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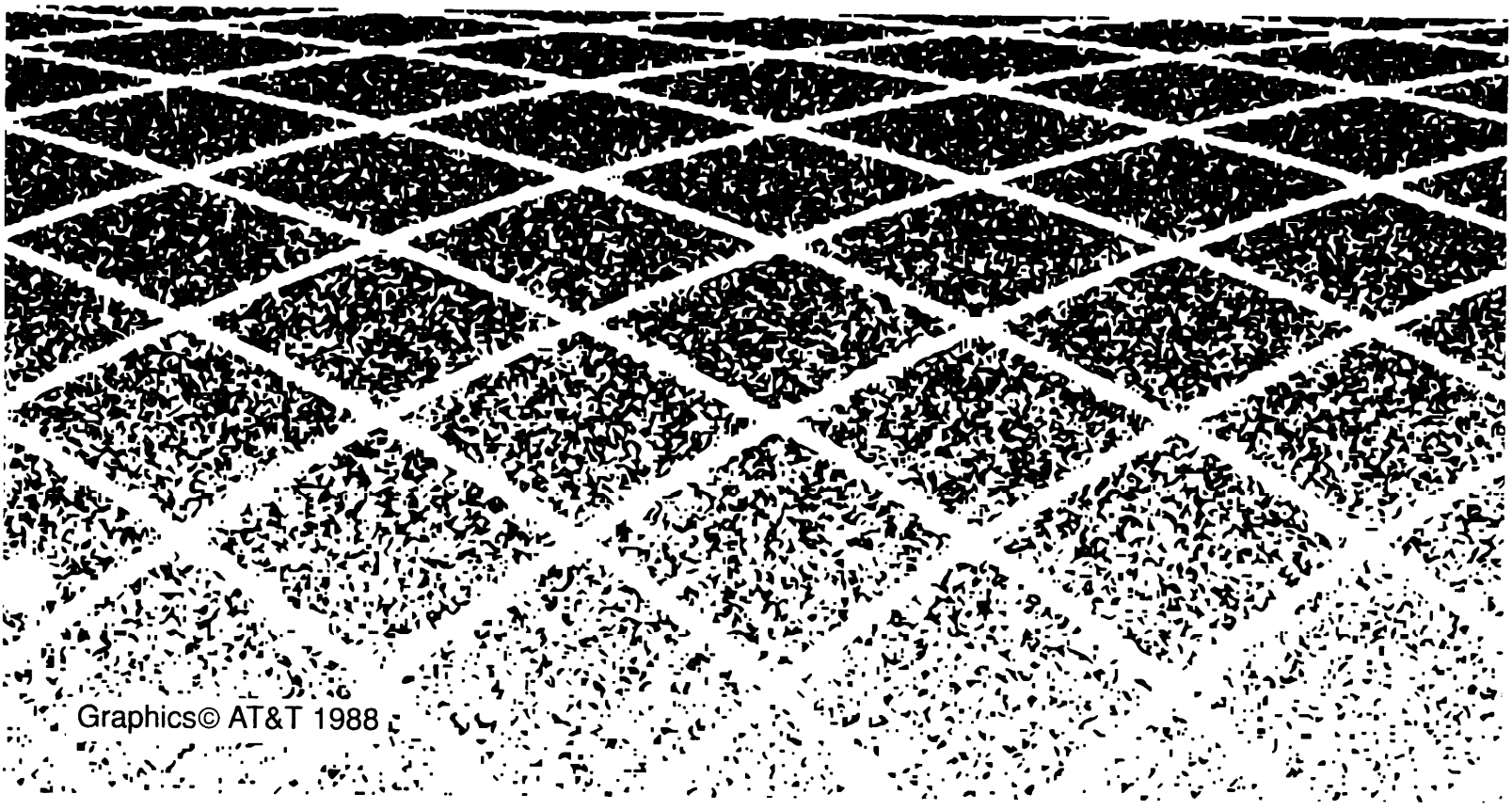
AT&T System 75

R1V3n
North American Numbering Plan (NANP)
Description and Administration



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Introduction

Each telephone number in World Zone 1, which encompasses the United States, Canada, Bermuda, and many Caribbean countries, assumes a format that is prescribed by the North American Numbering Plan (NANP), which is administered by the Bell Communications Research (BELLCORE®). A specific geographic address or destination code is assigned to each telephone in the area served by the NANP. The address is a 10-digit number consisting of a 3-digit Numbering Plan Area (NPA) code (commonly known as the area code) and a 7-digit directory number (DN). NPA codes were formerly of the format:

No/l X

where "N" indicates any digit from "2" through "9," "0/1" indicates either "O" or "1 ," and "X" indicates any digit "O" through "9." This format yielded a maximum of 160 codes.

As was true previously, 16 codes in the "NO/l X" format are resewed for "special" purposes, as follows:

- **N11 codes** are resewed for special local services. For example, "411" is reserved for local information, and "91 1" is reserved for emergency contact.
- **N00 codes** are *implicitly* reserved for nationwide services, such as the 800 and 900 services. These codes are usually not assigned as NPAs. However, N00 codes are not yet *explicitly* restricted from being assigned as NPA Codes.

Therefore, 144 codes remain for use as NPA codes. However, most of these NPA codes are already in use, and the ones remaining are tentatively assigned to areas that require number relief prior to January 1, 1995. Thus, to ensure the future availability of NPA codes, BELLCORE has changed the format of the NPA codes from “NO/l X“ to “NXX.” This method of relief of the NPA code exhaustion is referred to as Interchangeable NPA codes (INPA).

Also, due to the forecasted depletion of Inter Exchange Carrier (IXC) Codes (or Carrier Identification Codes (CICS)), BELLCORE developed a plan to expand the supply of IXC Codes. For Feature Group D (FGD), the dialable format, formerly “10XXX,” now becomes ”101XXXX,” where each “X” is an IXC Code digit. The complete format is now called IXC Access Codes or Carrier Access Codes (CACs). The leading “101” in the expanded IXC Access Code supports a phased transition, which is described later in this document.

Finally, a Metro-Extended and Overlay call capability has been developed to allow local 10-digit calling.

Purpose

The purpose of this document is to explain the System 75 R1V3n NANP. The document also strives to guide the customer in selecting and enabling the outpulsing plan suitable for his/her site.

If you are receiving this document for purposes other than for using NANP, refer to Chapter 3, “Customer Guidelines.”

Audience

This document is intended for everyone involved in installing anti/or using NANP for System 75 RIV3n. This includes system administrators, technicians, and customers.

Organization

Other than this section, the document is organized as follows:

Chapter l—NANP Enhancements and Interactions describes the enhancements for NPA and IXC codes, and it introduces the Metro-Extended and Overlay LNPAs. Also discussed are the relevant code table expansions resulting from these enhancements, the resulting interactions, and suggested outpulsing plans.

Chapter 2—Administration Options discusses how the System 75 R1V3n NANP is administered. To this end, a discussion of the appropriate forms and the populating thereof is provided.

Chapter 3-Customer Guidelines explains how to perform the appropriate software upgrade, and it presents the current and future NANP considerations of which the customer should be aware. The chapter also discusses changes made in the release since the 2.2 EDI.

Index contains an alphabetical, subject-to-page number cross-reference.

Appendix A—ARS FNPA Tables presents the ARS FNPA Table and the Special Entries ARS FNPA Table.

Appendix B-LNPA Toll Table presents the LNPA Toll Table.

NANP Enhancements and Interactions

1

Introduction

This chapter describes the enhancements for the System 75 RIV3n NANP. These enhancements include or involve the following:

- Expansion and subsequent use of NPA codes
- Expansion and subsequent use of IXC codes
- Establishment and subsequent use of Overlay and Metro-Extended LNPAs

Also discussed are NANP interactions with AAR, as well as the various restrictions relevant to the NANP.

NPA Codes

This section discusses Numbering Plan Area (NPA) code expansion and a number of consequences thereof, including how digit conflicts are resolved. Also described are toil/non-toll implications for the codes.

Code Expansion

The format of NPA codes will be changed as follows:

NO/IX ----> NXX,

where:

"N" = any value from "2" through "9," and
"X" = any value from "O" through "9"

NPA codes of the form "NXX" are called Interchangeable Numbering Plan Area (INPA) codes. NPA code expansion allows the System 75 RIV3n switch to provide ubiquitous access to NPA codes.

ARS FNPA Table Expansion

Previously, 160 of the 200 entries in the ARS FNPA table were administered as NPA codes of the form "N(O/1)X," This set of 160 NPAs is now expanded to 800 NPAs of the form "NXX." These 800 NPAs are distributed in groups of 100 entries among eight FNPA tables of sets "2XX, 3XX, ...9XX." A routing pattern number, an RHNPA number, or "h" or "H" (Home NPA) can be administered for each of these FNPA entries. The default for these entries is blank. See Appendix A for the display of the ARS FNPA tables.

N O T E :
As was true previously, you can administer a routing pattern or an RHNPA table number. The following entries in the FNPA tables cannot be administered with an RHNPA or H (Home NPA) table number:

211311411511611711811911

Special Entries in the FNPA Table

There is no expansion of the *special* entries table, which is actually organized into two tables, each of which contains 20 entries (see Appendix A). Each table contains two columns. The columns in the first table display entries of the forms "00X" and "01 X," while the columns in the second table display entries of the forms "10X" and "11X." The first table is used for routing special ARS calls that are dialed without an IXC Access Code. The second table is used for routing special ARS calls that are dialed with an IXC Access Code.

Except for the entries described in the following bullet list, the special FNPA entries have the same meaning in the R1V3 NANP as they do in the R1V3n NANP (see Table 1-1).

N O T E :
As was true previously, you can administer a routing pattern or an RHNPA table number. The following entries in the FNPA tables cannot be administered with an RHNPA table number:

000002004010015100102110119

Also, none of the special entries can be administered as an “H” table number.

■ Directory Assistance Calls

All “NXX-555-XXXX” calls (except “N00-555-XXX” calls) are routed via the special entry “FNPA-005.” System 75 R1V3n can provide special treatment for Directory Assistance calls dialed to N00-555-XXXX, where “N” is a number between “2” and “9” inclusive. The switch administrator is able to specify the Routing Pattern or RHNPA entry (by inserting “r” followed by the table number) for each “N00-555-XXXX” call separately via the special entries FNPA-(006-009) and FNPA-(016-019). For example, “800-555-XXXX calls” are routed via the special entry “FNPA-018,” and “900-555-XXXX” calls are routed via the special entry “FNPA-019.” If a Routing Pattern or RHNPA entry is not administered in a special FNPA entry corresponding to a specific “N00-555-XXXX” call, the call receives intercept tone.

Instead of a Routing Pattern, an RHNPA table can be administered for the entry “FNPA-005.” This allows “NXX-555” calls to be routed differently according to the dialed NPA of the Directory Assistance call (that is, according to the “NXX” portion rather than the “555” portion of the “NXX-555” string) in the corresponding RHNPA table.

Directory Assistance calls within the Home NPA behave the same whether the user dials just the 7-digit local number or the Home NPA + 7-digit number. These calls are routed on the HNPA table.

» NOTE:
Previously, “Home NPA + 555” calls were routed via a special “FNPA-005” entry.

