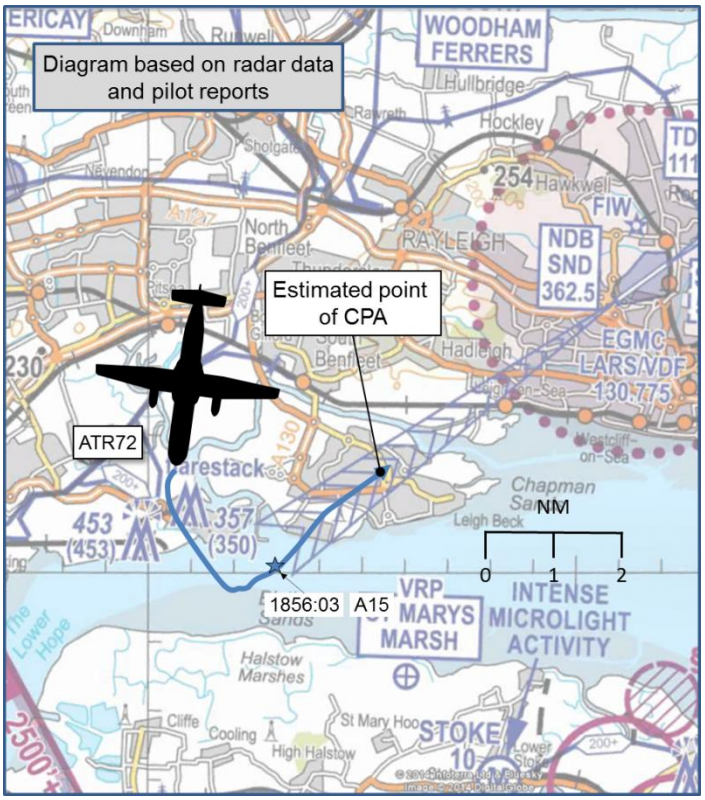
AIRPROX REPORT No 2014073

Date/Time:	30 May 2014 1857Z	
Position:	5132N 00036W (4.25nm SW of Southend Airport)	
Airspace:	London FIR	(*Class*: G)
	Aircraft 1	*Aircraft 2*
Type:	AT72-500	Untraced Quadcopter
Operator:	CAT	Unknown
Alt/FL:	1500ft QNH (NKhPa)	NK NK
Conditions:	VMC	NK
Visibility:	20km	NK
Reported Separation:	0ft V/25m H	NK V/NK H
Recorded Separation:	NK V/NK H	



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE AT72 CO-PILOT reports flying under IFR in VMC, on an ILS approach to RW06 at Southend, with strobes, beacon, navigation lights and wing lights illuminated, and squawking transponder Modes 3/A, C and S. As the aircraft was about to intercept the ILS Glide-Slope, the pilot saw a remote-controlled quadcopter very close to the right wing-tip. The aircraft captain did not see the quadcopter but the sighting was reported to Southend ATC. The co-pilot formed the impression that the quadcopter had been flown deliberately close to the AT72 because he had seen it around 100m away as it approached from the right-hand side and made a turn to fly in the opposite direction to his aircraft, around 25m away and at the same level.

He assessed the risk of collision as 'High'.

THE QUADCOPTER OPERATOR could not be traced.

Factual Background

The weather at Southend at 1850 was recorded as:

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EGMC METAR 301850z 07008KT CAVOK 14/08 Q1024=
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Analysis and Investigation

CAA ATSI

The AT72 had been vectored for the ILS and, once established, was transferred to Southend Tower. At 1856:10 the AT72 contacted the Tower and reported at 5.5nm on the localiser for RW06. The Tower controller issued a landing clearance, which was acknowledged by the AT72 pilot; the AT72 continued the approach and landed. As the AT72 vacated the runway the following RTF exchange occurred:

AT72 *"…for information when we were on the glide just about to intercept the glide er seen on the right side kind of er you know remote control helicopter er very small engine flying on the right side same altitude"*
ATC *"That's understood roughly what range when you saw that was it"*
AT72 *"Just before we intercept the glide was black and red"*
ATC *"That's understood er I'll make a note of that"*
AT72 *"Was not sure it was you know a helicopter it looks like it's a brand new thing that are flying around now on remote control"*
ATC *"Oh a quadcopter type thing maybe"*
AT72 *"Say again sorry"*
ATC *"Perhaps something like a quadcopter er we've had a couple of those around here er been reported"*
AT72 *"Yes exactly that"*
ATC *"Understood"*
ATC *"(AT72)c/s do you know roughly how far away the erm model was from you"*
AT72 *"er from my point of view it was too close"*
ATC *"Understood".*

The AT72 was in receipt of a Deconfliction Service and Southend ATC reported that no radar tracks were observed on the situational display at the time. The Radar controller was not aware of any activity in the area and was therefore unable to provide any Traffic Information or Avoiding Action to the crew of the AT72.

