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(54) **SYSTEM, METHOD AND APPARATUS FOR JUST-IN-TIME CONDITIONING USING A THERMOSTAT**

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G05D 23/00 (2006.01)

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USPC **700/300**; 700/278

(58) **Field of Classification Search**
USPC 700/296, 299, 300, 306, 278
See application file for complete search history.

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(57) **ABSTRACT**

Systems and methods for reducing the cycling time of a climate control system. For example, one or more of the exemplary systems can receive from a database a target time at which a structure is desired to reach a target temperature. In addition, the system acquires the temperature inside the structure and the temperature outside the structure at a time prior to the target time. The systems use a thermal characteristic of the structure and a performance characteristic of the climate control system, to determine the appropriate time prior to the target time at which the climate control system should turn on based at least in part on the structure, the climate control system, the inside temperature and the outside temperature. The systems then set a setpoint on a thermostatic controller to control the climate control system.

20 Claims, 18 Drawing Sheets
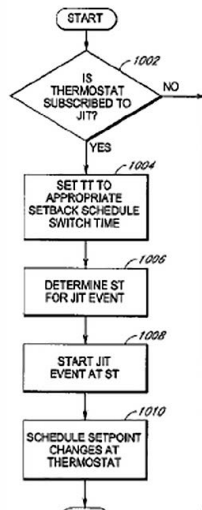
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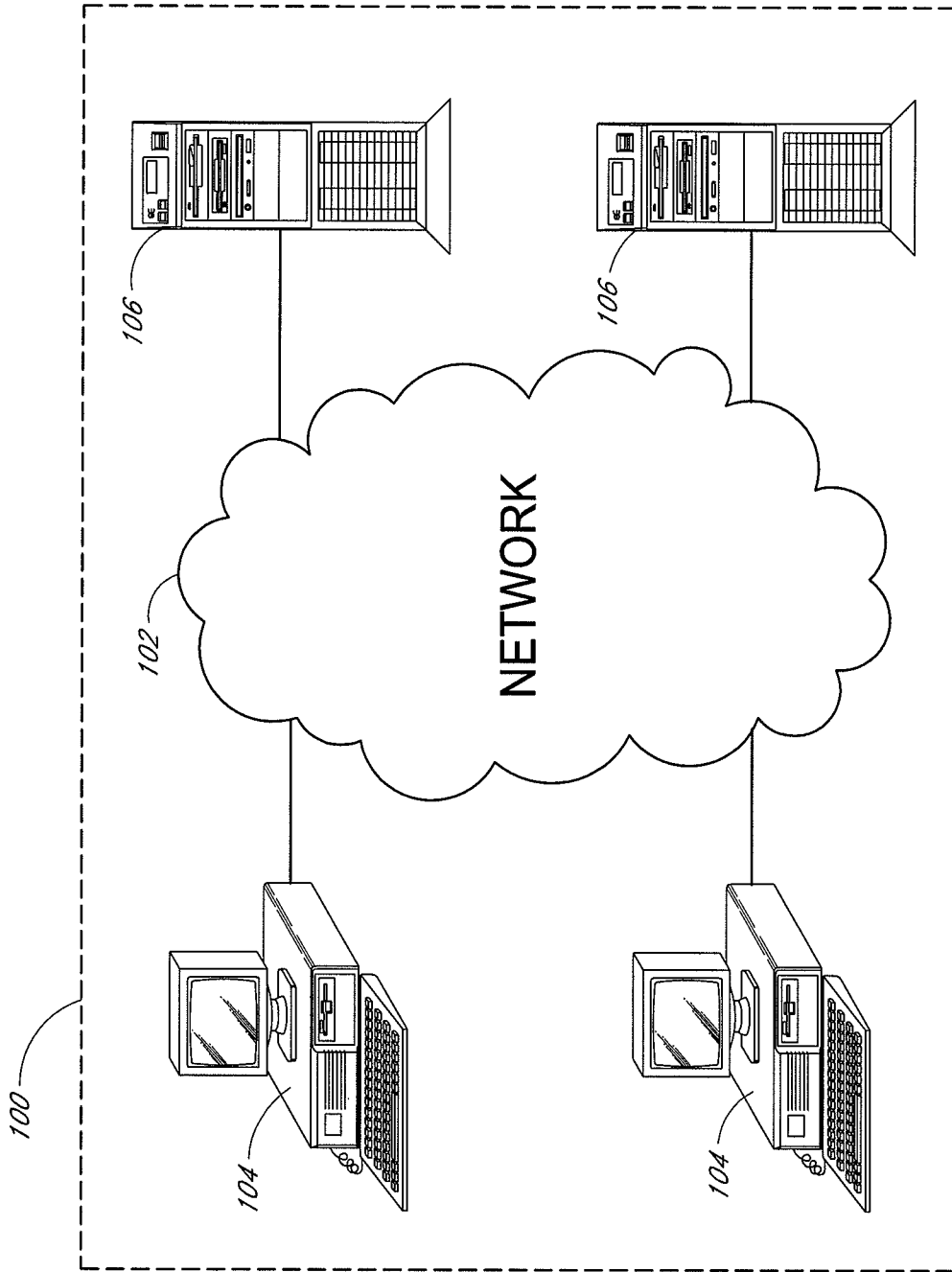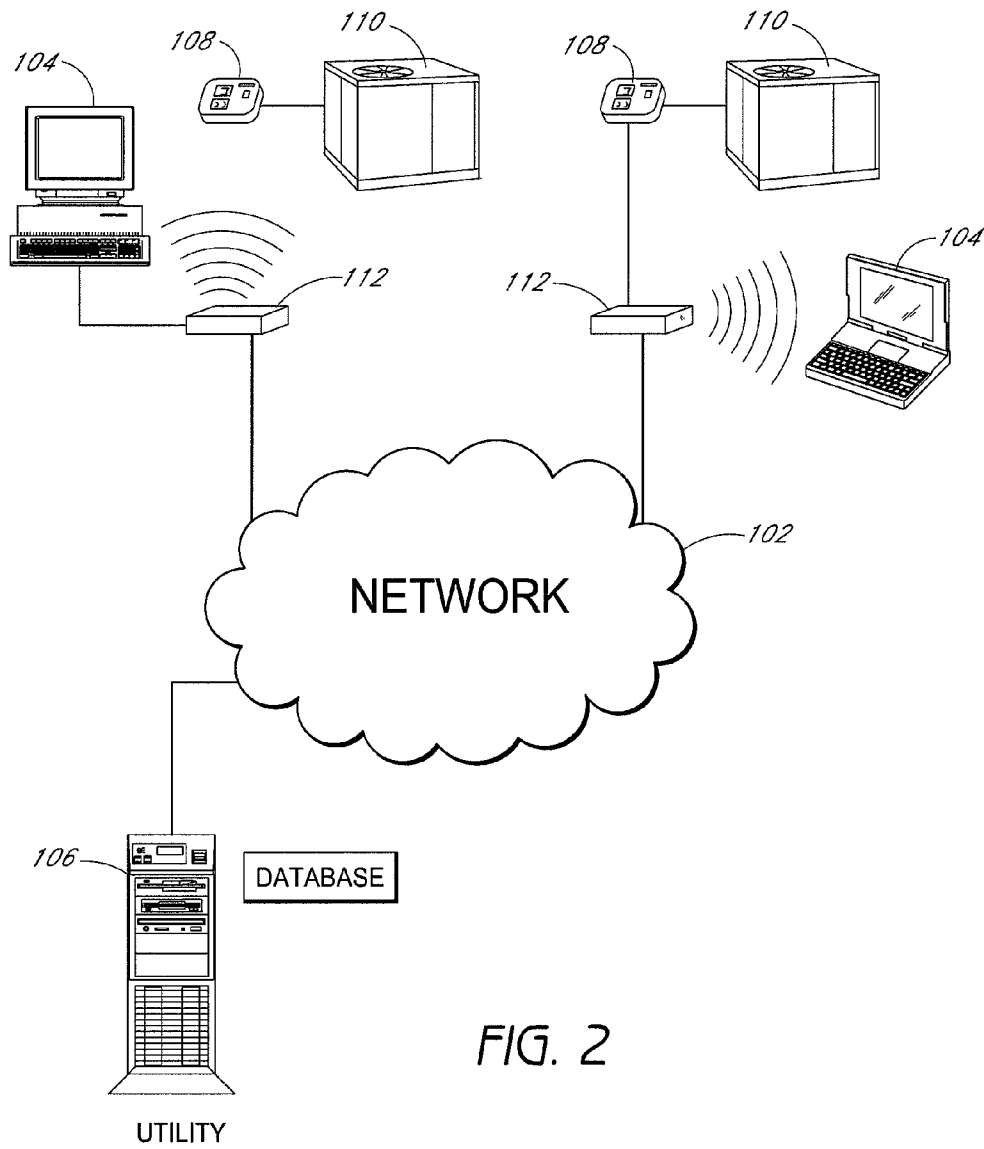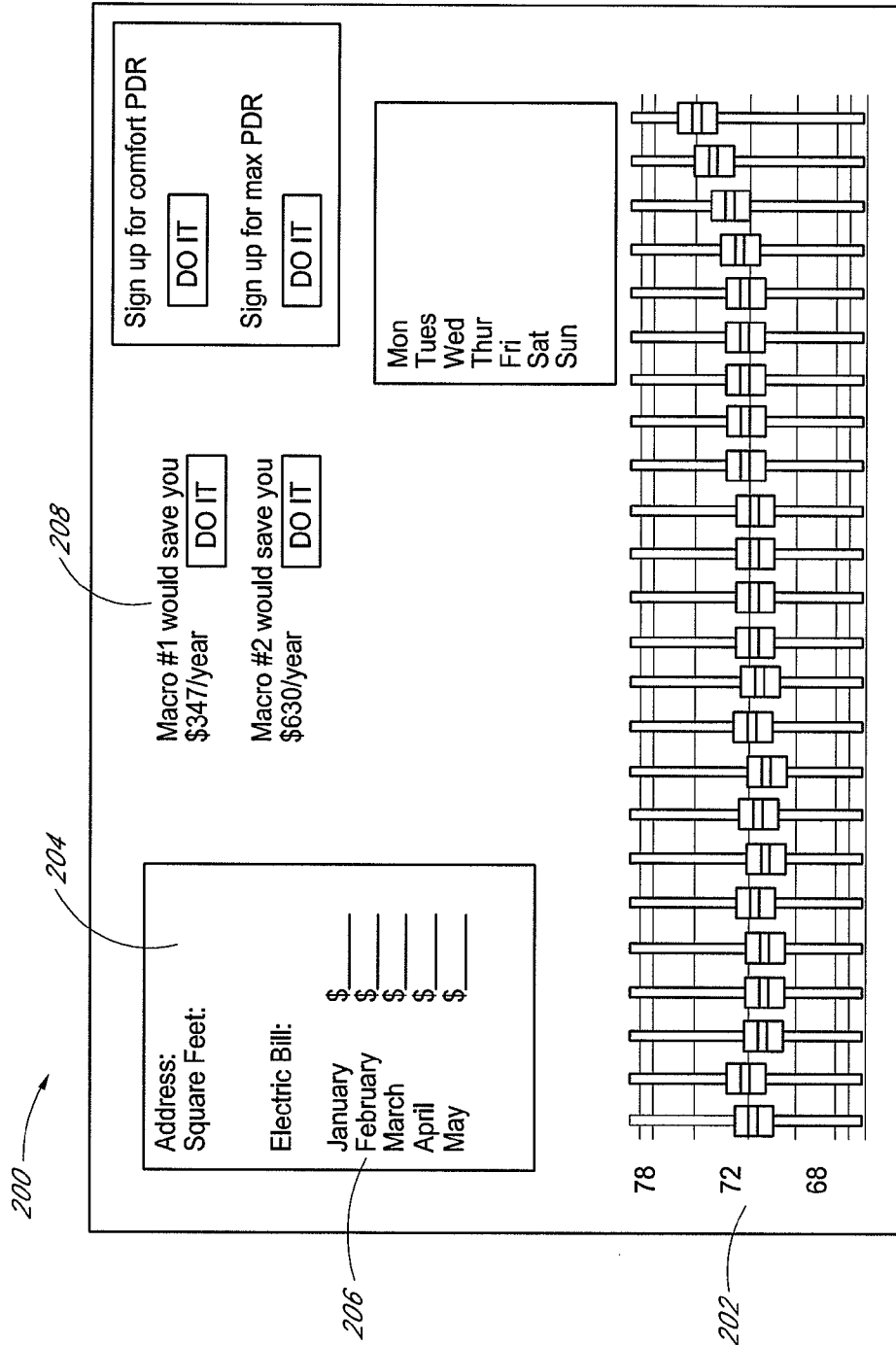Raji, "Smart Networks for Control", IEEE Spectrum, Jun. 1994.

FIG. 1

FIG. 2

FIG. 3

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