■ Information Delivery Service (IDS) Calls

In System 75 R1V3n, you can route “NXX-976-XXXX” calls by administering a Routing Pattern for the “976” office code in the HNPA or RHNPA tables. However, since there are a total of 32 RHNPA tables available, these tables should not be used solely for blocking “976” calls.

Instead, in System 75 RIV3n, the special entry “FNPA-015“ is used for blocking or routing Information Delivery Service calls of the form “NXX-976-XXXX” (which are used for Time and Weather services, for example) for which a 6-digit translation on the RHNPA table has not been

administered in the corresponding NPA entry. The default setting for this special entry is “Blank.” Calls routing to “Blank’ receive intercept tone. Therefore, unless this special entry is administered, all calls to the “976” exchange except for those “976” calls for which the corresponding NPA entries are administered with the RHNPA tables are blocked and receive intercept tone.

In summary:

- “976” calls within the Home NPA behave the same whether the user dials the “976-XXXX” local number or the Home “NPA + 976-XXXX” number, and they are routed on HNPA table.
- For NPAs other than Home NPA, if an RHNPA table is administered for that FNPA, “976” calls follow the “976 entry” in that RHNPA.
- For NPAs for which no RHNPA table is administered, the “976” calls follow the special “FNPA-015“ entry.

- **Non-Domestic User Calls**

  Non-domestic user calls are preceded by the prefix “00(0/1)“ and are routed via the special “FNPA-004” entry. Such calls can be made by international callers but not by domestic callers.

- **International CDOS Calls with IXC**

  IXC International CDOS Calls are of the form “IXC+01N“ and are routed via the special “FNPA-112” entry.

- **IDDD Calls with IXC**

  Previously, if you dialed “ARS/AAR-fac+IXC+O11” followed by an international number, the call was routed on the “FNPA-111” entry. Now, “FNPA-111” is removed, “IXC+011” calls are routed via the “FNPA-011” entry, and the IXC code is ignored and is not outpulsed as long as the “Routing Treatment on (I) DDD calls dialed with IXC” field on the second page of the IXC form is administered as “ignore-IXC.” If this flag is set to “intercept,” the user receives intercept tone for an “IDDD with IXC” call.

  NOTE:
  All special FNPAs that are not currently in use in System 75 R1V3 but are now available in System 75 R1V3n always upgrade to blank. Accordingly, “FNPA-015,” “FNPA-004,” “FNPA-013,” “FNPA-014,” “FNPA-104” through “FNPA-109,” “FNPA-111 ,“ and “FNPA-113” through “FNPA-118“ should be upgraded to blank.

ARS Routing Table

The ARS Routing Table appears as follows:

Table 1-1. ARS Routing Table

Call Type	Dialed Digits	Routed On . . .	In Table . . .
Operator	o	000	FNPA
Toll Operator	00	002	FNPA
Non-Domestic	010x...x	010	FNPA
International Direct Dialing	011x...x	011	FNPA
Non-Domestic	00(0/1)X...X	004	FNPA
Toll Operator (10D)	OONX...X	003	FNPA
International CDOS	0INX...X	012	FNPA
Operator-Assisted (7/10D)	ONX...X	001	FNPA
Service	(1) N11	N11	FNPA
Local	(1) NXX-XXXX	NXX	HNPA
Directory Assistance	(1) NXX-555-XXXX	005	FNPA
Directory Assistance	(1) 200-555-XXXX	006	FNPA
Directory Assistance	(1) 300-555-XXXX	007	FNPA
Directory Assistance	(1) 400-555-XXXX	008	FNPA
Directory Assistance	(1) 500-555-XXXX	009	FNPA
Directory Assistance	(1) 600-555-XXXX	016	FNPA
Directory Assistance	(1) 700-555-XXXX	017	FNPA
Directory Assistance	(1) 800-555-XXXX	018	FNPA
Directory Assistance	(1) 900-555-XXXX	019	FNPA
HNPA (10D)	(1) HNPA-NXX-XXXX	NXX	HNPA
Direct-Dial Long Distance	(1) NXX-NXX-XXXX	NXX	FNPA
Information Delivery Service	(1) NXX-976-XXXX	015#	FNPA
IXC Cut-Thru	Ixc+#	119	FNPA
IXC Operator	Ixc+o	100	FNPA
IXC Toll Operator	Ixc+oo	102	FNPA
IXC Non-Domestic	Ixc+010x...x	110	FNPA
IXC Toll (1OD)	IXC+OONX...X	103	FNPA
IXC International Direct Dialing*	Ixc+011x...x	011	FNPA
IXC International CDOS	IXC+01NX...X	112	FNPA
IXC Operator-Assisted (1OD)	IXC+0NX...X	101	FNPA
IXC 7D Local*	IXC+ (1) NXX-XXXX	NXX	HNPA
IXC Directory-Assistance*	IXC+ (1) NXX-555-XXXX	005	FNPA
IXC HNPA (10D)*	XC+ (1) HNPA-NXX-XXXX	NXX	HNPA
IXC Direct-Dial Long Distance*	IXC+ (1) NXX-NXX-XXXX	NXX	FNPA
IXC Information Delivery Service*	IXC+ (1) NXX-976-XXX	015#	FNPA

* only if Routing Treatment on (I)DDDD calls dialed with an IXC is set to "ignore IXC." ARS ignores the dialed IXC access code unless the code is followed by "0."

only if there is no 6-digit translation for the dialed NPA

N = any digit 2-9
X = any digit 0-9
() indicates an optional digit

Digit Conflict Resolution

This section discusses how conflicts for INPA and CO codes dialed via ARS are resolved. Such conflicts are possible due to the NPA format change from “N0/1X“ to “NXX.” Conflict resolution for IN PA numbers involving ARS require the following:

- Differentiating between 7- and 10-digit IN PA numbers
- Understanding the general procedure for resolving conflicts

Differentiating Between 7- and 10-Digit INPA Numbers

There are two methods for distinguishing between a 7-digit INPA number and a 10-digit IN PA number. These methods include the Prefix Method and the Hybrid Method.

Prefix Method

The Prefix Method requires that all 10-digit numbers be introduced by a ”1” or a “o” prefix to indicate that 10 digits are to follow. According to this method, 7-digit numbers are dialed without a “1” prefix. The Prefix Method is **recommended** because it does not require a short interdigit timer after the seventh digit in order to differentiate between 7- and 10-digit calls. You can enable this method by administering on the Dial Plan Record the field “ARS Prefix 1: for 10-digit Calls?” to “required” and the field “ARS Prefix 1: for 7-digit Calls?” to “not-allowed.” Previously, there was no flag for 7-digit calls, and 7-digit calls could always be dialed with the prefix digit ”1.“

Hybrid Method

The Hybrid Method requires timing only in cases where a local or toll call number contains seven digits, is dialed with or without the prefix digit "1,“ and the dialed NXX code is assigned as both a central office code within the Home NPA (HNPA) and as an NPA code elsewhere in the NANP area. For the Hybrid Method to be successful, the PBX must be able to examine the first three digits received by the system after (if dialed) the leading ”1” to determine whether the digits comprise an NPA code only, an office code only, or an ambiguous code that is used as either type of code. In the third case only, the system waits a fixed period of time (approximately three seconds) after the system receives seven digits (excluding the prefix ”1," if dialed) to determine if additional digits are dialed. If no additional digits are dialed within the required period, the PBX times out and processes the call as a 7-digit call. Interdigit timeout can be canceled from a Dual Tone Multi-Frequency (DTMF) telephone by dialing “#” after the last dialed digit. On the other hand, if additional digits are dialed within the required time period, the call is processed as a 10-digit call. You can enable this method by administering the Dial Plan form field “ARS Prefix 1: for 10-digit Calls?” to “not-required” or by setting this field to “required” and the “ARS Prefix 1: for 7-digit Calls?” to “allowed.”

General Procedure for Conflict Resolution

Conflicts are resolved as follows: the prefix digits for the required flags on the Dial Plan form are checked, as is the matching “NXX” entry in both the HNPA and FNPA tables. If this entry points to a Routing Pattern in both tables, and if the prefix digit 1 (which may not be required for 10-digit calls or, on the other hand, may be dialed with 7-digit toll calls) is dialed, the length of digits dialed is identified by the hybrid method. If the timeout occurs, or if you dial “#” to cancel the timer after seven digits, this indicates that the call is a 7-digit HNPA call. Therefore, the call is routed to the HNPA table entry. However, if you dial a digit before the timeout occurs, this indicates a 10-digit NPA call is being placed. Therefore, the call is routed to the corresponding FNPA entry. If you pause more than three seconds after the seventh digit but intended to dial three more digits, the routing is attempted on seven digits, and the digits dialed after the timeout are ignored or end-to-end signaled. In this case, SMDR does not record the final three digits.

Scenarios

This section presents scenarios illustrating the use or non-use of ARS prefixes and interdigit timers within the dial plan. Accordingly, the different settings of the two “ARS Prefix 1 Required” flags are discussed, as is their meaning with respect to the 3-second short interdigit timer, which starts after the seventh digit.

NOTE:
“OA” in the following tables means the call is “Operator-Assisted.” Regardless of flag administration, “OA*’ calls of the form “0+7-digit” always require an interdigit timeout.

■ **Scenario 1 (Prefix Method)**

Premise The prefix "1" is required for all 10-digit ARS calls but is *never* dialed for 7-digit calls (due to administration on the Dial Plan form).

If you dial the prefix digit "l" followed by the number, the call is a 10-digit call, and no 3-second timer is given after the seven digits since there is no code conflict. On the other hand, if you do not dial the prefix digit "1" but just the number, the call is a 7-digit call, and no 3-second timer is required. The following table illustrates this scenario.

ARS Prefix 1: for 10-digit Calls? required ARS Prefix 1: for 7-digit Calls? not-allowed		
Call Type	**Dialed Number**	**Timing Required**
Local/Toll HNPA 7D	NXX-XXXX	No
FNPA 10D	1+NXX-NXX-XXXX	No
OA IOD	0+N0/1 X-NXX-XXXX	No
OA 7D/10D	0+NNX-NXXX...	Yes

■ **Scenario 2 (Hybrid Method)**

Premise The prefix "1" is required for all 10-digit ARS calls, and it may also be dialed for 7-digit ARS toll calls (due to administration on the Dial Plan form).

If you dial the prefix "1" followed by the number, and if there is a code conflict, there is no way at this point to determine whether a 7-digit call or a 10-digit call is being placed. Therefore, a 3-second timer is given after the seventh digit. The following table illustrates this scenario.

ARS Prefix 1: for 10-digit Calls? required ARS Prefix 1: for 7-digit Calls? allowed		
Call Type	**Dialed Number**	**Timing Required**
Local HNPA 7D	NXX-XXXX	No
Toll 7D/FNPA 10D	1+NNX-XXXX...	Only in case of a code conflict
FNPA 10D	1+NO/1X-NXX-XXXX	No
OA 10D	O+NO/IX-NXX-XXXX	No
OA 7D/10D	O+NNX-NXXX...	Yes

■ **Scenario 3 (Hybrid Method)**

Premise The prefix ”1” is not required for 10-digit calls, and it is never dialed for 7-digit calls (due to administration on the Dial Plan form).

If you dial a number without the prefix ”1,“ a 3-second timer is given after seven digits if there is a code conflict. However, for this scenario, if you dial the prefix “1 ,“ this signifies a 10-digit FNPA call and, as a result, no timer is required.

