RELEASE NOTES

Keysight 34980A Multifunction Switch/Measure Unit

5.03 Version Information

Release Date: (Table Text)	November 19, 2024
Requirements Category (e.g., operating system):	Microsoft Windows 10
Requirements Category (e.g., instrument software version):	None
Requirements Category (other):	None
File Name:	KOMODO_OG_APP_5.03.zip
License:	None

Main Changes

1. Fixed the DMM flash memory issue.
2. Resolved the module relay count issue.
3. Addressed the FETCh issue affecting readings with more than 200 samples.

5.01 Version Information

Release Date: (Table Text)	May 17, 2024
Requirements Category (e.g., operating system):	Microsoft Windows 10
Requirements Category (e.g., instrument software version):	None
Requirements Category (other):	None
File Name:	KOMODO_OG_APP_5.01.zip
License:	None

Main Changes

1. Initial release- Hardware changes, only compatible with SN:MY64180000 and above.

2.51 Version Information

Release Date: (Table Text)	November 14, 2008
Requirements Category (e.g., operating system):	Microsoft Windows XP, Microsoft Windows 10
Requirements Category (e.g., instrument software version):	None
Requirements Category (other):	None
File Name:	agt34980A-instrument-rev243.zip
License:	None

Main Changes

1. Web admin GUI modified to work with browsers running Java 8. Java 8 required signatures for improved security. Users must update their browser Java to version 8. If the user can't update to Java 8, then they must use the previous firmware.
2. Web admin GUI fixed to allow selection of more than one 34934A module.
3. RCL command fixed to properly close all saved channels on the 34922A.

2.43 Version Information

Main Changes

1. Front panel: Added additional digits of precision for RTD R0 on the front panel display
2. 34950A: Fixed reset routines (*rst, syst:cpon) to allow handshaking to be reset correctly
3. WebUI: Increased size of the buffer for HTTP headers (occasionally refusing connections from certain hosts)
4. WebUI/Front panel interaction: Fixed WebUI update to correctly display switch positions when monitoring channels from the front panel

Card firmware changes:

- 34921A (1.20 to 1.21)
    - Critical defect fix: modified temperature sensor read routines to eliminate the 'internal error 10' race condition that was introduced during the upgrade to mainframe rev 2.41.
- 34922A (1.14)
- 34923A (2.16)
- 34924A (1.16)
- 34925A (1.18)
- 34931A (1.13)
- 34932A (1.13)
- 34933A (1.14)
- 34934A (1.00 to 1.01)
    - Added hooks for internal Keysight manufacturing, no customer visible impact
- 34937A (2.10)
- 34938A (2.10)
- 34939A (1.02)
- 34941A (1.22)
- 34942A (1.22)
- 34945A and 34945EXT (1.40)
- 34946A (1.17)
- 34947A (1.17)
- 34950A (2.30)
- 34951A (2.16 to 2.17)
    - Trigger out output signal was not being disabled correctly and was always driving the output.
- 34952A (2.10)
- 34959A (1.22)

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2.41 Version Information

Main Changes

1. Added support for the 34934A and 34939A high-density modules.
2. Fixed internal state machine timer to account for worst case interrupt jitter when scheduling events
    - In rare cases an interval scan could get delayed in time by ~3 minutes because reloading the hardware timer was interrupted just as the scan interval expired.
3. Added support for controlling the speed of the 34980A system fan command to reduce noise (SYST:FAN AUTO|HIGH).

Card firmware changes:

- 34921A (1.18 to 1.20): Fixed temperature reference measurements:
    - Repaired defect related to a loss of resolution on the temperature reference junction (LSBs no longer set to 0).
    - Increased number of samples over which reference temperature is averaged.
    - Fixed defect where a negative reference value failed to invert the fractional part of the reading, causing it to be off by as much as 1 deg C for temperatures < 0.
- 34922A (1.13 to 1.14)
- 34923A (2.15 to 2.16)
- 34924A (1.15 to 1.16)
- 34925A (1.17 to 1.18)
- 34931A (1.12 to 1.13)
- 34932A (1.12 to 1.13)
- 34933A (1.13 to 1.14)
- 34934A (1.00)
- 34937A (2.09 to 2.10)
- 34938A (2.09 to 2.10): Fixed a corner-case race condition where reading EEPROM with another command buffered could result in the buffered command getting discarded.
- 34939A (1.02)
- 34941A (1.22)
- 34942A (1.22)
- 34945A and 34945EXT (1.39 to 1.40): Fixed defect on the 34945EXT that could cause unrecoverable firmware if power is lost during a firmware update.
- 34946A (1.17)
- 34947A (1.17)
- 34950A (2.30)
- 34951A (2.16)
- 34952A (2.10)

