



4ESSTM-2000 Switch 4E24 Generic Transition Document for LEC

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4ESS™-2000 Switch
4E24 Generic Transition Document for LEC
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Introduction—How To Use This Document

Who Will Benefit From Reading This Document

This document is designed for circuit provisioning personnel, network administrators, network planners, equipment engineers, and maintenance engineers. By reading this document, these individuals will be able to identify the new generic:

- hardware and software impact.
 - Recent Change (RC)/Office Data Assembler (ODA) impact.
 - feature implications.
 - feature dependencies.
-

Background

With each year's release of a new generic, CTIP's Information Development prepares and presents a seminar to teach customers what new features are available and how to use those features. Customers asked that instead of preparing a seminar, CTIP's Information Development provide a document. This is that document. This document can be used in place of the seminar. It contains 9 chapters. Each chapter describes a new feature for the 4E24 Generic. Each chapter contains these sections:

- Introduction
- In This Chapter
- Advantages/Benefits
- Background
- Feature Description
- Call Flow
- Provisioning
- Billing/Recording
- Network Management
- Maintenance Troubleshooting
- Transition Considerations
- Input/.Output Pages
- Feature Implementation
- Acronyms and Abbreviations
- Self Check.

The sections that follow describe each chapter section in greater detail.

Continued on next page

Introduction—How To Use This Document, Continued

Introduction This “Introduction” section provides a high level overview of the feature. By reading the introduction, the reader can determine if he or she wants more information about this feature. If that is the case, he or she can read the remainder of the chapter. If that is not the case, the reader can skip to the next chapter.

In This Chapter The “In This Chapter” section provides a table of contents showing the name of each topic and the page in the chapter where that topic begins. By looking at the table, the reader can turn to the section he or she wants to reference without having to search through the whole chapter.

This chapter contains the following topics:

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Advantages/Benefits The “Advantages/Benefits” topic provides a list of the key reasons that this feature is of interest. This section includes a list of advantages and benefits the reader can use to decide if this feature is useful in his or her situation.

Continued on next page

Introduction—How To Use This Document, Continued

| | |
|------------------------------------|--|
| Background | The “Background” topic describes how the work performed by this new feature was done previously. This section provides the reader with a context to understand why the new feature is better or different. |
| Feature Description | The “Feature Description” section describes how the feature works. By reviewing this section the reader can learn what the feature does and how the feature does it. |
| Call Flow | The “Call Flow” section describes the call processing impact as a result of this feature. |
| Provisioning | The “Provisioning” section describes the provisioning necessary to add the new feature. Included in this section are any retrofit rules used in implementing the feature. By reviewing this section the reader can determine what provisioning to do to implement a new feature. |
| Billing/Recording | The “Billing/Recording” section describes the billing and recording impact as a result of this feature. |
| Network Management | The “Network Management” section describes the Network Management impact as a result of this feature. |
| Maintenance/Troubleshooting | The “Maintenance Troubleshooting” section describes the Maintenance/Troubleshooting impact as a result of this feature. |
| Transition Considerations | The “Transition Considerations” includes the impact as a result of this feature. |
| Input/Output Pages | The “Input/Output” section describes the input/output pages that are impacted as a result of this feature. |

Continued on next page

Introduction—How To Use This Document, Continued

Feature Implementation

The “Feature Implementation” section lists any documents that are referenced while implementing the feature. Reading this section helps determine what documents need to be referenced as one prepares to implement the feature.

Acronyms and Abbreviations

The “Acronyms and Abbreviations” section includes a table that shows each term used in this chapter and a definition for that term. The reader can quickly learn the meaning of any term that is unfamiliar by referring to this section.

Self Check

The “Self-Check” section includes questions about key information included in the chapter. By correctly answering the self-check questions, the reader can confirm his or her understanding of key point about the feature. If one answers incorrectly, reviewing the self check answer and reference provided can help learn the information or correct a misunderstanding.



1 Originating LNP Module AMA Enhancement Feature 537a

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Chapter 1

Originating LNP Module AMA Enhancement - Feature 537a

Introduction

Feature 537

Feature 537, available with the 4E23 generic, provided an enhancement to the Local Number Portability (LNP) Automatic Message Accounting (AMA) recording and provided originating wire center identification for calls received from ported subscribers.

Feature 537a

Feature 537a, available in 4E24R3, provides additional AMA recording.

In This Chapter

This chapter contains the following topics:

| Topic | See Page |
|-----------------------------|----------|
| Introduction | 1-1 |
| In This Chapter | 1-1 |
| Advantages/Benefits | 1-2 |
| Background | 1-2 |
| Feature Description | 1-3 |
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| Transition Considerations | 1-9 |
| Input/Output Pages | 1-9 |
| Feature Implementation | 1-9 |
| Acronyms and Abbreviations | 1-10 |

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Originating LNP Module AMA Enhancement - Feature 537a, Continued

Advantages/ Benefits

Feature 537

Feature 537 allowed accurate cost recovery for calls terminated within the Local Exchange Carrier (LEC) network which are originated by ported subscribers.

Background

Whenever an LNP query is launched, a Bellcore AMA Format (BAF) module is appended to the existing AMA records being generated by the switch.

The initial Local Number Portability (LNP) (Feature 450) required modifications to AMA recording. A new LNP AMA module (720) was appended to existing AMA records for calls encountering the LNP trigger which result in querying the LNP Service Control Point (SCP).

The Module 720 appears as follows:

| Information | Table Number | # of Characters |
|-------------------------------|--------------|-----------------|
| Module Code | 88 | 4 |
| Party Identifier | 730 | 4 |
| Location Routing Number (LRN) | 731 | 12 |
| Service Provider Identity | 732 | 10 |
| Location | 733 | 16 |
| Supporting Info | 734 | 8 |

In addition, a new AMA call code was defined to support Connecting Network Access (CNA) charge recording for calls which cross local network boundaries but for which existing access charge recording does not apply. This new CNA call code is used in conjunction with existing AMA structure code.

Continued on next page

Originating LNP Module AMA Enhancement - Feature 537a, Continued

**Feature
Description**

Feature 537

Feature 537 appended the LNP BAF Module 720. The module was appended, as follows, for SSP 800/888 calls:

- Contained the LRN of the originating end office to all terminating AMA records generated by the switch.
- Appended the record when the LRN of the originating end office is known as the 4ESS Switch.

Feature 537a

Feature 537a provides enhancements to LNP BAF Module 720. If the 4E switch performs an SSP 800/888/877 query, the switch will append LNP BAF Module 720 as follows:

- Contain the LRN of the originating end office to the LEC Number Services (CC142) AMA record.

NOTE: This will occur if the query receives a translated intra-LATA number that generates a LEC Number Services AMA record (CC142).

Continued on next page

Originating LNP Module AMA Enhancement - Feature 537a, Continued

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Continued on next page

Originating LNP Module AMA Enhancement - Feature 537a, Continued

**Feature
Description**
(cont'd)

Feature 537/537a

The LRN of the originating switch will be obtained from the Jurisdiction Information Parameter (JIP) of the incoming ISDN User Part (ISUP) Initial Address Message (IAM), or if the JIP is not available via signaling, from the JIP/LRN provisioned on the incoming Trunk Subgroup (TSG). If neither an ISUP JIP nor incoming TSG JIP/LRN is available, the originating party LNP module will not be recorded.

If recorded, the originating LNP BAF module shall be populated with:

- A Party Identifier of “originating party” (001)
- An LRN Source Indicator of “incoming signaling” (3) or “switch data” (2) depending upon the source used to populate the LRN field
- A Query Status Indicator of “no query performed” (09)
- The first six digits (NPA-NXX) of the LRN field populated with the data from the JIP with the last four digits of the LRN field zero filled or with 10-digit JIP/LRN assigned to the incoming TSG.

NOTE: An originating Module 720 will also be appended to the Connecting Network Access (CNA) record if one is generated for the call per existing Feature 450-Local Number Portability.

Call Flow

There is no impact as a result of this feature.

Continued on next page

Originating LNP Module AMA Enhancement - Feature 537a, Continued

Provisioning

Recent Change (RC) Form Impacted

RC 809 – Change Feature Bits

FORM 809 CHANGE FEATURE BITS
4E18>

RC:FTR;CHG;OPT(BIT),___:

ORNU _____,

FEATURE ITEM _____, ON OR OFF _____,

REMARKS _____!

EQUIVALENT ODA INPUT FORM - NONE

ASSOCIATED VERIFY MESSAGES

OUTPUT - 8j VER:MISC;OPT(ONOFF)

INPUT - 16az VER:MISC ONOFF

Continued on next page

Originating LNP Module AMA Enhancement - Feature 537a, Continued

Provisioning (cont'd.)

RC 809 – Change Feature Bits

This form is used to enable and disable Feature 537. This feature cannot be activated unless it has been purchased. Feature 537a does not require an additional feature item.

- Feature Item

F22 - LEC Originating LNP Module AMA Enhancement.

- On or Off

Valid Entries: On - Feature is enabled.

Off - Feature disabled. Default is off.

Continued on next page

Originating LNP Module AMA Enhancement - Feature 537a, Continued

Provisioning Verify Forms/Messages Affected (cont'd)

INPUT: VERIFY 16az

 VER:MISC ONOFF!(EOT)

OUTPUT: VERIFY 8j
4E21R2>

VER:MISC;OPT(ONOFF):

ATP, SCSFH, CPESR, I800P1, I800P2, ITRA, LSDS, GETS, SUA,
 , , , , , , , , , ,

CSCRACT, PCPNCP, ASM, AASE, AINON, AINRDFLT,
 , , , , , ,

FEATURE BITS

--, --, --, --, --, --, --, --, --, --, --, --, --, --, --,
--, --, --, --, --, --, --, --, --, --, --, --, --, --, --,
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--, --, --, --, --, --, --, --, --, --, --, --, --, --, --,

PROPRIETARY FEATURE BITS

--, --, --, --, --, --, --, --, --, --, --, --, --, --, --,
--, --, --, --, --, --, --, --, --, --, --, --, --, --, --,
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--, --, --, --, --, --, --, --, --, --, --, --, --, --, --,

ODA INPUT SOURCE - None.
RECENT CHANGE INPUT SOURCE - FORM # 809

Continued on next page

Originating LNP Module AMA Enhancement - Feature 537a, Continued

**Billing/
Recording**

AMA recording for LNP BAF Module 720 is impacted by this feature.

**Network
Management**

There is no impact as a result of these features.

**Maintenance
Troubleshooting**

There is no impact as a result of these features.

**Transition
Considerations**

There is no impact as a result of these features.

**Input/Output
Pages**

There is no impact as a result of these features.

**Feature
Implementation**

This feature is an optional feature. If Feature 537 was purchased in the 4E23 generic, there will be no charge for Feature 537a. This feature is implemented via software deployment of the 4E24 R3 Generic.

Feature Dependencies

Feature 450 - Local Number Portability (LNP) and Feature 537 – Originating LNP Module AMA Enhancement must have been previously deployed.

Operating System (OS) Impact

No impact as a result of this feature.

Continued on next page

Originating LNP Module AMA Enhancement - Feature 537a, Continued

Acronyms and Abbreviations

The following are acronyms and abbreviations of terms used throughout this document:

| Terms | Definitions |
|--------------|------------------------------------|
| AMA | Automatic Message Accounting |
| BAF | Bellcore AMA Format |
| CNA | Connecting Network Access |
| IAM | Initial Address Message |
| IC | Interexchange Carrier |
| JIP | Jurisdiction Information Parameter |
| LEC | Local Exchange Carrier |
| LNP | Local Number Portability |
| LRN | Location Routing Number |
| NPA | Numbering Plan Area |
| OS | Operating System |
| RC | Recent Change |
| SCP | Service Control Point |
| TSG | Trunk Subgroup |

SELF CHECK

Chapter 1

Originating LNP Module AMA Enhancement - Feature 537a

1. Which Automated Message Accounting (AMA) billing module is affected by this feature?

2. This feature is dependent on which other features?

3. Are there any Operating Systems (OSs) impacted by this feature?

4. Which feature item is used to enable this feature?

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2 DSC* SCP Interface Modification for LNP Feature 540

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Chapter 2

DSC* SCP Interface Modification for LNP - Feature 540

Introduction This feature provides a modification to the DSC* Service Control Point (SCP) and allows the 4ESS to support the reception of an additional Service Control Connection Part (SCCP) header format with Called Party Address.

In This Chapter This chapter contains the following topics:

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| Network Management | 2-5 |
| Maintenance/Troubleshooting | 2-5 |
| Input/Output Messages | 2-5 |
| Feature Implementation | 2-5 |
| Acronyms and Abbreviations | 2-6 |

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Continued on next page

DSC* SCP Interface Modification for LNP - Feature 540, Continued

**Advantages/
Benefits**

This feature allows the 4ESS to recognize and process the particular SCCP header format utilized by the DSC Signal Transfer Point/Service Control Point (STP/SCP). It does not allow for all possible combinations of SCCP Called/Calling Party Address fields.

Background

The SCCP header fields provide logical signaling connections in the SS7 network. An SCCP message can specify a destination signaling point and a particular end user subsystem number. The SCCP delivers the message to the proper application or feature.

The DSC combination STP/SCP utilized by Pacific Bell for the Local Number Portability (LNP) application is sending a SCCP format which was not expected nor allowed by the 4ESS Switch Advanced Intelligent Network (AIN)/LNP implementation.

Continued on next page

DSC* SCP Interface Modification for LNP - Feature 540, Continued

**Feature
Description**

This feature will allow the 4ESS to support the reception of an additional SCCP header format, specifically with Called Party Address including Point Code and Subsystem Number and the Calling Party Address including Subsystem Number. This will allow the 4ESS to recognize and process the particular SCCP header format utilized by the DSC STP/SCP but does not allow for all possible combinations of SCCP Called/Calling Party Address fields.

An additional SCCP header format will be supported for AIN and LNP messages received from the SCP.

The 4ESS Switch shall accept the following combinations of SCCP header fields as valid for AIN and LNP messages received from the SCP:

- SCCP Called Party Address containing Point Code (PC) and Sub System Number (SSN)
- SCCP Calling Party Address containing SSN

Call Flow

There is no impact as a result of this feature.

Continued on next page

DSC* SCP Interface Modification for LNP - Feature 540, Continued

Provisioning **Recent Change (RC) Forms Impacted**

There are no 4E Recent Change Forms impacted by this feature.

Verify Forms/Messages Affected

There are no 4E Verify Forms or Messages affected by this feature.

Continued on next page

DSC* SCP Interface Modification for LNP - Feature 540, Continued

**Billing/
Recording**

There is no impact as a result of this feature.

**Network
Management**

There is no impact as a result of this feature.

**Maintenance/
Troubleshooting**

There is no impact as a result of this feature.

**Transition
Considerations**

There is no impact as a result of this feature.

**Input/Output
Pages**

There are no Input/Output pages impacted as a result of this feature.

**Feature
Implementation**

This is a core feature. This feature is provided as a Broadcast Warning Message (BWM) to the 4E22R4 generic and is automatically activated by software deployment of the 4E23R3 generic.

Feature Dependencies

Feature 375 - Advanced Intelligent Network (AIN) and Feature 450 - Local Number Portability (LNP) must have been previously deployed.

Operating System (OS) Impact

There is no impact as a result of this feature.

