

Using The Patchpanel With Testers and Instrument Racks

By Steve Smith

The Patchpanel is a highly flexible connectivity solution for the test and measurement industry. What it provides is a rapid release coaxial and/or pogo pin connection between the rack and stack or modular test system and the DUT. This interface is both robust and economical, provides a broadband RF and or POGO pin interface. This enables loadboards to be easily interchanged giving the flexibility of a tester but at a fraction of the cost.

Precision alignment and connector float is provided to avoid damage during changing, but should any connectors become damaged replacement is still very simple and economical.

Using the Patchpanel with rack and Stack Equipment

Using the conventional rack and stack approach to testing is often limited to either using dedicated rack and stack systems for each device under test (DUT) or to use this test equipment to test other devices requires disconnecting one loadboard and fitting an alternative in it's place with many connectors to unplug and re-attach to the new board. This is time-consuming and has potential for damaging the connectors, or worse connecting incorrectly. Also in the event of a problem it takes significant time to replace the loadboard, or to debug and re-calibrate the system.

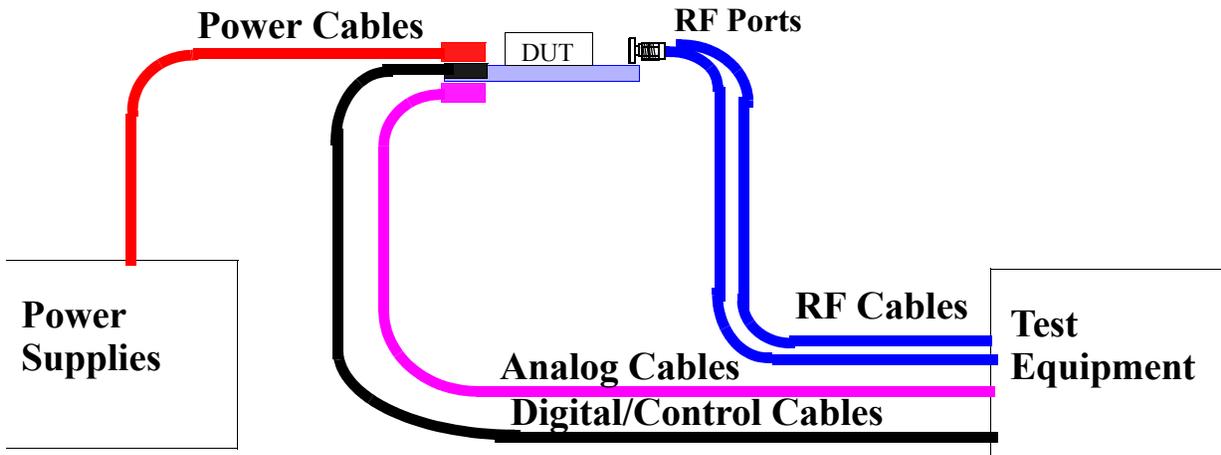
What Patchpanel does is to overcome these problems by providing a quick and versatile interface method, where now fitting a different loadboard is easy because the current one simply unplugs as a complete monolithic unit and replacement is equally easy too. This enables the same test equipment to easily be used to test multiple devices or develop applications. Debug is easy too because if there is a problem on one loadboard, an alternative or a cal loadboard can be fitted to the Patchpanel to verify test equipment, cable and RF connector/pogo pin functionality

Figure 1 below shows a typical rack and stack test system application, how Patchpanel could be utilized in such a system, it also shows how this could be migrated to a full custom loadboard.