- 34959A (1.22)

2.33 Version Information

Main Changes

1. As of June 1, 2008 the microprocessor version on all new 349xx modules ordered from Keysight has changed. If you ordered any module after this date, firmware version 2.33 or higher is required. Older modules will still work with this version of firmware, but should be updated.
2. 34946 / 34947: Fixed race condition when closing channels immediately after a reset
3. 34945: Improved power supply overvoltage detection during boot
4. WebUI: Fixed bug whereby long sequence definitions could not be viewed correctly as SCPI

Card firmware changes:

- 34921 (1.17 to 1.18): added support for new generation of microprocessor
- 34922 (1.12 to 1.13): added support for new generation of microprocessor
- 34923 (2.14 to 2.15): added support for new generation of microprocessor
- 34924 (1.14 to 1.15): added support for new generation of microprocessor
- 34925 (1.16 to 1.17): added support for new generation of microprocessor
- 34931 (1.11 to 1.12): added support for new generation of microprocessor
- 34932 (1.11 to 1.12): added support for new generation of microprocessor
- 34933 (1.12 to 1.13): added support for new generation of microprocessor
- 34937 (2.08 to 2.09): added support for new generation of microprocessor
- 34938 (2.08 to 2.09): added support for new generation of microprocessor
- 34941 (1.21 to 1.22): added support for new generation of microprocessor
- 34942 (1.21 to 1.22): added support for new generation of microprocessor
- 34945 (1.28 to 1.39): added support for new generation of microprocessor
    - improved power supply overvoltage detection
- 34945EXT (1.28 to 1.39): added support for new generation of microprocessor
    - improved power supply overvoltage detection
- 34946 (1.14 to 1.17): added support for new generation of microprocessor
    - fixed race condition inside close command
- 34947 (1.14 to 1.17): added support for new generation of microprocessor
    - fixed race condition inside close command
- 34950 (2.29 to 2.30): added support for new generation of microprocessor
- 34951 (2.15 to 2.16): added support for new generation of microprocessor
- 34952 (2.09 to 2.10): added support for new generation of microprocessor
- 34959 (1.21 to 1.22): added support for new generation of microprocessor

2.25 Version Information

Main Changes

1. 34945A: Corrected race condition that could cause an unintentional flash memory erase at boot
    - 34945EXT has its own firmware. It's recommended that 34945EXT be updated with the 34945A as well to not experience conflicting firmware issues.
2. 34980A: Fixed *RCL of analog bus states in 4-wire RTD mode
3. 34980A: The sequence form of SOURCE:DIG:DATA no longer defaults to BYTE width. It is now using the currently selected channel width
4. 34980A: Removed vulnerability that made it possible to short modules together by updating the monitor channel while waiting for a scan trigger

2.19 Version Information

Main Changes

1. -310,"system error; memory corrupt: license counters were reset'. Please ignore this message. Nothing is wrong with your memory on your 34980A. We needed to modify the memory map to add the license structure for the new BenchLink Data Logger software. This message will go away after you reboot your 34980A.

