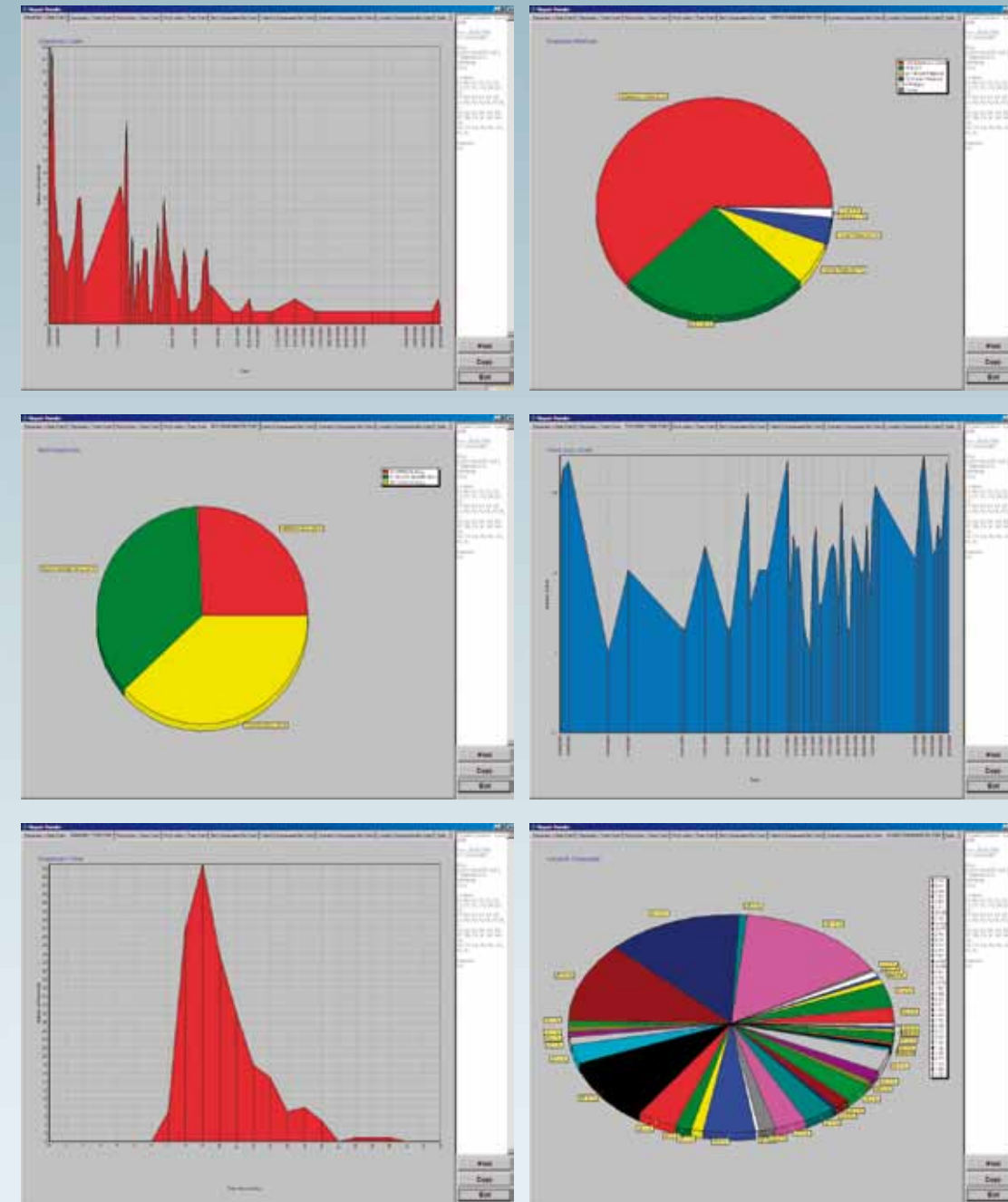


### The Importance of Diligent Data Collection

In today's litigious society the importance of safety control data has never been higher. At the start of the millennium, bird strikes were estimated to cost the aviation industry US\$1.2 billion. When factored alongside the rapid expansion of air traffic this figure is now considered highly conservative. With such high costs involved there is an increasing tendency towards airlines and/or their insurers embarking on legal action to recover the costs of bird/wildlife strike damage from the airports at which they occur. It is important that airports record the bird control actions that they take in order to be able to show that they had an adequate bird/wildlife control programme in place at the time of an incident and that the programme was functioning properly (International Bird Strike Committee, Recommended Practices No1, Standards For Aerodrome Bird/Wildlife Control – Oct 2006).

Ultima provides instant access to reports of all bird control activity, updated to the last shift. A number of graphs and data tables are automatically produced based on user-defined criteria to prove best practice.



*Prove due diligence  
Demonstrate best practice  
Produce statistics on-demand*

Ultima is an organic platform designed to grow with airside operations. The software driven basis of Ultima means that subsequent improvements and enhancements to the software can be easily delivered to existing system users.

