

**LIMITED ACCESS FOR ROAMERS
FEATURE DOCUMENT
1A ESS™ SWITCH
AUTOPLEX™ SYSTEM 100**

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ECONOMIC WORTH

1.02 The LAR feature is used to deny service to non-CN Roamer 1 mobiles that are outside their specified SSAs within an MTSO. The MTSO can have a maximum of three SSAs in which to regulate non-CN Roamer 1 mobiles.

1.03 A practical application for identifying (on an NPA [numbering plan area] or NPA/NXX basis) particular roamers on any (or all) cells may be to redirect the service for those roamers (via the RABO [Roamer Access to Business Office] feature) to a marketing service bureau, or block it altogether. Other carriers' mobiles, or roamers from certain areas, may be typical of the roamer categories whose service may be modified via the LAR feature.

AVAILABILITY

1.04 The LAR feature is generally available in the 1AE9.06 and later generic programs.

FEATURE GROUPS

1.05 The LAR feature is optional. It is contained in the AMPSCP (System 100 call processing) feature package.

FEATURE ASSIGNMENT

1.06 The LAR feature is provided on a per MTSO basis via set card FF036.

2. USER PERSPECTIVE

USER PROFILE

2.01 The LAR feature allows cellular service providers to classify (from a non-CN Roamer 1 perspective) some or all of the immediate area served by an MTSO into a maximum of three disjointed, contiguous, and/or overlapping SSAs. The minimum service area for SSA classification can be defined by the cell which serves that area.

Note: All antennas assigned to a cell, regardless of server group, are associated with the same SSA as that of the cell.

FEATURE DESCRIPTION

2.02 Non-CN Roamer 1 mobiles are determined by the RSL (roamer service list). These may, on a per RSL entry (NPA or NPA/NXX) basis, be denied service (originations, terminations, and handoffs) from any combination of none, one, two, or all SSAs. Refer to paragraph 2.07.

A. Roamer Originations

2.03 During the initial processing of a non-CN Roamer 1 service request(s) (initial originating call processing), the correlation between the roamer's NPA/NXX and the serving cell is checked. This is done to determine whether that particular NPA/NXX may be served by the responding cell. If an applicable restriction exists, the roamer is denied service. Otherwise, the origination is processed normally.

B. Roamer Termination

2.04 During the initial processing of non-CN Roamer 1 page responses (initial terminating call processing), the correlation between the roamer's NPA/NXX and the cell responding to the page is checked. This is done to determine whether that particular NPA/NXX may be served by the responding cell. If an applicable restriction exists, the roamer's mobile is force released and the calling party receives unavailable facilities treatment. Otherwise, the termination is processed normally.

C. Roamer Handoffs

2.05 When a non-CN Roamer 1 mobile on an existing call requires a handoff, the correlation between the roamer's NPA/NXX and the serving cell(s) on the handoff candidate's list is checked. This is done to determine whether that particular NPA/NXX may be served by one of the candidate cells. If no cell can be identified that can provide service, handoff actions are not initiated and the call may eventually fade. Otherwise, the handoff is processed normally.

Note: This check applies only to intra-MTSO cells. For roamers whose associated RSL entry has at least one SSA restriction, all inter-MTSO (CN) handoffs are restricted. Inter-MTSO handoffs are valid only when no RSL SSA restrictions exist.

INTERACTION

2.06 A PLEN (pseudo line equipment number) is used for processing roamer calls for System 100 applications. The introduction of three optional custom features has necessitated the reservation of not one, but six, PLENs for roamer call processing. These three related features follow:

- LAR feature (see Fig 1).
- DRSA (Dual Roamer Service Areas) feature (set card FF047).
- RABO feature (set card FF019).

2.07 The associations of PLEN to roamer are a function of the following rules:

- (a) All associations are based upon the value of set card PLEN which defines the basic PLEN for the switch.
- (b) Non-DRSA roamer calls and DRSA roamer terminations are processed with PLAN + 0 as the base roamer PLEN.

(c) DRSA roamer originations are processed with PLEN -2 as the base roamer PLEN.

(d) Non-LAR restricted roamer calls receive RABO treatment, if applicable, via their base PLEN +1.

