

# Welcome!

## **Device Characterization with the Keithley Model 4200-SCS Characterization System**

# KCON Utility Overview



# Opening KCON

  
Complete  
Reference

  
KCON

  
KITE

  
KPulse

  
KScope

  
KULT

  
KXCI

**ACTION**

Open **KCON** by  
clicking on the  
**KCON** icon on the  
desktop.

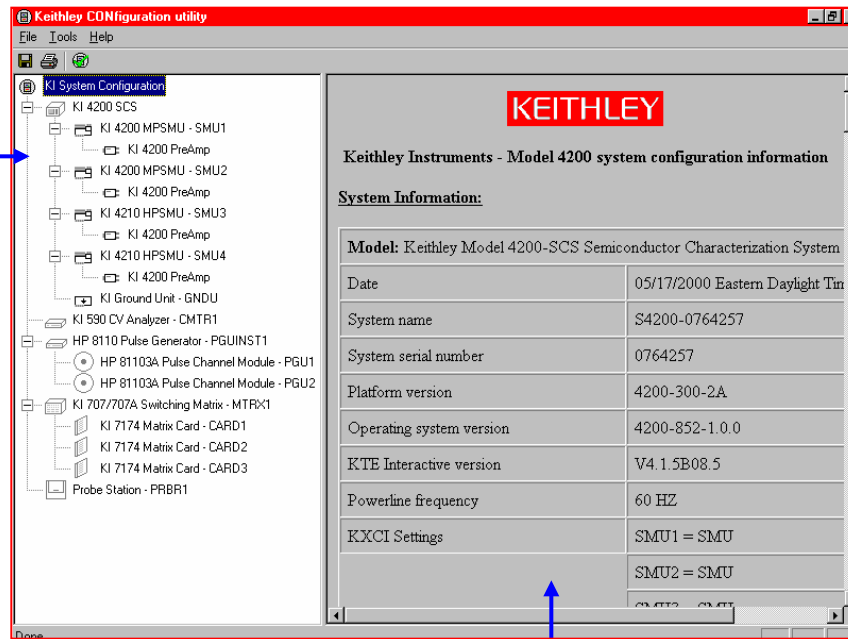
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A GREATER MEASURE OF CONFIDENCE

# KCON Utility

## Configuration Navigator:

All instruments and equipment that are included in the 4200-SCS system configuration are displayed here.



## KCON Work Area:

Instruments and equipment in the Configuration Navigator have unique properties that are viewed and modified via the properties pages that are displayed here.

