

L4 CARRIER

OVERALL SYSTEM

FREQUENCY CHARTS AND LEVEL DIAGRAM

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1. GENERAL

1.01 This section includes signal frequency and level information that may be useful during maintenance at an L4 main station. Tables A and B summarize signal frequencies and the nominal powers at certain test jacks in the main station bays.

1.02 This section is reissued to add references to the L4S (short L4) system, to correct errors, and to provide additional signal level values. Arrows are used to indicate significant changes. *Equipment Test Lists are not affected.*

2. FREQUENCY ALLOCATIONS

2.01 Signal frequencies for analog mastergroups 1 through 6, from an MMX-2C terminal, are listed in Charts 1 through 6, respectively. Carrier frequencies, pilot frequencies, and the sideband frequencies resulting when a 1000-Hz test signal is applied to a given channel are listed in these charts. All frequencies in the charts are in kHz.

2.02 Signal frequencies for digital mastergroups 2 through 6, from an LMD terminal, are shown in Fig. 1. Carrier (C) and timing (T) pilot signal frequencies are shown. Digital signals are not transmitted on L4 lines in mastergroup 1 because of the gain and delay distortion at the low end of the L4 spectrum.

3. LEVEL DIAGRAM

A. Preemphasis Curve

3.01 Signals from an MMX-2C terminal are connected to an L4 transmit line via a *preemphasis* network in the transmitting MMX-2 connecting circuit. Signals at 17.548 MHz are transmitted 6.1 dB higher in power than signals at 564 kHz. Other signals connected to an L4 line are also applied at the proper levels, depending on frequency, according to a preemphasis curve shown in Fig. 2. Signals from an L4 receive line are connected to an MMX-2C terminal via a *de-emphasis* network that restores a flat level-frequency characteristic.

B. Main Station Transmission

3.02 Figures 3 and 4 show the transmission through an L4 main station; Fig. 5 and 6 show the transmission through an L4S main station. *Nominal* transmission levels at 0.564 and 17.548 MHz are shown by two lines at the top of the figures for the through transmission path, shown in heavy lines. These levels are provided for reference only. Section 359-200-501 includes procedures for establishing *actual* levels for a particular L4 main station.

3.03 Level scales are provided in Fig. 2 for four test jacks: RCVG LINE TST, RCVG TST, TRMTG TST, and TRMTG LINE TST. By using the preemphasis curve in Fig. 2 with the level lines at the top of Figures 3 and 4, the nominal power of any signal at any test jack in the main station can be determined.

3.04 Two examples of the use of Fig. 2 follow.

Example 1:

Problem: To determine if the pilot of group 4, supergroup 215, mastergroup 2 is received at the proper power at a main station.

Solution:

1	Determine the pilot frequency. Note: Mastergroup 2 frequencies are listed in Chart 2. The pilot frequency of group 4 in supergroup 215 in mastergroup 2 is 5183.92 kHz in the L4 line spectrum.
2	Determine the nominal transmission level at this frequency at the desired test jack. Note: 5183.92 kHz is close to 5200 kHz. Find the point of intersect of the 5.2-MHz vertical line and the preemphasis curve. Go left horizontally from this point to the level scale for the desired jack. Transmission level for a 5.2-MHz signal is -31.9 at RCVG LINE TST jack and -33.3 at RCVG TST jack. Group pilot signals are 20 dB below transmission level. Nominal power of the 5183.92-kHz group pilot is -51.9 dBm at RCVG LINE TST jack and -53.3 dBm at RCVG TST jack.

Example 2:

Problem: To determine the nominal power at a test jack for which a level scale is not provided in Fig. 2.

Note: Assume that we wish to determine the power of the group pilot in Example 1 at the PIL HYB OUT A jack in the line receiving bay.

Solution:

1	Locate the PIL HYB OUT A jack in Fig. 3.
2	Determine the 0.564-MHz transmission level at the PIL HYB OUT A jack by referring to the solid level line at the top of Fig. 3, directly above the jack. Note: 0.564-MHz transmission level at the PIL HYB OUT A jack is -22.0 dB.
3	Determine the level difference between 0.564 MHz and 5.2 MHz on the preemphasis curve. Note: The level difference between signals at these two frequencies is 2.8 dB, with the 5.2-MHz signal level higher.
4	Determine the 5.2-MHz transmission level by adding 2.8 dB to the 0.564-MHz transmission level. Note: 5.2-MHz transmission level is -22.0 dB plus 2.8 dB equals -19.2 dB.
5	Determine the power of the group pilot by subtracting 20 dB. Note: Nominal power of the 5183.92 group pilot at the PIL HYB OUT A jack is -19.2 dB minus 20 dB equals -39.2 dBm.

♦ TABLE A ♦
NOMINAL SIGNAL POWERS AT SELECTED TEST JACKS

SIGNALS		FREQUENCY IN MHZ	NOMINAL POWER IN DBM AT TEST JACKS				
			RCVG LINE TST	RCVG TST	TRMTG TST	TRMTG LINE TST	
Transmission Level (Note 1)		0.564 17.548	−34.8 −28.7	−36.2 −30.1	−56.3 −50.2	−47.7 −41.6	
Line Pilots (Note 2)		0.512 11.648	−49.8 −40.0	−51.2 −41.4	−71.3 −61.5	−62.7 −52.9	
Mastergroup Pilots (Note 3)							
ANALOG	MG1	2.840	−53.1	−54.5	−74.6	−66.0	
	MG2	3.496	−52.8	−54.2	−74.3	−65.7	
	MG3	6.248	−51.6	−53.0	−73.1	−64.5	
	MG4	9.128	−50.7	−52.1	−72.2	−63.6	
	MG5	12.136	−49.9	−51.3	−71.4	−62.8	
	MG6	15.272	−49.2	−50.6	−70.7	−62.1	
DIGITAL	MG1	C T	0.630 2.845	−44.7 −43.1	−46.1 −44.5	−66.2 −64.6	−57.6 −56.0
	MG2	C T	3.407 5.622	−42.8 −41.8	−44.2 −43.2	−64.3 −63.3	−55.7 −54.7
	MG3	C T	6.178 8.393	−41.6 −40.8	−43.0 −42.2	−63.1 −62.3	−54.5 −53.7
	MG4	C T	9.058 11.273	−40.7 −40.0	−42.1 −41.4	−62.2 −61.5	−53.6 −52.9
	MG5	C T	12.046 14.261	−39.9 −39.3	−41.3 −40.7	−61.4 −60.8	−52.8 −52.2
	MG6	C T	15.178 17.393	−39.2 −38.7	−40.6 −40.1	−60.7 −60.2	−52.1 −51.6
	Command Carrier Signals (Note 4)		0.316 through 0.396 and 0.412 through 0.492	−55.0	−56.4	−76.5	−67.9
	Monitoring Oscillator Signals (Note 5)		18.50 through 18.56	−43.6	—	—	−56.5

Note 1: Multiplex signals are connected via a preemphasis network which causes signals at 0.564 MHz to be 6.1 dB lower in power than signals at 17.548 MHz. The preemphasis curve is shown in Fig. 2. Multiplex signals are restored to a flat level-frequency characteristic by a de-emphasis network in the receiving line connecting circuit.

Note 2: The 512-kHz pilot is transmitted at -15 dBm0 and the 11.648-MHz pilot is transmitted at -10 dBm0.

Note 3: Analog mastergroup pilots are transmitted at -20 dBm0. Digital mastergroup pilots are transmitted at -10 dBm0. Carrier (C) and timing (T) pilots for digital mastergroups are listed.

Note 4: Command carrier signals are transmitted at -20 dBm0. Command carrier signals are not used in L4S systems.

Note 5: Monitoring oscillator signals are transmitted at -15 dBm0.

◆ TABLE B ◆

NOMINAL PILOT POWERS FOR ANALOG MASTERGROUPS

PILOTS	FREQUENCY IN MHZ	NOMINAL POWER IN DBM AT TEST JACKS			
		RCVG LINE TST	RCVG TST	TRMTG TST	TRMTG LINE TST
SG13	0.800	-54.7	-56.1	-76.2	-67.6
SG14	1.048	-54.6	-56.0	-76.1	-67.5
SG15	1.296	-54.3	-55.7	-75.8	-67.2
SG16	1.544	-54.2	-55.6	-75.7	-67.1
SG17	1.792	-54.0	-55.4	-75.5	-66.9
SG18	2.040	-53.9	-55.3	-75.4	-66.8
SG25	2.336	-53.7	-55.1	-75.2	-66.6
SG26	2.584	-53.4	-54.8	-74.9	-66.3
SG27	2.832	-53.1	-54.5	-74.6	-66.0
MG1	2.840	-53.1	-54.5	-74.6	-66.0
SG28	3.080	-53.0	-54.4	-74.5	-65.9
SG28	3.256	-52.9	-54.3	-74.4	-65.8
MG2	3.496	-52.8	-54.2	-74.3	-65.7
SG27	3.504	-52.7	-54.1	-74.2	-65.6
SG26	3.752	-52.7	-54.1	-74.2	-65.6
SG25	4.000	-52.6	-54.0	-74.1	-65.5
SG18	4.296	-52.5	-53.9	-74.0	-65.4
SG17	4.544	-52.4	-53.8	-73.9	-65.3
SG16	4.792	-52.2	-53.6	-73.7	-65.1
SG15	5.040	-52.0	-53.4	-73.5	-64.9
SG14	5.288	-51.9	-53.3	-73.4	-64.8
SG13	5.536	-51.8	-53.2	-73.3	-64.7
SG28	6.008	-51.7	-53.1	-73.2	-64.6
MG3	6.248	-51.6	-53.0	-73.1	-64.5
SG27	6.256	-51.6	-53.0	-73.1	-64.5
SG26	6.504	-51.5	-52.9	-73.0	-64.4
SG25	6.752	-51.5	-52.9	-73.0	-64.4
SG18	7.048	-51.3	-52.7	-72.8	-64.2
SG17	7.296	-51.2	-52.6	-72.7	-64.1
SG16	7.544	-51.1	-52.5	-72.6	-64.0
SG15	7.792	-51.0	-52.4	-72.5	-63.9
SG14	8.040	-50.9	-52.3	-72.4	-63.8
SG13	8.288	-50.8	-52.2	-72.3	-63.7
SG28	8.888	-50.7	-52.1	-72.2	-63.6
MG4	9.128	-50.7	-52.1	-72.2	-63.6
SG27	9.136	-50.6	-52.0	-72.1	-63.5
SG26	9.384	-50.6	-52.0	-72.1	-63.5
SG25	9.632	-50.5	-51.9	-72.0	-63.4
SG18	9.928	-50.4	-51.8	-71.9	-63.3
SG17	10.176	-50.3	-51.7	-71.8	-63.2
SG16	10.424	-50.2	-51.6	-71.7	-63.1
SG15	10.672	-50.2	-51.6	-71.7	-63.1
SG14	10.920	-50.1	-51.5	-71.6	-63.0
SG13	11.168	-50.0	-51.4	-71.5	-62.9

