Winmate® Software Document

Project Name: WDC User Manual

Revision: 1.2
August 16, 2012

Contents

Revision History

Revision	Author	Date	Description
1.0	Kent	2012/07/25	1. Initial draft
1.1	Kent	2012/08/06	1. Add Power on code and Modify 1D Barcode layout
1.2	Steven	2012/08/16	1. Add RFID document

1. Description

1.1 Introduction

This specification describes how to use the Setting tool on 1D Barcode, 2D Barcode , and RFID device ,the function of this application are as below

1. **Demo device scan data**
2. **Enable/Disable All kind of barcode in general use**
2. **Add device scan data with prefix and suffix**
3. **Adjust device scan time out**
4. **Adjust device scan indicator**
5. **Recover default setting**

1.2 Application requisites

The WDC application is need to run with the Winmate image in the specific version which is with VSP driver

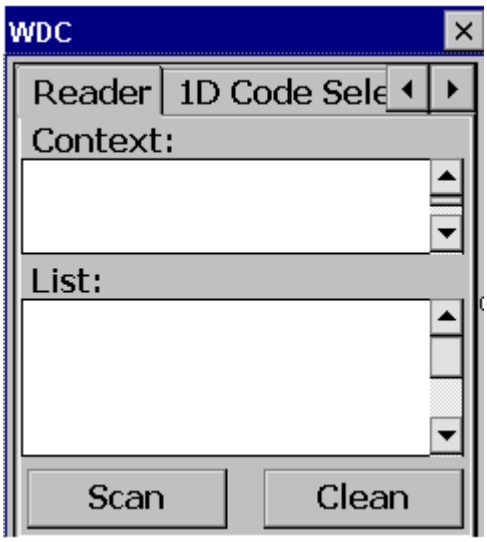
E430T : V1.09
C350T : V1.03
S370T : V1.01

