ORGANIZATION AND DESCRIPTION OF BELL SYSTEM PRACTICES

NO. 3 ELECTRONIC SWITCHING SYSTEM

1. GENERAL

1.01 This section provides a general description of the various types of Bell System Practices (BSP) utilized in No. 3 Electronic Switching System (ESS) documentation. Also included is a listing of

all No. 3 ESS BSPs and their section numbers, along with a brief description of the related document to the No. 3 ESS.

1.02 This section is being reissued to update the current listing and description of ESS documentation. Revision arrows are used to indicate significant changes in Tables A, B, D, E, F, and G.

BSP NUMBERING SCHEME (NO. 3 ESS)

1.03 A 9-digit numbering plan is used to identify all BSPs. In this numbering plan, the first three digits (XXX) are referred to as division numbers and are used to designate major categories of information.

1.04 The second three digits (YYY) are referred to as the layer numbers and are assigned to indicate subdivisions within the major division. Layers 0 and 1 of the 233 division are arranged as follows:

LAYER	TITLE
000	No. 3 Electronic Switching System
020	Network Administration
060	Network Switching Engineering
100	Network Maintenance
140	Maintenance Procedures
150	Software Subsystem Description
160	Growth Description
170	Evaluation and Acceptance Requirements
190	Features.

1.05 The last three digits (ZZZ) are referred to as key numbers. These numbers are assigned to identify individual documents within a particular layer (subdivision). Key numbers are assigned arbitrarily with the exception of key numbers 900 through 999 which are reserved for locally prepared operating telephone company practices having local application only.

2. TYPES OF DOCUMENTATION

2.01 The following types of BSPs represent the direct support provided by the WE Data Design Organization for the No. 3 ESS. Each type is identified and a brief description is listed with respect to document purpose and content.

2.02 The various types of BSPs utilized in the No. 3 ESS documentation include:

(a) Descriptive BSPs - Description, Description and Theory, Software Subsystem Description (SSD)

(b) General Information and Operating Procedure BSPs

(c) Maintenance BSPs - Task Oriented Practice (TOP) Routine Tasks, TOP Acceptance Tasks, TOP Company Order Tasks, TOP Trouble Clearing Tasks, Maintenance Description, Data and Procedures

(d) Feature Document (FD) BSPs

(e) Network Switching Engineering (Traffic) BSPs

(f) Network Administration

(g) Related Documents.

A. Descriptive BSPs

2.03 Descriptive BSPs provide information about the No. 3 ESS equipment (hardware) or functional system topics (software). The descriptive BSPs for the No. 3 ESS are divided into three categories.

● Hardware Description BSPs

● Hardware Description and Theory BSPs

● SSDs.

Hardware Description BSPs

2.04 Description BSPs provide a physical and functional description of ESS equipment. Sufficient information is provided for the user to understand (a) what the equipment physically consists

of and (b) what functions the equipment performs, both internally and in relationship to other units.

2.05 Each description BSP contains all or some of the following information depending upon the design complexity of the equipment.

- Purpose and application of the equipment

- Relationship to the other equipment

- Physical characteristics such as size, weight, appearance, mounting identification and location of components, arrangement, etc

- Functional characteristics including identification of functional units, generally presented on a block diagram basis

- Features and options available

- Equipment maintenance philosophy

- Tabulated data and illustrations that support the descriptions.

2.06 Description BSPs are written to be understood and used by operating telephone company engineers, supervisors, and trained craft persons.

Hardware Description and Theory BSPs

2.07 Description and theory BSPs provide all of the information that description BSPs provide, as well as a detailed description of how the equipment operates. The theory portion of a BSP may be published as a separate document if it is too large to be combined with the description portion.

2.08 Each description and theory BSP contains all or some of the following information depending upon the design of the equipment.

- Detailed description of how the equipment operates

- Detailed functional description of how bays, panels, units, etc, interact with one another

- Detailed descriptions of how the equipment interfaces with other equipment

- Tabulated data and illustrations that support the descriptions.

2.09 Description and theory BSPs are written to be understood and used by operating telephone company engineers, supervisors, and trained craft persons.

Software Subsystem Description BSPs

2.10 The SSDs provide a functional description of ESS software functions. An SSD is prepared for each major software-controlled function. The SSDs provide the link to the detailed functional comments provided in a program listing (PR).

> *Note:* The PDs and PRs are prepared by Bell Telephone Laboratories.

2.11 The ESS documentation includes the following levels of SSDs.

- System level

- Major Structure level

- Functional level

- Support level.

2.12 *System Level:* System level SSDs contain (as necessary):

- High-level description of the system software

- Identification of the major subfunctions that are documented by lower level SSDs

- Identification and high-level descriptions of software philosophy, languages, and program interactions as they apply to ESS

- High-level functional block diagrams to support the text.

2.13 *Major Structure Level:* The major structure level is where groups of programs function together to form a major software structural unit. Major structure level SSDs contain (as necessary):

- Description of the structural unit

- Identification of the subfunctions or programs that make up the software structural unit

- Functional block diagram to support the text

- Examples of control or processes exercised by the major structure level.

2.14 *Functional Level:* Functional level SSDs contain (as necessary):

- General explanations of the software functions (topics of the particular BSP) and how they relate to other functions

- Identification of the subfunctions along with supporting block diagram

- Identification of other SSDs and program listings that relate to the functions

- Identification of the software performing the functions and related subfunctions

- Description of what the subfunctions do under normal operating conditions

- Description of input/output data messages, tables, data sets, and machine responses

- Illustrations with a step-by-step example of the functions

- Description of abnormal operations that result in trouble recovery method.

2.15 *Support Level:* Support level SSDs provide related information to assist in the understanding of functional software and SSDs (eg, diagnostic languages, introduction to ESS languages, program listing standards).

2.16 The SSDs are written to be understood and used by operating telephone company engineers, supervisors, trained craft persons, and training course developers.

B. General Information and Operating Procedure BSPs

2.17 General information BSPs provide information to assist in accessing and understanding ESS BSPs (eg, ESS indexes, glossary). These BSPs are written to aid anyone who uses ESS BSPs.

2.18 Operational procedure BSPs provide information pertaining to ESS office procedure. They provide description of both manual actions by craft persons and automatic actions by the system. These BSPs are written to be understood and used by operating telephone company engineers, supervisors, and trained craft persons.

C. Maintenance and Acceptance Procedure BSPs

2.19 Acceptance BSPs provide (a) guidelines and procedures for testing a new ESS to establish that it is in the proper operating condition and (b) procedures for cutting an ESS office into service. They are written to be understood and used by operating telephone company craft persons.

2.20 Maintenance procedure BSPs provide the instructions necessary to keep the equipment in proper operating condition. These BSPs, in conjunction with other documents covering the equipment, provide sufficient detail for the user to successfully maintain the equipment in an operable condition.

2.21 Each maintenance BSP contains all or some of the following information depending upon the design and complexity of the equipment.

- Nonprocedural (narrative) information pertaining to maintenance

- Identification of tools and apparatus required

- Instructions covering calibration, lubrication, inspection, checks, and adjustments associated with the equipment

- Actions to be taken in responding to and clearing an alarm condition

- Instructions covering how to analyze and evalute trouble reports and diagnostic messages

- Decision-action logic which may be used in isolating and clearing a fault and in restoring the equipment to an operable condition

- Instructions covering the proper method of removing and replacing components

- Identification of the items that should be returned for repair and instructions covering the repair of those that can be repaired in the field

- Tabulated data and illustrations that reinforce the instructions.

