MKE-5 & Arlyn UpScale Scale Indicator

New Remote Indicator

Manual

[READ BEFORE PLUGGING THE SCALE TO COMPUTER]

ARLYN SCALES

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v5.07262019

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INTRODUCTION AND OVERVIEW

Thank you for purchasing the USB Communication option for your Arlyn Scale. This documentation will guide you to install USB drivers for your scale, test them for functionality as well as provide recommendations for Data Collection Software.

This document will demonstrate the use of the new Arlyn Scales Remote Indicator. You can use this software to remotely monitor the scale weight, send commands to it such as ZERO, TARE, NET or UNIT and even the PRINT key. There is also a data collection function that will capture readings directly into an Excel file. The Excel file can then be viewed after the collection session is complete.

Multiple connections are supported. At the moment, the new Remote Indicator supports Serial Communication (RS232, RS485, etc.) It also supports Virtual Serial Port Emulation where the USB connection to the scale is emulated as a Serial COM port connection. Additionally, the new Remote Indicator supports TCP/IP connectivity for connections with Ethernet or WiFi enabled scales.

Features

- ❑ Easy installation and operation
- ❑ Automatic USB scan and scale configuration
- ❑ Main Function Keys Supported
- ❑ Plug and play compatibility
- ❑ USB is self powered
- ❑ Virtual COM Port Capability

- ❑ Data separation and export capability
- ❑ Supports many connectivity types

System Requirements

Before proceeding, please read and understand the chapter entitled *"License Agreement – Technical Support"*. The drivers and their authors dictate the system requirements. Arlyn has no control over the update path or future availability of these drivers.

- ❑ A computer with either USB, RS232, Ethernet or WiFi connectivity (depending on your scale configuration).
- ❑ Full Microsoft Windows XP/Vista/7/8.1/10 Support.
- ❑ 5 Megabytes of free hard drive space
- ❑ For Linux/Mac environments, if your environment can support USB-Serial Converters, then it shouldn't be a problem to have the scale working with your computer. However, the New Remote Indicator only works in Windows. The scales can only be interfaced in these environments. The extraction of data and related software is the customer's responsibility.

INSTALLATION - QUICK-START

To get up and running quickly, perform the following procedure:

Driver Installation

1) Review the License Agreement – Technical Support section of this document before proceeding with the Installation of the drivers and software. By installing the drivers and software, you acknowledge that you have read and agreed to be bound by all of the terms of this agreement.
2) For USB connections, install the USB hardware drivers by completing the section *"Installing the USB Drivers"*, and then reboot your PC.
3) For TCP/IP connectivity, no installation of any driver is required. The only requirement is that the PC be connected to the Local Area Network (LAN).
4) Test the scale to see if it is working properly with your PC. Use a terminal program to test the scale such as Realterm. This part is described in Testing Using Terminal section. You can also use the provided Remote Indicator Software to test as described in the following steps.
5) Your Scale is ready to be used with Remote Indicator (or any 3rd Party Software).

Remote Indicator Installation (Optional)

6) Install the USB Remote Indicator Software by completing the section *"Installing New Remote Indicator"*. This software is **not necessary** for USB or TCP/IP operation. It can be used for simple datalogging and data collection. Please note that Remote Indicator Software is not supported and is provided AS IS.

7) On your Windows PC, navigate towards Start->All Programs->Arlyn Scales->Remote Indicator.

8) Configure the New Remote Indicator by completing the section "Configuring New Remote Indicator".

9) Once the Remote Indicator is configured, you will see the incoming data stream automatically on the screen.

INSTALLING USB DRIVERS

Arlyn Scales provides two types of Display Indicators: (i) The MKE-5 Digital Indicator and (ii) The Arlyn UpScale Touch Screen Indicator.

MKE-5 Digital Indicator USB Driver Installation

The first step in the installation is to install the USB drivers on your computer. A CD of drivers, Documentation and the optional Remote Indicator software will be shipped along with the scale.

Unlock Windows 8.1 and Windows 10 for Unsigned Drivers Install

The drivers provided for the USB scale is not signed by Windows Hardware Quality Labs (or WHQL). Windows 8/10 may have locked out the ability to install unsigned drivers in your PC. If so, please follow the guide on this website to disable driver signature verification. This will allow you to proceed with USB Driver Installation.

Windows 8.1: https://www.howtogeek.com/167723/how-to-disable-driver-signature-verification-on-64-bit-windows-8.1-so-that-you-can-install-unsigned-drivers/

Windows 10: https://www.maketecheasier.com/install-unsigned-drivers-windows10/

Then follow the Windows 7 Installation method as described below to complete installation.

Windows Vista/7 Installation

1) DO NOT CONNECT SCALE USB CABLE TO THE COMPUTER UNTIL PROMPTED IN THE FOLLOWING STEPS.

