United States Patent [19]

Backman et al.

[11] **Patent Number:** **6,128,355**

[45] **Date of Patent:** **Oct. 3, 2000**

[54] **SELECTIVE DIVERSITY COMBINING**

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[21] Appl. No.: **08/861,541**

[22] Filed: **May 21, 1997**

[51] **Int. Cl.^{7}** **H04B 7/08**; H04L 1/02

[52] **U.S. Cl.** **375/347**; 455/133; 455/137

[58] **Field of Search** 375/347, 267, 375/224, 227; 455/65, 303, 272, 273, 278.1, 134, 135, 137, 277.2, 140, 226.2, 226.3, 132, 133

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Attorney, Agent, or Firm—Burns, Doane, Swecker & Mathis, L.L.P.

[57] **ABSTRACT**

A method and system for combining signals in a receiver employing antenna diversity. If the interference exceeds a predetermined threshold, interference rejection combining (IRC) is used. If the interference does not exceed the predetermined threshold, maximum ratio combining (MRC) is used. The diversity combining technique can be selected, and the signals combined every burst, half-burst, or other suitable interval.
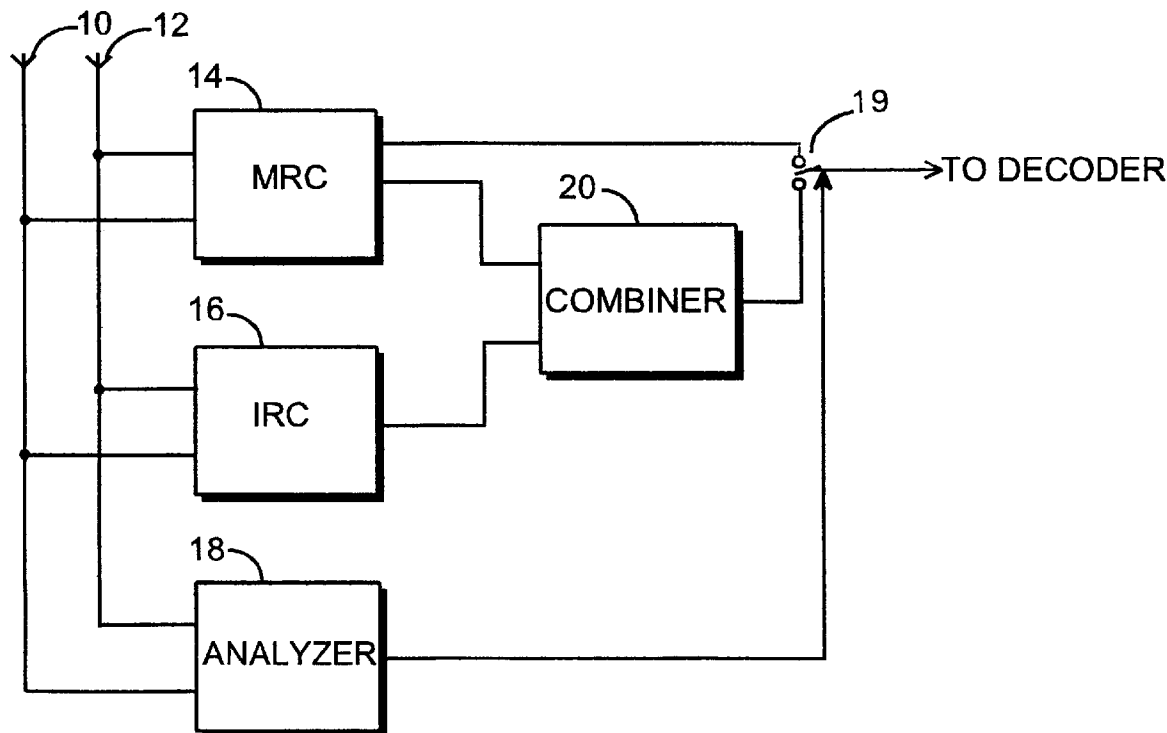
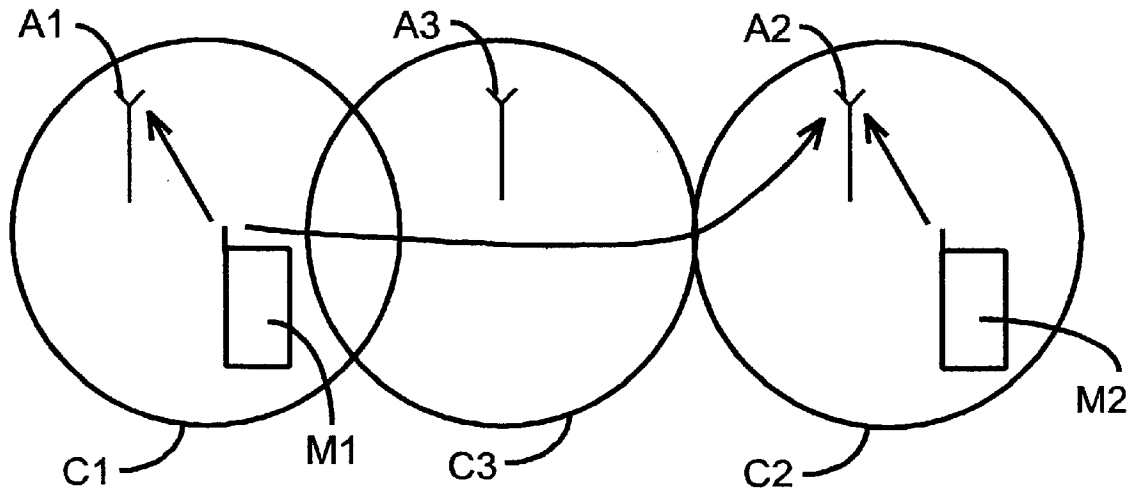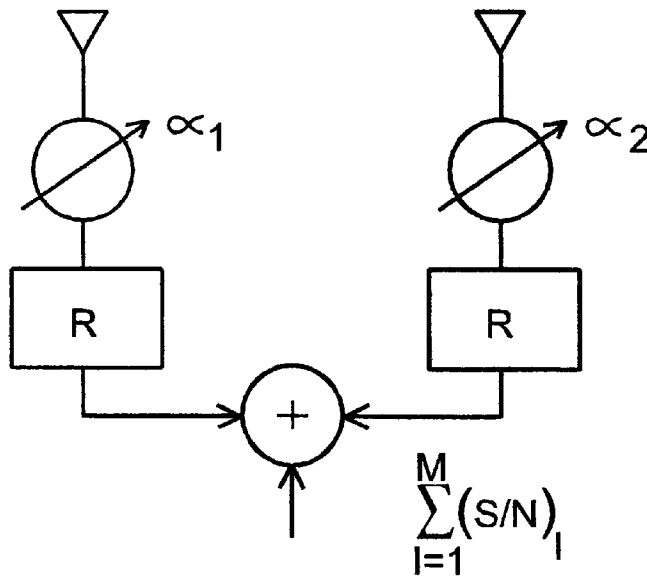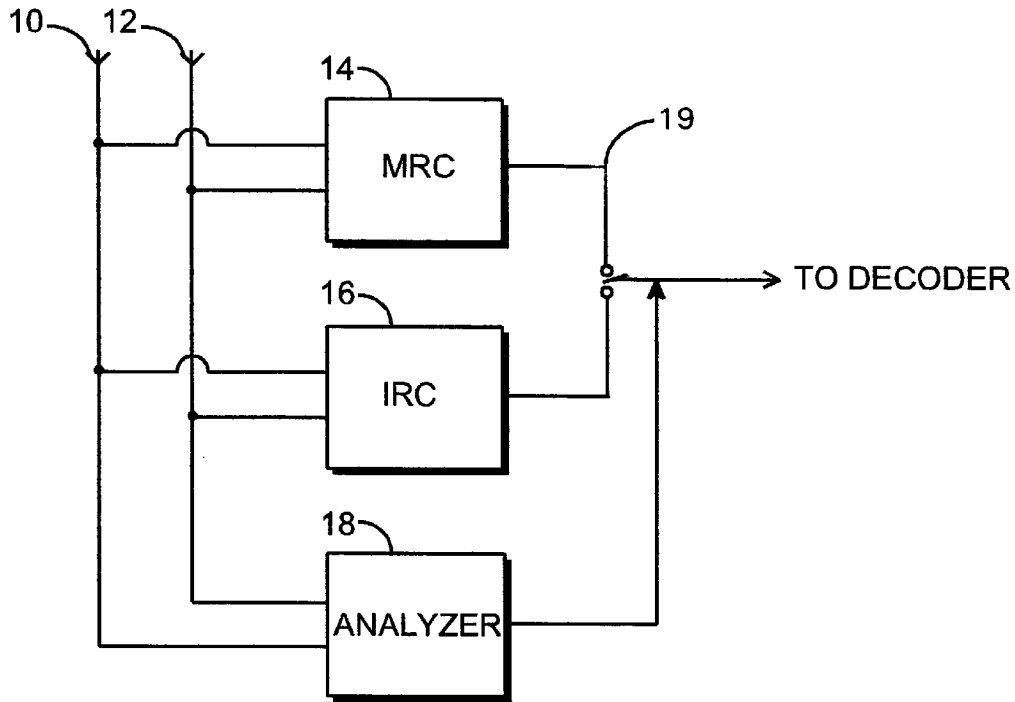**31 Claims, 6 Drawing Sheets**