2.22 Maintenance procedure BSPs are written to be understood and used by operating telephone company craft persons.

Task Oriented Practices (TOP)

2.23 The TOP documents are maintenance procedure documents designed to support the operating telephone company in (a) preparing the equipment for service, (b) verifying that the equipment is operating as intended, (c) identifying when corrective action is required, and (d) maintaining the equipment in an operable condition. The TOP document is organized to support the following four classes of ESS office activities:

- Rountine Maintenance - work done on a prescheduled basis

- Acceptance Testing - work done to verify that a newly installed system is operational

- Company Order - work done to activate, change, or discontinue service

- Trouble Clearing - work done to locate and correct system malfunctions.

2.24 A TOP document is formatted so that the user, in response to a stimulus (eg, alarm, trouble report, service order), can readily access all data necessary to successfully complete the task initiated by that stimulus. The data contained in TOP is of sufficient depth to support minimum-skill level users (step-by-step detailed information), but is also structured to enable experienced users to bypass detailed instructions for tasks that can be performed from memory.

D.   Network Switching Engineering (Traffic) BSPs

2.25 Network switching engineering BSPs (Traffic Facilities Practices [TFP]) provide information for determining the quantities of traffic-sensitive equipment that must be ordered to serve a projected load at an acceptable grade of service. These BSPs cover initial installations as well as additions to existing installations.

2.26 Each network switching engineering BSP contains all or some of the following information depending upon the design and complexity of the equipment.

- Identification of equipment bays, frames, panels, units, etc

- Functional description of how bays, frames, panels, units, etc, interact with one another during voice message processing

- Description of equipment features including subscriber features, trunking, routing, automatic message accounting, service observing, traffic measurement facilities, etc

- Instructions for determining quantities in terms of queuing, blocking, and delay theories

- Sample worksheets

- Tabulated data and illustrations that reinforce the instructions and descriptions.

2.27 Network switching engineering BSPs are written to be understood and used by operating telephone company traffic engineers.

E.   Network Administration BSPs

2.28 Network administration BSPs (Dial Facilities Management Practices - [DFMP]) provide instructions and information for network administration. The BSPs contain comprehensive information covering all aspects of network administration as follows:

- Type and quantity of resident equipment

- Personnel responsibilities

- Administration policies and practices

- Instructions and samples of reports required.

2.29 Network administration BSPs are written to be understood and used by all personnel within the operating telephone company network administration organization.

F. Feature Documents

2.30 Feature BSPs are defined as a system attribute that (a) can be described in terms of system functions and (b) is designed to provide a specific service thereby enhancing the value of the system to the prospective user. The FDs provide a definition of the feature as well as information about the feature that is required for initial planning.

2.31 Each FD contains all or some of the following information depending upon the features.

● Definition of service in terms of services provided

● General description of the features, including the man-machine interface

● Incorporation of the features into a system, including hardware and software requirements

● General description of the functional operation of system elements due to feature initiation

● Interaction with other features

● Feature limitation

● Feature administration

● Tabular data and illustrations that reinforce the descriptions.

2.32 The FDs are written to be understood and used by operating telephone company managers, engineers, supervisors, and trained craft persons.

G. Related Documents

2.33 Along with the No. 3 ESS documents, there are various No. 2 Switching Control Center System and No. 3 Common System documents that provide additional information pertaining to No. 3 ESS in both hardware and software areas. These documents are listed in Part 3 of this document and should be referenced for additional information that is not provided in No. 3 ESS BSPs. Other documents not covered in this section, but which are of concern to No.3 ESS personnel, are listed in Section 233-000-010.

3. LISTING AND DESCRIPTION OF NO. 3 ESS DOCUMENTATION

3.01 The lists of BSPs in Tables A through G reflect current documentation planning for ESS. These lists represent Data Design Organization planning and do not indicate document availability from the Indiana Publication Center. The BSPs are listed in the following categories:

(a) Descriptive BSPs - Description, Description and Theory, SSDs

(b) General Information and Operating Procedure BSPs

(c) Acceptance and Maintenance Procedure BSPs

(d) Network Switching Engineering (Traffic) BSPs

(e) Network Administration BSPs

(f) Feature Documents

(g) Related Documents.

A. Descriptive BSPs

3.02 Table A contains a listing and general description of each descriptive BSP. The descriptive BSPs are divided into the following three categories:

● Hardware Description

● Hardware Description and Theory

● SSDs.

B. General Information and Operating Procedure BSPs

3.03 A general description of the contents of each general information BSP and each operating procedure BSP is contained in Table B.

C. Maintenance and Acceptance Procedure BSPs

3.04 A general description of the contents of each maintenance and acceptance procedure BSP is contained in Table C.

D. Network Switching Engineering (Traffic) BSPs

3.05 Table D contains a general description of the contents of each network switching engineering BSP.

E. Network Administration BSPs

3.06 Table E contains a general description of the contents of each network administration BSP.

F. Feature Documents

3.07 A general description of the contents of each feature document is contained in Table F.

G. Related Documents

3.08 The following documents may be referenced for additional information about the No. 3 ESS. Some of the documents related to the No. 3 ESS interface are Common System documents that contain material concerning the 3A Processor utilized in the No. 3 ESS. Care should be exercised in using Common System documents as they contain information not directly related to No. 3 ESS such as the Extended Operating System (EOS) which is not utilized in the No. 3 ESS application of the 3A CC.

3.09 Documents associated with the No. 3 ESS are listed in the following divisions:

190-000   Operation Support Systems

254-000   Common Systems.

3.10 Table G lists a general description of the Operation Support System documents and the hardware and software Common Systems documents related to No. 3 ESS. Other documents not covered in this section, but which are of concern to No. 3 ESS personnel, are listed in Section 233-000-010 and are not shown in Table G.

4. ABBREVIATIONS

4.01 The following are abbreviations used frequently in this section.

BSP—Bell System Practices

EOS—Extended Operating System

ESS—Electronic Switching System

ETL—Equipment Test List

FD—Feature Document

LTD—Local Test Desk

OFR—Office Record

PD—Program Specification

PR—Program Listing

SCCS—Switching Control Center System

SSD—Software Subsystem Description

TOP—Task Oriented Practices

WE—Western Electric Company, Incorporated

3A CC—3A Central Control.

♦TABLE A♦

DESCRIPTIVE BSPs

SECTION NUMBER	HARDWARE DESCRIPTION BSPs
233-110-000	CONTROL COMPLEX DESCRIPTION — This section describes in physical and functional terms the control complex as defined by and applied in a No. 3 ESS office.
233-121-115	TRUNK, LINE, AND SERVICE CIRCUIT DESCRIPTION — This section describes in general terms the auxiliary line, trunk, and service circuits.
233-121-116	TEST CIRCUITS — This section describes the test circuits of a No. 3 ESS in general terms.
233-121-120	LOW PROFILE COMBINED DISTRIBUTING FRAME DESCRIPTION — This section describes the low profile combined distributing frame physically and functionally for the No. 3 ESS.
233-130-100	POWER EQUIPMENT DESCRIPTION — This section describes the power equipment and provides the functions and physical relationships within the integrated power system.
233-135-100	TEST EQUIPMENT DESCRIPTION — This section describes the test equipment necessary to maintain a No. 3 ESS office and to be used as a reference source to more detailed information.
233-160-100	GENERAL GROWTH DESCRIPTION — This section describes general information related to the overall growth process for addition of equipment or frames to an operational No. 3 ESS office.
233-170-100	PRECUTOVER GENERAL DESCRIPTION — This section provides a general description and some overall guidelines to develop the turnover/cutover test plan for No. 3 ESS.
HARDWARE DESCRIPTION AND THEORY BSPs	
233-110-200	CONTROL COMPLEX INTERFACES AND THEORY OF OPERATION — This section describes in general terms the interfaces and theory of operation of the control complex, a subsystem of No. 3 ESS.
233-120-100	SWITCHING NETWORK DESCRIPTION AND THEORY OF OPERATION — This section provides a description and theory of operation of the No. 3 ESS switching network. The switching network consists of five stages of switching which provide the interconnection capability between all terminals in the office.
233-121-101	PERIPHERAL CONTROLLER — This section provides a physical and functional description and theory of operation of the peripheral controller in the No. 3 ESS.

