

# Report

## The Annual Report of the RSGB Examination Standards Committee

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May 2018

In 2017 the RSGB Examinations Department and the Examinations Group, overseen by the Examinations Standards Committee have continued their main task of operating the amateur radio examinations process. The total enrolment on all examinations fell by just under 10% compared to 2016. However, pass rates remained largely unchanged. Work on the syllabus review has continued during the year, and the new syllabus has been approved by OFCOM. On-demand examinations are now available at all levels and the roll out of on-line examinations provided by TestReach to all levels has been completed.

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## 1. Introduction

RSGB Examination Standards Committee (ESC) was set up under the terms of the Schedule of Terms between Ofcom and the RSGB to run the Radio Communications Examinations (RCE). The work of this committee follows on directly from the work of the RCF Standards Committee, following transfer of responsibility for the RCE from the RCF to RSGB on 1st October 2015.

The annual reports of the Examination Standards Committee are published on the RSGB website, <http://rsgb.org/main/about-us/committees/examination-standards-committee/>. Other documents relevant to the RCE are also available on this website, including the terms of reference of the Examination Standards Committee and the agreement between Ofcom and the RSGB.

## 2. Membership

The membership of the Examination Standards Committee during the period of this report was as follows:

### Committee Members

Prof Anthony Kent, G8PBH, Chair

Paul Jarvis, G8RMM Head of Systems, Baldock Radio Station, Ofcom

Prof Peter Richmond, M0HBL, Chair of Examination Group

Dave Wilson, M0OBW Examination Quality Assurance Manager

Post Vacant Examination Standards Manager

Sq'n Ld'r David Pink, G6EGO & M0ZTT, RAFAC Corps Radio Officer

Paul Whatton, G4DCV, TEC Chairman

Steve Thomas (RSGB GM), M1ACB Examination Dep't representative

Ian Shepherd, G4EVK RSGB Board Liaison

### Examination Audit Committee members

Prof. Hugh Griffiths, G4CNV Department of Electronic & Electrical Engineering, UCL

Dr Julian Gannaway, G3YGF

Murray Niman, G6JYB BAE Systems Applied Intelligence, UK

The terms of reference and constitution of the committee are set down in the Schedule of Terms between Ofcom and RSGB. The RSGB Board Liaison member and the Examination Standards Committee - Annual Report 2017

Examination Audit Committee members attend and contribute to all meetings but are formally non-voting members' Assessment of Overall Examination Performance.

The committee received detailed reports from the Examination Group (EG), the Examination Quality Assurance Manager (EQAM), the Examination Standards Manager (ESM), the Examination Department (ED) and the Air Cadet Organisation (ACO), on the management and performance of the examination processes. Their reports are summarised below.

The Examination Standards Committee is satisfied that the current Foundation, Intermediate and Advanced examination syllabuses are suitable for the award of Amateur Radio licenses. Further, the examinations are compatible with the CEPT harmonised arrangements set out in Recommendations TR 61-01 and TR 61-02. The committee will continue to review the syllabuses and examinations to ensure compatibility with international and national regulations.

### **3. Review of the Report from the Examination Group Chairman**

#### **3.1 Overview**

A new chair: Prof Peter Richmond, M0HBL was appointed to EG during the year. The retiring chair: Alan Betts, G0HIQ remains within the group as “Chief Examiner”. We thank Alan for all his contributions to amateur radio examinations over the years.

During the past year the work of the Examination Group (EG) has focussed on completing the syllabus review and roll-out of the on-line examinations. One of the aims of the syllabus review, apart from ensuring the syllabuses appropriately represent modern amateur radio technology and requirements, is to make the steps between the three levels more of a gradual progression. Another aim is to encourage the progression from Foundation, through Intermediate, to Advanced level. The draft syllabus was put out to consultation in spring of 2017 and the comments of members taken into account in the final version. The new syllabus is now complete, and the content has been approved by Examination Standards Committee and Ofcom. Relative to the current syllabus, the new syllabus is designed to provide the basis for a better teaching and learning process, especially in basic areas. This has been achieved by discarding some outdated content. In addition, some content from the current Advanced syllabus has been brought into the Intermediate syllabus. This lifts the level of the Intermediate in line with wishes of OFCOM; it also reduces the gap between the Intermediate and Advanced levels which many students find daunting. New content covering basic digital concepts and technology is also now contained across all three levels. The proposed schedule is an examination of 26 questions at Foundation level (no change), 46 questions at intermediate level (currently 45) and 58 questions at advanced level (currently 62).

