

Headquarters,
Department of the Army

FIELD MANUAL
11-55

**Mobile Subscriber Equipment
(MSE) Operations**

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Mobile Subscriber Equipment (MSE) Operations

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*This publication supersedes FM 11-30, 27 February 1991; FM 11-37, 14 November 1990; and FM 11-38, 04 April 1991.

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Preface

This manual provides doctrine for planning the employment, deployment, and management of Mobile Subscriber Equipment (MSE) networks. It builds on the knowledge the reader has acquired on MSE from attending the Signal Officer Basic Course (SOBC), Signal Officer Advanced Course (SOAC), and MSE System Control Center-2 (SCC-2) Operations Course. It focuses on MSE at corps and division levels and covers the intended use of equipment. Signal operations may be somewhat different from one unit to the next, so this manual presents various types of operations.

Signaleers must be familiar with the doctrine described in Field Manual (FM) 100-5 and FM 101-5 to maximize the communications services provided by the MSE system.

The proponent of this publication is the United States Army Signal Center. Send comments and recommendations on DA Form 2028 directly to Commander, United States Army Signal Center and Fort Gordon, ATTN: ATZH-CDD (Doctrine Branch), Fort Gordon, Georgia 30905-5090 or via e-mail to doctrine@emh.gordon.army.mil. Key comments and recommendations to pages and lines of text to which they apply. If DA Form 2028 is not available, a letter is acceptable. Provide reasons for your comments to ensure complete understanding and proper evaluation.

Unless this publication states otherwise, masculine nouns and pronouns do not refer exclusively to men.

Chapter 1

Overview of MSE Systems

This chapter gives a brief overview of the mobile subscriber equipment (MSE) systems and range extension capabilities.

BACKGROUND

1-1. MSE is a common-user, switched communications system of linked switching nodes. The nodes form a grid that provides the force with an area common-user system (ACUS). It is one of the major communications systems of an Army force at echelons corps and below (ECB). The other major communications systems include combat net radio (CNR) and the Enhanced Position Location Reporting System (EPLRS).

1-2. The MSE system is digital, secure, and flexible. It contains features that compensate for link or functional element outages, overload in traffic, and rapid movement of users. MSE provides voice and data communications on an automatic, discrete-addressed, fixed-directory basis using the flood search routing technique. MSE supports mobile and wire subscribers with a means to exchange command, control, communications, computers, and intelligence (C4I) information. A tactical packet network (TPN) is a packet switching network that is overlaid on the circuit-switching network of MSE.

1-3. MSE mounts in shelters on high mobility multipurpose wheeled vehicles (HMMWVs) and is easily transportable by roll-on and roll-off aircraft. Organic tactical satellite (TACSAT) equipment and tropospheric scatter (tropo) equipment provide range extension capabilities for MSE. Range extension improves the employment capability of MSE.

1-4. Integrated system control (ISYSCON) enhances the system control (SYSCON) component of MSE. ISYSCON provides the signal commander and his staff with an automated capability to plan, engineer, and operate all communications systems and networks available to the signal force. ISYSCON also integrates the signal force structure into the Army Battle Command System (ABCS) to support mission plan management (MPM).

EMPLOYMENT

1-5. MSE can support a corps of five divisions in an area of operations (AO) up to 15,000 square miles by forming a grid network. For a division, the MSE grid consists of four to six node centers (NCs) that make up the backbone of the network. For the corps, the grid consists of 22 NCs. Throughout the maneuver area, subscribers connect to the small extension nodes/large extension nodes (SENs/LENSs) by radio or wire. These extension nodes serve as local call switching centers and provide access to the network by connecting to the node center switch (NCS) at the NC.