TABLE A (Contd)

DESCRIPTIVE BSPs

SECTION NUMBER	HARDWARE DESCRIPTION AND THEORY BSPs
233-121-125	SPARE EQUIPMENT STORAGE AND HANDLING PROCEDURES — This section describes the storage and handling procedures for the spare equipment provided for the No. 3 ESS offices.
233-122-100	AUTOMATIC MESSAGE ACCOUNTING RECORDING CENTER DATA LINK DESCRIPTION AND THEORY OF OPERATION — This section describes in physical and functional terms the operation of the No. 3 ESS interface with the No. 1 Automatic Message Accounting Recording Center (AMARC).
233-122-110	DIAL TONE DELAY ALARM OPERATION — This section describes the operation of the dial tone delay alarm used in No. 3 ESS.
233-135-105	TRUNK AND LINE TEST PANEL AND ASSOCIATED EQUIPMENT DESCRIPTION AND THEORY OF OPERATION — This section provides a description and theory of operation of the trunk and line test panel (TLTP) and associated equipment used in No. 3 ESS.
233-135-110	REMOTE OFFICE TEST LINE (ROTL) DESCRIPTION AND THEORY OF OPERATION — This section describes in physical and functional terms the equipment and operation of the ROTL unit. The functions which the ROTL can provide and the interfaces between ROTL, No. 3 ESS, and control center are described. A description of the communications sequence and expected responses for each type of ROTL function is also given.
	SOFTWARE SUBSYSTEM DESCRIPTION BSPs
233-150-100	GENERAL DESCRIPTION SSD NO. 3 ESS — This section provides an introduction to the software structure and programs for No. 3 ESS, source program languages, and SSDs.
233-151-105	CALL PROCESSING — This section provides a general functional description of the software required to perform call processing. Areas treated are: originating, terminating, outgoing call, disconnects, network actions, base level, interrupts, and data storage allocation.
233-151-110	CALL TRACE (SO-2) — This section provides a functional description of software required to perform call tracing.
233-151-111	CALL TRACE (3E3) — This section provides a functional description of the software required to perform call tracing operations in No. 3 ESS office.
233-151-115	OPERATOR FUNCTIONS — This section describes the software operator functions of No. 3 ESS in handling outgoing calls to operator trunks, and processing multiple winks and inband signals from operator trunks.

TABLE A (Contd)

DESCRIPTIVE BSPs

SECTION NUMBER	SOFTWARE SUBSYSTEM DESCRIPTION BSPs
233-151-120	CALL CHARGING — This section provides a functional description of software required to perform call charging. Areas included: local automatic message accounting (LAMA), centralized automatic message accounting (CAMA), coin telephone, message rate registers, and traffic service position.
233-151-125	INPUT PROCESSING AND SCANNING — This section describes the software required for the input processing and scanning functions.
233-151-130	BASIC CALL PROCESSING — This section provides a functional description of the software required to perform basic call processing functions. Areas involved are: data storage allocation, distribution of call processing tasks, network connections, originating functions, terminating functions, ring and answer supervision, outgoing functions, disconnect functions, and error handling.
233-151-135	CUSTOM CALLING (SO-2) — This section provides an overview of the software that handles custom calling features: speed calling, call forwarding, call waiting, and threeway calling.
233-151-136	CUSTOM CALLING (GENERIC 3E3) — This section provides an overview of the software that handles custom calling features: speed calling, call forwarding, call waiting, and threeway calling.
233-151-140	NETWORK PATH HUNT — This section describes the software for network path hunting, path idling, and network auditing functions.
233-151-145	DIGIT PROCESSING — This section provides a functional description of the software required to perform digit processing. Areas included are: digit receiving, digit sending, and digit interpretation.
233-151-150	TRANSLATIONS — This section provides a basic description of the call processing translations. Translation data defines a particular physical office to the generic programs. Areas covered are the translators accessed for line originations, 3DIGIT translations, intraoffice translations, interoffice, trunk originations, and disconnect.
233-151-155	PERIPHERAL INPUT-OUTPUT CONTROL — This section describes the peripheral order subsystem, the primary interface between call processing programs, and peripheral devices. Subsystem consists of a table driven interpreter utilized by base level call processing programs and an interrupt level monitor.
233-151-160	911 EMERGENGY SERVICE BUREAU — This section provides a functional description of the software required to perform the 911 emergency service bureau call processing operations. Areas include: originating functions, terminating functions, and disconnect functions.
233-152-105	RECENT CHANGE PROCESSING AND TRANSLATION DATA — This section provides a basic description of translation data and a functional description of the administration control and recent change programs which are used to alter resident and nonresident translations data and verify programs to ensure the data is correct.

TABLE A (Contd)

DESCRIPTIVE BSPs

SECTION NUMBER	SOFTWARE SUBSYSTEM DESCRIPTION BSPs
233-152-120	TELETYPEWRITER — This section describes the software required for the teletypewriter function of No. 3 ESS.
233-152-125	SYSTEM CONTROL SSD — This section provides a functional description of the software required for system control for No. 3 ESS. The software discussed includes base level control, 3A Central Control System clock, interrupts, and Common System subroutines.
233-152-126	SYSTEM CONTROL 3E3 GENERIC — This section provides a functional description of the software required for system control for the No. 3 ESS.
233-152-130	TAPE OPERATIONS — This section provides a functional description of the software required to perform tape operations. Areas include: tape format, tape handler functions, paging functions, and tape "Client" program interfacing.
233-152-135	TRAFFIC AND PLANT MEASUREMENTS SSD — This section provides a functional description of the software required to perform the traffic and plant measurements in No. 3 ESS offices.
233-152-140	AUDIT PROGRAMS SSD — This section describes the audit programs used in No. 3 ESS to maintain consistency between the various call processing records in temporary storage. The audit programs check all resources marked busy to ensure that they are actually busy.
233-152-145	CUTOVER SSD — This section provides a functional description of software required to perform precutover and cutover requirements in No. 3 ESS offices.
233-153-105	PROGRAMMED MAINTENANCE AIDS SSD — This section describes the programmed maintenance aids provided for No. 3 ESS offices. Programmed maintenance aids are a category of software programs developed to perform tests on crosspoints, line insulation, stations, trunks, and lines.
233-153-106	NETWORK FABRIC EXERCISE FUNCTION SSD — This section describes the network fabric exercise function for No. 3 ESS.
233-153-115	TRUNK, TEST, AND SERVICE CIRCUIT DIAGNOSTIC SSD — This section describes the software required to perform diagnostic tests of the trunk, test, and service circuits for No. 3 ESS. Descriptions are included for diagnostic control program, diagnostic statement subroutines, coin control circuit tests, customer dial pulse receiver tests, dial pulse transmitter circuit tests, 2-way E and M trunk tests, junior circuit tests, multifrequency receiver tests, multifrequency transmitter tests, milliwatt and transmission environment test circuit tests, regular ringing circuit tests, superimposed ringing circuit tests, false cross and ground, power cross, restore verify, and test vertical circuit tests, continuity and polarity test circuit tests, outgoing reverse battery trunk tests, recorded announcement tests, tone present circuit tests, trunk operational and transmission tests, tone circuit tests, and 3-port conference circuit tests.

