



- [54] DUAL BAND MOBILE STATION
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- [73] Assignee: Ericsson Inc., Research Triangle Park, N.C.
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- [52] U.S. Cl. 455/76; 455/552
- [58] Field of Search 455/76, 83, 84, 455/86, 188.1, 180.1, 552, 553, 550, 85

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FOREIGN PATENT DOCUMENTS

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 Assistant Examiner—Charles N. Appiah
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[57] ABSTRACT

A dual band mobile station including a main channel synthesizer and an offset synthesizer for generating the transmit frequency and the receive intermediate frequency (IF) required for operation in each of two different bands characterized by different transmit-receive channel offsets. According to the present invention, the main channel synthesizer does not have to change its frequency when the mobile station switches between transmission and reception in either of the two bands so long as a common IF is selected for both bands, which is equal to one or the other of the channel offsets. This IF selection also allows for a reduction in the tuning range of the main channel synthesizer.

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10 Claims, 5 Drawing Sheets

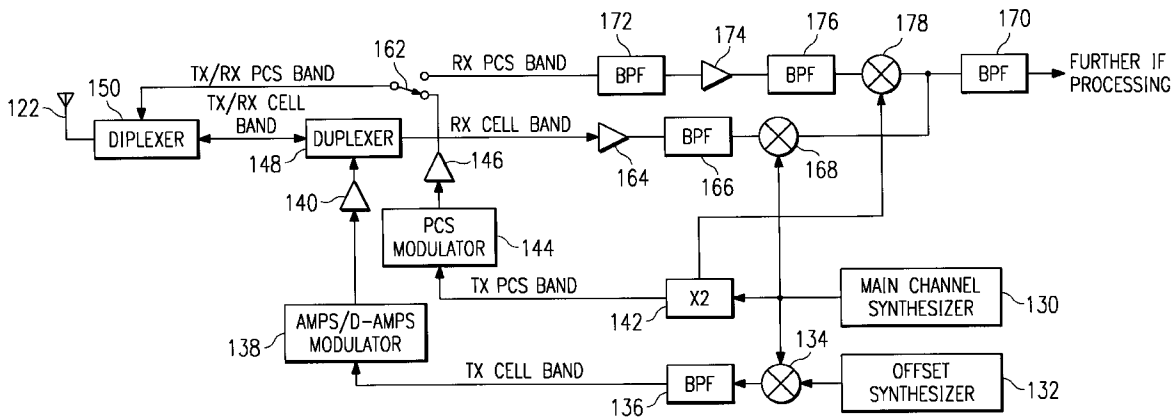


FIG. 1
(PRIOR ART)