Continued on next page

DSC* SCP Interface Modification for LNP - Feature 540, Continued

Acronyms and Abbreviations

The following are acronyms and abbreviations of terms used throughout this document:

| Terms | Definitions |
|--------------|---------------------------------|
| AIN | Advanced Intelligent Network |
| BWM | Broadcast Warning Message |
| LNP | Local Number Portability |
| OS | Operating System |
| PC | Point Code |
| RC | Recent Change |
| SCCP | Service control Connection Part |
| SCP | Service Control Point |
| SSN | Sub System Number |
| STP | Signal Transfer Point |

SELF CHECK

Chapter 2

DSC SCP Interface Modification for LNP - Feature 540

1. List the advantage of this feature.

2. What are the two Digital Switch Corporation (DSC) Service Control Connection Part (SCCP) header fields that will be valid for Advanced Intelligent Network (AIN) and Local Number Portability (LNP)?

3. When is this feature available?

4. The feature is dependent upon which other feature?

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3 AIN/LNP SCCP Header Validation Reduction Feature 542

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Chapter 3

AIN/LNP SCCP Header Validation Reduction – Feature 542

Introduction This feature allows the 4ESS to receive all combinations of Service Control Connection Part (SCCP) Called/Calling Party Address fields in the SCCP header, with the exception of the Called Party Address of Global Title (GT). The 4ESS does not provide Global Title Translation (GTT) functionality and, therefore, any AIN/LNP message received in GT format by the 4ESS Switch will be dropped.

In This Chapter This chapter contains the following topics:

| Topic | See Page |
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| Input/Output Pages | 3-5 |
| Feature Implementation | 3-5 |
| Acronyms and Abbreviations | 3-6 |

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AIN/LNP SCCP Header Validation Reduction – Feature 542, Continued

Advantages/ Benefits

This feature allows the 4ESS-2000 Switch to reduce current validations of AIN/LNP Transaction CAPabilities (TCAP) message SCCP header fields. Validations of the SCCP header fields will no longer be performed. All combinations of SCCP Called/Calling Party Address fields will be accepted, except for the Called Party Address of Global Title (GT). The STPs will continue to process these messages.

Background

The SCCP header fields provide logical signaling connections in the SS7 network. An SCCP message can specify a destination signaling point and a particular end user subsystem number. The SCCP delivers the message to the proper application or feature.

Local Number Portability (LNP) Feature 450 was based on the Advanced Intelligent Network (AIN) feature's definition of SCCP messages and procedures. Four possible combinations of SCCP Called/Calling Party Address types in the SCCP header were accepted and processed in the 4ESS.

Feature 540 allowed the 4ESS to recognize and process an additional SCCP header format used by the Pacific Bell DSC* STP/SCP. The 4ESS recognizes a SCCP header with a Called Party Address including Point Code and Subsystem Number (SSN) and a Calling Party Address including Subsystem Number (SSN).

Only the four original SCCP Called/Calling Party Address types and the SCCP header format used by Pacific Bell DSC STP/SCP are presently allowed in the 4ESS.

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Continued on next page

AIN/LNP SCCP Header Validation Reduction – Feature 542, Continued

**Feature
Description**

This feature will allow the 4ESS to accept all combinations of SCCP Called/Calling Party Address fields in the SCCP header for AIN and LNP messages received from the SCP, with the exception of the Called Party Address of Global Title (GT). The 4ESS will NOT accept a Called Party Address of Global Title (GT). The 4ESS does not provide Global Title Translation (GTT) functionality. A SCCP Called Party Address of Global Title (GT) will be rejected if received.

A Subsystem Number (SSN) is necessary to determine if the message is an AIN/LNP message. A SCCP Called Party Address not including an SSN will be dropped if received.

All SCCP header formats, except Called Party Address of Global Title (GT), are valid with this feature.

Call Flow

There is no impact as a result of this feature.

Continued on next page

AIN/LNP SCCP Header Validation Reduction – Feature 542, Continued

Provisioning

Recent Change (RC) Forms Impacted

There are no 4E Recent Change Forms impacted by this feature.

Verify Forms/Messages Affected

There are no 4E Verify Forms or Messages affected by this feature.

Continued on next page

AIN/LNP SCCP Header Validation Reduction – Feature 542, Continued

**Billing/
Recording**

There is no impact as a result of this feature.

**Network
Management**

There is no impact as a result of this feature.

**Maintenance/
Troubleshooting**

There is no impact as a result of this feature.

**Transition
Considerations**

This feature operates with the 3B20D and 3B21D computers.

**Input/Output
Pages**

There is no impact as a result of this feature.

**Feature
Implementation**

This feature is a core feature. It is automatically activated by software deployment of the 4E24 R2 Generic.

Feature Dependencies

The following features must have been previously displayed:

- Feature 375 – Advanced Intelligent Network
- Feature 450 – Local Number Portability
- Feature 540 – DSC Service Control Point

Operating System (OS) Impact

There is no impact on OSs as a result of this feature.

Continued on next page

AIN/LNP SCCP Header Validation Reduction – Feature 542, Continued

Acronyms and Abbreviations

The following are acronyms and abbreviations of terms used throughout this document:

| Terms | Definitions |
|--------------|---------------------------------|
| AIN | Advanced Intelligent Network |
| DLN | Direct Link Node |
| GT | Global Title |
| GTT | Global Title Translation |
| I/O | Input/Output |
| LNP | Local Number Portability |
| OS | Operating System |
| SCP | Service Control Point |
| SCCP | Service Control Connection Part |
| SSN | Subsystem Number |
| STP | Signal Transfer Point |
| TCAP | Transaction CAPabilities |

SELF CHECK

Chapter 3

AIN/LNP SCCP Header Validation Reduction - Feature 542

1. List the advantage of this feature.

2. What part of the 3B APS receives the AIN/LNP message from the SCP?

3. When is this feature available?

4. This feature is dependent on what other features?

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4 LEC Government Emergency Telecommunications Service (GETS) IAM Priority Feature 555

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4ESS™-2000 Switch 4E24 Generic Transition Document for LEC

Issue 1.0

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Developed by
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Lucent Product Training 1-888-LT INFO6

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Chapter 4

LEC Government Emergency Telecommunications Service (GETS) IAM Priority - Feature 555

Introduction This feature provides the capability for an office option priority setting for GETS type calls.

In This Chapter This chapter contains the following topics:

| Topic | See Page |
|-----------------------------|----------|
| Introduction | 4-1 |
| In This Chapter | 4-1 |
| Advantages/Benefits | 4-2 |
| Background | 4-2 |
| Feature Description | 4-3 |
| Call Flow | 4-3 |
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| Acronyms and Abbreviations | 4-8 |

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LEC Government Emergency Telecommunications Service (GETS) IAM Priority - Feature 555, Continued

**Advantages/
Benefits**

This feature provides the means to prioritize the LEC telecommunications capabilities for National Security and Emergency Preparedness.

Background

GETS is a service which allows authorized government users to gain access to the Public Switch Telephone Network (PSTN) during national security emergency.

In 1995, GETS was introduced into the LEC networks at the end office level using Advanced Intelligent Network (AIN) 0.1 capabilities. The Dialed Number Trigger (DNT) (the access code of 710) causes an AIN query. The AIN query is sent to the Service Control Point (SCP) for routing instructions. The routing instructions contain the list of inter-exchange carriers for completion of the calls. The Service Switching Point-End Office (SSP-EO) attempts to complete the calls based on the carrier hierarchy. GETS calls will require a high priority setting for call processing. Today, the outgoing IAM for all SS7 calls have been set to a priority "1". Within the Interexchange Carrier (IXC) network, the GETS caller is prompted for an authorization code and destination address. Once the call is authorized, the IXC routes the call to the LEC and the LEC completes the call.

Continued on next page

LEC Government Emergency Telecommunications Service (GETS) IAM Priority - Feature 555, Continued

Feature Description

This feature will allow the 4E access tandem to recognize the Calling Party Category (CPC) value defined for GETS calls and set the outgoing IAM message priority. The CPC parameter is an existing mandatory fixed parameter in SS7 IAM messages already supported by the 4ESS Switch. Based on the CPC value, the outgoing IAM message priority of "1" will be set for GETS calls.

In addition, this feature also provides for an office option to be set for outgoing IAM/Circuit Reservation Message (CRM) priority to "0" for non-GETS calls, and priority "1" for GETS calls. Without this feature, GETS IAM priority would be lost at a 4E tandem.

Call Flow

Within the call flow, the IAM priority setting will be made based on the software translations set for the office.

Continued on next page

LEC Government Emergency Telecommunications Service (GETS) IAM Priority - Feature 555, Continued

Provisioning Recent Change (RC) Form Impacted

RC 809 – Change Feature Bits

FORM 809 CHANGE FEATURE BITS

4E18>

RC:FTR;CHG;OPT(BIT),___:

ORNU _____,

FEATURE ITEM _____, ON OR OFF _____,

REMARKS _____!

EQUIVALENT ODA INPUT FORM - NONE

ASSOCIATED VERIFY MESSAGES

OUTPUT - 8j VER:MISC;OPT(ONOFF)

INPUT - 16az VER:MISC ONOFF

Continued on next page

LEC Government Emergency Telecommunications Service (GETS) IAM Priority - Feature 555, Continued

Provisioning **RC 809 – Change Feature Bits**

This form is used to enable and disable this feature.

- Feature Item

F25 - LEC GETS IAM Priority
- On or Off

Valid Entries: ON – Feature is enabled.
OFF – Feature is disabled. Default is off.

Continued on next page

LEC Government Emergency Telecommunications Service (GETS) IAM Priority - Feature 555, Continued

Provisioning, Verify Forms/Messages Impacted (cont'd)

INPUT: VERIFY 16az

VER:MISC ONOFF!(EOT)

OUTPUT: VERIFY 8j
4E21R2>

VER:MISC;OPT(ONOFF):

ATP, SCSFH, CPESR, I800P1, I800P2, ITRA, LSDS, GETS, SUA,
 , , , , , , , , , ,

CSCRACT, PCPNCP, ASM, AASE, AINON, AINRDFLT,
 , , , , , , ,

FEATURE BITS

--, --, --, --, --, --, --, --, --, --, --, --, --, --, --,
--, --, --, --, --, --, --, --, --, --, --, --, --, --, --,
--, --, --, --, --, --, --, --, --, --, --, --, --, --, --,
--, --, --, --, --, --, --, --, --, --, --, --, --, --, --,
--, --, --, --, --, --, --, --, --, --, --, --, --, --, --,

PROPRIETARY FEATURE BITS

--, --, --, --, --, --, --, --, --, --, --, --, --, --, --,
--, --, --, --, --, --, --, --, --, --, --, --, --, --, --,
--, --, --, --, --, --, --, --, --, --, --, --, --, --, --,
--, --, --, --, --, --, --, --, --, --, --, --, --, --, --,
--, --, --, --, --, --, --, --, --, --, --, --, --, --, --,
--, --, --, --, --, --, --, --, --, --, --, --, --, --, --,

ODA INPUT SOURCE - None.
RECENT CHANGE INPUT SOURCE - FORM # 809

Continued on next page

LEC Government Emergency Telecommunications Service (GETS) IAM Priority - Feature 555, Continued

Billing/Records There is no impact as a result of this feature.

Network Management There is no impact as a result of this feature.

Maintenance/Troubleshooting There is no impact as a result of this feature.

Transition Considerations There is no impact as a result of this feature.

Input/Output Pages There is no impact as a result of this feature.

Feature Implementation This feature is an optional feature. It is implemented via software deployment of the 4E24 R3 Generic.

Feature Dependencies

None

Operating System (OS) Impact

There is no impact on OSs as a result of this feature.

Continued on next page

LEC Government Emergency Telecommunications Service (GETS) IAM Priority - Feature 555, Continued

Acronyms and Abbreviations

The following are acronyms and abbreviations of terms used throughout this document:

| Terms | Definitions |
|--------------|---|
| AIN | Advanced Intelligent Network |
| CPC | Calling Party Category |
| CRM | Circuit Reservation Message |
| DNT | Dialed Number Trigger |
| EO | End Office |
| GETS | Government Emergency Telecommunications Service |
| IAM | Initial Address Message |
| I/O | Input/Output |
| IXC | Interexchange Carrier |
| LEC | Local Exchange Carrier |
| OS | Operating System |
| PSTN | Public Switch Telephone Network |
| SCP | Service Control Point |

SELF CHECK

Chapter 4

**LEC Government Emergency Telecommunications Service (GETS)
IAM Priority - Feature 555**

1. What is GETS service?

2. List the advantage of the LEC GETS IAM Priority.

3. What Recent Change (RC) Form activates this feature?

4. The feature is dependent upon which feature?

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5 Miscellaneous Features

523, 529, 530, 533, 6881

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Chapter 5

Miscellaneous Features 523, 529, 530, 533, 6881

**In This
Chapter**

This chapter contains the following topics:

| Topic | See Page |
|---|-----------------|
| In This Chapter | 5-1 |
| Feature 523 – Recent Change Form Metrics Report | 5-3 |
| Feature 529 – Recent Change TSG Engineered Limit | 5-7 |
| Feature 530 – CCITT7 ISDN User Part (ISUP) Digit Storage | 5-9 |
| Feature 533 – Additional Input to the CRIB | 5-11 |
| Feature 6881 – Service Circuit System (SCS) Cache Change to 128 Milliseconds | 5-13 |

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Recent Change Form Metrics Report - Feature 523

Introduction This feature provides a new verify input command and a new output message to list all of the Recent Change Forms and Messages which have been activated.

**Advantages/
Benefits** This feature will allow maintenance personnel to determine how much time is spent on different Recent Change (RC) activities.

Background The 4ESS has the capability of storing the counters of 255 Recent Change forms/messages.

**Feature
Description** This feature provides the 4ESS a verify input command to request a display of the Recent Change counters and timers. The counters are incremented each time a Recent Change Form or a Recent Change message is activated. A timer is maintained to provide cumulative processing time per Recent Change form/message. The longest activation time per Recent Change form/message is, also maintained.

This feature provides the actual output response displaying the counters and timers.

Call Flow There is no impact as a result of this feature.

Continued on next page

Recent Change Form Metrics Report - Feature 523, Continued

Provisioning

Recent Change (RC) Forms Impacted

There are no 4E Recent Change Forms impacted by this feature.

Verify Forms/Messages Impacted

The following Verify Forms/Messages are affected:

- New input message – VER:VFUNC RCMEASCT (16cm)
- New output message – VER:RCMEASCT (6dm)

INPUT: VERIFY 16cm

ex. 1 VER:VFUNC RCMEASCT!(EOT)

OUTPUT: VERIFY 6dm

VER:RCMEASCT:

ODA INPUT SOURCE - NONE

RECENT CHANGE INPUT SOURCE - NONE

REQUEST VERIFICATION OF THE RC METRIC COUNTERS

Continued on next page

Recent Change Form Metrics Report - Feature 523, Continued

**Billing/
Recording**

There is no impact as a result of this feature.

**Network
Management**

There is no impact as a result of this feature.

**Maintenance/
Troubleshooting**

There is no impact as a result of this feature.

**Transition
Considerations**

This feature operates with the 3B20D and 3B21D computers.

**Input/Output
Pages**

The new Verify input and output messages require Input/Output pages in the I/O manual.