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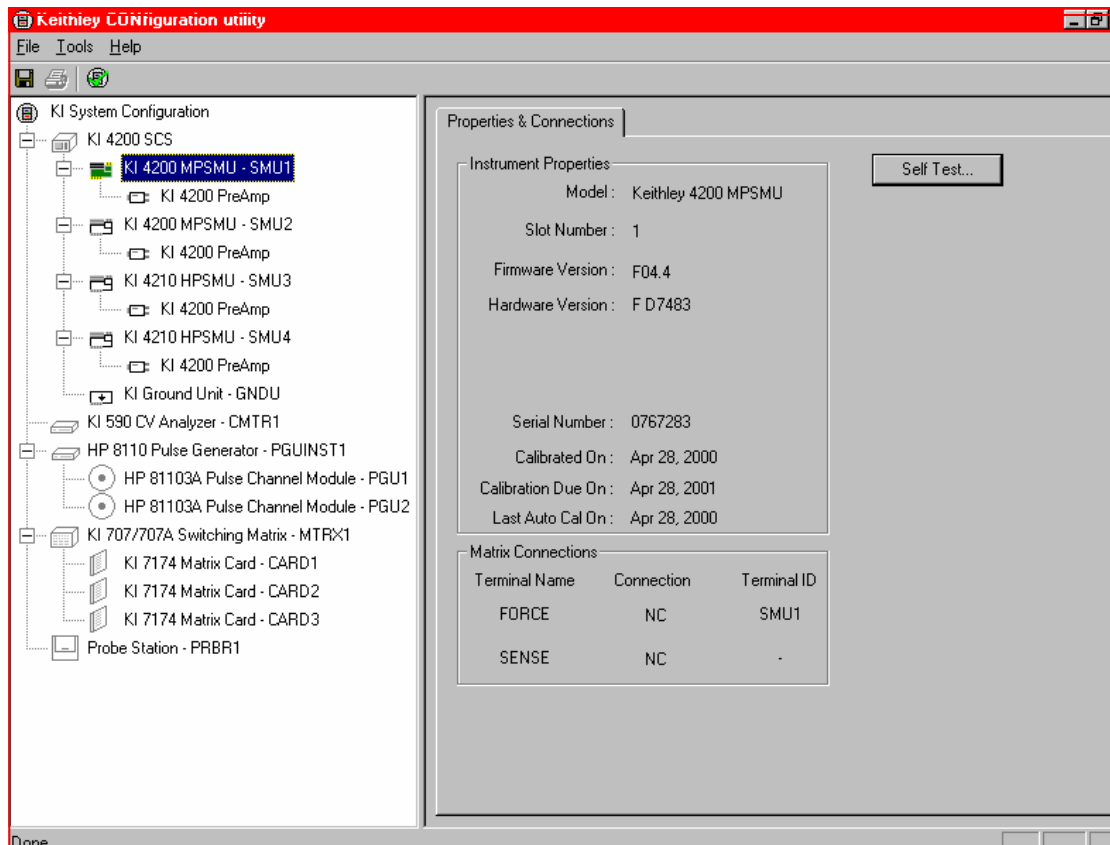
- Manages the configuration of the internal 4200-SCS instruments and all external instruments.
- Supports switch matrices, CV meters, pulse generators, probers, and other GPIB instruments.
- Provides basic diagnostic and troubleshooting functions.
- Main window contains Configuration Navigator and KCON Work Area.

## Scroll bars:

Used to view the entire system configuration.