2) Put the CD into your PC

3) Go to Start->All Programs->Accessories->Run

4) On the path, type "hdwwiz". The following window opens.
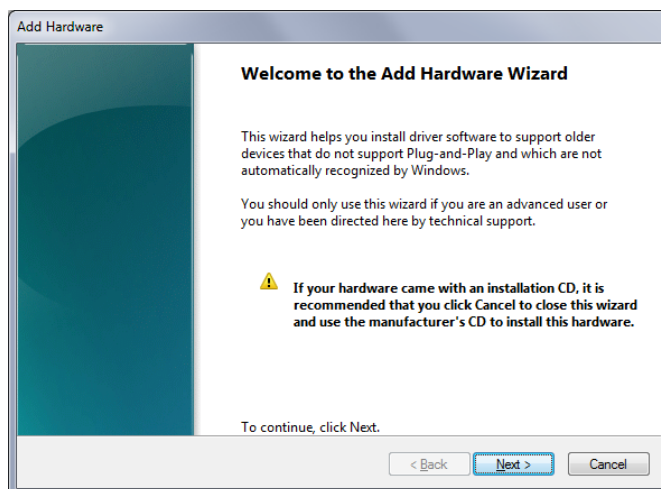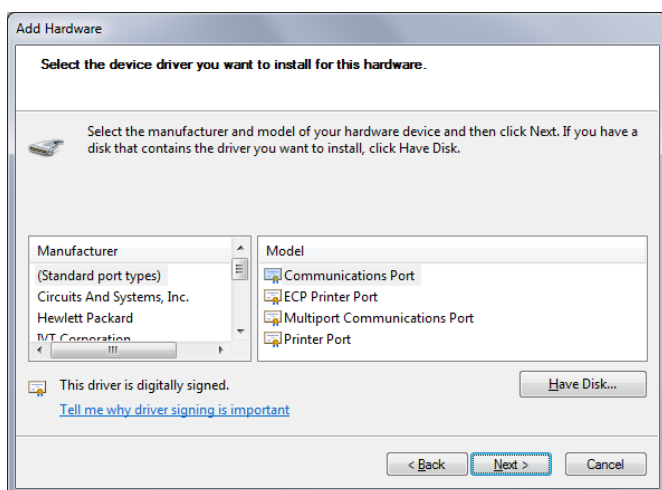

5) Press NEXT.
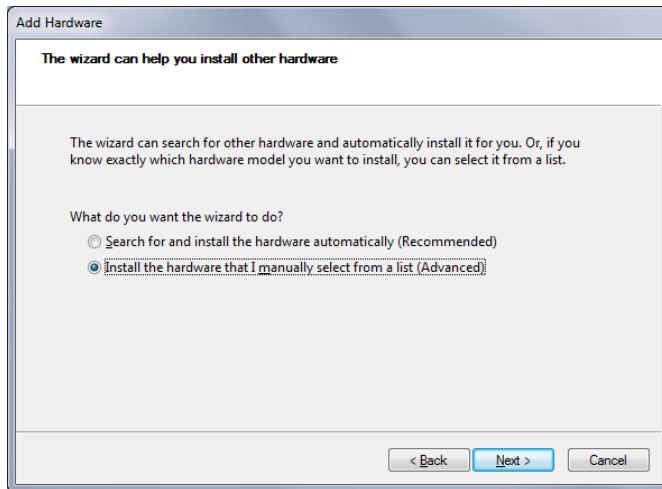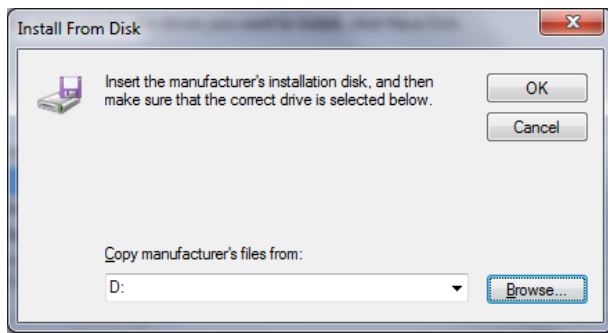
6) Select "Install the hardware that I manually select from a list (Advanced)". Press NEXT.

7) In the next dialog box, scroll down the list until you see "Ports (COM & LPT). Select it and then press NEXT.
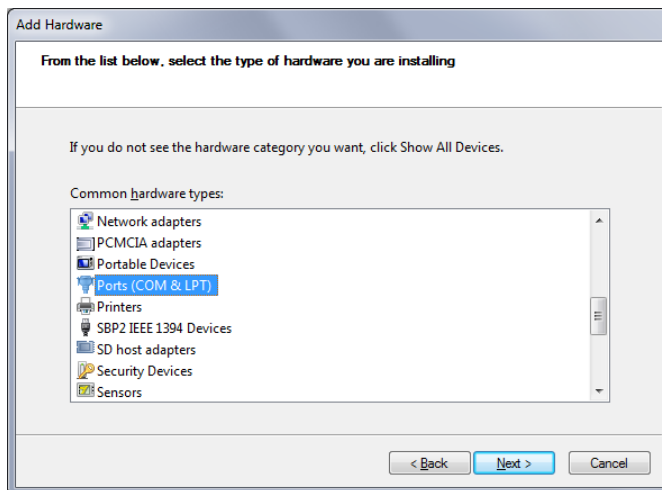
8) In the next dialog box, click the "Have Disk…" button.

9) In the next dialog box, click on "Browse" and select the Drive where the "Arlyn Scale USB CD" resides.

10) The "Locate File" dialog box will show. If you have the CD, the file will be available to you as shown below. If you downloaded the drivers from our website, then you will need to browse where the ZIP file was extracted and pick the file from there. Make sure to pick "scale12-vcom.inf" from the files.
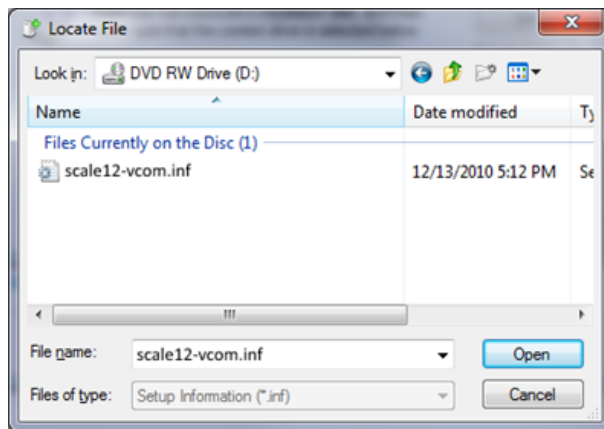
11) Press the OK button. The next dialog box will show the driver detected.
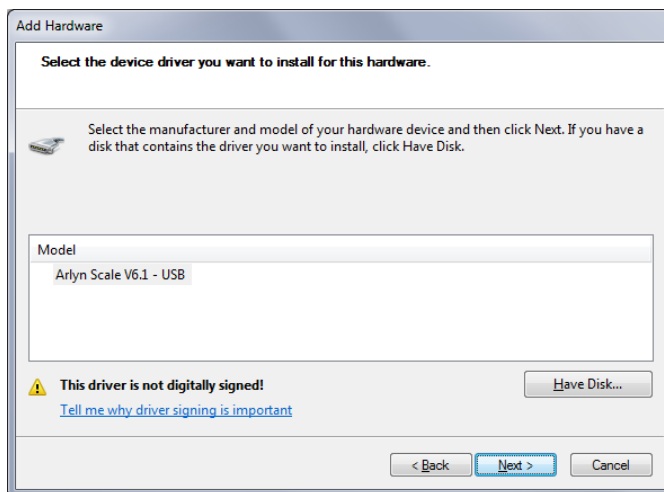
12) If a prompt appears about the driver not being digitally signed, press CONTINUE ANYWAY.
13) The final dialog box will look like this. The driver has been successfully installed.