**Feature
Implementation**

This feature is dependent on the installation of the 4E24 R1 Generic.

Feature Dependencies

None

Operating System (OS) Impact

There is no impact on OSs as a result of this feature.

This page is left intentionally blank.

Recent Change TSG Engineered Limit – Feature 529

| | |
|---------------------------------|--|
| Introduction | This feature provides the capability for internally checking the engineered memory for building trunk subgroups in the recent change program. |
| Advantages/ Benefits | This feature eliminates the potential problem where memory limits for TSGs will now be looked at via the RC check. RC can not create more TSGs than engineered memory supports. |
| Background | This feature disallows a new TSG to be added if the maximum number of TSGs that MC5HRB can accommodate has been reached. MC5HRB establishes the maximum number of TSGs that is engineered for an office. |
| Feature Description | This feature eliminates the potential problem where memory limits for TSGs will now be looked at via the RC check. RC can not create more TSGs than engineered memory supports. |
| Call Flow | There is no impact as a result of this feature. |
| Provisioning | There is no recent change or verify impact as a result of this feature. |
| Billing/ Recording | There is no impact as a result of this feature. |
| Network Management | There is no impact as a result of this feature. |

Continued on next page

Recent Change TSG Engineered Limit – Feature 529, Continued

**Maintenance/
Troubleshooting**

There is no impact as a result of this feature.

**Transition
Considerations**

None

**Input/Output
Pages**

There is no impact as a result of this feature.

**Feature
Implementation**

This feature becomes available in the 4E24 R1 time frame.

Feature Dependencies

None

Operating System (OS) Impact

There is no impact on OSs as a result of this feature.

CCITT7 ISDN User Part (ISUP) Digit Storage - Feature 530

| | |
|---------------------------------|--|
| Introduction | This feature provides a real time enhancement by changing the digit storage algorithm in the Initial Address Message (IAM) for the Called Party Number. |
| Advantages/ Benefits | This new algorithm is estimated to save about 200 (1B) cycles per call in real time. |
| Background | ISUP signaling builds the outgoing Called Party Number (CPN) based on the stored digits in the call register, delete digit count and the provided prefix digits. |
| Feature Description | This feature modifies the real time inefficient algorithm to populate the CPN in the outgoing ISUP IAM message. |
| Call Flow | There is no impact as a result of this feature. |
| Provisioning | There is no recent change or verify impact as a result of this feature. |
| Billing/ Recording | There is no impact as a result of this feature. |
| Network Management | There is no impact as a result of this feature. |

Continued on next page

CCITT7 ISDN User Part (ISUP) Digit Storage - Feature 530, Continued

**Maintenance/
Troubleshooting** There is no impact as a result of this feature.

**Transition
Considerations** None

**Input/Output
Pages** There is no impact as result of this feature.

**Feature
Implementation** This feature becomes available in the 4E24 R1 time frame.

Feature Dependencies

None

Operating System (OS) Impact

There is no impact on OSs as a result of this feature.

Additional Input to the CRIB - Feature 533

| | |
|---------------------------------|--|
| Introduction | This feature provides additional input to the CRIBPRIM. This input with 24 bits is needed as an indication to what parameters can be stored in the CRIB. |
| Advantages/ Benefits | This feature is needed because pident CRIBPRIM in the ISUP area has only one spare bit left to indicate what parameters can be stored in CRIB. An additional input with 24 bits is needed. |
| Background | There is no impact as a result of this feature. |
| Feature Description | This feature provides additional input to the CRIBPRIM. This input with 24 bits is needed as an indication to what parameters can be stored in the CRIB. |
| Call Flow | There is no impact as a result of this feature. |
| Provisioning | There is no recent change or verify impact as a result of this feature. |
| Billing/ Recording | There is no impact as a result of this feature. |
| Network Management | There is no impact as a result of this feature. |

Continued on next page

Additional Input to the CRIB - Feature 533, Continued

**Maintenance/
Troubleshooting**

There is no impact as a result of this feature.

**Transition
Considerations**

None

**Input/Output
Pages**

There is no impact as a result of this feature.

**Feature
Implementation**

This feature becomes available in the 4E24 R1 time frame.

Feature Dependencies

None

Operating System (OS) Impact

There is no impact on OSs as a result of this feature.

Service Circuit System (SCS) Cache Change to 128 Milliseconds - Feature 6881

Introduction This feature reduces the SCS cache boundaries.

**Advantages/
Benefits** This feature allows for better sounding short duration announcements.

Background The Service Circuit System frame is used to provide announcements to the customers. Announcements on the SCS System are stored on the SCU disks. The average SCU latency to reading an announcement from "Disk" is approximately 400 milliseconds. Announcements may also be written into RAM (cache). Cache based announcements are backed up on the SCUs disk's. When a cache based announcement is required by the SCU, the announcement is played from Cache/RAM. This reduces the latency of playing an announcement by 100 to 200 milliseconds versus playing the announcements from disk. All cache based announcements are first written to the SCU disk, they are then copied from disk to Cache/RAM.

Currently, SCS cache based announcements are stored in 512 Millisecond increments. With this increment, the overall announcements sound choppy and unprofessional.

Today, digit announcements, (announcements for each digit from zero to nine) are stored in the SCS system. The length of the digit announcements range from 256 to 768 milliseconds. Today, if a cache based announcement is 200 milliseconds in length, it is stored in a 512 millisecond cache. This results in 312 milliseconds of silence at the end of the announcement.

Continued on next page

Service Circuit System (SCS) Cache Change to 128 Milliseconds - Feature 6881, Continued

**Feature
Description**

This feature will allow the SCS system to support cache based announcements in increments of 128 milliseconds. All existing 512 millisecond SCS cache based announcements will be converted to the new 128 millisecond format data structure.

Implementation of the feature will provide for cache based announcements in increments of 128 milliseconds and reduce the amount of silence at the end of short duration announcements.

This feature will not impact SCS announcements that are stored on disk. These announcements will continue to be stored in 512 and 1024 millisecond increments.

Call Flow

There is no impact as a result of this feature.

Provisioning

There is no recent change or verify impact as a result of this feature.

**Billing/
Recording**

There is no impact as a result of this feature.

Continued on next page

Service Circuit System (SCS) Cache Change to 128 Milliseconds - Feature 6881, Continued

Network Management

There is no impact as a result of this feature.

Maintenance/Troubleshooting

There is no impact as a result of this feature.

Transition Considerations

Centralized Announcement Update Control System (CAUCS) and DSAS will need to support and track announcement lengths of multiples of 128 milliseconds for cache based announcements.

This feature will impact the Announcement Audit Feature 5379. Cache based announcement “compare audits”, will fail during the deployment of this feature, until this feature has been deployed to all SCS locations.

This feature will limit the overall length of any one single cache based announcement to 32-64 seconds.

Input/Output Pages

There is no impact as a result of this feature.

Feature Implementation

This feature becomes available in the 4E24 R2 time frame.

Feature Dependencies

None

Operating System (OS) Impact

There is no impact on OSs as a result of this feature.

Acronyms and Abbreviations

Acronyms and Abbreviations

The following are acronyms and abbreviations of terms used throughout this document:

| Terms | Definitions |
|--------------|--|
| CAUCS | Centralized Announcement Update Control System |
| CPN | Called Party Number |
| IAM | Initial Address Message |
| I/O | Input/Output |
| OS | Operating System |
| RC | Recent Change |
| TSG | Trunk Subgroup |
| SCS | Service Circuit System |

SELF CHECK

Chapter 5

Miscellaneous Features 523, 529, 530, 533, 6881

There is no Self-Check available for this chapter.

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6 Tandem Flexible ANI II/OLI Digit Restriction Feature 539

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Chapter 6

Tandem Flexible ANI II/OLI Digit Restriction - Feature 539

Introduction This feature provides the capability to restrict or allow forwarding of Flexible ANI II/OLI values subsequent to SSP/800 or AIN query performed at the 4E.

In This Chapter This chapter contains the following topics:

| Topic | See Page |
|-----------------------------|----------|
| Introduction | 6-1 |
| In This Chapter | 6-1 |
| Advantages/Benefits | 6-2 |
| Background | 6-2 |
| Feature Description | 6-3 |
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| Provisioning | 6-4 |
| Billing/Recording | 6-22 |
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| Transition Considerations | 6-22 |
| Input/Output Pages | 6-22 |
| Feature Implementation | 6-22 |
| Acronyms and Abbreviations | 6-23 |

Continued on next page

Tandem Flexible ANI II/OLI Digit Restriction - Feature 539, Continued

**Advantages/
Benefits**

This feature supports the mandatory nationwide deployment of identifying calls from certain coin lines for carriers requesting this service. This feature meets the requirements that are part of the FCC Docket for Payphone Compensation (FCC 96-128).

Background

The term flexible ANI II/OLI digit refers to the Automatic Number Identification and the Information (II) or Originating Line Information (OLI) values which were not originally detected to be forwarded from the LEC to IC. The II digits are forwarded for in-band signaling calls. The OLI digits are forwarded for out-of-band signaling calls. The end offices have the capability of allowing or denying the forwarding of the ANI and the digits on a per call control basis.

Continued on next page

Tandem Flexible ANI II/OLI Digit Restriction - Feature 539, Continued

**Feature
Description**

This feature provides the capability of restricting or allowing values to be forwarded subsequent to SSP/800 or AIN queries performed at the 4E tandem. The 4ESS will provide a Flexible ANI II/OLI subscription indication (yes or no) on a per carrier basis. After performing a SSP/800 or AIN query for which the SCP has returned a carrier id, the switch will check the carrier's Flexible ANI II/OLI subscription.

- If yes, the ANI II/OLI value will be forwarded as received from the end office or as modified by the SCP for AIN.
 - If no, the II digit value received from the end office or SCP is checked to determine whether that II digit value or one of three default II values is forwarded to the IC.
-

Call Flow

Currently, calls to 800 numbers made at end offices are not able to perform SSP/800 or AIN toll-free queries and are forwarded to an SSP/800 capable tandem using carrier id 0110, which is a special user carrier id value. The Flexible ANI II/OLI assignment is set at the end office to allow Flexible ANI II/OLI for caller id 0110, in order for all II/OLI digit values to be forwarded to 4ESS switch tandem. Current tandem processing performs the SSP/800 or AIN query and routes the call to the carrier specified in the database response, forwarding the received II digits from the end office (for AIN Toll-free, the SCP may modify the II/OLI value). There is currently no end office or SCP, which creates potential problems, if the carrier cannot handle them.

Continued on next page

Tandem Flexible ANI II/OLI Digit Restriction - Feature 539, Continued

Provisioning,
(cont'd)

Recent Change (RC) Forms Impacted

- RC811
- RC349/RC350
- RC809
- RC300-RC304

Continued on next page

Tandem Flexible ANI II/OLI Digit Restriction - Feature 539, Continued

Provisioning,
(cont'd)

Recent Change (RC) Forms Impacted

This feature requires a purchase bit and is activated by the processing of the following RC Forms in sequential order:

- RC811 – Change Feature Field
(This form is used to provision the II/OLI default values.)
- RC349 – Change EA Forwarding Default II Digit, and

RC350 – Change EA Forwarding Default OLI Digits
(These forms are used to provision II/OLI default values within the OLI structure.)
- RC809 – Change Feature Bits
(This form is used to provision the enabling/disabling of this feature.)
- RC300 through RC304 – Code Group Forms
(These forms are used to restrict or allow II/OLI on a per carrier basis.)

Continued on next page

Tandem Flexible ANI II/OLI Digit Restriction - Feature 539, Continued

Provisioning,
(cont'd)

Recent Change (RC) Form Impacted

FORM 811 CHANGE FEATURE FIELD

RC:FTR;CHG;OPT(FLD),___:

ORNU _____,

| FEATURE INFO | INDX | DATA |
|--------------|------|-------|
| _____ | ___ | _____ |
| _____ | ___ | _____ |
| _____ | ___ | _____ |
| _____ | ___ | _____ |
| _____ | ___ | _____ |
| _____ | ___ | _____ |
| _____ | ___ | _____ |
| _____ | ___ | _____ |
| _____ | ___ | _____ |
| _____ | ___ | _____ |
| _____ | ___ | _____ |

REMARKS _____!

ASSOCIATED VERIFY MESSAGES - NONE

Continued on next page

Tandem Flexible ANI II/OLI Digit Restriction - Feature 539, Continued

Provisioning,
(cont'd)

RC 811 – Change Feature Field

This form is being expanded to include additional entries for this feature.

- Feature Info

IID – II Digits

OLID – OLI Digits

- Index

IID – Valid Entries:

1 to 6

OLID – Valid Entries:

1 to 6

- Data

IID – Valid Entries:

00 to 99

OLID – Valid Entries:

0 to 255

Continued on next page

Tandem Flexible ANI II/OLI Digit Restriction - Feature 539, Continued

Provisioning,
(cont'd)

Recent Change (RC) Forms Impacted

FORM 349 CHANGE EQUAL ACCESS FORWARDING DEFAULT II DIGITS
4E24R1

RC:EA;CHG;OPT(EADFI), ___:

ORNU _____,

| II | IDEF | II | IDEF |
|------|------|------|------|
| ___' | ___' | ___' | ___' |
| ___' | ___' | ___' | ___' |
| ___' | ___' | ___' | ___' |
| ___' | ___' | ___' | ___' |
| ___' | ___' | ___' | ___' |
| ___' | ___' | ___' | ___' |
| ___' | ___' | ___' | ___' |
| ___' | ___' | ___' | ___' |
| ___' | ___' | ___' | ___' |
| ___' | ___' | ___' | ___' |

Continued on next page

Tandem Flexible ANI II/OLI Digit Restriction - Feature 539, Continued

Provisioning,
(cont'd)

RC 349 – Change Equal Access Forwarding Default II Digits

This new RC form is used to specify the default II digits that are forwarded to an IC if Flexible ANI II/OLI restrictions apply. The II defaults can only be provisioned if this feature has been purchased. On initial turnup of this feature, all valid entries (00 to 99) of the II digits must be provisioned on this form.

- II – Information (II) Digits

Valid Entries: Blank, 00 to 99

- IDEF – II Digits Default

Valid Entries: Blank, PSS-Pass as received, ID1 to ID 6

NOTE: This II Digit Default (ID1 to ID6) can only be provisioned if the corresponding default (IID) has been provisioned. These specific “IID” default values are provisioned via RC 811 and verified by verify input message 13ba.

The “PSS” (pass as received) entry is used instead of the default ID1 through ID6 entries to indicate when the II digits should be passed as received. Also, if II digits are specified in the “II” field, the accompanying “IDEF” field must be a non-blank entry.

Blank is only allowed if the accompanying “II” field is blank.

Continued on next page

Tandem Flexible ANI II/OLI Digit Restriction - Feature 539, Continued

Provisioning, Verify Forms/Messages Impacted
(cont'd)

INPUT: VERIFY 13ba
 VER:EA:OPT DFI!(EOT)

OUTPUT: VERIFY 3ba
 VER:EA;OPT(DFI)

 RECENT CHANGE INPUT SOURCE - FORM #349 & FORM #811

Continued on next page

Tandem Flexible ANI II/OLI Digit Restriction - Feature 539, Continued

Provisioning,
(cont.d)

Verify Forms/Messages Impacted

The opposite page shows the verify message for RC349.

