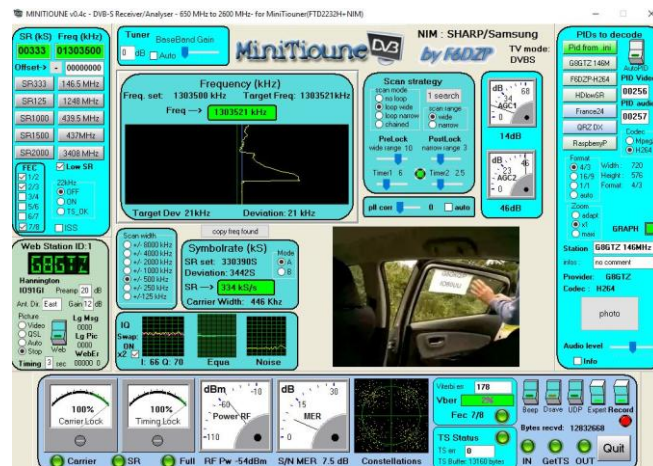




BATC report to the RSGB spectrum Forum – October 2016

The Amateur Television Community continues to drive innovation in spectrum use and the last 12 months has seen the continued adoption of Reduced Bandwidth RB-TV transmissions and experimentation with DVB-S2 modulation modes.

The use of DVB-S 333Ksymbols in a .5MHz bandwidth has been adopted on 146 MHz and 2 way contacts with high quality MPEG4 video have been achieved over 180Kms despite the 25 watt erp limit. This means transmissions are 40dB down on a typical SSB station and has proven to be the limiting factor in achieving greater distances.



G8GKQ/P received over 183 Kms on 146.5 MHz

However recent tests with DVB-S2 and higher order modulations have shown the potential for even greater distances and experiments continue to confirm the initial findings of around 2dB gain over DVB-S. DVB-S2 has also been used by stations experimenting with higher bit rates and has proven that High Definition signals can be transmitted within reasonable bandwidths on the 23cm band.

RB-TV has also been used on 70cms band where the higher erp means 200+ Km is possible and experiments have been carried out on 3cms where the current longest QSO stands at 93 Kms using modified narrow band equipment.

BATC continues to support and drive these initiatives with a program of awards and grants and the use of the BATC shop to purchase and stock otherwise difficult to source components. In order to counter the declining operator numbers BATC has awarded a number of prizes for contest winners and have introduced a 3 monthly activity weekend timed to coincide with activity weekends in neighbouring IARU countries.

Early signs are that activity is starting to increase with up to 15 stations active on recent activity weekends and 11 entries in the June IARU contest up from zero in 2015!

Amateur Television from the ISS

The UK ATV community provided significant support to the ARISS HamTV project to ensure live pictures were received for the first time during the schools contacts.



Several ATV operators also proved it was possible to overcome the significant challenges to receive the non-standard DVB-S signals at their home stations.

TV Repeaters

Currently 36 TV repeaters are licensed with primary outputs on 4 bands. 3 are listed as non-operational (2 due to loss of site) and 2 have never been on air since receiving the NoV with one group losing their site during the lengthy NoV process!

The lengthy delays in repeater licensing are having a significant impact on the ATV community - there are currently 6 units awaiting NoVs with 3 units waiting over 1 year and the GB3EY application has been in the system for over 2.5 years despite the CAA approving the requested frequencies 18 months ago.

The Bands

134 GHz

M0DTS has recently transmitted ATV signals on 134 GHz – perhaps a new band for portable ATV operation.

24 GHz

G1LPS and M0DTS have built ATV equipment for 24 GHz, a band which is used throughout Europe by ATV operators, and submitted the first UK entry for the band in to the June IARU contest.

10 GHz

Activity continues on the band with several repeater inputs / outputs active and new repeater licenses are being applied for.

5.6 GHz

As part of the PSSR program an input on 5.665GHz has been approved for GB3KM. The frequency was chosen to enable the use of readily available FM ATV equipment designed for drone downlinks. Hopefully the proposed changes to the band will not affect the future use for ATV operation.

3.4 GHz

2 more repeaters are now on air in the ATV sub segment with 2 MHz wide DVB-S transmissions. Reports continue to confirm that the band performs better than 2.3 GHz, mainly due to lack of interference and the availability of C band LNBs making it easy to build an effective receive system.

2.3 GHz

There are still 2 units with outputs operating on 13cms, one of which has an input in the new 2390 – 2400MHz sub band and digital output on 2326 MHz. Now the impact of PSSR has been understood we are looking at the potential of applying for more units on the band.

1.3 GHz

Most ATV activity continues to take place on 23cms but we are once again seeing significant delays in the repeater NoV process.

It should be noted that although we have a policy that all new 23cms repeater applications use digital outputs, analogue FM is still a very important mode on 23cms and provides an easy and cost effective way for newcomers to experience the hobby. The BATC continues to support its use and encourages groups to ensure all repeater applications include an analogue input.

70cms

The use of DATV continues to revive interest in 70cms and tests with the new RB-TV mode shows signs of even greater DX potential

146 MHz

The ATV community has risen to the challenge of using 500 KHz of the new band for RB-TV use - this initiative has shown that the amateur community can still innovate and has helped RSGB increase the profile of the radio amateurs as innovators with Ofcom.

However, a significant number of operators have made a large investment in both time and money to achieve the results on 146 MHz RB-TV and it is of concern that, with less than 2 weeks to the expiry date, there is no indication that the NoVs will be renewed.

70 MHz

As a direct result of the 146 MHz work, a further allocation of 1 MHz was gained at 71 MHz. At least 4 operators have applied for special permits to operate on the new band and it is anticipated that tests will commence as soon as these are received.