Completing the Add Hardware Wizard

The following hardware was installed:

Arlyn Scale V6.1 - USB

The software for this device is now installed, but may not work correctly.

This device cannot start. (Code 10)

View or change resources for this hardware (Advanced)

To close this wizard, click Finish.
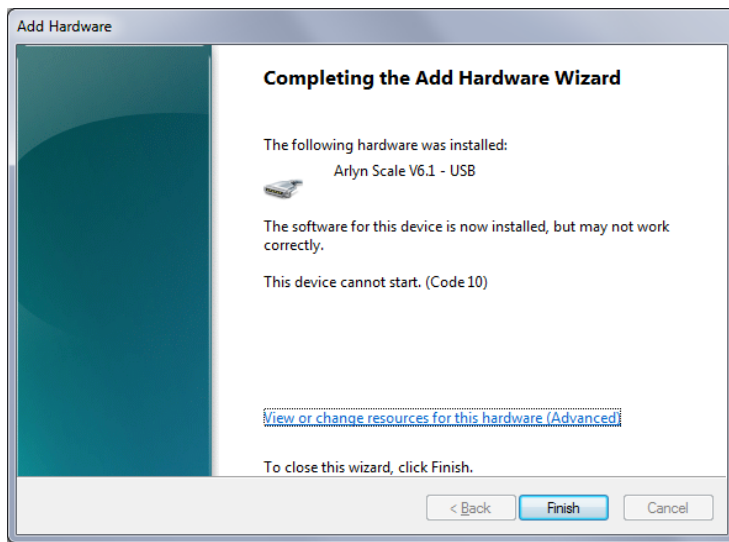
14) Apply power to the scale by plugging it into a wall outlet. The scale can be placed either in its normal weighing mode or at the "Ready" prompt.
15) Plug the USB cable from the indicator into the USB port on the back of the PC, or into the expander hub if you are using one. Windows 7 will start to detect the USB device and install the device for you.
16) This completes the USB device driver installation of your scale for Windows 7/Vista.

Arlyn UpScale Touchscreen USB Driver Installation

The Arlyn UpScale USB is a WHQL Signed Driver. Plugging the USB into the a PC will automatically install the USB drivers for your scale.

VIRTUAL COM PORT USAGE (SERIAL PORT EMULATION)

The USB works as Virtual COM/Serial Port. This gives you the flexibility to develop your own application that can utilize the USB connectivity of the scale without dealing with the complexities of the USB protocol. Just map the Serial COM port of your application to the COM port mapped by your USB. The following steps describe how you can obtain the COM port number for your USB Scale.

Please note, that you will need the COM port number for getting data from the scale. If you are using the optional Remote Indicator software, the COM port number needs to be entered at the Settings screen as described in the Remote Indicator Software installation.

Windows 7/8/10

Press Start->Control Panel and then click the "Device Manager" Icon. This is the screen you will see:
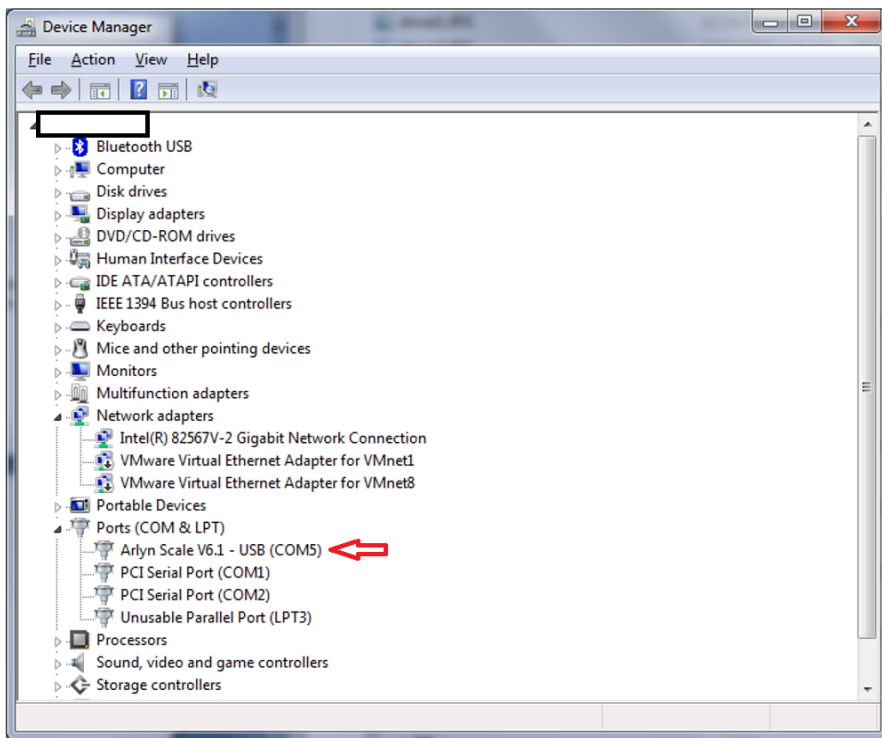
Note down the COM number of the device marked "Arlyn Scale V12 – USB (COMx)".The "x" denotes the number your PC has assigned to the scale. For the Arlyn UpScale Indicator, this will only show PCI Serial Port (COMx).

