



## **OCAS® Frequently Asked Questions**

### **What is OCAS and how does it work?**

OCAS is an FAA Approved Audio Visual Warning System (AVWS) that uses a low-power Radar Unit to scan the airspace around an obstacle. If the radar detects an incoming aircraft on a collision course with the obstacle, it will first initiate a visual warning to the pilot by activating strobe lights mounted on the obstacle and secondly by transmitting a VHF audio signal that the pilot will hear in his cockpit. The strobe lights work just as existing, constantly flashing strobe lights do, but OCAS only turns them on as needed. The system is programmed with advanced algorithms that ensure the strobe lights will be activated 30 second prior to the aircraft's potential impact with the obstacle. If the pilot does not alter his course, he will receive the audio warning 20 seconds prior to impact with the obstacle.

### **What does OCAS consist of?**

OCAS is configurable and modular based on the specific terrain surrounding an obstacle. A typical OCAS system consists of one Radar Unit, two Strobe Lights, and a Power Unit for each. The standard power unit contains electronics to monitor system performance and power distribution. It also contains eight batteries that are used to power the system in case of external power loss. Full or partial solar capabilities are also available.

### **How does the system activate the strobe lights and VHF warning?**

The VHF transmitter is co-located within the Radar Unit and will issue warnings as directed by the Radar Unit. The strobe lights are usually mounted away from the Radar Unit and receive signals from it via a UHF wireless communications link. The strobe lights are configured to begin issuing warnings within 1 second of receiving the signal from the Radar Unit.

### **Are you sure this radar will detect any incoming aircraft?**

An OCAS test pilot performs an intricate series of passes during the testing of a newly installed system to ensure that the system issues warnings at all required times, approaching at varying speeds and from all possible angles. There are currently more than 40 OCAS systems operational worldwide in the U.S., Canada, Norway, and Germany. Obstacles protected include high-voltage power transmission line crossings, wind turbine farms, and a long ski gondola crossing.

### **How does the radar know what frequency to broadcast the audio warning on?**

As part of the installation process OCAS and the customer will work closely with the FAA and FCC in applying for approval for broadcast frequencies. OCAS typically transmits on the air-to-air and air-to-ground frequencies designated for use in the airspace around the obstacle. The strength of the audio signal is designed to be weak enough that only pilots within immediate range of the obstacle will receive the signal, so it will not interrupt other communications.

### **What if the pilot does not have a radio? Will he receive the warning?**

A pilot flying without a VHF radio will receive the light warnings described above. These are identical to existing strobe light warning systems in place around the country.

**Isn't it safer to have strobe lights flashing continuously, rather than coming on as needed?**

Strobe lights that come on only as required represent a change in the pilot's surroundings and therefore actually generate greater attention than lights that flash continuously. Constantly flashing strobe lights use more power than as-needed lights, create light pollution and public annoyance, and on some structures even represent a threat to wildlife, such as migratory birds. Constantly flashing lights require higher maintenance and operational costs than OCAS-activated lights.

**How can you be sure that the lights will come on? What if they don't?**

OCAS is remotely monitored by technicians 24 hours a day, 7 days a week. The system performs routine self-tests and, through dozens of measurement points, can identify faults almost immediately. Should a strobe light fail, technicians will be notified immediately via SMS technology. Technicians can then notify both the obstacle owner and, more importantly, issue a Notice to Airmen (NOTAM) which will remain on file with the FAA until the problem can be solved. This also meets the FAA requirement that an obstruction light outage be reported within 30 minutes. OCAS monitors system performance remotely and is aware of system degradation almost instantly.

**What if the radar stops working? Won't the whole system be useless?**

If the OCAS system detects a fault in radar operations, it will automatically enter a fail-safe mode in which the strobe lights will flash continuously on backup battery power, just like existing strobe lights, for up to 24 hours. This allows OCAS technicians and obstacle owner's time to diagnose the fault in the OCAS radar module. If technicians cannot diagnose the fault remotely, or if the system cannot be restored to full operating condition, then OCAS will issue a NOTAM until the system is restored to full working order.

**How is the OCAS system powered?**

OCAS can be run on 110V-220V AC power or as a fully standalone solar application using solar panels. If run on AC power, the system uses an AC/DC converter to supply 12VDC power to system components. If run on solar panels, the system uses 5 solar panels per radar unit and two solar panels per strobe light, supplying DC power to the Power Unit.

For additional questions, contact OCAS at [info@ocasinc.com](mailto:info@ocasinc.com) or 703-752-6212.