ARS Prefix 1: for lo-digit Calls? not-required ARS Prefix 1: for 7-digit Calls? not-allowed		
Call Type	**Dialed Number**	**Timing Required**
Local 7D/FNPA 10D	NNX-XXXX...	Only in case of a code conflict
FNPA 10D	1+NXX-NXX-XXXX	No
FNPA 10D	1+No/lX-NXX-XXXX	No
O A 1 0 D	0+N0/1lX-NXX-XXXX	No
OA 7D/10D	0+NNX-NXXX...	Yes

■ **Scenario 4 (Hybrid Method)**

Premise The prefix digit ”1” is not required for 10-digit ARS calls and may be dialed before a 7-digit ARS toll call (due to administration on the Dial Plan form).

If you simply dial an interchangeable NPA/CO, a 3-second timer maybe given after the seven digits if there is a code conflict. However, for this scenario, if you dial the prefix ”1 ,“ this signifies a toll call. As a result, a 3-second timer is given after the seven digits if there is a code conflict. The following table illustrates this scenario.

ARS Prefix 1: for 10-digit Calls? not-required ARS Prefix 1: for 7-digit Calls? allowed		
Call Type	**Dialed Number**	**Timing Required**
Local 7D/FNPA 10D	NNX-XXXX...	Only in case of a code conflict
Toll 7D/FNPA 10D	1+NNX-XXXX...	Only in case of a code conflict
FNPA 10D	No/l X-NXX-XXXX OR 1+NOI1X-NXX-XXXX	No
O A 1 0 D	O+NO/1X-NXX-XXXX	No
OA 7D/10D	O+NNX-NXXX...	Yes

Toll Call Analysis

Previously, a dialed 7-digit call prefixed by the digit ”1” was flagged as a toll call. Also, the system could not recognize a 7-diigit call dialed without the prefix digit “1” as a toll call. Now, a 7-diigit HNPA call dialed without the prefix diigit ”1” can be administered as a toll call by selecting the option “t” (toll) in the Home LNPA table (see Chapter 2, “Administration Options” for the appropriate HNPA office code). 7-diigit toll calls should be administered as toll calls in the LNPA Toll table corresponding to the Home Area Code. Even though all 7-diigit HNPA calls may be dialed without the prefix “1 ,“ the toll assignments for Toll Restriction and Forced Entry Account Codes are picked up from the LNPA Toll Table corresponding to the Home Area Code. The “local/toll” default on the table indicates that all 7-digit HNPA calls are initially local or toll.

NOTE:
The Home LNPA table does not drive the outpulsing of the prefix digit “1” for 7-digit calls. Instead, the ARS Toll List is provided for this purpose.

Also, previously, any 10-digit call (dialed with or without the prefix digit ”1”) was assumed to be a toll call. However, the introduction of Local Numbering Plan Area (LNPA) codes allows 10-digit-only calls that *are not necessary toll calls.* In other words, such calls can be local calls, depending upon administration (see the “Overlay and Metro-Extended LNPAs” section in this chapter).

NOTE:
For Metro-Extended and Overlay LNPA calls, the LNPA Toll tables drive the outpulsing plans (again, see the “Overlay and Metro-Extended LNPAs” section in this chapter).

NOTE:
Toll call analysis is applicable only to the Toll Restriction and Forced Entry Account Code (FEAC) features (discussed later in this chapter).

In summary:

- “1 + 7-digit” calls are always toll calls.
- 7-digit calls (dialed without the prefix digit ”1”) are local or toll calls as specified in the LNPA Toll Table corresponding to the Home NPA.
- 10-digit LNPA calls dialed with or without the prefix digit ”1” are local or toll calls as specified in the LNPA Toll Table corresponding to the dialed LNPA.
- All other 10-digit calls (for which the dialed NPA is not in the LNPA list) dialed with or without the prefix digit ”1” are toll calls.

Code Restriction

Code restriction administration now includes all the new IN PA codes. This means there are now “Code-Restriction FNPA” forms for all 800 NPA codes. Code restriction is applicable only when the call is a TAC call and when both the station and the outgoing trunk facility are “code-restricted.” Also, whenever code restriction is in effect, OA and international calls are always denied.

Toll Restriction and Allowed Calls

The ability to identify toll calls has been expanded in System 75 RIV3n. TAC toll calls are restricted if either the originating station or the outgoing trunk is toll-restricted. For details on toll calls, refer to the “Toll Call Analysis” section in this chapter.

The administration of the Allowed Call List allows 3-,5-, and 7-digit entries only. The 3-digit entries in the Allowed Calls List indicate NPAs, service codes, or CO codes. The 5- or 7-digit entries are used to indicate IXC codes. The Allowed Call List is not applicable if the “Allowed Call List?” field on the CO Trunk form is set to “n.” OA and International calls are always denied whenever toll restriction is applicable.

Forced Entry of SMDR Account Codes (FEAC)

The ability to identify toll calls requiring FEAC has been expanded in System 75 R1V3n. An SMDR Forced Entry Account Code (FEAC) must precede a dialed toll call FEAC is administered on a system-wide basis or on a Class of Restriction (COR), unless the originator is an attendant or a trunk. If the FEAC is administered on a trunk, any TAC call on that trunk requires an SMDR FEAC Code. Refer to the “Toll Call Analysis” section earlier in this chapter for further details.

APLT Trunk Calls

Previously, Off-Net Calls on an APLT trunk were defined as 10-digit calls of the form “NO/1X-NXX-XXX’ with or without the prefix digit ”1.“ In System 75 RIV3n, Off-Net calls from an APLT trunk are enhanced to include INPA calls.

IXC Codes

This section discusses the expansion of IXC codes and the consequences thereof.

Code Expansion

The format of the IXC codes will be changed as follows:

10xxx ----> 101XXXX,

where:

"X" = any value "O" through "9"

NOTE:
Specifically, for t time being, codes of the following forms are to be introduced first: "1010XXX," "1015 XXX," and "1016 XXX."

The IXC feature allows the System 75 R1V3n switch to provide ubiquitous access to the new IXC codes. A new page has been added to the IXC form to allow customers to specify the format of the IXC's (either 5-digit or 7-digit) being used.

IXC Routing

IXC routing is performed on DDD calls, Operator-Assisted calls, and TAC calls.

DDD Calls

The user can administer "intercept" or "ignore-IXC" for the "Routing Treatment on (I) DDD calls dialed with IXC" field on the IXC form. A DDD call with IXC starts with an IXC code, followed by an optional prefix digit "1," followed by a 7- or 10-digit domestic destination. An IDDD call with IXC starts with an IXC code, followed by the prefix digit "01 1," followed by an international destination. An "intercept" entry indicates that IXC direct dialed calls should be blocked and the user should subsequently hear an intercept tone. On the other hand, an "ignore-IXC" entry indicates that the IXC portion from the IXC direct dialed calls is to be deleted and the call is to be routed according to the "(I)DDD" portion of the call. In the latter case, the user-dialed IXC code is not outpulsed or recorded in SMDR.

Operator-Assisted Calls

There is no optional flag for routing operator-assisted calls dialed with IXC (that is, calls of the form "10XXX-0+" or "10XXX-01+"). These calls are routed according to the special entries in the FNPA table, and the IXC portion is outpulsed unless it is deleted on the Routing Pattern. This meets the FCC requirements for aggregators. Also, an SMDR record is generated for an OA call.

TAC Calls

For TAC calls, the IXC (if dialed) is outpulsed, and it is recorded in SMDR.

Station Message Detail Recording (SMDR) Records

In generating the SMDR record, the IXC digits are always filtered out from the called party number for ARS/ARR/TAC calls whenever an IXC is dialed, provided that the IXC matches an administered IXC. System 75 RIV3n records the dialed or outpulsed IXC code in the 1-digit IXC field of the SMDR record.

An IXC must be administered before it can be reported in SMDR.

If an ARS/AAR call is a direct-dialed call with an IXC code, and if the dialed IXC code is ignored by the "Routing Treatment on (I) DDD calls dialed with IXC" flag, the IXC index is not printed in the IXC field of the SMDR record unless it is inserted on the routing pattern.

Condition Code

Condition Code "D" is defined for an insufficient number of dialed digits. If the "Suppress SMDR for Ineffective Call Attempts?" field on the System-Parameters Feature form is administered as "n," this code is printed if the user has not dialed all the digits required for the call.

Digit Insertion

If an ARS/AAR call is dialed with or without an IXC code, and if five or more digits are inserted on the ARS Preference, the dialed digit IXC does not come into play. If fewer than five digits are inserted, the dialed IXC is reported. This is true because the system tries to match the beginning of the outpulsed string with an IXC. [f an IXC is inserted, it is recorded in the IXC field of the SMDR record. If there is no match, the IXC field contains the digit "0."

Digit Deletion

If there is digit deletion and no digit insertion, the IXC is not reported, even if it is dialed. This is true because digit deletion corrupts any dialed IXC.

Toll Restriction and Allowed Calls

All IXC calls are affected by Toll Restriction. If the user is toll-restricted and dials a TAC followed by an IXC and a DDD number, the call is subject to Toil Restriction. Such calls can be permitted via the Allowed Calls List. If this list is not used, the calls receive intercept tone.

OA and international calls dialed with or without the IXC are always denied for Toll Restriction.

Unless the Allowed Call List is disabled on the outgoing trunk form, the CO/FX TAC dialed direct DDD calls with or without IXC codes, which are usually toll-restricted, are allowed if there is a match in the Allowed Calls list.

Code Restriction

All IXC calls are denied when Code Restriction is in effect.

OA and international calls dialed with or without the IXC are always denied for Code Restriction.

Overlay and Metro-Extended Local NPAs

NOTE:
This section is relevant only if the switch resides in an area that has Overlay NPAs or Metro- Extended NPAs (that is, an area where 10-digit non-toll calling is possible).

Metro-Extended LNPAs allow local 10-digit dialing between neighboring or overlaid NPAs. Metro-Extended LNPA codes are in effect if the switch resides in the premium “Expanded Metro Service Scope” service of the public network.

System 75 RIV3n can support up to seven LNPA codes. The local and toll calls for each LNPA code are administered on separate tables that drive the Outpulsing Plans and both the Toll Restriction and the SMDR Forced Entry Account Codes for these calls. LNPA tables allow area code and/or office code pairs to be defined as local or toll calls. See Chapter 2, “Administration Options” for a description of the LNPA tables and Appendix C for the display of the LNPA **tables.**

NOTE:
An LNPA call is always dialed as either a 10-digit call or (if the prefix digit “1” is dialed) as an 11-digit call.

HNPA 10-Digit Dialing

If 10-digit dialing is required to reach some destination within the HNPA, the HNPA should be administered as an LNPA. All LNPA calls are, by definition, 10-digit calls. The HNPA is not used as an LNPA for 7-digit local calls or 7-digit toll calls. (7-digit local or toll calls to some destinations are still available within the HNPA.) For 10-digit local and 10-digit toll calls, the HNPA is used as an LNPA and therefore uses the LNPA Toll Table for outpulsing as well as for Toll Restriction and FEAC.

Toll Call Analysis

Usually, 10-digit calls are, by definition, toll calls. However, such calls can be administered as local calls via LNPA Toll Tables. One of these tables is used for the HNPA, even though the HNPA may not bean LNPA. If a 10-digit call is made, the “tollness” of the call is determined by checking the CO code entry within the LNPA Toll table.

