RTM3000 and RTA4000 Oscilloscopes

Self Demo Guide

Version 1.0

Contents

1 Theory

The RTM3000 and RTA4000 oscilloscopes have a built-in pattern generator and function generator that can be used for automated demos. The demo capability is activated by the K0 demo license and is available via a soft button on the display. It is ideal for a salesperson to show the features/capabilities of the oscilloscope, or for quickly dropping a unit off at a customer where they can use it to familiarize themselves with it. It doesn't require a demo board or background knowledge of how the oscilloscope works. It will guide the user through three key areas:

1. **Basic** demos: This demo is aligned with and based on the three key benefits of the oscilloscope (Power of 10): 10-bit ADC, 10" WXGA touchscreen display and deep memory (10MSa * x). This section also includes a UI "familiarization" demo to help the user better understand how the oscilloscope works.

2. **Protocol** demos: allows the user to see live decode of > 10 protocols.

3. **Advanced** demo: these demos allow the user to see more unique features of the scope.

There is also the ability to create user-defined demos that can be loaded in to the storage of the scope (or run from a thumb drive, please contact 1TDP for further detail).


2 Accessing Demos

A soft key within the main display enables the demo:

Simply press the demo button to bring you in to the demo menu. From here, it will guide you on the proper demo procedures. If you are dropping the unit off at a customer, this is the ideal place to bring them to before leaving – plug the unit in, boot it up (takes about 10 seconds – very impressive) and show them the demo soft key.