◆ TABLE B (Cont) ◆

PILOTS	FREQUENCY IN MHZ	NOMINAL POWER IN DBM AT TEST JACKS			
		RCVG LINE TST	RCVG TST	TRMTG TST	TRMTG LINE TST
SG28	11.896	-50.0	-51.4	-71.5	-62.9
MG5	12.136	-49.9	-51.3	-71.4	-62.8
SG27	12.144	-49.9	-51.3	-71.4	-62.8
SG26	12.392	-49.8	-51.2	-71.3	-62.7
SG25	12.640	-49.8	-51.2	-71.3	-62.7
SG18	12.936	-49.7	-51.1	-71.2	-62.6
SG17	13.184	-49.6	-51.0	-71.1	-62.5
SG16	13.432	-49.6	-51.0	-71.1	-62.5
SG15	13.680	-49.5	-50.9	-71.0	-62.4
SG14	13.928	-49.4	-50.8	-70.9	-62.3
SG13	14.176	-49.3	-50.7	-70.8	-62.2
SG28	15.032	-49.2	-50.6	-70.7	-62.1
MG6	15.272	-49.2	-50.6	-70.7	-62.1
SG27	15.280	-49.1	-50.5	-70.6	-62.0
SG26	15.528	-49.1	-50.5	-70.6	-62.0
SG25	15.776	-49.1	-50.5	-70.6	-62.0
SG18	16.072	-49.0	-50.4	-70.5	-61.9
SG17	16.320	-48.9	-50.3	-70.4	-61.8
SG16	16.568	-48.9	-50.3	-70.4	-61.8
SG15	16.816	-48.8	-50.2	-70.3	-61.7
SG14	17.064	-48.8	-50.2	-70.3	-61.7
SG13	17.312	-48.7	-50.1	-70.2	-61.6

