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General Information

Firmware upgrade and downgrade instructions

CAUTION

Do not turn off power or remove the USB flash drive until the upgrade process is complete.

From the front panel:

1. Copy the firmware upgrade file (.upg file) to a USB flash drive.
2. Verify that the upgrade file is in the root subdirectory of the flash drive and that it is the only firmware file in that location.
3. Disconnect any terminals that are attached to the instrument.
4. Turn on instrument power.
5. Insert the flash drive into the USB port on the front panel of the instrument.
6. From the instrument front panel, press the **MENU** key.
7. Under System, select **Info/Manage**.
8. Choose an upgrade option.
 - To upgrade to a newer version of firmware: select **Upgrade to New**.
 - To return to a previous version of firmware, select **Downgrade to Older**.
9. If the instrument is controlled remotely, a message is displayed. Select **Yes** to continue.
10. When the upgrade is complete, reboot the instrument.

A message is displayed while the upgrade is in progress.

For additional firmware installation instructions, refer to the “Upgrading the firmware” topic in the “Maintenance” section of the *Model DMM6500 6½-digit Multimeter System Reference Manual* (document number DAQ6510-901-01). This manual is available online at tek.com/keithley.



Version 1.0.01 release notes

Resolved issues

Issue Number:	NIHK-4779
Symptom:	The USB interface may exhibit lockups when used for extended periods.
Resolution:	The USB interface has been changed to improve performance, status byte responsiveness, and long term reliability. There is no impact to VISA compatibility.
Issue Number:	NIHK-6122
Symptom:	When the instrument is emulating the Keithley Model 2000, it can exhibit overflows on the 2001-TCSCAN card.
Resolution:	The function that emulates the Keithley Model 2000 has been improved to better support the 2001-TCSCAN card.
Issue Number:	NIHK-6176
Symptom:	Using the infinite count in a trigger model can yield unexpected results.
Resolution:	The use of an infinite count in a trigger model has been improved and functions as expected.
Issue Number:	NIHK-6183, NIHK-6204, NIHK-6211
Symptom:	When the KTTI-GPIB card is installed and GPIB communications are used, the SRQ line on the GPIB interface is not functional.
Resolution:	The SRQ line is now properly driven on the GPIB interface.
Issue Number:	NIHK-6184
Symptom:	Frequent switching using the FRONT/REAR TERMINALS switch may make the instrument inoperable.
Resolution:	The switching between front and rear terminals has been improved.
Issue Number:	NIHK-6215
Symptom:	In any emulation mode, a 4-wire reading may incorrectly return an overflow.
Resolution:	In all emulation modes, 4-wire readings return the correct reading.

Issue number:	NIHK-6242
Symptom:	When the instrument is emulating the Keithley Model 2000 the instrument uses a different version of the moving average filter than the actual Keithley Model 2000.
Resolution:	<p>Emulation of the Keithley Model 2000 now use the same version of the moving average filter as the original products. This type of filter is also available in non-emulation modes under the name Hybrid Average filter. Channels do not support the hybrid filter type.</p> <p>A hybrid filter combines characteristics of the repeating and moving filter types. A hybrid filter always averages an entire window of readings before returning the requested filtered reading. If the window is empty when the first reading is triggered, multiple readings are made to fill the window, after which the single requested filtered reading is returned. This process may take longer than a single reading. Once the window is filled, subsequent triggers make a single reading, add it to the window, and return the single requested filtered reading. This process will take the duration of a single reading.</p> <p>The TSP and SCPI commands for these filter-type options are <code>dmm.measure.filter.type = dmm.FILTER_HYBRID_AVG</code> and <code>[SENSe[1]]:<function>:AVERAge:TCONTRol:HYBRid</code></p>

Enhancements

Issue number:	NIHK-3957
Enhancement	When the EXIT key is pressed, the previous screen becomes active. Previously, the instrument returned to the menu screen.
Issue number:	NIHK-5778
Enhancement	The scan time for scans with a count greater than one and autoranged functions has been improved. The instrument now retains the range learned from the first scan iteration and uses it as a basis for delays and ranging on subsequent scans. Previously, only worse case values were considered.
Issue number:	NIHK-6156
Enhancement:	SCPI commands were added to programmatically control the display's active buffer and watch list. Additional documentation can be found in the latest reference manual under the <code>:DISPlay:WATch:CHANnels</code> and <code>:DISPlay:BUFFer:ACTive</code> commands.

Issue number:	NIHK-6158
Enhancement:	The Reset Popups button on the Event Log screen, Log Settings tab, now clears the error log of any suppressed warning popups. When a warning event occurs, the user interface displays a popup. You can suppress the popup so that subsequent warnings do not generate a popup. Previously, the suppression list could not be cleared.
Issue number:	NIHK-6168
Enhancement:	SCPI now allows the use of the dBm unit in a writable buffer. Additional documentation can be found in the latest reference manual under the <code>:TRACE:WRITE:FORMAT</code> command.
Issue number:	NIHK-6171, NIHK-6172
Enhancement:	A moving average filter is no longer allowed as a filter type on a channel. The moving average filter makes a reading, averages it with a previous set of readings, and returns the result. This can yield unexpected results during a scan because the averaged readings will not be sequential in time. To prevent inadvertent errors, this option has been removed for channels. It is still available for normal DMM usage.
Issue number:	NIHK-6195
Enhancement:	The time taken to switch functions using the front panel has been reduced substantially across all functions.
Issue number:	NIHK-6213
Enhancement:	All emulation modes now support a beeper for continuity and limits.
Issue number:	NIHK-6221, NIHK-6236
Enhancement:	The scan screen menu has been changed as follows. The command Create New has been renamed to Create New List. Save has been renamed to Save System. The functionality is the same. There are two additional menu entries. The first is Reset Scan Settings, which clears the scan list and resets all settings associated with a scan, but not DMM settings. The other is Reset System, which redirects you to System Info and Management where the Reset button, which resets the entire instrument to power-on defaults, is located.

Issue number:	NIHK-6258
Enhancement:	TCP/IP communication speeds have been improved for short packets.
Issue number:	NIHK-6277
Enhancement:	If you set a watch channel manually on the home screen, starting a scan will no longer override this setting. Previously, the scan automatically changed the watch channel.
Issue number:	NIHK-6305
Enhancement:	The temperature measurement accuracy on the closed channel on a scan card has been improved.
Issue number:	NIHK-6309
Enhancement:	Support for the 2001-SCAN and 2000-SCAN-20 cards has been included, but with some limitations as noted below: <ul style="list-style-type: none">• 2001-SCAN Card: High-speed operation and Ratio and Delta mode are not supported. Both solid-state channels (5 and 10) use the same relay-delay times as the electromechanical relays.• 2000-SCAN-20: All functions supported.
Issue number:	NIHK-6329
Enhancement:	When opening a file for append on a USB flash drive, if the file does not exist it will be created. If the file exists, it will be appended to as before. This affects the <code>file.open()</code> and <code>io.open()</code> TSP commands.