The ARS Toll List specified on the routing pattern is never used for LNPA calls.

Toll Restriction

If a CO code in an LNPA Toll Table is administered as “local,” any 10-digit call made to that code is not subject to Toll (CO/FX TAC) Restriction. On the other hand, any 10-digit call to a CO code administered as a toll call is subject to Toll Restriction.

Forced Entry Account Code (FEAC) Restrictions

If a CO code in an LNPA Toll Table is administered as “local,” any 10-digit call made to that code is not subject to FEAC. On the other hand, any 10-digit call to a CO code administered as a toll call is subject to FEAC.

Outpulsing Plans

This section discussed outpulsing plans vis-a-vis operator calls, international calls, and domestic calls. Also, in this section,"toll" signifies a call that is a candidate for outpulsing the prefix digit "1."

Operator Calls

Operator-assisted (OA) calls within HNPA (and FNPA Protected Codes) and without interchangeable NPA/CO Codes are dialed and outpulsed as "O + 7-digit" calls. With IN PA and Interchangeable CO Codes in effect, these calls are dialed and outpulsed as "O + 10-digit" calls. However, the outpulsing of these calls is not affected by Outpulsing Plans. If required, you can perform the digit manipulation on the Routing Preference. If an OA call is outgoing on a Tandem Tie trunk, it is always outpulsed as a "0+1 O" digit call because the Traveling Class Mark (TCM) is appended at the end of the digit string.

International Calls

International and other non-domestic calls are not affected by Outpulsing Plans. However, the digits can be manipulated on the Routing Pattern, if required.

Domestic Calls

Outpulsing plans define the rules that govern whether or not one or both of the following occurs:

, Prefix digit "l" is outpulsed (whether or not "1" is dialed)

■ Dialed NPA is removed or the HNPA is inserted

In ARS, for the purpose of outpulsing, 7-digit toll calls are indicated by dialing the prefix digit "1" or within the Toll List given in the Preference. On the other hand, 10-digit calls are always toll calls unless such calls are local LNPA calls (see the "Overlay and Metro-Extended LNPAs" section in this chapter, if applicable).

For toll calls only, outpulsing of the prefix digit "1" for 7-digit HNPA calls is controlled by selecting the proper Prefix Mark and Toll List on the Routing **Preference.**

Outpulsing of the prefix digit "1" and inserting the HNPA or deleting the dialed NPA is determined by the corresponding Prefix Mark on the Routing Preference. With the NANP enhancements, the Prefix Marks now accommodate LNPAs (see the "Overlay and Metro-Extended LNPAs" section in this chapter).

Whenever a 7-digit ARS call is dialed, the HNPA is inserted in either of the following cases:

►Terminating NPA on the selected routing Preference is either blank or different from the HNPA, or

- Prefix Mark on the selected Preference is either “3” or “6,” and the call is either dialed as a ”1 + 7-digit” call or is listed as a toll call within the Toll table given in the Preference

Whenever a 7-digit call is dialed with the prefix “1 ,“ this signifies a toll call within the HNPA, and the call is outpulsed as dialed if the Prefix Mark on the Preference is either “O” or ”1.“ However, for any other Prefix Mark, the rules for toll calls in that Outpulsing Plan are followed.

Some 10-digit-only calls may also be local calls. Toll/local calls within Metro-Extended/Overlay NPAs are specified by the 6-digit LNPA Toll Tables provided in Appendix B.

An LNPA call should route to a pattern with Prefix Mark “5” or “6” so that one of the the following occurs:

- **For LNPA local calls:** Dialed NPA is not deleted, and the prefix digit ”1” is not outpulsed.
- **For LNPA toll calls:** Prefix digit ”1” is outpulsed.

The following table describes Outpulsing Plans “O” through “6” it indicates the Prefix Marks used therein:

Table 1-2. Outpulsing Plans

Prefix Mark	Call Type	#of Digits Outpulsed	Prefix Outpulsed
0	(1)+10D FNPA	10D	none
	(1)+10D HNPA	7D	none
	7D HNPA	7D	none
	1+7D HNPA	7D	1+
1	(1)+10D FNPA	10D	1+
	(1)+10D HNPA	7D	none
	7D HNPA	7D	none
	1+7D HNPA	7D	1+
2	(1)+10D FNPA	10D	1+
	(1)+10D HNPA	7D(local)	none
	(1)+10D HNPA	7D(toll)	1+
	7D HNPA	7D(local)	none
	7D HNPA	7D(toll)	1+
	1+7D HNPA	7D	1+
3	(1)+10D FNPA	10D	1+
	(1)+10D HNPA	7D(local)	none
	(1)+10D HNPA	10D(toll)	1+
	7D HNPA	7D(iocal)	none
	7D HNPA	10D(toil)	1+
	1+7D HNPA	10D	1+
4	(1)+10D FNPA	10D	none
	(1)+10D HNPA	7D	none
	7D HNPA	7D	none
	1+7D HNPA	7D	none
5	(1)+10D FNPA	10 D	1+
	(1)+10D LNPA	10D(local)	none
	(1)+10D LNPA	10D(toll)	1+
	(1)+10D HNPA	7D(local)	none
	(1)+10D HNPA	7D(toll)	1+
	7D HNPA	7D(local)	none
	7D HNPA	7D(toll)	1+
	1+7D HNPA	7D	1+
6	(1)+10D FNPA	10D	1+
	(1)+10D LNPA	10D(local)	none
	(1)+10D LNPA	10D(toll)	1+
	(1)+10D HNPA	7D(local)	none
	(1)+10D HNPA	10D(toll)	1+
	7D HNPA	7D(local)	none
	7D HNPA	10D(toll)	1+
	1+7D HNPA	10D	1+

The distinctions between the Outpulsing Plans (Prefix Marks) are provided as follows:

- **Prefix Mark O:**

  Never send the prefix digit “1” on a 10-digit call. However, if the user dials a prefix digit “1” on a 7-digit intra-NPA toll call, outpulse 1+ dialed 7-digit.

- **Prefix Mark 1:**

  Send prefix digit “1” on all FNPA (10-digit Inter-NPA) calls. However, if the user dials the prefix digit “1” on a 7-digit intra-NPA toll call, outpulse 1+ dialed 7-digit.

- **Prefix Mark 2:**

  Send the prefix digit “1” on all toll calls (that is, on all 10-digit FNPA calls and all 7-digit toll calls as listed in the associated Toll List). Outpulsing the Home NPA is not required with this Outpulsing Plan unless the NPA on the Preference is different from the HNPA. The Toll List field must contain the corresponding Toll List number (1 to 32) on the Routing Preference with this Prefix Mark.

- **Prefix Mark 3:**

  Send the prefix digit “1 ,“ and insert or keep the NPA code on all 7-digit toll calls (as specified on the associated Toll List) or 10-digit calls. In the case where the user dials only 7 digits, insert the Home NPA. The Toll List field must contain the corresponding Toll List number (1 to 32) on the Routing Preference with this Prefix Mark.

- **Prefix Mark 4:**

  Never send the prefix digit ”1” on 7-or 10-digit calls even though the user might have dialed the prefix digit ”1.“

- **Prefix Mark 5:**

  This plan is an enhancement of Outpulsing Plan 2 (corresponding to Prefix Mark 2). For 7-digit local calls, outpulse the dialed seven digits. For 7-digit toll calls, outpulse first the prefix digit ”1,“ then the dialed seven digits. For 10-digit Local NPA calls that are local, do not insert the prefix digit “1 ,“ and do not delete the dialed NPA. For all other 10-digit calls (including 10-digit Local NPA toll calls), outpulse the prefix digit “1 ,“ and do not delete the dialed NPA. The Toll List field must contain the corresponding Toll List number (1 to 32) on the routing Preference with this Prefix Mark.

- **Prefix Mark 6:**

  This plan is an enhancement of Outpulsing Plan 3 (corresponding to Prefix Mark 3). For 7-digit local calls, outpulse the dialed seven digits. For 7-digit toll calls, outpulse the prefix digit “1 ,“ followed by the Home NPA and then followed by the dialed seven digits. For 10-digit Local NPA calls

that are local, do not insert the prefix digit "1," and do not delete the dialed NPA. For all other 10-digit calls (including 10-digit Local NPA toll calls), outpulse the prefix digit "1" and do not delete the dialed NPA. The Toll List field must contain the corresponding Toll List number (1 to 32) on the routing Preference with this Prefix Mark.

NOTE:
For Metro-Extended and Overlay service, Outpulsing Plans 5 and 6 are required. This service allows local non-prefix 10-digit dialing between neighboring NPAs. Outpulsing Plan 5 is simply a variation of Outpulsing Plan 2 (described earlier in this chapter) with this specific service, and Outpulsing Plan 6 is a variation of Outpulsing Plan 3 (described earlier in this chapter).

Interactions with AAR Dialing

Whenever the user dials the Automatic Alternate Routing (AAR) access code plus a 10-digit DDD or IDDD number with or without the IXC access code, System 75 R1V3n recognizes this as an Off-net call, and the call is routed via the ARS feature.

If the user dials a 10-digit public network DDD call via AAR with or without the prefix digit "1 ," the call is analyzed by the ARS feature. A 7-digit call in AAR is an RNX (private networking) call if the format of the call is "NNX."

NOTE:
This implies that all public network domestic calls dialed via AAR must be 10-digit calls.

If the call is incoming on a tie (not an intertandem tie) trunk, the call can be one of three types, depending upon certain conditions, as follows:

- 10-digit FNPA call (if the first digit is "O" or "1")
- FNPA call (if the first digit is between "2" and "9," and the call is a 10-digit call)
- 7-digit RNX call (if the first and second digits are between "2" and "9")

General Conflict Resolution Procedure

NOTE:
The Dial Plan has been changed to include the "AAR Prefix 1: for 10-digit Calls?" flag, which can be set to "required" or "not-required." Here, "required" implies that all 10-digit FNPA calls dialed via the AAR feature must be preceded by the prefix digit "1."

If an AAR prefix is not required for 10-digit calls (via dial plan administration), a short interdigit timer is required to differentiate a 7-digit RNX call from a 10-digit FNPA call whenever the first and second digits are between "2" and "9."

Conflicts are resolved as follows: if the prefix digit required field on the Dial Plan Form is administered as "not-required," and if an entry is administered for both the FNPA and RNX tables, the call is kept pending until seven digits are collected. If at this point the interdigit timeout occurs, or if the user dials "#" after seven digits, a 7-digit RNX call is being placed, and the call is routed according to the RNX table. If the user dials the next digit prior to the timeout, a 10-digit FNPA call is being placed, and the call is routed on the corresponding FNPA entry.

If the AAR prefix "l" is administered as "required," a call with the leading digit "1" is a public network call. Therefore, no digit conflict is possible. If the AAR prefix "1" is required but not dialed, the call is routed via RNX tables. However, if the dialed digits are not in "RNX" format, intercept tone is received.

Scenarios

This section presents scenarios illustrating the use or non-use of AAR prefixes and interdigit timers within the dial plan. Accordingly, the "AAR Prefix 1: for 10-Digit Calls" flag is discussed, as is its meaning with respect to the 3-second short interdigit timer, which starts after the seventh digit.