2. WDC application Introduce

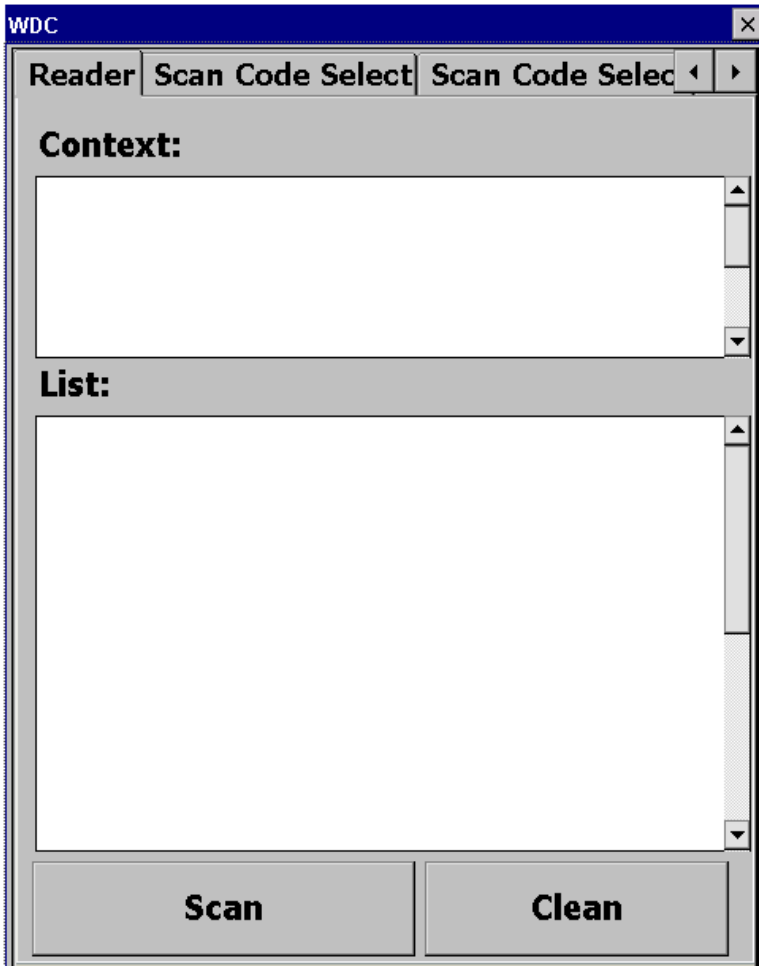
2.1 Open WDC application

We have two kind of layout for

QVGA



VGA

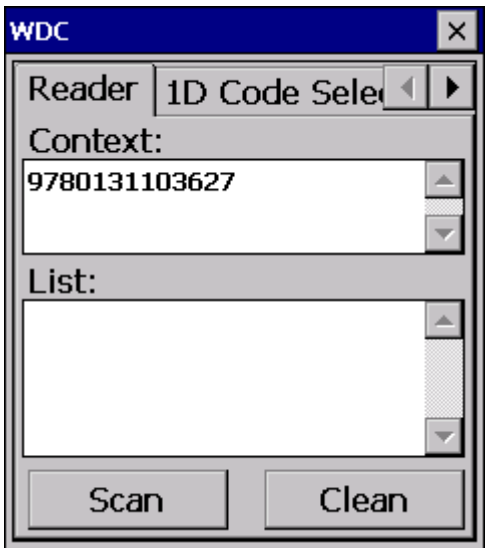


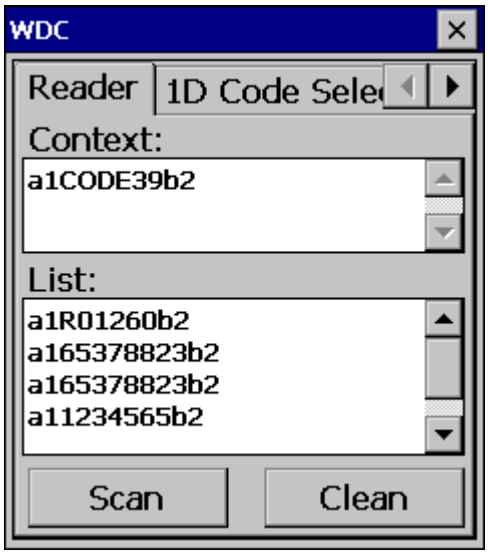
You can use the **Scan** button to scan the barcode or RFID card

The **Context Area** is the data that you just scan or read

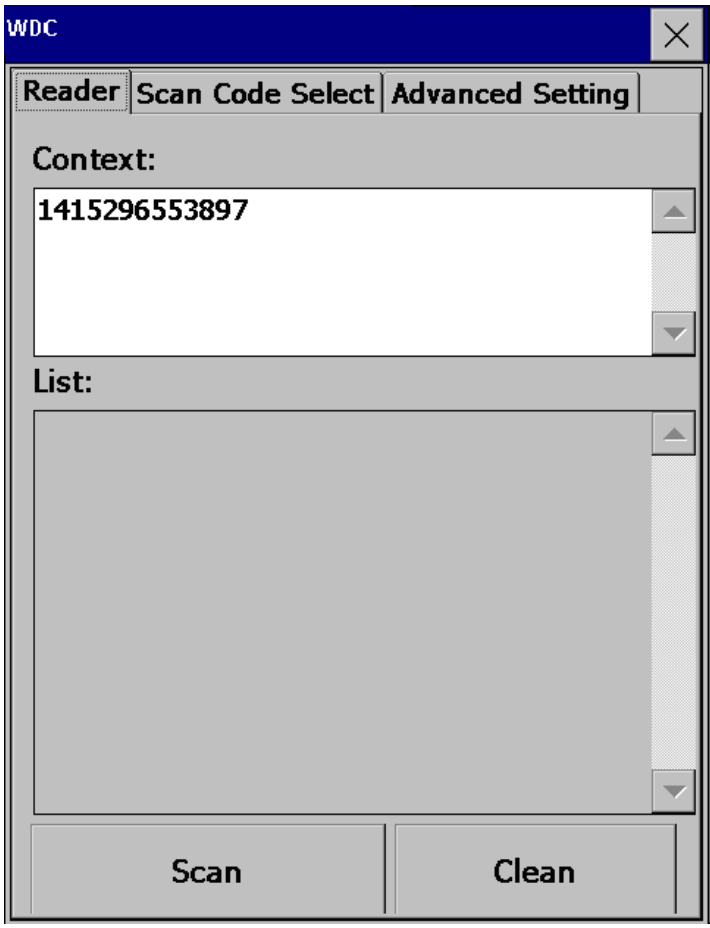
The **List Area** is the history you scan

