Appendix 2

Frequencies for Terrestrial and Satellite DAB Transmission

The frequencies for terrestrial DAB transmission (T-DAB) were co-ordinated at a CEPT planning conference [CEPT, 1995] for Band I (47 MHz to 68 MHz), Band III (174 MHz to 240 MHz) and L-Band (1452 MHz to 1467,5 MHz), valid in particular for European terrestrial DAB implementations (T-DAB), see Table A2.1. A further international planning conference for the VHF and UHF broadcasting bands in Europe, Africa, Middle East and the Islamic Republic of Iran held its final session in Geneva from May to June 2006 [RRC06, 2006]. This resulted for T-DAB in increased spectrum in Band III (VHF), which is partially already available. After a transition period it will become fully available in 2015 (except for a few countries, where this will not happen until 2020). The actual T-DAB frequency blocks remained unchanged in this process, only a new assignment of which block may be used in which area.

Slightly different centre frequencies for Band III were specified for DAB and DRM services in Korea, see Table A2.4 [WorldDMB Website]. The DAB block numbers in Band I and Band III correspond to the naming convention for TV channels in Europe.

CENELEC made a subsequent Industry standard [EN 50248] which does not recommend frequencies in Band I (printed in *italics*), due to the high man-made noise within this frequency range. Therefore, there will be no receiver equipment available which does support Band I.

NOTE 1: CENELEC introduced three additional DAB blocks named 10N, 11N, 12N which occupy some of the broader guard intervals, see Table A2.1. Offsets to Blocks 10A, 11A and 12A will allow these blocks to be used in areas also covered by B/PAL/NICAM TV transmitters operating in the lower adjacent channels. The TV transmitters also need to be offset in frequency by the maximum allowable amount (approx. 200 kHz).

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Table A2.1 Frequencies for T-DAB in Europe

T-DAB Block number	T-DAB Block label	Centre frequency (MHz)	Block corner frequencies (MHz)	Lower/upper guard distance (kHz)
Band I: 47,0 to 68,0 MHz				
(1)	2A	47,936	47,168 to 48,704	168/176
(2)	2B	49,648	48,880 to 50,416	176/176
(3)	2C	51,360	50,592 to 52,128	176/176
(4)	2D	53,072	52,304 to 53,840	176/320
(5)	3A	54,928	54,160 to 55,696	320/176
(6)	3B	56,640	55,872 to 57,408	176/176
(7)	3C	58,352	57,584 to 59,120	176/176
(8)	3D	60,064	59,296 to 60,832	176/336
(9)	4A	61,936	61,168 to 62,704	336/176
(10)	4B	63,648	62,880 to 64,416	176/176
(11)	4C	65,360	64,592 to 66,128	176/176
(12)	4D	67,072	66,304 to 67,840	176/160
Band III: 174,0 to 240,0 MHz				
13	5A	174,928	174,160 to 175,696	160/176
14	5B	176,640	175,872 to 177,408	176/176
15	5C	178,352	177,584 to 179,120	176/176
16	5D	180,064	179,296 to 180,832	176/336
17	6A	181,936	181,168 to 182,704	336/176
18	6B	183,648	182,880 to 184,416	176/176
19	6C	185,360	184,592 to 186,128	176/176
20	6D	187,072	186,304 to 187,840	176/320
21	7A	188,928	188,160 to 189,696	320/176
22	7B	190,640	189,872 to 191,408	176/176
23	7C	192,352	191,584 to 193,120	176/176
24	7D	194,064	193,296 to 194,832	176/336
25	8A	195,936	195,168 to 196,704	336/176
26	8B	197,648	196,880 to 198,416	176/176
27	8C	199,360	198,592 to 200,128	176/176
28	8D	201,072	200,304 to 201,840	176/320
29	9A	202,928	202,160 to 203,696	320/176
30	9B	204,640	203,872 to 205,408	176/176
31	9C	206,352	205,584 to 207,120	176/176
32	9D	208,064	207,296 to 208,832	176/336
33	10A	209,936	209,168 to 210,704	336/(176)
NOTE 1	10N	210,096	209,328 to 210,864	
34	10B	211,648	210,880 to 212,416	(176)/176
35	10C	213,360	212,592 to 214,128	176/176
36	10D	215,072	214,304 to 215,840	176/320
37	11A	216,928	216,160 to 217,696	320/(176)
NOTE 1	11N	217,088	216,320 to 217,856	
38	11B	218,640	217,872 to 219,408	(176)/176

Table A2.1 (*continued*)