TABLE A (Contd)

DESCRIPTIVE BSPs

SECTION NUMBER	SOFTWARE SUBSYSTEM DESCRIPTION BSPs
233-153-120	PERIPHERAL UNIT DIAGNOSTICS SSD — This section describes the operation of No. 3 ESS peripheral unit diagnostic tests. A description of the software as well as the physical tests is included for the following peripheral units: frame input/output controller, ringing and tone plant, scanner controller, tape data controller, network controller, peripheral pulse distributor, and teletypewriter controller. Instructions are included on execution of diagnostic tests and interpretation of the test results.
233-153-125	ALARM AND STATUS REPORTING SSD — This section describes the software supporting alarm and status reporting of No. 3 ESS. The method of reporting an alarm or status change is defined.
233-153-130	INITIALIZATION AND PROCESSOR FAULT RECOVERY SSD — This section describes the processor initialization function as applied to No. 3 ESS. An initialization can consist of the following functions: restoring the 3A CC to a known good state, restoring the periphery access to a known good state, aborting certain activities, zeroing or otherwise initializing temporary data, reloading the resident generic programs and translations from magnetic tape, and saving previous system status for trouble analysis.
233-153-135	ERROR ANALYSIS AND FAULT DETECTION SSD — This section provides a description of the error analysis and fault detection procedures for peripheral circuits (lines, trunk, service circuits, and network links) used by No. 3 ESS. These software programs direct the detection and analysis of faults occurring during call processing and network peripheral sequences.
233-153-140	PERIPHERAL UNIT FAULT RECOVERY SSD — This section describes the software required for peripheral unit fault recovery (PURC) of No. 3 ESS. The intent of this section is to describe the functions associated with the software necessary to perform the recovery action.
233-153-145	REMREED NETWORK FAULTS ISOLATION UTILITIES SSD — This section provides a functional description of two new software tools (Grid Error Count and Remreed Fault Isolation) used in isolating faults in the Remreed Network Fabric.
233-154-130	RECENT CHANGE USERS GUIDE — This section describes recent change messages and provides procedures for implementing recent changes in a No. 3 ESS office.
233-154-135	RECENT CHANGE USERS GUIDE (3E3 GENERIC) — This section describes recent change messages and provides procedures for implementing recent changes in a No. 3 ESS office with Issue 3E3 generic program.
233-154-145	PUDAL DIAGNOSTIC LANGUAGE SSD — This section describes the peripheral unit diagnostic assembly language (PUDAL) used for No. 3 ESS.

◆TABLE B◆

GENERAL INFORMATION AND OPERATING PROCEDURE BSPs

SECTION NUMBER	DESCRIPTION
233-000-003	GENERAL DESCRIPTION NO. 3 ESS — This section describes in general terms the physical and functional characteristics of a No. 3 ESS.
233-000-010	INTERDIVISION NUMERICAL INDEX — EXCLUDING DIVISION 233 — This section provides a numerical index of sections associated with the No. 3 ESS but located in other than the 233 division.
233-001-000	NUMERICAL INDEX DIVISION 233 — This section provides an index of letter-issued sections in Division 233.
233-001-011	EQUIPMENT TEST LIST — This section provides a method of locating the routine tests for the equipment listed in the table of contents. This ETL is printed in the Central Office Maintenance Management System (COMMS) format. Test information is arranged in the following order: section number, issue/addendum number, test number, test title, test class, frequency, and space for local office assigned test numbers.
233-010-010	ORGANIZATION AND DESCRIPTION OF SYSTEM DOCUMENTATION — This section provides a general description of the types of BSPs employed to document No. 3 ESS. It explains the contents of each document associated with the No. 3 ESS.
233-100-010	EMERGENCY ACTION PROCEDURES DESCRIPTION — This section describes the emergency action facilities available for manual control in a No. 3 ESS office. Information concerning the automatic response of the system to emergency situations is also included.
233-101-115	OFFICE RECORD — The office record (OFR) administration feature provides for office records generation by the No. 3 ESS.

TABLE C

MAINTENANCE AND ACCEPTANCE PROCEDURE BSPs

SECTION NUMBER	DESCRIPTION
233-140-100	OFFICE MAINTENANCE DESCRIPTION — This section describes the office maintenance system in a No. 3 ESS office. It is intended to familiarize the reader with the maintenance facilities available in the No. 3 ESS office and to serve as reference source to more detailed information.
233-141-100	CENTRALIZED OFFICE MAINTENANCE AND THEORY OF OPERATION — This section describes No. 3 ESS office equipment and associated Switching Control Center System (SCCS) equipment responsible for centralized office maintenance and theory of operation. Centralized office maintenance provides the means for making No. 3 ESS office functional while unattended.
233-141-105	OFFICE MAINTENANCE DATA — This section is a consolidated description of maintenance-related data and information not provided in other descriptions. As a data supplement to other No. 3 ESS descriptives, the text content has been minimized.

TABLE C (Contd)

MAINTENANCE AND ACCEPTANCE PROCEDURE BSPs

SECTION NUMBER	DESCRIPTION
233-142-100	TOP NO. 3 ESS OFFICE EQUIPMENT — This section provides the routine, acceptance, and company order (service change) maintenance procedures for a No. 3 ESS office. These procedures are task-oriented in organization, responding to an initiating stimulus. The data is presented in three distinct levels of detail or layers allowing bypassing by more experienced craft personnel. Routine procedures relate directly to the No. 3 ESS Equipment Test List (ETL), Section 233-001-011. Acceptance procedures relate to Precutover General Description, Section 233-170-100.
	Routine Tasks — All routine tasks include as a part of their data package fault correction procedures for any out-of-tolerance or unacceptable conditions found.
	Acceptance Tasks — Most fault conditions occurring during acceptance testing will be referred to the installation group for correction. Little or no correction procedures will be provided for faults found during acceptance tasks.
	Company Order Tasks — Company order tasks include as part of their data package the fault correction procedures for errors encountered during the procedures, provided the fault is related to the task in process. In all other cases where the fault is not related to the task, the company order procedure is simply aborted.
233-142-110	REMOTE OFFICE TEST LINE FOR NO. 3 ESS — This section provides the routine, acceptance, company order (service change), and trouble clearing maintenance procedures for a No. 3 ESS mini-ROTL. These procedures are task-oriented in organization responding to an initiating stimulus. Three distinct levels or layers of data are provided allowing bypassing by more experienced craft personnel where applicable.
233-143-100	NO. 3 ESS TROUBLE CLEARING VOLUME — This section provides trouble clearing data for alarm conditions encountered in the No. 3 ESS office. Trouble analysis data is provided for all critical major and minor alarms. Because of the complexity of the system, some trouble will require personnel with considerable experience in the No. 3 ESS maintenance or assistance will be required.
233-144-100	TOP NO. 3 ESS POWER EQUIPMENT — This section provides the routine and acceptance maintnance procedures for No. 3 ESS office power equipment. These procedures are task-oriented in organization, responding to an initiating stimulus. The data is presented in three distinct levels of detail or layers allowing bypassing by more experienced craft personnel. Routine procedures relate directly to the No. 3 ESS ETL, Section 233-001-011. Acceptance procedures relate to Precutover General Description, Section 233-170-100.
	Routine Tasks — All routine tasks include as a part of their data package correction procedures for any out-of-torelance or unacceptable conditions found.
	Acceptance Tasks — Most fault conditions occurring during acceptance testing will be referred to the installation group for correction. Little or no correction procedures will be provided for faults found during acceptance tasks.