Card firmware changes:

- 34980A: Added a binary output mode to allow users to read large amounts of data quickly. The syntax is: FORMat[:DATA] {ASCii | REAL} [,size]
- 34980A: Corrected problem related to missing interrupts when doing fast external scanning
- 34980A: SAMP:COUN command only worked in VOLT:DC. Now works in all modes.
- 34980A: The ABUS1 indicator now shows during monitoring
- 34980A: Changed Front panel date/time entry to only allow valid dates
- 34980A: Implemented the UNIT:TEMPerature command
- 34980A: Web User Interface dialog box now allow access to "Calibration Information"
- 34980A: Improved the resolution for SYSTem:DELay
- 34980A: Web User Interface shows SCPI debug information generated by a VXI-11 program
- 34980A: Added a calibration security check before clearing Relay cycle counts on a secured instrument
- 34980A: Changed Min / Max with LAN keepalive and allowed "0" to be a valid setting
- 34980A: Corrected 'FUNC "RES"',(@chan)
- 34980A: Corrected the first reading of a scan on a thermocouple channel
- 34980A: Front panel now displays the correct decimals on readings below 0.1 degrees.
- 34945A: Self test identifies two or more 34945A modules are in a mainframe
- 34945A: Corrected Web User Interface graphics for Asian language machines
- 34950A: Corrected the behavior in open collector mode. Now works with varying pull-up resistors.
- 34950A: Corrected inverted polarity function on Bank 2.
- 34951A: Module now reports running/stopped condition
- 34952A: Changed the behavior when switching from source to sense. Before, the channels were reconfigured to inputs on a read. Now the channels are left in whatever direction they are (IN or OUT) and the DIO pins are sensed.

2.11 Version Information

Card firmware changes:

- 34980A: Added support to make the 34980A compliant with the LXI compliant specification
- 34980A: Corrected initialization problems with alarms
- 34980A: Corrected issue where *OPC? Or *WAI followed immediately by a Device clear was hanging the instrument
- 34945A: Corrected issue where front panel would hang if the “Measure” key was pressed while a 34945A module was installed without a 34945EXT module attached
- 34980A: Corrected the INST:DMM:STATE OFF command to properly disable the internal DMM
- 34980A: Corrected MEM:STATE:VALID? command to generate error if an invalid location is specified
- 34950A: Corrected behavior of CALC:LIMIT:UPPER MIN and CALC:LIMIT:UPPER MAX to be enforced on counter channels
- 34980A: Corrected operation of *OPC? command execution, which was sometimes too short
- 34980A: Corrected operation of DATA:REM? 0 command, which was erasing reading from volatile memory while returning a null string
- 34925A: Added Web Interface support for thermocouples and 4-wire RTDs (FRTD)
- 34959A: Corrected behavior of CONF:DIGITAL command, which was incorrectly causing a backplane timeout
- 34980A: Corrected TRACE:DATA:DIGITAL command to generate error if an invalid channel number is specified
- 34980A: Corrected MEM:STATE:NAME? command to return proper string for invalid state numbers
- 34980A: Corrected behavior of Operation Complete bit so it’s not set after a Device Clear
- 34980A: Password protection added to Web Interface for LAN configuration
- 34945A: Firmware revisions for 34945EXT modules added to the Web Interface’s System Overview
- 34945A: Corrected labeling of paired channels on the Web Interface. Both channel numbers were previously displayed.
- 34980A: Range checking behavior from the Web Interface was inconsistent across modules
- 34951A: Corrected output jitter problem
- 34959A: Corrected operation of SYST:CPON and *RST command to open all relays
- 34950A: Corrected behavior of COUNT:INIT command during totalizer mode
- 34950A: Corrected behavior of totalizer with external gate to clear immediately
- 34980A: SYSTEM:TIME command now handles millisecond resolution appropriately
- 34980A: Changed default IP hostname to use the last five digits of the instrument serial number (was previously the last three digits)
- 34980A: Corrected reporting of multiple simultaneous errors. Only the first alarm was being reported.
- 34980A: Corrected ROUTE:SEQUENCE:DEFINE command to prevent hanging of the instrument if an unsupported SCPI command was specified

- 34959A: Corrected issue which caused instrument to hang if breadboard DIO channels were configured to 2-byte widths
- 34959A: Corrected front panel issue which caused the displayed channel number to go away when the “Module” key was pressed

2.07 Version Information

Main Changes

1. Added support for the latest version of the 34950A modules. Customers with version 2.05 or earlier will see the error message “Unknown Module” unless they upgrade to version 2.07.

