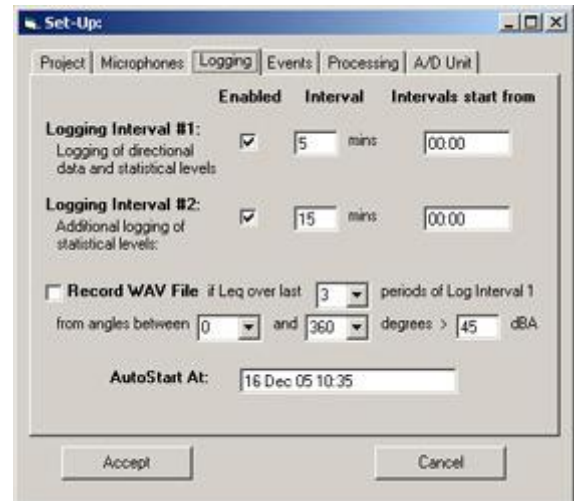




System Description

BarnOwl® is a complete integrated system of acoustical measurement, signal processing, reporting and management software. Three hardware versions for the Field Unit are available:

- **Permanent unit** (rack mounted) - options include 24 bit Brüel & Kjær acoustical hardware, or the 16/20 bit Sinus based 'Harmonie-PCI' system.
- **Mobile unit** (low power 12v operation) - using the Sinus 'Soundbook Plus' system.
- **Industrial PC** (low power 12v operation) - using the 16/20 bit Sinus based 'Harmonie-PCI' system.
- **Solar** - Industrial PC solution with solar, batteries, modem on a frame.
- **Trailer** - Solar Solution mounted on a trailer.



Custom Built Trailer Mounted Unit

Each hardware version runs BarnOwl® software with the following features:

- Directional noise measurement features
- Flexible noise logging features
- System management features
- Equipment Hardware and Software

Directional noise measurement features

BarnOwl® provides the following directional monitoring capabilities:

- **Automatic unattended real time noise detection** – detects sources arriving (every second) from 72 directions (5 degree increments).
- **Fully directional monitoring with low pass filter** – provides reports with a low pass filter (in each 5 degree increment), in addition to directional A-weighted reporting features.
- **Real time graphical display and reporting**
- **Trigger options**
- **Stand alone or networked multiple acoustical Field Units** – access to acoustical Field Units enabled by fixed or wireless network and by modem.
- **Configurable for access by a SCADA or similar system**



Original BarnOwl® Version 3 running on original Bruel & Kjaer Nexus based Rack Mounted Unit

Still running after 10 years



Flexible noise logging features

In addition to directional monitoring, BarnOwl® also provides traditional noise logging functions, but with increased flexibility. For example, you can:

- ❖ **Record samples of audio signal** – enables WAV files to be created at regular intervals and/or on a trigger event.
- ❖ **Supports direct real time listening over network connection**
- ❖ **Monitor statistical noise levels over two different time intervals** (e.g. 5-minute and 15-minute intervals simultaneously).
- ❖ **Absolute Level WAV Analysis** – allows WAV files to be recorded and replayed at relative to calibrated levels, eliminating the need for additional 'calibration' of post analysed levels. This means WAV files can be directly used for level analysis as well as aural recognition of sources.

System management features

- ❖ **Automatic microphone calibration** – option can be performed at pre-set intervals.
- ❖ **Archiving facility** – allows the easy saving and retrieval of database and audio files.
- ❖ **Inspect, control and download from any monitor remotely, using a wireless Ethernet network connection**
- ❖ **Charting of Field Unit downloads** – allows graphs to be displayed to show summary data downloaded from each Field Unit without having to run the report generator. Displays total noise, noise from all sources and noise from the selected source over the last (selectable) number of days, updated at each download.

Equipment Hardware & Software

- ❖ **Acoustical Field Unit** – Incorporates either original 24 bit Bruel & Kjaer Nexus based or 16/20 bit Sinus Harmonie-PCI based hardware (available as permanent rack mounted versions). The industrial PC is ideal for permanent set ups in remote locations where mains power is not available. The Sinus based mobile Soundbook plus option is the most flexible and is also a low power 12v option.
- ❖ **Microphones** – Three Bruel & Kjaer outdoor microphones with standard accessories, including 30m cables and microphone stand to provide accurate microphone positioning (critical for accurate source identification).
- ❖ **Temperature gauge**
- ❖ **Field Unit PC** running Windows 2000 or XP (available as ruggedised Notebook, industrial pc or rack mounted Unit - see photos above).
 - **Options include** PC Operating system Windows 2000 or XP, BarnOwl® Database Microsoft SQL server and Microsoft Access.
- ❖ **BarnOwl® Field Unit software** – Loads and runs on start-up.
 - **BarnOwl® Inspect software** – this can be installed on the Field Unit itself; on a laptop computer which can be directly connected to the Unit; or on a remote computer linked to the Field Unit via an Ethernet connection to inspect and download data.
 - **BarnOwl® Multi-Download software** – allows automatic scheduled downloads from one or a number of Units to a central noise server. The database can be easily configured for access by SCADA or similar control systems.
 - **BarnOwl® Report Generator software** – allows a variety of easy-to-read, focused reports to be produced directly from the downloaded data files. These reports can be easily exported to Microsoft Word.
 - **Integrated real time audio streaming** – allows users to listen to direct audio signals over a network connection. Software fully integrated into the BarnOwl® Field Unit and Inspect modules to simplify setup and user operation.

Sinus Harmonie-PCI fits any PC as rack mount solution or slots into industrial pc



Industrial pc in protective case



Example of a remote field unit set up incorporating industrial pc, solar panel and battery