GETTING STARTED
with the Agilent Test Management Environment (TME)

The TME software is designed to provide the best possible calibration (and adjustment, if necessary) of your Agilent RF/uW instruments. TME is also intended to enable you to create and maintain much of the the required documentation for ongoing operation and certification of your calibration laboratory. For that reason, care must be taken in the installation and setup of your software, so that you derive the maximum benefit from its use in years to come.

As with any powerful product, you must follow a sequence of steps to ensure you have the latest version (always available online for download), you have the proper lab standards (for which the software checks carefully), and you have the proper setup (explained briefly here, in more detailed fashion in the tutorial, and in great detail in the "Help" text throughout the software). Once setup is complete, you have the ability to test any of the RF/uW products supported, using a wide variety of lab standards (which can be easily changed over time), always knowing that the test results meet the stringent requirements of ISO 17025 and/or ANSI Z540 testing, uncertainty analysis, and reporting.

There are five basic steps in getting started
:
1) Determining which software applications you need to calibrate the instruments chosen by your Cal Lab Management. This can most readily be done by visiting the web site at: http://www.agilent.com/find/calibrationsoftware . While there, you can also complete the following Cal Lab Management step.

2) Examining the information provided to ensure you have adequate lab standards for each of the applications. Many alternatives are supported, viewable by following the links provided to the software help text (no need to download the software, you can view the help text directly online). All supported alternatives are tested to ensure they provide the level of performance required to meet the necessary measurement uncertainties. You can also click on a link to view a "recommended" set of lab standards, should you be choosing a new lab standard to provide the broadest possible coverage.

3) Downloading the software from the web site at: http://calsw.tm.agilent.com/ . The System Administrator must download the TME "test executive" as well as the individual application for each product platform you wish to test. If you cannot (or must not) download software, all applications are available for sale under individual Part Numbers (a separate number for each product platform, but the TME test executive is included with each one, so there is no need to order the test executive separately).

4) Completing the initial software setup, which entails entering the required record-keeping data for the lab standards you have available for use (model number, serial number, calibration date, etc.). This is a time-consuming System Administrator portion of the setup, but it is absolutely necessary to make sure the system can automatically track and report the status of your test equipment to guarantee certifiable results. These important System Administrator tasks and screens are password protected.

5) Completing the entry of often re-used "operator" information (test station number, technician identifier, facility name, workorder number, etc.) that is used to manage work flow, report results, and can save you time later when conducting tests and printing reports.

At this point, you will be able to test any of the instruments covered by the applications you chose, using any suitable combination of the lab standards you entered. If a test requires a lab standard you do not have, you can skip that test (your choice) and still complete the other tests that are part of the calibration.

Example :
Suppose you have the need to calibrate and adjust the following products: E4440A,
E4443A, E8257C, and E8267D.

Step 1) Determining which software applications you need from the table at
http://www.agilent.com/find/calibrationsoftware is straightforward.   The E4440A and
E4443A are instruments based on the PSA Signal Analyzer platform and the E8257C and
E8267D are instruments based on the PSG Signal Generator platform. So, you know that
you will need to download the TME test executive, then two software applications (one for
PSA, one for PSG).

Step 2) Ensuring you have adequate lab standards is slightly more time-
consuming, but the information for testing the PSA can be found by clicking on the link
that says "PSA Help" in the table column labeled "Required Test Equipment and PSA
Help". Once at the PSA Help page, click on "PSA Test Equipment" to see the alternatives
available.
Studying the table, you'll see that complete testing of a PSA requires one
synthesized signal generator, two synthesized sweepers, and one very low phase noise
signal generator. The recommended model in multiple cases is the E8257D because it
meets the requirements for both the synthesized signal generator and the sweepers.
There are, however, alternatives listed that can also be used to satisfy the requirements.
Conversely, in the case of the very low phase noise signal generator, only the 8665B
meets the required performance to serve as the lab standard. It is acknowledged to be a
"discontinued" product, however, and for that reason, we are working on a new test
technique to eliminate the need for the 8665B. That fact is annotated in the
"recommended equipment list". **[Update 2007: *the need for the 8665B in testing
PSAs has been eliminated through a new test technique, and that change is now
reflected in the current "recommended equipment list", as well.*]**
Continuing, you can examine the rest of the products necessary as lab standards
for the PSA and the PSG. We strive to accommodate new standards when they become
available, and at the same time support old lab standards for as long as possible. You
will find that while there are 15 "recommended" instrument lab standards for the PSA,
there are about 47 additional fully-capable alternatives supported in the software.

Step 3): Downloading the software from the web is as simple as selecting the
packages listed at http://calsw.tm.agilent.com/ . However, it is appropriate to emphasize
one particular caution – if you have versions of TME earlier than Vers E.01.00 loaded on
your PC, be sure to follow the instructions and *use the migration utility provided*. If you
fail to eliminate all vestiges of the old version(s), you are likely to corrupt the registry and
create the need for a laborious recovery.
The system administrator will need to choose whether you will have a "networked"
installation or not. The clear advantage of a networked installation is that information like
lab standards (and all the associated data) can be entered once and made available to all
test stations running the TME software. It is also easier to ensure that the latest software
revisions are being used throughout your facility. The disadvantage to a networked
installation would become evident if your network was not sufficiently reliable to support
your ongoing operational needs (it must be running for you to be calibrating instruments).
After downloading the Test Management Environment (TME) software, go to the
table on the same web page and select the software supporting the PSA and PSG

platforms for download. Should you need software for other product platforms, this is the time to download those applications. Be sure you either already have, or download now, the appropriate driver for the instrument I/O hardware you will be using.

The **TMEInstall.exe** utility will walk you through the process of actual installation. It can be found in the downloaded file set or on the CD (If you're installing from a CD).

Step 4): The "Getting Started" section of the TME "Help" text covers all the necessary details in configuring the software for use. Printing a copy of the Getting Started section may be very useful in helping you step through the procedure.

First, the System Administrator will "log in" and establish the password protection to be used going forward. It is important to note that while the System Administrator is logged into TME, operators will not be able to run tests (lest they be choosing obsolete software or hardware).

Next, the System Administrator will "configure test stations" by assigning names to each group of test equipment to be used. In this example, you may wish to create two separate physical test stations, one for testing PSAs and one for testing PSGs.

Once the test stations have been named, the System Administrator will select from among the list of tests plans that may be run at each station. For instance, you may run a E4440A Performance Verification, or an E4440A adjustment procedure, each of which may require a different set of lab standards and equipment. For each procedure ("test plan") to be run, the System Administrator must build the list of lab standards and equipment available at each of the stations using the "add equipment" function. If will be necessary to include even small accessories to be used, because in tracking results, even the smallest accessory may affect results and traceability of the final reports.

The instructions explain the shortcuts available to add equipment to other test plans without re-entering all the details, once they have been entered for one test plan.

The System Administrator must add the default communication interface to be used with each piece of equipment (GPIB, LAN, serial, etc.) and then finally enter the calibration information associated with each lab standard. This includes administrative information such as "cal due date" (the system will warn you if lab standards calibrations are out-of-date to ensure ongoing compliance in your operation). It also includes technical calibration data (cal constants, etc.) that are required by some lab standards. Be sure to enter accurate data from certifiable cal reports to ensure the accuracy of your test results!

Step 5): The entry of data such as workorder number, or the use of unique identifiers we make available, allows for some level of creativity based on how you plan to report and retrieve the data. Depending on your process, some naming convention might be adopted that is somewhat dissimilar to the default names/titles. That's the kind of thing a visit from an "expert" can help in investigating/discussing.