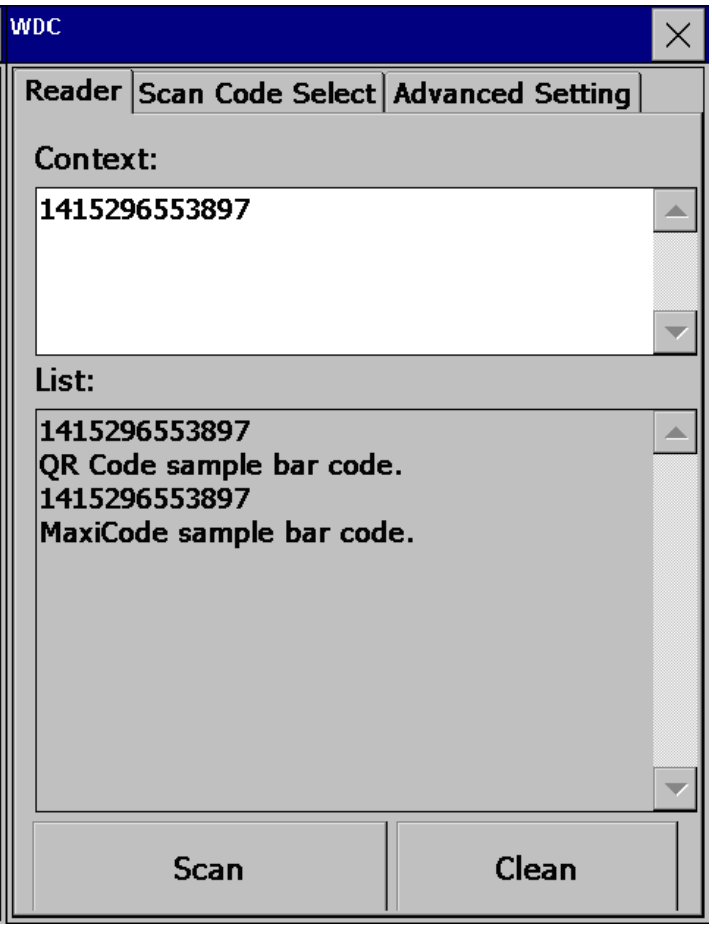
QVGA :





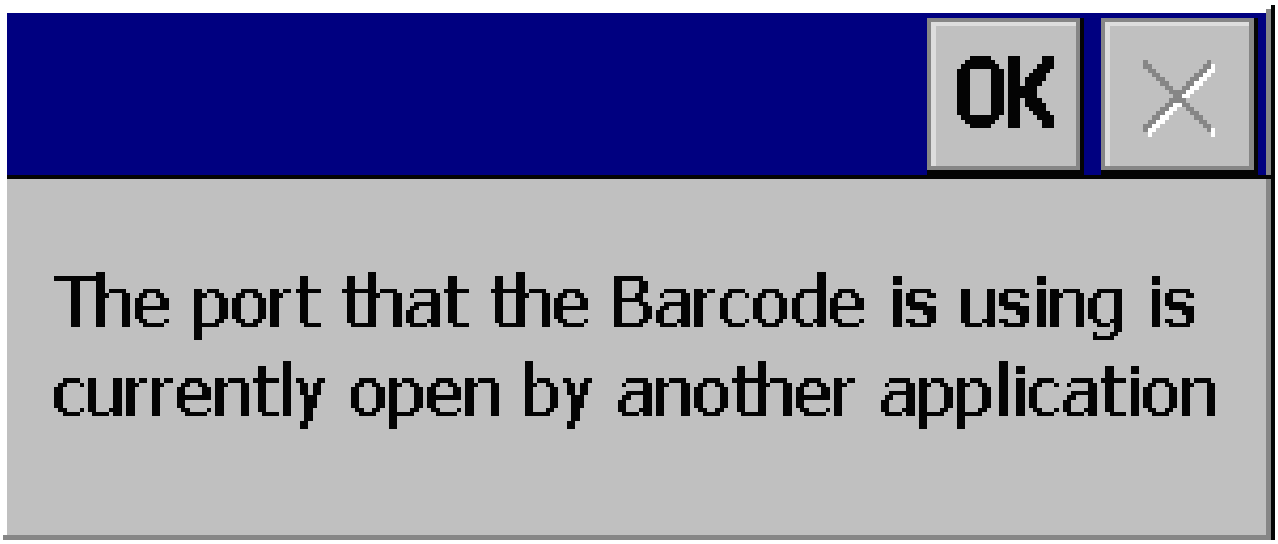
VGA :





When you open the WDC , if you see the error as below , it mean no Barcode and RFID device