The Foundation and Intermediate banks remain adequate. However, following the agreement to hold the Advanced examination on demand as opposed to 4 times per year, the shortage of questions in certain areas to ensure examinations retain their surprise element means that more new questions are required. Moreover, the new syllabus demands completely new questions for all levels particularly questions on the new digital based sections for which we currently have no questions at all. Emphasis will be placed on writing questions within the EG during the coming year. It was agreed that EG would also examine and update where appropriate the specimen question papers available on the RSGB web site.

#### **3.2 Examinations**

During 2017, total enrolment for all examinations was 2638, a fall of 9.7% on 2016. (These figures exclude Air cadet enrolments reported separately. Details of enrolments, exam sessions, pass rates and progression are shown below:

**Examination data**

		<b>Foundation</b>	<b>Intermediate</b>	<b>Advanced</b>	
<b>Number of examinations</b>	2017	558	250	170	
	2016	597	267	167	
	2015	638	263	189	
	2014	591	268	195	
	2013	594	274	183	
	2006/12(ave)	615	242	149	
<b>Number of candidates</b>	2017	1607	646	385	includes 81 online candidates
	2016	1709	694	427	
	2015	1738	683	440	
	2014	1756	721	488	
	2013	1759	736	473	
	2006/12(ave)	1947	687	398	
<b>Number of passes</b>	2017	1310	592	250	includes 51 online passes
	2016	1438	661	290	
	2015	1475	632	300	
	2014	1481	682	303	
	2013	1508	664	332	
	2006/12(ave)	1656	639	273	
<b>Pass rate</b>	2017	81.5%	91.6%	64.9%	
	2016	84.1%	95.2%	67.9%	
	2015	84.9%	92.5%	68.2%	
	2014	84.3%	94.6%	62.1%	
	2013	85.7%	90.2%	70.2%	
	2006/12(ave)	85.1%	93.0%	68.6%	
<b>Progression</b>	2017		<b>F to I</b> 49.3%	<b>I to A</b> 65.0%	
	2016		48.3%	64.6%	
	2015		46.3%	69.6%	
	2014		48.7%	71.6%	
	2013		48.8%	71.2%	
	2006/12(ave)				
<b>Progression</b>	2017		<b>F to I</b> 49.3%	<b>I to A</b> 65.0%	
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	2014		48.7%	71.6%	
	2013		48.8%	71.2%	

Table 1 Examination data

Despite efforts to attract new people into the hobby it remains a niche interest, with Foundation level being the only way into the hobby, and the decline remains steady at ~2.5% per year. This has led ESC to start to consider possible new routes of entry to the hobby. One option under consideration is a single exam providing direct access to advanced.

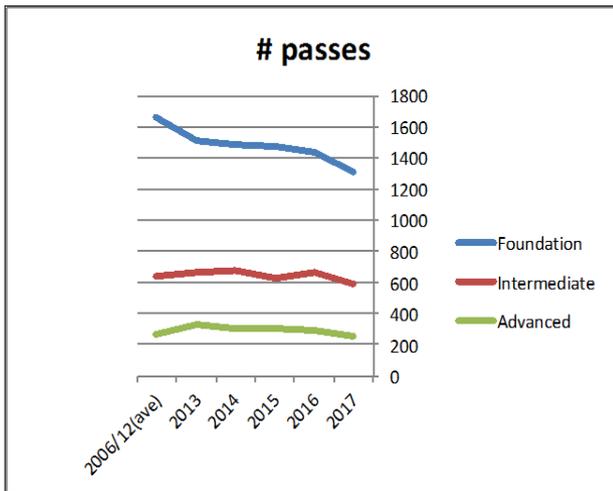


Figure 2 Numbers of passes

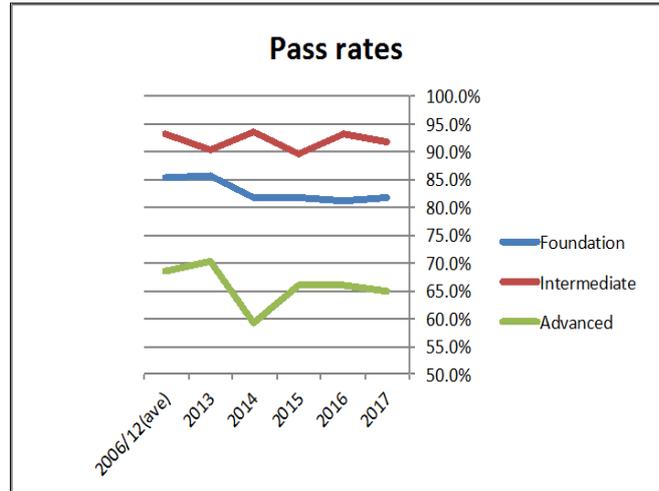


Figure 1 Pass rates

During the past three years the pass rates have remained nearly constant, with the trend in the numbers of passes following the trend in exam entries. There are no proposed changes to the pass marks set for all the examinations until the effects of adopting the new syllabus are seen.