# KCON Utility

## MPSMU Properties & Connections tab

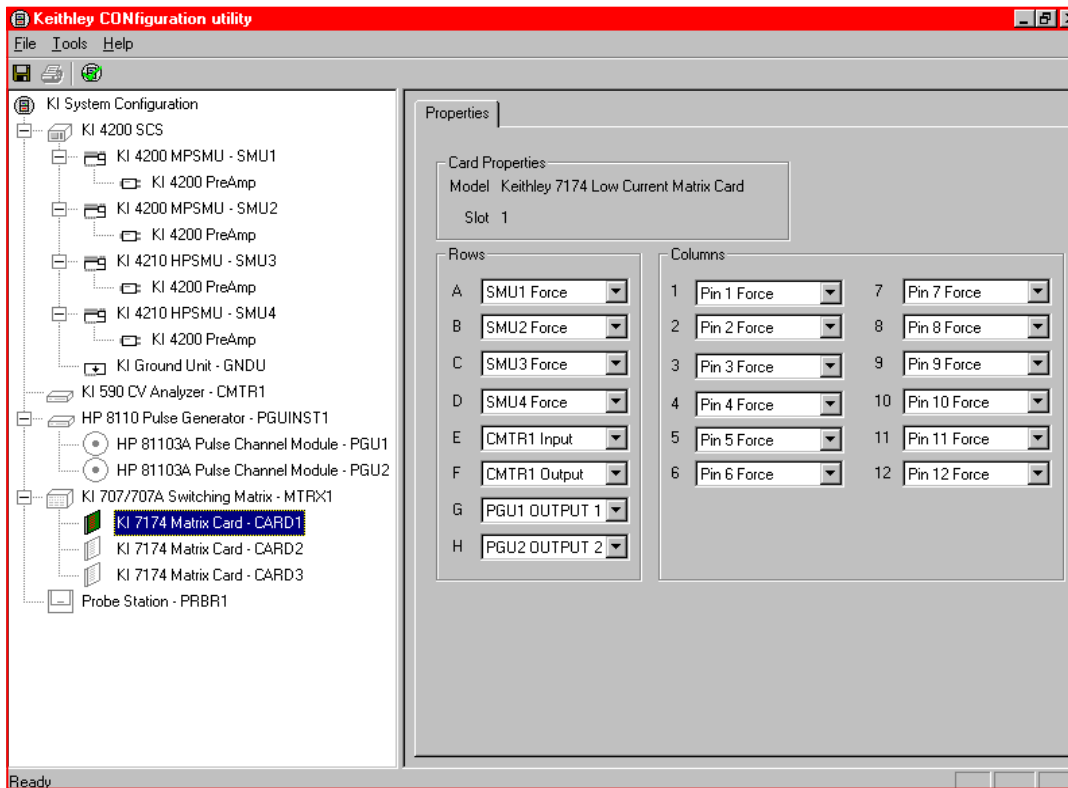


- Click on any internal or external instrument in Navigator window to see its Properties.
- SMUs and PreAmps also have Self Test button on their Properties Window.
- Self Test utility allows user to run internal hardware checks. Report appears in Pass/Fail window.

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# KCON overview (cont.)

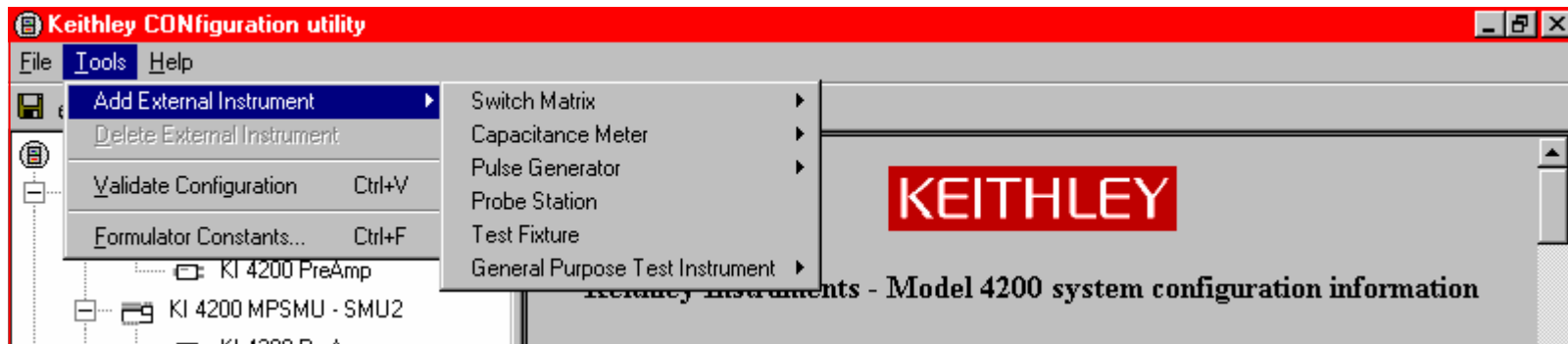
## Matrix card Properties tab



- Switch matrix card Properties window allows easy connections configuration
- Rows are typically connected to instruments
- Columns are typically connected to DUT
- This configuration is referenced by KITE software to close matrix connections

# KCON Utility

## Tools menu



- External Instruments are added or deleted in the **Tools** menu.
- **Validate Configuration** tests the system configuration and checks for communication problems.
- After **Adding** or **Deleting** an **External Instrument**, always **Validate Configuration** and then **Save Configuration** from the **File** menu. (Make sure the external instrument is physically connected via GPIB connection first!).