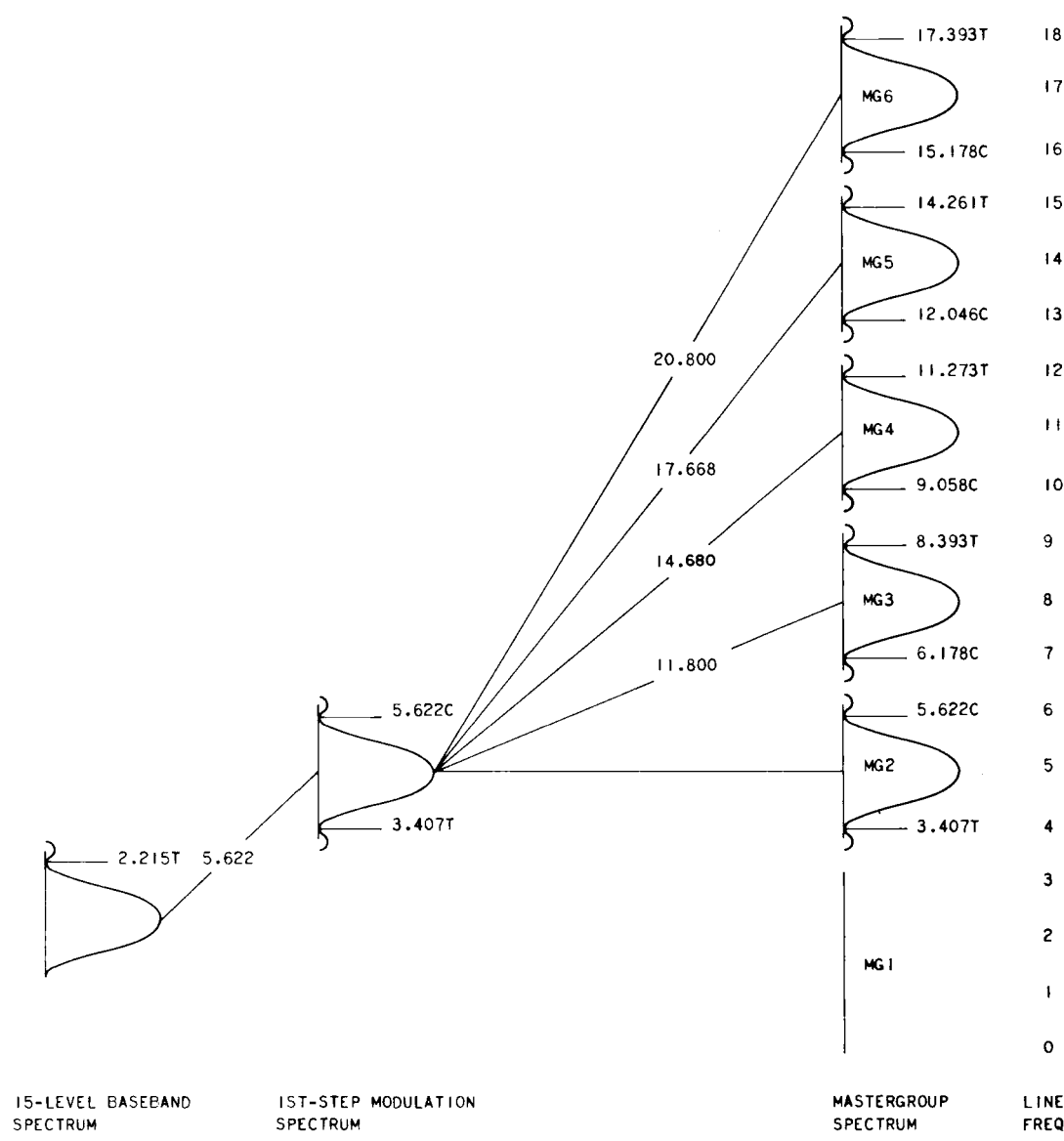


Fig. 1—LMD Frequency Allocations

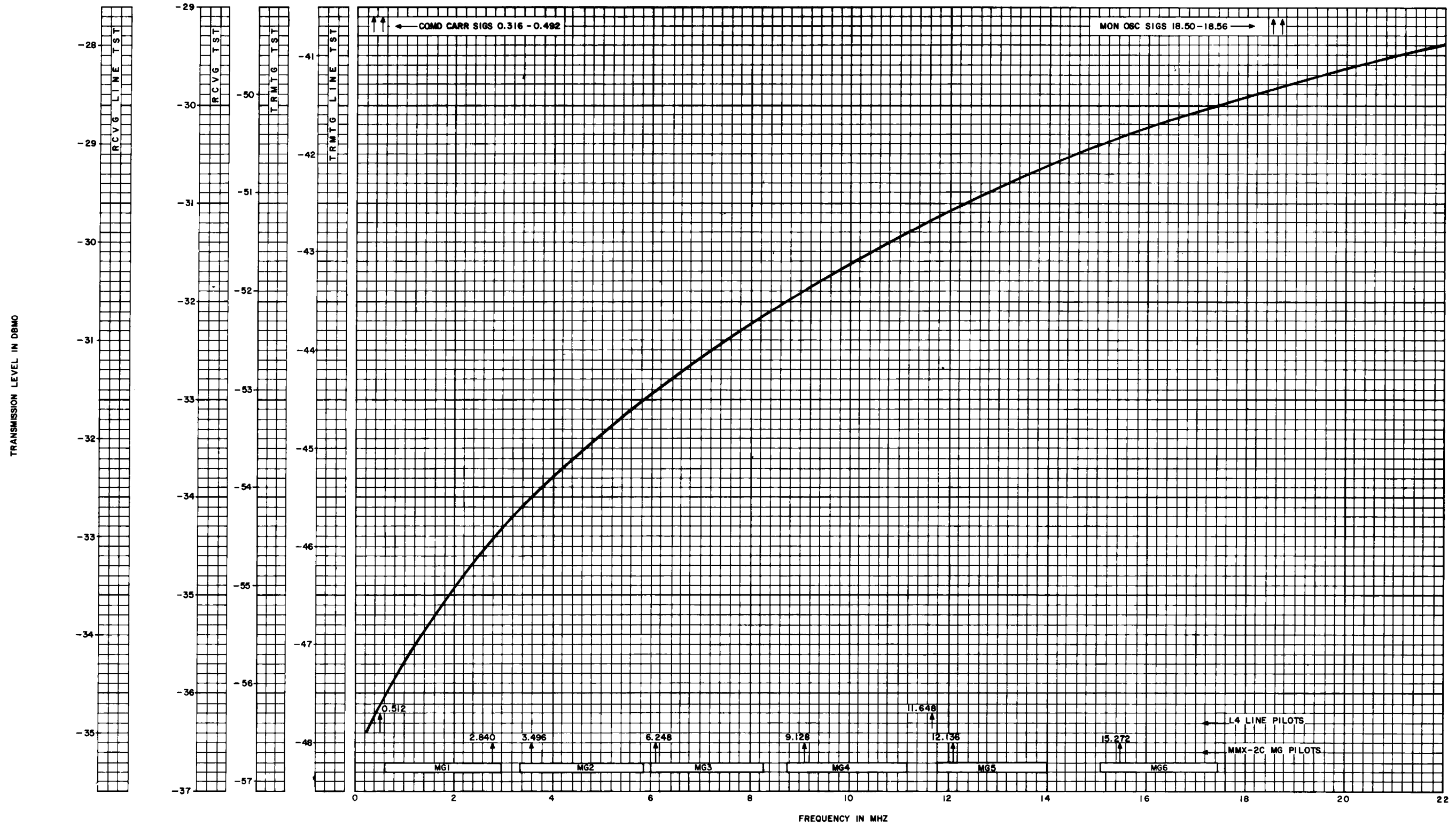


Fig. 2—L4 Preemphasis Curve



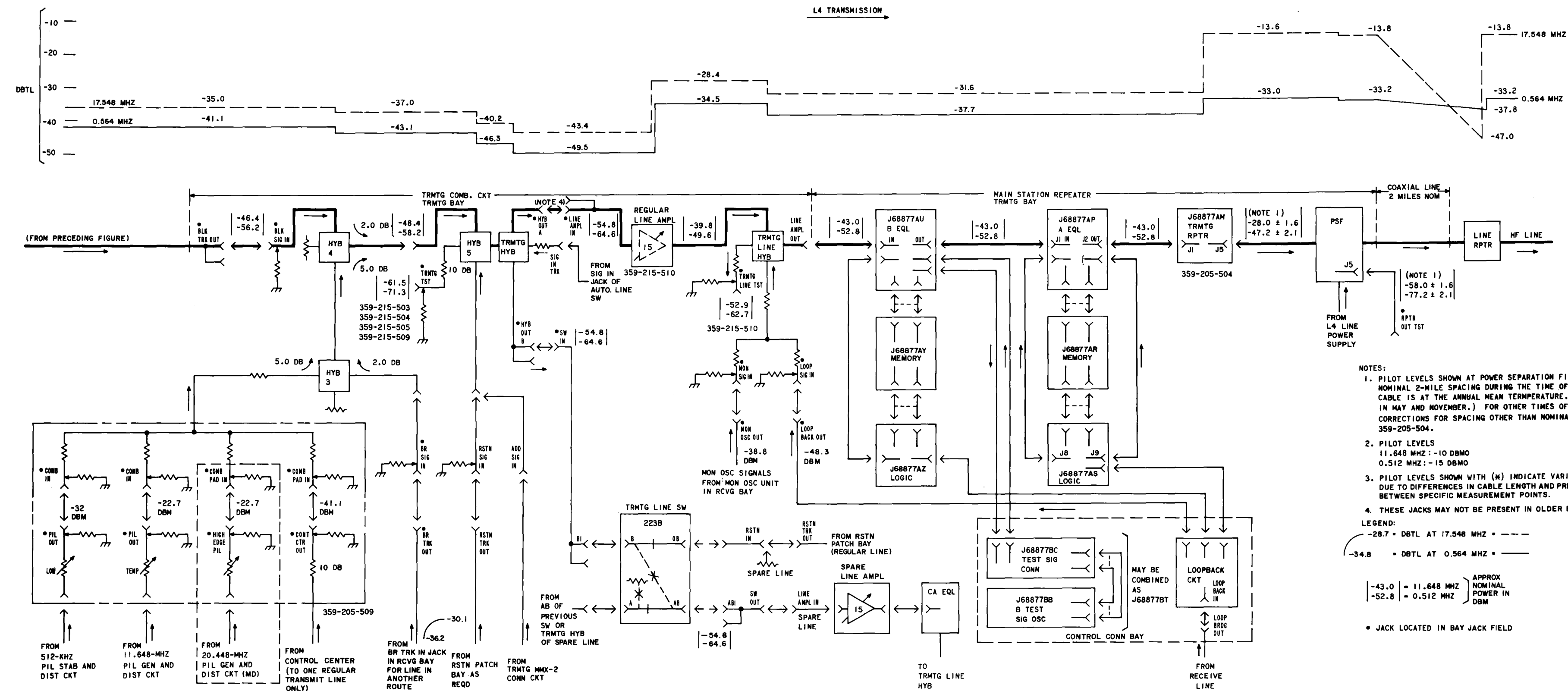


Fig. 4—Transmitting Main Station Transmission Levels

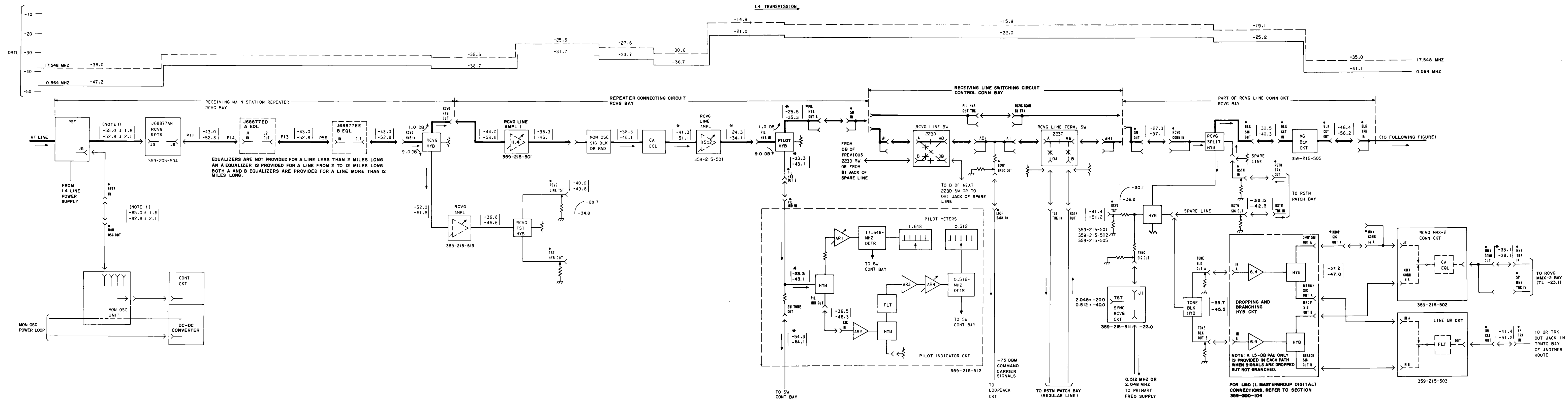


Fig. 5—L4S Receiving Main Station

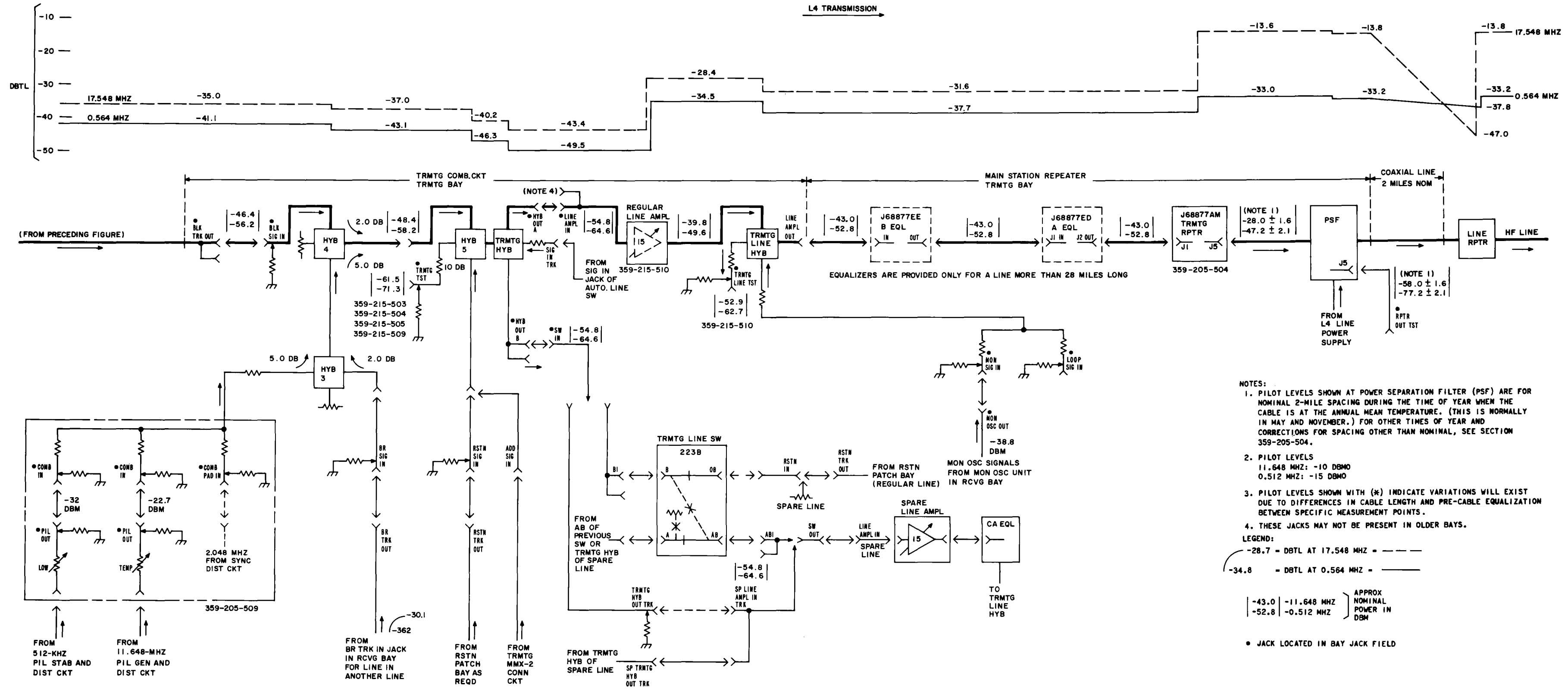


Fig. 6—L4S Transmitting Main Station

CHART 1

L4 CARRIER — FREQUENCIES FOR MASTERGROUP 1 — CARRIER, NONE; PILOT, 2840 KHZ

CHANNEL BANK			BASIC SUPERGROUP		SG 113	SG 114	SG 115	SG 116	SG 117	SG 118	SG 1D25	SG 1D26	SG 1D27	SG 1D28
CHANNEL	CHANNEL CARRIER	1000~ON CHANNEL	5 CHANNEL GROUPS	FREQ 312 to 552	CARRIER 1116	CARRIER 1364	CARRIER 1612	CARRIER 1860	CARRIER 2108	CARRIER 2356	CARRIER 2652	CARRIER 2900	CARRIER 3148	CARRIER 3396
					564 to 804	812 to 1052	1060 to 1300	1308 to 1548	1556 to 1796	1804 to 2044	2100 to 2340	2348 to 2588	2596 to 2836	2844 to 3084
1	108	107	GROUP 1 CARRIER 420	313	803	1051	1299	1547	1795	2043	2339	2587	2835	3083
GP 104.08				315.92	800.08	1048.08	1296.08	1544.08	1792.08	2040.08	2336.08	2584.08	2832.08	3080.08
2	104	103		317	799	1047	1295	1543	1791	2039	2335	2583	2831	3079
3	100	99		321	795	1043	1291	1539	1787	2035	2331	2579	2827	3075
4	96	95		325	791	1039	1287	1535	1783	2031	2327	2575	2823	3071
5	92	91		329	787	1035	1283	1531	1779	2027	2323	2571	2819	3067
6	88	87		333	783	1031	1279	1527	1775	2023	2319	2567	2815	3063
7	84	83		337	779	1027	1275	1523	1771	2019	2315	2563	2811	3059
8	80	79		341	775	1023	1271	1519	1767	2015	2311	2559	2807	3055
9	76	75		345	771	1019	1267	1515	1763	2011	2307	2555	2803	3051
10	72	71		349	767	1015	1263	1511	1759	2007	2303	2551	2799	3047
11	68	67		353	763	1011	1259	1507	1755	2003	2299	2547	2795	3043
12	64	63		357	759	1007	1255	1503	1751	1999	2295	2543	2791	3039
1	108	107	GROUP 2 CARRIER 468	361	755	1003	1251	1499	1747	1995	2291	2539	2787	3035
GP 104.08				363.92	752.08	1000.08	1248.08	1496.08	1744.08	1992.08	2288.08	2536.08	2784.08	3032.08
2	104	103		365	751	999	1247	1495	1743	1991	2287	2535	2783	3031
3	100	99		369	747	995	1243	1491	1739	1987	2283	2531	2779	3027
4	96	95		373	743	991	1239	1487	1735	1983	2279	2527	2775	3023
5	92	91		377	739	987	1235	1483	1731	1979	2275	2523	2771	3019
6	88	87		381	735	983	1231	1479	1727	1975	2271	2519	2767	3015
7	84	83		385	731	979	1227	1475	1723	1971	2267	2515	2763	3011
8	80	79		389	727	975	1223	1471	1719	1967	2263	2511	2759	3007
9	76	75		393	723	971	1219	1467	1715	1963	2259	2507	2755	3003
10	72	71		397	719	967	1215	1463	1711	1959	2255	2503	2751	2999
11	68	67		401	715	963	1211	1459	1707	1955	2251	2499	2747	2995