Continued on next page

Tandem Flexible ANI II/OLI Digit Restriction - Feature 539, Continued

Provisioning,
(cont'd)

Recent Change (RC) Forms Impacted

RC 350 – Change Equal Access Forwarding Default OLI Values

FORM 350 CHANGE EQUAL ACCESS FORWARDING DEFAULT OLI VALUES
4E24R1

RC:EA;CHG;OPT(EADFO), ___:

ORNU _____,

| OLI | ODEF | OLI | ODEF |
|-------|-------|-------|-------|
| ____' | ____' | ____' | ____' |
| ____' | ____' | ____' | ____' |
| ____' | ____' | ____' | ____' |
| ____' | ____' | ____' | ____' |
| ____' | ____' | ____' | ____' |
| ____' | ____' | ____' | ____' |
| ____' | ____' | ____' | ____' |
| ____' | ____' | ____' | ____' |
| ____' | ____' | ____' | ____' |
| ____' | ____' | ____' | ____' |

Continued on next page

Tandem Flexible ANI II/OLI Digit Restriction - Feature 539, Continued

Provisioning,
(cont'd)

RC 350 – Change Equal Access Forwarding Default OLI Values

This new RC form is used to specify the default OLI values that are to be forwarded to an IC if Flexible ANI II/OLI restrictions apply. The OLI defaults can only be provisioned if this feature is purchased. On initial turnup of this feature, all valid entries (0 to 255) of OLI digits must be provisioned on this form.

- OLI – Originating Line Identifier (OLI)

Valid Entries: Blank, 0 to 255

- ODEF – OLI Default

Valid Entries: Blank, PSS–Pass as received, OD1 to OD6

NOTE: This OLI Default (OD1 to OD6) can only be provisioned if the corresponding default (OLID) has been provisioned. These specific “OLID” default values are provisioned via RC 811 and verified by verify input messages 13bb.

The “PSS” (pass as received) entry is used instead of the default OD1 through OD6 entries to indicate when the OLI parameter should be passed or received. Also, if an OLI value is specified in the “OLI” field the accompanying “ODEF” field must be a non-blank entry.

Blank is only allowed if the accompanying “OLI” field is blank.

Continued on next page

Tandem Flexible ANI II/OLI Digit Restriction - Feature 539, Continued

Provisioning,
(cont'd)

Verify Forms/Messages Impacted

The opposite page shows the verify message for RC350.

Continued on next page

Tandem Flexible ANI II/OLI Digit Restriction - Feature 539, Continued

Provisioning **Recent Change (RC) Forms Impacted**

FORM 809 CHANGE FEATURE BITS
4E18>

RC:FTR;CHG;OPT(BIT),__:

ORNU _____,

FEATURE ITEM _____, ON OR OFF __,

REMARKS _____!

EQUIVALENT ODA INPUT FORM - NONE

ASSOCIATED VERIFY MESSAGES

OUTPUT - 8j VER:MISC;OPT(ONOFF)

INPUT - 16az VER:MISC ONOFF

Continued on next page

Tandem Flexible ANI II/OLI Digit Restriction - Feature 539, Continued

Provisioning,
(cont'd)

RC 809 – Change Feature Bits

This form is used to enable/disable this feature. This feature requires activation of a purchase bit.

- Feature Item

F23 – Tandem Flexible ANI II/OLI Digit Restriction

- On or Off

Valid Entries: On – Feature is enabled.

Off – Feature is disabled. Default is off.

Continued on next page

Tandem Flexible ANI II/OLI Digit Restriction - Feature 539, Continued

Provisioning,
(cont'd)

Verify Forms/Messages Impacted

The opposite page shows the verify message for RC809.

Continued on next page

Tandem Flexible ANI II/OLI Digit Restriction - Feature 539, Continued

Provisioning, (cont'd)

Recent Change (RC) Forms Impacted

RC 300 - Change 3 Digit Translation

FORM 300 CHANGE 3 DIGIT TRANSLATION
4E23R1>

RC:CODEGRP;CHG;OPT(DIG3),__: DOM ____, NTD 3, AC __,

ORNU _____,

CALLTYP CALLDATA AD1 AD2 SC CHI DESEP DNST

OLD ____, _____, ____, _____, ____, _____, _____,

AD3 _____, ADC_____, _____, _____, _____,

NEW ____, _____, ____, _____, ____, _____, _____,

AD3 _____, ADC_____, _____, _____, _____,

ABC ABC ABC ABC ABC ABC ABC ABC

_____, _____, _____, _____, _____, _____,
_____, _____, _____, _____, _____, _____,
_____, _____, _____, _____, _____, _____,
_____, _____, _____, _____, _____, _____,

REMARKS _____!

EQUIVALENT ODA INPUT FORM - ESS 403D

ASSOCIATED VERIFY MESSAGES

INPUT-13b-VER:CODEGRP

OUTPUT-3a-VER:CODEGRP;OPT(DIG3)

Continued on next page

Tandem Flexible ANI II/OLI Digit Restriction - Feature 539, Continued

Provisioning,
(cont'd)

RC 300 – Change 3 Digit Translation

The RC 300 – RC 304 forms are used to restrict or allow II/OLI on a per carrier basis.

Key Field

- AD2 – Additional Data 2

Valid Entries: N – restrict
Y – allow

NOTE: These entries for AD2 are valid if the CALLTYPE = SSP and CALldata is either NDB or TNSND.

Continued on next page

Tandem Flexible ANI II/OLI Digit Restriction - Feature 539, Continued

**Billing/
Recording**

There is no impact as a result of this feature.

**Network
Management**

There is no impact as a result of this feature.

**Maintenance/
Troubleshooting**

There is no impact as a result of this feature.

**Transition
Considerations**

There is no impact as a result of this feature.

**Input/Output
Pages**

There is no impact as a result of this feature.

**Feature
Implementation**

This is an optional feature that requires a purchase bit. It is implemented as a software deployment of the 4E24 R1 Generic.

Feature Dependencies

Feature 375 – Advanced Intelligent Network, and Feature 488 – AT Routing Enhancements must have been previously deployed.

Operating System (OS) Impact

There is no impact on OSs as a result of this feature.

Continued on next page

Tandem Flexible ANI II/OLI Digit Restriction - Feature 539, Continued

Acronyms and Abbreviations

The following are acronyms and abbreviations of terms used throughout this document:

| Terms | Definitions |
|--------------|--|
| AIN | Advanced Intelligent Network |
| ANI | Automatic Number Identification |
| II | Information Digits |
| I/O | Input/Output |
| NDB | Number Services Routing Data Block Index |
| OLI | Originating Line Information |
| OS | Operating System |
| SSP | Service Switching Point |
| TNSND | Access Tandem Transit Network Selection Digits |

This page left intentionally blank.

SELF CHECK

Chapter 6

**Tandem Flexible ANI II/OLI Digit Restriction -
Feature 539**

1. List the advantage of this feature.

2. Which RC Form is used to provision the II/OLI default values?

3. When is this feature available?

4. The feature is dependent upon which other feature?

5. List the recent change sequential order for activation of this feature.

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7 Enhanced Announcement System Manager (ASM) Plus Feature 541

4ESS™-2000 Switch 4E24 Generic
Transition Document for LEC

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Issue 1.0
December 1998

Lucent Technologies - Proprietary
See notice on the following page

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Chapter 7

Enhanced Announcement System Manager (ASM) Plus - Feature 541

Introduction This feature allows the Enhanced ASM-Plus system, used for Service Circuit System (SCS) administration, to be updated for Year 2000 compliance along with other enhancements.

In This Chapter This chapter contains the following topics:

| Topic | See Page |
|-----------------------------|-----------------|
| Introduction | 7-1 |
| In This Chapter | 7-1 |
| Advantages/Benefits | 7-2 |
| Background | 7-2 |
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| Billing/Recording | 7-5 |
| Network Management | 7-5 |
| Maintenance Troubleshooting | 7-5 |
| Transition Considerations | 7-5 |
| Input/Output Pages | 7-5 |
| Feature Implementation | 7-5 |
| Acronyms and Abbreviations | 7-6 |

Continued on next page

Enhanced Announcement System Manager (ASM) Plus - Feature 541, Continued

Advantages/ Benefits

This feature will allow Enhanced ASM-Plus to:

- meet Year 2000 compliance requirements
 - increase processing speed
 - improve its administrative features.
-

Background

ASM-Plus administers announcements on the Service Circuit System (SCS) when the SCS is used to provide announcement capabilities for LEC Advanced Intelligent Network (AIN), Local Number Portability (LNP), and Final Handling features.

The components of ASM-Plus are:

- PC-based, Santa Cruz Operation (SCO) Unixware^{*} Operating System, ASM-Plus Administrator
- PC-based ASM-Plus Controller at each 4ESS containing an SCS
- analog phone line connecting the ASM-Plus Controllers and the ASM-Plus Administrator
- high speed LAN interface connecting the ASM-Plus Controller to each Service Circuit Unit (SCU) in the SCS.

The ASM-Plus Administrator and the ASM-Plus Controllers communicate with each other via modems over an analog phone line. One ASM-Plus Administrator can support multiple ASM-Plus Controllers connected to SCSs across multiple 4ESS offices. The ASM-Plus Controller is connected to each SCU of the SCS via a high speed LAN interface.

The ASM-Plus Administrator sends announcement updates to every ASM-Plus Controller connected to a SCU and/or SCUs . There is only one ASM-Plus Controller per office. The ASM-Plus Controller distributes the announcement updates in that office to the designated SCU.

Continued on next page

^{*} Unixware is a registered trademark of Novell, Inc.

Enhanced Announcement System Manager (ASM) Plus - Feature 541, Continued

**Feature
Description**

This feature provides the Enhanced ASM-Plus system with the hardware and software enhancements needed for Year 2000 compliance. This feature also increases the speed and improves administration by Enhanced ASM-Plus for the SCS announcements.

This feature provides the following:

- Existing 486 processor boards with 32M of memory are replaced with Pentium processor boards with 64M of memory in the Enhanced ASM-Plus Administrators and Controllers.
- Enhanced ASM-Plus software is Year 2000 compliant.
- Current 1 second cache boundaries used in announcement recording is changed to one eighth of a second (125ms) boundaries. This corresponds with the 4ESS Feature 6881, contained in the 4E24 R2 generic.
- Current Adaptive Differential Pulse Code Modulation (ADPCM) encoding algorithm provided by the ASM-Plus Administrator is replaced with an updated version.
- Current character-based user interface provided by the ASM-Plus Administrator is changed to a graphical user interface.
- Current mode of updating one SCU (at an SCS) at a time is changed to update the entire 4ESS site at once.

Call Flow

There is no impact as a result of this feature.

Continued on next page

Enhanced Announcement System Manager (ASM) Plus - Feature 541, Continued

Provisioning **Recent Change Forms Impacted**

There are no 4E Recent Change Forms impacted by this feature.

Verify Forms/Messages Affected

There are no Verify Forms/Messages impacted by this feature.

Continued on next page

Enhanced Announcement System Manager (ASM) Plus - Feature 541, Continued

**Billing/
Recording**

There is no impact as a result of this feature.

**Network
Management**

There is no impact as a result of this feature.

**Maintenance/
Troubleshooting**

There is no impact as a result of this feature.

**Transition
Considerations**

All ASM-Plus Administrators and ASM-Plus Controllers will each be updated with a Single Board Computer (SBC). The SBC will contain all hardware and software updates required for this feature.

**Input/Output
Pages**

There is no impact as a result of this feature.

**Feature
Implementation**

This feature is an optional feature. This feature is NOT generic or release specific. This feature only applies to customers with SCS/ASM-Plus.

User's Guide

An update to the *Announcement System Manager-Plus User's Guide*, 201-519-012, Issue 3, is available January of 1999, and incorporates all of the enhancements.

Feature Dependencies

This feature depends on:

- Feature 386 – Announcement System Manager-Plus
- Feature 379 – Advanced Intelligent Network Service Circuit System Announcement Capability
- Feature 109I – Service Circuit System Platform

Operating System (OS) Impact

There is no impact on OSs as a result of this feature.

Continued on next page

Enhanced Announcement System Manager (ASM) Plus - Feature 541, Continued

Acronyms and Abbreviations

The following are acronyms and abbreviations of terms used throughout this document:

| Terms | Definitions |
|--------------|---|
| ADPCM | Adaptive Differential Pulse Code Modulation |
| AIN | Advanced Intelligent Network |
| ASM | Announcement System Manager |
| I/O | Input/Output |
| LNP | Local Number Portability |
| PC | Personal Computer |
| SBC | Single Board Computer |
| SCO | Santa Cruz Operation |
| OS | Operating System |
| SCS | Service Circuit System |
| SCU | Service Circuit Unit |

SELF CHECK

Chapter 7

Enhanced Announcement System Manager (ASM) Plus - Feature 541

1. List the advantages of this feature.

2. This feature will bring ASM-Plus into what compliance?

3. What interface will this feature provide for the ASM-Plus Administrator?

4. What cache boundaries will this feature be using for announcements?

5. When is this feature available?

6. This feature is dependent on what other features?

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8 CNAR Trunk Subgroup Billing Number Option Feature 547

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Transition Document for LEC

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Chapter 8

CNAR Trunk Subgroup Billing Number Option - Feature 547

Introduction This feature allows the 4ESS-2000 Switch to control what information is recorded in the Originating Number Plan Area (NPA) and Originating Number fields of the Connecting Network Access Record (CNAR).

In This Chapter This chapter contains the following topics:

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|-----------------------------|-----------------|
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| Billing/Recording | 8-7 |
| Network Management | 8-7 |
| Maintenance Troubleshooting | 8-7 |
| Transition Considerations | 8-7 |
| Input/Output Pages | 8-7 |
| Feature Implementation | 8-8 |
| Acronyms and Abbreviations | 8-9 |

Continued on next page

CNAR Trunk Subgroup Billing Number Option - Feature 547, Continued

Advantages/ Benefits

This feature allows the 4ESS to treat Connecting Network Access (CNA) records, per the customer's request, similar to the way 4ESS treats Cellular AMA records in populating the Originating NPA and Originating Number fields.

Background

With Local Number Portability (LNP), a Bellcore AMA Format (BAF) module containing the Location Routing Number (LRN) is attached to the AMA records generated by the switch and to the Terminating Access AMA records for calls to ported subscribers received by the switch. The BAF module is also attached to the IXC Originating Access AMA records to identify the originating wire center for calls made to ported subscribers. Feature 537 provides the option of attaching a BAF module to all terminating AMA records generated by the switch, when the LRN of the originating end-office is known at the 4ESS switch.

The Connecting Network Access Record (CNAR) provides AMA recording for calls crossing network boundaries between two local service providers. It is produced at the option of the Service Provider. CNAR is available for all calls received from the connecting network or only for those calls resulting in an LNP query. Current rules for populating the Originating NPA and Number fields for CNAR always use ANI if it is available.

Continued on next page

CNAR Trunk Subgroup Billing Number Option - Feature 547, Continued

**Feature
Description**

The field allows the 4ESS to always use the Billing Number (BN) from the Trunk Subgroup RC100 series forms, if it is available, versus the billing number of the originating caller Automatic Number Identification (ANI). This feature will facilitate more accurate billing and cost recovery, especially with Local Number Portability (LNP), for calls crossing network boundaries between two local service providers.