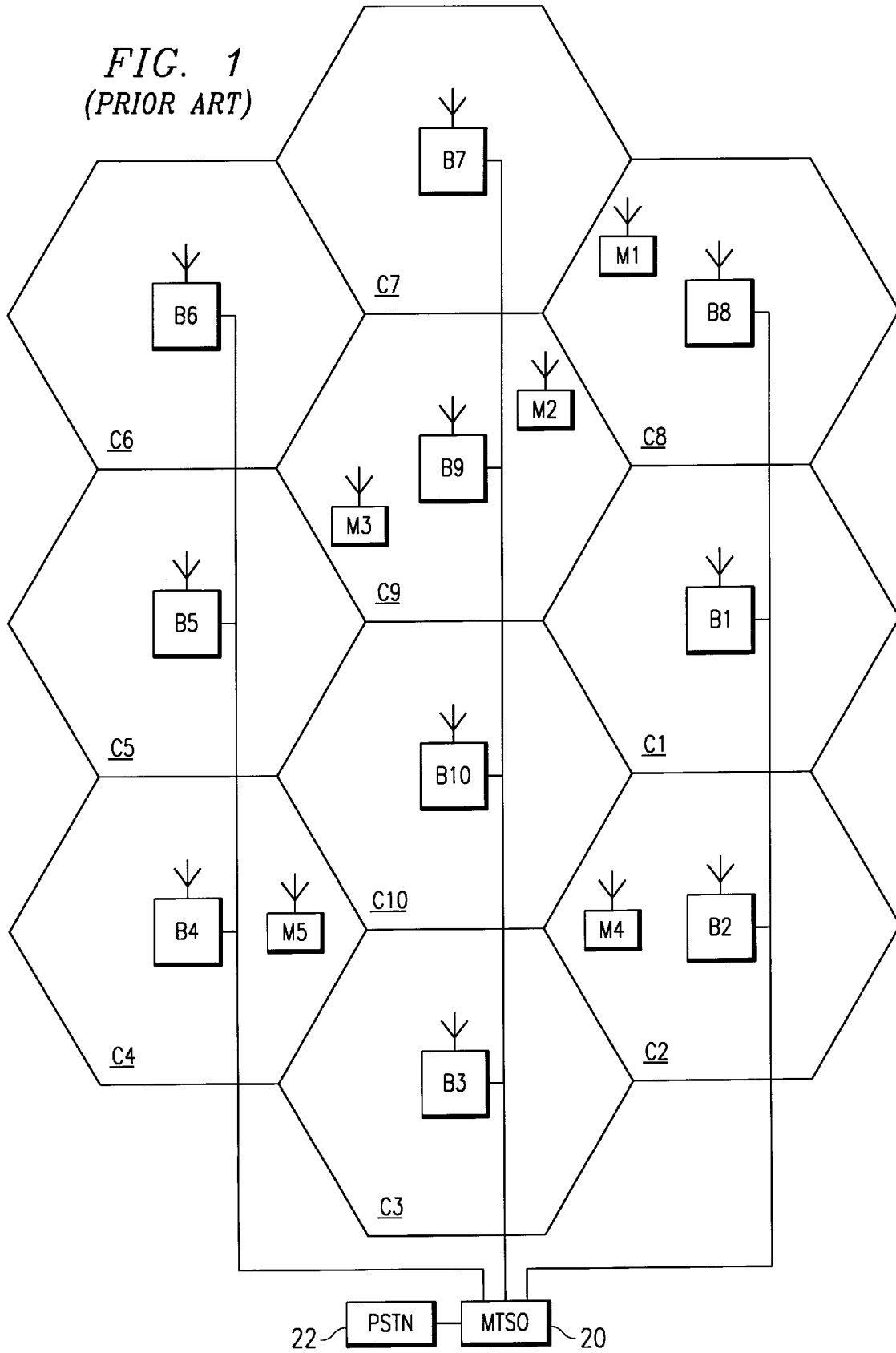


FIG. 2 (PRIOR ART)

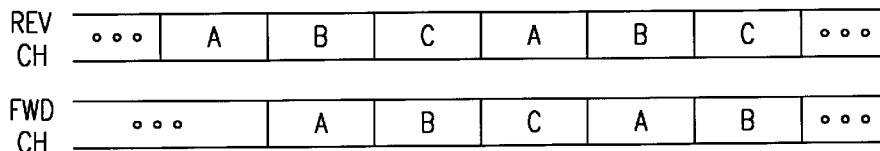


FIG. 3 (PRIOR ART)

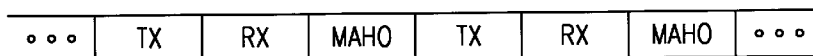
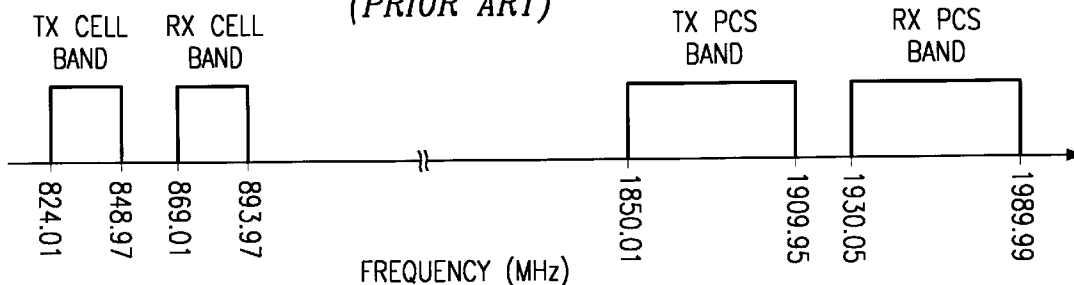