Radar Analysis

An analysis of the radar recording was undertaken using Swanwick MRT and also the single source radar heads Heathrow, Gatwick, Debden, Pease and Bovingdon. Some intermittent contacts were shown by the radar in the different modes as described below.

At 1855:26 the Swanwick MRT showed three intermittent contacts. Two are shown at 4nm and a weak single trace was shown at 6nm – Figure 1.

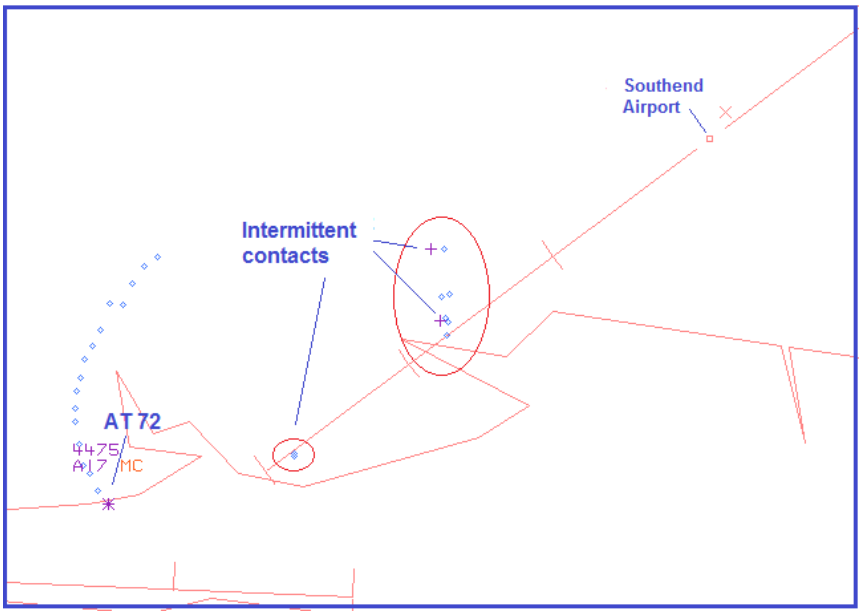

Figure 1- MRT 1855:26

At 1855:32, using Gatwick single-source replay, an intermittent contact is shown for two radar updates at 4nm from touchdown on the right hand side of the centreline – Figure 2.

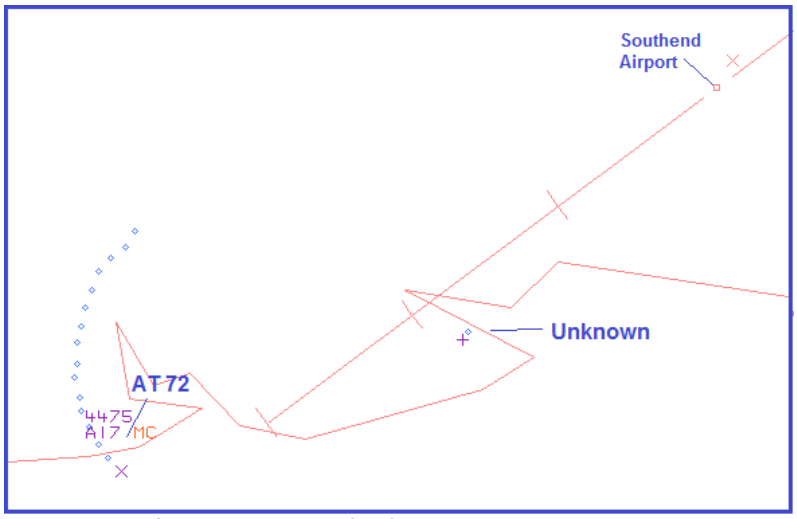

Figure 2 - G10 single-source at 1855:32

At 1855:46, using Debden single-source replay, an intermittent contact is also shown for one radar update at 4nm on the right hand side of the centreline – Figure 3.

