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McManus et al.

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(54) **SYSTEM AND METHOD FOR PROVIDING HOUSE PRICE FORECASTS BASED ON REPEAT SALES MODEL**

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(51) **Int. Cl.**[7] **G06F 17/60**
(52) **U.S. Cl.** **705/1**; 705/10; 705/35; 705/37
(58) **Field of Search** 705/1, 10, 35, 705/37

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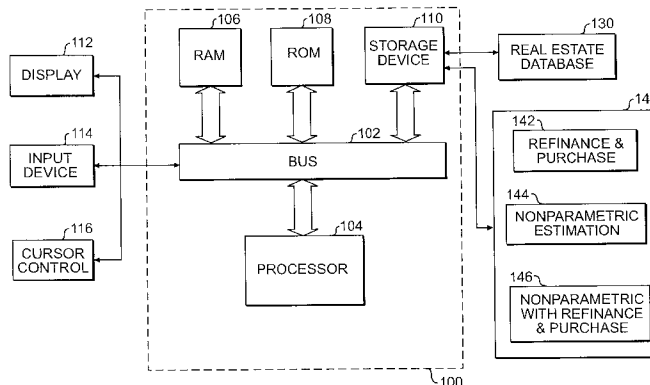*Primary Examiner*—V. Millin
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(57) **ABSTRACT**