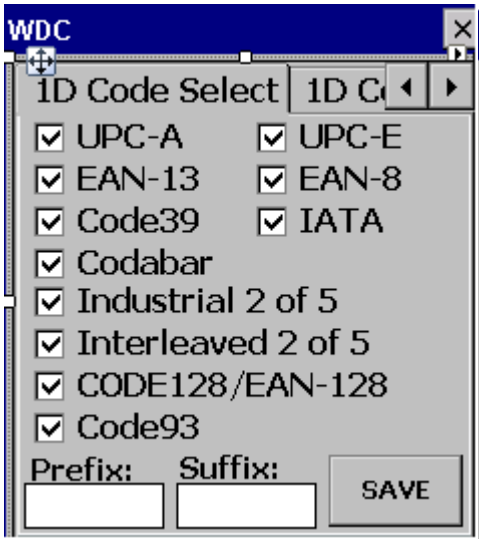
if you see the error as below, it mean com port open error , please release your com port , then open the application again



2.2 Check which kind of barcode you need select

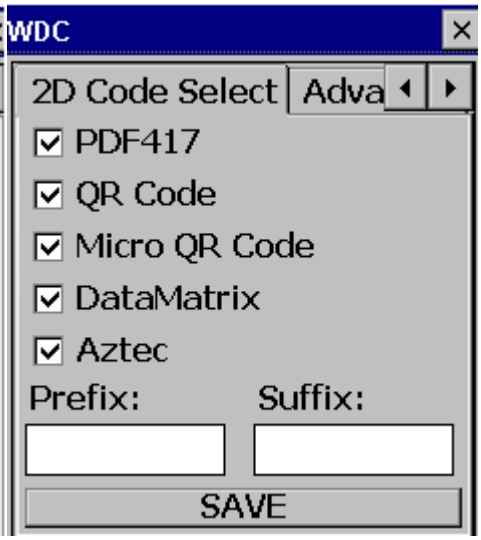
QVGA :