♦TABLE D♦

NETWORK SWITCHING ENGINEERING BSPs

SECTION NUMBER	DESCRIPTION
233-060-010	DIAL FACILITIES NO. 3 ESS (GENERAL INFORMATION INTRODUCTION) — This section contains a synopsis of the material covered in each section of Traffic Facilities Practices, Division D, Section 13. Section 13 practices contain all the information necessary for the network design engineer to prepare the network design recommendation for an initial installation of or addition to a No. 3 ESS office. It includes a description of each system component of interest to the network design engineer, system features, use of system components in call processing, traffic capacity determination procedures for all traffic-sensitive machine components, and recommendations for the service criteria which should be applied to the traffic engineering system.
233-060-020	GENERAL INFORMATION — SYSTEM DESCRIPTION AND FEATURES — This section describes the physical arrangements and the functional operations of the No. 3 ESS.
233-060-100	NETWORK DESIGN ORDER PREPARATION GENERAL — This section discusses the considerations necessary to initiate and finalize the preparation of the network design order for a No. 3 ESS. It covers the structure of the network design worksheets, the office characteristic portion of the network design worksheets, and the network design summary sheets.
233-060-110	NETWORK DESIGN ORDER PREPARATION ENGINEERING OF INITIAL OFFICE — This section is used to describe the particular aspects of planning and network design order preparation associated with an initial No. 3 ESS order.
233-060-120	NETWORK DESIGN ORDER PREPARATION — ENGINEERING OF ADDITIONS — This section covers the engineering criteria and methods of procedure used for the preparation of a traffic order for an equipment addtion in a No. 3 ESS office.
233-060-130	NETWORK DESIGN ORDER PREPARATION — CAPACITY DETERMINATION — This section covers the procedures for determining office capacities for No. 3 ESS. The office capacities will be based on the traffic sensitive equipment components and software programs required to provide and maintain an acceptable grade of service to meet customer demands.
233-060-210	SERVICE CIRCUITS — This section describes the service circuits used by the ESS. It explains their functions and traffic engineering considerations used to determine the type and quantity to be provided.
233-060-220	TRUNKS, LINE CIRCUITS, MISCELLANEOUS CIRCUITS, AND SCANNER — This section covers the requirements and provisions of No. 3 ESS trunk and line circuits, test and miscellaneous circuits, and associated scanner assignments. Worksheets and procedures for determination of circuit quantities are also included.
233-060-310	NETWORK, CONTROL, AND MISCELLANEOUS FRAMES — This section discusses the switching network (network and control frames) and the miscellaneous frame of the No. 3 ESS. The miscellaneous frame is included in this section because these are the only three frames on which the univeral trunk and service circuits are mounted.

TABLE D (Cont'd)

NETWORK SWITCHING ENGINEERING BSPs

SECTION NUMBER	DESCRIPTION
233-060-450	PROCESSOR MEMORY REQUIREMENTS NETWORK DESIGN — This section discusses the main store memory used in the No. 3 ESS. It covers the main store module worksheet portion of the network design worksheet [TFP Division D, Section 13-1(8)].
233-060-605	TRAFFIC MEASUREMENTS — NETWORK SWITCHING ENGINEERING — This section covers the load and traffic measurements available for the engineering and administration of a No. 3 ESS office.
233-060-800	NETWORK DESIGN WORKSHEETS-GENERAL — This section contains all the worksheets that are necessary for the preparation of a network design order for the initial installation or addition of a No. ESS central office, equipped with the Small Office-2 (SO-2) generic program. Section 13-1 is divided into 12 separate sections representing the major divisions of the No. 3 ESS network design worksheets. This will facilitate the update of a particular part of the worksheets as refined engineering techniques become available or new features or services are added without issuing the worksheet package.
233-060-805	NETWORK DESIGN WORKSHEETS-NETWORK DESIGN SUMMARY — This section contains the summary sheets which allow the network design engineer to summarize all equipment added on initial jobs or additions to existing offices. The summary sheets are arranged in the approximate same sequence as the equipment is calculated.
233-060-810	NETWORK DESIGN WORKSHEETS CAPACITY TABLES — This section contains all capacity tables required in the determination of traffic-sensitive items of equipment in the ESS. Included are Poissen capacity tables, customer digit receiver, transmitter, and MF receiver holding time tables, and requirement, arrangement, and coin control circuit.
233-060-811	NETWORK DESIGN WORKSHEETS-DATA CONVERSION — This section contains the data conversion worksheets used only in initial office engineering to convert 355A SXS data to a form which is useable in engineering a No. 3 ESS.
233-060-812	NETWORK DESIGN WORKSHEETS-OFFICE CHARACTERISTICS — This section contains the office characteristic worksheets. These worksheets must be completed, at least in part, for both initial office engineering and additions to existing offices.
233-060-820	NETWORK DESIGN WORKSHEETS-SERVICE CIRCUITS — This section contains all the worksheets necessary for engineering service circuits used in the No. 3 ESS. For each service circuit, an initial method (number of calls times holding time) is given, followed by a growth method (usage per main station).
233-060-825	NETWORK DESIGN WORKSHEETS-TRUNKS — This section contains all the worksheets necessary to calculate network terminations, units, and scanpoint field requirements for all service circuits and trunk, line, and miscellaneous circuits. Part 1 is used to calculate cutover network terminations only. Parts 2, 3, and 4 are used to calculated end-of-engineering requirements.

TABLE D (Contd)

NETWORK SWITCHING ENGINEERING BSPs

SECTION NUMBER	DESCRIPTION
233-060-830	NETWORK DESIGN WORKSHEETS-SWITCHING NETWORK — This section contains the worksheets necessary to determine the number of network frames required and the main station capacity based on fully utilizing the network frame. These worksheets are used for both engineering of initial offices and additions to existing offices.
233-060-840	NETWORK DESIGN WORKSHEETS-MAIN STORE MODULES — This section contains the worksheets necessary for calculating the number of main modules required. These worksheets are to be completed for engineering initial offices and additions to existing offices.
233-060-860	NETWORK DESIGN WORKSHEETS-MISCELLANEOUS FRAME AND PERIPHERAL DECODER PACKS — This section contains the worksheets necessary to estimate the number of miscellaneous frames required in either engineering of initial office or additions to existing offices. A verification is also made on the adequacy of peripheral decoder packs for circuits mounted on the miscellaneous frame.
233-060-865	NETWORK DESIGN WORKSHEETS-SCANNER FIELD VERIFICATION — This section contains the worksheets used to verify the scanner field adequacy jobs. The scanner field requirements are calculated in the B Trunks section of the Network Design Worksheets, Section 13-1(6).
233-060-890	TRAFFIC ORDER SUMMARY SHEETS — This section contains the summary sheets which allow the traffic engineer to summarize all equipment added on initial jobs or additions to existing offices. The summary sheets are arranged in approximately the same sequence as that used for equipment calculation.

