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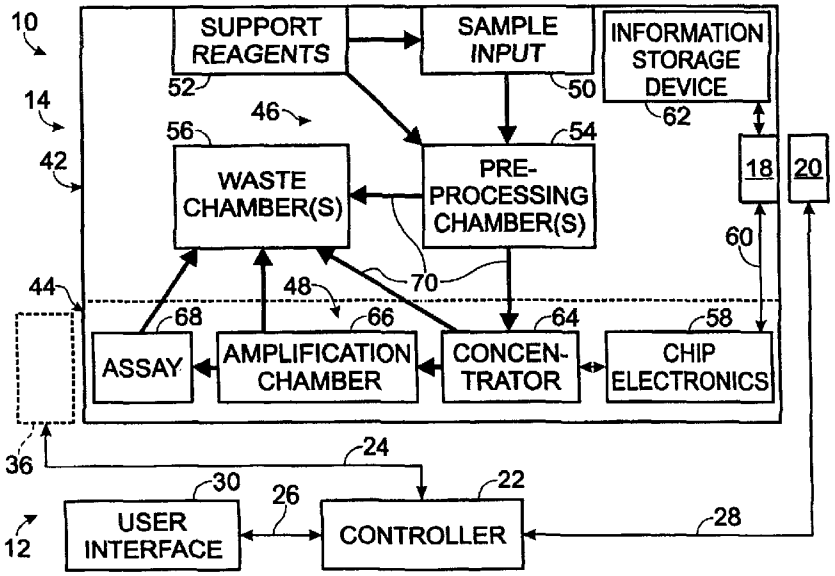
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(54) Title: MICROFLUIDIC SYSTEM FOR ANALYSIS OF NUCLEIC ACIDS



(57) Abstract: A system (10) is provided, including apparatus and methods, for microfluidic processing and/or analysis of a nucleic acid(s) (127) in a sample having the nucleic acid(s) and waste material. The system (10) includes a microfluidic device (14) having a fluid-handling portion (42) and an assay portion (44). The fluid-handling portion (42) may be configured to move fluid mechanically and defines at least one fluid compartment (54). The fluid-handling portion (42) is configured to receive the sample and to pre-process the sample in the fluid compartment (54) to at least partially separate the nucleic acid (127) from the waste material. The assay portion (44) interfaces with the fluid-handling portion (42) and defines at least one fluid chamber. The fluid chamber is connected fluidically to the fluid compartment (54). The assay portion (44) includes electronics (58) configured to process the nucleic acid (127) in the fluid chamber.

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