This feature will allow the 4ESS, via the total office CNAR option, to control what information is recorded in the Originating NPA and the Originating Number fields of the CNA record.

Call Flow

There is no impact as a result of this feature.

Continued on next page

CNAR Trunk Subgroup Billing Number Option - Feature 547, Continued

Provisioning **Recent Change (RC) Forms Impacted**

FORM 809 CHANGE FEATURE BITS
4E18>

RC:FTR;CHG;OPT(BIT),___:

ORNU _____,

FEATURE ITEM _____, ON OR OFF ____,

REMARKS _____!

EQUIVALENT ODA INPUT FORM - NONE

ASSOCIATED VERIFY MESSAGES

OUTPUT - 8j VER:MISC;OPT(ONOFF)

INPUT - 16az VER:MISC ONOFF

Continued on next page

CNAR Trunk Subgroup Billing Number Option - Feature 547, Continued

Provisioning
(cont'd)

RC809 – Change Feature Bits

This form is used to enable and disable this feature. A purchase indicator does not control this feature.

- Feature Item

F24 – CNAR Trunk Subgroup
Billing Number Option

- ON or OFF

Valid Entries: ON – Feature is enabled

OFF – Feature is disabled. Default is OFF.

Continued on next page

CNAR Trunk Subgroup Billing Number Option - Feature 547, Continued

Provisioning, Verify Forms/Messages Affected (cont'd)

INPUT: VERIFY 16az

VER:MISC ONOFF!(EOT)

OUTPUT: VERIFY 8j
4E21R2>

VER:MISC;OPT(ONOFF):

ATP, SCSFH, CPESR, I800P1, I800P2, ITRA, LSDS, GETS, SUA,

, , , , , , , , , ,

CSCRACT, PCPNCP, ASM, AASE, AINON, AINRDFLT,

, , , , , , ,

FEATURE BITS

--, --, --, --, --, --, --, --, --, --, --, --, --, --, --,
--, --, --, --, --, --, --, --, --, --, --, --, --, --, --,
--, --, --, --, --, --, --, --, --, --, --, --, --, --, --,
--, --, --, --, --, --, --, --, --, --, --, --, --, --, --,
--, --, --, --, --, --, --, --, --, --, --, --, --, --, --,

PROPRIETARY FEATURE BITS

--, --, --, --, --, --, --, --, --, --, --, --, --, --, --,
--, --, --, --, --, --, --, --, --, --, --, --, --, --, --,
--, --, --, --, --, --, --, --, --, --, --, --, --, --, --,
--, --, --, --, --, --, --, --, --, --, --, --, --, --, --,
--, --, --, --, --, --, --, --, --, --, --, --, --, --, --,
--, --, --, --, --, --, --, --, --, --, --, --, --, --, --,

ODA INPUT SOURCE - None.
RECENT CHANGE INPUT SOURCE - FORM # 809

Continued on next page

CNAR Trunk Subgroup Billing Number Option - Feature 547, Continued

**Billing/
Recording**

This feature allows the 4ESS to control what billing information is recorded in the Originating NPA and Originating Number fields of the CNA record.

With the CNAR option turned “ON”, the Originating NPA and Originating Number will contain:

1. Billing number assigned to the incoming TSG.
2. ANI if received and the TSG billing number is not available.
3. Zero fill if neither the TSG billing number nor ANI is available.

With the CNAR option turned “OFF”, the existing population rules apply. The Originating NPA and Originating Number will contain:

1. ANI if received.
 2. Billing number assigned to the incoming TSG if ANI is not available.
 3. Zero fill if neither ANI nor the TSG billing number is available.
-

**Network
Management**

There is no impact as a result of this feature.

**Maintenance/
Troubleshooting**

There is no impact as a result of this feature.

**Transition
Considerations**

This feature operates with the 3B20D and 3B21D Attached Processor Systems.

**Input/Output
Pages**

There is no impact as a result of this feature.

Continued on next page

CNAR Trunk Subgroup Billing Number Option - Feature 547, Continued

Feature Implementation This feature is an optional feature. It is implemented via software deployment of the 4E24 R2 Generic.

Feature Dependencies

Feature 450 – Local Number Portability must have been previously deployed.

Operating System (OS) Impact

There is no impact on OSs as a result of this feature.

Continued on next page

CNAR Trunk Subgroup Billing Number Option - Feature 547, Continued

Acronyms and Abbreviations

The following are acronyms and abbreviations of terms used throughout this document:

| Terms | Definitions |
|--------------|----------------------------------|
| ANI | Automatic Number Identification |
| BN | Billing Number |
| BAF | Bellcore AMA Format |
| CNA | Connecting Network Access |
| CNAR | Connecting Network Access Record |
| I/O | Input/Output |
| LNP | Local Number Portability |
| LRN | Location Routing Number |
| NPA | Numbering Plan Area |
| OS | Operating System |
| TSG | Trunk Subgroup |

This page is intentionally left blank.

SELF CHECK

Chapter 8

CNAR Trunk Subgroup Billing Number Option - Feature 547

1. List the advantages of this feature.

2. What is recorded in the Originating NPA and Originating Number fields of the CNA record if the CNAR Trunk Subgroup Billing Number Option is ON?

3. What is recorded in the Originating NPA and Originating Number fields of the CNA record if the CNAR Trunk Subgroup Billing Number Option is OFF?

4. What Recent Change form is used to turn on the CNAR Trunk Subgroup Billing Number Option?

5. What feature item is used to turn ON/OFF the CNAR Trunk Subgroup Billing Number Option?

SELF CHECK

CNAR Trunk Subgroup Billing Number Option - Feature 547, continued

6. What is the default value of the feature item for this feature?

7. This feature is dependent on what other feature?



9 Advanced Intelligent Network (AIN) 800/Toll-Free Capability Feature 443

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Chapter 9

Advanced Intelligent Network (AIN) 800/Toll-Free Capability - Feature 443

Introduction This feature allows the 4ESS™-2000 Switch to provide toll-free services for AIN calls. This feature became available with the 4E21 R3 generic.

In This Chapter This chapter contains the following topics:

| Topic | See Page |
|-----------------------------|----------|
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| Billing/Recording | 9-9 |
| Network Management | 9-9 |
| Maintenance Troubleshooting | 9-11 |
| Transition Considerations | 9-11 |
| Input/Output Pages | 9-11 |
| Feature Implementation | 9-11 |
| Acronyms and Abbreviations | 9-12 |

Continued on next page

Advanced Intelligent Network (AIN) 800/Toll-Free Capability - Feature 443, Continued

Advantages/ Benefits

This feature will allow for 800 toll-free service to be processed consistent with all SSP/800 calls.

Background

AIN provides a general platform of service capabilities, service logic programs, and data that can be combined in many ways to provide advanced call services. The service logic and data can be located at a remote node or nodes, rather than in each individual switching system node. The AIN capabilities allow the 4E Service Switching Point (SSP) to recognize calls that require advanced call treatment and to obtain instructions for processing the calls from the Service Control Point (SCP), a centralized database, instead of from logic contained in the switch.

In the LEC AIN network, the SSP knows which calls require AIN services based on characteristics of the call, such as the Carrier Identification Code and Originating Line Information value. The process of identifying calls that require AIN processing is known as triggering, since a particular characteristic of the call triggers the switch into providing AIN treatment.

Once a trigger occurs, the SSP temporarily suspends call processing and sends a query message to the SCP, requesting instructions. The SCP determines which service is being requested, based on information contained in the query. The SSP uses the information received from the SCP to complete the call.

Toll-free calls within the LEC networks are handled by the 800 service specific SCPs databases, and 800 service specific SSP software in switching systems. The 800 service specific SSP capabilities are known interchangeably as SSP/800. The SSP/800 capability was introduced in 4E12 and was enhanced in 4E14 to provide Signaling System 7 (SS7) Network Interconnect feature.

Feature 432, LEC Toll-Free Treatment for NPA 888, was introduced in 4E21, Release 1, and provided enhancements to the SSP/800 capabilities to allow codes other than 800.

Continued on next page

Advanced Intelligent Network (AIN) 800/Toll-Free Capability - Feature 443, Continued

Feature Description

This feature provides AIN-based toll-free service in a manner consistent with the existing SSP/800 calls.

All toll-free Called Number Triggers (CNTs) are designated in software by use of the recent change program.

The AIN CNT marked as “toll-free” must be assigned to the Service Access Codes (SACs) defined for toll-free calling, or to selected office codes within a toll-free SAC (such as SAC-NXX). The AIN triggering mechanisms will be used to detect toll-free CNTs.

If an out-of-band signaling toll-free CNT is detected, the 4ESS-SSP switch formulates an “Info Analyzed Query” and launches it over the LEC Signaling System Network (SSN). This query is routed to the AIN toll-free service SCP by way of Global Title Translation (GTT) at a Signal Transfer Point (STP). The toll-free SCPs service logic determines how the call should be routed, and replies to the 4ESS SSP switch with routing instructions.

The 4ESS SSP switch completes the call either within the LEC network to a POTS number provided by the SCP, or it completes the call via the IC provided by the SCP via appropriate Number Services Routing (NSR) domain translations.

Call Flow

There is no impact as a result of this feature.

Continued on next page

Advanced Intelligent Network (AIN) 800/Toll-Free Capability - Feature 443, Continued

Provisioning **Recent Change (RC) Form Impacted**

FORM 626 TYPE OF SERVICE TO DIALED CODE MAPPING
4E21R3>

RC:TOS;CHG;___:

ORNU _____,

TOS __, TT __, SSN __, OLD CODE __, NEW CODE __, AIN TFREE __,

REMARKS _____!

Continued on next page

Advanced Intelligent Network (AIN) 800/Toll-Free Capability - Feature 443, Continued

Provisioning RC 626 – Type of Service To Dialed Code

The RC 626 form is used to define the mapping between the Type of Service index values to the customer dialed number sequence of Number Services calls.

Key Fields

- AIN TFREE – Advanced Intelligent Network (AIN) 800/toll free indicator.

Valid Entries: Blank, Y – Yes, N - No

NOTE: Blank defaults to N and blank must be entered if this feature has not been purchased.

- CODE

Valid Entries: 000 to 999

- SSN – Subsystem Number

Valid Entries: 232 to 255

NOTE: For AIN, SSN field on this form will be ignored (just enter any SSN value to get by the form check). AIN SSN is assigned one per office with RC 810 form.

- TOS – Type of Service

Valid Entries: 0 to 31

- TT - Translation Type

Valid Entries: 0 to 255

Continued on next page

Advanced Intelligent Network (AIN) 800/Toll-Free Capability - Feature 443, Continued

Provisioning **Verify Form Messages Impacted**

INPUT: VERIFY 16v

ex. 1 VER:TOS 5!(EOT)

ex. 2 VER:TOS 1-15!(EOT)

ex. 3 VER:TOS (6,12)!(EOT)

ex. 4 VER:TOS (15,21,25-27)!(EOT)

OUTPUT: VERIFY 6ac

VER:MISC,OPT(TOS):

ODA INPUT SOURCE - ESS 406R

RECENT CHANGE INPUT SOURCE - FORM # 626

Continued on next page

Advanced Intelligent Network (AIN) 800/Toll-Free Capability - Feature 443, Continued

Billing/ Recording

This feature impacts both the 1B/3B processors for the AMA source code. The AMA format process will be modified to include the pegging of AIN Termination Notification requests that have AIN based Toll-Free service.

Network Management

NETMINDER Data Block (DB) and NETMINDER DB 4 will be modified for this feature.

The following new counts will be pegged:

- Total AIN Toll-Free Call Attempts
 - This count measures the number of times calls encountered a CNT marked within the 5-minute interval.
- Total AIN Toll-Free Calls Blocked by SCP Overload Controls
 - This count measures the number of times calls encountering a toll-free CNT have the query blocked due to an SCP overload Automatic Call Gapping (ACG) control in the 5-minute interval.
- Total Toll-Free calls Blocked by Service Management System Initiated Controls
 - This count measures the number of times calls encountering a toll-free CNT have the query blocked due to an SMS initiated ACG control in the 5-minute interval.

The following new counts, which apply to all AIN calls are provided on a 5-minutes basis to (and are pegged by) a Network Management Operations System (such as NETMINDER):

- Total SCP Overload List Overflow
 - This count measures the number of times that a request to install an SCP overload ACG control on a CNT cannot be honored due to list overflow.
- Total SMS Initiated List Overflow
 - This count measures the number of times that a request to install an SMS initiated ACG control on a CNT cannot be honored to list overflow.

Continued on next page

Advanced Intelligent Network (AIN) 800/Toll-Free Capability - Feature 443, Continued

Network Management

ACG Control Lists

Existing AIN ACG capabilities will be used for AIN-based toll-free calls. There will not be separate ACG lists specific to AIN-based toll-free calls. However, in anticipation of the increased number of controls which will be used, the size of the existing AIN-supported ACG increased as follows:

- The size of the AIN SCP Overload ACG list is increased from 64 to 256 entries
- The size of the AIN SMS-initiated ACG list is increased from 64 to 256 entries

New Discrete

Toll-free Service SCP initiated Control Discrete is a new 30-second discrete. It indicates when one or more AIN calls that have encountered a CNT marked Toll-free could not be completed because the resulting query was blocked by an ACG control during the 30-second interval.

The Toll-free Service SCP-Initiated Control Discrete is ON whenever a query resulting from a toll-free CNT is blocked due to an ACG control. This discrete will remain ON until a Network Management System (such as NETMINDER) polls for it. After the poll, the discrete will be OFF until the next toll-free CNT query is blocked.

Continued on next page

Advanced Intelligent Network (AIN) 800/Toll-Free Capability - Feature 443, Continued

**Maintenance/
Troubleshooting** There is no impact as a result of this feature.

**Transition
Considerations** This feature must be purchased before it can be activated.

**Input/Output
Pages** There is no impact as a result of this feature.

**Feature
Implementation** This feature is an optional feature which requires a purchase bit to be set. It became available with the 4E21 R3 generic.

Feature Dependencies

Feature 375 – AIN must have been previously deployed.

Supporting Features

The following AIN features are supported by Feature 443:

- Feature 379 - AIN Announcements
- Feature 411 - AIN Global Default Routing
- Feature 415 - AIN Specific Default Routing

Operating System (OS) Impact

There is no impact on OSs as a result of this feature.