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# Basic KULT





# Keithley User Library Tool

## KULT

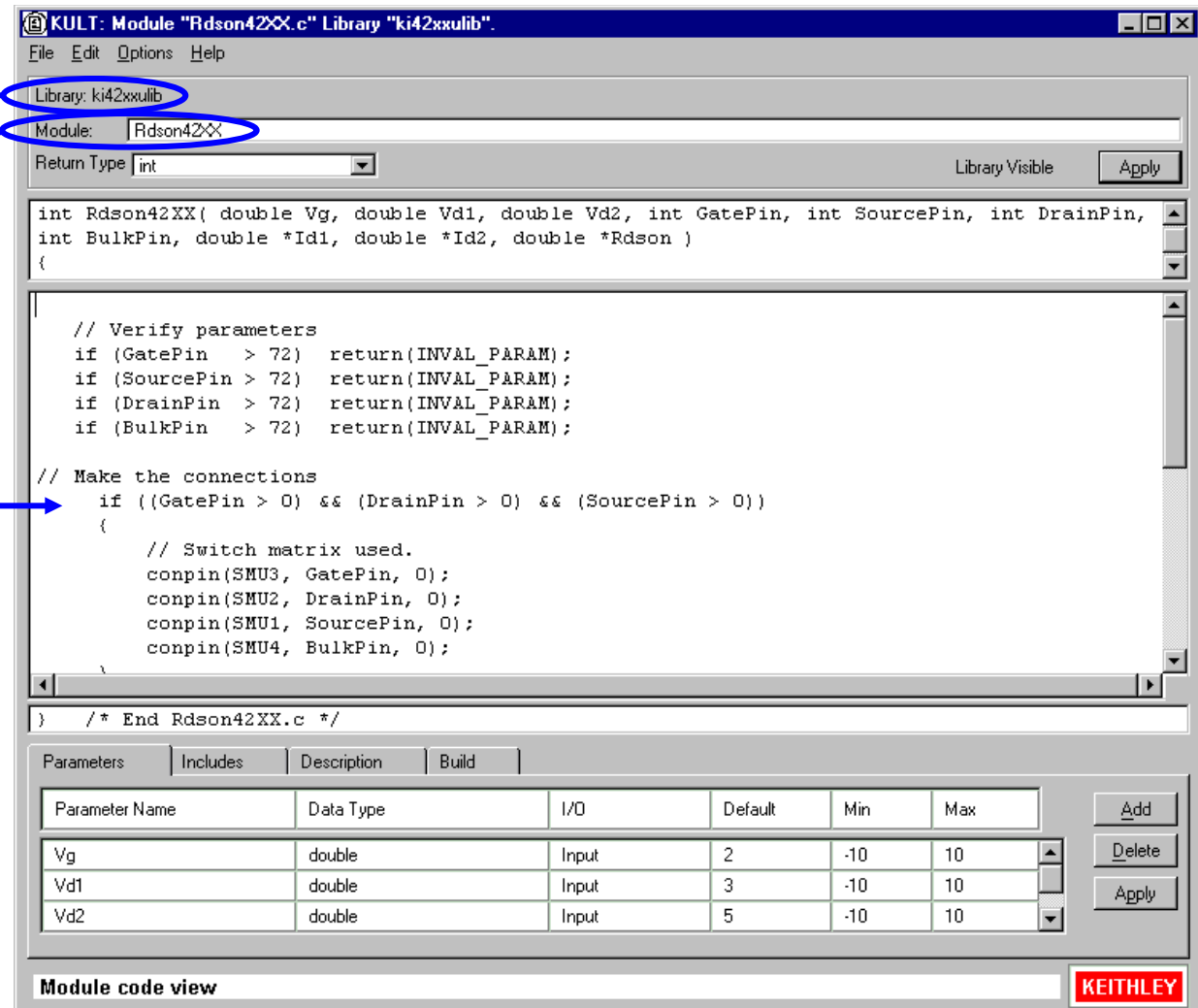
- **KULT** is a tool used to create and manage *user libraries*.
- A user library is a collection of one or more *user modules*.
- User modules are C programming language subroutines.
- User libraries are created to control instrumentation, analyze data, or perform any other system automation task programmatically.
- Once a user library has been successful built using **KULT**, its user modules can be executed using **KITE**.
- To execute a **KULT** user module in **KITE**, you create a UTM and connect it to the user module.