1D Barcode Device Screen



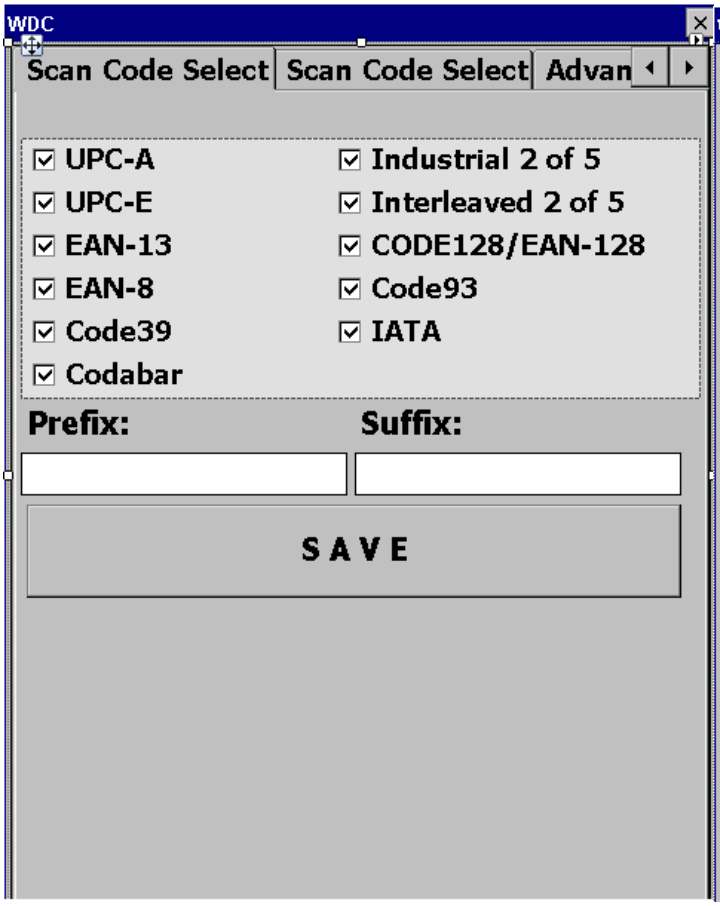
2D Barcode Device Screen in 1D

2D Barcode Device Screen in 2D

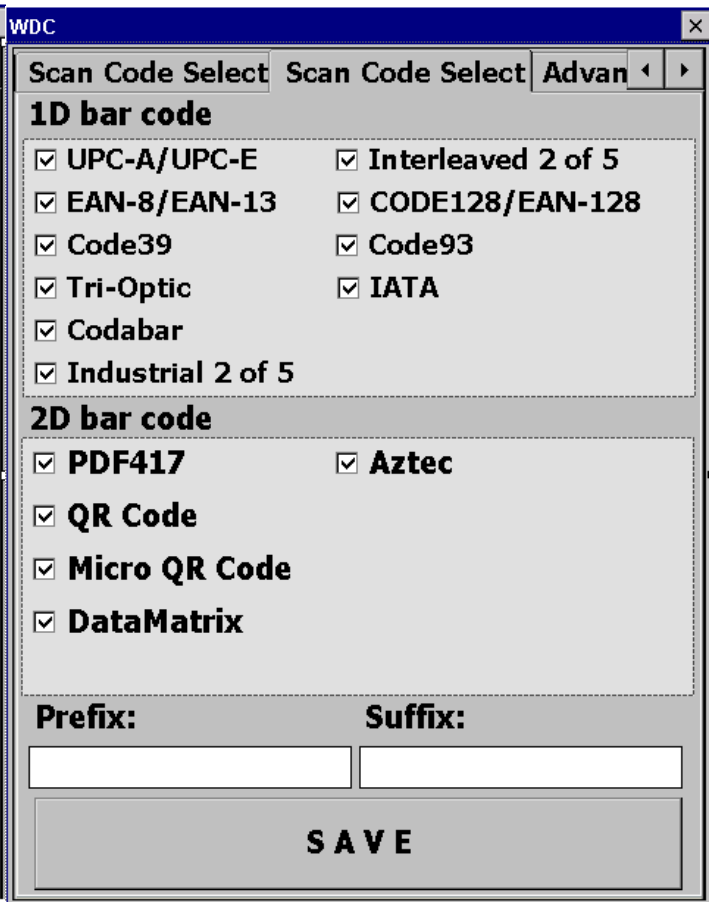


VGA :

1D Barcode Device Screen



2D Barcode Device Screen



In the 1D Barcode ,the WDC can allow you can select 10 different barcode as below

1. UPC-A
2. UPC-E
3. EAN-13
4. EAN-8
5 Code39
6. Codabar
7. Industrial 2 of 5
8. Interleaved 2 of 5
9. Code128\EAN-128
10. Code93
11. IATA

In the 2D Barcode ,the WDC can allow you can select 15 different barcode(10 of 1D 5 of 2D) as below

1D support barcode
1. UPC-A\UPC-E
2. EAN-8\ EAN-13
3. Code39
4. Tri-Optic
5 .Codabar
6. Industrial 2 of 5
7. Interleaved 2 of 5
8. Code 128\EAN 128
9. Code93
10. IATA

2D support barcode
1. PDF 417 (Include **Micro PDF417)**
2. QR Code
3. Micro QR Code
4. DataMatrix (Include **DataMatrix ECC000-140, DataMatrix ECC200)**
5. Aztec (Include **Aztec runes)**

You can check all the barcode that you need , and click SAVE button to save the setting you want, once you have set the barcode , the setting will save in barcode device , even you reboot or close the AP, the setting is still in the Barcode device

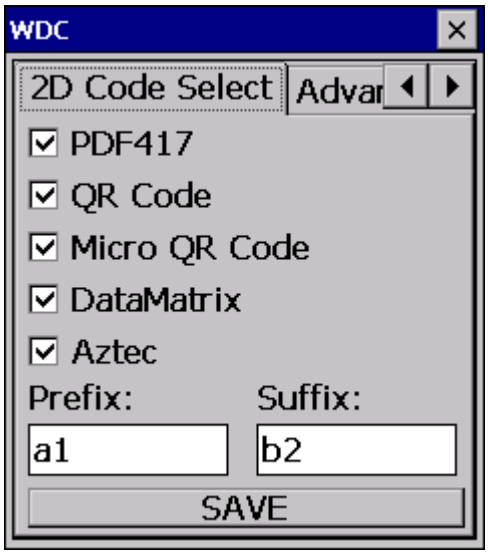
Be attention : You must press the **SAVE button** then the setting will be set to your device

