CLAIMS

1. A system for utilizing a stand-alone controller in a multiplexed handler test cell, the system comprising:

a plurality of multiplexed handlers that handle devices subjected to testing;

a tester that tests the devices subjected to testing that are associated with one of the plurality of multiplexed handlers at a time, in accordance with testing instructions received over a communication link; and

a stand-alone controller that is operationally located between the tester and the plurality of handling devices, the stand-alone controller including a storage that stores a set of testing instructions, and a processor that executes the set of testing instructions and that sends the executed testing instructions to the tester over the communication link,

wherein the system is configured so that the stand-alone controller selectively implements at least one of a plurality of selectable operational modes included in the testing instructions during testing of the devices subjected to testing, the plurality of selectable operational modes including (1) a first selectable operational mode that monitors yield differences among the plurality of multiplexed handlers and that executes corrective action, when necessary; (2) a second selectable operational mode that modifies the set of testing instructions by adding a test to read a status register on a multiplexing tester board, the status register containing a binary code status of an active handler; (3) a third selectable operational mode that supports parallel tests and that maps multiple test sites to same tester resources; and (4) a fourth selectable operational mode that includes a multithreaded handler driver executing on the stand-alone controller, which utilizes multithreading in executing the set of testing instructions, and

wherein the testing includes negligible index time.

~~2. The system as described in claim 1,~~

~~wherein the stand-alone controller implements one of a plurality of selectable operational modes during testing of the devices subjected to testing.~~

~~3. The system as described in claim 2,~~

~~wherein the stand-alone controller includes a first selectable operational mode that monitors yield differences among the plurality of multiplexed handlers.~~

~~4. The system as described in claim 3,~~

~~wherein the stand-alone controller includes a second selectable operational mode that modifies the set of testing instructions by adding a test to read a status register on a multiplexing tester board.~~

~~5. The system as described in claim 4,~~

~~wherein the stand-alone controller includes a third selectable operational mode that maps multiple test sites to same tester resources.~~

~~6. The system as described in claim 5,~~

~~wherein the stand-alone controller includes a fourth selectable operational mode that utilizes multithreading in executing the set of testing instructions.~~

2~~7~~. The system as described in claim 1, the system further comprising:

a graphical user interface,

wherein the storage stores a set of post-testing instructions that are executed by the processor such that the stand-alone controller generates an analysis of results of the testing that are displayed on the graphical user interface.

38. The system as described in claim 1,

wherein initial setup parameters of the stand-alone controller are generated by utilizing a virtual tester and a plurality of virtual multiplexed handlers.

49. The system as described in claim 1,

wherein the plurality of multiplexed handlers and the tester each have a General Purpose Interface Bus (GPIB) interface for communicating with the stand-alone controller.

510. A method for utilizing a stand-alone controller in a multiplexed handler test cell, the test cell including a plurality of multiplexed handlers, a tester, and a stand-alone controller, the method comprising:

configuring the multiplexed handler test cell such that the stand-alone controller is operationally located between the tester and the plurality of handling devices;

storing a set of testing instructions in a storage of the stand-alone controller;

executing the set of testing instructions by a processor of the stand-alone controller;

selectively transmitting executed testing instructions to the tester; and

individually testing each of the plurality of multiplexed handlers using the executed testing instructions,

wherein the method is configured so that the stand-alone controller selectively implements at least one of a plurality of selectable operational modes during testing of the devices subjected to testing, the plurality of selectable operational modes including (1) a first

selectable operational mode that monitors yield differences among the plurality of multiplexed handlers and that executes corrective action, when necessary; (2) a second selectable operational mode that modifies the set of testing instructions by adding a test to read a status register on a multiplexing tester board, the status register containing a binary code status of an active handler; (3) a third selectable operational mode that supports parallel tests and that maps multiple test sites to same tester resources; and (4) a fourth selectable operational mode that includes a multithreaded handler driver executing on the stand-alone controller, which utilizes multithreading in executing the set of testing instructions, and

wherein the testing includes negligible index time.

~~11. The method described in claim 10, further comprising:~~

~~implementing one of a plurality of selectable operational modes during testing of the devices subjected to testing.~~

~~12. The method described in claim 11,~~

~~wherein the selectable operational modes include a first selectable operational mode that monitors yield differences among the plurality of multiplexed handlers.~~

~~13. The method described in claim 12,~~

~~wherein the selectable operational modes include a second selectable operational mode that modifies the set of testing instructions by adding a test to read a status register on a multiplexing tester board.~~

~~14. The method described in claim 13,~~

~~wherein the selectable operational modes include a third selectable operational mode that maps multiple test sites to same tester resources.~~

~~15. The method described in claim 14,~~

~~wherein the selectable operational modes include a fourth selectable operational mode that utilizes multithreading in executing the set of testing instructions.~~

6~~16~~. The method described in claim 5~~10~~, further comprising:

displaying results of the testing on a graphical user interface of the stand-alone controller.

7~~17~~. The method described in claim 5~~10~~, further comprising:

generating initial setup parameters of the stand-alone controller by utilizing a virtual tester and a plurality of virtual multiplexed handlers.

8~~18~~. A non-transitory computer-readable storage medium, encoded with a computer-executable program for utilizing a stand-alone controller in a multiplexed handler test cell, the test cell including a plurality of multiplexed handlers, a tester, and a stand-alone controller, the medium comprising:

a configuring segment that configures the multiplexed handler test cell such that the stand-alone controller is operationally located between the tester and the plurality of handling devices;

a storing segment that stores a set of testing instructions in a storage of the stand-alone controller;

an execution segment that executes the set of testing instructions by a processor of the stand-alone controller;

a selectively transmitting segment that selectively transmits executed testing instructions to the tester; and

a testing segment that individually tests each of the plurality of multiplexed handlers using the executed testing instructions,

wherein the computer-executable program is configured so that the stand-alone controller selectively implements at least one of a plurality of selectable operational modes during testing of the devices subjected to testing, the plurality of selectable operational modes including (1) a first selectable operational mode that monitors yield differences among the plurality of multiplexed handlers and that executes corrective action, when necessary; (2) a second selectable operational mode that modifies the set of testing instructions by adding a test to read a status register on a multiplexing tester board, the status register containing a binary code status of an active handler; (3) a third selectable operational mode that supports parallel tests and that maps multiple test sites to same tester resources; and (4) a fourth selectable operational mode that includes a multithreaded handler driver executing on the stand-alone controller, which utilizes multithreading in executing the set of testing instructions, and

wherein the testing includes negligible index time.

~~19. The medium described in claim 18, further comprising:~~

~~an implementation segment that implements one of a plurality of selectable operational modes during testing of the devices subjected to testing.~~

920. The medium described in claim 819, further comprising:

a generating segment for generating initial setup parameters of the stand-alone controller by utilizing a virtual tester and a plurality of virtual multiplexed handlers.