

Replacing the Crystal LO in DEMI Transverters

All of the LO frequencies required by the range of DEMI microwave transverters can be generated by DFS principles within the scope of the two-loop DFS. In almost all cases, the DFS generated frequency is half of the current LO crystal frequency. In the case of the 5760 unit, there are also some other attractive alternatives, but these would require a different multiplication chain to reach the required injection frequency (1123.2MHz)

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
902	US	758	8	94.75	90	4	0.75
1296	All	1152	12	96	90	6	
2304	US	2160	24	90	90		
3456	US	3312	36	92	90	2	
5760-1	All	5616	54	93.6	90	3	0.6
5760-2	All	5616	80	70.2	70		0.2
10368	All	10224	108	94.6667	90	4	0.6667

Note 1 r3 second divider input required

Note 2 based on multiplication up to 1123.2MHz

Table 1 – 10MHz reference generation schemes

Table 2 shows the options for a 15MHz input

Band	Alloc	LO	Mult	Fundamental	Main	Loop 1	Loop 2
902	US	758	8	94.75	90	4.5	0.25
1296	All	1152	12	96	90	6	
1296	All	1152	12	96	105	9	
2304	US	2160	24	90	90		
5760-1	All	5616	40	140.4	135	5.4	
5760-2	All	5616	80	70.2	75	4.8	
10368	All	10224	108	94.6667	90	4	0.6667

Note 1 based on multiplication up to 1123.2MHz

Note 2 based on multiplication up to 1123.2MHz

Table 2 – 15MHz reference generation schemes