

The Aerial Facilities range of Cell Enhancers is a series of off-air, on-frequency repeaters and line amplifiers for extending radio networks into areas of poor coverage. They offer an economic alternative to the use of additional base stations for operators wishing to expand their networks into buildings or rural areas with low capacity requirements.

Since networks and radio environments differ, Aerial Facilities offer a range of channelised Cell Enhancers to meet the varying requirements of UHF operators. The cell enhancers are configured from standard active and passive components, permitting units to be tailored to meet particular customer requirements for power, gain, bandwidth, out-of-band rejection and mechanical packaging. The flexibility of the architecture of the Aerial Facilities Cell Enhancer allows units to be constructed for multiple operator / band / technology use.

A comprehensive software application is available to permit the remote control and monitoring of the Cell Enhancers, either by PC or from a higher level, external control system via fixed line or wireless modems.

### ***Cell Enhancer Applications***

**Typical applications for Cell Enhancers include:**

#### ***Extending coverage inside buildings***

Many buildings incorporate small windows, reinforced concrete and metal in their construction and, therefore, act as an effective RF screen. By using distributed antennas or radiating feeders within these buildings (connected to the mobile port of the Cell Enhancer) and a Yagi on the top of the building (connected to the base port) coverage can be extended within these buildings.

#### ***Extending coverage within tunnels***

Bored and cut-and-cover tunnels can be served using radiating feeder running the length of the tunnel attached to the mobile port of the Cell Enhancer. A directional antenna directed towards the base station would be connected to the base port of the Cell Enhancer giving uninterrupted coverage within the tunnel. In longer tunnels or complex tunnel networks such as metro systems and mines, Cell Enhancers can be utilised as in-line amplifiers to distribute and re-amplify coverage from a dedicated base station.

#### ***Filling propagation black spots***

Local topology such as valleys, cuttings and embankments can cause propagation black spots. Coverage into such areas can be achieved using a Cell Enhancer with a suitable antenna to cover the area and a Yagi mounted high enough to view the nearest base station.