It was agreed that the boundaries between distinction, merit and pass should also remain unchanged. OFCOM have for many years been saying the level of the Intermediate examination is too low and with a pass rate of over 90% it is hard to disagree with this view. From analysis of the results we can quickly conclude that the difficulties faced by students have remained unchanged over the years with the same type of technical questions being answered incorrectly at all levels suggesting that basic concepts especially related to AC, antennae and feeders are not understood by many students. The new syllabus aims to change this reducing the gap between Intermediate and Advanced levels and spelling out the requirements in more detail.

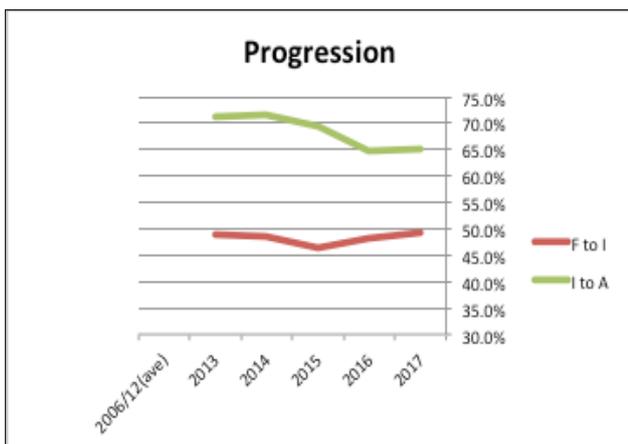


Figure 3 Progression between levels

The small uplift in the progression rate from Foundation to Intermediate since 2015 followed by a similar but smaller rise in the progression rate from Intermediate to Advanced level is encouraging. However, it does seem clear that present cohorts find it difficult to make the jump from Intermediate level and this despite the standard and syllabus remaining the same now for many years.

A final point to note is the average number of candidates per examination. This is ~3 per session which is remarkably low. Large clubs hold examinations with up to 20 candidates

suggesting that many exams are being set for just one or two candidates which under EMAS imposed a significant cost on RSGB HQ as well as burden on volunteer invigilators.

## **4. Review of the Report from the Examination Quality Assurance Manager (EQAM) & Examinations Standards Manager**

### **4.1 Reviewing and editing the “Conduct of Examination - Online Exams” booklet – EX500**

EX 500 continues to be the document describing how the RSGB’s exams should be administered. During the last 12 months no changes have been made to the document used for paper exams but a similar document (EX500 online) describing how online exams should be administered has been produced and continues to be reviewed by various exam secs administering online exams at all levels. This document does need adding to the exam section of the RSGB’s training pages within the RSGB’s web site. As previously this document will not be printed it will only be available as a download from the web site.

Discrepancies between the guidance document, as produced by TEC, and EX500 have been identified and we believe have been corrected.

### **4.2 Reviewing and editing the numerous exam forms**

This work has primarily been centred around re-badging a number of forms to remove the RCF logo and replace it with the RSGB logo, making the various forms downloadable “Word” documents which allows Exam Secs etc to complete and submit them electronically, including the option of requesting an Online exam at all 3 levels.

### **4.3 Continued development of the TestReach – online examinations system**

This work continues, in cooperation with TestReach, with various improvement being added as they become available. Work is ongoing to make the online system more user friendly when it comes to candidates requiring a reader or candidates with visual impairment etc. A meeting with the TEC’s Disabilities Working Group (DWG) is currently being scheduled, probably mid-May, to take this work forward.

As we encourage Exam Centres to take up online exams the “excuse” of a lack of, or poor wifi prevails. To address this there are various ongoing developments taking place, including being able to resume exams after a short loss of an internet connection, being able to continue an exam if the internet connection is lost altogether and a system that doesn’t require an internet connection.

The online system automatically produces candidate feedback once a candidate submits their answers, this is at all levels and is for both successful and unsuccessful candidates. Additionally, the feedback drills down to the actual syllabus section the candidates questions relate to, rather than in the manual system where it simply identifies the question number.