12	64	63		405	711	959	1207	1455	1703	1951	2247	2495	2743	2991
1	108	107	GROUP 3 CARRIER 516	409	707	955	1203	1451	1699	1947	2243	2491	2739	2987
GP 104.08				411.92	704.08	952.08	1200.08	1448.08	1696.08	1944.08	2240.08	2488.08	2736.08	2984.08
2	104	103		413	703	951	1199	1447	1695	1943	2239	2487	2735	2983
3	100	99		417	699	947	1195	1443	1691	1939	2235	2483	2731	2979
4	96	95		421	695	943	1191	1439	1687	1935	2231	2479	2727	2975
5	92	91		425	691	939	1187	1435	1683	1931	2227	2475	2723	2971
6	88	87		429	687	935	1183	1431	1679	1927	2223	2471	2719	2967
7	84	83		433	683	931	1179	1427	1675	1923	2219	2467	2715	2963
8	80	79		437	679	927	1175	1423	1671	1919	2215	2463	2711	2959
9	76	75		441	675	923	1171	1419	1667	1915	2211	2459	2707	2955
10	72	71		445	671	919	1167	1415	1663	1911	2207	2455	2703	2951
11	68	67		449	667	915	1163	1411	1659	1907	2203	2451	2699	2947
12	64	63		453	663	911	1159	1407	1655	1903	2199	2447	2695	2943
1	108	107	GROUP 4 CARRIER 564	457	659	907	1155	1403	1651	1899	2195	2443	2691	2939
GP 104.08				459.92	656.08	904.08	1152.08	1400.08	1648.08	1896.08	2192.08	2440.08	2688.08	2936.08
2	104	103		461	655	903	1151	1399	1647	1895	2191	2439	2687	2935
3	100	99		465	651	899	1147	1395	1643	1891	2187	2435	2683	2931
4	96	95		469	647	895	1143	1391	1639	1887	2183	2431	2679	2927
5	92	91		473	643	891	1139	1387	1635	1883	2179	2427	2675	2923
6	88	87		477	639	887	1135	1383	1631	1879	2175	2423	2671	2919
7	84	83		481	635	883	1131	1379	1627	1875	2171	2419	2667	2915
8	80	79		485	631	879	1127	1375	1623	1871	2167	2415	2663	2911
9	76	75		489	627	875	1123	1371	1619	1867	2163	2411	2659	2907
10	72	71		493	623	871	1119	1367	1615	1863	2159	2407	2655	2903
11	68	67		497	619	867	1115	1363	1611	1859	2155	2403	2651	2899
12	64	63		501	615	863	1111	1359	1607	1855	2151	2399	2647	2895
1	108	107	GROUP 5 CARRIER 612	505	611	859	1107	1355	1603	1851	2147	2395	2643	2891
GP 104.08				507.92	608.08	856.08	1104.08	1352.08	1600.08	1848.08	2144.08	2392.08	2640.08	2888.08
2	104	103		509	607	855	1103	1351	1599	1847	2143	2391	2639	2887
3	100	99		513	603	851	1099	1347	1595	1843	2139	2387	2635	2883
4	96	95		517	599	847	1095	1343	1591	1839	2135	2383	2631	2879
5	92	91		521	595	843	1091	1339	1587	1835	2131	2379	2627	2875
6	88	87		525	591	839	1087	1335	1583	1831	2127	2375	2623	2871
7	84	83		529	587	835	1083	1331	1579	1827	2123	2371	2619	2867
8	80	79		533	583	831	1079	1327	1575	1823	2119	2367	2615	2863
9	76	75		537	579	827	1075	1323	1571	1819	2115	2363	2611	2859
10	72	71		541	575	823	1071	1319	1567	1815	2111	2359	2607	2855
11	68	67		545	571	819	1067	1315	1563	1811	2107	2355	2603	2851
12	64	63		549	567	815	1063	1311	1559	1807	2103	2351	2599	2847

