[5] CLAIM

[a] It is a reliable, real-time monitoring and secure smart grid infrastructure.

[b] Mainly, it is automated home level demand-response management (DRM) system.

[c] It will act as a centrally supervised system in home level micro grid.

[d] This labview based system can be used as a standalone module.

[e] It will integrate distributed energy resources (DERs) such as solar photovoltaic (PV) System, battery energy storage systems (BESSs), small level wind turbine system, etc.

[f] It will be used to divert the unused energy generated from the distributed energy resources to utility grid in a real time monitoring environment.

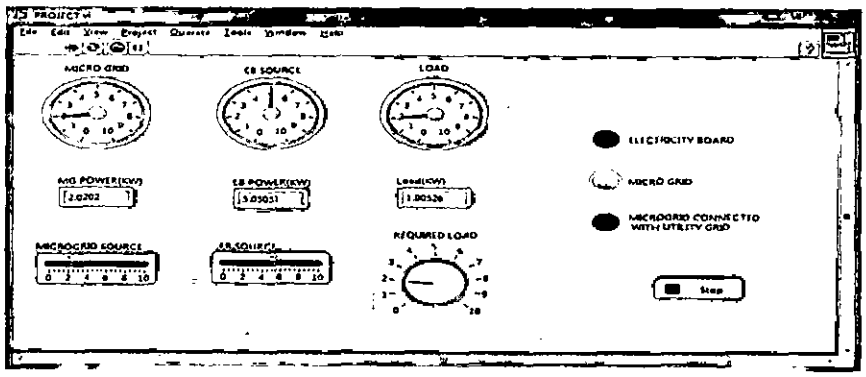


Figure.1 shows the microgrid is connected to load.

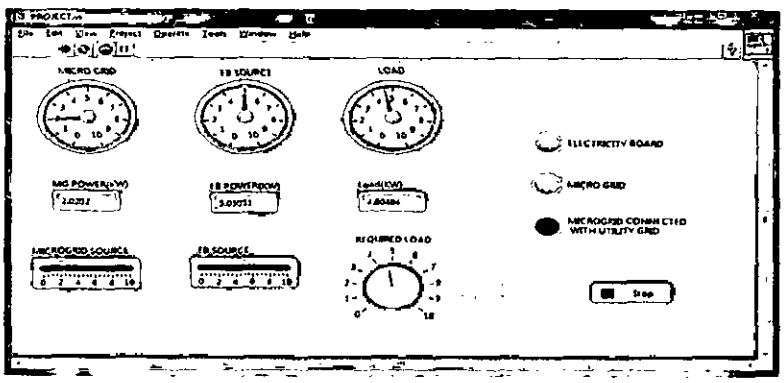


Figure.2 shows the microgrid and EB source connected to load.

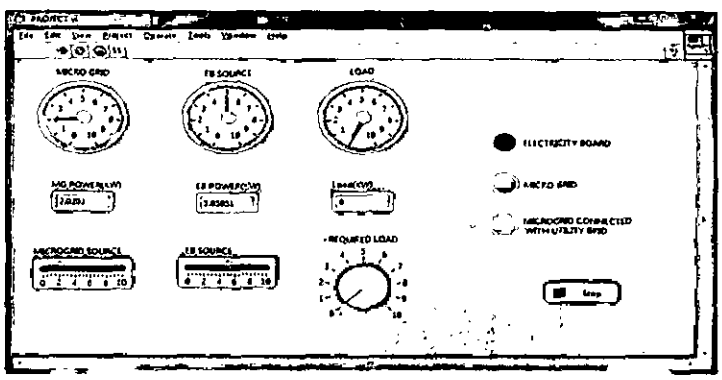
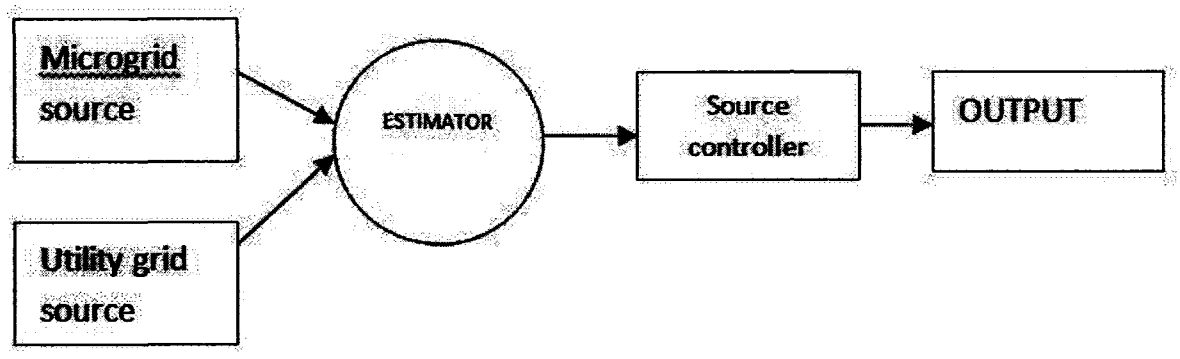


Figure.3 displays the Monitor showing the microgrid is diverted to utility grid

PROVISIONAL / ~~COMPLETE~~ SPECIFICATION

Portable Micro grid source controller

The controller discloses a micro-grid management system in a home level usage of micro renewable sources, which is implemented by an Embedded system based load monitor and a source controllers. This controller comprises connectivity provision for multiple renewable energy sources, connection of E.B source, comparison and source selection circuit, load monitor and a connectivity port for computer interfacing for monitoring though system also. The main function of this controller is to monitor the load requirement in home and can quickly respond to the switching of micro-sources connected to the distribution network through this controller.



When a micro-grid system is in operation in a home level, the controller controls the energy output of the micro-sources of the micro-grid by setting the selection of appropriate micro source based on the power consumption by the load in the micro-grid system and simultaneously processes real-time monitoring of load in the home distribution network, also send control signals via the connectivity port and also by the controller, to meet the requirement of synchronization of the micro-grid and the distribution network in home level so as to avoid the usage of conventional source during generation failure or during low power generation, utilization of other sources is made efficient. Also power can be fed to the grid during reduction in load by the controller.