### **4.4 Coordinating un-announced inspections primarily using the RSGBs regional team plus a number of independent inspectors**

Unannounced inspections continue – mainly based on intelligence from “interested parties”. No significant issues were found – the usual signs missing and failing to recognize that an inspection is an irregularity and should be noted in the exam booklet.

Pleasingly there were no occurrences of candidates being advised they’d passed only to find on subsequent checking at RSGB HQ they were unsuccessful.

There was an instance of 1 exam session being run in a totally unsuitable room for the numbers involved – after some discussion with the inspector, an alternative arrangement was made which satisfied the space criteria.

Probably the most serious instance was an exam being requested to run at a specific time, an inspector arriving to inspect it – no one being there. The inspector waited for 45 minutes after the exam time and left. Subsequent paperwork arrived at HQ indicating the exam took place. As a consequence, the exam was voided and the candidate resat a paper.

Home exams continue – a recent case did however raise some suspicions as to how or why the candidate qualified for a home exam. Conversations during the inspection failed to confirm why a home exam had been granted – other than the candidate received maximum disability allowance. A note has been placed on the candidate record such that if the apply for the next level exam new supporting evidence will be required.

Instances of people, other than those listed on the official paperwork being in the room either during the exam or when marking is taking place have been noted.

#### 4.5 Carrying our Reader assessments

A number of candidates require readers which in the past was rather loosely controlled. Some time ago a reader assessment was created which has proved very successful in helping readers understand the issues around reading questions to candidates a) without providing any “extra assistance” and b) recognising that it’s not always an advantage for candidates to have questions read to them. These assessments continue, on average say 1 assessment per month, and a register of readers is maintained in RSGB HQ. Pleasingly the majority of those completing the assessment which is originally requested on behalf of a particular exam venue/centre agree to read for other candidates within a reasonable distance (typically 25 miles).

## 5. Review of the Report from RSGB HQ Examination Department (ED)

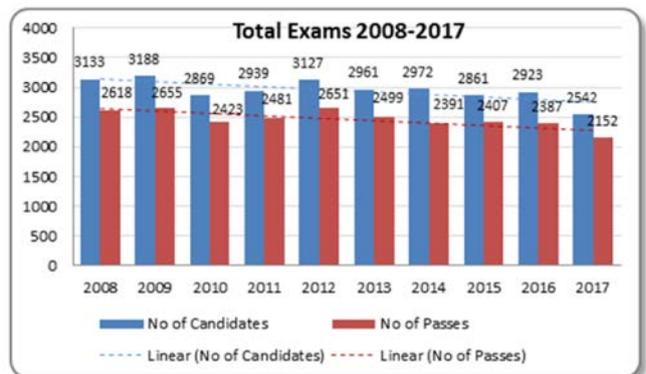
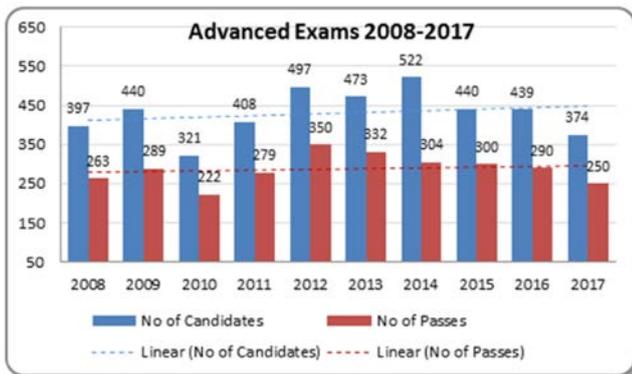
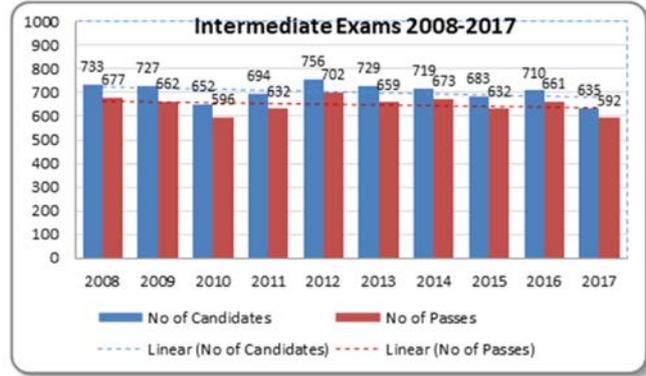
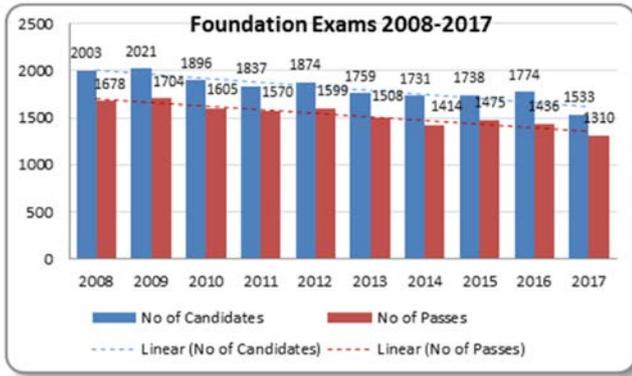
### 5.1 The year in retrospect