Method and system for estimating real estate property values based on repeat sales model. The method estimates the price index using property value data from refinance transactions, as well as from purchase transactions. In so estimating, the method compensates for the transaction bias arising from using data from refinance transactions, which may exhibit incentive and selection biases. The property at issue may be estimated based on the so-computed price index. The price index and/or the bias component may be estimated using nonparametric functions.
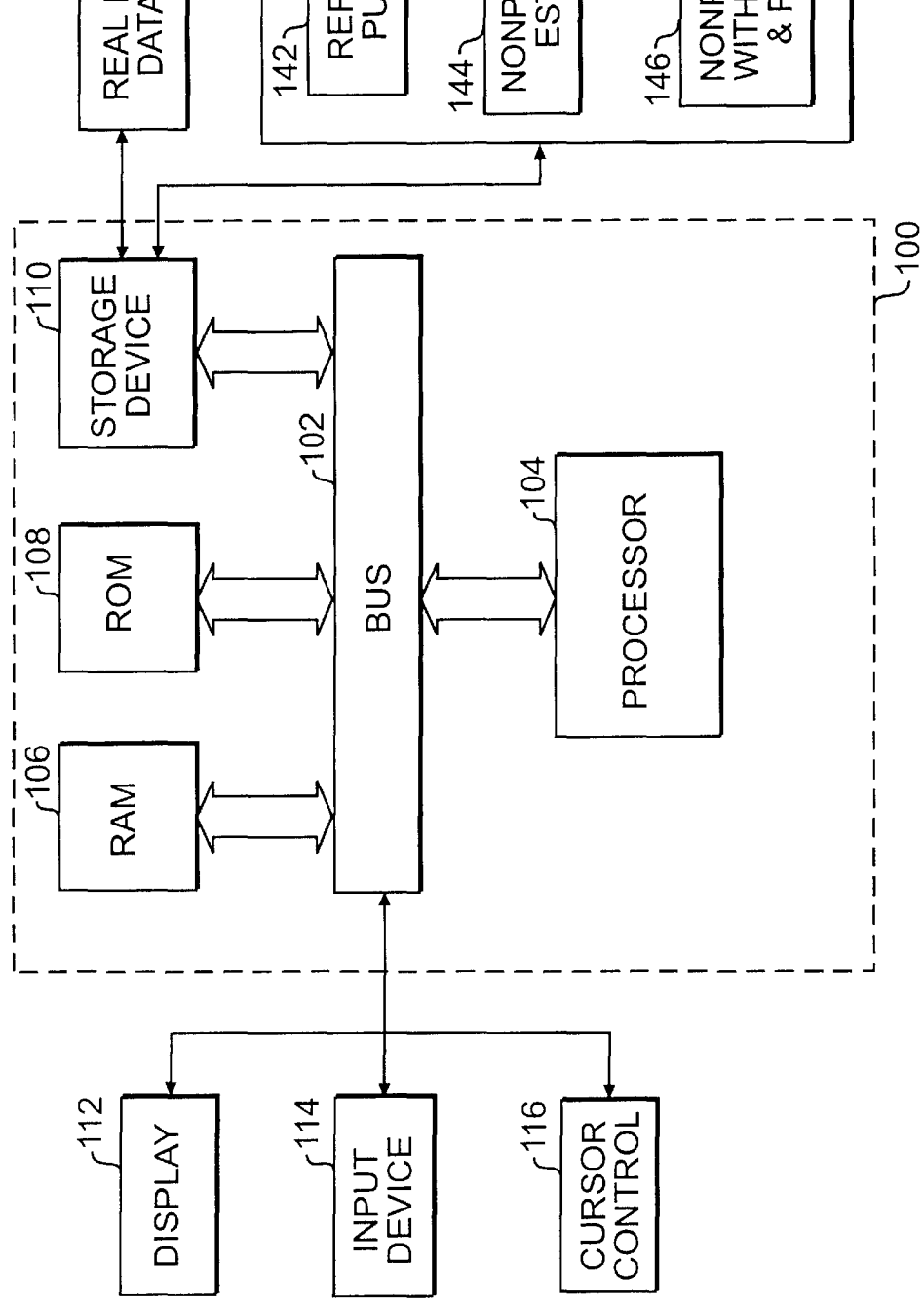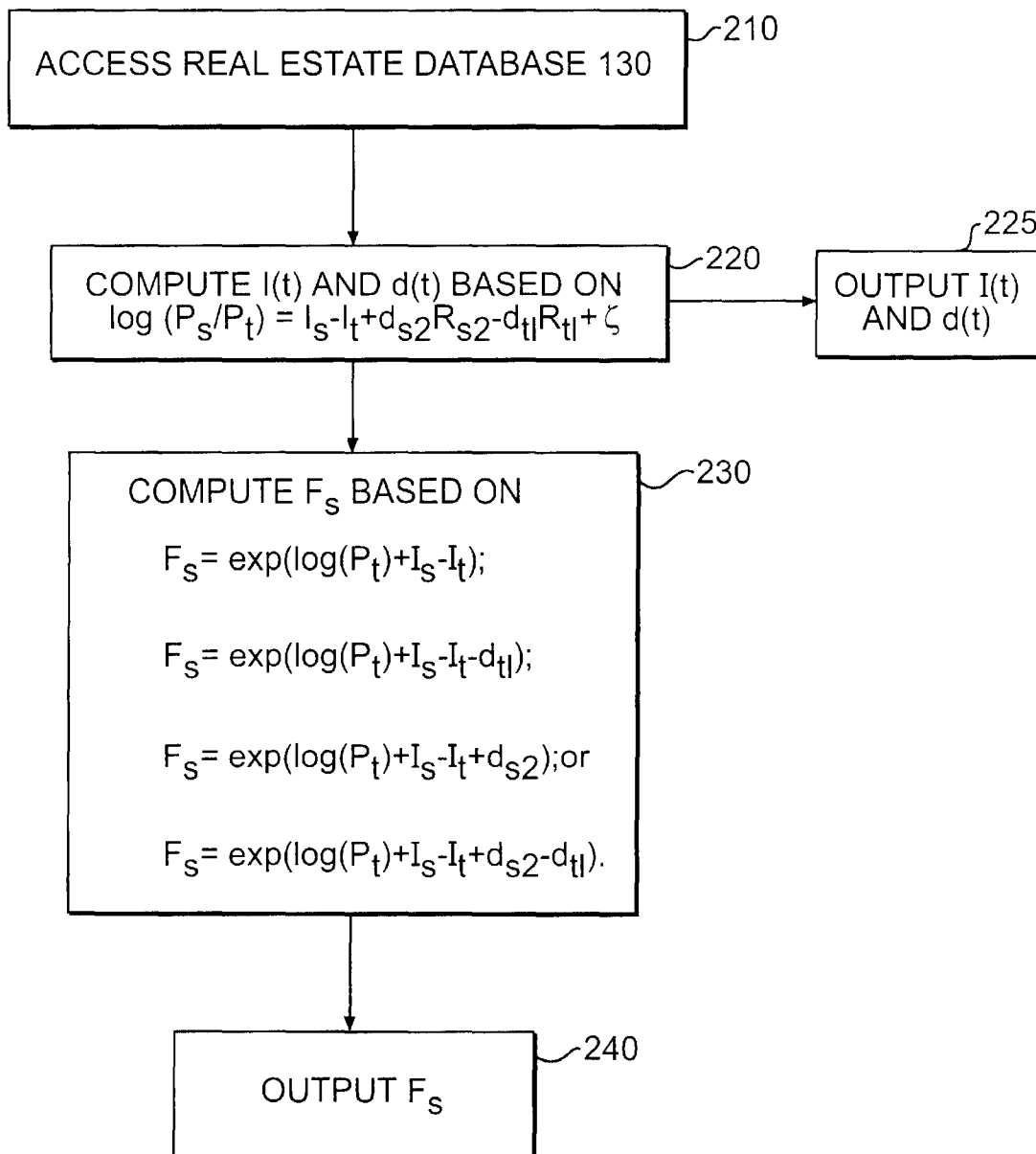
102 Claims, 5 Drawing Sheets