3 Basic Demos

After pushing the demo soft key, you will be brought in to the Basic Demo tab:
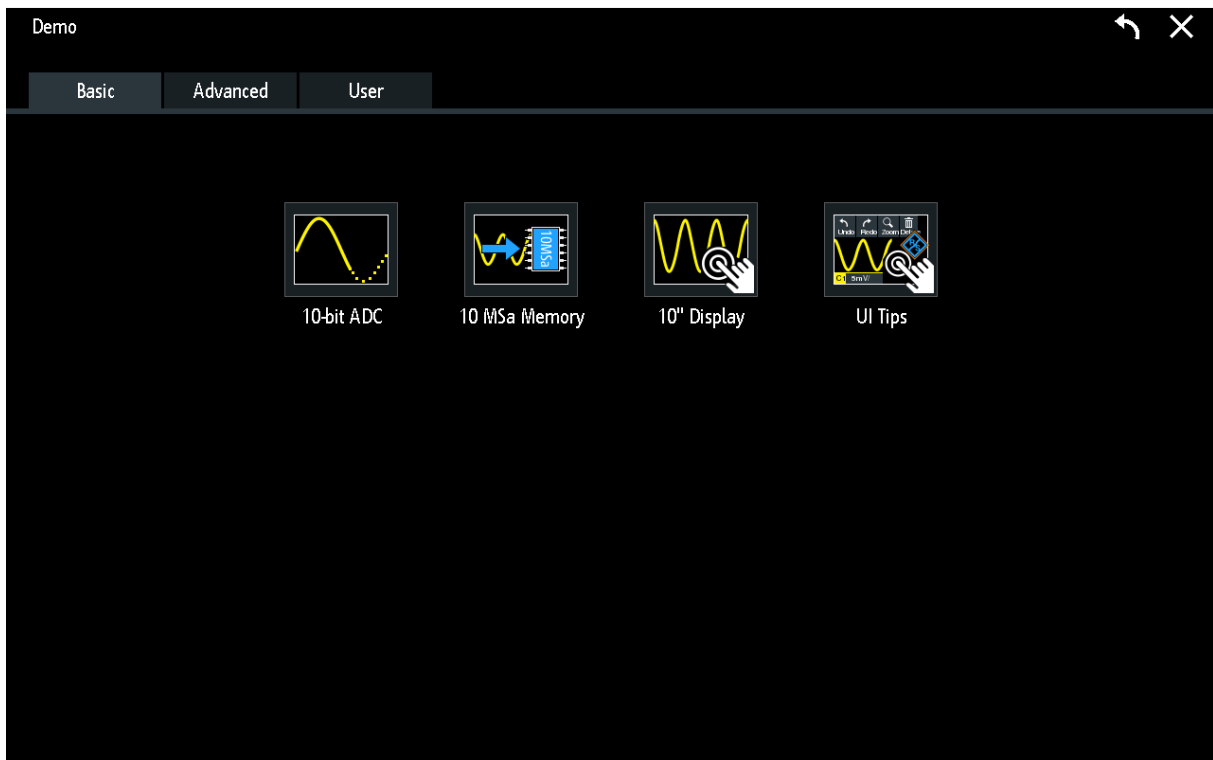
Here you have access to each of the three "Power of 10" demos plus the UI Tips/Familiarization demo. In each demo, it will show you how to hook up the probe and there will be a small window that pops up and explains what you see on the display. For example, if we touch the 10-bit ADC demo, you will see:
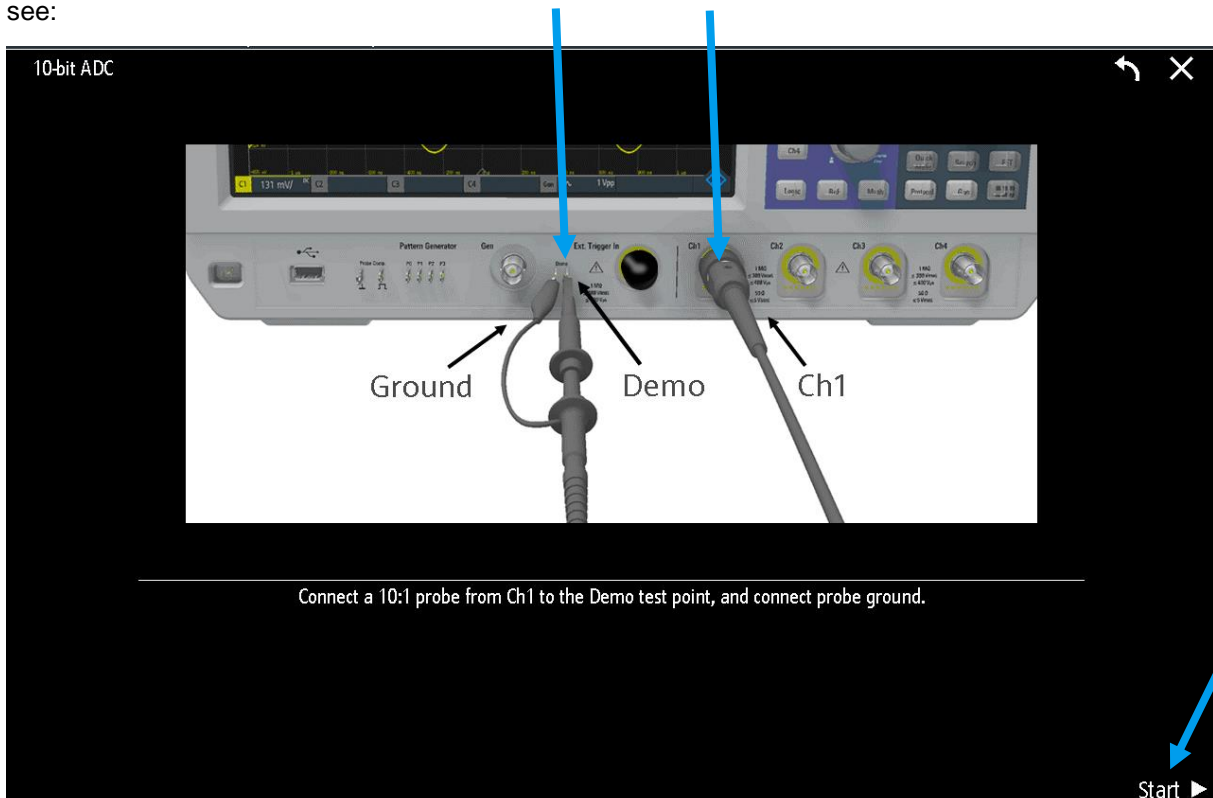
This will guide you through how to connect the probe for the live demo. This also allows you to hook another scope up to the same point for a competitive compare. A few things to note:

1. It is relatively easy to hook the probe up to the Ext. Trigger In if the protective cover was removed. – make sure it is connected to channel 1.

2. Properly connect the ground.

3. Some demos, like protocol, will require connecting to pattern generator output lugs. (P0…P3)

After the scope is properly connected, press the "Start" button at the bottom right.