CHART 2

L4 CARRIER — FREQUENCIES FOR MASTERGROUP 2 — CARRIER, 6336 KHZ; PILOT, 3496 KHZ

CHANNEL BANK			BASIC SUPERGROUP		SG 213	SG 214	SG 215	SG 216	SG 217	SG 218	SG 2D25	SG 2D26	SG 2D27	SG 2D28
CHANNEL	CHANNEL CARRIER	1000 ~ ON CHANNEL	5 CHANNEL GROUPS	FREQ 312 to 552	CARRIER 1116 5532 to 5772	CARRIER 1364 5284 to 5524	CARRIER 1612 5036 to 5276	CARRIER 1860 4788 to 5028	CARRIER 2108 4540 to 4780	CARRIER 2356 4292 to 4532	CARRIER 2652 3996 to 4236	CARRIER 2900 3748 to 3988	CARRIER 3148 3500 to 3740	CARRIER 3396 3252 to 3492
1	108	107	GROUP 1 CARRIER 420	313	5533	5285	5037	4789	4541	4293	3997	3749	3501	3253
GP 104.08				315.92	5535.92	5287.92	5039.92	4791.92	4543.92	4295.92	3999.92	3751.92	3503.92	3255.92
2	104	103		317	5537	5289	5041	4793	4545	4297	4001	3753	3505	3257
3	100	99		321	5541	5293	5045	4797	4549	4301	4005	3757	3509	3261
4	96	95		325	5545	5297	5049	4801	4553	4305	4009	3761	3513	3265
5	92	91		329	5549	5301	5053	4805	4557	4309	4013	3765	3517	3269
6	88	87		333	5553	5305	5057	4809	4561	4313	4017	3769	3521	3273
7	84	83		337	5557	5309	5061	4813	4565	4317	4021	3773	3525	3277
8	80	79		341	5561	5313	5065	4817	4569	4321	4025	3777	3529	3281
9	76	75		345	5565	5317	5069	4821	4573	4325	4029	3781	3533	3285
10	72	71		349	5569	5321	5073	4825	4577	4329	4033	3785	3537	3289
11	68	67		353	5573	5325	5077	4829	4581	4333	4037	3789	3541	3293
12	64	63		357	5577	5329	5081	4833	4585	4337	4041	3793	3545	3297
1	108	107	GROUP 2 CARRIER 468	361	5581	5333	5085	4837	4589	4341	4045	3797	3549	3301
GP 104.08				363.92	5583.92	5335.92	5087.92	4839.92	4591.92	4343.92	4047.92	3799.92	3551.92	3303.92
2	104	103		365	5585	5337	5089	4841	4593	4345	4049	3801	3553	3305
3	100	99		369	5589	5341	5093	4845	4597	4349	4053	3805	3557	3309
4	96	95		373	5593	5345	5097	4849	4601	4353	4057	3809	3561	3313
5	92	91		377	5597	5349	5101	4853	4605	4357	4061	3813	3565	3317
6	88	87		381	5601	5353	5105	4857	4609	4361	4065	3817	3569	3321
7	84	83		385	5605	5357	5109	4861	4613	4365	4069	3821	3573	3325
8	80	79		389	5609	5361	5113	4865	4617	4369	4073	3825	3577	3329
9	76	75		393	5613	5365	5117	4869	4621	4373	4077	3829	3581	3333
10	72	71		397	5617	5369	5121	4873	4625	4377	4081	3833	3585	3337
11	68	67		401	5621	5373	5125	4877	4629	4381	4085	3837	3589	3341
12	64	63		405	5625	5377	5129	4881	4633	4385	4089	3841	3593	3345
1	108	107	GROUP 3 CARRIER 516	409	5629	5381	5133	4885	4637	4389	4093	3845	3597	3349
GP 104.08				411.92	5631.92	5383.92	5135.92	4887.92	4639.92	4391.92	4095.92	3847.92	3599.92	3351.92
2	104	103		413	5633	5385	5137	4889	4641	4393	4097	3849	3601	3353
3	100	99		417	5637	5389	5141	4893	4645	4397	4101	3853	3605	3357
4	96	95		421	5641	5393	5145	4897	4649	4401	4105	3857	3609	3361
5	92	91		425	5645	5397	5149	4901	4653	4405	4109	3861	3613	3365
6	88	87		429	5649	5401	5153	4905	4657	4409	4113	3865	3617	3369
7	84	83		433	5653	5405	5157	4909	4661	4413	4117	3869	3621	3373
8	80	79		437	5657	5409	5161	4913	4665	4417	4121	3873	3625	3377
9	76	75		441	5661	5413	5165	4917	4669	4421	4125	3877	3629	3381
10	72	71		445	5665	5417	5169	4921	4673	4425	4129	3881	3633	3385
11	68	67		449	5669	5421	5173	4925	4677	4429	4133	3885	3637	3389
12	64	63		453	5673	5425	5177	4929	4681	4433	4137	3889	3641	3393
1	108	107	GROUP 4 CARRIER 564	457	5677	5429	5181	4933	4685	4437	4141	3893	3645	3397
GP 104.08				459.92	5679.92	5431.92	5183.92	4935.92	4687.92	4439.92	4143.92	3895.92	3647.92	3399.92
2	104	103		461	5681	5433	5185	4937	4689	4441	4145	3897	3649	3401
3	100	99		465	5685	5437	5189	4941	4693	4445	4149	3901	3653	3405
4	96	95		469	5689	5441	5193	4945	4697	4449	4153	3905	3657	3409
5	92	91		473	5693	5445	5197	4949	4701	4453	4157	3909	3661	3413
6	88	87		477	5697	5449	5201	4953	4705	4457	4161	3913	3665	3417
7	84	83		481	5701	5453	5205	4957	4709	4461	4165	3917	3669	3421
8	80	79		485	5705	5457	5209	4961	4713	4465	4169	3921	3673	3425
9	76	75		489	5709	5461	5213	4965	4717	4469	4173	3925	3677	3429
10	72	71		493	5713	5465	5217	4969	4721	4473	4177	3929	3681	3433
11	68	67		497	5717	5469	5221	4973	4725	4477	4181	3933	3685	3437
12	64	63		501	5721	5473	5225	4977	4729	4481	4185	3937	3689	3441
1	108	107	GROUP 5 CARRIER 612	505	5725	5477	5229	4981	4733	4485	4189	3941	3693	3445
GP 104.08				507.92	5727.92	5479.92	5231.92	4983.92	4735.92	4487.92	4191.92	3943.92	3695.92	3447.92
2	104	103		509	5729	5481	5233	4985	4737	4489	4193	3945	3697	3449
3	100	99		513	5733	5485	5237	4989	4741	4493	4197	3949	3701	3453
4	96	95		517	5737	5489	5241	4993	4745	4497	4201	3953	3705	3457
5	92	91		521	5741	5493	5245	4997	4749	4501	4205	3957	3709	3461
6	88	87		525	5745	5497	5249	5001	4753	4505	4209	3961	3713	3465
7	84	83		529	5749	5501	5253	5005	4757	4509	4213	3965	3717	3469
8	80	79		533	5753	5505	5257	5009	4761	4513	4217	3969	3721	3473
9	76	75		537	5757	5509	5261	5013	4765	4517	4221	3973	3725	3477
10	72	71		541	5761	5513	5265	5017	4769	4521	4225	3977	3729	3481
11	68	67		545	5765	5517	5269	5021	4773	4525	4229	3981	3733	3485
12	64	63		549	5769	5521	5273	5025	4777	4529	4233	3985	3737	3489

CHART 3

L4 CARRIER — FREQUENCIES FOR MASTERGROUP 3 — CARRIER, 9088 KHZ; PILOT, 6248 KHZ

CHANNEL BANK			BASIC SUPERGROUP		SG 313 CARRIER 1116	SG 314 CARRIER 1364	SG 315 CARRIER 1612	SG 316 CARRIER 1860	SG 317 CARRIER 2108	SG 318 CARRIER 2356	SG 3D25 CARRIER 2652	SG 3D26 CARRIER 2900	SG 3D27 CARRIER 3148	SG 3D28 CARRIER 3396
CHANNEL	CHANNEL CARRIER	1000~ON CHANNEL	5 CHANNEL GROUPS	FREQ 312 to 552	8284 to 8524	8036 to 8276	7788 to 8028	7540 to 7780	7292 to 7532	7044 to 7284	6748 to 6988	6500 to 6740	6252 to 6492	6004 to 6244
1	108	107	GROUP 1 CARRIER 420	313	8285	8037	7789	7541	7293	7045	6749	6501	6253	6005
GP 104.08				315.92	8287.92	8039.92	7791.92	7543.92	7295.92	7047.92	6751.92	6503.92	6255.92	6007.92
2	104	103		317	8289	8041	7793	7545	7297	7049	6753	6505	6257	6009
3	100	99		321	8293	8045	7797	7549	7301	7053	6757	6509	6261	6013
4	96	95		325	8297	8049	7801	7553	7305	7057	6761	6513	6265	6017
5	92	91		329	8301	8053	7805	7557	7309	7061	6765	6517	6269	6021
6	88	87		333	8305	8057	7809	7561	7313	7065	6769	6521	6273	6025
7	84	83		337	8309	8061	7813	7565	7317	7069	6773	6525	6277	6029
8	80	79		341	8313	8065	7817	7569	7321	7073	6777	6529	6281	6033
9	76	75		345	8317	8069	7821	7573	7325	7077	6781	6533	6285	6037
10	72	71		349	8321	8073	7825	7577	7329	7081	6785	6537	6289	6041
11	68	67		353	8325	8077	7829	7581	7333	7085	6789	6541	6293	6045
12	64	63		357	8329	8081	7833	7585	7337	7089	6793	6545	6297	6049
1	108	107	GROUP 2 CARRIER 468	361	8333	8085	7837	7589	7341	7093	6797	6549	6301	6053
GP 104.08				363.92	8335.92	8087.92	7839.92	7591.92	7343.92	7095.92	6799.92	6551.92	6303.92	6055.92
2	104	103		365	8337	8089	7841	7593	7345	7097	6801	6553	6305	6057
3	100	99		369	8341	8093	7845	7597	7349	7101	6805	6557	6309	6061
4	96	95		373	8345	8097	7849	7601	7353	7105	6809	6561	6313	6065
5	92	91		377	8349	8101	7853	7605	7357	7109	6813	6565	6317	6069
6	88	87		381	8353	8105	7857	7609	7361	7113	6817	6569	6321	6073
7	84	83		385	8357	8109	7861	7613	7365	7117	6821	6573	6325	6077
8	80	79		389	8361	8113	7865	7617	7369	7121	6825	6577	6329	6081
9	76	75		393	8365	8117	7869	7621	7373	7125	6829	6581	6333	6085
10	72	71		397	8369	8121	7873	7625	7377	7129	6833	6585	6337	6089
11	68	67		401	8373	8125	7877	7629	7381	7133	6837	6589	6341	6093
12	64	63		405	8377	8129	7881	7633	7385	7137	6841	6593	6345	6097
1	108	107	GROUP 3 CARRIER 516	409	8381	8133	7885	7637	7389	7141	6845	6597	6349	6101
GP 104.08				411.92	8383.92	8135.92	7887.92	7639.92	7391.92	7143.92	6847.92	6599.92	6351.92	6103.92
2	104	103		413	8385	8137	7889	7641	7393	7145	6849	6601	6353	6105
3	100	99		417	8389	8141	7893	7645	7397	7149	6853	6605	6357	6109
4	96	95		421	8393	8145	7897	7649	7401	7153	6857	6609	6361	6113
5	92	91		425	8397	8149	7901	7653	7405	7157	6861	6613	6365	6117
6	88	87		429	8401	8153	7905	7657	7409	7161	6865	6617	6369	6121
7	84	83		433	8405	8157	7909	7661	7413	7165	6869	6621	6373	6125
8	80	79		437	8409	8161	7913	7665	7417	7169	6873	6625	6377	6129
9	76	75		441	8413	8165	7917	7669	7421	7173	6877	6629	6381	6133
10	72	71		445	8417	8169	7921	7673	7425	7177	6881	6633	6385	6137
11	68	67		449	8421	8173	7925	7677	7429	7181	6885	6637	6389	6141
12	64	63		453	8425	8177	7929	7681	7433	7185	6889	6641	6393	6145
1	108	107	GROUP 4 CARRIER 564	457	8429	8181	7933	7685	7437	7189	6893	6645	6397	6149
GP 104.08				459.92	8431.92	8183.92	7935.92	7687.92	7439.92	7191.92	6895.92	6647.92	6399.92	6151.92
2	104	103		461	8433	8185	7937	7689	7441	7193	6897	6649	6401	6153
3	100	99		465	8437	8189	7941	7693	7445	7197	6901	6653	6405	6157
4	96	95		469	8441	8193	7945	7697	7449	7201	6905	6657	6409	6161
5	92	91		473	8445	8197	7949	7701	7453	7205	6909	6661	6413	6165
6	88	87		477	8449	8201	7953	7705	7457	7209	6913	6665	6417	6169
7	84	83		481	8453	8205	7957	7709	7461	7213	6917	6669	6421	6173
8	80	79		485	8457	8209	7961	7713	7465	7217	6921	6673	6425	6177
9	76	75		489	8461	8213	7965	7717	7469	7221	6925	6677	6429	6181
10	72	71		493	8465	8217	7969	7721	7473	7225	6929	6681	6433	6185
11	68	67		497	8469	8221	7973	7725	7477	7229	6933	6685	6437	6189
12	64	63		501	8473	8225	7977	7729	7481	7233	6937	6689	6441	6193
1	108	107	GROUP 5 CARRIER 612	505	8477	8229	7981	7733	7485	7237	6941	6693	6445	6197
GP 104.08				507.92	8479.92	8231.92	7983.92	7735.92	7487.92	7239.92	6943.92	6695.92	6447.92	6199.92
2	104	103		509	8481	8233	7985	7737	7489	7241	6945	6697	6449	6201
3	100	99		513	8485	8237	7989	7741	7493	7245	6949	6701	6453	6205
4	96	95		517	8489	8241	7993	7745	7497	7249	6953	6705	6457	6209
5	92	91		521	8493	8245	7997	7749	7501	7253	6957	6709	6461	6213
6	88	87		525	8497	8249	8001	7753	7505	7257	6961	6713	6465	6217
7	84	83		529	8501	8253	8005	7757	7509	7261	6965	6717	6469	6221
8	80	79		533	8505	8257	8009	7761	7513	7265	6969	6721	6473	6225
9	76	75		537	8509	8261	8013	7765	7517	7269	6973	6725	6477	6229
10	72	71		541	8513	8265	8017	7769	7521	7273	6977	6729	6481	6233
11	68	67		545	8517	8269	8021	7773	7525	7277	6981	6733	6485	6237
12	64	63		549	8521	8273	8025	7777	7529	7281	6985	6737	6489	6241

