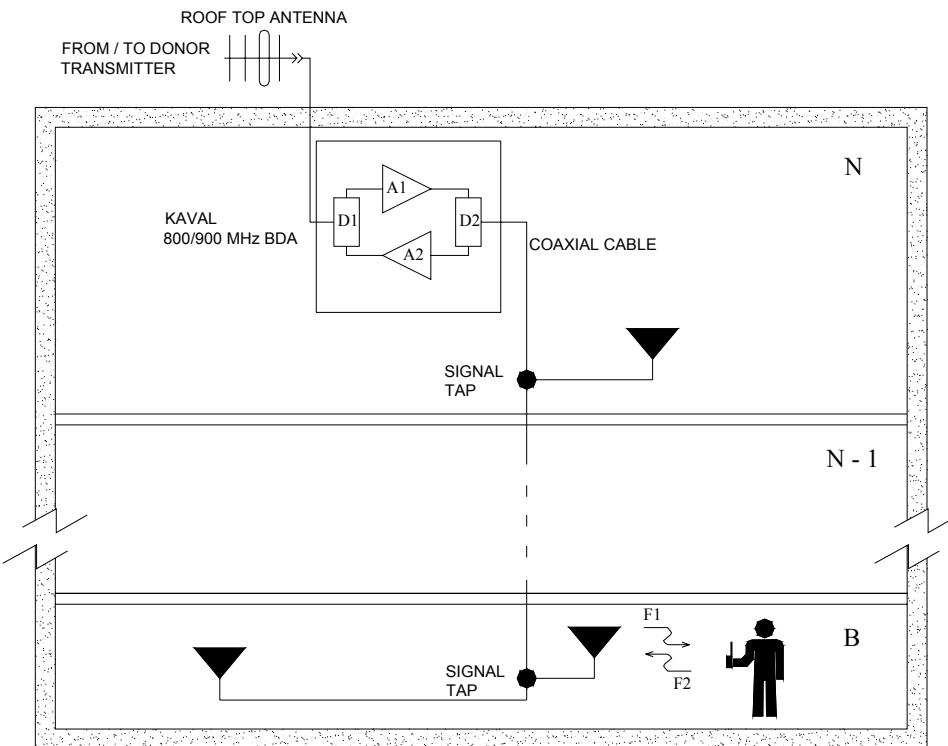


Off-Air Operation BDA's

Off-Air BDA's are intended to extend coverage into areas with coverage deficiency such as inside office buildings, shopping malls, hospitals, etc. They are designed to be located independently of the donor site and must be equipped with their own antenna systems - one to communicate with the donor site and the other(s) to communicate with portables in the shadow zone. A typical in-building coverage extension system is shown below. The "Head-End" BDA is responsible for the amplification of both incoming "Off-Air" downlink signals and outgoing uplink signals. The in-building distribution antenna system comprises of Coaxial cable, Signal taps, splitters and antennas to extend coverage on every floor, basement and underground parking garage.



This distributed antenna system is based on Kaval Wireless Technologies' "Tapped Radiator" RF signal distribution approach. The technology makes use of coaxial cable with Signal Taps strategically located and connected to Omni-directional ground plane antennas. This technology offers flexibility in system design, installation and optimization. Once the RF cable backbone has been installed, additional signal taps and antennas can quickly and easily be added to a live system, without the need to take the system out of service. Hence, new coverage areas can be added, or the system can easily be modified if the layout should change (e.g. modernization retrofits or process modifications).