

This section gives an incomprehensive list of items to be checked on regular intervals, in order to maintain the wind profiler in good state and to avoid system failures. The items are divided into two categories according to the repetition rate, however, this is purely indicative and it has to be pointed out, that the repetition rate depends strongly on the conditions under which the wind profiler is working and hence can differ from system to system. The items are independent from the wind profiler type and links are set to the corresponding procedures in [Maintenance Procedures](#) for Vaisala and Degreane profilers.

1 Daily to Weekly Checks

Item	Description
Wind Profiles	The retrieved and quality checked wind profiles have to be compared to co-located radio soundings, to numerical models or to surface measurements to evaluate to quality of the wind profiler data (Media:demoQCT_WP_PAY.png).
Doppler Spectra	Check the Doppler spectra for the following features: Symmetric Doppler spectra are an indication for a malfunctioning of the Bessel filter. Ground clutter is a return signal due to a fix object in the vicinity of the wind profiler and appears as a strong peak at zero-speed at selected altitudes (Media:DemoGroundClutter_WP_GRE.png). Echos of migrating birds are confined to altitudes between 1500 and 3000 m agl and are characterized by a strong signal to noise ratio. The associated wind speed is 10 to 15 m/s higher than the average wind speed of the air (Media:DemoBirdMigration.png). External electromagnetic perturbations appear as narrow peaks of constant wind speed at all altitudes (Media:DemoEMInterference.png).

2 3 to 6 Monthly Checks

Item	Description
Cleaning	Cleaning is an important part of regular maintenance. Antenna: remove objects (leaves, branches, ...) and moss, check cables and connectors (turn off emission for this procedure!). Electronics: clean or replace filters check cables and connectors.
Air Conditioning	The air conditioner of the room where the indoor electronics are placed should be checked once a year, preferably in spring.
UPS	If the system is equipped with an uninterruptible power system (UPS) then the battery pack should be tested 1 - 2 times a year. For this discharge the battery completely by disconnecting the wind profiler from the network power supply. Register the time for which the batteries last. The battery pack typically needs to be exchanged every 4-5 years.
PC	Keep the operating system and anti virus software up to date. Run disk defragmentation software, create archives (tar, zip, ...) of data files to reduce the amount of files, create a disk image for quick system restore, reboot PC.
Radar	Perform the following standard measurements (see Maintenance Procedures): Noise level, losses in the transmit chain, output peak power and pulse length, S-parameter (S11) of antenna.

Maintenance_Items

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