You'll then get an overview of the 10-bit ADC in a small (moveable) window:
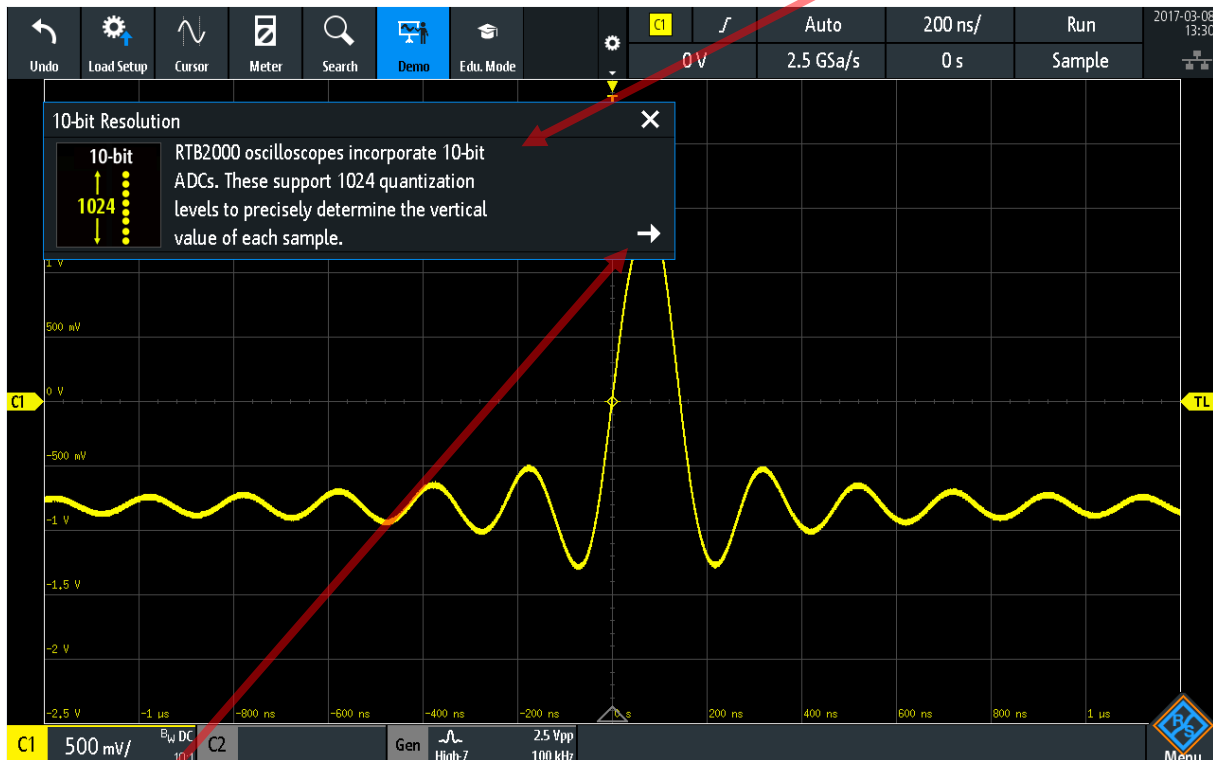

Press the "right" arrow to walk you through the different explanations of 10-bits and the benefit versus 8-bits.

At the end of the demo you can play with the current signals or press the "x" in the explanation box to close the demo. To go to the next demo, press the demo button at the top and start again. The probe set up will NOT change for the *Basic* demos.

