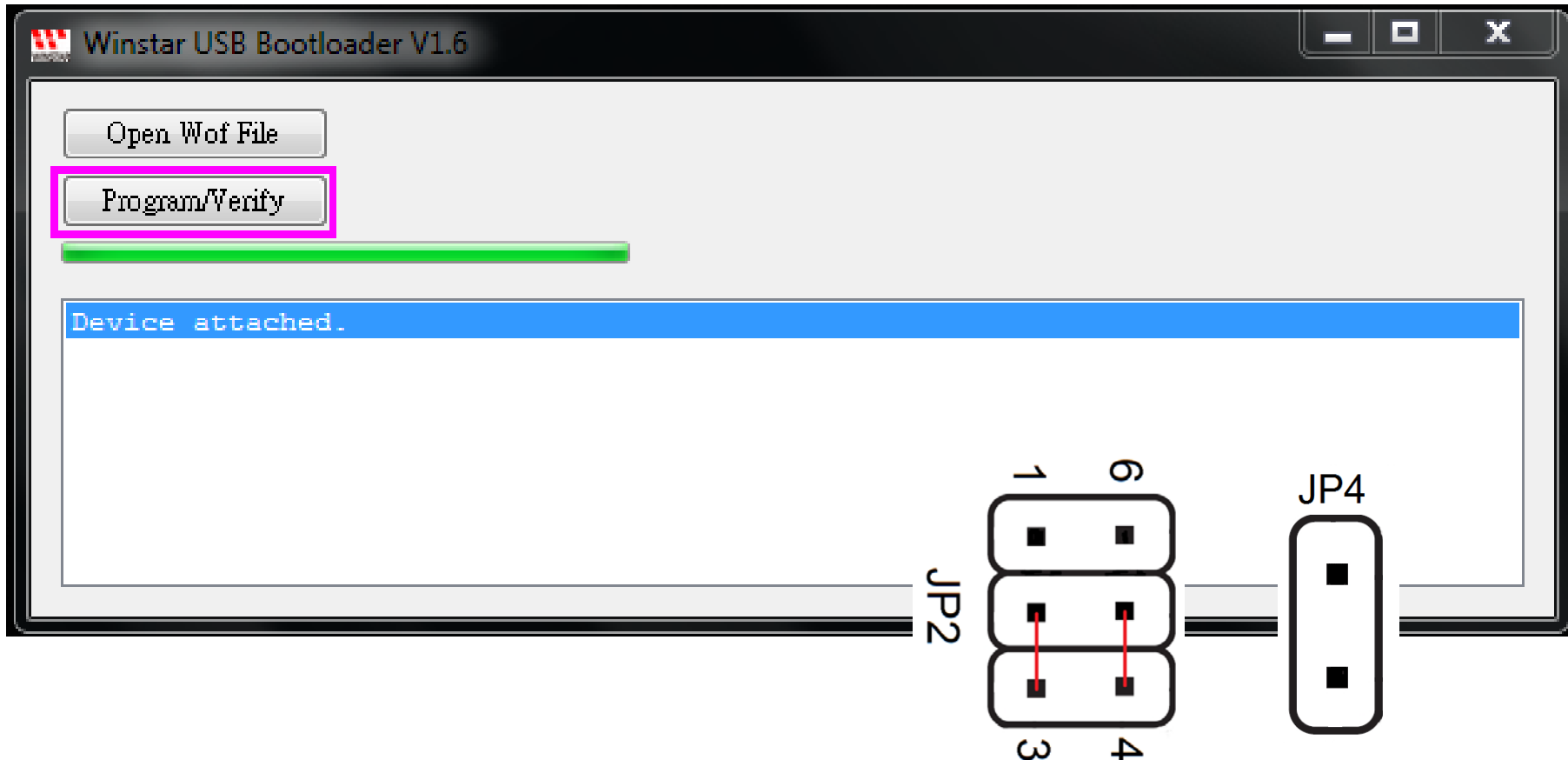
Step 5: download.wof file

5. Select “Open Wof File”, select the wof file you want to update and open it.



Step 6 Program/Verify and Restart

- 6 : Select "Program/Verify", start to update firmware.
- 7 : Change back JP2 & JP4 to the original position then able to restart the module and clever system kit.



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THANK YOU FOR LISTENING

謝謝 Danke 감사합니다 Merci благодарю Вас
Gracias ευχαριστω Dank u ありがとう Obrigado



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Responsibility on Environmental Protection

Winstar considered that our responsibility on environmental protection; our manufacturing process completely follows RoHS, SVHC of EU REACH and WEEE standard since 2006, as well as our relative supplier was asked to be cooperated with same regulation.