In case of IT failure, Ultima is supplied with a backup remote control. This ensures that you never lose your best practice bird dispersal capabilities.

The tablet PC supplied with Ultima is Microsoft Windows® based. This allows the hardware to be multifunctional. Scarecrow Bio-Acoustic Systems Ltd do not limit what software can be loaded onto the unit. It is entirely possible that the Ultima tablet PC can become the base for all of your airside software requirements.

Ultima has a graphical data interface, so can be understood easily across the world. However, the software is also multilingual, so the required language can be selected.

Scarecrow Bio-Acoustic Systems is the Industry leader in the science of bio-acoustic bird dispersal and was originally a subsidiary of one of Europe's largest commercial audio manufacturers, established in 1967. In 1990 Scarecrow became independent to allow focussed development in the field of airside bird dispersal, to capitalise on their specialist digital audio knowledge.

The team of digital audio engineers and ornithologists comprising Scarecrow Bio-Acoustic Systems Limited have been in the business of designing, manufacturing and perfecting systems for bio-acoustic bird control since 1985, their products 'preferred' by airfields where birds present a hazard to flight safety.

Scarecrow is a privately owned Company. All products are manufactured to comply with ISO 9000 Quality Standards and European Safety and Noise Immunity Directives, including CE and E Approvals, RoHS and WEEE Directives.

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**SCARECROW**  
BIO-ACOUSTIC SYSTEMS

Scarecrow Bio-Acoustic Systems Limited, PO Box 66, Uckfield, East Sussex TN22 3ZR, United Kingdom  
Telephone: +44 (0)1825 766363 UK Freephone: 0800 917 8488 Fax: +44 (0)1825 766361  
Email: sales@scarecrowbio-acoustic.co.uk Web: www.scarecrowbio-acoustic.co.uk

**ULTIMA**  
DATA – LOGGING – ANALYSIS



What?



When?



Where?



How?



Proof?

**SCARECROW**  
BIO-ACOUSTIC SYSTEMS

## What is Ultima?

Ultima is the latest advance in Airside Wildlife Management. It is both a highly efficient bio-acoustic distress call system and a compliant data logging system. Utilising a touch screen tablet PC, GPS receiver and bespoke data analysis software, Ultima creates records of all wildlife control – both winged and four legged. The system autonomously creates an audit trail featuring date, time, location, operator, species, flock size – either by five user defined categories or individual numbers, which action was taken and what was the result.

Simple operation is paramount. The 21 cm (8.4") touch screen can display a database of bird recognition information, including full screen illustrations to aid identification. Ultima self-learns the routine of each operator, remembering the prominent species present and the various sound levels previously used at GPS dependant airside locations. The system can log any type of dispersal activity; the techniques are controlled by you.

Ultima establishes proof of dispersal procedures completed in real time, logging operator, species, time and date; its inbuilt GPS function logs the vehicle's airside position from which a dispersal or a patrol took place.

Ultima is a complete system, including vehicle roof mounting loudspeakers, tablet mounting brackets, microphone for live announcements, back-up control unit and hot-pluggable USB flash drives to enable data captured to be transferred from the vehicle to the airfield analysis system for which audit software is also provided. The Ultima processor is pre-loaded with 14 species of distress call to the airport's specification.

The flash drive can also act as an identity key for each operator, offering proof of bird/wildlife control and an audit trail of all processes to prove due diligence and to provide long term analysis of wildlife behavioural patterns.

The software never removes control from the operator; each function is readily accessed on screen.



Ultima features a clear, daylight viewable screen. The interface allows for simple access to all functionality. This can include note reporting for any airside discovery or occurrence.



The wildlife selection screen automatically displays the most prominent wildlife relevant to the current vehicle location. This creates a very fast route to dispersal. The graphical illustrations provide assistance when identifying bird species, utilising a multi-language software platform\*.



A comprehensive guide to the bird species loaded onto your system is provided. This gives extra details such as bird size, wing span, colourings and plumage variations. This is available on demand.



The Ultima dispersal screen is where the flock size is logged and where you have the option of broadcasting a distress call or skipping to report any other dispersal technique. The system only allows the user to progress when all required data has been entered.



The final screen of the process allows for the confirmation of the action taken. The techniques available are controlled from the Ultima Reporting Software and allow for any technique to be entered. Each technique can have up to three sub-options (such as different pyrotechnic brands). It is at this screen where the dispersal direction is entered. Once again the dispersal log cannot be created until all the required information has been entered.

## Customisable Modules

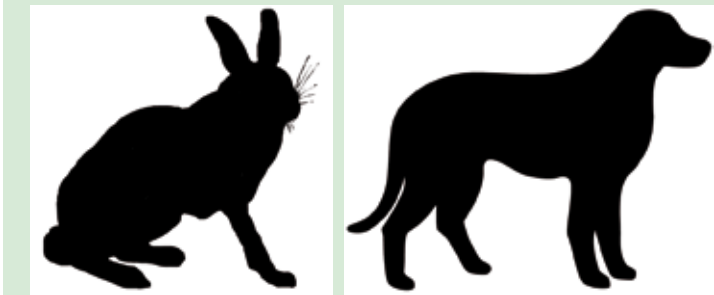
### GPS Calibrated Image Mapping

Giving an instant overview of the level of wildlife presence, this module combines your airfield map with your Ultima data. By selecting combinations of criteria (species, operator, date range, etc) it is possible to see how many actions have occurred in each grid reference.