TEST USING TERMINAL

You can also test the scale communication using a Serial Terminal. To do this, first you will need to download a suitable terminal (if you don't have one). We recommend RealTerm (https://sourceforge.net/projects/realterm/files/)

Direct Link to File: https://sourceforge.net/projects/realterm/files/latest/download?source=files

For more information on how to configure Realterm, download the simplified document here:
https://www.arlynscales.com/wp-content/uploads/2017/07/Realterm-MKE-5-Instructions.pdf

In RealTerm (or your favorite terminal), setup the connection using the COM port of your Serial Communication. The Port number must match the number you found on the Device Manager screen.
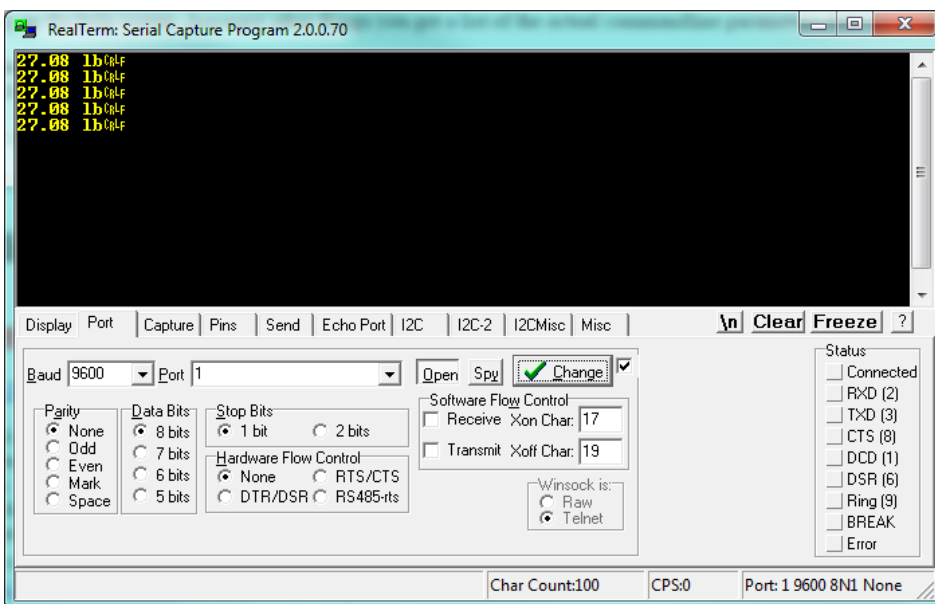
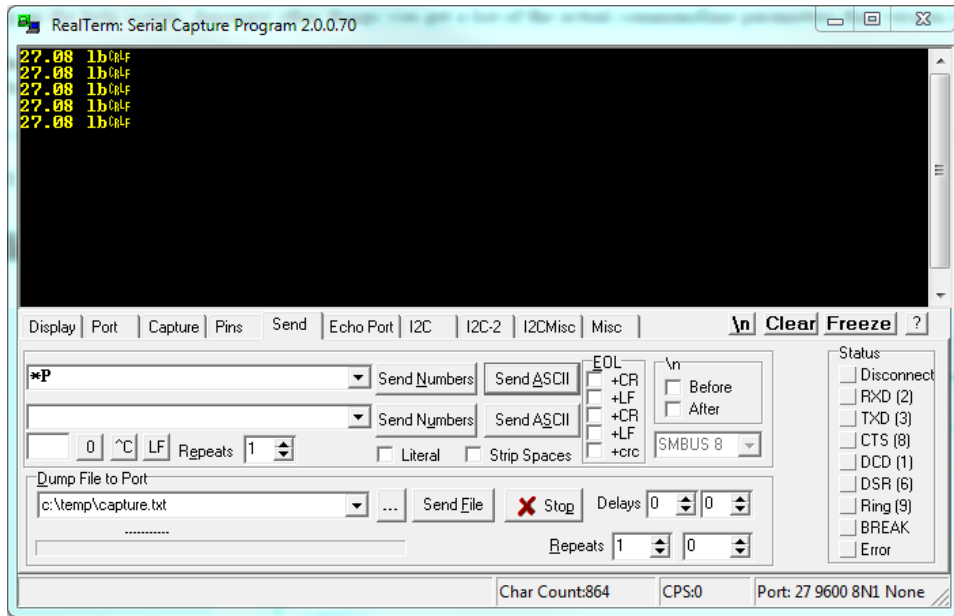Make sure the **Port** designation on the bottom right of the screen shows the correct connection parameters. Then press the PRINT button on the scale to start sending data on to the terminal.

Alternatively, you can also send Print Command (***P**) to the scale to retrieve weight. Use the **Send Tab** to do this:

Press the **Send ASCII** button to send the command to the scale. If everything works out as specified, the scale is working properly.

This section completes the testing and installation of your USB Scale. You can now proceed to integrate the scale into your own software, or use a 3rd party professional data collection software such as WinWedge (http://www.taltech.com/winwedge).

One of the reasons for Serial Emulation is to make it easy for customers to implement their own software. Serial Connectivity is the most common standard for Industrial communication. Almost all software frameworks inherently support communication with Serial Ports. If you wish to integrate the scale to your own software, there are many examples available on the web for most if not all languages for connecting to Serial Ports. Here are some examples:

C#: https://code.msdn.microsoft.com/windowsdesktop/SerialPort-brief-Example-ac0d5004

Java: https://stackoverflow.com/questions/8165021/how-to-read-write-a-serial-port-with-java-on-windows?rq=1

C++: http://softwaresouls.com/softwaresouls/2011/12/11/simple-c-class-example-using-serial-port/

Make sure to:

❑ Utilize COM Port found in Device Manager as your Serial COM Port.
❑ Either use the *P command to retrieve the weight from the scale
❑ Or, use the PRINT key to send the data from the scale.

Armed with these fundamentals, writing software for this scale should be easier.