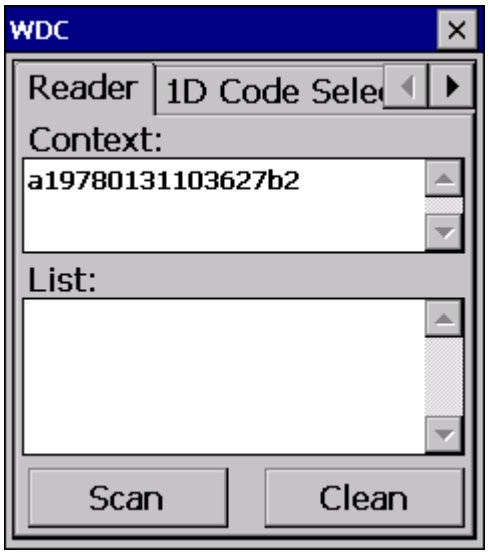
2.3 Set Prefix and Suffix

You can type the message or character that you want in the Prefix and Suffix text area , and click the SAVE button to save them to your barcode device

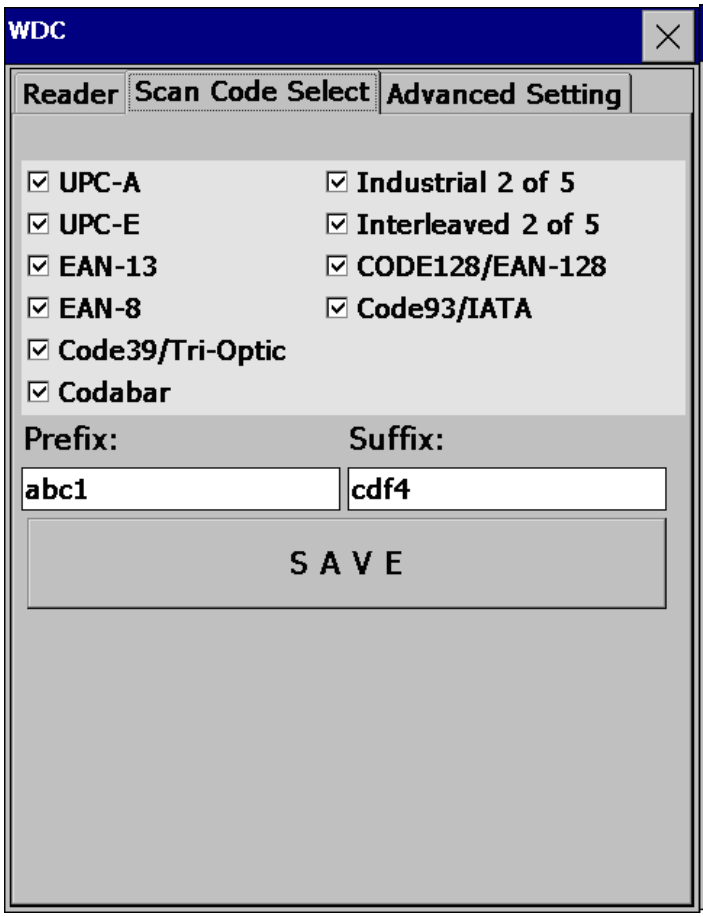
Prefix and Suffix are support with 4 characters

QVGA :





