

Customer _____

G. E. Req. No. _____

Customer Order No. _____



communications

MAINTENANCE MANUAL

FOR

MASTR MOBILE COMBINATIONS

LBI-8617

Search Combinations

Revertive Combinations

GENERAL  ELECTRIC

COMMUNICATION PRODUCTS DEPARTMENT
LYNCHBURG, VIRGINIA

TABLE OF CONTENTS

Equipment Index Page iv

GENERAL

Description of the Manual System Page 1
Semiconductor Switching Characteristics LBI-8600
Manual Selector LBI-8618

CONTROL

Control Unit Types EC-75-A and B LBI-8619

EQUIPMENT INDEX AND CHECK LIST

- Mastr MTS Radio Unit
- Control Unit Type EC-75-A or B
- Antenna, Cable and Connector
- Power Cable 19C303601
- Battery Cables (2) 7147499-G6
- Circuit Breaker Assembly 7487952-G11
- Control Cable 19D402706
- Mounting Frame 19C303430-G1
- Radio Unit Mounting Hardware Kit 19A121626-G2
- Control Unit Mounting Hardware Kit 4036423-G4
- Control Cable Connector Cover 19A122004-G1
- Tuning Tools 4038831-P2 and 4033530-P2

MOBILE TELEPHONE MANUAL SYSTEM

DESCRIPTION

The General Electric Mobile Telephone Manual Combination is intended to operate in conjunction with a MTS Base Station or an IMTS Base Station operating in the manual mode. When placed in an operating system the combination provides telephone service for the mobile subscriber which is similar to conventional manual telephone service. The land originated call for the mobile subscriber is given to the mobile service operator who will dial the mobile call number to complete the call. The mobile originated call is in similar fashion given to the operator who completes the call to the land subscriber. Operation in the Mobile is on a Push-to-Talk, release-to-listen basis.

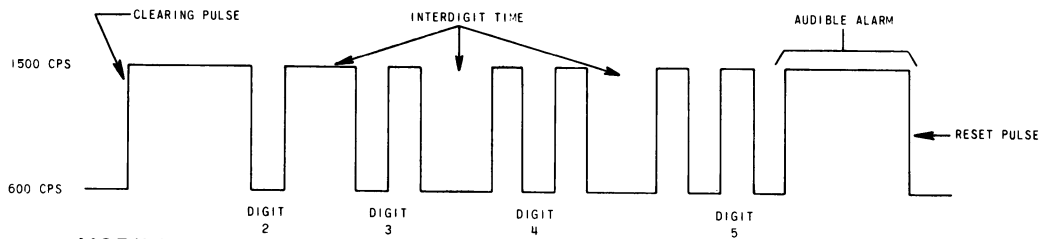
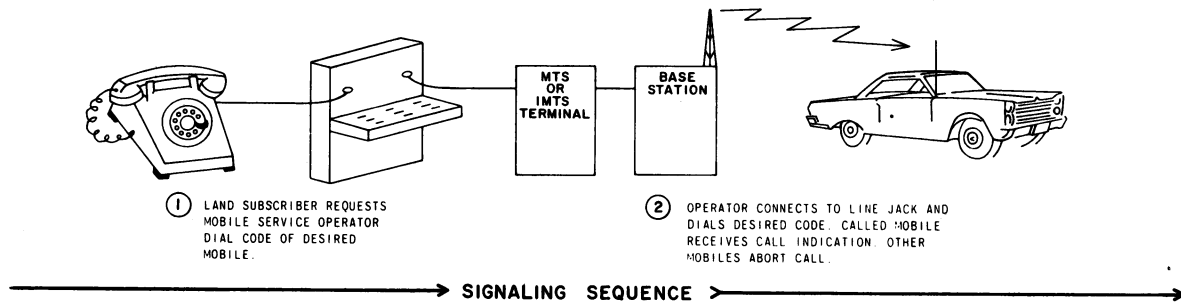
The Mobile Combination consists of the equipment listed in the Equipment Index preceding this section. The Mobile unit consists of a Transmitter, Receiver, Power Supply and Selector unit. Each of these units is built into individual compartments which connect together to form the complete Mobile unit. Each of these individual modules are provided with covers which can be removed easily for servicing. All major circuit boards and tuning adjustments are accessible from the top of the unit. The Transmitter and Receiver are equipped with centralized metering jacks for simplified alignment and servicing. The Power Supply is located between the Transmitter and Receiver. The Selector Unit is located on the rear of the Mobile unit. The Selector is a module with two levels of circuit boards. The two boards are mounted with the printed wiring sides together and the components sides exposed for easy servicing. The Decoder board is mounted on the top to provide access to the number strapping.

