Operating the Avisoft-UltraSoundGate system from a battery-powered mini PC
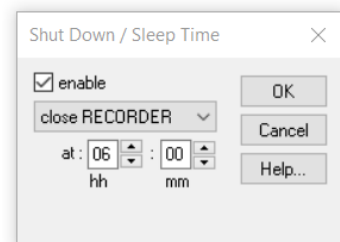
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Sometimes it is desired to use the UltraSoundGate recording system for passive monitoring in the field for several days. The limiting factor is here the power consumption of the Windows computer that is needed to operate the system.

Fanless Intel Atom based mini PCs with 2 W scenario design power (SDP) specification are a good choice for this task. In combination with a single-channel UltraSoundGate 116xxx device running at a sample rate of 250 kHz they consume less than 3 Watt from a 12V lead acid battery.

In case the monitoring should take place only at certain times (for instance at night), the average power consumption can be further reduced by temporarily switching off the system. This can be achieved by using an extern 12V timer device. To properly close the RECORDER USGH software before switching off the power supply of the computer, the Avisoft-RECORDER USGH command *Monitoring > Shutdown / Sleep time… > close RECORDER* should be used. Add the RECORDER USGH software to the Windows StartUp folder to launch the recording software automatically after booting the computer. To automatically boot the computer when the power supply is switched on by the timer, it is required to activate the BIOS option *Automatic Power On.*

The operating time could be extended by adding solar charging capabilities.

Required components:

- Intel Atom X5-Z8350 (or similar) based mini PC with 12 VDC power input port
- Windows 10 operating system
- UltraSoundGate 116Hn, 116Hnbm, 116Unb, 116Un, 116Hb, 116H, …
- 12V (sealed) lead acid battery. The battery capacity should be selected depending on the desired duration of the deployment and whether there is a solar recharge option installed. A good choice would be for instance a capacity of 12 Ah that could operate the system continuously for 48 hours.
- 12V DC power pig tail cable (with common 5.5 x 2.1 mm plug)
- Programmable 12V timer switch relay
- Optional solar battery charger kit

lead acid battery
maintenance-free multipower - mp ®
rechargeable

VdS

MP12-12
12V 12Ah

25W

ECO-WORTHY
Charge Load
USB

3A Solar Charge Controller