FIG. 1

A1

A3

A2

M2

C1

M1

C3

C2

FIG. 2

$\propto_1$

$\propto_2$

R

R

+

$\sum_{I=1}^{M}(S/N)_I$
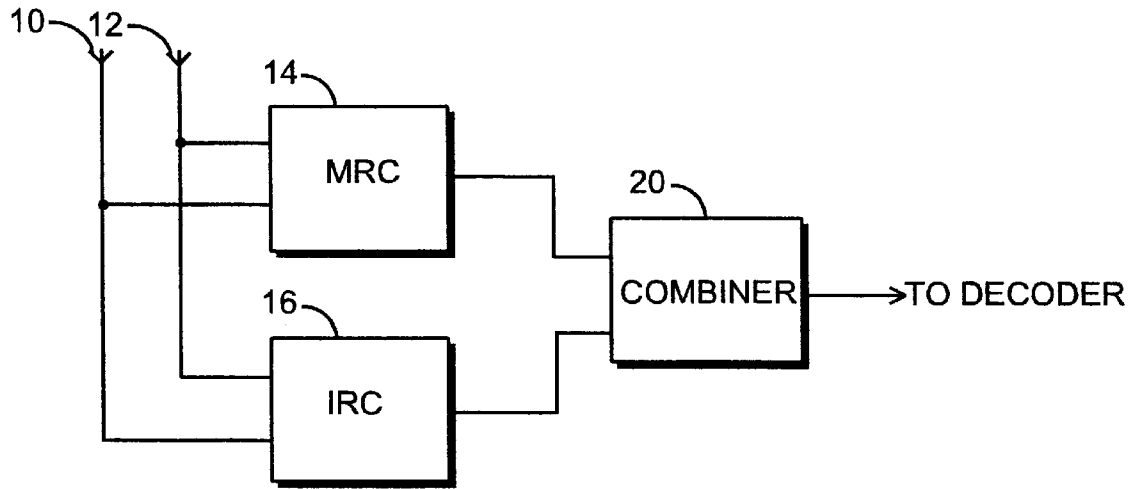
FIG. 3
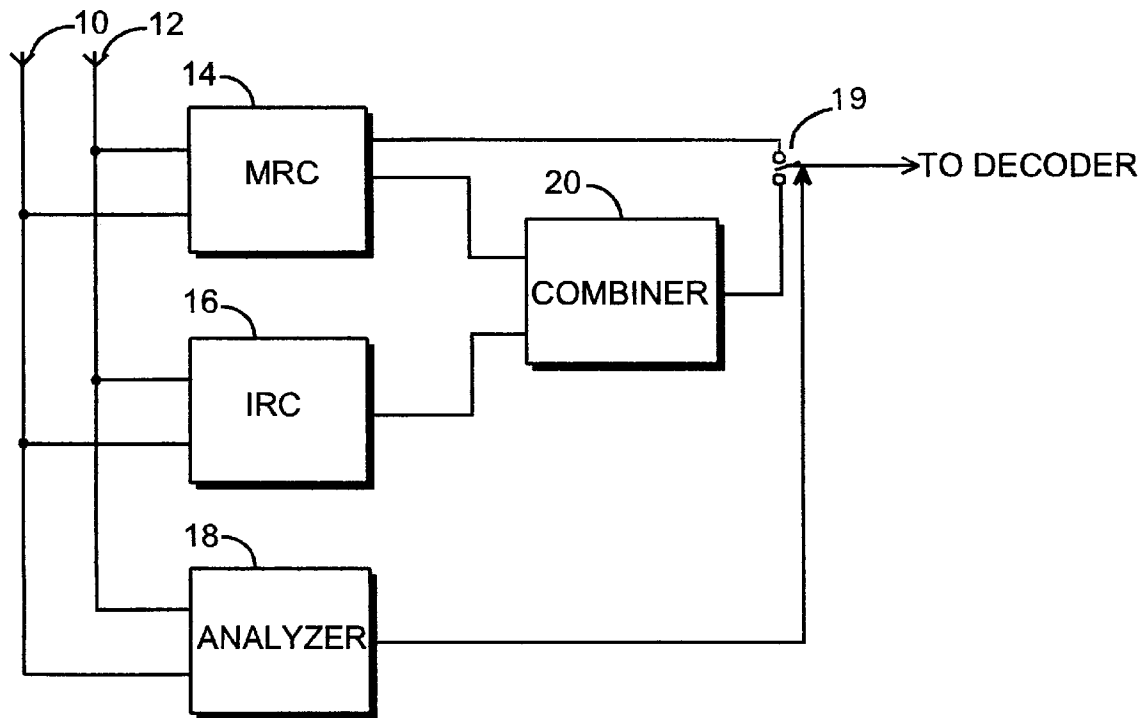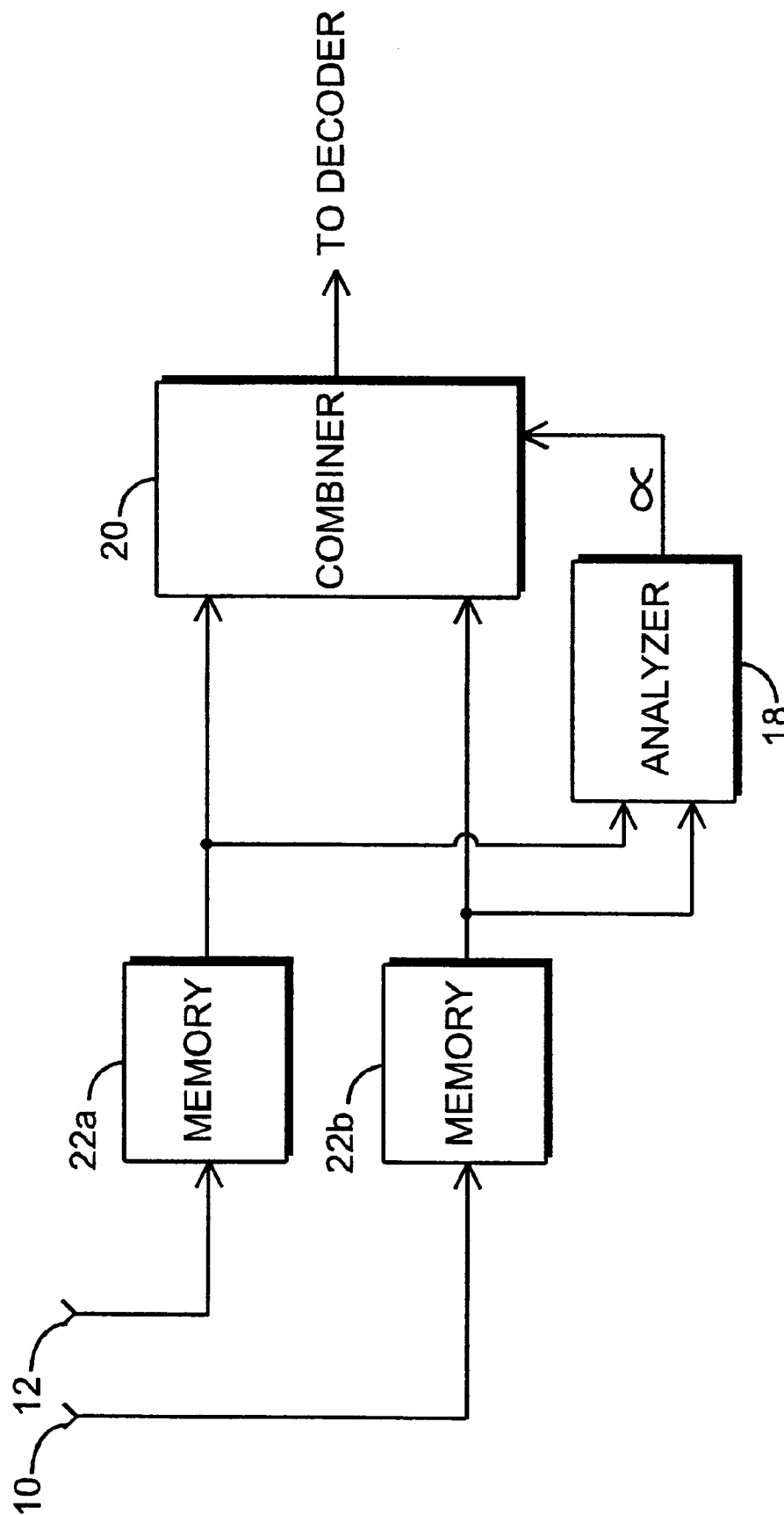