If you wish to use our unsupported, simple data collection software (Remote Indicator), please read the notes in the next section before installation.

NOTES ON REMOTE INDICATOR SOFTWARE

We strongly recommend to use a supported, professional 3rd party data collection software for all your data collection needs, especially for large scale production environments. Software such as WinWedge (www.taltech.com/winwedge) are fully supported, with an excellent customer service and support staff. They are very familiar with our type of equipment and will be willing to help you

integrate our scales to your systems. These software packages are very stable and constantly updated to meet the ever-changing world of technology.

If you still wish to use our Remote Indicator software, the following terms apply.

- ❑ The software is not supported. Some features have not been fixed, may be outdated.
- ❑ Some features, even if shown in this document, may not be present in the current version of the software.
- ❑ Some features may not work with your computer.
- ❑ The software is provided AS IS. Arlyn Scales cannot and will not provide technical support for this software. Arlyn Scales has provided this software as a service to customers.
- ❑ Arlyn Scales is not responsible for any issues that may arise from installing this software.

These terms are not limited to these items. These terms and others are provided in the next section - License Agreement – Technical Support Section.

LICENSE AGREEMENT – TECHNICAL SUPPORT

Before installing this software, please read, understand and accept the following agreement:

This software and its drivers are only available through Arlyn Scales' Web Site at http://www.arlynscales.com. Arlyn Scales doesn't normally provide "Installation Disks". All drivers and software should be downloaded from this site.

This software package is supplied free of charge "as is". Arlyn Scales cannot, and will not offer technical support for the Remote Indicator Software. It was provided simply as a service to our customers.

The drivers and their authors dictate the system requirements. Arlyn Scales has no control over the update path or future availability of these drivers, Remote Indicator Software or any given software available for this feature. Given that the drivers were written elsewhere, we cannot support them to any realistic degree. We have found that the people at FTDI or Silicon Labs are very cooperative with technical issues. For driver related technical issues, we generally have to defer to them.

Arlyn Scales does not warrant, guarantee or make any representations regarding the use, or results of the use of the Software or accompanying materials in terms of correctness, accuracy, reliability, timeliness or otherwise. You assume all responsibility concerning selection of the software, and the ability to achieve the results you intend.

Arlyn does not guarantee that any features presented in this document may be present in the current or future versions of the software. Some features may be removed without notice. Features may also be added that may interfere with other features currently present with the software. Features maybe added without notice.

In no event shall Arlyn Scales, related companies, or its suppliers are liable for any damages whatsoever arising out of the use, or inability to use this software, even if Arlyn Scales has been advised of the possibilities of such damages.

These terms may be changed without notice.

By installing this software, you acknowledge that you have read and agree to be bound by all of the terms of this agreement.

INSTALLING REMOTE INDICATOR SOFTWARE

You can download the Remote Indicator software from the website or if you have a CD, the drivers will be present in that CD. This should work on any Windows version.

(1) Open the CD drive and then double click on the **RemoteSetup.exe** File.
(2) Click next until you complete the wizard.

(3) When installation completes, click on the Remote Indicator icon on your desktop or go to: Start -> Programs -> Arlyn Scales->Remote Indicator.
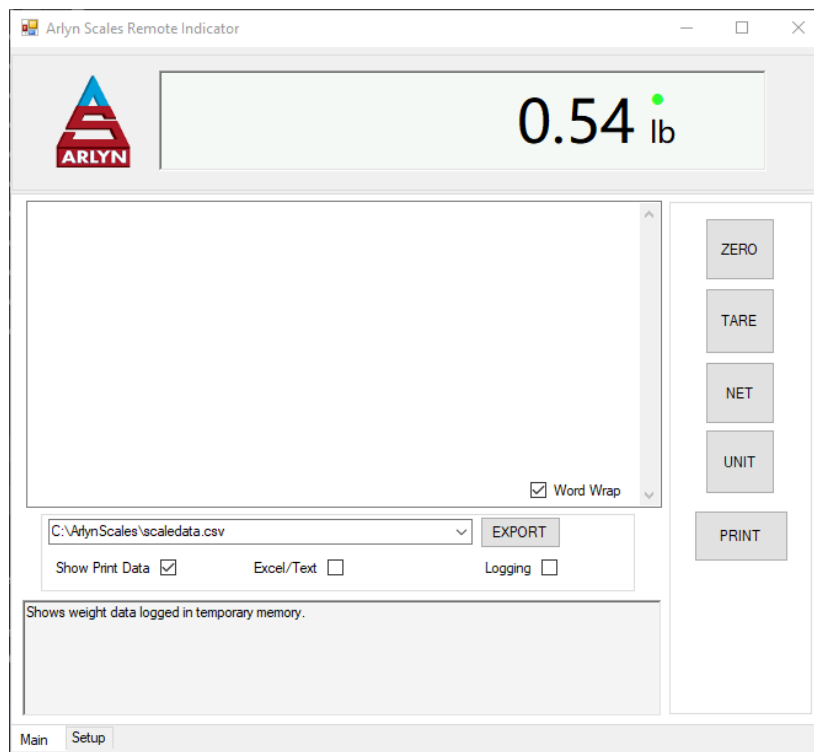
Please note that the New Remote Indicator software may not be operational until it is configured to run with your scale.