NOTE:
It is recommended that the Prefix Method be used to differentiate between 7-digit and 10-digit numbers because this method does not required a short interdigit timer after the seventh digit for this purpose.

- **Scenario 1 (Prefix Method)**

  The prefix digit "1" is required for all 10-digit AAR calls.

  To avoid the timer, it is recommended that the "AAR Prefix 1: for 10-digit Call?" flag be set to "required." If the prefix digit "1" is dialed, a 10-digit FNPA call is being made; otherwise, a 7-digit RNX call is being made. The following table illustrates this scenario.

AAR Prefix 1: for 10-diait Calls? required		
Call Type	**Dialed Numher**	**Timing Required**
RNX 7D	NNX-XXXX	No
Invalid Call	NO/1X...	No
FNPA 10D	1+NNX-NXX-XXXX	No
OA 10D	0+NXX-NXX-XXXX	No

■ **Scenario 2 (Hybrid Method)**

The prefix “1” is not required for 10-digit AAR calls.

If the “AAR Prefix 1: for 10-digit Calls?” is set to “not-required,” and if the prefix “1” is not dialed, it maybe difficult to differentiate a 7-digit RNX call from a 10-digit FNPA call. As a result, a 3-second timer is started after the seven digits if there is a code conflict (that is, if the corresponding NNX entry exists in both the RNX and FNPA tables). The following table illustrates these points.

AAR Prefix 1: for 10-digit Calls? not-required		
Call Type	**Dialed Number**	**Timing Required**
RNX 7D/FNPA 10D	NNX-XXXX...	Only in case of a code conflict
FNPA 10D	1+NXX-NXX-XXXX	No
FNPA 10D	N0/1X-NXX-XXXX	No
OA 10D	0+NXX-NXX-XXXX	No

Tandem Tie Trunks/Traveling Class Mark (TCM)

The following sections discuss the operation of private network calls, public network calls, and international calls vis-a-vis Tandem Tie trunks and the TCM.

Private and Public Network Calls

An outgoing private network call over an intertandem tie trunk, is outpulsed as a 7-digit RNX number with a TCM appended at the end. On the other hand, a outgoing public network call over an intertandem tie trunk is expanded to a 10-digit FNPA call with a TCM appended at the end.

At the far end, an incoming call over an intertandem tie trunk is a 7-digit private network call or a 10-digit public network call (with or without the prefix digit “1”) followed by a TCM digit. Therefore, the TCM is picked up as the eighth digit for a private network call and as the eleventh or twelfth digit (depending on whether or not the first digit was the prefix digit “O” or” 1”) for a public network call.

If an incoming ARS OA call is received over an intertandem tie trunk, the TCM is picked up as the twelfth digit.

NOTE:
It is recommended that the prefix digit “1” always be outpulsed for public network calls over intertandem tie trunks and that the Dial Plan flags for the far-end switch be administered to handle 1+1 O-digit calls coming over such trunks. By doing this, conflicts between 7-digit RNX calls and 10-digit public network calls can be avoided.

International Calls

System 75 RIV3n is not configured to send a TCM over an intertandem tie trunk for International (01 + and 011 +) calls. For the incoming intertandem tie trunk, the switch assumes the last digit is a TCM for all calls (including international calls, for which the TCM is never sent). This digit may be "#," which indicates the end of a digit string for international calls. In the latter case, however, because "#" is not a valid TCM digit, the assumption is that the TCM equals "O." As a result, an ETN with System 75 R1V3n linked via intertandem tie trunks to any PBX may not be able to complete international (011+) calls routed over intertandem tie trunks. Therefore, it is strongly recommended that the customers do not use intertandem tie trunks in the Routing Pattern for International calls.

Administration Options

2

Introduction

This chapter discusses how the System 75 RIV3n NANP is administered. A discussion of the appropriate form-s and code tables required to administer the NANP is included.

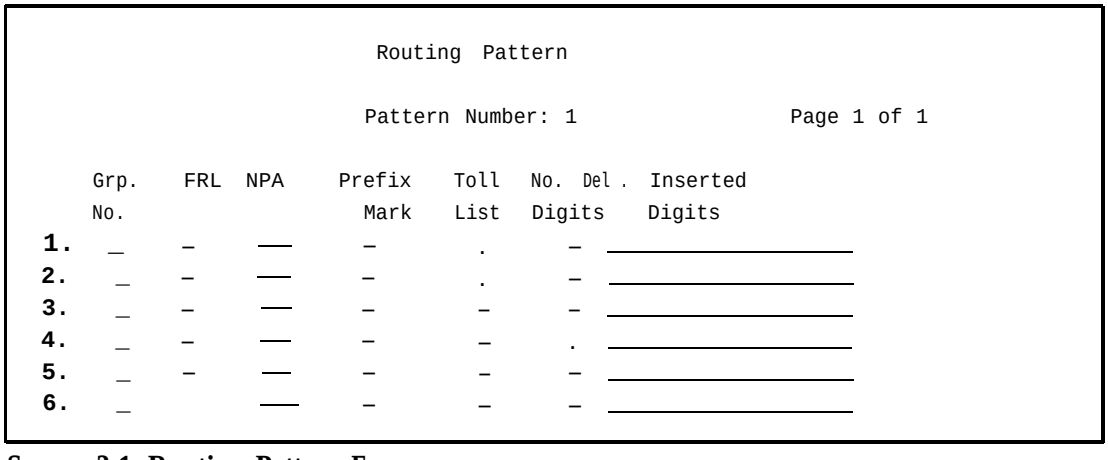
N O T E :
The customer must purchase the System 75 RIV3n package to administer enhancements for NANP. Otherwise, the on-line forms needed for administration will not display all the required fields.

Revised Forms

Except for the IXC Codes form (which is presented later in this chapter), this section presents the forms that have changed due to the changes in the NANP.

Routing Pattern Form

The Routing Pattern form now appears as follows: (Routing Pattern Number "1" is used as an example.)



```
                          Routing  Pattern

                          Pattern Number: 1                Page 1 of 1

     Grp.    FRL  NPA     Prefix    Toll   No.  Del .  Inserted
     No.                    Mark    List   Digits     Digits
1.    _      _     ___      _        .       _   ____________________
2.    _      _     ___      _        .       _   ____________________
3.    _      _     ___      _        _       _   ____________________
4.    _      _     ___      _        _       .   ____________________
5.    _      _     ___      _        _       _   ____________________
6.    _            ___      _        _       _   ____________________
```

Screen 2-1. Routing Pattern Form

The "NPA" field now accepts area codes of the form "NXX." The "Prefix Mark" field now accepts a digit between "0" and "6."

Allowed Calls List

The Allowed Calls list now appears as follows:

```
                    ALLOWED CALLS LIST ( FOR TOLL RESTRICTION)

AREA/LONG DISTANCE CARRIER CODES ( Enter up to 10 )

          1: 1012345                    6:
          2:                            7:
          3:                            8:
          4:                            9:
          5:                           10:
```

Screen 2-2. Allowed Calls List

Entries can be administered as any of the following:

- 3-digit NPA or CO code of the form ''Nxx"
- 5-digit IXCcode of the form ''10XXX"
- 7-digit IXC code of the form "101XXXX"

System-Parameters Customer-Option Feature Form

The System-Parameters Customer-Option Feature form now appears as follows:

```
system-parameters   customer-options                          Page   l o f l

                            OPTIONAL  FEATURES


                    Abbreviated Dialing Enhanced List? n
                                 Authorization Codes? n
                    Automatic Call Distribution (ACD)? n
                      Automatic Route Selection (ARS)? n
                 Automatic Route Selection Partitioning? n
              Centralized Attendant Service (CAS) Branch? n
                Centralized Attendant Service (CAS) Main? n
                  Distributed Communication System (DCS)? n
                       Emergency Access to the Attendant? n
                           Forced Entry of Account Codes? n
                                       Hospitality?  n
                     Hospitality Parameter Reduction? n
                         Numbering Plan Enhancements? y
                                  Private Networking? n
                                   Service  Observing?  n
                                Uniform Dialing Plan? n
          (NOTE: You must logoff & login to effect the permission changes.)
```

Screen 2-3. System-Parameters Customer-Options Features Form (System 75 RlV3n)

The ''Numbering Plan Enhancements?" field has been added. This field will be enabled in the tape received by those customers who have purchased System 75 RlV3n.

Note:

Before the user can use the new fields on the following forms presented in this chapter, the technician must administer the "Numbering Plan Enhancements?" option in the System-Parameters Customer-Options Administration form to ''y'' (which is the default when the NANP release rs purchased).

Establishing an NANP Dial Plan

This section explains how to establish dialing plans involving FNPA, HNPA, LNPA, and IXC codes,

Dial Plan Record (HNPA, LNPA)

The Dial Plan Record is used to establish and enable prefix flags and HNPA and LNPA codes. The Dial Plan Record appears as follows:

```
                                    DIAL PLAN RECORD

Home  Area  Code: _    Local Area Codes:
        ARS Prefix 1:  for 10-digit Calls? __________  for 7-digit Calls?
        AAR Prefix 1:  for 10-digit Calls? __________
               Uniform Dialing Plan? _      Plan Length: _
FIRST DIGIT TABLE
First                                    Length
Digit   - 1 -        - 2 -        - 3 -        - 4 -        - 5 -        - 6 -
  1:
  2:
  3:
  4:
  5:
  6:
  7:
  8:
  9:
  0:  attendant
  *:
  #:
```

Screen 2-4. Dial Plan Record

Setting Prefix Flags

Setting the “ARS Prefix 1: for 10-digit Calls?” field on the Dial Plan Record to “required” implies that prefix “1” is to be entered before dialing all 10-digit DDD calls, and the entry “not-required” implies that all numbers for 10-digit DDD calls may not be preceded by this prefix. It is recommended that the prefix be administered as “required” for all 10-digit calls.

Setting the “ARS Prefix 1: for 7-digit Calls?” on the Dial Plan Record to “not-allowed” implies that the prefix digit ”1” cannot be entered before dialing 7-digit local and/or toll calls.

N O T E :
Failure to follow the recommendations for 7-digit and 10-digit calls could result in the use of timers to determine how to route certain calls. As a result, call completion could be delayed by a few seconds in some cases. Refer to Chapter 1, “NANP Enhancements and Interactions” for more details.

The Help message for the ”10-digit” fields is:

```
not-required required.
```

The Help message for the “7-digit” field **is:**

```
allowed  not-allowed.
```

The Error message for these three fields is:

```
<x> is an invalid entry; please press HELP.
```

The default value for “ARS Prefix 1: for 10-digit Calls?,” for “7digit Calls?” and for “AAR Prefix 1: for 10-digit Calls?” is “not-required,” “allowed” and “not-required,” respectively.

Entering HNPA and LNPA Codes

To define the home area code of the switch, enter the code (of the form “NXX”) to the right of the “Home Area Code:_“ field.

The Help message is:

```
Enter 3-digit area code
```

and the Error message is:

```
<xxx> Invalid area code.
```

To the right of the field mentioned in the previous paragraph is the “Local Area Codes” field. Note that the field is followed by seven blanks. You can administer up to seven LNPAs of the form “NXX’ by populating these blanks. The LNPAs can be either Metro-Extended NPAs or Overlay NPAs, in which the user can dial local calls with 10-digit DDD numbers.