FIG. 4
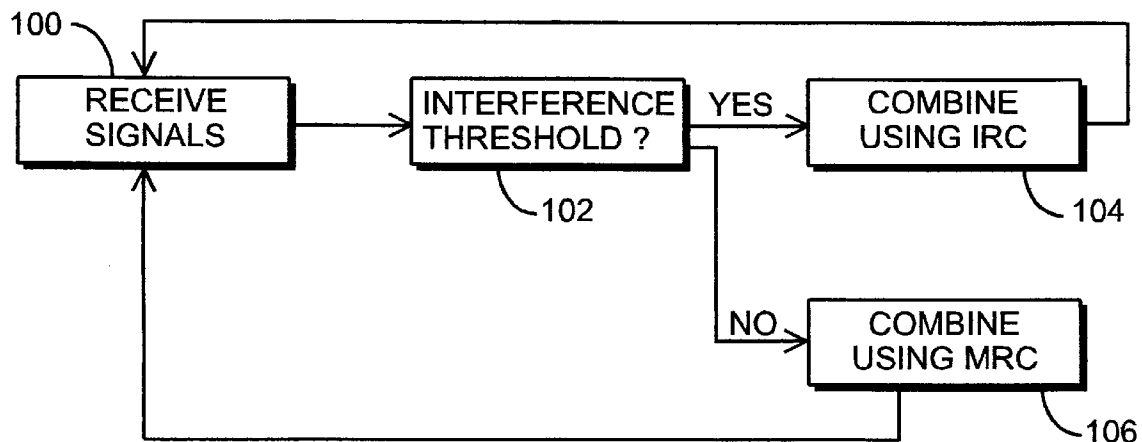
FIG. 5

FIG. 6

FIG. 7

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