REAL DATA

142 REF PU

144 NONP ES

146 NONP WITH & F

110 STORAGE DEVICE

108 ROM

106 RAM

102 BUS

104 PROCESSOR

100

112 DISPLAY

114 INPUT DEVICE

116 CURSOR CONTROL

FIG. 1

ACCESS REAL ESTATE DATABASE 130   /210

COMPUTE I(t) AND d(t) BASED ON /220

$\log(P_s/P_t) = I_s - I_t + d_{s2}R_{s2} - d_{tl}R_{tl} + \zeta$

/225

OUTPUT I(t) AND d(t)

COMPUTE F_s BASED ON   /230

$F_s = \exp(\log(P_t) + I_s - I_t);$

$F_s = \exp(\log(P_t) + I_s - I_t - d_{tl});$

$F_s = \exp(\log(P_t) + I_s - I_t + d_{s2});\text{or}$

$F_s = \exp(\log(P_t) + I_s - I_t + d_{s2} - d_{tl}).$

/240

OUTPUT F_s

FIG. 2

ACCESS REAL ESTATE DATABASE 130 — 310

USE A NONPARAMETRIC FUNCTION TO COMPUTE I(t) — 320

OUTPUT I(t) — 325

COMPUTE F_S BASED ON — 330

$$F_S = \exp(\log(Pt) + I(s) - I(t))$$

OUTPUT F_S — 340

FIG. 3

ACCESS REAL ESTATE DATABASE 130   ⌐410

USE NONPARAMETRIC FUNCTIONS TO COMPUTE $I(t)$, $D_1(t)$ AND $D_2(t)$ ⌐420

OUTPUT $I(t)$ $D_1(t)$ AND $D_2(t)$ ⌐425

COMPUTE F_S BASED ON   ⌐430

$$F_S = \exp(\log(P_t) + I_S - I_t);$$

$$F_S = \exp(\log(P_t) + I_S - I_t - D_{tl});$$

$$F_S = \exp(\log(P_t) + I_S - I_t + D_{s2}); \text{or}$$

$$F_S = \exp(\log(P_t) + I_S - I_t + D_{s2} - D_{tl}).$$
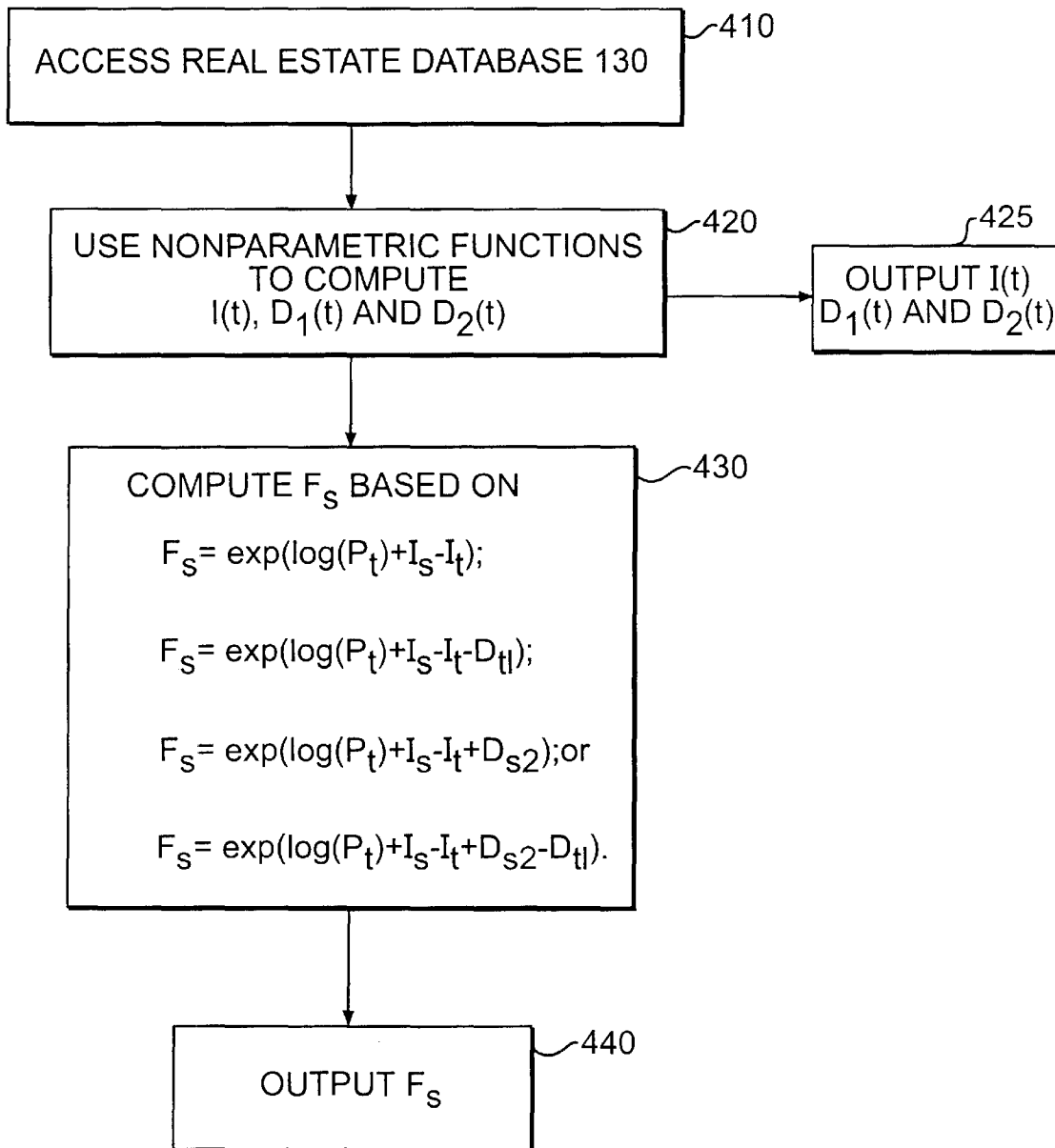
OUTPUT F_S ⌐440

FIG. 4

DOCKET ALARM

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