CHART 4

L4 CARRIER — FREQUENCIES FOR MASTERGROUP 4 — CARRIER, 11,968 KHZ; PILOT, 9128 KHZ

CHANNEL BANK			BASIC SUPERGROUP		SG 413	SG 414	SG 415	SG 416	SG 417	SG 418	SG 4D25	SG 4D26	SG 4D27	SG 4D28
CHANNEL	CHANNEL CARRIER	1000~ON CHANNEL	5 CHANNEL GROUPS	FREQ 312 to 552	CARRIER 1116	CARRIER 1364	CARRIER 1612	CARRIER 1860	CARRIER 2108	CARRIER 2356	CARRIER 2652	CARRIER 2900	CARRIER 3148	CARRIER 3396
					11,164 to 11,404	10,916 to 11,156	10,668 to 10,908	10,420 to 10,660	10,172 to 10,413	9,924 to 10,164	9628 to 9868	9380 to 9620	9132 to 9372	8884 to 9124
1	108	107	GROUP 1 CARRIER 420	313	11,165	10,917	10,669	10,421	10,173	9,925	9629	9381	9133	8885
GP 104.08				315.92	11,167.92	10,919.92	10,671.92	10,423.92	10,175.92	9,927.92	9631.92	9383.92	9135.92	8887.92
2	104	103		317	11,169	10,921	10,673	10,425	10,177	9,929	9633	9385	9137	8889
3	100	99		321	11,173	10,925	10,677	10,429	10,181	9,933	9637	9389	9141	8893
4	96	95		325	11,177	10,929	10,681	10,433	10,185	9,937	9641	9393	9145	8897
5	92	91		329	11,181	10,933	10,685	10,437	10,189	9,941	9645	9397	9149	8901
6	88	87		333	11,185	10,937	10,689	10,441	10,193	9,945	9649	9401	9153	8905
7	84	83		337	11,189	10,941	10,693	10,445	10,197	9,949	9653	9405	9157	8909
8	80	79		341	11,193	10,945	10,697	10,449	10,201	9,953	9657	9409	9161	8913
9	76	75		345	11,197	10,949	10,701	10,453	10,205	9,957	9661	9413	9165	8917
10	72	71		349	11,201	10,953	10,705	10,457	10,209	9,961	9665	9417	9169	8921
11	68	67		353	11,205	10,957	10,709	10,461	10,213	9,965	9669	9421	9173	8925
12	64	63		357	11,209	10,961	10,713	10,465	10,217	9,969	9673	9425	9177	8929
1	108	107	GROUP 2 CARRIER 468	361	11,213	10,965	10,717	10,469	10,221	9,973	9677	9429	9181	8933
GP 104.08				363.92	11,215.92	10,967.92	10,719.92	10,471.92	10,223.92	9,975.92	9679.92	9431.92	9183.92	8935.92
2	104	103		365	11,217	10,969	10,721	10,473	10,225	9,977	9681	9433	9185	8937
3	100	99		369	11,221	10,973	10,725	10,477	10,229	9,981	9685	9437	9189	8941
4	96	95		373	11,225	10,977	10,729	10,481	10,233	9,985	9689	9441	9193	8945
5	92	91		377	11,229	10,981	10,733	10,485	10,237	9,989	9693	9445	9197	8949
6	88	87		381	11,233	10,985	10,737	10,489	10,241	9,993	9697	9449	9201	8953
7	84	83		385	11,237	10,989	10,741	10,493	10,245	9,997	9701	9453	9205	8957
8	80	79		389	11,241	10,993	10,745	10,497	10,249	10,001	9705	9457	9209	8961
9	76	75		393	11,245	10,997	10,749	10,501	10,253	10,005	9709	9461	9213	8965
10	72	71		397	11,249	11,001	10,753	10,505	10,257	10,009	9713	9465	9217	8969
11	68	67		401	11,253	11,005	10,757	10,509	10,261	10,013	9717	9469	9221	8973
12	64	63		405	11,257	11,009	10,761	10,513	10,265	10,017	9721	9473	9225	8977
1	108	107	GROUP 3 CARRIER 516	409	11,261	11,013	10,765	10,517	10,269	10,021	9725	9477	9229	8981
GP 104.08				411.92	11,263.92	11,015.92	10,767.92	10,519.92	10,271.92	10,023.92	9727.92	9479.92	9231.92	8983.92
2	104	103		413	11,265	11,017	10,769	10,521	10,273	10,025	9729	9481	9233	8985
3	100	99		417	11,269	11,021	10,773	10,525	10,277	10,029	9733	9485	9237	8989
4	96	95		421	11,273	11,025	10,777	10,529	10,281	10,033	9737	9489	9241	8993
5	92	91		425	11,277	11,029	10,781	10,533	10,285	10,037	9741	9493	9245	8997
6	88	87		429	11,281	11,033	10,785	10,537	10,289	10,041	9745	9497	9249	9001
7	84	83		433	11,285	11,037	10,789	10,541	10,293	10,045	9749	9501	9253	9005
8	80	79		437	11,289	11,041	10,793	10,545	10,297	10,049	9753	9505	9257	9009
9	76	75		441	11,293	11,045	10,797	10,549	10,301	10,053	9757	9509	9261	9013
10	72	71		445	11,297	11,049	10,801	10,553	10,305	10,057	9761	9513	9265	9017
11	68	67		449	11,301	11,053	10,805	10,557	10,309	10,061	9765	9517	9269	9021
12	64	63		453	11,305	11,057	10,809	10,561	10,313	10,065	9769	9521	9273	9025
1	108	107	GROUP 4 CARRIER 564	457	11,309	11,061	10,813	10,565	10,317	10,069	9773	9525	9277	9029
GP 104.08				459.92	11,311.92	11,063.92	10,815.92	10,567.92	10,319.92	10,071.92	9775.92	9527.92	9279.92	9031.92
2	104	103		461	11,313	11,065	10,817	10,569	10,321	10,073	9777	9529	9281	9033
3	100	99		465	11,317	11,069	10,821	10,573	10,325	10,077	9781	9533	9285	9037
4	96	95		469	11,321	11,073	10,825	10,577	10,329	10,081	9785	9537	9289	9041
5	92	91		473	11,325	11,077	10,829	10,581	10,333	10,085	9789	9541	9293	9045
6	88	87		477	11,329	11,081	10,833	10,585	10,337	10,089	9793	9545	9297	9049
7	84	83		481	11,333	11,085	10,837	10,589	10,341	10,093	9797	9549	9301	9053
8	80	79		485	11,337	11,089	10,841	10,593	10,345	10,097	9801	9553	9305	9057
9	76	75		489	11,341	11,093	10,845	10,597	10,349	10,101	9805	9557	9309	9061
10	72	71		493	11,345	11,097	10,849	10,601	10,353	10,105	9809	9561	9313	9065
11	68	67		497	11,349	11,101	10,853	10,605	10,357	10,109	9813	9565	9317	9069
12	64	63		501	11,353	11,105	10,857	10,609	10,361	10,113	9817	9569	9321	9073
1	108	107	GROUP 5 CARRIER 612	505	11,357	11,109	10,861	10,613	10,365	10,117	9821	9573	9325	9077
G P104.08				507.92	11,359.92	11,111.92	10,863.92	10,615.92	10,367.92	10,119.92	9823.92	9575.92	9327.92	9079.92
2	104	103		509	11,361	11,113	10,865	10,617	10,369	10,121	9825	9577	9329	9081
3	100	99		513	11,365	11,117	10,869	10,621	10,373	10,125	9829	9581	9333	9085
4	96	95		517	11,369	11,121	10,873	10,625	10,377	10,129	9833	9585	9337	9089
5	92	91		521	11,373	11,125	10,877	10,629	10,381	10,133	9837	9589	9341	9093
6	88	87		525	11,377	11,129	10,881	10,633	10,385	10,137	9841	9593	9345	9097
7	84	83		529	11,381	11,133	10,885	10,637	10,389	10,141	9845	9597	9349	9101
8	80	79		533	11,385	11,137	10,889	10,641	10,393	10,145	9849	9601	9353	9105
9	76	75		537	11,389	11,141	10,893	10,645	10,397	10,149	9853	9605	9357	9109
10	72	71		541	11,393	11,145	10,897	10,649	10,401	10,153	9857	9609	9361	9113
11	68	67		545	11,397	11,149	10,901	10,653	10,405	10,157	9861	9613	9365	9117
12	64	63		549	11,401	11,153	10,905	10,657	10,409	10,161	9865	9617	9369	9121