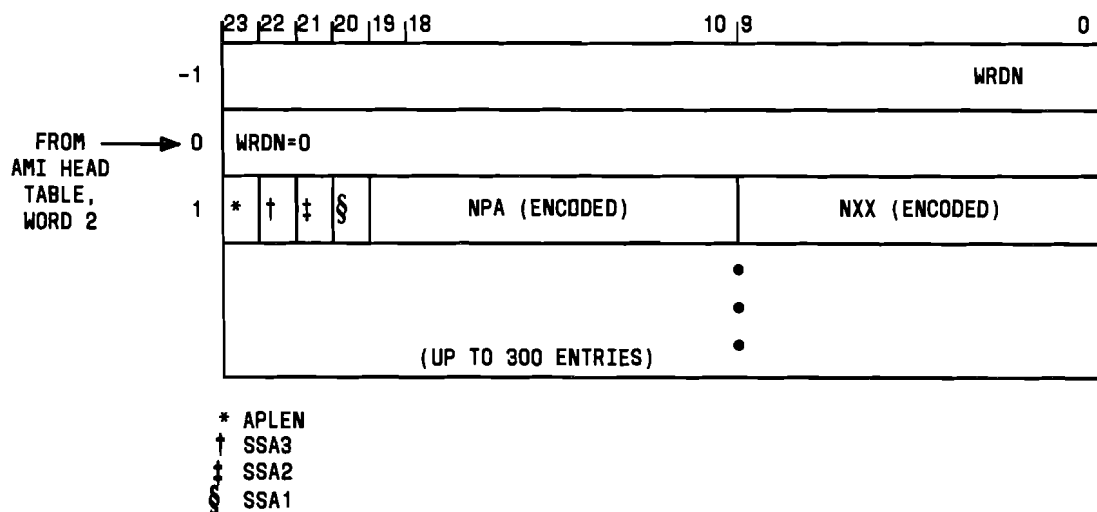
(e) LAR restricted roamer calls receive blockage treatment as a function of their base PLEN +2 if RABO is on; otherwise, they are given intercept treatment via the setup channel.

2.08 To summarize, there is now a total of six consecutive PLENs, ranging from PLEN -3 to PLEN +2. The PLENs are based upon the initial value defined by the PLEN set card. PLENs +0 through +2 are used for non-DRSA roamers as the standard base PLEN, the standard RABO PLEN, and the standard LAR restricted PLEN, respectively. PLENs -3 through -1 are used for DRSA roamers as the alternate base PLEN, the alternate RABO PLEN, and the alternate LAR restricted PLEN, respectively.

3. ENGINEERING

HARDWARE

3.01 Not applicable.



LEGEND:

- AMI - SYSTEM 100 MISCELLANEOUS INFORMATION
- APLEN - ALTERNATE PSEUDO LINE EQUIPMENT NUMBER
- SSA - SUB SERVICE AREA
- WRDN - WORD NUMBER

Fig. 1—Roamer Service List Auxiliary Block

SOFTWARE

A. Base Generic Program

3.02 The generic code required for the LAR feature is initially available with the 1AE9.06 generic program.

B. Optionally Loaded Feature Groups

3.03 Not applicable. The LAR feature is a custom feature that is associated with the AMPSCP feature package.

C. Parameters/Call Store Areas

3.04 Fast feature set card FF036 must be set to provide LAR.

D. Translations

3.05 Two translation fields are modified to effect LAR restriction screening. One field (associated with the RSL) is used to associate non-CN Roamer 1 NPA and NPA/NXX entries with up to three restricted SSAs. The other field (associated with the cell equipage relation) is used to associate the cells with their applicable SSA(s).

3.06 Three items (1-bit flags) apply per RSL NPA or NPA/NXX entry (Fig. 1). Each flag represents a particular SSA for the associated RSL NPA or NXX entry. Non-CN Roamer 1 mobiles associated with the RSL entry may be denied service depending upon the state of the equivalent flag associated with the serving cell site (next paragraph). These flags are assigned to bits 20 through 22 of each RSL entry. Unused flags are set to zero.