4 Advanced Demos

To enter the Advanced Demo mode, click the demo soft key and then select the "Advanced" demo tab:
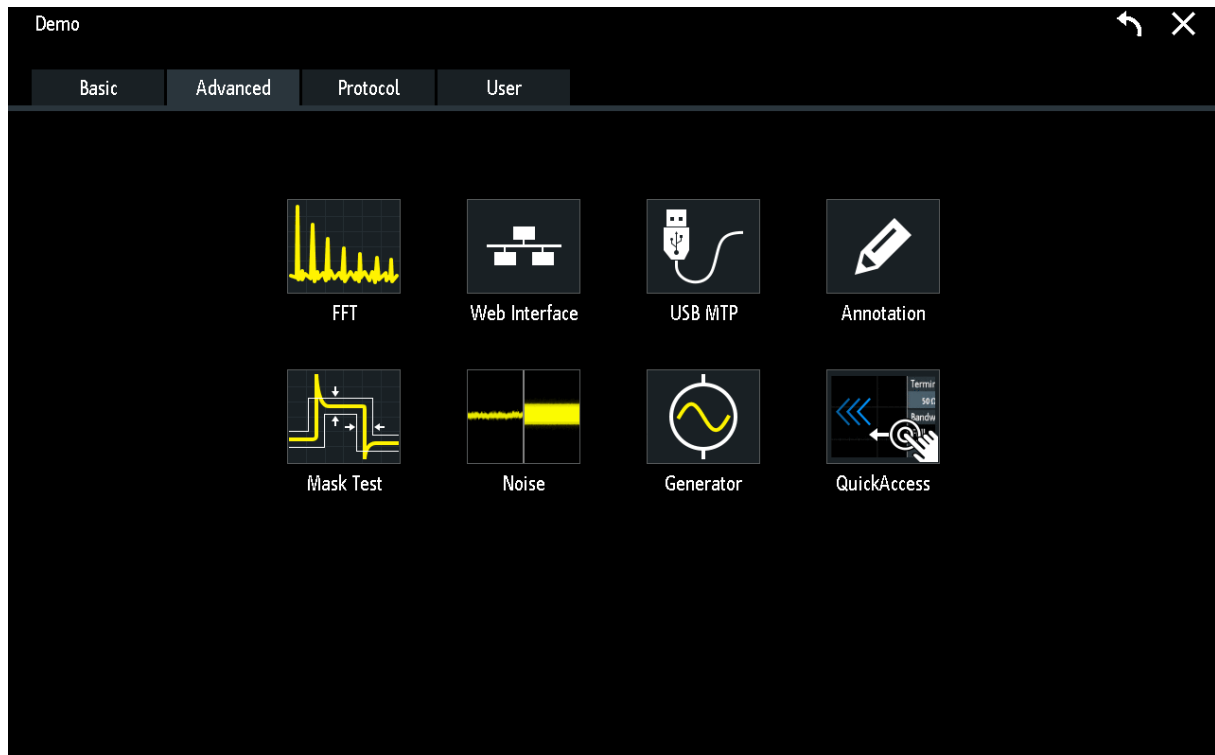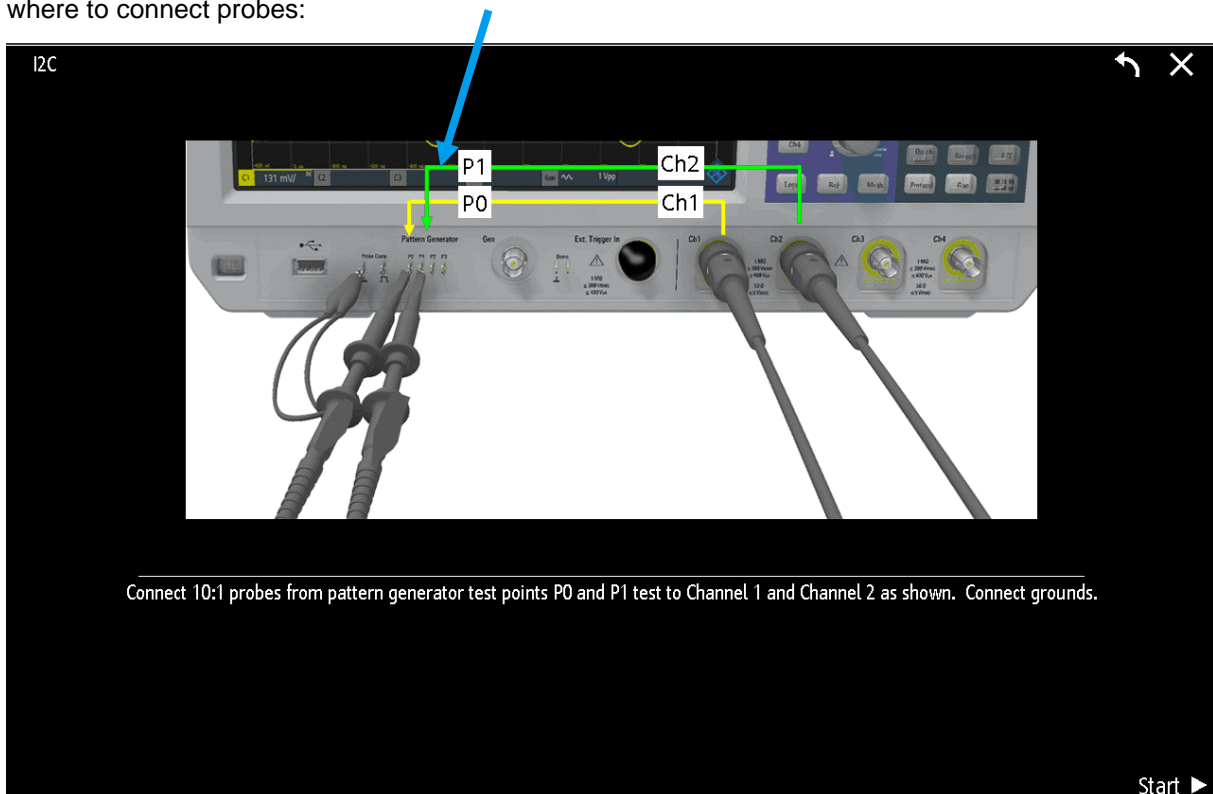

Here you can demo many different "advanced" capabilities of the oscilloscope. In each case it will explain how the probes should be configured with a clear image. Some of the demos are more static – describing how a functionality works (e.g. "Web Interface" shows you how it works, but doesn't require a signal or probe to be connected).

