# Application Brief – Simplified 1+1 Protection Switching

Satellite terminal redundancy switching has used the same technology for many years. RF Transceivers and SSPAs provide contact closures in case of failure and a redundancy switch logic controller, mounted in a rack indoors, provides the logic and control to switch from a failed unit to an operational unit. Multi-conductor cables carry the signals from the RF units indoors to the logic controller and back out to the waveguide switch at the antenna feed.

It works. On the other hand, the redundancy switch logic controller is a fairly expensive device – often costing several thousands of dollars. The customer or integrator must also provide multi-conductor cable bundles between the indoor and outdoor units. Then there is the complexity and time required to wire it all together and set up each RF unit.

Terrasat's integrated approach implements new technology to eliminate most of these elements with their cost and complexity. Instead of routing voltages over multiple cables to and from an external logic device, the switching logic and drivers are incorporated into the IBUC itself. A small junction box, mounted on a plate assembly with the redundant IBUCs, routes information between the IBUCs and provides the customer interface on TCP/IP, RS232, and/or RS485. Local setup and monitoring is as simple as viewing embedded web pages or using an optional handheld controller.

The 1+1 system is provided as a complete package with mounting plates, junction box, interconnecting cable assemblies, and waveguide switch as pictured here:



The installer assembles the items on the mounting plates and provides a single cable for monitoring and control.

For management and control, the customer is presented with web pages showing the two IBUCs side-by-side. We expedite the installation process with a cloning function. The operator configures BUC A according to his needs. Then, instead of repeating the process for BUC B, he merely enables cloning. BUC B automatically reads all of the settings in the master and clones itself to those settings.