Continued on next page

Advanced Intelligent Network (AIN) 800/Toll-Free Capability - Feature 443, Continued

Acronyms and Abbreviations

The following are acronyms and abbreviations of terms used throughout this document:

| Terms | Definitions |
|--------------|------------------------------|
| ACG | Automatic Call Gapping |
| AIN | Advanced Intelligent Network |
| CNT | Called Number Trigger |
| GTT | Global Title Translation |
| NSR | Number Services Routing |
| OS | Operating System |
| SS7 | Signaling System 7 |
| SAC | Service Access Code |
| SCP | Service Control Point |
| SSN | Service Switching Network |
| SSP | Service Switching Point |
| STP | Signal Transfer Point |

SELF CHECK

Chapter 9

**Advanced Intelligent Network (AIN) 800/Toll Free Capability -
Feature 443**

1. List the advantage of this feature.

2. When is this feature available?

3. The feature is dependent upon which feature?

4. Which features are supported by this feature?

5. Which RC Form is used to define the mapping of the TOS index values to the customer dialed number sequence?

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A Operating System (OS) Compatibility Chart

4ESSTM-2000 Switch 4E24 Generic
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4ESS™ 4E24 Release

Lucent Technologies

Operating System (OS) Compatibility Chart

| OS | 4E24R1 GA 3/99 | 4E24R2 GA 6/99 | 4E24R3* GA 9/99 | |
|----------------------|-----------------------|-----------------------|--------------------|--|
| Netminder® NTM GA | R 8.0 Available | R 8.0 Available | | |
| Netminder® NTP GA | R 2NTP.6 Available | R 2NTP.6 Available | | |
| NFM (TNM) GA | R 6.2 Available | R 6.2 Available | | |
| CONNECTVU/TK GA | R 7.0 Available | R 7.1 5/99 | | |
| BILLDATS® GA | R 5.4 Available | R 5.4 Available | | |

***NOTE:** 4E24R3 is under review – currently only one feature (#555).

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B Answers to Self Checks

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ANSWERS TO SELF CHECK

Chapter 1

Originating LNP Module AMA Enhancement - Feature 537a

1. Which Automated Message Accounting (AMA) billing module is affected by this feature?

This feature provides enhancements to LNP BAF Module 720.

2. This feature is dependent on which other features?

Feature 450 - Local Number Portability

Feature 537 - Originating LNP Module AMA Enhancement

3. Are there any Operating Systems (OSs) impacted by this feature?

No

4. Which feature item is used to enable this feature?

The F22 item on the RC 809 – Change Feature Bits form is used to activate Feature 537. Feature 537a does not require an additional feature item.

This page is intentionally left blank.

ANSWERS TO SELF CHECK

Chapter 2

DSC SCP Interface Modification for LNP - Feature 540

1. List the advantage of this feature.

This feature allows the 4ESS to process a Service Control Connection Part (SCCP) header format utilized by the DSC Signal Transfer Point/Service Control Point (STP/SCP).

2. What are the two Digital Switch Corporation (DSC) Service Control Connection Part (SCCP) header fields that will be valid for Advanced Intelligent Network (AIN) and Local Number Portability (LNP)?

- **SCCP Called Party Address containing Point Code (PC) and Sub System Number (SSN)**
- **SCCP Calling Party Address containing SSN**

3. When is this feature available?

This feature is provided as a BWM to 4E22R4 and is automatically activated by software deployment of the 4E23R3 generic.

4. The feature is dependent upon which other feature?

Feature 375 – Advanced Intelligent Network (AIN)

Feature 450 – Local Number Portability (LNP)

This page is intentionally left blank.

ANSWERS TO SELF CHECK

Chapter 3

AIN/LNP SCCP Header Validation Reduction - Feature 542

1. List the advantage of this feature.

This feature allows all combinations of SCCP Called/Calling Party Address fields to be accepted by the 4ESS Switch with the exception of the Called Party Address of Global Title (GT).

2. What part of the 3B APS receives the AIN/LNP message from the SCP?

Direct Link Node (DLN)

3. When is this feature available?

4E24R2 Generic.

4. This feature is dependent on what other features?

Feature 375 - Advanced Intelligent Network

Feature 450 - Local Number Portability

Feature 540 - DSC Service Control Point

This page is intentionally left blank.

ANSWERS TO SELF CHECK

Chapter 4

LEC Government Emergency Telecommunications Service (GETS) IAM Priority – Feature 555

1. What is GETS service?

PSTN during national security emergency

2. List the advantage of the LEC GETS IAM Priority.

This feature provides the means to prioritize the LEC telecommunications capabilities for national security and emergency preparedness.

3. What Recent Change (RC) Form activates this feature?

RC809 - Change Feature Bit

4. The feature is dependent upon which feature?

None

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ANSWERS TO SELF CHECK

Chapter 5

Miscellaneous Features – Features 523, 529, 530, 533, 6881

There is no Self Check available for this chapter.

This page is intentionally left blank.

ANSWERS TO SELF CHECK

Chapter 6

Tandem Flexible ANI II/OLI Digit Restriction - Features 539

1. List the advantage of this feature.

This feature supports the mandatory nationwide deployment of identifying calls from certain coin lines.

2. Which RC Form is used to provision the II/OLI default values?

RC811 – Change Feature Field.

3. When is this feature available?

This feature is an optional feature that requires a purchase bit. It is implemented with the software deployment of the 4E24R1 Generic.

4. This feature is dependent upon which other features?

Feature 375 – Advanced Intelligent Network (AIN)

Feature 488 – AT Routing Enhancements

5. List the recent change sequential order for activation of this feature.

RC811 – Change Feature Field

RC349/RC350 – Change EA Forwarding Default II/OLI Digits

RC809 – Change Feature Bits

RC300 through RC304 – Code Group

This page is intentionally left blank.

ANSWERS TO SELF CHECK

Chapter 7

Enhanced Announcement System Manager (ASM) Plus - Features 541

1. List the advantages of this feature.

This feature will allow ASM-Plus to:

- **meet Year 2000 compliance**
- **increase processing speed**
- **improve its administrative features.**

2. This feature will bring ASM-Plus into what compliance?

This feature will bring ASM-Plus into Year 2000 compliance.

3. What interface will this feature provide for the ASM-Plus Administrator?

The ASM-Plus Administrator will be provided with a graphical user interface.

4. What cache boundaries will this feature be using for announcements?

The cache boundaries used in this feature are one eighth of a second (125ms).

5. When is this feature available?

This feature is available in 4E24R1.

6. This feature is dependent on what other features?

This feature depends on:

Feature 386, ASM Plus

Feature 379, AIN SCS Announcement Capability

Feature 109I, SCS Platform.

This page is intentionally left blank.

ANSWERS TO SELF CHECK

Chapter 8

CNAR Trunk Subgroup Billing Number Option - Features 547

1. List the advantages of this feature.

The trunk subgroup billing number will be used in the CNA record instead of the originating caller ANI.

2. What is recorded in the Originating NPA and Originating Number fields of the CNA record if the CNAR Trunk Subgroup Billing Number Option is ON?

With the CNAR option turned "ON", the Originating NPA and Originating Number bill contain:

a. The billing number assigned to the incoming TSG.

b. ANI if received and the TSG billing number is not available.

c. Zero fill if neither the TSG billing number nor ANI is available.

3. What is recorded in the Originating NPA and Originating Number fields of the CNA record if the CNAR Trunk Subgroup Billing Number Option is OFF?

With the CNAR option turned "OFF", the existing population rules apply. The Originating NPA and Originating Number will contain:

a. ANI if received.

b. The Billing number assigned to the incoming TSG if ANI is not available.

c. Zero fill if neither ANI nor the TSG billing number is available.

4. What Recent Change form is used to turn on the CNAR Trunk Subgroup Billing Number Option?

The RC 809 form is used to turn on the CNAR Trunk Subgroup Billing Number Option.

ANSWERS TO SELF CHECK

CNAR Trunk Subgroup Billing Number Option - Feature 547, continued

5. What feature item is used to turn ON/OFF the CNAR Trunk Subgroup Billing Number Option?

F24 is the feature item used to turn ON/OFF the CNAR Trunk Subgroup Billing Number Option.

6. What is the default value of the feature item for this feature?

The default value of the CNAR Trunk Subgroup Billing Number Option is OFF.

7. This feature is dependent on what other feature?

This feature depends on LNP - Feature 450 being implemented.

ANSWERS TO SELF CHECK

Chapter 9

Advanced Intelligent Network (AIN) 800/Toll Free Capability - Features 443

1. List the advantage of this feature.

This feature allows 800 toll-free service to be processed consistent with all SSP/800 calls.

2. When is this feature available?

This feature is an optional feature which requires a purchase bit. It became available with the 4E21 R3 generic.

3. This feature is dependent upon which feature?

Feature 375 – Advanced Intelligent Network (AIN).

4. Which features are supported by this feature?

Feature 375 – AIN Announcements

Feature 411 – AIN Global Default Routing

Feature 415 – AIN Specific Default Routing

5. Which RC Form is used to define the mapping of the TOS index values to the customer dialed number sequence?

RC626 – Type of Service to Dialed Code

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Update Instructions Sheet

In this package This package contains a History-of-Revision sheets. Additional information and updated pages have been issued for the following document:

4ESS™-2000 Switch
4E24 Generic Transition Document for LEC

234-090-052
Issue 1.0
December 1998

Revisions and added feature sheets are dated **April 1999, Issue 1.1.**

Introduction This Update Instructions Sheet **should be retained** after placing the added or revised pages in the document. File it in the ring binder immediately following the title page.

| Remove Old Pages | Insert New Pages | Revision Date | Reason for Revision |
|-------------------------|-------------------------|-----------------------|--|
| Cover Sheet | Cover Sheet | April 1999, Issue 1.1 | Change date and Issue number. |
| Table of Contents | Table of Contents | April 1999, Issue 1.1 | Change date and Issue number; added Chapters 10, 11, 12, 13. |
| | Chapter 10 | April 1999, Issue 1.1 | Feature 567 added. |
| | Chapter 11 | April 1999, Issue 1.1 | Feature 569 added. |
| | Chapter 12 | April 1999, Issue 1.1 | Feature 571 added. |
| | Chapter 13 | April 1999, Issue 1.1 | Feature 572 added. |

Continued on next page

Introduction (continued)

| Remove Old Pages | Insert New Pages | Revision Date | Reason for Revision |
|-----------------------------------|---|-----------------------|--|
| Tab A Cover | Tab A Cover | April 1999, Issue 1.1 | Change date and Issue number. |
| OS Chart Cover | OS Chart Cover | April 1999, Issue 1.1 | Change date and Issue number. |
| OS Chart | OS Chart | April 1999, Issue 1.1 | Revised for 4E24R3 compatibility. |
| Answers to Self Check Cover Sheet | Answers to Self Check Cover Sheet | April 1999, Issue 1.1 | Change date and Issue number. |
| | Answers to Self Check, Insert Pages 19 - 26 | April 1999, Issue 1.1 | Added answers for Features 567, 569, 571, 572. |

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10 LEC Flexible ANI II/OLI 800 to POTS

Feature 567

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Chapter 10

LEC Flexible ANI II/OLI 800 to POTS – Feature 567

Introduction This feature provides the capability of setting the II/OLI value “25” indicating translated tollfree call originating from a pay station for SSP/800 calls processed at the 4ESS Switch.

In This Chapter This chapter contains the following topics:

| Topic | See Page |
|-----------------------------|----------|
| Introduction | 10-1 |
| In This Chapter | 10-1 |
| Advantages/Benefits | 10-2 |
| Background | 10-2 |
| Feature Description | 10-3 |
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Continued on next page

LEC Flexible ANI II/OLI 800 to POTS – Feature 567, Continued

Advantages/ Benefits

Feature 539, available in 4E24 R1, supports the mandatory nationwide deployment of identifying calls from certain coin lines for carriers requesting this service. This feature supports the additional value of 25, defined by the Industry Numbering Committee (INC). The ANI II/OLI value of 25 indicates that a translated 800 number is originating from certain coin lines.

Background

The term flexible ANI II/OLI digit refers to the Automatic Number Identification and the Information (II) or Originating Line Information (OLI) values which were not originally defined at divestiture to be forwarded from the LEC to IC. The II digits are forwarded for in-band signaling calls. The OLI digits are forwarded for out-of-band signaling calls. The end offices have the capability of allowing or denying the forwarding of the Flexible ANI II/OLI on a per call control basis.

Feature 539, Tandem Flexible ANI II/OLI Digit Restriction, provided the capability of restricting or allowing values to be forwarded, subsequent to SSP/800 or AIN queries performed at the 4ESS tandem. The Flexible ANI II/OLI values are only forwarded to carriers which can recognize and process these additional ANI II/OLI values. At the time of Feature 539, there was no agreement on how to handle translated 800 numbers for which the II/OLI value of 24 is forwarded to the carrier. This value indicated that the 800 number had been translated. The ANI II/OLI value of 24 is used, in this case, regardless of the original II/OLI digit value received. This was in accordance with existing Service Switching Point (SSP/800) and Advanced Intelligent Network (AIN) Tollfree standards.

Continued on next page

LEC Flexible ANI II/OLI 800 to POTS – Feature 567, Continued

**Feature
Description**

This feature provides the capability of allowing the 4ESS Switch to populate the Identifying Information/Originating Line Information (II/OLI) with a value of “25” indicating that the translated 800 number originated from certain coin phones. The II/OLI value of “25” is associated with a recent change payphone designation of “yes”. The II/OLI value of “24”, which is presently used, specifies that after an SCP/800 query, the SCP has returned a translated number. Setting the II/OLI value to “25” indicates the translated 800 number originated from a coin phone. Using Feature 539 with the II/OLI restriction capability and Feature 567, the II/OLI value of “25” can be forwarded only to subscribed carriers. Feature 567 does not apply to AIN Tollfree calls, since, for AIN, the SCP rather than the 4ESS Switch sets the II/OLI value to “24”. The SCP, in this case, would also be setting the II/OLI to the new value of “25”.

Call Flow

If Feature 567 has been activated, the payphone designation associated with the received II/OLI is examined for carrier-routed SSP/800 calls for which the SCP has returned a translated number. This is done prior to resetting the II/OLI to a value of “24”.

- If the payphone designation is “yes”, the II/OLI value will be set to “25”.
- If the payphone designation is “no”, the II/OLI value will be set to “24”.
- If Feature 567 has not been activated, the II/OLI value will be set to “24”.

This resetting of the II/OLI takes place before checking the Flexible ANI/II Restriction mapping provided by Feature 539.

Continued on next page

LEC Flexible ANI II/OLI 800 to POTS – Feature 567, Continued

Provisioning **Recent Change (RC) Forms Impacted**

- **RC811**
- **RC809**

Continued on next page

LEC Flexible ANI II/OLI 800 to POTS – Feature 567, Continued

**Provisioning,
(cont'd)****Recent Change (RC) Forms Impacted**

This feature requires a purchase bit and is activated by the processing of the following RC Forms in sequential order:

- RC811 – Change Feature Field
(This form is used to provision the II/OLI default values.)
- RC809 – Change Feature Bits
(This form is used to provision the enabling/disabling of this feature.)

Continued on next page

LEC Flexible ANI II/OLI 800 to POTS – Feature 567, Continued

Provisioning,
(con't)

RC Form (RC) Form Impacted

FORM 811 CHANGE FEATURE FIELD

RC:FTR;CHG;OPT(FLD),___:

ORNU _____,

| FEATURE INFO | INDX | DATA |
|--------------|------|-------|
| _____ | ____ | _____ |
| _____ | ____ | _____ |
| _____ | ____ | _____ |
| _____ | ____ | _____ |
| _____ | ____ | _____ |
| _____ | ____ | _____ |
| _____ | ____ | _____ |
| _____ | ____ | _____ |
| _____ | ____ | _____ |
| _____ | ____ | _____ |

REMARKS _____!

ASSOCIATED VERIFY MESSAGES - NONE

Continued on next page

LEC Flexible ANI II/OLI 800 to POTS – Feature 567, Continued

**Provisioning,
(cont'd)**

RC811 – Change Feature Field

This form is being expanded to include additional entries for this feature.