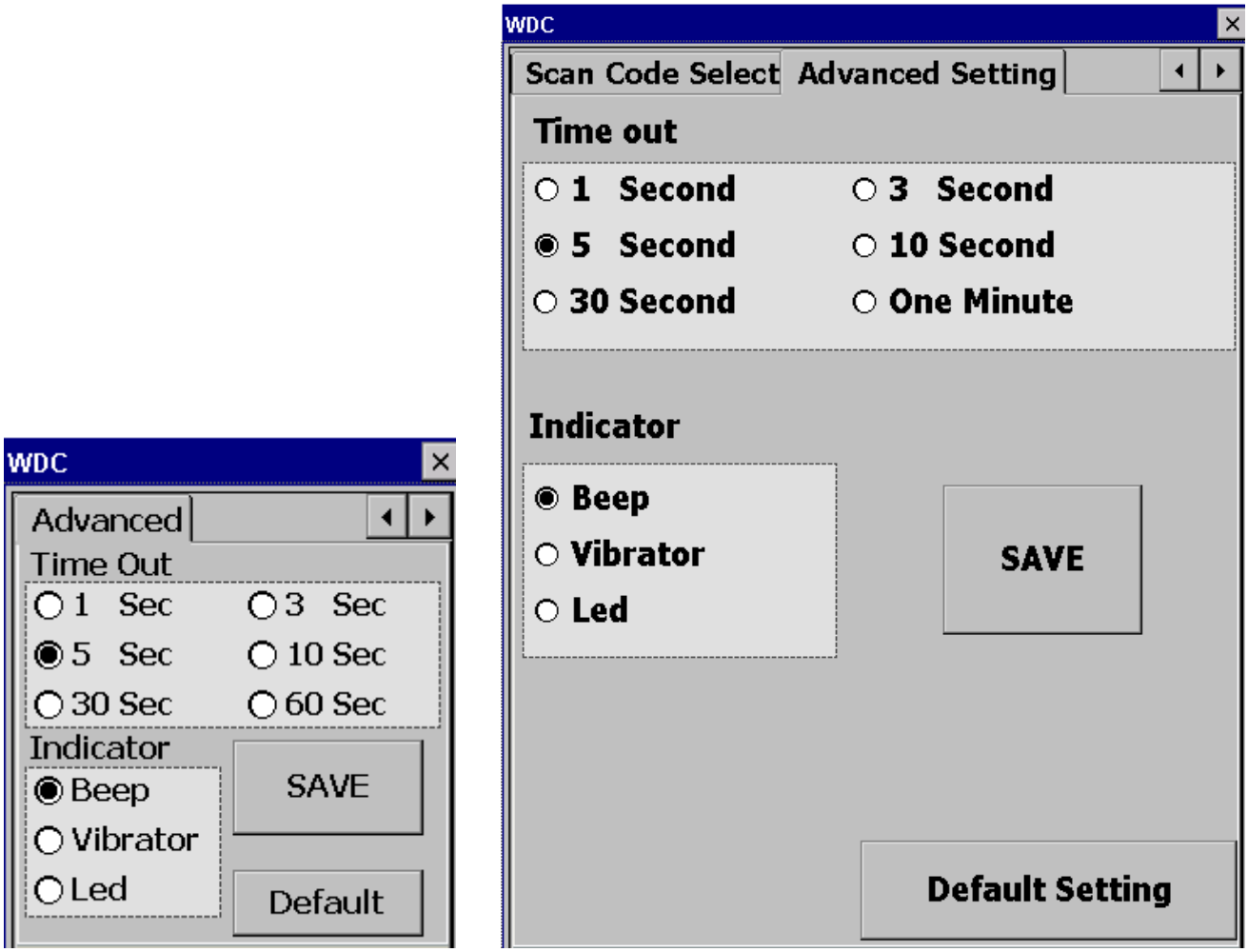
VGA :



Be attention : You must press the **SAVE button** then the setting will be set to your device

2.4 Set Time out and Indicator in Advanced Setting

You can set the Time out and Indicator to your device but the Time out setting is only in 2D barcode device



2.4.1 Time out Setting

It have 6 different time out you can set from 1 second to 1 minute , and click **SAVE** ,the setting will set to your device , when you trigger the device the device will still scan or read before get data or until time out, this setting is only in 2D barcode device

2.4.1 Indicator Setting

The device support three indicator way , Buzzer beep, Vibrator , and Led , click SAVE , when device get data , it will indicator by the way you choose

2.4.1 Default Setting

You can use default setting to recovery all the setting to default , this setting is in 1D and 2D barcode device, it's not support RFID device.

Be attention : You must press the **SAVE button** then the setting will be set to your device

3.Registry Data in WDC

3.1 Registry Data Information

It is the registry information to set the device

Registry path : **HKEY_LOCAL_MACHINE\HARDWARE\DEVICEMAP\BARCODE**
HKEY_LOCAL_MACHINE\HARDWARE\DEVICEMAP\RFID

Port : String ,it is the virtual com port name , example : VSP2:

Index : Dword,it is the physical com port index , 0-9 means com0 – com9

4.Open virtual Com port in WDC

Because we support the VSP(virtual Serial Port) driver , you can just read the registry of VSP name and open it to send trigger event to Barcode device ,VSP driver have already use the power control in additional to avoid the suspend resume problem, if your device is RFID , the VSP driver is already open the trigger event , it just wait for the card to read.

4.1 How to read registry key

First you have to read the VSP port name in registry

Sample code

BARCODE:

```
subKeyPath=@"\HARDWARE\DEVICEMAP\BARCODE";
Val = Registry.LocalMachine.OpenSubKey(subKeyPath, true);
strPortName = (string)Val.GetValue("Port");
Val.Close();
```

RFID :

```
subKeyPath=@"\HARDWARE\DEVICEMAP\RFID";
Val = Registry.LocalMachine.OpenSubKey(subKeyPath, true);
strPortName = (string)Val.GetValue("Port");
Val.Close();
```