3.07 Three items (1-bit flags) in word 1 of the cell master status auxiliary block apply (Fig. 2). Each flag represents a particular SSA that is associated with that cell. Any non-CN Roamer 1 mobile may be denied service depending upon the state of the equivalent flag associated with the RSL entry mentioned in the preceding paragraph. These flags are assigned to bits 20 through 22 of word 1 (i.e., the second word) of each cell's master status auxiliary block. Unused flags are set to zero.

4. IMPLEMENTATION

SET CARDS

4.01 The fast feature set card FF036 is used to activate the LAR feature.

TRANSLATION FORMS

4.02 The following translation forms are applicable to the LAR feature. Refer to Part 6 B(5) for details.

- ESS Form 1902—Cell Site Location and Status Record (columns 51-53)
- ESS Form 1905—Roamer Service Record (columns 25-27).

RECENT CHANGE MESSAGES

4.03 Refer to Part 6 A(2).

4.04 The RSL entries are assigned SSAs via RC (recent change) message RC:RSL. Three yes/no keywords apply. Each keyword controls a flag that represents the SSA for the associated NPA or NPA-NXX entry. From this entry, any associated non-CN Roamer may be denied service depending

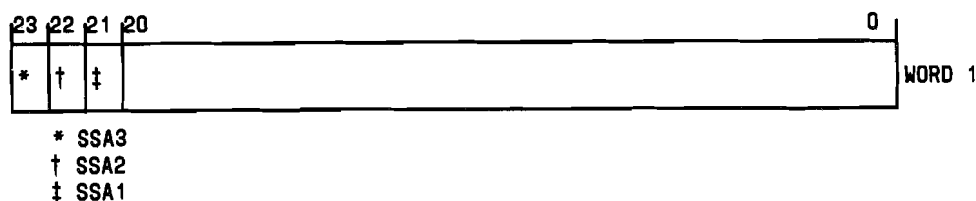


Fig. 2—Cell Master Status Auxiliary Block, Word 1

upon the state of the equivalent flag associated with the serving cell site(s) (next paragraph).

4.05 Cell sites are assigned to SSAs via RC message RC:MSTAT. Three yes/no keywords apply. Each keyword controls a flag that represents the SSA(s) for the cell. Any non-CN Roamer may be denied service depending upon the state of the equivalent flag associated with the RSL entry that applies to the roamer.

VERIFICATION

4.06 Refer to Part 6 B(1) and B(3) for System 100 input and output messages.

4.07 Verification of the SSAs assigned to a particular cell site can be done using the VF:AMPS:CSN(x) input message (where x is the cell site number). The response should be a TR127 output message with the requested information.

4.08 The RSL entry (NPA-NXX) can be verified by using the VF:AMPS:NPANXX input message. The response should be a TR125 output message with the requested information.

5. ADMINISTRATION

MEASUREMENTS

5.01 For detailed information concerning traffic measurements unique to the MTSO feature, refer to Part 6 A(4).

AUTOMATIC MESSAGE ACCOUNTING

5.02 Refer to Part 6 A(5) for System 100 AMA (automatic message accounting) information.

6. SUPPLEMENTARY INFORMATION

REFERENCES

6.01 The following documentation contains information related to or affected by the LAR feature.

A. AT&T Practices

- (1) 231-200-005 Mobile Telephone Switching Office, Cell Site, and Subscriber Unit System Description—AUTOPLEX System 100
- (2) 231-218-301 Recent Change Formats and Implementation Description Procedures
- (3) 231-290-600 Mobile Telephone Switching Office Feature
- (4) 231-290-604 Traffic Measurements Feature—AUTOPLEX System 100
- (5) 231-290-620—Automatic Message Accounting Feature—AUTOPLEX System 100
- (6) 231-318-319 GENT, PSBLK, PSWD, SUBTRAN Recent Change Formats.

B. Other Documentation

- (1) Input Message Manual IM-6A001
- (2) Office Parameter Specification PA-6A001
- (3) Output Message Manual OM-6A001
- (4) Parameter Guide PG-1A
- (5) Translation Guide TG-1A
- (6) Translation Output Configuration PA-6A002.

7. COMMENT FORM

7.01 A comment form is located at the back of this practice to provide a communications channel from the user to the writer.

8. ISSUING ORGANIZATION

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