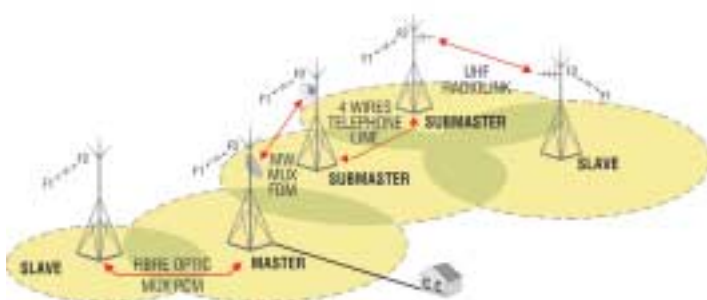


ECOS A²T NETWORKS - AUTO ADAPTIVE TECHNOLOGY professional mobile radio solutions based on the analogue simulcast technique

DESCRIPTION

The ECOS A²T (Auto Adaptive Technology) network family includes an automatic equalisation system based on DSP (Digital Signal Processing) techniques. This allows different types of new and/or existing infrastructure (microwave, fibre optic, telephone and UHF radio links) to be used for repeater interconnections. A²T networks employ a GPS (Global Positioning System) derived common synchronisation reference along with DSP-based algorithms to ensure perfect and continuous equalisation of the broadcast signal distributed to repeaters. A²T networks are automatically re-equalised whenever changes occur in the network (i.e. link characteristics alter or the backbone is degraded). Thanks to its flexibility, ECOS A²T allows different configurations (star, tree, linear, ring) through the implementation of nested infrastructure levels. In particular, the redundant nature of "ring" architecture provides increased reliability across the entire network.

ECOS A²T MACROCELL



ECOS A²T MASTER STATION

THE ECOS A²T MACROCELL

ECOS A²T stations have a modular structure, incorporate SMT (Surface Mount Technology) and are microprocessor controlled. Slave stations relay signals received from mobile units (through submasters, where present) to the master station. Final and intermediate voting processes are performed in real-time by the master station and submaster (where present) respectively. The best signal is then sent back to all slave stations and broadcast over the entire territory. In addition to simulcast modules (which are always fitted), master and submaster stations may also be equipped with RF broadcast capability. The ECOS macrocell operates as a single "virtual repeater".



ECOS A²T SLAVE STATION

TECHNICAL SPECIFICATIONS

ECOS A²T stations are completely modular and, in addition to transceiver modules and 4W+E/M links, include:

- > DSP units for signal processing (voting, equalisation, synchronisation)
- > power supply units
- > circuitry for local and remote supervisory systems (control management).

Stations are mounted in standard 19" racks with a height of 6UT or 3UT (depending on the configuration), which are housed within 19" cabinets.

broadcast frequency range	66-88 MHz; 145-174 MHz; 400-470 MHz; 854-921 MHz
channel spacing	12.5 kHz; 20 kHz; 25 kHz
temperature range	-20°C to +55°C
construction	modular in 19" rack
power supply	+12Vdc, 24Vdc, 48Vdc, 110/220Vac 50/60Hz
synchronisation	from GPS (or from master station)
links between repeaters	MUX PCM/FDM; 4-wire telephone line; UHF channel
access	conventional or trunk
bandwidth	300-3000 Hz
bi-directional equalisation response	±0.5dB and ±10° on the 300-3000 Hz band
nested infrastructure levels	up to 6

ECOS A²T complies with ETSI standards (EN 300-086, EN 300-113) and BOS (Behörden und Organisationen mit Sicherheitsaufgaben)

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