

Nugget Firmware Update

How does the firmware update work?

To update your Nugget, it is necessary to follow a series of simple steps. They are explained in detail in the following sections. The whole procedure should only take you a few minutes. NOTE: If the battery is exhausted, charge it for at least ten minutes before attempting a firmware update.

In addition to your Nugget, you'll need the following:

- An empty USB 2.0 flash drive. Only a few Mbytes of space are needed, so most USB flash drives will do. The drive needs to be FAT32 formatted, which is standard.
- The Nugget's external power supply (supplied by Radcal with your Nugget)
- The Nugget's "USB A female to mini female" adapter (supplied by Radcal with your Nugget)

Step 1: Prepare the USB flash drive

Option 1: From the Radcal.com website, click on Support, then under Downloads, click on Accu-Gold Software. On the Accu-Gold Software page, and under Accu-Gold Nugget Firmware, choose the first link - Nugget Update V1.xx (Flash Drive Setup).

Have a flash drive available and plugged into your computer. Then navigate to your Downloads directory and double-click on the file **UnzipTouchWiFi2FD**. It will ask you to choose the location of the flash drive then will download the firmware and copy it to the flash drive setting it up to be ready to use for the upgrade.

Note: Save this file. You won't need to download this file in the future since whenever you run this file, it will find and download the latest version from our website.

Option 2: If you have issues downloading the previous file, you can choose the second option. From the Radcal.com website click on Support. Under Downloads click on Accu-Gold Software. On the Accu-Gold Software page and under Accu-Gold Nugget Firmware, choose the second link - Nugget Update V1.xx (Alt - Zip download).

Have a flash drive available and plugged into your computer. Navigate to your Downloads directory and double-click on the zip file **NuggetUpdate1.xx.zip**. It will open in Windows File Explorer. Select all of the files including the folders, choose copy, then open up the folder for your flash drive. Choose paste.

Step 2: Prepare the Nugget

- Make sure the Nugget is switched off
- Detach the Nugget from the Accu-Gold AGDM digitizer module
- Attach the external power supply to the Nugget
- Connect the USB flash drive to the Nugget using the supplied adapter

Make sure the Nugget is now assembled as shown:



Step 3: Run the update

- Flip the Nugget over so that the Wi-Fi light can be observed
- Press the power-on button of the Nugget



- The Wi-Fi light will come on green and then orange. After ca. 20s the Wi-Fi light will start blinking orange quickly. **This indicates that the firmware update is complete.**
- Press the Nugget power button to switch it off
- Unplug the flash drive and adapter.
- The Nugget is now ready to use.

Step 4: Update AG 2 on the PC

In order to make use of the new features you might need to update your PC software as well. Please open the AG 2 application menu and click on "Help" and "About" to check for software updates.

Having questions? We are happy to help:

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Changes

V1.27.0	Fixed kV Free Run bug Updated AgHost to version 2.01.2947 (new DLL does not affect UI) Prevent End results display in Free Run Mode	11-Feb-22
V1.25.0	Added AgHost DLL version in the About screen Updated AgHost DLL to version 2.01.2634 Added Siemens Mammomat, Pan-Dental and General CT calibrations Low Dose and kV/Filtration out of range warnings are displayed during measurement Added support for 512MB modules (displayed on About screen) The maximum measurement duration on 512MB modules was set to 300 seconds The touch areas of most buttons have been enlarged for better response Displayed calibrations are filtered depending on the connected sensor Implemented End measurements Added PPV result for selection Added On-Screen Keyboard	1-Jun-21
V1.23.0	Updated AgHost to version D201-2485 Added Siemens W/Ti Mammomat Revelation calibration	13-Nov-20
V1.22.1	The trigger settings have been adjusted so that only for AGMS and DD in level high the zeroing is suppressed from the second Updated maximum measurement duration to 2.4 days Revert changes of Light sensor trigger settings due to unwanted behavior Updated trigger setting accordingly Added Titanium calibration	16-Oct-20
V1.21.0	DLP result is calculated for the 10X6-3CT chamber Fixed a bug, where the sensor serial of AGMS is not correctly converted	7-Aug-20
V1.20.0	Update AgHost to V2317 Updated Real-Time-Update interval for each trigger level Initialize zero only once per session Added rapid mode Calculate real-time duration since start trigger Rezero every 5 minutes in rapid mode Added 10X6-60DAP, DAPChk support Fixed Light sensor trigger and end delay values Add missing results and result ratios (compared to AG2) Report stabilizing countdown Duration not calculated correctly in Eternal Mode Bug fixes	20-May-20
V1.15.1	[KC-11] - 'Min' delay (typically 0.2 sec) replaces smallest end delay [KC-18] - Improved thruput speed [KC-20] - Changed display update rate Minor bug fixes	7-Jun-19
V1.14	[KC-5] - Update AgHost to version D201-1837 [KC-7] - Fix: When filtration is too high kV & HVL need to be suppressed [KC-8] - Allow wave mode to be set for any ion chamber [AGN-1205] - Copy actual calibrations with update and priming script for WiFi Mode and Nugget [KC-10] - Fix: Wave mode off on Klondike shows glitch	2-Apr-19
V1.13	New correction is installed during the update process while the old one is made unusable Updated AgHost Prevent accidental updates from a nugget with a WiFi Update Stick and vice versa [AGT-1193] - Fix "Data loss" error when trying to start the measurement a second time (for latest agHost code) [AGT-1117] - Install new Straton Tube correction with update [AGT-1120] - Prevent cross over installs with update script [AGT-1151] - Update AgHost to version D201-1751	12-Dec-18
V 1.12	Added logging to identify cases in which no dose is reported Updated AgHost [AGT-1069] - Check kV and filtration ranges independently [AGT-1072] - Add more logging to identify issues FHL has where dose is not being reported while filtration is out of range [AGT-1082] - Match IC and DD pulse count handling to AGX [AGT-1091] - Update agHost to D201-1701 [AGT-1101] - Update to agHost D201-1724 [AGT-1107] - Suppress "Data Loss" when block timeout happens on first block	8-Nov-18
V1.11.1	Display kV results even when filtration is out of range AGTwifiReadmeFD.docx Trigger on Low at 0.5 µGy/s for AGMS Mammo measurements [AGT-960] - Report valid kV result, even if filtration is out of range [AGT-1003] - Trigger AGMS Mammo Low at 0.5	16-Aug-18