T-DAB Block number	T-DAB Block label	Centre frequency (MHz)	Block corner frequencies (MHz)	Lower/upper guard distance (kHz)
39	11C	220,352	219,584 to 221,120	176/176
40	11D	222,064	221,296 to 222,832	176/336
41	12A	223,936	223,168 to 224,704	336/(176)
NOTE 1	12N	224,096	223,328 to 224,864	
42	12B	225,648	224,880 to 226,416	(176)/176
43	12C	227,360	226,592 to 228,128	176/176
44	12D	229,072	228,304 to 229,840	176/176
45	13A	230,784	230,016 to 231,552	176/176
46	13B	232,496	231,728 to 233,264	176/176
47	13C	234,208	233,440 to 234,976	176/32
48	13D	235,776	235,008 to 236,544	32/176
49	13E	237,488	236,720 to 238,256	176/176
50	13F	239,200	238,432 to 239,968	176/32
L-Band: 1452,0 to 1467,5 MHz				
51	LA	1452,960	1452,192 to 1453,728	192/176
52	LB	1454,672	1453,904 to 1455,440	176/176
53	LC	1456,384	1455,616 to 1457,152	176/176
54	LD	1458,096	1457,328 to 1458,864	176/176
55	LE	1459,808	1459,040 to 1460,576	176/176
56	LF	1461,520	1460,752 to 1462,288	176/176
57	LG	1463,232	1462,464 to 1464,000	176/176
58	LH	1464,944	1464,176 to 1465,712	176/176
59	LI	1466,656	1465,888 to 1467,424	176/–

The remaining frequency range in L-Band (1467,5 MHz to 1492 MHz) was now recommended for DAB satellite applications (S-DAB), see Table A2.2.

A slightly different frequency scheme for the L-Band was recommended for use in Canada (see Table A2.3), which is now also foreseen for use in Australia. These channels have been numbered separately from 1 to 23.

Table A2.2 Recommended centre frequencies for S-DAB in Europe according to [EN 50248]

T-DAB Block number	T-DAB Block label	Centre frequency (MHz)	Block corner frequencies (MHz)
L-Band: 1452,0 to 1467,5 MHz			
60	LJ	1468,368	1476,600 to 1469,136
61	LK	1470,080	1469,312 to 1470,848

(*continued overleaf*)

Table A2.2 (*continued*)

T-DAB Block number	T-DAB Block label	Centre frequency (MHz)	Block corner frequencies (MHz)
62	LL	1471,792	1471,024 to 1472,560
63	LM	1473,504	1472,736 to 1474,272
64	LN	1475,216	1474,448 to 1475,984
65	LO	1476,928	1476,160 to 1477,696
66	LP	1478,640	1477,872 to 1479,408
67	LQ	1480,352	1479,584 to 1481,120
68	LR	1482,064	1481,296 to 1482,832
69	LS	1483,776	1483,008 to 1484,544
70	LT	1485,488	1484,720 to 1486,256
71	LU	1487,200	1486,432 to 1487,968
72	LV	1488,912	1488,144 to 1489,680
73	LW	1490,624	1489,856 to 1491,392

Table A2.3 Recommended centre frequencies for DRB in Canada (the Eureka 147 DAB system in Canada is officially designed as DRB = Digital Radio Broadcasting) according to [EN 50248]

Canadian DRB Channel number	Centre frequency (MHz)
L-Band:	1452,0 to 1467,5 MHz
1	1452,816
2	1454,560
3	1456,304
4	1458,048
5	1459,792
6	1461,536
7	1463,280
8	1465,024
9	1466,768
10	1468,512
11	1470,256
12	1472,000
13	1473,744
14	1475,488
15	1477,232
16	1478,976
17	1480,720
18	1482,464
19	1484,208
20	1485,952
21	1487,696
22	1489,440
23	1491,184

(NOTE 2: These frequencies are also valid for Australia)

Table A2.4 Recommended centre frequencies for DAB / DMB in Korea according to [WorldDMB Website]

Block Label	Centre frequency (MHz)
ROK 7A	175.280
ROK 7B	177.008
ROK 7C	178.736
ROK 8A	181.280
ROK 8B	183.008
ROK 8C	184.736
ROK 9A	187.280
ROK 9B	189.008
ROK 9C	190.736
ROK 10A	193.280
ROK 10B	195.008
ROK 10C	196.736
ROK 11A	199.280
ROK 11B	201.008
ROK 11C	202.736
ROK 12A	205.280
ROK 12B	207.008
ROK 12C	208.736
ROK 13A	211.280
ROK 13B	213.008
ROK 13C	214.736