

RURAL COVERAGE



The growth of mobile communications has led to an expansion of radio coverage, not only in urban areas but also throughout rural and remote areas. People expect their mobile phones and other devices to work at all times. Axell Wireless is an acknowledged expert in the design and supply of cost effective coverage solutions worldwide. In rural areas where the capacity requirements are limited, repeaters can often be a cost-effective complement to the backbone of base stations and switches. Driving features for rural coverage are repeater equipment with high power and high gain as well as simple and low-cost installations. Axell Wireless can accommodate both of these requirements.

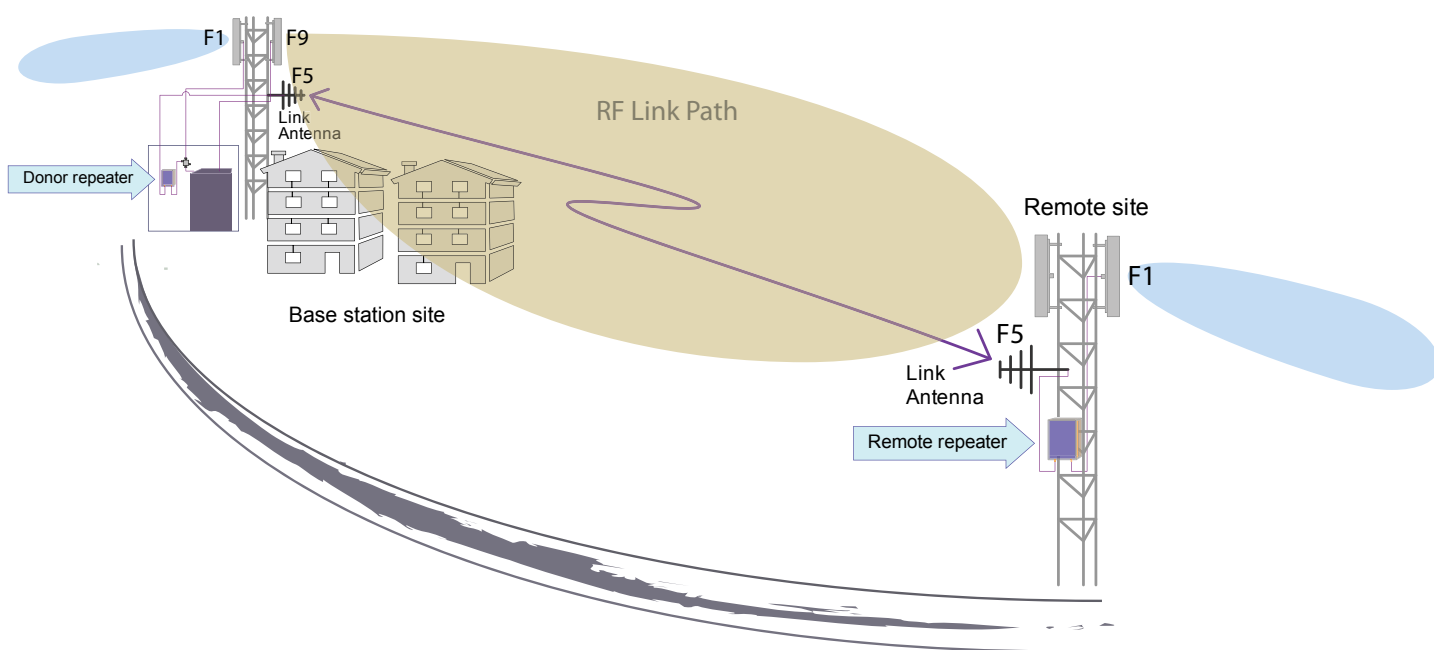
FREQUENCY TRANSLATION

Rolling out and expanding GSM networks quickly at a minimised cost is no longer a challenge. Axell Wireless Frequency Translating Repeaters have the power to provide as much coverage as macro base stations do but at a fraction of the cost. Planning and deploying the network with Frequency Translating Repeaters substantially reduces the total lifetime cost.

BAND SHIFTING TECHNOLOGY

Operators with licenses within both GSM 900 and 1800 bands have through the Axell Wireless Band Shifting Repeaters the possibility to use link frequencies on the GSM1800 band, while providing coverage on the GSM900 band. Such a solutions eliminates the isolation requirement altogether, resulting in shorter masts. Installation as well as site acquisition is simplified. In other words, Capital Expenditures are significantly reduced.

Axell Wireless repeaters are monitored by an advanced and user-friendly supervision system, leading to less outage time and thereby to greater revenue.



PRODUCT PORTFOLIO

Frequency Translating Repeaters

The frequency translating repeaters consists of two units; one donor unit and one remote unit. The donor unit is mounted at the base station site and the server unit is placed in the service area. By shifting the frequency, the isolation requirements are reduced and lower masts can therefore be used in the service area. This simplifies the installation enabling the use of omni-antennas can be used at the remote site.

A Frequency Translating EDGE Repeater provides much larger coverage than a conventional repeater does due to the higher output power that is realized through decreasing the isolation requirements.

Frequency translating repeaters are available for GSM-R, GSM 900, GSM 1800, PCS 1900 and UMTS. There are repeaters for up to four channels.

Band Shifting Repeaters

Operators with licenses within both GSM 900 and 1800 bands can use Band Shifting Repeaters. This gives the possibility to use link frequencies on the GSM1800 band, while providing coverage on the GSM900 band, or vice versa. Such a solutions eliminates the isolation requirement altogether, resulting in radically shorter masts. Installation as well as site acquisition is simplified. In other words, Capital Expenditures are significantly reduced.

Band shifting repeaters are available for GSM-R, GSM 900 and GSM 1800 and can be supplied to support two or four channels.channels.

REFERENCES

- Frequency translating and band shifting repeaters have been installed in many sites throughout Europe including: Romania, Latvia, Estonia Macedonia, Belarus, Russia, Hungary, Moldova, Bosnia, Czech Republic, Turkey, Lithuania etc.
- Frequency translating repeaters have been installed in many sites throughout Africa including: Tanzania, Malawi, Nigeria, Lesotho, Namibia, Congo, Zambia, Niger, Burkina-Faso, Senegal, Sierra Leone etc.
- Frequency translating repeaters have been installed in many sites throughout Asia including: Kazakhstan, Maldives, Mongolia, Philippines, India, Sri Lanka, Vietnam, Taiwan, Malaysia etc.
- Frequency translating repeaters have been installed in many sites throughout North & South America including: USA, Mexico, Canada, The Netherlands Antilles etc.



Winner of
The Queen's Award for Enterprise:
International Trade 2009



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