



## **MOBEXCOM Brief Description**

### **Operational Description**

The MOBEXCOM Mobile Repeater connects to an existing mobile radio and a control head. It receives RF signals from portable radios in its vicinity and transmits RF signals back to portable radios. The mobile radio provides demodulated mobile audio signal to the repeater and receives demodulated repeater audio signal from the repeater. The repeater thus allows local RF repeat operation. It also locally transmits mobile radio received signal and allows the mobile radio to retransmit signals locally received by the repeater from portable radios.

Refer to the 8A073X02 User's Manual for details of the MOBEXCOM Mobile Repeater operation.

### **Brief Transmitter Description**

The transmit audio signal goes through a 100 to 120MHz modulator. This signal is mixed in a mixer with a local oscillator signal LO3. The LO3 frequency is equal to the output frequency plus the modulator frequency. The resultant signal goes through a low pass filter. The filter bandwidth is equal to the radio bandwidth: 136 - 174MHz for VHF band, 403 – 512 MHz for UHF band etc. The signal is amplified to the final power level in a power amplifier. A low pass filter follows the power amplifier. The cut off frequency of the low pass filter is 200MHz for the VHF band, 512MHz for the UHF band etc. The final stage is the power sensing circuit. It allows for safe operation in the event when the RF load (antenna) is accidentally disconnected.