♦ TABLE E ♦

NETWORK ADMINISTRATION BSPs

SECTION NUMBER	DESCRIPTION
233-020-010	ADMINISTRATION RESPONSIBILITIES NETWORK OPERATIONS — This section describes the administrative responsibilities of the district network manager-administration and network supervisor (both the service supervisor and assignment supervisor) with regard to the No. 3 ESS. If it is possible to set an interval in which each responsibility is to be executed, the interval is mentioned (daily, weekly, annually). This section supplements Dial Facilities Management Practices (DFMP), Division A, Sections 2 and 3.
233-020-020	NETWORK ADMINISTRATION AND MAINTENANCE MEASUREMENTS NETWORK OPERATIONS — This section describes network administration and maintenance measurements available in the No. 3 ESS. Data scheduling and collection procedures are described in Section 233-020-210, Data Management.
233-020-030	INEFFECTIVE ATTEMPT NETWORK OPERATIONS — This section presents recommended procedures for the identification and analysis of ineffective attempts in a No. 3 ESS.
233-020-032	DIAL TONE NETWORK OPERATIONS — This section describes the dial tone speed test and the network administrator responsibilities of DTS for the No. 3 ESS.
233-020-050	OPERATIONAL REVIEW — This section is intended to provide local telephone company staff/network administration personnel with the fundamentals of an operational review package for the No. 3 ESS network administration environment.
233-020-115	RECORDED ANNOUNCEMENT EQUIPMENT LINK AND TRUNK ADMINISTRATION - NETWORK ADMINSTRATION — This section describes the recorded announcement equipment of the No. 3 ESS including the emergency overload announcement system.
233-020-120	ASSIGNMENT ADMINISTRATION-RECOMMENDATIONS LINK AND TRUNK ADMINISTRATION — This section (a) lists rules which the network administrator must follow in making line and trunk assignments in the No. 3 ESS and (b) describes the distributing frame and the arrangement of office equipment in the No. 3 ESS office.
233-020-122	ASSIGNMENT ADMINISTRATION-NEW OFFICES — This section describes procedures for the assignment of lines, trunks, and service circuits in a new No. 3 ESS office and also supplements Dial Facilities Management Assignment Recommendations.
233-020-124	ASSIGNMENT ADMINISTRATION — WORKING OFFICES LINE AND TRUNK ADMINISTRATION NETWORK ADMINISTRATION — This section describes procedures for the assignment of lines, trunks, and service circuits in a working No. 3 ESS office.
233-020-128	ASSIGNMENT ADMININISTRATION — OFFICE RECORDS LINE AND TRUNK ADMINISTRATION — This section describes the internally generated OFRs available with SO-2 Issue 4 generic of the No. 3 ESS and describes the procedures for obtaining the records.

TABLE E (Contd)

NETWORK ADMINISTRATION BSPs

SECTION NUMBER	DESCRIPTION
233-020-130	SERIES COMPLETION ASSIGNMENT LINE AND TRUNK ADMINISTRATION — This section reviews the sequence description for the series completion feature of the No. 3 ESS. It also gives the network administrator guidelines for making assignments to series completion customers.
233-020-210	DATA MANAGEMENT COMMON CONTROL ADMINISTRATION NETWORK OPERATIONS METHODS — This section describes the data management task of the network administrator for a No. 3 ESS. This information includes the information that is necessary for the SO-2 Issue 4 generic.
233-020-230	MACHINE CAPACITY MANAGEMENT COMMON CONTROL ADMINISTRATOR NETWORK OPERATIONS METHODS — This section describes the responsibilities, tools, and data necessary for efficient machine capacity management of the No. 3 ESS office. Capacity determination and related worksheets are also discussed.
233-020-250	DYNAMIC SERVICE PROTECTION COMMON CONTROL ADMINISTRATION NETWORK OPEATIONS METHODS — This section describes the operation of dynamic service protection (DSP) in the No. 3 ESS. It also describes assignment requirements for DSP, the effect of DSP on network administration measurements, and administration procedures for DSP. The network administrator has a joint responsibility with network maintenance for executing DSP and should be familiar with the operation and administration of DSP.
233-020-252	SYSTEM INITIALIZATION PROCEDURES — This section describes system initialization for the No. 3 ESS. It provides the network administration with information pertaining to the effects of initializations in such areas as call processing, the traffic work table, and traffic registers.
233-020-254	TELETYPEWRITER ARRANGEMENTS COMMON CONTROL ADMINISTRATION NETWORK OPERATIONS METHODS — This section describes the dedicated, autoconnect partially dedicated, and autoconnect nondedicated TTY arrangement in the No. 3 ESS. Autoconnect equipment, local test desk (LTD) autoconnect, and assignment requirements of the network administrator are also discussed.
233-020-510	CONTROLLED MAINTENANCE PLAN — This section describes the specific plan for the maintenance of the No. 3 ESS and applies to all No. 3 ESS offices. This section is supplemented by Section 201-020-510, General Controlled Maintenance Plan for Switching Systems, which gives the general principles, definitions, descriptions, explanations, and examples of the controlled maintenance concept. It is essential that the user be thoroughly familiar with the general controlled maintenance information stated in Section 201-020-510 as a prerequisite for use of the No. 3 ESS Controlled Maintenance Plan.
233-020-520	PORTABLE MAINTENANCE EQUIPMENT CORDS, TOOLS, AND MATERIAL — This practice lists the portable test equipment, test cords, and assorted tools required for the maintenance of a No. 3 ESS office. In order to perform the BSP tests that are applicable to No. 3 ESS, certain portable maintenance equipment (test sets and apparatus) is required.

▶ TABLE F ◀

FEATURE DOCUMENTS

SECTION NUMBER	DESCRIPTION
233-190-010	NO. 3 ESS SYSTEM DESCRIPTION — The No. 3 ESS is a small electronic central office that has been developed to offer modern telephone service to small communities. It is capable of serving from several hundred to approximately 4500 lines and has a peak capacity of 11,000 busy hour calls.
233-190-022	INTERCEPT ARRANGEMENTS — This section describes the various intercept arrangements provided for the No. 3 ESS. These arrangements include provisions for routing intercepted calls to local or remote announcements or to operate positions.
233-190-023	ANNOUNCEMENT SYSTEM — This feature document describes in detail the capabilities and the hardware and software requirements for providing announcement systems with the No. 3 ESS.
233-190-024	TRUNKING ARRANGEMENTS — This feature document describes in detail the specific hardware required to provide standard application of the various central office trunking arrangements.
233-190-027	DIRECT INTERFACE WITH T CARRIER — This feature permits direct control of T carrier D4 channel units by the No. 3 ESS processor. This results in the elimination of E and M trunks as well as simplification of maintenance and engineering of No. 3 ESS offices using this feature.
233-190-028	NO-TEST ACCESS — This document describes the no-test access feature of the No. 3 ESS. The feature enables a verification (no-test) operator calling over an incoming trunk circuit to complete a call line which is busy. The operator may also use this feature to perform number checking and busy-idle verification of customer lines. This feature also allows no-test calls from the LTD and the TLTP when performing customer line tests.
233-190-030	CARRIER GROUP ALARM HANDLING — This feature provides an arrangement to automatically monitor the alarms and identify the location of a trouble condition in the carrier system. This can be defined as either a major, minor, or no alarm condition by the operating company.
233-190-031	LOCAL TEST DESK ARRANGEMENTS — This document describes Test Desk Arrangements as applied to No. 3 ESS. This feature enables an LTD No. 14 or No. 16 to test, either locally or remotely, customer lines in a No. 3 ESS office on a dedicated and/or nondedicated basis.
233-190-033	AUTOCONNECT ARRANGEMENTS — This document describes the autoconnect feature of the No. 3 ESS. The autoconnect feature allows users of the network administration, service order bureau (SO), switching control center, and repair service bureau (RSB) to connect their TTY to a No. 3 ESS through a dial-up connection, thus eliminating the need for dedicated TTY controller and outside plant for the SO, network administration, and RSB for each office. This feature also allows remote testing of customer lines in a No. 3 ESS by a centralized LTD No. 14 or No. 16 arrangement.