FIG. 4 (PRIOR ART)



CELL BAND	BANDWIDTH (MHz)	NUMBER OF CHANNELS	BOUNDARY CHANNELS	TRANSMITTER CENTER FREQUENCY (MHz)	
				MOBILE	BASE
(NOT USED)		1	(990)	(824.010)	(869.010)
A''	1	33	991	824.040	869.040
			1023	825.000	870.000
A	10	333	1	825.030	870.030
			333	834.990	879.990
B	10	333	334	835.020	880.020
			666	844.980	889.980
A'	1.5	50	667	845.010	890.010
			716	846.480	891.480
B'	2.5	83	717	846.510	891.510
			799	848.970	893.970

FIG. 5 (PRIOR ART)

PCS BAND	BANDWIDTH (MHz)	NUMBER OF CHANNELS	BOUNDARY CHANNELS	TRANSMITTER CENTER FREQUENCY (MHz)	
				MOBILE	BASE
NOT USED		1	1	1850.010	1930.050
A	15	497	2 498	1850.040 1864.920	1930.080 1944.960
A,D		1	499	1864.950	1944.990
A,D		1	500	1864.980	1945.020
A,D		1	501	1865.010	1945.050
D	5	164	502 665	1865.040 1869.930	1945.080 1949.970
D,B		1	666	1869.960	1950.000
D,B		1	667	1869.990	1950.030
B	15	498	668 1165	1870.020 1884.930	1950.060 1964.970
B,E		1	1166	1884.960	1965.000
B,E		1	1167	1884.990	1965.030
E	5	165	1168 1332	1885.020 1889.940	1965.060 1969.980
E,F		1	1333	1889.970	1970.010
E,F		1	1334	1890.000	1970.040
F	5	164	1335 1498	1890.030 1894.920	1970.070 1974.960
F,C		1	1499	1894.950	1974.990
F,C		1	1500	1894.980	1975.020
F,C		1	1501	1895.010	1975.050
C	15	497	1502 1998	1895.040 1909.920	1975.080 1989.960
NOT USED		1	1999	1909.950	1989.990

FIG. 6
(PRIOR ART)

FIG. 7
(PRIOR ART)