- Feature Info

Valid Entries:

IPPD – II digit Payphone Designation

OPPD – OLI parameter Payphone Designation

- Index

IPPD – Valid Entries

0 to 99

OPPD – Valid Entries

0 to 255

- Data

IPPD- Valid Entries

0 or 1 (0 = No and 1 = Yes)

OPPD – Valid Entries

0 or 1 (0 = No and 1 = Yes)

Continued on next page

LEC Flexible ANI II/OLI 800 to POTS – Feature 567, Continued

Provisioning
(cont'd)

Recent Change (RC) Forms Impacted

FORM 809 CHANGE FEATURE BITS
4E18>

RC:FTR;CHG;OPT(BIT),___:

ORNU _____,

FEATURE ITEM _____, ON OR OFF _____,

REMARKS _____!

EQUIVALENT ODA INPUT FORM - NONE

ASSOCIATED VERIFY MESSAGES

OUTPUT - 8j VER:MISC;OPT(ONOFF)

INPUT - 16az VER:MISC ONOFF

Continued on next page

LEC Flexible ANI II/OLI 800 to POTS – Feature 567, Continued

**Provisioning
(cont'd)****RC809 – Change Feature Bits**

This form is used to enable/disable this feature. This feature requires activation of this purchase bit.

- Feature Item

F26 – LEC Flexible ANI II/OLI 800 to POTS

- On or Off

Valid Entries: On – Feature is enabled.

Off – Feature is disabled. Default is off.

Continued on next page

LEC Flexible ANI II/OLI 800 to POTS – Feature 567, Continued

Provisioning, Verify Forms/Messages Affected (cont'd)

INPUT: VERIFY 16az

VER:MISC ONOFF!(EOT)

OUTPUT: VERIFY 8j
4E21R2>

VER:MISC;OPT(ONOFF):

ATP, SCSFH, CPESR, I800P1, I800P2, ITRA, LSDS, GETS, SUA,
 , , , , , , , , , ,

CSCRACT, PCPNCP, ASM, AASE, AINON, AINRDFLT,
 , , , , , , ,

FEATURE BITS

--, --, --, --, --, --, --, --, --, --, --, --, --, --, --,
--, --, --, --, --, --, --, --, --, --, --, --, --, --, --,
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--, --, --, --, --, --, --, --, --, --, --, --, --, --, --,

PROPRIETARY FEATURE BITS

--, --, --, --, --, --, --, --, --, --, --, --, --, --, --,
--, --, --, --, --, --, --, --, --, --, --, --, --, --, --,
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--, --, --, --, --, --, --, --, --, --, --, --, --, --, --,

ODA INPUT SOURCE - None.
RECENT CHANGE INPUT SOURCE - FORM # 809

Continued on next page

LEC Flexible ANI II/OLI 800 to POTS – Feature 567, Continued

**Provisioning,
(cont'd)**

Verify Forms/Messages Impacted

The ON/OFF flag for this feature is verified via input message 16az (VER:MISC ONOFF!(EOT) and output message, Division 8, 8j (VER:MISC;OPT(ONOFF)).

Continued on next page

LEC Flexible ANI II/OLI 800 to POTS – Feature 567, Continued

**Provisioning,
(cont'd)**

The IPPD feature information on RC811 form is verified with new input message 13bf, (VER:EA:OPT IPPD!(EOT)) and new output message 3bf, (VER:EA;OPT(IPPD)).

Continued on next page

LEC Flexible ANI II/OLI 800 to POTS – Feature 567, Continued

**Provisioning,
(cont'd)**

The OPPD feature information on RC811 form is verified with new input message 13bg, (VER:EA:OPT OPPD!(EOT)) and new output message 3bg, (VER:EA;OPT(OPPD)).

Continued on next page

LEC Flexible ANI II/OLI 800 to POTS – Feature 567, Continued

**Billing/
Recording**

There is no impact as a result of this feature.

**Network
Management**

There is no impact as a result of this feature.

**Maintenance/
Troubleshooting**

There is no impact as a result of this feature.

**Transition
Considerations**

This feature must be purchased before it can be activated. This feature operates with the 3B20D and 3B21D Attached Processor Systems.

**Input/Output
Pages**

There is no impact as a result of this feature.

Continued on next page

LEC Flexible ANI II/OLI 800 to POTS – Feature 567, Continued

**Feature
Implementation**

There is an optional feature that requires a purchase bit. It is implemented as a software deployment of the 4E24 R3 Generic.

Feature Dependencies

This feature depends on:

- SSP/800

This feature works with Feature 539 – Tandem Flexible ANI/II Digit Restriction.

Operating System (OS) Impact

There is no impact on OSs as a result of this feature.

Continued on next page

LEC Flexible ANI II/OLI 800 to POTS – Feature 567, Continued

Acronyms and Abbreviations

The following are acronyms and abbreviations of terms used throughout this document:

| Terms | Definitions |
|--------------|---|
| AIN | Advanced Intelligent Network |
| ANI/II | Automatic Number Identification/Identifying Information Digit |
| II/OLI | Identifying Information/Originating Line Information |
| INC | Industry Numbering Committee |
| I/O | Input/Output |
| SCP | Service Control Point |
| SSP | Service Switching Point |

SELF CHECK

Chapter 10

LEC Flexible ANI II/OLI 800 to POTS - Feature 567

1. What additional value is defined by the Industry Numbering Committee for ANI II/OLI?

2. What does the II/OLI value of "25" indicate?

3. What feature item on RC809 is used to enable or disable this feature? What is the default value of this feature item?

4. What additional entries are valid on RC811 for this feature?

5. What does this feature require before it can be activated?



11 AIN 3-Digit Number Trigger Criteria Type Feature 569

4ESSTM-2000 Switch 4E24 Generic
Transition Document for LEC

234-090-052
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Chapter 11

AIN 3-Digit Number Trigger Criteria Type – Feature 569

Introduction This feature allows the 4ESS™-2000 Switch to provide an Advanced Intelligent Network (AIN) Called Number Trigger (CNT) Criteria Type for 3-digit based non-emergency services, for instance, 311.

In This Chapter This chapter contains the following topics:

| Topic | See Page |
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| Network Management | 11-9 |
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| Input/Output Messages | 11-9 |
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| Acronyms and Abbreviations | 11-10 |

Continued on next page

AIN 3-Digit Number Trigger Criteria Type – Feature 569, Continued

**Advantages/
Benefits**

This feature will allow 3-digit triggering on non-emergency based services processed by the 4ESS Switch.

Background

The processing of identifying calls requiring AIN call treatment is referred to as triggering. There are many types of AIN triggers available such as Shared Interoffice Trunk Triggers (SITTs), Called Number Triggers (CNTs) and Trunk Subgroup (TSG) Triggers. A Triggering Criteria Type (TCT) parameter in the query is used to indicate what digits “caused” the query.

Called Number Triggers are detected in the 4ESS Switch as:

- part of digit analysis through a CNT designation associated with the trigger digits in the digit translators, or
- by designation in separate AIN trigger tables for expanded 6 or 10 digit CNTs.

CNTs can be associated with 3 through 10 digits of the called number in any non-wideband translation domain.

End offices, traditionally, have performed the processing for services offered on a 3-digit basis (for instance, 911 emergency services). The 4ESS Switch does not typically receive 3-digit called party numbers. If the 4ESS Switch receives a 3-digit called party number, the 4ESS handles the 3-digit called party number as an NXX code. For AIN, the 4ESS currently sets the TCT to “npa-nxx” triggers encountered on 3-digit called party numbers.

Continued on next page

AIN 3-Digit Number Trigger Criteria Type – Feature 569, Continued

**Feature
Description**

This feature provides the 4ESS Switch with the capability to process 3-digit called numbers assigned to an AIN CNT. The 4ESS will set the TCT for those 3-digit called numbers to “npa” (TCT value of “4”). All AIN InfoAnalyzed queries sent to the SCP for 3-digit called numbers, for instance, 311, will have the TCT set to “npa” once this feature is activated.

The 4ESS will only set the TCT to “npa”. The 4ESS will not provide any special processing of the 3-digit called numbers beyond setting the TCT to “npa”. The 4ESS will not provide 911 type End Office (EO) actions.

Call Flow

If:

- this feature has been activated, and
- the call received is a 3-digit called party number encountering an AIN CNT,

then the TCT sent in the outgoing InfoAnalyzed query to the AIN SCP is set to “npa” (TCT value of “4”).

Continued on next page

AIN 3-Digit Number Trigger Criteria Type – Feature 569, Continued

Provisioning Recent Change (RC) Forms Impacted

FORM 809 CHANGE FEATURE BITS
4E18>

RC:FTR;CHG;OPT(BIT),___:

ORNU _____,

FEATURE ITEM _____, ON OR OFF _____,

REMARKS _____!

EQUIVALENT ODA INPUT FORM - NONE

ASSOCIATED VERIFY MESSAGES

OUTPUT - 8j VER:MISC;OPT(ONOFF)

INPUT - 16az VER:MISC ONOFF

Continued on next page

AIN 3-Digit Number Trigger Criteria Type – Feature 569, Continued

**Provisioning,
(cont'd)****RC809 – Change Feature Bits**

This form is used to enable/disable this feature. This feature requires activation of a purchase bit.

- Feature Item

F27 – AIN 3-Digit Number Trigger Criteria Type

- On or Off

Valid Entries: On – Feature is enabled.

Off – Feature is disabled. Default is off.

Continued on next page

AIN 3-Digit Number Trigger Criteria Type – Feature 569, Continued

Provisioning, Verify Forms/Messages Affected (cont'd)

INPUT: VERIFY 16az

VER:MISC ONOFF!(EOT)

OUTPUT: VERIFY 8j
4E21R2>

VER:MISC;OPT(ONOFF):

ATP, SCSFH, CPESR, I800P1, I800P2, ITRA, LSDS, GETS, SUA,

, , , , , , , , , ,

CSCRACT, PCPNCP, ASM, AASE, AINON, AINRDFLT,

, , , , , , ,

FEATURE BITS

--, --, --, --, --, --, --, --, --, --, --, --, --, --, --, --,
--, --, --, --, --, --, --, --, --, --, --, --, --, --, --, --,
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--, --, --, --, --, --, --, --, --, --, --, --, --, --, --, --,

PROPRIETARY FEATURE BITS

--, --, --, --, --, --, --, --, --, --, --, --, --, --, --, --,
--, --, --, --, --, --, --, --, --, --, --, --, --, --, --, --,
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--, --, --, --, --, --, --, --, --, --, --, --, --, --, --, --,

ODA INPUT SOURCE - None.
RECENT CHANGE INPUT SOURCE - FORM # 809

Continued on next page

AIN 3-Digit Number Trigger Criteria Type – Feature 569, Continued

**Provisioning,
(cont'd)**

Verify Forms/Messages Impacted

The ON/OFF flag for this feature is verified via input message 16az (VER:MISC ONOFF!(EOT)) and output message, Division 8, 8j (VER:MIS;OPT(ONOFF)).

Continued on next page

AIN 3-Digit Number Trigger Criteria Type – Feature 569, Continued

**Billing/
Recording**

There is no impact as a result of this feature.

**Network
Management**

There is no impact as a result of this feature.

**Maintenance/
Troubleshooting**

There is no impact as a result of this feature.

**Transition
Considerations**

This feature must be purchased before it can be activated. This feature operates with the 3B20D and 3B21D Attached Processor Systems.

**Input/Output
Pages**

There are no Input/Output pages impacted as a result of this feature.

**Feature
Implementation**

This is an optional feature that requires a purchase bit. It is implemented as a software deployment of the 4E24 R3 Generic.

Feature Dependencies

Feature 375 - Advanced Intelligent Network (AIN) must have been previously deployed.

Operating System (OS) Impact

There is no impact as a result of this feature.

Continued on next page

AIN 3-Digit Number Trigger Criteria Type – Feature 569, Continued

Acronyms and Abbreviations

The following are acronyms and abbreviations of terms used throughout this document:

| Terms | Definitions |
|--------------|------------------------------|
| AIN | Advanced Intelligent Network |
| CNT | Called Number Trigger |
| TCT | Trigger Criteria Type |

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SELF CHECK

Chapter 11

AIN 3-Digit Number Trigger Criteria Type - Feature 569

1. In what generic release will this feature be implemented?

2. What value will the 4ESS set the Trigger Criteria Type for a 3-digit called number assigned to an AIN CNT?

3. What End Office (EO) actions will not be provided by the 4ESS Switch?

4. What feature item on RC809 is used to enable or disable this feature? What is the default value of this feature item?

5. What feature must have been previously deployed before Feature 569 can be implemented?

6. What bit does this feature require before it can be activated?

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12 LEC SSP/800 Support for SACs 866 through 822 Feature 571

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Chapter 12

LEC SSP/800 Support for SACs 866 through 822 – Feature 571

Introduction This feature allows the 4ESS to support SSP/800 tollfree service with additional Special Area Codes (SACs) 866, 855, 844, 833, and 822.

In This Chapter This chapter contains the following topics:

| Topic | See Page |
|-----------------------------|----------|
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| Maintenance Troubleshooting | 12-8 |
| Transition Considerations | 12-8 |
| Input/Output Pages | 12-8 |
| Feature Implementation | 12-8 |
| Acronyms and Abbreviations | 12-9 |

Continued on next page

LEC SSP/800 Support for SACs 866 through 822 – Feature 571, Continued

**Advantages/
Benefits**

This feature allows the 4ESS Switch to handle additional SACs. The 888 and 877 SACs are nearing exhaustion faster than expected. The additional SACs will allow continued growth of SSP/800 service until AIN Tollfree service is deployed.

Background

Presently, in the LEC market, tollfree calls are handled by the Intelligent Network 1 (IN/1) architecture or SSP/800 Number Services. The IN/1 architecture or SSP/800 uses 800 service-specific Service Control Point (SCP) databases and 800 service-specific Service Switching Point (SSP) software in switching systems.

Originally, only the Special Area Code (SAC) of 800 was used to designate tollfree calls. Feature 432, LEC Tollfree Treatment for 888, allowed two additional SACs 888 and 877, to be used for SSP/800 service.

Feature 443, AIN 800 Tollfree Capability, in 4E21 was to migrate SSP/800 tollfree service in the LEC networks to Advanced Intelligent Network (AIN) Tollfree service. AIN Tollfree service will support SACs 800, 888, 877, 866, 855, 844, 833, and 822. Full deployment of AIN Tollfree Service has not been completed. The SSP/800 SACs of 888 and 877 are nearing exhaustion. The SSP/800 architecture needs to handle additional SACs of 866, 855, 844, 833, and 822 until migration to the AIN Tollfree service is complete.

**Feature
Description**

This feature will allow the 4ESS Switch to accept, interpret, query, and route the new SAC codes of 866, 855, 844, 833, and 822 within the SSP/800 (IN/1) architecture. These new SAC codes will be used for SSP/800 tollfree service.

Continued on next page

LEC SSP/800 Support for SACs 866 through 822 – Feature 571, Continued

Call Flow

The 4ESS SSP recognizes that a call requires SSP/800 processing by:

- Receiving the CIC (or XXXX) associated with the number services pseudo carrier (eg. 0110), or
- Recognizing the service type of SSP/800 associated with the translation of the IAM's circuit code or the 0ZZ impulsed using Equal Access signaling.