CHART 5

L4 CARRIER — FREQUENCIES FOR MASTERGROUP 5 — CARRIER, 14,976 KHZ; PILOT, 12,136 KHZ

CHANNEL BANK			BASIC SUPERGROUP		SG 513 CARRIER 1116	SG 514 CARRIER 1364	SG 515 CARRIER 1612	SG 516 CARRIER 1860	SG 517 CARRIER 2108	SG 518 CARRIER 2356	SG 5D25 CARRIER 2652	SG 5D26 CARRIER 2900	SG 5D27 CARRIER 3148	SG 5D28 CARRIER 3396
CHANNEL	CHANNEL CARRIER	1000~ON CHANNEL	5 CHANNEL GROUPS	FREQ 312 to 552	14,172 to 14,412	13,924 to 14,164	13,676 to 13,916	13,428 to 13,668	13,180 to 13,420	12,932 to 13,172	12,636 to 12,876	12,388 to 12,628	12,140 to 12,380	11,892 to 12,132
1	108	107	GROUP 1 CARRIER 420	313	14,173	13,925	13,677	13,429	13,181	12,933	12,637	12,389	12,141	11,893
GP 104.08				315.92	14,175.92	13,927.92	13,679.92	13,431.92	13,183.92	12,935.92	12,639.92	12,391.92	12,143.92	11,895.92
2	104	103		317	14,177	13,929	13,681	13,433	13,185	12,937	12,641	12,393	12,145	11,897
3	100	99		321	14,181	13,933	13,685	13,437	13,189	12,941	12,645	12,397	12,149	11,901
4	96	95		325	14,185	13,937	13,689	13,441	13,193	12,945	12,649	12,401	12,153	11,905
5	92	91		329	14,189	13,941	13,693	13,445	13,197	12,949	12,653	12,405	12,157	11,909
6	88	87		333	14,193	13,945	13,697	13,449	13,201	12,953	12,657	12,409	12,161	11,913
7	84	83		337	14,197	13,949	13,701	13,453	13,205	12,957	12,661	12,413	12,165	11,917
8	80	79		341	14,201	13,953	13,705	13,457	13,209	12,961	12,665	12,417	12,169	11,921
9	76	75		345	14,205	13,957	13,709	13,461	13,213	12,965	12,669	12,421	12,173	11,925
10	72	71		349	14,209	13,961	13,713	13,465	13,217	12,969	12,673	12,425	12,177	11,929
11	68	67		353	14,213	13,965	13,717	13,469	13,221	12,973	12,677	12,429	12,181	11,933
12	64	63		357	14,217	13,969	13,721	13,473	13,225	12,977	12,681	12,433	12,185	11,937
1	108	107	GROUP 2 CARRIER 468	361	14,221	13,973	13,725	13,477	13,229	12,981	12,685	12,437	12,189	11,941
GP 104.08				363.92	14,223.92	13,975.92	13,727.92	13,479.92	13,231.92	12,983.92	12,687.92	12,439.92	12,191.92	11,943.92
2	104	103		365	14,225	13,977	13,729	13,481	13,233	12,985	12,689	12,441	12,193	11,945
3	100	99		369	14,229	13,981	13,733	13,485	13,237	12,989	12,693	12,445	12,197	11,949
4	96	95		373	14,233	13,985	13,737	13,489	13,241	12,993	12,697	12,449	12,201	11,953
5	92	91		377	14,237	13,989	13,741	13,493	13,245	12,997	12,701	12,453	12,205	11,957
6	88	87		381	14,241	13,993	13,745	13,497	13,249	13,001	12,705	12,457	12,209	11,961
7	84	83		385	14,245	13,997	13,749	13,501	13,253	13,005	12,709	12,461	12,213	11,965
8	80	79		389	14,249	14,001	13,753	13,505	13,257	13,009	12,713	12,465	12,217	11,969
9	76	75		393	14,253	14,005	13,757	13,509	13,261	13,013	12,717	12,469	12,221	11,973
10	72	71		397	14,257	14,009	13,761	13,513	13,265	13,017	12,721	12,473	12,225	11,977
11	68	67		401	14,261	13,765	13,765	13,517	13,269	13,021	12,725	12,477	12,229	11,981
12	64	63		405	14,265	14,017	13,769	13,521	13,273	13,025	12,729	12,481	12,233	11,985
1	108	107	GROUP 3 CARRIER 516	409	14,269	14,021	13,773	13,525	13,277	13,029	12,733	12,485	12,237	11,989
GP 104.08				411.92	14,271.92	14,023.92	13,775.92	13,527.92	13,279.92	13,031.92	12,735.92	12,487.92	12,239.92	11,991.92
2	104	103		413	14,273	14,025	13,777	13,529	13,281	13,033	12,737	12,489	12,241	11,993
3	100	99		417	14,277	14,029	13,781	13,533	13,285	13,037	12,741	12,493	12,245	11,997
4	96	95		421	14,281	14,033	13,785	13,537	13,289	13,041	12,745	12,497	12,249	12,001
5	92	91		425	14,285	14,037	13,789	13,541	13,293	13,045	12,749	12,501	12,253	12,005
6	88	87		429	14,289	14,041	13,793	13,545	13,297	13,049	12,753	12,505	12,257	12,009
7	84	83		433	14,293	14,045	13,797	13,549	13,301	13,053	12,757	12,509	12,261	12,013
8	80	79		437	14,297	14,049	13,801	13,553	13,305	13,057	12,761	12,513	12,265	12,017
9	76	75		441	14,301	14,053	13,805	13,557	13,309	13,061	12,765	12,517	12,269	12,021
10	72	71		445	14,305	14,057	13,809	13,561	13,313	13,065	12,769	12,521	12,273	12,025
11	68	67		449	14,309	14,061	13,813	13,565	13,317	13,069	12,773	12,525	12,277	12,029
12	64	63		453	14,313	14,065	13,817	13,569	13,321	13,073	12,777	12,529	12,281	12,033
1	108	107	GROUP 4 CARRIER 564	457	14,317	14,069	13,821	13,573	13,325	13,077	12,781	12,533	12,285	12,037
GP 104.08				459.92	14,319.92	14,071.92	13,823.92	13,575.92	13,327.92	13,079.92	12,783.92	12,535.92	12,287.92	12,039.92
2	104	103		461	14,321	14,073	13,825	13,577	13,329	13,081	12,785	12,537	12,289	12,041
3	100	99		465	14,325	14,077	13,829	13,581	13,333	13,085	12,789	12,541	12,293	12,045
4	96	95		469	14,329	14,081	13,833	13,585	13,337	13,089	12,793	12,545	12,297	12,049
5	92	91		473	14,333	14,085	13,837	13,589	13,341	13,093	12,797	12,549	12,301	12,053
6	88	87		477	14,337	14,089	13,841	13,593	13,345	13,097	12,801	12,553	12,305	12,057
7	84	83		481	14,341	14,093	13,845	13,597	13,349	13,101	12,805	12,557	12,309	12,061
8	80	79		485	14,345	14,097	13,849	13,601	13,353	13,105	12,809	12,561	12,313	12,065
9	76	75		489	14,349	14,101	13,853	13,605	13,357	13,109	12,813	12,565	12,317	12,069
10	72	71		493	14,353	14,105	13,857	13,609	13,361	13,113	12,817	12,569	12,321	12,073
11	68	67		497	14,357	14,109	13,861	13,613	13,365	13,117	12,821	12,573	12,325	12,077
12	64	63		501	14,361	14,113	13,865	13,617	13,369	13,121	12,825	12,577	12,329	12,081
1	108	107	GROUP 5 CARRIER 612	505	14,365	14,117	13,869	13,621	13,373	13,125	12,829	12,581	12,333	12,085
GP 104.08				507.92	14,367.92	14,119.92	13,871.92	13,623.92	13,375.92	13,127.92	12,831.92	12,583.92	12,335.92	12,087.92
2	104	103		509	14,369	14,121	13,873	13,625	13,377	13,129	12,833	12,585	12,337	12,089
3	100	99		513	14,373	14,125	13,877	13,629	13,381	13,133	12,837	12,589	12,341	12,093
4	96	95		517	14,377	14,129	13,881	13,633	13,385	13,137	12,841	12,593	12,345	12,097
5	92	91		521	14,381	14,133	13,885	13,637	13,389	13,141	12,845	12,597	12,349	12,101
6	88	87		525	14,385	14,137	13,889	13,641	13,393	13,145	12,849	12,601	12,353	12,105
7	84	83		529	14,389	14,141	13,893	13,645	13,397	13,149	12,853	12,605	12,357	12,109
8	80	79		533	14,393	14,145	13,897	13,649	13,401	13,153	12,857	12,609	12,361	12,113
9	76	75		537	14,397	14,149	13,901	13,653	13,405	13,157	12,861	12,613	12,365	12,117
10	72	71		541	14,401	14,153	13,905	13,657	13,409	13,161	12,865	12,617	12,369	12,121
11	68	67		545	14,405	14,157	13,909	13,661	13,413	13,165	12,869	12,621	12,373	12,125
12	64	63		549	14,409	14,161	13,913	13,665	13,417	13,169	12,873	12,625	12,377	12,129