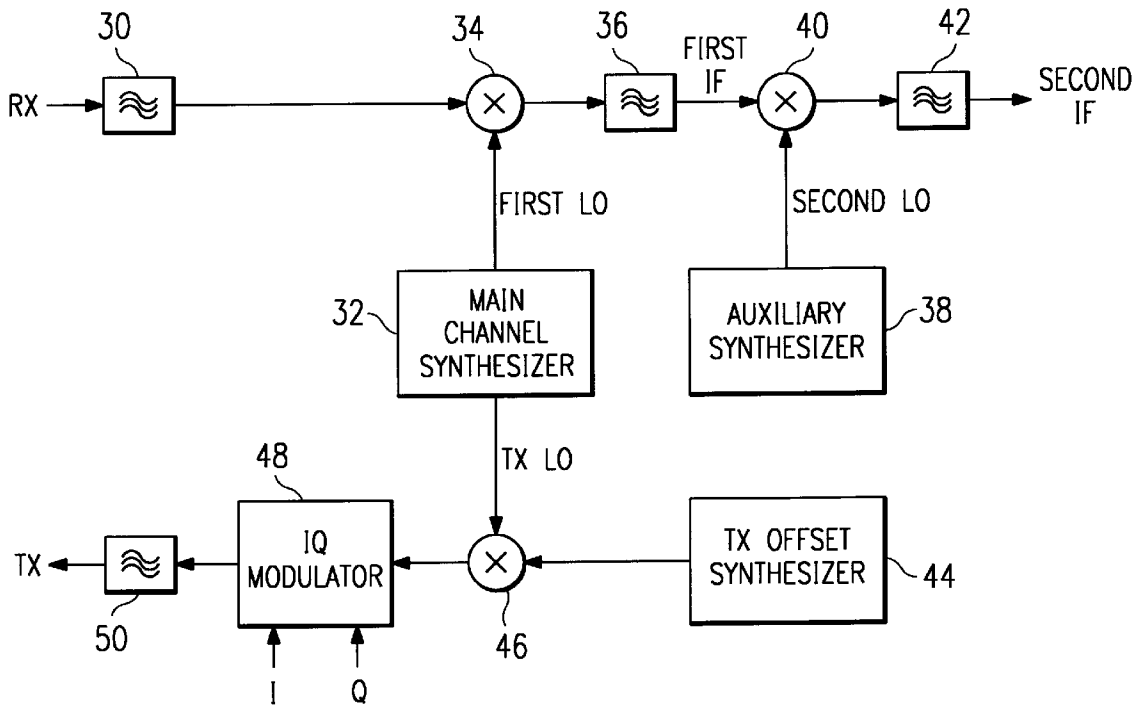
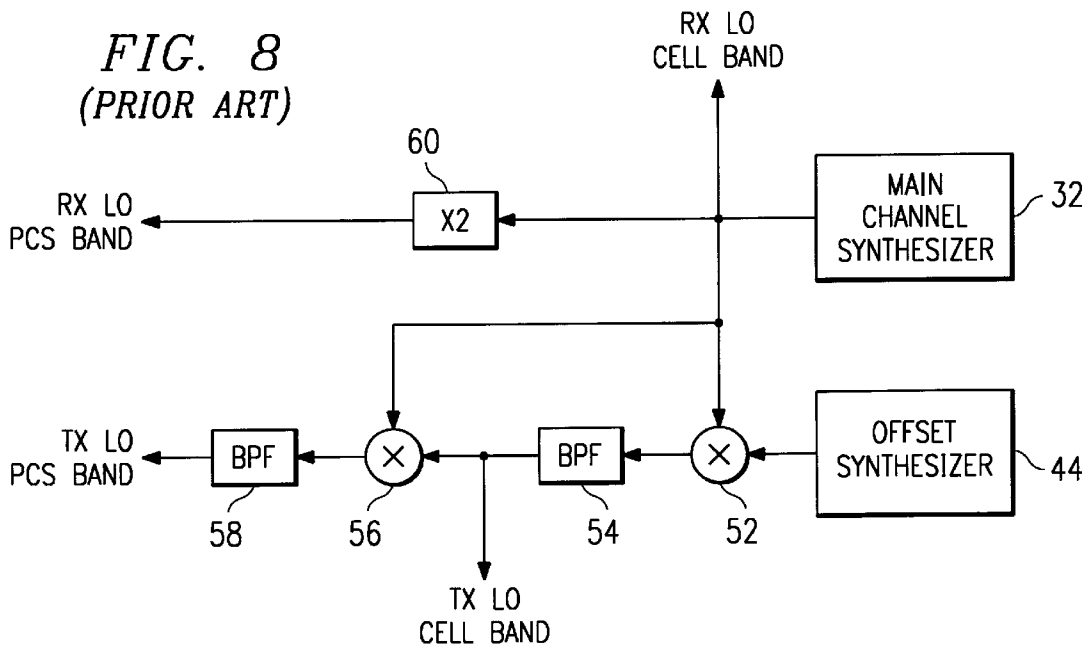


FIG. 8
(PRIOR ART)



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