5 Protocol Demos

To enter the Protocol Demo mode, click the demo soft key and then select the "Protocol" demo tab:
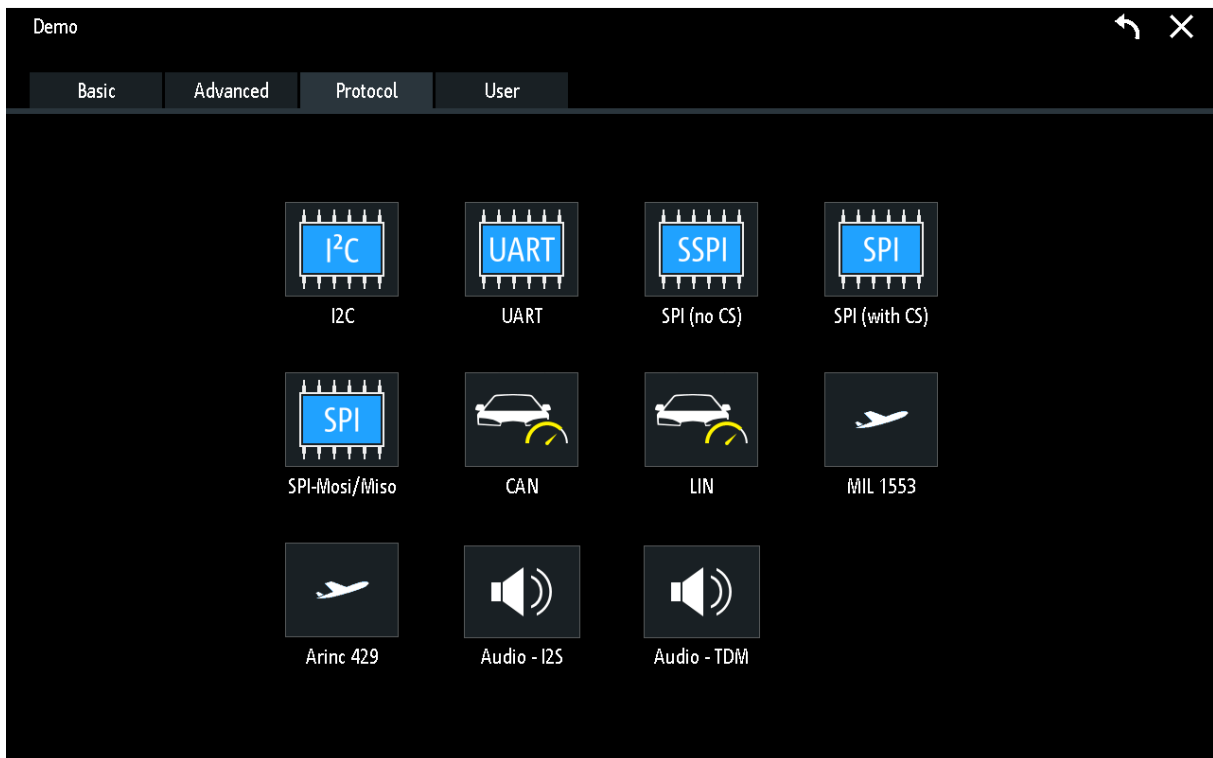
You will find a number of different protocols. Typically, a customer will have an interest in one or two of these.   In each case, it will explain how the probes should be configured with a clear image. All connect using pattern generator output lugs. For example, doing an I2C demo, the diagram shows where to connect probes:

Connect 10:1 probes from pattern generator test points P0 and P1 test to Channel 1 and Channel 2 as shown. Connect grounds.

6 Potential Pitfalls

If the demo does not work as expected, check the following:

1. Hooking the probe up to External Trigger. If the external trigger does not have a cap on it, be careful that you hook the probe to channel 1 as instructed in the setup pictures.

2. The basic demo uses the same probe points the entire time. The advanced and protocol demos may use different probe points within the pattern generator lugs. Pay attention to the proper lug to connect to as instructed in the set up.

3. When you close the demo dialog, the demo output and pattern generator signals quit outputting demo signals.