The Help message is:

```
Enter 3-digit area code
```

and the Error message is:

```
<m> Invalid area code
```

LNPA Capabilities and Restrictions

The following capabilities and restrictions concerning LNPA should be noted:

- Duplicate LNPA entries are not allowed. If you enter an LNPA that is already assigned, the error message:

```
Duplicate LNPA entries are not allowed.
```

  appears on the administration terminal screen.

- You can administer a Home Area Code in the LNPA list. In such a case, the LNPA toll tables corresponding to the Home Area Code are the same as those corresponding to the same LNPA value in the LNPA list.
- If you administer a new LNPA value in the LNPA list, or if you change or delete an old LNPA value in the list, and if you then submit the Dial Plan form, the corresponding LNPA toll tables are reinitialized to the original default (that is, to the “local” value). Similarly, if you change the value of the Home Area Code, the LNPA toll tables associated with Home Area Code are reset to the “local” values.

NOTE:
If a new LNPA code or Home Area code is administered on the Dial Plan, a new defaulted set of LNPA toll tables is associated with the new LNPA or Home Area code entry.

Using Code Tables

The following sections discuss how to use FNPA tables and LNPA Toll tables.

FNPA Tables

The expanded FNPA table contains 800 NPAs of the form “NXX.” These FNPAs are distributed in groups of 100 entries among eight FNPA tables of sets “2XX, 3XX,.. .9XX.” The expanded FNPA table is discussed in Chapter 1, and an example of the table is provided in Appendix A.

FNPA tables are accessed via the following command:

change ars fnpa <nxx>

The help message on the command line for accessing an FNPA table is:

```
Enter area code "iix" or "nxx"   (where  i(0-l),n(2-9),x(0-9))  ['group' ( 1 - 8 ) 1
```

LNPA-TOLL Tables

There are eight LNPA toll tables. One table is for the HNPA, and the other seven tables are for each of the Local NPAs. Each LNPA table consists of 800 entries corresponding to each of the CO codes in that area code. The tables are accessed via the local area code and the CO code within that area code. The switch determines whether the area code referred to has been administered in the Dial Plan Record as the Home Area Code or as one of the Local Area Codes. The LNPA Toll tables are used to identify toll calls for the Forced Entry Account Code (FEAC) for ARS, AAR, and CO/FX TAC calls, and they are also applicable to CO/FX TAC calls for Toll Restriction. These tables also drive Outpulsing Plans 5 and 6 for LNPA calls. LNPA toll tables are presented in Appendix B.

LNPA toll tables are allocated (and defaulted to “local”) via the administration of LNPAs on the Dial Plan Record. You can associate LNPA toll tables by first administering a Home Area Code and one or more LNPA codes and then by entering one of the following commands at the terminal:

change lnpa-toll <npa>:<nxx>

or

display lnpa-toll <npa>:<nxx>

where “<npa>” is the Home Area Code or the LNPA code, “<nXx>” is a Central Office (CO) Code, “n” = any digit from “2” through “9,” and “x” = any digit from “O” through “9.”

For example, let’s assume that you administer “21 2“ as the Home Area Code

and “917“ and “718“ as LNPA Codes. Then, let’s assume you enter “change Inpa-toll 212:334.” In such a case, the toll table corresponding to HNPA 212 with CO codes ranging from “300” to “399” is accessed. Thereafter, you can administer any of these 100 entries to correspond to either a toll call (by entering “toll”) or a local call (by entering “local”).

The help message for the “change” version of the command is the following:

```
Enter area code and office code nxx' : nxx where n(2-9), x(0-9)
```

If you try to enter an NPA other than the Home Area Code or one of the Local Area Codes administered in the Dial Plan Record, the following error message appears upon execution of the “change Inpa-toll” command:

```
LNPA is not assigned, check the dial plan for a valid LNPA/HNPA area code
```

If the CO code is omitted from the command line, the help message still displays the same information.

If the CO code is not of the type “nxx,” the following message is displayed:

```
<nxx> is an invalid entry, please press HELP key
```

Upon executing the command “change Inpa-toll <xxx> :200,” where “<xxx>” is the Home Area Code, pressing the HELP key for the field “local/toll default:” displays “local toll.” The error message

```
<xxx> is an invalid entry, please press HELP key
```

appears if you enter something other than “iocal/toll.” Also, upon executing this command, the help message for the CO code fields displays “local toll.” “l” is displayed as the initial value for these fields if the entry for the field “local/toll default:” is “local.” Afterwards, you can modify the individual office code entries to “l” or “t.”

Initially, for each of the LNPA toll tables, the “local/toll” default is set to “local,” and all the CO code fields are set to “l” (for “local”). This means that all 7-digit HNPA and all 10-digit LNPA calls are initially considered to be “local.”

You can change all 100 entries of an individual LNPA Toll table by administering the “local/toll default: _“ field to tloll” or “local.” In such a case, after leaving this field, each entry for the LNPA toll table is changed to ‘T’ or “l.” *Only* the values for the 100 office code entries (n00 to n99) provided on the table in question are changed. In order to change the “local/toll” default for all 800 entries in the HNPA/LNPA, you must access each of the eight tables corresponding to “<npa>:<n00>” (where n = any number from “2” through “9”) and then change the “local/toll” default in each table.

N O T E :
Changing the “local/toll default: _____“ field in an LNPA toll table alters all 100 CO code entries that belong to this table. All the previous code entries are lost.

N O T E :
Besides Outpulsing Plans 5 and 6 for ARS, the LNPA toll tables are applicable to CO/FX TAC calls for Toll Restriction and Forced Entry Account Codes (FEACs). Any such table corresponding to an HNPA is used only for Toll Restriction and FEACs for ARS and CO/FX TAC calls.

IXC Codes

IXC codes are established and enabled by making the appropriate entries on the IXC form, which is discussed in the next section. Subsequent sections discuss the relationship between IXC codes and several features.

IXC Form

The IXC Form contains two pages and appears as follows:

```
                                                          Page 1 of 2
                    INTER-EXCHANGE CARRIER CODES
IXC Codes Assignments (Enter up to 15)
CDR    IXC                              CDR    IXC
IXC    Access                           IXC    Access
Code   Number     IXC Name              Code   Number     IXC Name
1:     _______    ____________________   9:    _______    ____________________
2:     _______    ____________________   10:   _______    ____________________
3:     _______    ____________________   11:   _______    ____________________
4:     _______    ____________________   12:   _______    ____________________
5:     _______    ____________________   13:   _______    ____________________
6:     _______    ____________________   14:   _______    ____________________
7:     _______    ____________________   15:   _______    ____________________
8:     _______    ____________________
```

Screen 2-5. Inter-Exchange Carrier Codes Form (Page 1 of 2)

```
                    EQUAL ACCESS CARRIER CODE FORMATS
                                                          Page 2 of 2
                        IXC Prefix      IXC Code Format

                    1.     10               xxx
                    2.     _                ____
                    3.     _                ____
                    4.     _                ____
                    5.     _                ____

Routing Treatment on (I)DDD calls dialed with IXC:   Ignore-IXC
                                                     _ - - - - _
```

Screen 2-6. IXC Form (Page 2 0f 2)

The user can administer two or three digits (“10’’or ’’1O1") in the IXC Prefix field, and three or four digits or wild cards in the IXC Code format field. The default for the IXC prefix and code formats is ’’10-XXX’’ (seethe previous form). The user can administer Equal Access Carrier Code formats by selecting ”101” as the IXC prefix and “0XXX” as the IXC Code format.

The default IXC format upon upgrading to System 75 R1V3n is “10XXX.” To support the ”101XXXX” format, you should administer either ”1010XXX,” “1015XXX,” or ”1016XXX” on the second page of the IXC form.

If you administer the IXCs ”10-XXX” and “101-XXXX,” the longer matching format is chosen to represent the IXC Prefix and Code lengths used in the dialed string. For example, if you dial “10182-1 -212 -X... X,” the string “1018212“ is matched with ”101-XXXX’ and is interpreted as the dialed IXC. If you want to match with the shorter ”10-XXX’ format, the longer IXC format should be administered more specifically (for example, “101-1XXX”). Similarly, if the user administers ”10 -0XXX,” administering ”10-XXXX’ is not allowed.

N O T E :
CO/FX-TAC calls are not affected by the “Routing Treatment on (I) DDD calls dialed with IXC” flag.

Interaction between IXC Code Assignments and Equal Access Carrier Code Formats

The IXC Code Assignments table (on the first page of the IXC form) assigns codes ”1” through “f” to various IXC access numbers. Care should be taken that the Equal Access Carrier codes listed on the first page match the prefix code and the format length on the second page. However, if there is no such matching (for example, 950-0288), the format does not matter, and the form can be submitted.

If the IXC Prefix portion of an IXC access number on the first page matches the

IXC Prefix format provided on the Equal Access Carrier Code Formats (on the second page of the IXC form), and if the length of the IXC access number is the same as the sum of the lengths of the IXC Prefix and Code formats, System 75 RIV3n ensures that the IXC Code portion matches the IXC Code format on the second page. Otherwise, the user is not able to submit the form, and the error message “Enter the IXC access number matching with IXC Prefix and Code Format on page z“ is displayed on the terminal screen.

Customer Guidelines

3

Introduction

You, the customer, need to do very little to enable and use NANP enhancements on System 75 RIV3n. This chapter discusses what you must do in this regard. Topics include upgrade procedures, software modifications, current considerations, and future considerations.

Upgrade Procedures

The following sections discuss the upgrade procedures for the customer and the technician.

Customer 0ption

The customer should use the following procedures to upgrade software:

1. Save translations onto all but one of the old tapes.
2. Insert the new tape.
3. Save the translations onto the new tape.
4. Save announcements, if applicable.
5. Perform a system reset by powering the switch off and on. (This will cause about 15 minutes of service disruption.)
6. Put the new backup tape into the drive and save the translations and announcements, if applicable.

NOTE:
It is recommended that the “save translations” command be issued during slow traffic hours.

Technician Option

The technician should implement the following procedures when upgrading software:

1. Save translations onto the current tape.
2. Insert the tape with the new software.
3. Save translations onto the new tape.
4. Perform a “reset system 4.”
5. Put the new backup tape into the drive and save the translations.

NOTE:
Complete instructions for upgrading are included in *System* 75 *Upgrades and Additions,* 555-200-106 and 555-201-106.

Special Procedure for Upgrading Systems with Announcements

In System 75 RIV3, if the system is powered down during an upgrade, it will be necessary to save announcements prior to the power down and to restore announcements after the reboot is complete,

In the RIV1/RlV2 releases, the announcement translations do NOT automatically upgrade to the new announcement administration. Therefore, when upgrading from R1V1 and/or R1V2 translations you must do the following:

1. Remove all announcements
2. Save translations
3. Perform the software upgrade
4. Retranslate the announcements on the New Announcement form

NOTE:
Complete instructions on upgrading can be found in System 75 *upgrade and Additions,* 555-200-106 and 555-201-106.

Modifications Since the *2.2* EDI

The following list indicates and explains the relevant software modifications since the *2.2* EDI.

