

fective method to make contact or to access a repeater is simply to announce one's callsign — nothing more.

What will be evident from the above table showing the UK band-plan for 2m is that, like 70cm, it places DX modes at the bottom end and local communication at the top. An important difference which will be observed is that while on 'Seventy' repeater inputs are high and outputs low, on 'Two' the reverse is the case. To talk through (say) GB3CF you need to offer it a signal at 145.0MHz to persuade it to talk with you on 145.6MHz, its output channel. If you wished to talk through its companion repeater GB3LE you would need to offer it 437.7MHz (RB4) to enable it to answer back on 433.1MHz. Other repeaters pro rata.

Let's take a look at that phrase 'DX modes at the bottom end'. What kind of DX? Many kinds indeed but not for all of the time. In fact for most of the time the DX really needs to be worked for because normal conditions prevail. It is then that success on 'Two' is governed by the goodness of your site and the size of your antenna — no, not on how much power you use. A gainy antenna is as good as a power amplifier stage at the end of your transmitter and a pre-amplifier ahead of your receiver. (There we go again, pre-empting the eventual article about antennae. But then, the subject is inescapably all-pervading).

But what when conditions are not normal? These are the times when 'Two' becomes really exciting, when the 'warm weather effect' opens up the band to great distances, when elusive sporadic-E pops up, when (even more rarely) aurora manifests itself to apply that characteristic ghostly rasp to distant signals — and sometimes to not so distant signals. All these 'whens' open up 144MHz to ranges of commonly many hundreds of miles and exceptionally to the thousand mile mark.

The astute observer of the metre-wave scene soon comes to recognise when these various lift conditions are likely to occur. He will also recognise that many of them apply not only to 2m but also to 70cm, which at such times can be a refuge from the heavy occupancy of 2m, but also a greater challenge to

the operating skills ('Three times as difficult, three times as interesting', remember?).

There now remain the two lowest frequency bands of the vhf spectrum to discuss. One of them, 50MHz, is barely 'an allocation' at the present time, with restrictions placed on its use, and few allowed to occupy it anyway in view of its incidence with television services. But what of 'Four'? Here is a strange band indeed deserving of more attention by the amateur fraternity than it has so far enjoyed.

TABLE 3

70.025 to 70.075MHz	beacons
70.075 to 70.150MHz	telegraphy
70.15 to 70.260MHz	telegraphy and single sideband
70.26 to 70.400MHz	all modes (70.26MHz a popular fm calling frequency)
70.40 to 70.50MHz	fm simplex (70.45MHz also a calling frequency)

### A look at 'Four'

'Four' has always been confined to full ticket operators, meaning Class A licensees, and this for one inescapable reason: international agreement requires the morse code qualification to be held by operators who wish to work below 144MHz. Hence the non-availability of 70MHz to the Class B folk ('More's the pity...they'd have galvanised it' is a comment occasionally heard).

A look at the bandplan for 70MHz reveals two major differences from those for 144MHz and 433MHz: there are no repeaters, for one thing, and for another, the beacons are placed low rather than in the middle, as they are on the next two bands up.

Habit and custom have caused 70.26MHz, once the centre of amplitude modulated transmissions, to become the FM calling frequency now that dear old AM is a thing of the past (and with its demise a lessening of TVI-proneness). Gradually, the recommended frequency of 70.45MHz is becoming established as the fm calling channel, although many users of 'Four' have ex-commercial mobile transceivers equipped for the one channel of 70.26MHz.

Another habit and custom is the use of cw in the ssb segment of the band, perfectly legitimately: every user of 'Four' being a Class A operator should be capable of accepting

a call on the key and of setting up a cross-mode ssb-to-cw contact. Many do: it has become an accepted part of the Seventy Meg scene.

### The 'Twice' and 'Half' factor

Those metre-wave persons who have been 'at the game' rather longer may feel inclined to challenge the suggestions made earlier that '...70cm being three times the frequency of 2m may be expected to give one-third the coverage' and that 4m being half the

frequency of 2m (give or take a couple of megahertz) might be expected to yield twice its coverage.

It therefore needs to be explained that these are only rough and ready approximations that become precise only if the transmitting station's parameters are virtually identical on all three bands. It is imperative to compare like with like: in other words, if you are considering an effective radiated power (erp) of 10W on 144MHz then you must do the same on 433MHz and on 70MHz. And because the antenna is an important part of the equation here again you must compare like with like. If you envisage a 10-element Yagi at 144MHz then you must do likewise on 'Four' — and a 'ten elly' there would be a big beast indeed.

Given that the amateur operator's station parameters are comparable on all the bands used then the results obtained in QRBs covered (look up QRB again if you haven't remembered) will be comparable, too, and such things as path loss as the frequency goes higher will become evident, as will much else (eg, topography).

The next installment is to follow in a couple of months' time. Its title: 'Putting the signal where you want it to go'... yes, antennae! But it could be that the feedback from you, the reader, might be so emphatic that you take over this page next time. And 'Antennae' back into the pending tray again!