CONFIGURING NEW REMOTE INDICATOR

On the Remote Indicator screen, there will be two tabs at the bottom of the window; **Main** and **Setup**. Click on the Setup tab to enter the Setup screen.
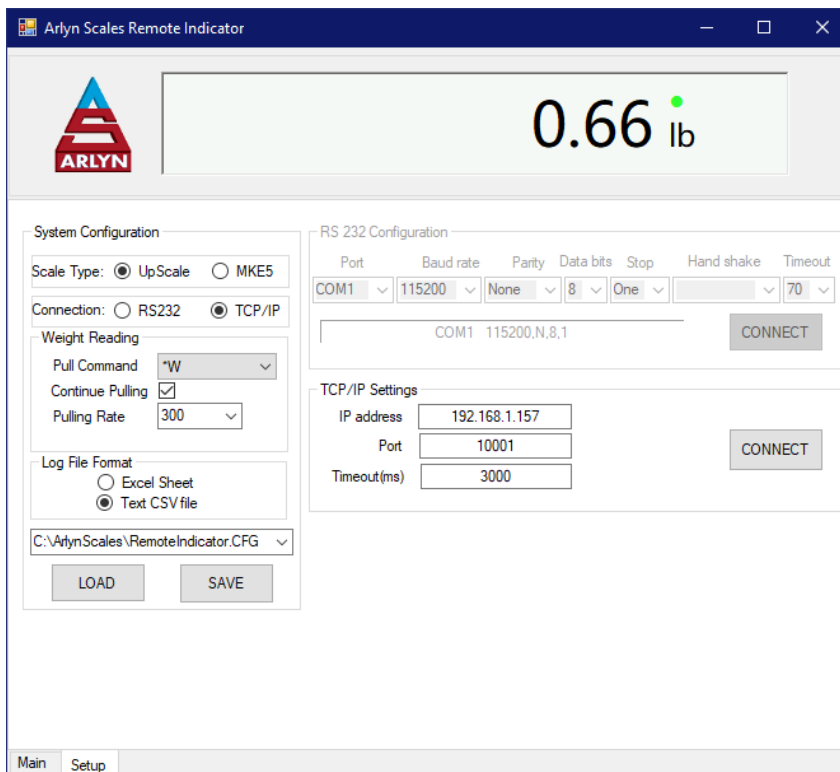
Take a look at the screenshot above and observe the various configuration parameters. Below is an explanation for each section.

System Configuration

This group of parameters determines the method in which the Remote Indicator will poll data from your scale, pick a logging method if required and the method of connectivity.

Scale Type

Pick the model of the indicator you want to connect to:

1) **MKE-5** Digital Indicator
2) **UpScale** Touchscreen Indicator.

Connection

Select the method of connection to the scale

1) RS232 – For Serial connections. For USB connections, pick RS232 as the Remote Indicator will communicate using Virtual COM connection.
2) TCP/IP – For scales equipped with Ethernet or WiFi.

Weight Reading

Configure how the New Remote Indicator will retrieve weight data from the scale.

1) Poll Command – Remote Indicator will use this command to pull weight data from the scale. There are several methods that can be used.
   a) *None* – Remote Indicator will not issue any command to the scale.

   b) **W* – Remote Indicator will use the special *W command to pull weight data from the scale. The scale will output a frame of data that contains all the information required to display weight on the scale properly. By default, this option is selected by default and strongly recommended that it shouldn't be changed.

   c) **P* – Remote Indicator will use the PRINT command to pull weight data from the scale. The scale will output data using the "Print Frames" configured from the scale.

   d) Print Streaming – Selecting this option means that Remote Indicator will expect continuous stream of weight data from the scale. It will not send any commands to retrieve data. [**Note**: Make sure Continuous Polling is deactivated to avoid conflicting data streams]

2) Continuous Polling – Check this box Remote Indicator to continuously send the *Poll Command* to the scale to retrieve data at the specific *Polling Rate*. Default is unchecked.
3) Polling Rate – Set the interval (in milliseconds) at which the Remote Indicator will poll data from the scale. Default is set at 300ms.

Log File Format

Select what type of Logging you would prefer.

1) Excel Sheet – Log data into an Excel Sheet selected.
2) Text CSV File – Log data into a .CSV file.

Configuration File

This file saves all the configuration parameters selected in the Setup Tab. To select another configuration file or load a different one, use the drop-down list to open a file selection dialog – and select SAVE or LOAD appropriately.

RS232 Configuration

If your scale is equipped with USB Communication (PC Interface) or RS232 connectivity, then select the "Connection" type to be RS232 in the System Configuration group. This will enable the RS232 Configuration Setup Group.

Port   Set the COM port as determined from the "Device Manage" window in Control Panel of your Windows Operating System.

Baud Rate Set the desired baud rate (speed of transmission). Make sure it matches with the RS232/USB settings on your scale. Default is set at 9600. If you are using Remote Indicator for production, make sure the baud rate is set at higher speeds such as 115200, and set the baud rate in the scale to match Remote Indicator settings.

Parity   Set the Parity as matched with your scale. Default is set at "None".

Data Bits Set the Data bits as matched with your scale. Default is set at "8 bits".

Stop Bits Set the Stop bits as matched with your scale. Default is set at "1 bit".

Handshake This should be set to "None".

Time out This sets the time in milliseconds where Remote Indicator will give up retrieving data from your scale due to some communication error. Default is set at "70"