For Centralized Automatic Message Accounting (CAMA) and traditional signaling, the SSP recognizes that the call requires SSP/800 processing, if the address digits in the called party number parameter are in the form of:

- SAC-NXX-XXXX or
- 00Y-NXX-XXXX

The SSP identifies the SSP/800 calls from the 3- or 6-digit translation of the called number. The 4ESS must be able to accept and process the new SACs of 866, 855, 844, 833, and 822 under all of these existing SSP/800 scenarios except CAMA 00Y.

The new SACs (866, 855, 844, 833, 822) shall be processed as an SSP/800 service request using the same existing SSP/800 functionality as the current 800/888/877 SACs. The 4ESS Switch must support all of the trunk access types currently supported for SSP/800.

The new SACs (866, 855, 844, 833, 822) shall be used in all applicable TCAP or Trunk Signaling messages and shall not be overwritten with the 800 SAC.

The 4ESS Switch must retain the existing SSP/800 capabilities for generating and interpreting the Alternate 3-digit codes, 00Y, for the 800 SAC code. The 4ESS Switch will not generate a 00Y code for the new SACs (866, 855, 844, 833, 822). The 4ESS Switch will not interpret a 00Y code as one of the new SACs (866, 855, 844, 833, 822).

The Global Title digits in an SSP/800 SCP query must contain the new SAC (866, 855, 844, 833, 822) if the new SAC was received.

All SSP/800 SAC codes: 800, 888, 877, 866, 855, 844, 833, and 822, are considered SSP/800 calls for interaction with the Tollfree Payphone Compensation, Features 539 and 567.

Continued on next page

LEC SSP/800 Support for SACs 866 through 822 – Feature 571, Continued

Provisioning Recent Change (RC) Forms Impacted

FORM 809 CHANGE FEATURE BITS
4E18>

RC:FTR;CHG;OPT(BIT),___:

ORNU _____,

FEATURE ITEM _____, ON OR OFF ____,

REMARKS _____!

EQUIVALENT ODA INPUT FORM - NONE

ASSOCIATED VERIFY MESSAGES

OUTPUT - 8j VER:MISC;OPT(ONOFF)

INPUT - 16az VER:MISC ONOFF

Continued on next page

LEC SSP/800 Support for SACs 866 through 822 – Feature 571, Continued

Provisioning,
(cont'd)

RC 809 – Change Feature Bits

This form is used to enable/disable this feature. The feature requires activation of a purchase bit.

- Feature Item

F28 – LEC SSP/800 support for SACs 866 through 822

- On or Off

Valid entries: On – Feature is enabled.

Off – Feature is disabled. Default is off.

Continued on next page

LEC SSP/800 Support for SACs 866 through 822 – Feature 571, Continued

Provisioning, Verify Forms/Messages Affected (cont'd)

INPUT: VERIFY 16az

 VER:MISC ONOFF!(EOT)

OUTPUT: VERIFY 8j
4E21R2>

VER:MISC;OPT(ONOFF):

ATP, SCSFH, CPESR, I800P1, I800P2, ITRA, LSDS, GETS, SUA,
 , , , , , , , , , , ,

CSCRACT, PCPNCP, ASM, AASE, AINON, AINRDFLT,
 , , , , , , ,

FEATURE BITS

--, --, --, --, --, --, --, --, --, --, --, --, --, --, --,
--, --, --, --, --, --, --, --, --, --, --, --, --, --, --,
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PROPRIETARY FEATURE BITS

--, --, --, --, --, --, --, --, --, --, --, --, --, --, --,
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--, --, --, --, --, --, --, --, --, --, --, --, --, --, --,

ODA INPUT SOURCE - None.
RECENT CHANGE INPUT SOURCE - FORM # 809

Continued on next page

LEC SSP/800 Support for SACs 866 through 822 – Feature 571, Continued

**Provisioning,
(cont'd)**

Verify Forms/Messages Impacted

The ON/OFF flag for this feature is verified via input message 16az (VER:MISC ONOFF!(EOT)) and output message, Division 8, 8j (VER:MIS;OPT(ON/OFF)).

Continued on next page

LEC SSP/800 Support for SACs 866 through 822 – Feature 571, Continued

**Billing/
Recording**

Automatic Message Accounting (AMA) records must include the new SACs (866, 855, 844, 833, 822) in place of the “800”, for an SSP/800 call initiated via the new SAC. The dialed SAC (800, 888, 877, 866, 855, 844, 833, 822) shall be stored as the dialed NPA in the AMA record.

**Network
Management**

Network Management Automatic Call Gapping (ACG) must support the new SACs (866, 855, 844, 833, 822) using the existing SSP/800 feature processing. The existing ACG lists for SSP/800 will be used for the new SSP/800 SACs.

**Maintenance/
Troubleshooting**

There is no impact as a result of this feature.

**Transition
Considerations****Measurements**

The existing measurements relating to SSP/800 shall apply to toll-free calls involving the new SACs (866, 855, 844, 833, 822). There are no new SAC specific measurements.

**Input/Output
Pages**

Any I/O messages that currently include the 800, 888, or 877 SACs must accept or specify the appropriate new SAC (866, 855, 844, 833, 822) for the SSP/800 call. Output headers and I/O message names will not be changed even if “800” is in the message name or header.

The SSP/800 Test Query capability must support the new SACs (866, 855, 844, 833, 822).

Continued on next page

LEC SSP/800 Support for SACs 866 through 822 – Feature 571, Continued

Feature Implementation This is an optional feature that requires a purchase bit. It is implemented as a software deployment of a 4E24 R3.

Feature Dependencies

SSP/800 and Feature 432, Tollfree Treatment for NPA 888, must have been previously deployed.

This feature works with the payphone compensation features:

- Feature 539 – Tandem Flexible ANI/II Digit Restriction
- Feature 567 – Flexible ANI/II 800 to POTS

Operating System (OS) Impact

There is no impact on OSs as a result of this feature.

Continued on next page

LEC SSP/800 Support for SACs 866 through 822 – Feature 571, Continued

Acronyms and Abbreviations

The following are acronyms and abbreviations of terms used throughout this document:

| Terms | Definitions |
|--------------|--|
| ACG | Automatic Call Gapping |
| AIN | Advanced Intelligent Network |
| AMA | Automatic Message Accounting |
| CAMA | Centralized Automatic Message Accounting |
| I/O | Input/Output |
| IN/1 | Intelligent Network 1 |
| OS | Operating System |
| SAC | Special Area Code |
| SCP | Service Control Point |
| SSP | Service Switching Point |
| TCAP | Transaction CAPabilities |

SELF CHECK

Chapter 12

LEC SSP/800 Support for SACs 866 through 822 - Feature 571

1. What new SACs will SSP/800 support with this feature?

2. What CAMA code will not be generated by the 4ESS Switch for the new SACs?

3. What feature bit must be turned ON to enable this feature?

4. List the advantages of this feature?

5. When is this feature available?

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13 AMA Tape Header to Include Y2K Century Field as IBM YR 2K Standard Feature 572

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Lucent Product Training 1-888-LT INFO6

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Chapter 13

AMA Tape Header to Include Y2K Century Field as IBM YR 2K Standard – Feature 572

Introduction This feature provides a Y2K century field added to the Automatic Message Accounting (AMA) tape header in order to comply with the IBM YR 2K Standard for tape headers.

In This Chapter This chapter contains the following topics:

| Topic | See Page |
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| Feature Implementation | 13-4 |
| Acronyms and Abbreviations | 13-5 |

Continued on next page

AMA Tape Header to Include Y2K Century Field as IBM YR 2K Standard – Feature 572, Continued

**Advantages/
Benefits**

This feature supports the new compliance standard set by IBM YR 2K for date labels on tape headers.

Background

Prior to the year 2000, date labels on the AMA tape headers designated the year (yy = 00-99) and the day of year (dd = 001-366). This was acceptable since all years were 1900–1999. Now with the year 2000, date labels on AMA tape headers require a field to specify the century (1900–1999 or 2000–2099) for the designated year.

Continued on next page

AMA Tape Header to Include Y2K Century Field as IBM YR 2K Standard – Feature 572, Continued

Feature Description

This feature applies to 4ESS Switch offices using the AMA tape. This feature provides a new century field on the HDR1/EOF1 date label on the AMA tape header. The century field will comply with the IBM YR 2K Standard for tape headers.

The HDR1/EOF1 date label is populated as “cyyddd”. Where:

- c = century indicator (blank = 1900-1999; 0 = 2000-2099)
 - yy = year (00-99)
 - ddd = day of year (001-366)
-

Call Flow

There is no impact as a result of this feature.

Provisioning

This feature is not enabled through Recent Change/Verify. This feature is activated by a Broadcast Warning Message (BWM) for 4E23 and 4E24 generics. This feature will become permanent in 4E25 R1 as a core feature in that generic.

There are no provisioning impacts as a result of this feature.

Billing/Recording

The HDR1/EOF1 date label on the AMA tape is populated with an additional century field to designate 1900-1999 or 2000-2099.

- Blank = 1900-1999
- 0 = 2000-2099

The tape will have the appropriate header information when received. The additional century field in the HDR1/EOF1 date is populated automatically when the AMA tape is loaded on the 3B. There is no action required to populate the century field in the date label on the AMA tape.

Continued on next page

AMA Tape Header to Include Y2K Century Field as IBM YR 2K Standard – Feature 572, Continued

**Network
Management**

There is no impact as a result of this feature.

**Maintenance/
Troubleshooting**

There is no impact as a result of this feature.

**Transition
Considerations**

This feature operates with the 3B20D and 3B21D Attached Processor Systems (APS).

**Input/Output
Pages**

There are no Input/Output pages impacted as a result of this feature.

**Feature
Implementation**

This is a core feature. This feature does not require a purchase bit.

This feature is activated by a Broadcast Warning Message (BWM). It is available with the 4E23/4E24 generics. This feature will become a permanent core feature in 4E25 R1 generic.

Feature Dependencies

Feature 572 works in association with Feature 476 – 4ESS Switch Year 2000 Compliance.

Operating System (OS) Impact

There is no impact as a result of this feature.

Continued on next page

AMA Tape Header to Include Y2K Century Field as IBM YR 2K Standard – Feature 572, Continued

Acronyms and Abbreviations

The following are acronyms and abbreviations of terms used throughout this document:

| Terms | Definitions |
|--------------|------------------------------|
| AMA | Automatic Message Accounting |
| APS | Attached Processor System |
| BWM | Broadcast Warning Message |
| OS | Operating System |

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SELF CHECK**Chapter 13****AMA Tape Header to Include Y2K Century Bit as IBM YR 2K
Standard - Feature 572**

1. What field is added to the AMA tape header in order to specify the century of the year designated?

2. What are the two valid entries of the century indicator on the HDR1/EOF1 date label?

3. How is the feature activated?

4. When is this feature available?

5. Feature 572 works with what other Feature?

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A Operating System (OS) Compatibility Chart

4ESSTM-2000 Switch 4E24 Generic
Transition Document for LEC

234-090-052
Issue 1.1
April 1999

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234-090-052
4ESS™-2000 Switch 4E24 Generic Transition Document for LEC

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4ESS™ 4E24 Release

Lucent Technologies

Operating System (OS) Compatibility Chart

| OS | 4E24R1 GA 3/99 | 4E24R2 GA 6/99 | 4E24R3 GA 9/99 | |
|-----------------------|-------------------|-------------------|-------------------|--|
| Netminder® NTM | R 8.0 | R 8.0 | R 8.0 | |
| GA | Available | Available | Available | |
| Netminder® NTP | R 2NTP.6 | R 2NTP.6 | R 2NTP.6 | |
| GA | Available | Available | Available | |
| NFM (TNM) | R 6.2 | R 6.2 | R 6.2 | |
| GA | Available | Available | Available | |
| CONNECTVU/TK | R 7.0 | R 7.1 | R 7.1 | |
| GA | Available | 5/99 | 5/99 | |
| BILLDATS® | R 5.4 | R 5.4 | R 5.4 | |
| GA | Available | Available | Available | |

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B Answers to Self Checks

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ANSWERS TO SELF CHECK

Chapter 10

LEC Flexible ANI/II 800 to POTS - Feature 567

1. What additional value is defined by the Industry Numbering Committee for ANI/II?

The value of “25” is defined by the Industry Numbering Committee as an additional value used for ANI/II.

2. What does the II/OLI value of “25” indicate?

The II/OLI value of “25” indicates that the translated 800 number originated from certain coin phones.

3. What feature item on RC809 is used to enable or disable this feature? What is the default value of this feature item?

Feature item, F26, is used to enable/disable this feature. The default value of F26 is OFF.

4. What additional entries are valid on RC811 for this feature?

The additional entries on RC811 for this feature are:

- **Feature Info – IPPD and OPPD**
- **Index – 00 to 99 for IPPD; 0 to 255 for OPPD**
- **Data – 0 or 1 for IPPD; 0 or 1 for OPPD**

5. What does this feature require before it can be activated?

This feature requires a purchase bit before it can be activated.

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ANSWERS TO SELF CHECK

Chapter 11

AIN 3-Digit Number Trigger Criteria Type - Feature 569

1. In what generic release will this feature be implemented?

This feature will be implemented in the 4E24 R3 generic.

2. What value will the 4ESS set the Trigger Criteria Type for a 3-digit called number assigned to an AIN CNT?

The 4ESS will set the Trigger Criteria Type to a value of "npa" (TCT value of "4") for a 3-digit called number assigned to an AIN CNT.

3. What End Office (EO) actions will not be provided by the 4ESS Switch?

The 4ESS Switch will not provide 911 type EO actions.

4. What feature item on RC809 is used to enable or disable this feature? What is the default value of this feature item?

Feature item, F27, is used to enable/disable this feature. The default value of F27 is OFF.

5. What feature must have been previously deployed before Feature 569 can be implemented?

Feature 375, AIN, must have been previously deployed before Feature 569 can be implemented.

6. What bit does this feature require before it can be activated?

This feature requires a purchase bit before it can be activated.

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ANSWERS TO SELF CHECK

Chapter 12

LEC SSP/800 Support for SACs 866 through 822 – Feature 571

1. What new SACs will SSP/800 support with this feature?

SSP/800 will support 866, 855, 844, 833, and 822 SACs.

2. What CAMA code will not be generated by the 4ESS Switch for the new SACs?

CAMA 00Y will not be generated for the new SACs.

3. What feature bit must be turned ON to enable this feature?

Feature Bit F28 must be returned on to enable this feature.

4. List the advantages of this feature?

The additional SACs will allow growth of SSP/800 service until AIN Tollfree service is deployed.

5. When is this feature available?

This feature is available in the 4E24 R3 generic.

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ANSWERS TO SELF CHECK

Chapter 13

AMA Tape Header to Include Y2K Century Field as IBM YR 2K Standard - Feature 572

1. What field is added to the AMA tape header in order to specify the century of the year designated?

The Y2K century field is added to the AMA tape header in order to specify the century of the year designated.

2. What are the two valid entries of the century indicator on the HDR1/EOF1 date label?

The two valid entries of the century indicator are “blank” and “0”.

3. How is the feature activated?

This feature is activated by a BWM in 4E23/4E24 generics. This feature becomes a permanent core feature in the 4E25 R1 generic.

4. When is this feature available?

This feature is available with the 4E23 and 4E24 generics. This feature becomes a permanent core feature in the 4E25 R1 generic.

5. Feature 572 works with what other Feature?

Feature 572 works in association with Feature 476 – 4ESS Switch Year 2000 Compliance.

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