4.2 How to open virtual com port

If you read the VSP port name , you can open it

Sample code

```
    [DllImport("Coredll.dll")]
public static extern IntPtr CreateFile(
    String lpFileName,
    UInt32 dwDesiredAccess,
    UInt32 dwShareMode,
    IntPtr lpSecurityAttributes,
    UInt32 dwCreationDisposition,
    UInt32 dwFlagsAndAttributes,
    IntPtr hTemplateFile
    );
Handle hCom;
hCom=CreateFile(strPortName,GENERIC_READ|GENERIC_WRITE,0,InPtr.Zero,OPEN_EZISTING,0,InPtr.Zero)
```

4.3 How to send trigger event

IF you have already open the virtual com port , you can send the trigger event to trigger your device

Sample code

```
[DllImport("coredll.dll", SetLastError = true, CallingConvention = CallingConvention.Winapi, CharSet = CharSet.Auto)]
public static extern HANDLE CreateEvent(HANDLE lpEventAttributes, [In, MarshalAs(UnmanagedType.Bool)] bool bManualReset, [In, MarshalAs(UnmanagedType.Bool)] bool bIntialState, [In, MarshalAs(UnmanagedType.BStr)] string lpName);
[DllImport("coredll.dll", SetLastError = true, CallingConvention = CallingConvention.Winapi, CharSet = CharSet.Auto)]
[return: MarshalAs(UnmanagedType.Bool)]
public static extern bool CloseHandle(HANDLE hObject);
[DllImport("coredll.dll", SetLastError = true)]
[return: MarshalAs(UnmanagedType.Bool)]
public static extern bool EventModify(HANDLE hEvent, [In, MarshalAs(UnmanagedType.U4)] int dEvent);
public enum EventFlags
{
    PULSE = 1,
    RESET = 2,
    SET = 3
}
private static bool SetEvent(HANDLE hEvent)
{ return EventModify(hEvent, (int)EventFlags.SET); }
private static bool ResetEvent(HANDLE hEvent)
{ return EventModify(hEvent, (int)EventFlags.RESET); }
```

```
Handle hEvent;
hEvent = CreateEvent(IntPtr.Zero, false, false, "TRIGGER");
SetEvent(hEvent);
CloseHandle(hEvent);
```

5.Open physical Com port in WDC

IF you don’t want to use VSP to control your device , you can direct use physical com port to control your device

5.1 How to read registry key

First you have to read the VSP port name in registry

Sample code in C#

BARCODE :

```
subKeyPath=@”\HARDWARE\DEVICEMAP\BARCODE”;
Val = Registry.LocalMachine.OpenSubKey(subKeyPath, true);
strPortName =”COM”+ (string)Val.GetValue("Index");
Val.Close();
subKeyPath=@”\HARDWARE\DEVICEMAP\BARCODE”;
Val = Registry.LocalMachine.OpenSubKey(subKeyPath, true);
PortName = (string)Val.GetValue("Port");
Val.Close();
```

RFID :

```
subKeyPath=@”\HARDWARE\DEVICEMAP\RFID”;
Val = Registry.LocalMachine.OpenSubKey(subKeyPath, true);
strPortName =”COM”+ (string)Val.GetValue("Index");
Val.Close();
subKeyPath=@”\HARDWARE\DEVICEMAP\RFID”;
Val = Registry.LocalMachine.OpenSubKey(subKeyPath, true);
PortName = (string)Val.GetValue("Port");
Val.Close();
```

5.2 How to power on device

You need to power on your device com port by VSP_POWER

```
#define IOCTL_VSP_POWER     \
    CTL_CODE(OAL_DEVICE_Control, 9100, METHOD_BUFFERED, FILE_ANY_ACCESS)
BYTE power[2];
power[0] = 1;         //1->VSP1    2->VSP2
power[1] = 1;         // 1->ON   0->OFF
HANDLE h = CreateFile(“MSC1:”, ….. ….);
DeviceIoControl(h, IOCTL_VSP_POWER, power, sizeof(power), NULL, 0, NULL, NULL );
CloseHandle(h);
```

5.3 How to open physical com port

Open the physical com port

Sample code in C#

```
try
        {
            if (serialPort1.IsOpen)
                serialPort1.Close();
            serialPort1.PortName = strPortName;
            serialPort1.BaudRate = int.Parse(BaudSel.Text);
            serialPort1.DataReceived += new SerialDataReceivedEventHandler(RS232_Receive);
            serialPort1.Open();
            serialPort1.WriteLine("test");
            Thread.Sleep(100);
        }
        catch (Exception ex)
        {
            MessageBox.Show(ex.Message.ToString());
        }
```