TABLE F (Contd)

FEATURE DOCUMENTS

SECTION NUMBER	DESCRIPTION
233-190-101	CHARGING ARRANGEMENTS — This feature document describes in detail the capabilities and the hardware and software requirements for providing the charging arrangement feature with the No. 3 ESS.
233-190-102	NOISE IMMUNITY LINE CIRCUIT — This feature is used to eliminate false service requests caused by noise induced on the customer line by external source. The noise immunity line circuits are available for and compatible with all issues of the generic programs for the No. 3 ESS.
233-190-105	CALL FORWARDING — The feature described in this document is provided on a station basis and is available for use in the No. 3 ESS equipped with the SO-2 generic program or later.
233-190-106	CALL TRACING — This document covers the call tracing feature which allows identification of calling and called lines in a No. 3 ESS office to determine the source of nuisance or threatening calls and to identify lines in emergency situations.
233-190-107	CALL WAITING — This document covers the call waiting feature which allows a customer already involved in a conversation to know by means of a tone when another call is attempting to complete to that station. Call waiting is a software feature and is made available in any No. 3 ESS office equipped with Issue 3 or later of the SO-2 generic program.
233-190-109	CENTRALIZED AUTOMATIC MESSAGE ACCOUNTING INTERFACE AND SPECIAL TOLL BILLING — This section provides a description of the hardware and software arrangements provided to make the No. 3 ESS compatible with the CAMA equipment. It also describes the arrangements made to provide special toll billing (formerly known as QZ billing).
233-190-112	COIN FIRST COIN SERVICE — This section covers coin first service only and describes the various methods of charging, testing, and maintaining coin telephone service.
233-190-113	OVERLOAD CONTROLS DYNAMIC SERVICE PROTECTION — This feature document describes in detail the DSP feature provided by the No. 3 ESS. The DSP is an automatic way of protecting the service of those lines with Class A service (as opposed to Class B) during a traffic overload.

TABLE F (Contd)

FEATURE DOCUMENTS

SECTION NUMBER	DESCRIPTION
233-190-114	EMERGENCY LINE SERVICES — This feature document describes emergency line service feature for No. 3 ESS. The following specific features are covered in this document: • Group Alerting Service • Emergency Manual Line Service • Public Emergency Reporting Service • Emergency Line Service.
233-190-115	EXTENDED RANGE — This document describes the extended range feature which allows customers who are in an area in which development is scattered, nonurban, and beyond the normal operating range of a central office, to have telephone service comparable to that of urban areas.
233-190-123	MESSAGE REGISTER — This feature document describes in detail the capabilities and the hardware and software requirements for providing message register with the No. 3 ESS. The message register feature is used to provide the customer with charge information immediately upon completion of a message-rate call.
233-190-125	MULTILINE HUNTING — This feature document describes the multiline hunting group feature for the No. 3 ESS. In the No. 3 ESS, a multiline hunting group offers three optional features that alter the hunting sequence as follows: • Night Stop • Stop Hunt • Remote Make Busy.
233-190-126	MULTIPARTY SERVICE — This feature document describes in detail the capabilities and the hardware and software requirements for providing multiparty service with No. 3 ESS.
233-190-129	PERMANENT SIGNAL AND PARTIAL DIAL TREATMENT — This feature document describes in detail the capabilities and the hardware and software requirements for providing permanent signal and partial treatment with the No. 3 ESS.
233-190-131	DIAL-TONE FIRST COIN — This feature document describes in detail the dial tone first feature provided by the No. 3 ESS. This feature requires both software and hardware. The dial-tone first coin feature is available with all versions of the No. 3 ESS system program.

TABLE F (Contd)

FEATURE DOCUMENTS

SECTION NUMBER	DESCRIPTION
233-190-133	SERIES COMPLETION FEATURE — This feature document describes in detail the series completion feature and software requirements provided by the No. 3 ESS. Series completion is a feature that allows calls to a busy line to be routed to another specified directory number in the same switching office.
233-190-136	SPEED CALLING — Speed calling in the No. 3 ESS has two separate parts. The first is the provision for a customer to call frequently called numbers that are stored in a repertory by dialing a 1- or 2-digit code. The second is the ability to change the customer speed-calling repertory. The repertory can be changed either by recent change procedures or by a procedure using the customer telephone.
233-190-138	THREEWAY CALLING — This feature document describes in detail the capabilities and the software and hardware requirements for providing the threeway calling feature with No. 3 ESS. In the No. 3 ESS, a customer subscribing to the threeway calling feature may add a third party to an existing conversation by momentarily depressing the switchhook (flashing), dialing the third party telephone number, and flashing again.
233-190-139	TOLL RESTRICTION AND TOLL DIVERSION — This feature document describes the toll restriction and toll diversion features for No. 3 ESS. The No. 3 ESS toll restriction feature applies to all lines and trunks when they use the 3-digit translator. These features are available with all issues of the No. 3 ESS generic programs.
233-190-142	OUTWARD WIDE AREA TELECOMMUNICATIONS SERVICE (OUTWATS) — This document describes the OUTWATS feature provided by the No. 3 ESS. This is an optional feature which maybe utilized in conjunction with the Automatic Message AccountingRecording System (AMARS) feature.
233-190-146	ENHANCED RINGING FEATURE — This document describes the enhancing ringing feature of the No. 3 ESS. This feature is provided to add the following types of ringing in addition to the normal signal, 2-party, and multiparty ringing services: • Single-party with coded ringing (also called teen-age service) • Two-party with coded ringing (each party hears both ringing codes) • Two-party with coded ringing (each party hears only one ringing code).
233-190-149	TRAFFIC SERVICE POSITION SYSTEM INTERFACE (TSPS) — This section describes the hardware and software arrangements provided by the No. 3 ESS so that customer-dialed special toll calls such as person-to-person, collect, credit card, and charge-to-third-party may be automatically routed to a Traffic Service Position System (TSPS) operator. These arrangements are provided by all issues of the generic programs for No. 3 ESS.
233-190-151	LOCAL COIN OVERTIME CHARGING (LCOT) — This section describes the local coin overtime charging provided by the No. 3 ESS. Also, this section describes only the LCOT charging as provided by the 3E3 generic program.

