



- VHF high band (151- 173MHz)
- Multi channel
- 25km of cover
- Telephone interconnect
- Speech, signalling and data
- Intrinsically safe
- 40 years of experience

The RFM underground radio system is designed to enable VHF radio frequencies to be transmitted and received in underground roadways and tunnels up to 25 km in length. The age-old problem of strata absorption has been overcome by using a radiating cable with 2 way repeater amplifiers at 500 metre intervals.

The system comprises a Base Station, Radiating Cable (Leaky Feeder), in line Repeater amplifiers, Passive Splitters, Terminators and mobile radio transceivers.

Various interconnect facilities are offered to enable integration to other radio systems and other types of communication systems.

With the RFM system, GAI-Tronics has taken the opportunity of using standard off the shelf pocket phones for intrinsically safe and non-intrinsically safe applications. A rugged, robust loudspeaking transceiver, Transcom, is offered for mounting on mobile vehicles such as locomotives, free steered vehicles or rope driven haulages.

The Repeaters are powered from the base station and additional power is only needed for complex long distance systems.

Interface circuitry is offered to allow radio telephones to be used and connection to other types of communication systems for loudspeaking Public Address.

### **BASE STATION**

A variety of Base Stations are offered to suit individual customer applications. The Base Station houses the necessary transmitters, receivers and other interface circuitry. Power for the Repeater amplifiers is supplied from the Base Station via the radiating cable.

### **RADIATING CABLE**

The cable is of co-axial construction specially designed to allow signals to radiate and allow signals to be accepted from portable radios anywhere along its length.

### **REPEATERS**

The Repeater circuitry is the heart of the system. This design ensures the signal strength to be consistent throughout the whole network. The repeater acts as a two way amplifier simultaneously capable of handling multiple channels. These would normally be spaced at 500 metre intervals.

### **PASSIVE SPLITTER**

Because most underground complexes are made up of many tunnels, it is necessary to be able to split the system at roadway junctions. The passive splitter allows this to happen without significant loss of signal strength.

### Underground Radio System

Optionally, units can be specified and supplied by us.

#### TERMINATION UNIT

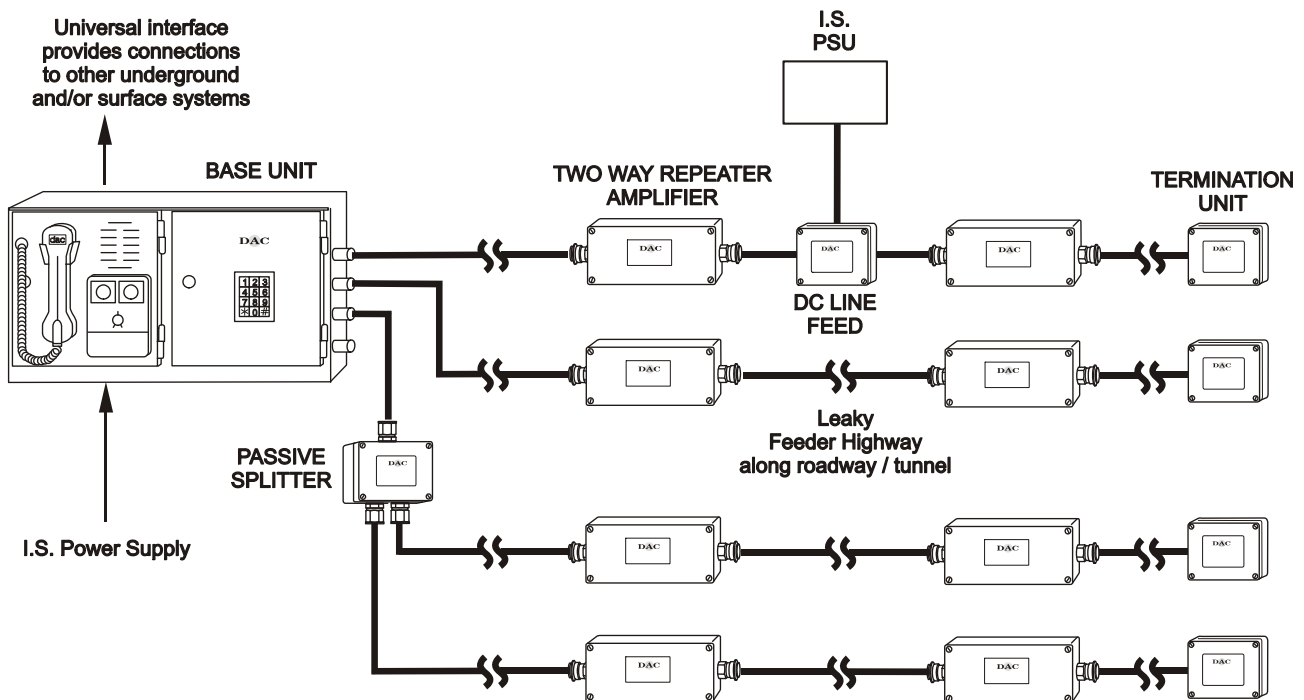
To maintain a balanced system each end of the radiating cable requires termination. The Termination Unit ensures this balancing will take place.

#### RADIO POCKET PHONE

A variety of radio pocket phones and radio telephones are available for personnel use, depending upon customer requirements. These are standard units available in most countries. Frequency selection and mode of operation requires to be stated when buying independently.

#### VEHICLE RADIOS - Transcom

Because of the special nature of this application we have a purpose made unit available with a loudspeaker stage and handset to overcome ambient noise levels



#### APPROVALS

System Certification:  
Complies with EN50 014/020  
MSHA Approval No. 9B-201

#### ORDER CODE

Please call or visit [www.gai-tronics.co.uk](http://www.gai-tronics.co.uk)

Note:

Outside of Europe new units can be purchased

Within Europe, this item is only available for spares and repairs