V1.11.0	Summary -- Light sensor support Pulse count fix Power off fix Firmware Changes-- [AGT-932] - When kV is out of range, then do not include the kV waveform [AGT-779] - Implement experimental light measurement [AGT-913] - Light: Handle post exposure light sensor results [AGT-912] - Light: Handle real time light sensor results [AGT-936] - Fix: In dental mode the pulse count for the dose ROI is used, instead of the kVcalc based count [AGT-944] - Fix: WiFi Mode turns off after 20 seconds [AGT-909] - Light: Show error, if aux sensor is not supported (e.g. PDC, Dynalizer, ...) [AGT-911] - Light: Include descriptor for light sensor mode: luminance or illuminance [AGT-917] - Light: Allow light sensor only by itself [AGT-919] - Advanced light: Keep latest valid real time reading instead of average luminance for post exposure result [AGT-935] - Light: Tweak end delay, non-dynamic stop trigger and levels Firmware Changes (cumulated) [AGT-939] - Implement FWHM calculation [AGT-947] - Light: Report next to last real time reading above threshold as final reading [AGT-949] - Light: Adjust trigger thresholds [AGT-946] - Fix: Pulse count is not restricted to ROI [AGT-959] - Fix: Free run measuring with light sensor was broken [AGT-966] - Roll back to cal read and zero init on every exposure [AGT-974] - Low & Std trigger settings are same, new high is old std setting	19-Jun-18
V1.9.6	Major Changes -- End delay defaults to 3s Use dose rates from ROI Wave mode wasn't enabled by default Updated IC trigger threshold Firmware Changes (since V1.8.4) [AGT-825] Update trigger thresholds (see here) [AGT-824] Update agHost to version D201-1557 [AGT-412] - Base pulse counting on agHost entirely [AGT-854] - Use trigger level in physical units for AGMS trigger level low [AGT-862] - Use ave kV instead of biased average kV [AGT-865] - Fix: Exposures with 3 or less pulses are displayed as 0 pulses [AGT-867] - Fix: AGMS+ low threshold didn't take effect [AGT-877] - Fix: Wave mode can't be switched off [AGT-874] - Ensure wave scaling of mGy/s and As [AGT-875] - Ensure dose correction on dose rate wave data [AGT-876] - Ensure scaling of mA per pulse results [AGT-902] - Fix: Post exposure mA measurements results are strange [AGT-924] - Change AGMS low trigger threshold from 80 nGy/s to 150 nGy/s [AGT-925] - Make AGMS low trigger threshold and end delay configurable via defaults.json [AGT-928] - Fix: When kV or filtration is out of range dose and dose rate do not show [AGT-929] - Revert AGMS+ low trigger rate from 150 nGy/s to 80 nGy/s	14-May-18
V1.8.4	[AGT-587] Include USB 1.1 registry fix to have stable connection [AGT-838] When Nugget starts, do not disable the USB Host connection [AGN-1190][AGT-770] Sort calibrations, ensure Diagnostic is first	17-Apr-18
V1.7.2	[AGN-1190] Calibration list gets sorted [AGN-1190] Default calibration is Diagnostic W-AI (if present)	30-Mar-18
V1.7.0	Comparing to firmware version 1.0, this update brings the following major improvements and fixes: • Longer battery life through "sleep mode" (AGN-656) • Exposure lengths of up to 40s (with wave data) (AGN-997) • Exposure lengths of up several hours (without wave data) (AGN-991) • Free run measurement mode (AGN-990) • Trigger levels match AG 2 (AGN-1123) • Support for new AGMS+ calibrations (AGN-1161) Other changes include: • Support for AGMS/AGMS+ calibration corrections (AGN-601 / AGN-1136) • Fix: AGDM serial number may be incorrect in some cases (AGN-876) • Controller firmware version is included in measurement results (AGN-941) • Signal to connected client that Nugget is being switched off (AGN-809) • Support for battery level display (AGN-900) • Added IC temperature and air pressure to real time results (AGN-1011) • Fix: AGMS real time results weren't displayed (AGN-1062) • Raised trigger levels for IC to prevent false triggers (AGN-1039) • Reboot after 20s on fatal errors (AGN-1067) • Minor updates to internal trigger & measurement routines (AGN-1057)	27-Jun-17