TABLE F (Contd)

FEATURE DOCUMENTS

SECTION NUMBER	DESCRIPTION
233-190-154	DIRECT INWARD DIALING (DID) — This document describes the DID feature as provided by the No. 3 ESS. This feature may be used only in conjunction with private branch exchange equipment which is capable of receiving and translating a telephone number which has been outpulsed over a trunk from the No. 3 ESS.
233-190-203	UNIVERSAL EMERGENCY SERVICE NUMBER 911 — This feature describes in detail the capabilities and hardware and software requirements for providing universal emergency service number 911.
233-190-204	AUTOMATIC MESSAGE ACCOUNTING RECORDING SYSTEM (AMARS) — This section provides a description of the AMARS feature for the No. 3 ESS. It also describes the operations performed by the No. 3 ESS in order to transmit all billing data to a remote AMARC where it is assembled and recorded.
233-190-205	REMOTE OFFICE TEST LINE (ROTL) — This document describes the remote office test line feature which may be used in conjunction with a Centralized Automatic Reporting On Trunks (CAROT) system to test central office trunks automatically from a remote location. The ROTL feature is available for all No. 3 ESS systems equipped with the 3E3 generic program.
233-190-503	INTERNATIONAL DIRECT DISTANCE DIALING (IDDD) — This document describes the IDDD feature for the No. 3 ESS. This feature provides the capability for direct distance dialing outside the North American Network.

♦TABLE G♦

RELATED DOCUMENTS

SECTION NUMBER	OPERATION SUPPORT SYSTEM DOCUMENTS
190-117-110	NO. 2 SWITCHING CONTROL SYSTEM, NO. 3 ESS APPLICATION DESCRIPTION — This section describes the No. 2 SCCS application to the No. 3 ESS. The No. 3 ESS is one of several stored and remotely controlled from a No. 2 SCCS. It describes the SCCS critical indicator panel and the SCCS Control Console No. 1A used for No. 3 ESS applications.
190-117-340	NO. 2 SWITCHING CONTROL CENTER SYSTEM, NO. 3 ELECTRONIC SWITCHING SYSTEM APPLICATION OPERATING AND TEST PROCEDURES — This section describes the operating and test procedures for a No. 2 SCCS to remotely control No. 3 ESS offices. The tests will verify that the system status panel (SSP) functions in the central office can be remotely controlled using the SCCS Control Console No. 1A. Most SSP functions will be verified during these tests.
190-117-341	NO. 2 SWITCHING CONTROL CENTER SYSTEM, NO. 3 ELECTRONIC SWITCHING SYSTEM APPLICATION EMERGENCY ACTION PROCEDURES — This section describes the emergency action procedures used by a No. 2 SCCS to recover a No. 3 ESS from critical hardware and software failures. The No. 3 ESS faults may be either hardware (equipment) or software (program) oriented.
190-117-342	NO. 2 SWITCHING CONTROL CENTER SYSTEM, NO. 3 ELECTRONIC SWITCHING SYSTEM APPLICATION OPERATING AND TEST PROCEDURES GENERIC 3E3 AND LATER ISSUES — This section describes the operating and test procedures for a No. 2 SCCS to remotely control No. 3 ESS offices.

	COMMON SYSTEM HARDWARE DOCUMENTS
254-300-100	3A PROCESSOR DESCRIPTION — This section describes physical and general operational characteristics of the 3A Processor used in a variety of control and processing systems.
254-300-110	3A CENTRAL CONTROL DESCRIPTION — This section provides a physical and functional description of the 3A Central Control (3A CC) used in the Common Systems 3A Processor. This information is developed in terms of (a) the 3A CC as a unit of the 3A Processor and (b) the separate section with the 3A CC itself.
254-300-120	3A CENTRAL CONTROL (3A CC) THEORY OF OPERATION — This section describes the theory and operational characteristics of the 3A CC which is a part of the 3A Processor used in a variety of control and processing systems.
254-300-140	3A PROCESSOR POWER SYSTEM DESCRIPTION AND THEORY OF OPERATION — This section contains a description and theory of operation of the 3A Processor power systems and related alarms.

TABLE G (Contd)

RELATED DOCUMENTS

SECTION NUMBER	COMMON SYSTEM HARDWARE DOCUMENTS
254-300-150	3A PROCESSOR MAIN AND SUPPLEMENTAL STORE DESCRIPTION AND THEORY OF OPERATION — This section contains information on the main store (MAS) and supplemental store as utilized with the 3A Processor. Information is given in terms of physical appearance, functional application, and theory of operation for both the 4K and 16K memory storage devices.
254-300-160	MAINTENANCE FRAME DESCRIPTION AND THEORY OF OPERATION — This section describes in physical and functional terms the interfaces and theory of operation of the maintenance frame used in conjunction with the Common Systems 3A Processor.
254-300-170	TAPE DATA CONTROLLER DESCRIPTION AND THEORY OF OPERATION — This section describes the physical and functional characteristics and the theory of operation of the tape data controller unit.
254-300-180	SYSTEM STATUS PANEL, SYSTEM STATUS PANEL CONTROLLER, AND SYSTEM STATUS PANEL RELAY UNIT DESCRIPTION AND THEORY OF OPERATION — This section describes, in physical and functional terms, the characteristics and theory of operation of the SSP and the system status panel relay unit used in conjunction with the Common Systems 3A Processor.
254-300-190	TELETYPEWRITER AND TELETYPEWRITER CONTROLLER DESCRIPTION AND THEORY OF OPERATION — This section contains the physical and functional description and theory of operation of the TTY and the TTY controller provided with the 3A Processor Common Systems. These facilities provide the primary mean of communication between operating personnel and the system.
254-340-082	SYSTEM UTILITIES — This section provides a description of the common utility functions used with the 3A CC. The utility programs are both resident and nonresident and are used for loading, storing and/or monitoring various registers and memory locations and for performing various tape operations and reload functions. Utility programs are initiated by TTY messages. Output can be either a return TTY message or a system status panel display of data.
254-340-088	PROCESSOR DIAGNOSTICS SSD — This section describes the 3A Processor diagnostics with the EOS. These include the diagnostics for the control unit, the direct memory access, and the parallel channel. In this section, the CU is defined as the 3A CC and associated main store. Diagnostic tests assist in locating machine faults as well as ensuring operational integrity on a routine basis.
254-340-100	INTRODUCTION TO 3A LANGUAGE COMMON SSD — This section provides a description of the language, methodology, conventions, and supporting information used to program the 3A CC to support operating system or application programs of any system in which the 3A CC is utilized. The scope proceeds from basic concepts through the ESS Program Language usage.

TABLE G (Contd)

RELATED DOCUMENTS

SECTION NUMBER	COMMON SYSTEM HARDWARE DOCUMENTS
254-340-102	BASIC AND EXTENDED 3A PROCESSOR INSTRUCTION SET — This section describes the basic and extended processor instruction set used in the 3A CC. The following types of information are contained in this document. • The format, function, options and requirements, and approximate execution times of each instruction. • The operation code for each instruction expressed in binary, octal, and hexadecimal representation. • Common abbreviations and terms used in the description of basic and extended instructions. • Mnemonic codes of basic and extended instructions with a combined alphabetical listing of both. • Registers accessed by special register instructions.
254-340-104	PROGRAM LISTING ORGANIZATION AND USAGE COMMON SYSTEM SOFTWARE DESCRIPTION 3A PROCESSOR — This section describes the format and type of information contained in PRs for the 3A Processor. It also provides aid for using the PRs. The following sections will also aid in understanding the use of the PRs: Section 232-160-100, Section 232-164-110, Section 254-340-082, Section 254-340-100, and Section 254-340-102.