TCP/IP Configuration

If your scale is equipped with Ethernet or WiFi connectivity, then select TCP/IP option to configure the connection parameters to your scale.
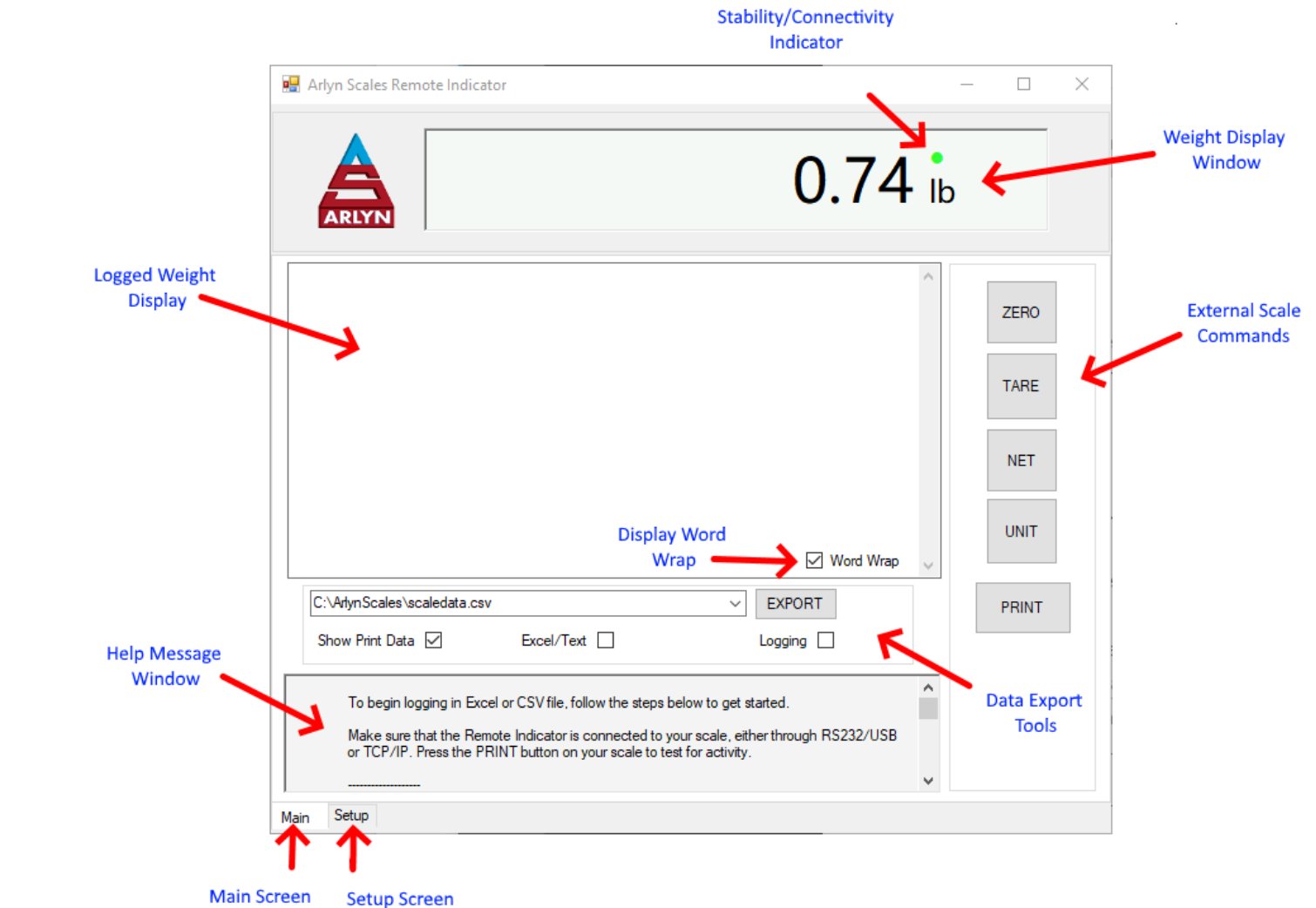

IP Address Set the IP address of your scale. Refer to your scale's manual on how to find this information.

Port   Set the Port number defined on your scale.

Timeout (ms) The amount of time in milliseconds that Remote Indicator will attempt to connect to the scale before giving up.

Connecting to your scale

Once you have set your parameters, press the "CONNECT" button to connect to the scale. Sometimes, you may have to restart the program for the connection to work. After you have set your parameters, these will be saved in the designated CFG file. When restarting the Remote Indicator program, it will automatically load these settings and connect to your scale.

OPERATIONAL OVERVIEW

This section will explain all the parts of the Main screen. You can also use the pointer on your mouse to hover of a control and read the tips provided in the message window.

Weight Display Window	Displays weight and unit retrieved from the scale.
Stability/Connectivity Indicator	Shows if the current weight is stable. If the weight is not moving and this indicator is "red" then it means the remote indicator is disconnected.
External Scale Commands	Send main commands to the scale:

ZERO – Zeroes the platform.
TARE – Tares any weight on the platform.
NET – Switches the weight mode between "net" and "gross".
UNIT – Switches the current display unit.

Help Message Window	Displays tips as you let your mouse pointer hover over certain controls on the screen.
Main Screen Tab	Displays the Main screen tab.
Setup Screen Tab	Displays the Setup screen tab.

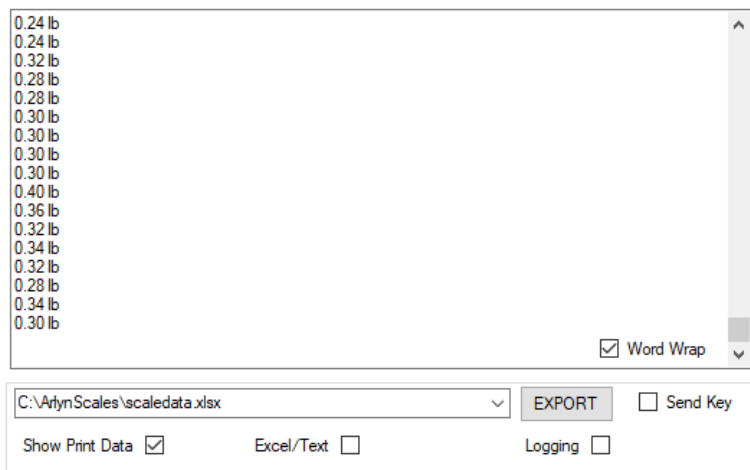|	
Data Export Tools	Configure Remote Indicator to export logged data to Excel Sheet or .CSV file.
Logged Weight	Only the weight displayed on this window will be exported out. If this window is empty then no weight has been logged. See the section on Data Logging to properly configure Remote Indicator for weight data.
Display Word Wrap	Word Wrap the display data as shown.

DATA COLLECTION & EXPORT

The New Remote Indicator has the ability to export data incoming data. The data can either be logged in a CSV file or an Excel File. Please note that while data logging is taking place, you should not attempt to open the file that is being used for logging data.

In the Setup screen, under the "Log File Format" group, select whether you want to log data in an Excel sheet or .CSV file. Essentially both of these files can be opened by Excel but it's a matter of preference depending on your requirements.

On the main screen, look at the Data Export Tools group.

There are two type of data logging.