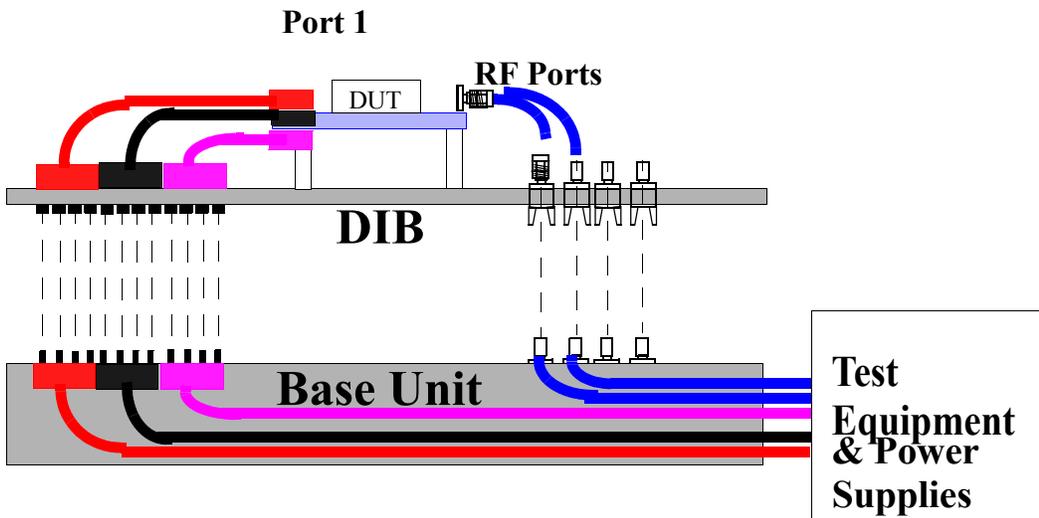
Using The Patchpanel with ATE Testers

For application where there are a variety of different ATE testers in use, the Patchpanel can be used as a way of providing a cost-effective standard footprint for all loadboards. In this way a loadboard could be initially designed to work with rack and stack equipment and then easily migrated to a larger ATE tester once the part goes into production. The advantage of this is that it is that only the rack and stack equipment would be required in the engineering facility, and if the production loadboards ever require further development they can easily be removed from a device tester and fitted to the rack and stack equipment via a Patchpanel in the engineering facility. Figure 2 shows how Patchpanel with an optional interface unit can convert a tester to a standard format.

FIG 1 Typical Loadboard test equipment interface



Simple Loadboard Using Patchpanel as interface



Custom Loadboard Using Patchpanel as interface

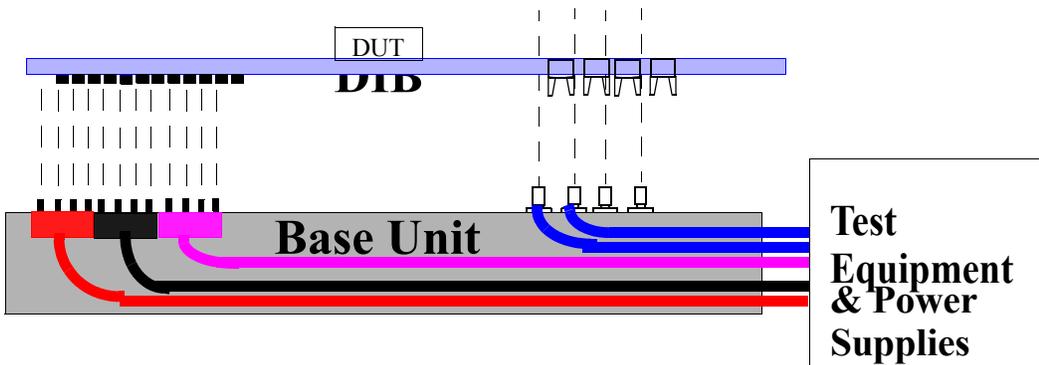
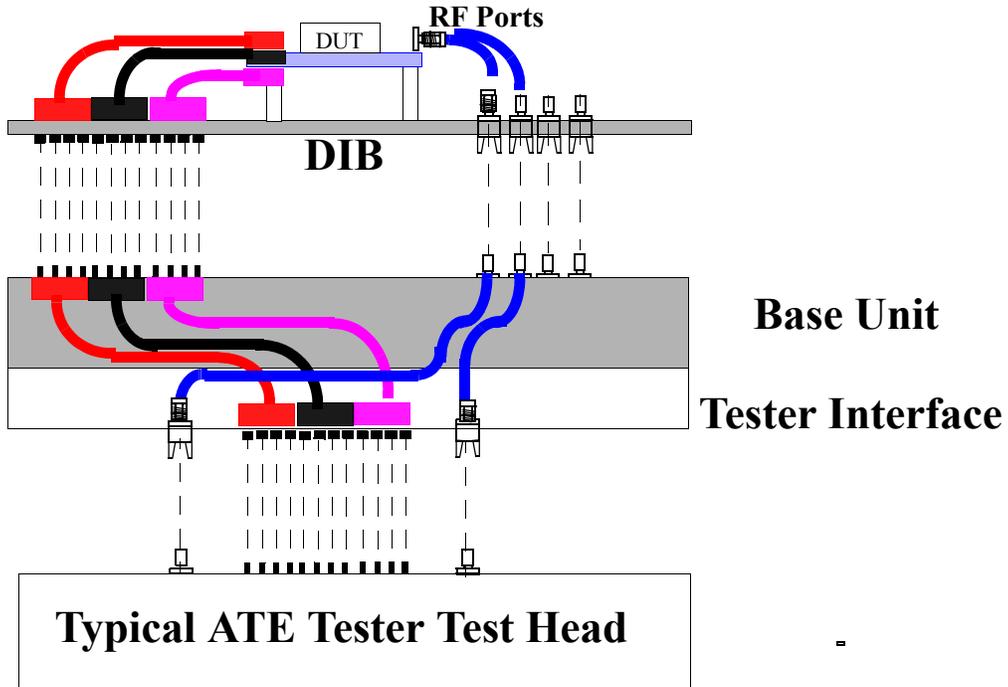


Fig 2

Simple Loadboard with Patchpanel as interface to ATE Tester



Custom Loadboard with Patchpanel as interface to ATE Tester