The Control Unit includes a rotary switch for channel selection, and the necessary circuitry to complete the functions required in accepting or initiating a call. The ringing circuit, call lamp, transmit lamp, handset and on-off switch are the more obvious audible and visual indicators. On the rear of the Control unit an Audio Level Control and a revert switch are available.

When a land-line subscriber originates a call to the Manual Mobile the dialing code or number is given to the Mobile service operator. The operator connects to the line jack and dials the telephone number for the desired mobile unit. The code sender in the central office terminal transmits the dial pulses as a sequence of 600/1500 cps tone signals. These tone signals are converted by the Tone Receiver into pulses corresponding to the pulses as originally sent out by the central office equipment. The Decoders in all Mobiles on the system respond to these pulses. If the pulse sequence is correct for a particular mobile the Decoder for that unit will activate the Logic which in turn will supply voltage to the sounder and the call lamp in the Control Unit. Lifting

MANUAL MODE
(MTS)

LAND-TO-MOBILE CALL



MOBILE-TO-LAND CALL

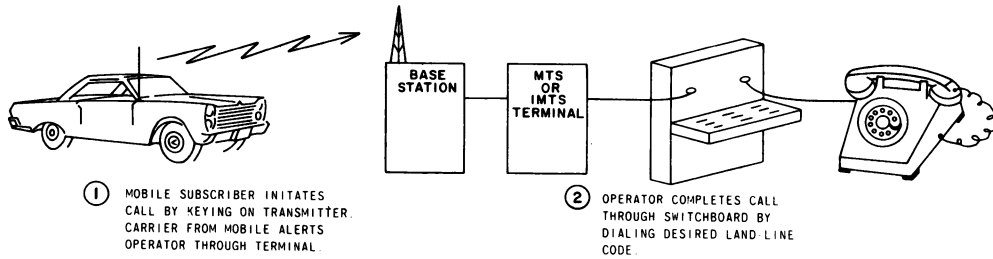


Figure 1 Calling Sequence

the handset from its hanger extinguishes the call light, resets the Decoder and removes the ringing voltage from the sounder. When no answer is obtained in response to the call the operator will dial the digit one to reset the Decoder. In this condition the ringing voltage is removed from the sounder but the call lamp will remain lit indicating a call was received. In this case the operator should be called back for information concerning the call.

In the reverse situation where the Mobile originates the call the Push-to-Talk button is used to alert the operator. When the operator connects to the terminal the terminal Transmitter is keyed and the voice circuit completed. The operator then connects to the trunk and dials the phone number desired. When the called party answers, the connection is completed.

One other type of call is possible, specifically the Mobile to Mobile or revertive call. In this type of call the operator connects back to the terminal rather than to the trunk and dials the call number of the second mobile unit.

MANUAL SYSTEM WITH SEARCH

If the Mobile includes Control unit chassis PL-19D402708-G1 and Search Board PL-19D402713-G2 it is provided with facilities for automatic search of assigned channels. When the combination is equipped to search in multichannel Manual systems, multichannel access from land lines to the Mobile Telephone can be provided.

When 600/1500 cycle search is used, the Mobile Unit searches the available radio channels for 600/1500 signalling. When signalling is detected the Mobile Unit locks on the channel until the signalling is completed. If the call is for the particular Mobile Unit it will remain on the channel until the call is completed. When the call is for some other mobile, search is resumed at the completion of the signalling process.