# KULT Window


Library Name

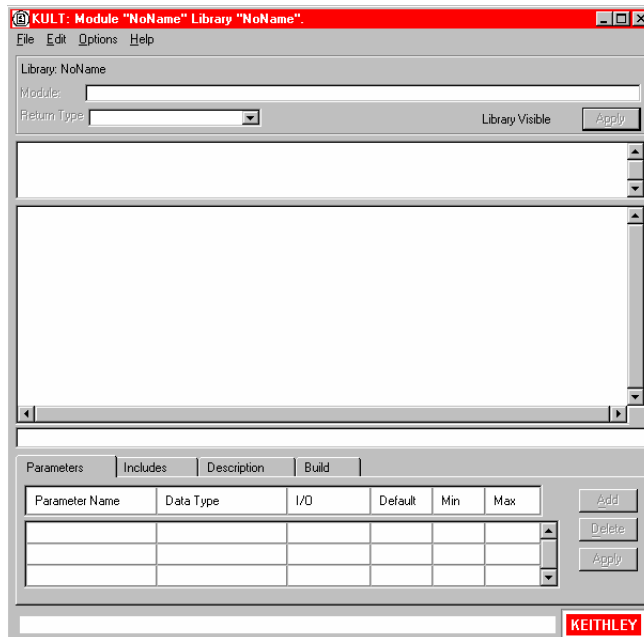
Module Name

Module code  
entry area



# Starting KULT

1. Start KULT by double-clicking the **KULT** icon on the desktop,  or by clicking **KULT** in the windows **Start** menu (**Start > Programs > Keithley > KULT**).
2. A blank KULT window appears, and is named KULT: Module "NoName" Library "NoName":



**More information on creating KULT libraries and modules and information on advanced KULT features can be found in Section 8 of the 4200 Reference Manual.**