Card firmware changes:

- 34950A: Corrected memory input mode. Could get stuck in memory input
- 34959A: Corrected *RST and SYST:CPON. Commands were not opening relays
- 34945A: Corrected Web Interface where the command “reset all modules” was not refreshing the screen
- 34980A with no-DMM option: Corrected expected timeout when the READ? with scan list command was issued
- 34980A with no-DMM option: Corrected command INST:DMM:CONN?/DISC? was giving inconsistent values
- 34980A: Corrected the Scan Controller. Scanning between resistance channels and non-resistance channels was leaving the current source on temporarily.
- 34980A: Corrected the command INST:DMM:STATE OFF with active MON channel. This command could hang the box

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2.05 Version Information

Main Changes

1. Added support for the 34945A and 34945EXT modules
2. Added support for command sequences , allowing sequences of multiple commands to be easily saved and later executed
3. Internal DMM now optional and may be disabled if present
4. Added support for scanning with an external DMM
5. Added selective display of scan reading memory from the web browser interface
6. The CONF:TEMP and MEAS:TEMP? TC, commands have been modified to no longer default the selected reference junction type or the programmed reference junction temperature used when FIXed is selected.

Card firmware changes:

- 34937A/38A: Corrected intermittent “HOT” error message at boot
- 34946A/47A: switch verification now supported
- 34950A: SOUR:DIG:DATA no longer defaults to BYTE – must specify width
- 34950A: Added capabilities for pattern matching, memory interrupts and stepping
- 34951A: front panel trace name change no longer ignored

1.19 Version Information

Main Changes

1. Added support for the 34950A and 34959A modules
2. Added support for measurement alarms
3. Optional powerfail save of latching relay states added
4. Stale data error now returned if no INIT after CONF
5. Corrected *RCL behavior of CALC:SCALE:STATE
6. MEM:DATA:FORMAT now defaulted at *RST
7. Web interface no longer stops monitoring when a scan is INITed
8. Corrected front panel formatting for zero value current measurement
9. MEMORY:STATE:NAME without parameter resets the name to factory default
10. DMM FW update message on front panel clarified
11. *RST now resets SYST:ABUS:INT:SIM
12. *RST now turns display back on
13. CAL:SEC:STAT ON does not require security code
14. MIN|MAX now set in CALC:LIM:UPP
15. Several SOURce and ROUTe MAX/MIN/DEF values corrected

Card firmware changes:

- 34925: Channels now open on *RST or SYST:CPON
- 34931/32/33: corrected row 1 col 1 odometer counts
- 34951: DAC trace name change corrected in front panel use
- 34951: SYST:CPON now resets the module
- 34951: Corrected error messages when loading DAC waveform
- 34952: ROUT:MON:DATA? LWORD data corrected

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1.05 Version Information

Main Changes

1. Queries sent to invalid channels now generate a timeout
2. Questionable Data Register now works for all overload types
3. Corrected front panel message when SYST:SEC:IMM executes
4. Reference temperature range for type B thermocouple corrected to 0—80
5. Out-of-range numbers for Reference Temperature now cause errors
6. *RST will turn SYST:BEEP:STAT on
7. TRIGger:TIMer now reset by CONF (@chan)
8. SYST:MOD? return formats corrected
9. The web browser interface will now report overvoltage conditions for the 34925
10. Error now returned when sending a bad command from web browser command dialog
11. Terminal disconnect on 34921-25/31-33 modules will report correctly when only one connector removed.
12. 34923 incorrectly opened ABUS4 relay in some cases during scanning
13. Relay odometer now operating correctly on 34941 banks 3 & 4
14. *TST? Returns correct error with failures and works correctly with the 34946/47
15. 34946/47 microwave switch cards no longer go to indeterminate state if switched too fast
16. Corrected 34951 status event register functionality
17. Waveform burst with 34951 incorrectly wrapped and ended on first point of waveform
18. TRACE:POINTS? now gives an error with non-existent waveforms
19. DATA:POINts:EVENt:THReshold? defaults to 1 at power on
20. CAL:COUNt? now working for 34951 and 34952 modules.
21. 34952 Totalizer overflow bit now handled correctly in the Questionable Data Event register
22. CONF:DIG:BYTE now supported for 34952
23. SOURce:FUNCtion:SAMPle:PERiod and SOURce:MODule:CLOCk:FREQuency now accepts DEFault parameter

1.03 Version Information

-Initial release.