CHART 6

L4 CARRIER — FREQUENCIES FOR MASTERGROUP 6 — CARRIER, 18,112 KHZ; PILOT, 15,272 KHZ

CHANNEL BANK			BASIC SUPERGROUP		SG 613 CARRIER 1116	SG 614 CARRIER 1364	SG 615 CARRIER 1612	SG 616 CARRIER 1860	SG 617 CARRIER 2108	SG 618 CARRIER 2356	SG 6D25 CARRIER 2652	SG 6D26 CARRIER 2900	SG 6D27 CARRIER 3148	SG 6D28 CARRIER 3396
CHANNEL	CHANNEL CARRIER	1000~ON CHANNEL	5 CHANNEL GROUPS	FREQ 312 to 552	17,308 to 17,548	17,060 to 17,300	16,812 to 17,052	16,564 to 16,804	16,316 to 16,556	16,068 to 16,308	15,772 to 16,012	15,524 to 15,764	15,276 to 15,516	15,028 to 15,268
1	108	107	GROUP 1 CARRIER 420	313	17,309	17,061	16,813	16,565	16,317	16,069	15,773	15,525	15,277	15,029
GP 104.08				315.92	17,311.92	17,063.92	16,815.92	16,567.92	16,319.92	16,071.92	15,775.92	15,527.92	15,279.92	15,031.92
2	104	103		317	17,313	17,065	16,817	16,569	16,321	16,073	15,777	15,529	15,281	15,033
3	100	99		321	17,317	17,069	16,821	16,573	16,325	16,077	15,781	15,533	15,285	15,037
4	96	95		325	17,321	17,073	16,825	16,577	16,329	16,081	15,785	15,537	15,289	15,041
5	92	91		329	17,325	17,077	16,829	16,581	16,333	16,085	15,789	15,541	15,293	15,045
6	88	87		333	17,329	17,081	16,833	16,585	16,337	16,089	15,793	15,545	15,297	15,049
7	84	83		337	17,333	17,085	16,837	16,589	16,341	16,093	15,797	15,549	15,301	15,053
8	80	79		341	17,337	17,089	16,841	16,593	16,345	16,097	15,801	15,553	15,305	15,057
9	76	75		345	17,341	17,093	16,845	16,597	16,349	16,101	15,805	15,557	15,309	15,061
10	72	71		349	17,345	17,097	16,849	16,601	16,353	16,105	15,809	15,561	15,313	15,065
11	68	67		353	17,349	17,101	16,853	16,605	16,357	16,109	15,813	15,565	15,317	15,069
12	64	63		357	17,353	17,105	16,857	16,609	16,361	16,113	15,817	15,569	15,321	15,073
1	108	107	GROUP 2 CARRIER 468	361	17,357	17,109	16,861	16,613	16,365	16,117	15,821	15,573	15,325	15,077
GP 104.08				363.92	17,359.92	17,111.92	16,863.92	16,615.92	16,367.92	16,119.92	15,823.92	15,575.92	15,327.92	15,079.92
2	104	103		365	17,361	17,113	16,865	16,617	16,369	16,121	15,825	15,577	15,329	15,081
3	100	99		369	17,365	17,117	16,869	16,621	16,373	16,125	15,829	15,581	15,333	15,085
4	96	95		373	17,369	17,121	16,873	16,625	16,377	16,129	15,833	15,585	15,337	15,089
5	92	91		377	17,373	17,125	16,877	16,629	16,381	16,133	15,837	15,589	15,341	15,093
6	88	87		381	17,377	17,129	16,881	16,633	16,385	16,137	15,841	15,593	15,345	15,097
7	84	83		385	17,381	17,133	16,885	16,637	16,389	16,141	15,845	15,597	15,349	15,101
8	80	79		389	17,385	17,137	16,889	16,641	16,393	16,145	15,849	15,601	15,353	15,105
9	76	75		393	17,389	17,141	16,893	16,645	16,397	16,149	15,853	15,605	15,357	15,109
10	72	71		397	17,393	17,145	16,897	16,649	16,401	16,153	15,857	15,609	15,361	15,113
11	68	67		401	17,397	17,149	16,901	16,653	16,405	16,157	15,861	15,613	15,365	15,117
12	64	63		405	17,401	17,153	16,905	16,657	16,409	16,161	15,865	15,617	15,369	15,121
1	108	107	GROUP 3 CARRIER 516	409	17,405	17,157	16,909	16,661	16,413	16,165	15,869	15,621	15,373	15,125
GP 104.08				411.92	17,407.92	17,159.92	16,911.92	16,663.92	16,415.92	16,167.92	15,871.92	15,623.92	15,375.92	15,127.92
2	104	103		413	17,409	17,161	16,913	16,665	16,417	16,169	15,873	15,625	15,377	15,129
3	100	99		417	17,413	17,165	16,917	16,669	16,421	16,173	15,877	15,629	15,381	15,133
4	96	95		421	17,417	17,169	16,921	16,673	16,425	16,177	15,881	15,633	15,385	15,137
5	92	91		425	17,421	17,173	16,925	16,677	16,429	16,181	15,885	15,637	15,389	15,141
6	88	87		429	17,425	17,177	16,929	16,681	16,433	16,185	15,889	15,641	15,393	15,145
7	84	83		433	17,429	17,181	16,933	16,685	16,437	16,189	15,893	15,645	15,397	15,149
8	80	79		437	17,433	17,185	16,937	16,689	16,441	16,193	15,897	15,649	15,401	15,153
9	76	75		441	17,437	17,189	16,941	16,693	16,445	16,197	15,901	15,653	15,405	15,157
10	72	71		445	17,441	17,193	16,945	16,697	16,449	16,201	15,905	15,657	15,409	15,161
11	68	67		449	17,445	17,197	16,949	16,701	16,453	16,205	15,909	15,661	15,413	15,165
12	64	63		453	17,449	17,201	16,953	16,705	16,457	16,209	15,913	15,665	15,417	15,169
1	108	107	GROUP 4 CARRIER 564	457	17,453	17,205	16,957	16,709	16,461	16,213	15,917	15,669	15,421	15,173
GP 104.08				459.92	17,455.92	17,207.92	16,959.92	16,711.92	16,463.92	16,215.92	15,919.92	15,671.92	15,423.92	15,175.92
2	104	103		461	17,457	17,209	16,961	16,713	16,465	16,217	15,921	15,673	15,425	15,177
3	100	99		465	17,461	17,213	16,965	16,717	16,469	16,221	15,925	15,677	15,429	15,181
4	96	95		469	17,465	17,217	16,969	16,721	16,473	16,225	15,929	15,681	15,433	15,185
5	92	91		473	17,469	17,221	16,973	16,725	16,477	16,229	15,933	15,685	15,437	15,189
6	88	87		477	17,473	17,225	16,977	16,729	16,481	16,233	15,937	15,689	15,441	15,193
7	84	83		481	17,477	17,229	16,981	16,733	16,485	16,237	15,941	15,693	15,445	15,197
8	80	79		485	17,481	17,233	16,985	16,737	16,489	16,241	15,945	15,697	15,449	15,201
9	76	75		489	17,485	17,237	16,989	16,741	16,493	16,245	15,949	15,701	15,453	15,205
10	72	71		493	17,489	17,241	16,993	16,745	16,497	16,249	15,953	15,705	15,457	15,209
11	68	67		497	17,493	17,245	16,997	16,749	16,501	16,253	15,957	15,709	15,461	15,213
12	64	63		501	17,497	17,249	17,001	16,753	16,505	16,257	15,961	15,713	15,465	15,217
1	108	107	GROUP 5 CARRIER 612	505	17,501	17,253	17,005	16,757	16,509	16,261	15,965	15,717	15,469	15,221
GP 104.08				507.92	17,503.92	17,255.92	17,007.92	16,759.92	16,511.92	16,263.92	15,967.92	15,719.92	15,471.92	15,223.92
2	104	103		509	17,505	17,257	17,009	16,761	16,513	16,265	15,969	15,721	15,473	15,225
3	100	99		513	17,509	17,261	17,013	16,765	16,517	16,269	15,973	15,725	15,477	15,229
4	96	95		517	17,513	17,265	17,017	16,769	16,521	16,273	15,977	15,729	15,481	15,233
5	92	91		521	17,517	17,269	17,021	16,773	16,525	16,277	15,981	15,733	15,485	15,237
6	88	87		525	17,521	17,273	17,025	16,777	16,529	16,281	15,985	15,737	15,489	15,241
7	84	83		529	17,525	17,277	17,029	16,781	16,533	16,285	15,989	15,741	15,493	15,245
8	80	79		533	17,529	17,281	17,033	16,785	16,537	16,289	15,993	15,745	15,497	15,249
9	76	75		537	17,533	17,285	17,037	16,789	16,541	16,293	15,997	15,749	15,501	15,253
10	72	71		541	17,537	17,289	17,041	16,793	16,545	16,297	16,001	15,753	15,505	15,257
11	68	67		545	17,541	17,293	17,045	16,797	16,549	16,301	16,005	15,757	15,509	15,261
12	64	63		549	17,545	17,297	17,049	16,801	16,553	16,305	16,009	15,761	15,513	15,265