On Print Logging	Log data on demand – by pressing the PRINT button on the scale. Remote Indicator will accept this data and store it in memory. After you are done with your session, you can choose to export all of this data into your file.
Continuous Logging	Remote Indicator will continuously collect data from the scale based on the Print Streaming configuration. The time period between these weight data can be configured in the Print Streaming configuration screen. Refer to your scale manual on how to do this.

Make sure that the Remote Indicator is connected to your scale, either through RS232/USB or TCP/IP. Press the PRINT button on your scale to test for activity.

On PRINT Logging

Configure the scale for on-demand logging only for selected weights.

1) Put a check on "Excel/Text" checkbox.
2) Put a check on "Logging" checkbox.
3) Press the PRINT button on the scale's Display Indicator.
4) Each time a PRINT button is pressed, a new weight is shown on the Print Data Screen.
5) Once ready, press the "Export" button to export the data logged into the Excel file selected.

6) The data will be appended. Any previous data will not be overwritten.

Note: Only the data appearing on the "Print Data" screen will be exported. If there is no data shown on this screen, then nothing will be exported.
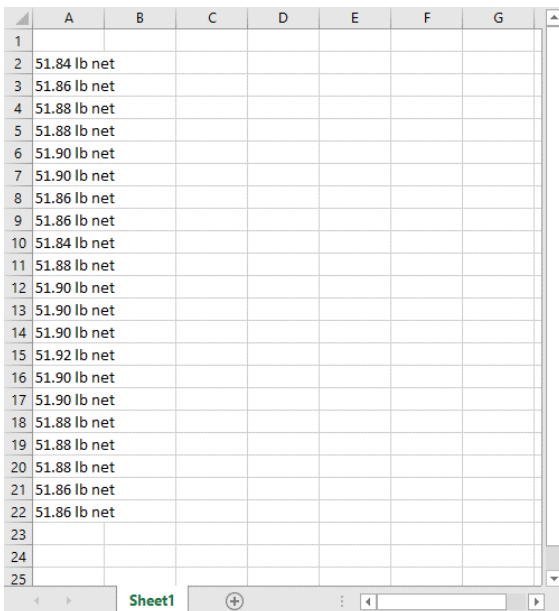
WARNING! Monitor the size of the Excel file. If it becomes too large, there will be a noticeable performance degradation over time.

Continuous Logging

Configure the scale to continuously log data.

1) On your scale indicator, follow instructions on the (Arlyn UpScale/MKE-5) User Manual to turn on PRINT STREAMING. The location of the Print Streaming feature varies depending on which communication option you have.
2) Do steps (1) and (2) in ON PRINT LOGGING to setup Logging.
3) Press the PRINT button the actual scale's Display Indicator to start the streaming. Weight data should start appearing on the "Print Data" screen. Once the data is collected, press the "Export" button to transfer the data to the selected Excel file.
4) The data will be appended to the previous data. The previous data will not be overwritten.

After the logging is completed, proceed to the folder as noted in the dropdown selection box and open the file to view the logged data.

	A	B	C	D	E	F	G
1							
2	51.84 lb net						
3	51.86 lb net						
4	51.88 lb net						
5	51.88 lb net						
6	51.90 lb net						
7	51.90 lb net						
8	51.86 lb net						
9	51.86 lb net						
10	51.84 lb net						
11	51.88 lb net						
12	51.90 lb net						
13	51.90 lb net						
14	51.90 lb net						
15	51.92 lb net						
16	51.90 lb net						
17	51.90 lb net						
18	51.88 lb net						
19	51.88 lb net						
20	51.88 lb net						
21	51.86 lb net						
22	51.86 lb net						
23							
24							
25							

Sheet1

SENDING KEY WEDGED WEIGHTS TO OTHER APPLICATIONS

The New Remote Indicator is capable of sending weight information to any location on your screen where the current focus or cursor resides. This allows for weight to be entered automatically in a text field in any application (even web pages).

1) To enable this feature, put a check on the "Send Key" checkbox in the Data Tools Group.
2) Then place your cursor on any application such as Notepad or Microsoft Word.
3) Now press the PRINT key on the display indicator to send the weight frame to the application. [*Note: Press the PRINT key on the physical scale indicator, and not the "Print" button on the Remote Indicator.*]
4) To turn off this feature, uncheck the "Send Key" feature.

WARNINGS

1) If you place the cursor anywhere on your screen and then proceed to press the "Print" button on the Remote Indicator screen, the focus will shift to Remote Indicator and the weights will be entered into the log window.

2) Be careful setting up "Print Streaming" on your scale and using the "Send Key" feature. Setting up Print Streaming will continuously stream weight to wherever your cursor is located. This might result into your application crashing or even crashing your PC.

USING RS232 CAPABLE SCALES WITH THIS SOFTWARE

Any Arlyn scale with an RS232 option installed can communicate with this software. This gives RS232 scales the capability of using the data collection and remote-control features of this software. There are some points and limitations:

- ❏ Only one scale may be attached and recognized by the software.

- ❏ RS232 scales and USB scales cannot be used together.

- ❏ No special drivers are required for the RS232 interface. In fact, if you never plan to attach a USB scale to the system you may disregard installing USB drivers.

- ❏ The RS232 communications parameters as set in the scale's option menu must be duplicated in the remote software package. The baud rate must match and the scale needs to be set to 8 data bits, 1 stop bit with no parity or echo.

- ❏ A pre-defined scale configuration already exists in the software, there is nothing to add.

- ❏ Even though a pre-defined print frame is set in the scale prior to shipping, you may feel free to add to or modify it. The software will automatically pick up the weight reading (and time and date if configured) no matter where it is located in the output frame. You do need to avoid using any ASCII '+' or '-' sign in your defined print frame (not including the one that prints with the reading). This will confuse the software rendering it incapable of finding the reading. If you must use it, then it must be output after the reading. This also applies to the time and date. In this case you can not use the ASCII characters '/' or ':', and if so must be located after the time and date.