- **Support for Robbed-Bit AVD 56kb (already supported in G1)**

  Previously, an incoming trunk data call over a robbed-bit AVD trunk sometimes failed if the call was placed to a data extension. This happened because the switch provided no answer tone back to the incoming trunk when the call was answered. Now, under the same scenario, the switch provides answer tone to the incoming robbed-bit AVD trunk and the call successfully completes.

- **Call Forward Off-Net Restriction with FRL checking**

  Previously, a station that was outward-restricted was able to use Call Forwarding to forward a call out of the switch. In such a case, the user could then go to another phone, call his or her own station, and effectively circumvent the outward restriction. Now, a station that is outward-restricted is not able to activate Call Forwarding to an off-premises destination.

- **Permanent Disabling of Remote Access**

  Previously, users who did not even configure the Remote Access feature were subject to hackers who could break into the INADS port, hack the login and password, and then configure Remote Access. In so doing, the hacker had access to all switch resources, including the outgoing trunks for long distance calling. Now, via administration, users can disable Remote Access such that the feature and the associated form are no longer available on the switch. This prevents the toll fraud that resulted from hackers enabling Remote Access.

- **Code Calling Fix to Alleviate Locked Up Trunks**

  Previously, code calling trunks could get hung by analog stations whenever the analog station flashed the switchhook during code calling and attempted to activate code calling again. This second attempt always failed because the code calling trunk was still connected on the first call. However, if the analog station subsequently hung up, the trunk was left hung. Now, the code calling trunks are properly released whenever the analog station hangs up after the second code calling attempt fails.

Current Considerations for NANP

You should keep in mind the following expanded capabilities, differences, and recommendations:

- **7-digit toll calls**

  Previously, the system could not determine when a 7-digit call dialed without the prefix digit ”1” was a toll call. As a result, a caller could not be restricted (via Toll Restriction or FEAC) from making non-prefixed 7-digit toll calls. Now, you can identify, via administration on the Home LNPA Toll Table, which non-prefixed 7-digit calls are toll calls.

- **IXC (I)DDD routing**

  Previously, there was no choice for the routing treatment on (I) DDD calls dialed with an IXC code. The system always ignored a user-dialed IXC for a DDD call. Now, you can administer “intercept” or “ignore-IXC” within the “Routing Treatment on (I)DDD calls dialed with IXC” field in the IXC form. “Intercept” blocks the IXC direct dialed call and causes the caller to hear an intercept tone. “Ignore-IXC” causes the IXC portion of an IXC direct dialed call to be deleted and the call to be routed according to the (I)DDD portion of the call.

- **SMDR for calls dialed with an insufficient number of digits.**

  The new Condition Code “D” in SMDR indicates calls dialed with an insufficient number of digits.

- **Dial plan flags**

  You might want to consider changing the appropriate dial plan flags in order to avoid dialed digit conflicts. Otherwise, as interchangeable area codes become implemented in the public network, delays in routing calls may occur [see Scenario 1 (Prefix Method) for both ARS and AAR in the “Scenarios” sections in Chapter 1, “NANP Enhancements and Interactions”].

- **10-digit local calling**

  With the introduction of the LNPA tables, 10-digit /oca/ calling is now possible (see the “Overlay and Metro-Extended LNPAs” section in Chapter 1).

Future Considerations for NANP

This section presents a number of future considerations regarding impact on the switch due to possible changes in public network dialing. The discussion is presented in question and answer form.

- **What should 1 do once the new NPAs (for example, “957”) are implemented in the public network starting in 1995?**

  For ARS, if you want the user to be able to place a call to the new NPA (“957”, for example), administer a routing pattern or RHNPA table number for FNPA “957.” If the routing pattern or RHNPA table is new, configure the pattern or table according to the usual procedure.

  If TAC calling is available, decide whether or not toll-restricted users should be allowed to call into the NPA. If you decide to grant this permission, administer the NPA (for example, “957”) in the Allowed Calls list. This allows both CO code “957” and INPA code “957” calls to be accessed. If a call to this CO is a toll call, decide whether the NPA is to be code-restricted (which is the default).

  For the code-restricted user, decide whether the NPA is to be code-restricted by administering the FNPA table for the code.

  Finally, administer any new specific INPAs as implemented by the public network.

- **How do I include and enable 7-digit IXCs?**

  You must correctly administer the IXC form. If 5-digit IXCs are still required (that is, if the format “10XXX” is still in use by your long-distance carrier), do not delete the entry; in addition, administer either ”1010XXX,” “1015XXX,” or ”1016XXX” (whichever is appropriate) on the second page of the IXC form and the 7-digit IXC code on the first page of the form.

  NOTE:
  Never administer ”101XXXX” if 5-digit IXCs are of the form “10XXX” are still in use. Otherwise, if you dial an IXC of the form “101 XX,” the system will pick up the next two digits and assume that the digits are part of the IXC of the form “101XXXX.” [For example, if you dialed “10192-1-202-456-XXXX,” this string would match with the longer IXC (101-XXXX), and the call would be incorrectly routed to “0-245-6XXX.” Thus, the last digit would be ignored.]

  If 5-digit IXCs are no longer required by your long distance carrier, administer the format ”101XXXX’ (no 5-digit format) and remove the 5-digit IXCs and the format.

- **What needs to be done if local 10-digit calls are possible in my area (that is, if Overlay and Metro-Extended NPA codes are in effect)?**

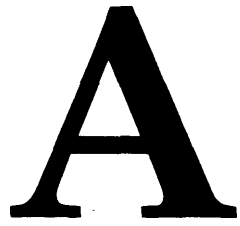
  For example, let's assume that "917-NXX-XXXX is a local call. In such a case, do the following:

  1. Administer "917" as an LNPA code on the Dial Plan form.
  2. Configure the LNPA toll tables for the exchanges in the "917" NPA (that is, specify which exchanges in area code "917" are toll or local) by using the "change Inpa-toll" command.

     NOTE:
     Initially, all LNPA exchanges default to local.

  3. If not already done, administer FNPA "917" to route to a specific routing pattern (for example, "1 7").
  4. Prefix Mark 5 or 6 affects only LNPA calls. Local LNPA calls are outpulsed as 10-digit calls, and toll LNPA calls are outpulsed as "1+1 O-digit calls." For any other prefix mark, there is no difference between an LNPA call and any other 10-digit call. Therefore, if you want to implement an LNPA-exclusive setup, administer the preferences in Routing Pattern 17 according to the usual procedure but with one exception: use Prefix Mark 5 instead of Prefix Mark 2, or use Prefix Mark 6 instead of Prefix Mark 3.

ARS FNPA Tables



Introduction

This appendix includes the the Special Entries ARS FNPA table and the ARS FNPA table.

Special Entries ARS FNPA Table

The Special Entries ARS FNPA table appears as follows:

ARS FNPA TABLE

Area Codes: 000-019
Partitioned Group Number: 1

Pattern Assignments

	Dialed Digits			Dialed Digits
00	0		10	010...
01	0N...		11	011...
02	00		12	01N...
03	00N...		13	
04	001...		14	
05	NXX555...		15	NXX976...
06	200555 . . .		16	600555 . . .
07	300555 . . .		17	700555 . . .
08	400555 . . .		18	800555 . . .
09	500555 . . .		19	900555 . . .

HNPA table (entry "h") or RHNPA table (entry "r#') cannot be administered corresponding to "00," "02," "04," and "10."

ARS FNPA TABLE

Area Codes: 100-119
Partitioned Group Number: 1

Pattern Assignments

	Dialed Digits			Dialed Digits	
00	IXC+0		10	IXC+010...	
01	IXC+0N...		11		
02	IXC+oo		12	IXC+01N...	
03	IXC+OON...		13		
04			14		
05			15		
06			16		
07			17		
08			18		
09			19	IXC#	

HNPA table (entry "h") or RHNPA table (entry "r#') cannot be administered corresponding to "00," "02," "10," and "19."

ARS FNPA Table

The ARS FNPA table appears as follows:

ARS FNPA TABLE

Area Codes: 200-299
Partitioned Group Number: 1

Pattern Assignments

00:	10:	20:	30:	40:	50:	60:	70:	80:	90:
01:	11:	21:	31:	41:	51:	61:	71:	81:	91:
02:	12:	22:	32:	42:	52:	62:	72:	82:	92:
03:	13:	23:	33:	43:	53:	63:	73:	83:	93:
04:	14:	24:	34:	44:	54:	64:	74:	84:	94:
05:	15:	25:	35:	45:	55:	65:	75:	85:	95:
06:	16:	26:	36:	46:	56:	66:	76:	86:	96:
07:	17:	27:	37:	47:	57:	67:	77:	87:	97:
08:	18:	28:	38:	48:	58:	68:	78:	88:	98:
09:	19:	29:	39:	49:	59:	69:	79:	89:	99:

ARS FNPA TABLE

Area Codes: 300-399
Partitioned Group Number: 1

Pattern Assignments

00:	10:	20:	30:	40:	50:	60:	70:	80:	90:
01:	11:	21:	31:	41:	51:	61:	71:	81:	91:
02:	12:	22:	32:	42:	52:	62:	72:	82:	92:
03:	13:	23:	33:	43:	53:	63:	73:	83:	93:
04:	14:	24:	34:	44:	54:	64:	74:	84:	94:
05:	15:	25:	35:	45:	55:	65:	75:	85:	95:
06:	16:	26:	36:	46:	56:	66:	76:	86:	96:
07:	17:	27:	37:	47:	57:	67:	77:	87:	97:
08:	18:	28:	38:	48:	58:	68:	78:	88:	98:
09:	19:	29:	39:	49:	59:	69:	79:	89:	99:

ARS FNPA TABLE

Area Codes: 400-499
Partitioned Group Number: 1

Pattern Assignments

00:	10:	20:	30:	40:	50:	60:	70:	80:	90:
01:	11:	21:	31:	41:	51:	61:	71:	81:	91:
02:	12:	22:	32:	42:	52:	62:	72:	82:	92:
03:	13:	23:	33:	43:	53:	63:	73:	83:	93:
04:	14:	24:	34:	44:	54:	64:	74:	84:	94:
05:	15:	25:	35:	45:	55:	65:	75:	85:	95:
06:	16:	26:	36:	46:	56:	66:	76:	86:	96:
07:	17:	27:	37:	47:	57:	67:	77:	87:	97:
08:	18:	28:	38:	48:	58:	68:	78:	88:	98:
09:	19:	29:	39:	49:	59:	69:	79:	89:	99:

ARS FNPA TABLE

Area Codes: 500-599
Partitioned Group Number: 1

Pattern Assignments

00:	10:	20:	30:	40:	50:	60:	70:	80:	90:
01:	11:	21:	31:	41:	51:	61:	71:	81:	91:
02:	12:	22:	32:	42:	52:	62:	72:	82:	92:
03:	13:	23:	33:	43:	53:	63:	73:	83:	93:
04:	14:	24:	34:	44:	54:	64:	74:	84:	94:
05:	15:	25:	35:	45:	55:	65:	75:	85:	95:
06:	16:	26:	36:	46:	56:	66:	76:	86:	96:
07:	17:	27:	37:	47:	57:	67:	77:	87:	97:
08:	18:	28:	38:	48:	58:	68:	78:	88:	98:
09:	19:	29:	39:	49:	59:	69:	79:	89:	99:

