Waking up from sleep

If the devices have been shut down in slow mode f1, it may extend the time it takes to come back up. The hx19ms can accept f8, in this fast sync mode it is certain the devices will be activated on the first activity check, this is also true for mode f4. Once the devices are awake, the hx19ms should be brought to the correct synchronization rate.

The following only applies if the system is running in strobe mode or battery savings mode.

Starting

To ensure fastest startup from sleep or standby, by default the hx19ms comes up at highest synchronization speed, or f4. If the other devices belonging to the system are not running at the same rate, these might not come up synchronized to the same cycle.

If the system has more than 6 receivers; the system may run incorrectly at highest speed f4; unless the receivers have been distributed on distinct RF channels; see the "q" queue allocation section, in the user manual. If you need it to run more than 6 receivers, at high speed, you may have to manipulate queue number to a value under 6, like this e.g. "R29&q6" or "R29& q6 ee". This makes R29 sixth in the queue. Don't place parameters in EEPROM unless everything is running smoothly. If you are not sure about the content of the receiver registers, then R29&w will display the byte content in decimal form.

Hx19 version 2

Given that the devices have not been put into deep sleep using the h switch. A switch modebit.6 has been added to allow automatic fast startup. Make sure before unplugging that all the units have the proper parameters in the EEPROM, so when power is removed they come up to the desired state. Set modebit.6 of the hx19ms unit e.g. M&m64, with this mode set and the proper tag scanning parameters set, the hx19ms will come up at highest speed f4 and signal at that rate for 16 seconds this should trap the strobing units and keep them from falling asleep. After 16s the hx19 will fall to the rate specified by work register speed, which on power up equals the EEPROM speed register.

Starting Manually:

Starting step1:

If the devices are in standby mode, i.e. have not been shut down with the h command. Then allow the hx19ms sync LED to flash for 9s at least, it shouldn't take any longer to bring the devices out of standby mode. If the devices are in deep sleep, then let the sync LED flash for at least 65 seconds before attempting to broadcast commands.

If all the other devices, are running at f4 highest speed then go directly to step3:

Starting step2:

Correct the hx19ms sync speed. Either by "M&f#" where # must correspond to the rate set for the other devices or "!&f#" set all the devices with one broadcast. E.g broadcasting "!&f1" at this point will set all devices to the slowest rate.

Starting step3:

If multiple tags need to be time multiplexed. Optionally: this is a good place to set the tag multiplex limit for the hx19ms e.g. M1&s87-99, this will force the synchronizer to call each tag into action individually.

Starting step4:

If the tags were shut down in mode m0 or m1, then they are neither transmitting RFID nor USID they are functionally inactive. This can be good to keep the devices from signaling as they come up to check for RF activity, as this can disturb ongoing positioning process. RF at f4 for 9s or more will hold the tags standby for communications and the tags can be activated with for example "T&m7". Keep in mind that if there are multiple tags, then unless multiplexed they will all be emitting RFID/USID simultaneously creating spectral mess if they are all transmitting on the same channel. This does not harm the system.

If at this point the result queue setting, for the receivers are not proper there will be synchronization errors, again this does not harm the system.

Shutting down the hx19

It is of course possible to broadcast "!&h" to shut of both transmitters and receivers in one step. The hx19ms should also be halted, otherwise it will wake up or reactivate the sleeping devices as they come up to look for RF activity. So terminate the hx19ms SYNC action or send "M&%" to stop the sync/monitor. If the sync strobe is not stopped, it will re-start the devices that were just shut down, in less than a minute.

If the devices are being turned of for some time, we recommend the deep sleep option for the devices or simply remove the batteries.

Additional Note:

"T&m1 h" shuts of both ultrasound and RFID but leaves the LED flashing, this saves some long term energy. It also ensures orderly startup, i.e. multiple tags will not be issuing RFID and USID simultaneously on the same channel creating a sonic and RF mess. Once the tags have been time separated then the USID and RFID can be turned on with a single broadcast to all tags T&m7.

The fastest activation of sleeping devices is by using f4 sync rate, in this case the devices are typically activated within 9s, receivers activate in 4s. Using other rates the hx19ms will wake the sleeping devices eventually.