Band I TV was very well established and only one UK station had a 50MHz permit. There was much cross-band working and American stations worked all continents.

Brian noted the considerable variety of anomalous propagation modes likely to be encountered on 50MHz. These include conventional v.h.f./u.h.f. troposcatter, meteor scatter, aurora and ionospheric modes including F-layer reflection and single and multi-hop sporadic E-layer reflection.

In 1977 it became clear that Band I TV was declining and hope was raised that some permits might be obtained for the forthcoming (cycle 21) sunspot maximum. After some administrative hiccups, near disasters and false starts 40 permits for operation outside TV hours were issued in response to 200 applications for use from 1 February, 1983.

Brian explained how to get started on 50MHz. All that is necessary is a dipole, a converter and some form of talk-back. The most popular time seems to be 0700 to 0830 and there is an active UK 50MHz group with G4JCC, QTHR, as Secretary. It was reported that the final close down of Band I TV was scheduled for 2 January, 1985.

After a brief interval allowing everybody to stretch their legs and get a cup of tea, Tony Whittaker G3RKL, took the stand to describe the GB3SF experimental pilot s.s.b. repeater project. Tony explained that he was not professionally involved in radio and went to some trouble to correct the common misapprehension that GB3SF was to be a linear repeater when it was actually intended to be a single-channel voice repeater. Tony reported that GB3SF was now licensed but unlikely to be operational for some time since it was being built as a student project.

Tony had gone to considerable effort to analyse the channel usage and geographical spacing of existing v.h.f. and u.h.f. repeaters finding 62 144MHz f.m. repeaters equally distributed among eight 25kHz channels and 104 u.h.f. repeaters on nine channels with comparatively low occupancy of the recently designated odd numbered channels. There is considerable geographical overlap on some channels, the average separation between co-channel repeaters on 144MHz being about 150km and on 430MHz about 95km. An "average" 144MHz repeater had its antennas at 250m above sea level which gives a line of sight range of about 55km to a station at sea level and 75km to a station at an altitude of 30m. Tony suggested that an idealised network would have co-channel repeaters every 150km so the 30m a.s.l. station would experience considerable areas of overlap. Tony produced many more charts and statistics to underline his contention that there is a significant need for more repeater channels.

The obvious solution, Tony explained, seems to be to use s.s.b. and an easily realisable 5kHz channel spacing; this would give 40 channels rather than eight in a 400kHz sub-band allowing v.h.f. repeaters to be much more closely spaced without overlap problems. Using this system the country could be covered with a network having only 2 or 3 repeaters per channel.

Tony then outlined the design principles of GB3SF which will have an input frequency of 145·185MHz and an output frequency of 145·785MHz.

After a detailed discussion of the GB3SF frequency plan Tony went on to describe the construction of the 100dB isolation tuned coaxial cavity filters needed for the repeater, showing photographs of these. They provide an attenuation notch of almost 120dB with an insertion loss of some 2–3dB.

Peter Chadwick G3RZP, made a welcome return to give the third lecture on the subject of amplifiers. Peter is well known for his forthright exposition of the home truths associated with many aspects of radio. The purpose of amplifiers, he said, was to make things bigger. An amplifier consisted of a supply, a load and an input control, but even this simple model must run into linearity problems and saturated at some power level.

Peter illustrated his lecture with several fascinating slides, some of which showed actual amplifiers.

The final formal part of the convention was a v.h.f. forum with a panel comprising Jack Hum G5UM, Tom Douglas G3BA, Brian Bower G3COJ, and Keith Fisher G3WSN. This was an opportunity for all those present to raise any v.h.f. topic of interest and get the panel's reactions and thoughts. It was also a useful opportunity for the panel members to discover what topics were of particular concern to the v.h.f. community.

It was clear that the use of the 430MHz band was a very sensitive topic. In spite of this there was much informal encouragement of the use of the 430MHz band both from the panel and from the floor. The possibility of IARU societies agreeing to trade some of the width of some of the u.h.f. and microwave bands for protected, primary status, narrower bands was commented on by panel members, as was IARU concern about the increasing incompatibility of national u.h.f. and microwave allocations.

Much discussion centred around band planning and novice licences. A suggestion that 20kHz f.m. channel spacing be adopted instead of the current 25kHz spacing received very little support. RTTY calling arrangements centred around 145·3MHz were discussed and it seemed that most of the problems arose from the channelised mentality of operators in that part of the 144MHz band.

There seemed to be little real support for the perennially discussed novice licence, the American style novice licence involving limited c.w. only with access to small parts of the h.f. bands would be welcome but a novice licence allowing use of commercial v.h.f. phone equipment would not get much support. The panel expressed hopes that a regular UK 50MHz allocation for Class A and Class B licence holders would be forthcoming by 1986.

Some concern was expressed about the abuse of the UK band plan, particularly by newly licensed operators on the 144MHz band. Several panellists expressed the opinion that, whilst some of the abuse was deliberate, most of it was due to ignorance. It was felt that the incorporation of the band plans into the licence would be a bad thing; however, suggestions to provide information sheets to new licence holders were being actively pursued and a suggestion that band planning be incorporated in the RAE was welcomed and noted for further investigation.

The panel outlined the background to the extraordinary situation which had overtaken their Belgian colleagues, many aspects of this only serving to underline the importance of a strong national amateur radio society enjoying the support of the majority of the country's licensed amateurs and a good working relationship with the licence issuing authority. ●

Kindly Note

PW Dart, November 1983

Diode D2 in the circuit diagram, Fig. 1, should be an 8·2V Zener diode BZY88. Also capacitor C3, 1nF, should be inserted into the line joining the top ends of C2 and C4.