

Replacing the Crystal LO in DB6NT Transverters

All of the LO frequencies required by the range of DB6NT microwave transverters can be generated by DFS principles within the scope of the two-loop DFS. In many cases a direct replacement frequency can be synthesised. In some cases however this is not possible, although there is often a simpler alternative (from a DFS point of view) that requires a different multiplier regime to reach the same final frequency.

Both 10MHz and 15MHz options are required to synthesise the full range.

Table 1 below sets out the requirements and the generation schema from a 10MHz reference input

Band	Alloc	LO	Mult	Fundamental	Main	Loop 1	Loop 2
1296	All	1152	12	96	90	6	
2304	US	2160		120	110	10	
2304	US Alt	2160	24	90	90		
2320	EU			120.889	110	12	0.1111
2320	EU Alt			90.6667	90	0.6667	
2424	JA			125.3333	130	4	0.6667
3400	All Alt	3256	32	101.75	90	8	3.75
3456	US	3312	36	92	90	2	
5760 Alt	All	5616	54	104	90	10	4
5760-2	All	5616	80	70.2	70		0.2
10368	All	10224	108	106.5	90	5	0.5
24048		11952		124.5	130	5	0.5

'Alt' denotes alternative synthesis options

Note 2 based on multiplication up to 1123.2MHz

Table 1 – 10MHz reference generation schemes for 144MHZ IF

Table 2 (overleaf) shows the options for a 15MHz input

Band	Alloc	LO	Mult	Fundamental	Main	Loop 1	Loop 2
1296	All	1152	12	96	90	6	
2304	US	2160	24	90	90		
3400	All			135.6667	135	0.6667	
3456	US			138	135	3	
5760	All	5616		117	105	12	
10368	All	10224	108	106.5	105	1.5	
24048		11952	216	124.5	105	5	1.5

Note 1 based on multiplication up to 1123.2MHz

Note 2 based on multiplication up to 1123.2MHz

Table 2 – 15MHz reference generation schemes for 144MHz IF