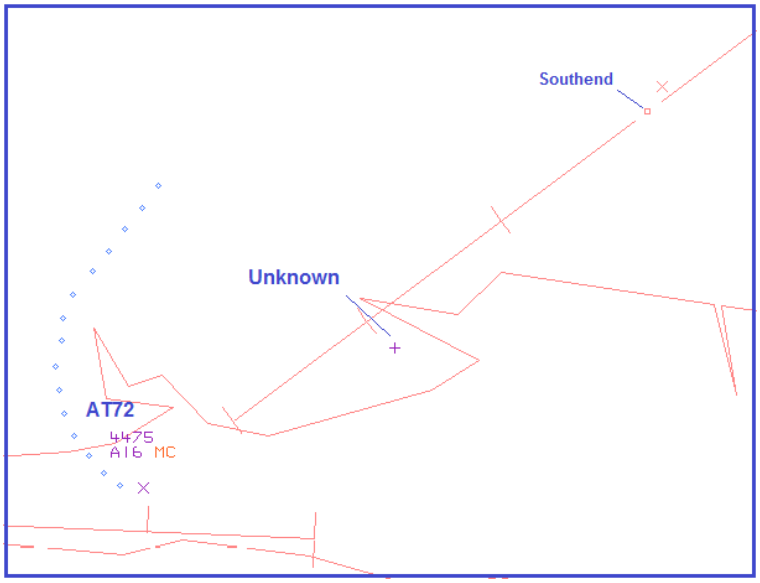

Figure 3 - Debden single-source at 1855:46

None of the these intermittent radar returns remained for more than two or three radar updates and could therefore not be considered to be definite radar returns from an aircraft, although they do serve to hint at possible aerial activity in the area, i.e. by birds, microlight activity or model aircraft flying.

The AT72 pilot believed that he had sighted a quadcopter close to his right wing-tip and gave the distance as 100m, reducing to 25m. The police were subsequently notified by ATC, and two model flying clubs that operate in the area were also contacted. It has not been possible to trace the unknown aircraft.

Model aircraft less than 20kg are classified in the ANO[1] as small unmanned aircraft and are subject, as defined by Article 253, as being exempt from the majority of regulations, but they are subject to Articles 131, 138, 161, 163 165, 166, 167, 232. Quadcopter model aircraft of the type discussed (less than 7kg) are known to operate from local sites. Article 138 states that a person must not recklessly or negligently cause or permit an aircraft to endanger any person or property. CAP658 provides guidance and safety considerations for model aircraft flying.

[1] Air Navigation Order

Southend Airport Occurrence Investigation

The radar controller was not aware of an occurrence at the time because the surveillance equipment did not display any traffic that would have correlated with the reported position of the quadcopter (the recordings support this observation).

Both controllers had been suitably rested and were in compliance with SRATCOH.

The SELEX surveillance system did not present any data on the display that would have notified the radar controller about the presence of the quadcopter; therefore, the Radar controller discharged his responsibilities under a Deconfliction Service appropriately.

Summary

An Airprox was reported between an AT72 and an untraced remote-controlled quadcopter, in Class G airspace, whilst the AT72 was established on the ILS and about to intercept the glide-slope to RW06 at Southend Airport.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available included reports from the pilot of the AT72, transcripts of the relevant RT frequencies, radar photographs/video recordings, reports from the air traffic controllers involved and reports from the appropriate ATC and operating authorities.

The Board were content that the AT72 pilot had clearly seen the quadcopter but, unfortunately, there was too little information available to make a meaningful analysis of the occurrence or to accurately assess the risk. Members were disappointed that someone would fly a quadcopter so high on the extended approach path to an airport, and that despite the valuable assistance of local UAV operating companies, no one had come forward to complete an Airprox report. It was unanimously agreed by the Board that the cause of the Airprox was that the Quadcopter was flown close enough to the ATR72 to cause its pilot concern; because there was too little information to assess the degree of risk accurately, it was graded as D.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The Quadcopter was flown close enough to the ATR72 to cause its pilot concern.

Degree of Risk: D

ERC Score[2]: N/A

[2] Although the Event Risk Classification (ERC) trial had been formally terminated for future development at the time of the Board, for data continuity and consistency purposes, Director UKAB and the UKAB Secretariat provided a shadow assessment of ERC.