### Wildlife Logging

This addition allows for the inclusion of all non-avian wildlife species to be included in your species list. Any species occurrence can be logged. The list is created to whichever species you feel are prominent at your airport. In addition to the birds' distress calls, the wildlife dispersal features a novel sound to act as an alternative control method. Full data reporting is included.



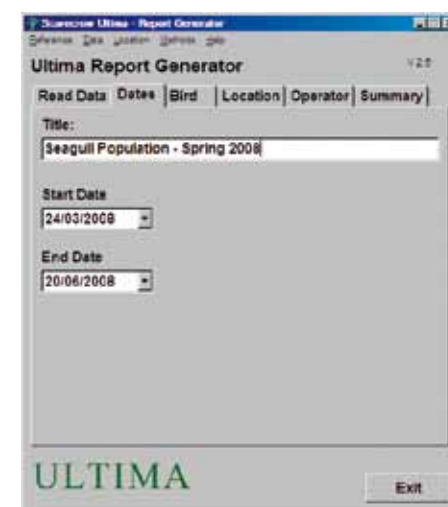
### Firearm Management

Taking full advantage of all available techniques is of utmost importance when working in airside bird dispersal. Due to the frequency of use, keeping track of firearm events can be laborious. This module keeps track of all shots fired and misfired, be it lethal, non lethal, pyrotechnic, flares etc. This affords accurate stock management and creates a strong record that your policies are being met.

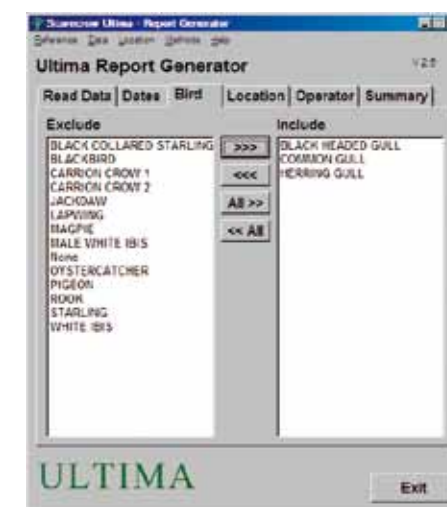
### Image Logging

For the most diligent, Ultima can be equipped with a camera that captures frame by frame proof of all bio-acoustic bird dispersals attempts. These moving images are archived alongside the data record and can be recalled instantly.

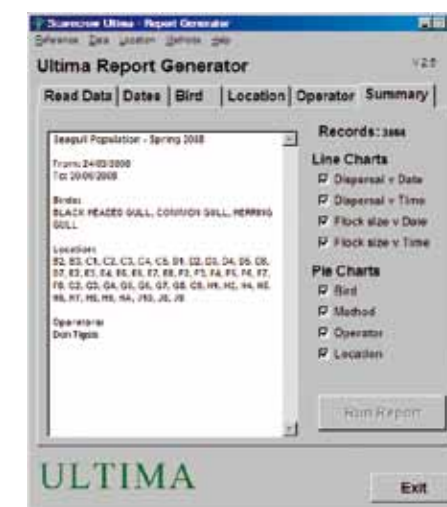
The Ultima Report Generator has been designed for quick access to data. The power of the software is born from its simplicity. By demanding basic criteria a huge number of data comparisons are possible.



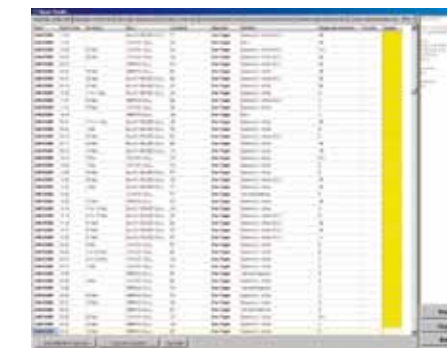
The initial step is to define what time range you want to review. This can show anything from a single day, to migratory patterns, seasonal trends, or monthly/yearly reports.



The most powerful options lie within the selection of species, location and operator. These categories all operate on an include/exclude basis. This creates wide possibilities for report generation: entire gull population, all wildlife activity in a specific area, and control methods used by each member of staff. You have complete control.



Before the report is generated a summary screen highlights the amount of records that meet the selected criteria. It also shows what possible graphical outputs are possible, such as line graph options, pie chart options, airfield map, data tables, etc.



Every report gains a complete data table of every compatible entry, providing an instant virtual logbook. This data can be exported in a common format for additional analysis, or exported for data security.



Each graph generated can be printed or copied into a document for saving. Whether simply displayed on a screen or printed to hard copy, each of the criteria used to generate the report is clearly shown for complete clarification.