

Association of American Railroads (AAR) Federal Communications Commission (FCC)

9/3/2009

Frequency Assignment Plan (FAP)

The original frequency assignments listed below are based on a 25Khz channel with 15Khz spacing between assigned frequencies. The new narrowband channels are scheduled by the FCC to become mandatory in 2013 and are based on a 12.5Khz channel with 7.5Khz spacing between assigned frequencies. Most current models of two-way radios meet this standard and the technology allows for communications to remain in analog mode as they are today.

The FCC has also mandated that a channel spacing of 6.25Khz be implemented possibly as early as 2018, and that by 2011 all new radios manufactured be capable of this standard. The technology needed to meet the 6.25Khz mandate will require those radios made in 2011 and after to be capable of digital communications. The FCC and the AAR are both suggesting that the railroads skip the 2013 mandate and go ahead and implement the 6.25Khz channel spacing. This has the railroads currently experimenting with digital as they decide on a plan for the changes and also buying radios that are both analog and digital capable or can be upgraded to digital when the time comes.

Current Motorola digital radios built to the governmental P25 APCO standard will only operate on the 7.5Khz spacing, while Kenwood and ICOM have jointly developed a new digital standard called NXDN that supports the 6.25Khz spacing mandated by the the FCC. The two digital P25 and NXDN formats are not compatible, so it remains to be seen how this will play out.

Almost all current analog scanner receivers can readily program the new narrowband channels in analog mode with some possible bleed-over between adjacent channels. Analog scanner receivers will not be able to pick up digital communications at all. Current digital-capable scanner receivers can decode P25 digital transmissions, but no scanner on the market today can decode the NXDN digital format.

Yard and other secondary service channels will probably be the first to switch to digital before any road channels, but in my opinion the wide spread conversion to digital is still years away due to the overall cost and time involved in replacing all hand-held, mobile, and base station radios on every railroad in the United States if not in Canada and Mexico as well.

Original Assignments

Narrowband Channels

<u>Channel</u>	<u>Frequency</u>	<u>Channel</u>	<u>Frequency</u>
07	160.215		
		107	160.2225
08	160.230		
		108	160.2375
09	160.245		
		109	160.2525
10	160.260		
		110	160.2675
11	160.275		
		111	160.2825
12	160.290		
		112	160.2975
13	160.305		
		113	160.3125
14	160.320		
		114	160.3275
15	160.335		
		115	160.3425
16	160.350		
		116	160.3575
17	160.365		
		117	160.3725
18	160.380		
		118	160.3875

19	160.395	119	160.4025
20	160.410	120	160.4175
21	160.425	121	160.4325
22	160.440	122	160.4475
23	160.455	123	160.4625
24	160.470	124	160.4775
25	160.485	125	160.4925
26	160.500	126	160.5075
27	160.515	127	160.5225
28	160.530	128	160.5375
29	160.545	129	160.5525
30	160.560	130	160.5675
31	160.575	131	160.5825
32	160.590	132	160.5975
33	160.605	133	160.6125
34	160.620	134	160.6275
35	160.635	135	160.6425
36	160.650	136	160.6575
37	160.665	137	160.6725
38	160.680	138	160.6875
39	160.695	139	160.7025
40	160.710	140	160.7175
41	160.725	141	160.7325
42	160.740	142	160.7475
43	160.755	143	160.7625
44	160.770	144	160.7775
45	160.785	145	160.7925
46	160.800		

47	160.815	146	160.8075
48	160.830	147	160.8225
49	160.845	148	160.8375
50	160.860	149	160.8525
51	160.875	150	160.8675
52	160.890	151	160.8825
53	160.905	152	160.8975
54	160.920	153	160.9125
55	160.935	154	160.9275
56	160.950	155	160.9425
57	160.965	156	160.9575
58	160.980	157	160.9725
59	160.995	158	160.9875
60	161.010	159	161.0025
61	161.025	160	161.0175
62	161.040	161	161.0325
63	161.055	162	161.0475
64	161.070	163	161.0625
65	161.085	164	161.0775
66	161.100	165	161.0925
67	161.115	166	161.1075
68	161.130	167	161.1225
69	161.145	168	161.1375
70	161.160	169	161.1525
71	161.175	170	161.1675
72	161.190	171	161.1825
73	161.205	172	161.1975
		173	161.2125

74	161.220	174	161.2275
75	161.235	175	161.2425
76	161.250	176	161.2575
77	161.265	177	161.2725
78	161.280	178	161.2875
79	161.295	179	161.3025
80	161.310	180	161.3175
81	161.325	181	161.3325
82	161.340	182	161.3475
83	161.355	183	161.3625
84	161.370	184	161.3775
85	161.385	185	161.3925
86	161.400	186	161.4075
87	161.415	187	161.4225
88	161.430	188	161.4375
89	161.445	189	161.4525
90	161.460	190	161.4675
91	161.475	191	161.4825
92	161.490	192	161.4975
93	161.505	193	161.5125
94	161.520	194	161.5275
95	161.535	195	161.5425
96	161.550	196	161.5575
97	161.565	197	161.5725

UHF Frequency Allocations:

(No specific AAR channel numbers assigned)

(Used individually, or paired in repeater operation with lower frequency as the output)

	(voice or data)	457.32500	(voice or data)
452.32500	(voice or data)	457.37500	(voice or data)
452.37500	(voice or data)	457.42500	(voice or data)
452.42500	(voice or data)	457.47500	(voice or data)
452.47500	(voice or data)	457.77500	(voice or data)
452.77500	(voice or data)	457.82500	(voice or data)
452.82500	(voice or data)	457.87500	(voice or data)
452.87500	(voice or data)	457.90000	(voice or data)
452.90000	(voice or data)	457.90625	(voice or data)
452.90625	(voice or data)	457.91250	(voice or data)
452.91250	(voice or data)	457.91875	(voice or data)
452.91875	(loco data only)	457.92500	(loco data only)
452.92500	(loco data only)	457.93125	(loco data only)
452.93125	(loco data only)	457.93750	(loco data only)
452.93750	(loco data only)	457.94375	(loco data only)
452.94375	(loco data only)	457.95000	(loco data only)
452.95000	(loco data only)	457.95625	(loco data only)
452.95625	(loco data only)	457.96250	(loco data only)
452.96250	(loco data only)	457.96875	(loco data only)