# Basic KXCI



# Keithley External Control Interface KXCI

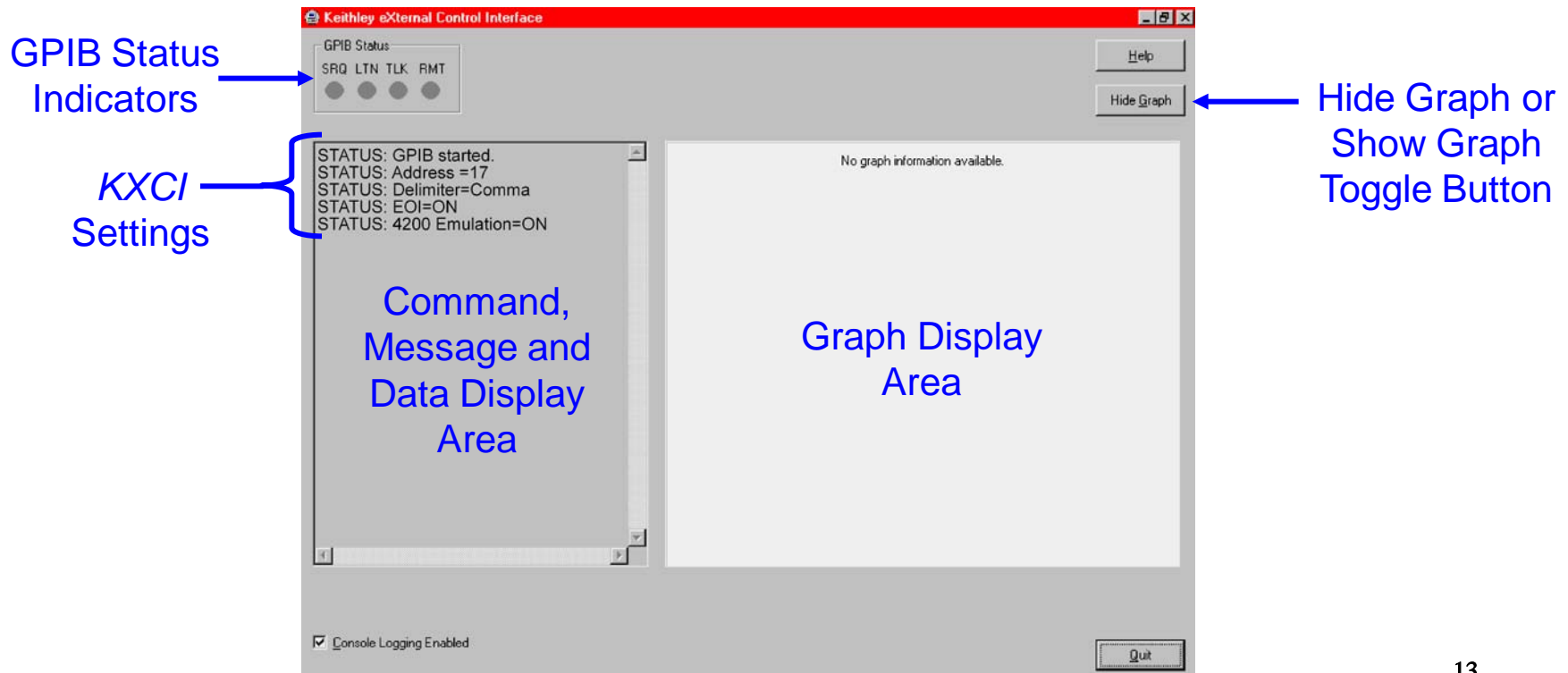
- KXCI allows you to use an external computer to remotely control the SMUs in the the Model 4200 from GPIB or ethernet (6.2).
- When controlled by an external computer, the Model 4200 functions like any other GPIB instrument.
- The KXCI GPIB command set has a compatibility mode with the HP Model 4145B.
- The GPIB command set is provided in Section 9 of the Model 4200 Reference Manual.
- A Model 4200 Labview driver is available on Keithley's website, [www.keithley.com](http://www.keithley.com).

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# KXCI Window

Start KXCI by double-clicking the **KXCI** icon on the desktop,

Or by clicking **KXCI** in the windows **Start** menu (**Start > Programs > Keithley > KXCI**).



# Appendix 1

## System Administration



# User Accounts

- Preconfigured user accounts – There are three preconfigured Windows user accounts on the Model 4200-SCS:
  - **“kiuser” account** (no password) – This default logon account should be used by all 4200-SCS users. Multiple users can share this logon account and still store all of their data in individual user directories. This account allows access to all of the *KTE Interactive* software tools and applicable third party software tools.
  - **“kiadmin” account** (password: **kiadmin1**) – This should be used by 4200-SCS system administrators only.
  - **Administrator account** – This account is reserved for use only by Keithley service and application support personnel.
- Creating new user accounts – It is possible to create unique Windows user accounts for each 4200-SCS user. This enables an individual user to customize the behavior of a 4200-SCS without affecting its behavior for other users. Similarly, it provides additional data protection and privacy, because each user can log onto the 4200-SCS using a unique logon name and password.



# Embedded PC Policy

## (Overview)

- Systems that have been modified by the addition of un-approved third-party application software are not covered under the product warranty.
- Services provided by Keithley Instruments to restore systems to factory approved condition will be treated as out-of-warranty service.
- Approved software is listed under “Approved third party software” in Section 10 of the Reference Manual. This third party software can be safely used by the Model 4200-SCS.
- DO NOT reinstall or upgrade the Windows operating system (OS) on any Model 4200-SCS. This action should only be performed at an authorized Keithley service facility.

**See Section 10 of the Reference Manual  
for details on the Embedded PC Policy**