Total demand for exams in 2017 showed a decrease compared with 2016, and pass rates have remained about constant, resulting in fewer successful candidates. The introduction of Advanced exams on demand has helped to smooth the demand and reduce the peaks in workload, but Aug-Sept remain low points with Oct-Dec being high points. Published timescales for providing papers and results were maintained.

### 5.2 Statistics

Overall, there were total of 285 fewer candidates across all exam levels last year. 167 fewer at Foundation, 64 fewer at Intermediate and 54 fewer at Advanced level. The pass rate remained approximately constant across all three levels, with 2152 successful candidates.

Level	2017			2016		2015	
	Candidates vs 2016	Candidates	Pass Rate	Candidates	Pass Rate	Candidates	Pass Rate
Foundation	- 9.41%	1607	82%	1774	81%	1738	84%
Intermediate	- 9.01%	646	92%	710	93%	683	92%
Advanced	-12.30%	385	65%	439	66%	440	68%
<b>Total</b>		<b>2638</b>		<b>2923</b>		<b>2861</b>	



### 5.3 Trends

Although the total number of candidates and the pass rate for all levels of the examinations has remained largely unchanged over the previous nine years, the trend was slightly downwards. This year has seen a reduction of 9.75% in the total number of candidates across all three levels.

We understand that 84 candidates passed the Air Cadet exam, with 55 requesting a candidate number from the RSGB for Foundation equivalence. Those figures are not included in the statistics.

### 5.4 In-year activity

- Online examinations using the TestReach System were successfully introduced. Advanced in March 2017, Intermediate in November 2017 and Foundation in January 2018.
- The level of Registered Assessor applications was 116 in 2017 (down from 125 in 2016).
- No International Amateur Radio Exams were administered in 2017 (down from 2 in 2016).
- Ofcom Licensing System changes led to increased phone calls for help/advice.

## 6. Report from the ACO Foundation

### 6.1 General

Continued staff workload problems amongst cadet units has again reduced the number of courses available for eligible cadets to take the Foundation exam. It is also affected by the 2017 complete reorganisation of the whole cadet training syllabus, not just radio. This has meant that Staff who would be teaching radio are having to relearn all of their other subjects to match the new progressive syllabus.

Foundation is still the only module that has been completed for the Cadets Silver qualification level, so in effect is compulsory for all advanced operators.

## 6.2 2017 Results

- 109 Cadets and 4 staff took the exam, 80 Cadets and 4 staff passed.
- 74.34% first time pass rate.
- Of the 29 Cadets that failed on the first try, 12 of these passed on retakes.
- 32 Places were lost due to cancellation of courses, some of which were weather related, and 19 lost to no-shows.

Overall the average pass mark was 84.93%, Licensing conditions still being the prime source of failed questions. This is often due to tutors themselves, when not being fully licensed amateurs, not understanding the licensing document.

The operating ability of the cadets was noticed during practical sessions, where the ease of use and cadet confidence was frequently remarked upon.

## 6.3 Inspections & Irregularities

Nine of the courses were run by one of our Regional officers; another was moderated by Dave Taylor. No Irregularities reported.

## 6.4 Intermediate

A small team, under Dave Taylor, has been reworking the 'Practical Skills' module of the 'Communications Specialist' Gold level course to align with around 60% of the Intermediate practical syllabus. As soon as this has been trialed and tested, a top-up course will be developed to cover the remaining sections. This will give cadets a short-step, outside of our main syllabus, to move up to an Intermediate Licence. This is envisaged to be a further step alongside our Gold Award.

## 7. International Amateur Radio Examination (IARE)

In future the RSGB will discontinue providing a special International Exam and instead use the normal UK exam - online - and the local radio regulatory authority may discount sections such as licence requirements and substitute local questions.