ARS FNPA TABLE

Area Codes: 600-699
Partitioned Group Number: 1

Pattern Assignments

00:	10:	20:	30:	40:	50:	60:	70:	80:	90:
01:	11:	21:	31:	41:	51:	61:	71:	81:	91:
02:	12:	22:	32:	42:	52:	62:	72:	82:	92:
03:	13:	23:	33:	43:	53:	63:	73:	83:	93:
04:	14:	24:	34:	44:	54:	64:	74:	84:	94:
05:	15:	25:	35:	45:	55:	65:	75:	85:	95:
06:	16:	26:	36:	46:	56:	66:	76:	86:	96:
07:	17:	27:	37:	47:	57:	67:	77:	87:	97:
08:	18:	28:	38:	48:	58:	68:	78:	88:	98:
09:	19:	29:	39:	49:	59:	69:	79:	89:	99:

ARS FNPA TABLE

Area Codes: 700-799
Partitioned Group Number: 1

Pattern Assignments

00:	10:	20:	30:	40:	50:	60:	70:	80:	90:
01:	11:	21:	31:	41:	51:	61:	71:	81:	91:
02:	12:	22:	32:	42:	52:	62:	72:	82:	92:
03:	13:	23:	33:	43:	53:	63:	73:	83:	93:
04:	14:	24:	34:	44:	54:	64:	74:	84:	94:
05:	15:	25:	35:	45:	55:	65:	75:	85:	95:
06:	16:	26:	36:	46:	56:	66:	76:	86:	96:
07:	17:	27:	37:	47:	57:	67:	77:	87:	97:
08:	18:	28:	38:	48:	58:	68:	78:	88:	98:
09:	19:	29:	39:	49:	59:	69:	79:	89:	99:

ARS FNPA TABLE

Area Codes: 800-899
Partitioned Group Number: 1

Pattern Assignments

00:	10:	20:	30:	40:	50:	60:	70:	80:	90:
01:	11:	21:	31:	41:	51:	61:	71:	81:	91:
02:	12:	22:	32:	42:	52:	62:	72:	82:	92:
03:	13:	23:	33:	43:	53:	63:	73:	83:	93:
04:	14:	24:	34:	44:	54:	64:	74:	84:	94:
05:	15:	25:	35:	45:	55:	65:	75:	85:	95:
06:	16:	26:	36:	46:	56:	66:	76:	86:	96:
07:	17:	27:	37:	47:	57:	67:	77:	87:	97:
08:	18:	28:	38:	48:	58:	68:	78:	88:	98:
09:	19:	29:	39:	49:	59:	69:	79:	89:	99:

ARS FNPA TABLE

Area Codes: 900-999
Partitioned Group Number: 1

Pattern Assignments

00:	10:	20:	30:	40:	50:	60:	70:	80:	90:
01:	11:	21:	31:	41:	51:	61:	71:	81:	91:
02:	12:	22:	32:	42:	52:	62:	72:	82:	92:
03:	13:	23:	33:	43:	53:	63:	73:	83:	93:
04:	14:	24:	34:	44:	54:	64:	74:	84:	94:
05:	15:	25:	35:	45:	55:	65:	75:	85:	95:
06:	16:	26:	36:	46:	56:	66:	76:	86:	96:
07:	17:	27:	37:	47:	57:	67:	77:	87:	97:
08:	18:	28:	38:	48:	58:	68:	78:	88:	98:
09:	19:	29:	39:	49:	59:	69:	79:	89:	99:

LNPA Toll Table

B

Introduction

This appendix includes the LNPA toll tables.

N O T E :
These tables use area code “908” as an example.

LNPA TOLL TABLE
AREA CODE: 908
OFFICE CODES: 200-299

Local/Toll default: */oca/*

00: I	10: I	20: I	30: I	40: I	50: I	60: I	70: I	80: I	90: I
01:I	11:1	21:I	31:I	41:I	51:I	61:I	71:I	81:I	91:I
02: I	12: I	22: I	32: I	42: I	52: I	62: I	72: I	82: I	92: I
03: I	13: I	23: I	33: I	43: I	53: I	63: I	73: I	83: I	93: I
04: I	14: I	24: I	34: I	44: I	54: I	64: I	74: I	84: I	94: I
05: I	15: I	25: I	35: I	45: I	55: I	65: I	75: I	85: I	95: I
06: I	16:I	26: I	36: I	46: I	56: I	66: I	76: I	86: I	96: I
07: I	17: I	27: I	37: I	47: I	57: I	67: I	77: I	87: I	97: I
08: I	18: I	28: I	38: I	48: I	58: I	68: I	78: I	88: I	98: I
09: I	19:I	29: I	39: I	49: I	59: I	69: I	79: I	89: I	99: I

LNPA TOLL TABLE
AREA CODE: 908
OFFICE CODES: 300-399

Local/Toll default: */oca/*

00: I	10: I	20: I	30: I	40: I	50: I	60: I	70: I	80: I	90: I
01:I	11:I	21:I	31:I	41:I	51:I	61:I	71:I	81:I	91:I
02: I	12: I	22: I	32: I	42: I	52: I	62: I	72: I	82: I	92: I
03: I	13:I	23: I	33: I	43: I	53: I	63: I	73: I	83: I	93: I
04: I	14: I	24: I	34: I	44: I	54: I	64: I	74: I	84: I	94: I
05: I	15: I	25: I	35: I	45: I	55: I	65: I	75: I	85: I	95: I
06: I	16: I	26: I	36: I	46: I	56: I	66: I	76: I	86: I	96: I
07: I	17:I	27: I	37: I	47: I	57: I	67: I	77: I	87: I	97: I
08: I	18: I	28: I	38: I	48: I	58: I	68: I	78: I	88: I	98: I
09: I	19: I	29: I	39: I	49: I	59: I	69: I	79: I	89: I	99: I

LNPA TOLL TABLE
AREA CODE: 908
OFFICE CODES: 400-499

Local/Toll default: *local*

00: I	10: I	20: I	30: I	40: I	50: I	60: I	70: I	80: I	90: I
01: I	11: I	21: I	31: I	41: I	51: I	61: I	71: I	81: I	91: I
02: I	12: I	22: I	32: I	42: I	52: I	62: I	72: I	82: I	92: I
03: I	13: I	23: I	33: I	43: I	53: I	63: I	73: I	83: I	93: I
04: I	14: I	24: I	34: I	44: I	54: I	64: I	74: I	84: I	94: I
05: I	15: I	25: I	35: I	45: I	55: I	65: I	75: I	85: I	95: I
06: I	16: I	26: I	36: I	46: I	56: I	66: I	76: I	86: I	96: I
07: I	17: I	27: I	37: I	47: I	57: I	67: I	77: I	87: I	97: I
08: I	18: I	28: I	38: I	48: I	58: I	68: I	78: I	88: I	98: I
09: I	19: I	29: I	39: I	49: I	59: I	69: I	79: I	89: I	99: I

LNPA TOLL TABLE
AREA CODE: 908
OFFICE CODES: 500-599

Local/Toll default: */oca/*

00: I	10: I	20: I	30: I	40: I	50: I	60: I	70: I	80: I	90: I
01: I	11: I	21: I	31: I	41: I	51: I	61: I	71: I	81: I	91: I
02: I	12: I	22: I	32: I	42: I	52: I	62: I	72: I	82: I	92: I
03: I	13: I	23: I	33: I	43: I	53: I	63: I	73: I	83: I	93: I
04: I	14: I	24: I	34: I	44: I	54: I	64: I	74: I	84: I	94: I
05: I	15: I	25: I	35: I	45: I	55: I	65: I	75: I	85: I	95: I
06: I	16: I	26: I	36: I	46: I	56: I	66: I	76: I	86: I	96: I
07: I	17: I	27: I	37: I	47: I	57: I	67: I	77: I	87: I	97: I
08: I	18: I	28: I	38: I	48: I	58: I	68: I	78: I	88: I	98: I
09: I	19: I	29: I	39: I	49: I	59: I	69: I	79: I	89: I	99: I

LNPA TOLL TABLE
AREA CODE: 908
OFFICE CODES: 600-699

Local/Toll default: */oca/*

00:	10:	20:	30:	40:	50:	60:	70:	80:	90:
01:	11:	21:	31:	41:	51:	61:	71:	81:	91:
02:	12:	22:	32:	42:	52:	62:	72:	82:	92:
03:	13:	23:	33:	43:	53:	63:	73:	83:	93:
04:	14:	24:	34:	44:	54:	64:	74:	84:	94:
05:	15:	25:	35:	45:	55:	65:	75:	85:	95:
06:	16:	26:	36:	46:	56:	66:	76:	86:	96:
07:	17:	27:	37:	47:	57:	67:	77:	87:	97:
08:	18:	28:	38:	48:	58:	68:	78:	88:	98:
09:	19:	29:	39:	49:	59:	69:	79:	89:	99:

LNPA TOLL TABLE
AREA CODE: 908
OFFICE CODES: 700-799

Local/Toll default: */ocal*

00:	10:	20:	30:	40:	50:	60:	70:	80:	90:
01:	11:	21:	31:	41:	51:	61:	71:	81:	91:
02:	12:	22:	32:	42:	52:	62:	72:	82:	92:
03:	13:	23:	33:	43:	53:	63:	73:	83:	93:
04:	14:	24:	34:	44:	54:	64:	74:	84:	94:
05:	15:	25:	35:	45:	55:	65:	75:	85:	95:
06:	16:	26:	36:	46:	56:	66:	76:	86:	96:
07:	17:	27:	37:	47:	57:	67:	77:	87:	97:
08:	18:	28:	38:	48:	58:	68:	78:	88:	98:
09:	19:	29:	39:	49:	59:	69:	79:	89:	99:

LNPA TOLL TABLE
AREA CODE: 908
OFFICE CODES: 800-899

Local/Toll default: /oca/

00:	10:	20:	30:	40:	50:	60:	70:	80:	90:
01:	11:	21:	31:	41:	51:	61:	71:	81:	91:
02:	12:	22:	32:	42:	52:	62:	72:	82:	92:
03:	13:	23:	33:	43:	53:	63:	73:	83:	93:
04:	14:	24:	34:	44:	54:	64:	74:	84:	94:
05:	15:	25:	35:	45:	55:	65:	75:	85:	95:
06:	16:	26:	36:	46:	56:	66:	76:	86:	96:
07:	17:	27:	37:	47:	57:	67:	77:	87:	97:
08:	18:	28:	38:	48:	58:	68:	78:	88:	98:
09:	19:	29:	39:	49:	59:	69:	79:	89:	99:

LNPA TOLL TABLE
AREA CODE: 908
OFFICE CODES: 900-999

Local/Toll default: /oca/

00:	10:	20:	30:	40:	50:	60:	70:	80:	90:
01:	11:	21:	31:	41:	51:	61:	71:	81:	91:
02:	12:	22:	32:	42:	52:	62:	72:	82:	92:
03:	13:	23:	33:	43:	53:	63:	73:	83:	93:
04:	14:	24:	34:	44:	54:	64:	74:	84:	94:
05:	15:	25:	35:	45:	55:	65:	75:	85:	95:
06:	16:	26:	36:	46:	56:	66:	76:	86:	96:
07:	17:	27:	37:	47:	57:	67:	77:	87:	97:
08:	18:	28:	38:	48:	58:	68:	78:	88:	98:
09:	19:	29:	39:	49:	59:	69:	79:	89:	99:

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