NATIONWIDE NUMBERING PLAN AND DIALING PROCEDURES

GENERAL GUIDELINES

(Ref. E.L. 3086/GL74-07-004)

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LIST OF ILLUSTRATIONS

1. GENERAL

1.01 An essential element of distance dialing is a numbering system wherein each telephone main station has a unique number which is convenient to use, readily understandable, and identical in its format to those of all other telephones connected to the network. With such a numbering system, operators or customers, wherever located, may use this number to reach the desired telephone through the North American Dial Network.

1.02 Whenever this section is reissued, the reason for reissue will be listed in this paragraph.

1.03 The destination code for distance dialing within the North American Numbering Plan consists of two basic parts:

(a) A 3-digit area or Numbering Plan Area (NPA) code.

(b) A 7-digit listed directory number made up of a 3-digit central office (CO) code plus a 4-digit station number.

1.04 Together, these ten digits comprise the network "address" or "destination code" for each telephone. Table A shows this arrangement as it was used at the end of 1973 prior to the introduction of interchangeable codes discussed in Part 5.

TABLE A

AREA CODE	LISTED DIRECTORY NUMBER
N0/1X*	NNX-XXXX

Where: N = the eight digits 2 through 9
0/1 = either of the two digits 0 and 1
X = the 10 digits 0 through 9

*Excluding the eight standard N11-type codes reserved for or used as "Service Codes." The official System-wide reservations and current assignments for these codes are as follows:

CODE	ASSIGNMENT
211	Reserved for a Future Service
311	Reserved for a Future Service
#411	Local Directory Assistance
511	Reserved for a Future Service
#611	Repair Service
711	Reserved for a Future Service
#811	Business Office
#911	Emergency Number

See Part 7 for a detailed discussion regarding the present and future use of this code.

1.05 When the distance dialing plan was first envisioned in the 1940s, a numbering plan was designed whereby any telephone within the area encompassed by the North American Numbering Plan would be identified by a unique 10-digit address, varying in one respect from that shown in Table A. While the 3-digit area code was identical, the 7-digit listed directory number was in two letter - five numeral (2L-5N) form. In most cases, the two letters used were the first two of the serving exchange or building name. This initial arrangement provided 152 area codes, each with a capacity of 540 central office codes; quantities then envisioned to be sufficient for a long time to come.

1.06 The growth in telephones experienced in the 1950s was sufficient to indicate that the life of many area codes would be unsatisfactorily short if the 2L-5N arrangement were perpetuated. As a result, "All Number Calling" (ANC) was introduced and all Companines providing service within the North American Dial Network were requested not only to avoid the use of any new 2L-5N numbers, but also to convert all such existing numbers to ANC as soon as practicable. The latter task is well along, with about 95 percent of all telephones assigned ANC numbers at the end of 1974 and 100 percent planned by the end of 1978. With ANC, the central office code universe was expanded from 540 to 640. The increase resulted from the added availability of number combinations previously obviated by the lack of names that could be structured from the letters associated with the digit combinations 55 (JKL, JKL) 57 (JKL, PRS), 95 (WXY, JKL) and 97 (WXY, PRS), together with the addition of the originally reserved NNO code group.

1.07 It has been apparent for many years that additional code relief will be required to extend the life of the North American Numbering Plan to the end of the twentieth century. The relief plan adopted requires the use of codes previously reserved for NPA assignment as CO codes and vice versa. Use of these "interchangeable codes" will necessitate certain special equipment arrangements and dialing procedures that are discussed in Part 5.

2. AREA AND CENTRAL OFFICE CODES

AREA CODES

2.01 The entire United States and Canada, together with certain Caribbean Islands and parts of Mexico, have been divided geographically into

Numbering Plan Areas (NPAs), each of which has been assigned an area code. In addition, a few area codes have been assigned for special purposes and are known as Special Area Codes (SACs). These special purpose codes include Inward WATS, TWX, Mass Calling, and DDD to Mexico City. Figure 1 lists numerically the area codes assigned by areas served. Figure 2 lists the area codes alphabetically by areas served. Figures 3 and 4 show the geographic boundaries of NPAs as of the end of 1974.

2.02 As indicated in Part 1, the 152 codes initially reserved for area code use are in the N0/1X format; whereas, CO codes are in the NNX format. These two groups of codes were completely nonabiguous, in that the second digit of an area code is always a "0" or "1," and the second digit of a CO code is always within the series "2" through "9." In common control systems, this arrangement makes it possible to distinguish between NPA and CO codes by simple examination of the second digit dialed. The switching equipment would, therefore, advance a call only after receiving ten digits if a "0" or "1" was present in the "B" or second position. Furthermore, on a valid 7-digit call, the absence of a "0" or "1" was required. (In the special case of N11 codes, screening of the third digit received for presence of the digit "1" permits call advance after receiving only three digits.) Equipment economies are achieved by this simple screening process. In all but exceptional cases, Home NPA calls are completed on a 7-digit basis, and Foreign NPA calls require ten digits for call completion.

2.03 Sometime after 1995 it is estimated that the remaining 21 N0/1X type area codes still unassigned at the end of 1974 will be depleted and that it will be necessary to start using the NNX type code universe for area code assignment. In the interest of minimizing NPA-CO code ambiguity, it is planned to assign the NNO codes first, in accordance with the sequence shown in Table B. (NN0 Codes which have been designated as the last to be used as CO codes should be assigned, to the extent practicable, in a sequence which is the reverse of that planned for area code assignment.) Ultimately, it will become necessary to assign the remaining NNX codes for NPA code purposes.

CENTRAL OFFICE CODES

2.04 The provision of CO code relief for any NPA involves substantial expenditures for both plant rearrangements and additions. It is essential, therefore, that CO codes not be utilized when such use is either for convenience alone or for minor or temporary economic advantage. Further, CO codes already in use often can be recaptured for better use. Failure to utilize CO codes carefully and fully will advance the exhaust dates of individual NPAs requiring the premature assignment of the remaining spare area codes. The consequence of such assignment would advance the date when major expenditures will be required throughout the entire Dial Network for the introduction of NNX type codes as area codes. E.L. 2821 (GL74-03-160) or Section 781-610-200 outlines efficient code utilization and conservation measures that should be carefully considered in day-to-day code administration.

2.05 Interchangeable codes (ie, area codes used as central office codes) were first introduced in February 1974 in the 213 NPA (Los Angeles) as outlined in GL73-01-222. Presently, it is estimated that code interchangeability within another NPA will not be required until the 1977 to 1980 time frame.

3. CENTRAL OFFICE CODE ASSIGNMENTS

3.01 With only 25* unassigned NPA codes remaining, the conservation and efficient use of central office codes is, more than ever before, a matter of vital importance. Wise code administration is, therefore, essential in all NPAs to delay as long as possible the assignment of interchangeable codes which imposes a need for all switching systems being capable of handling ambiguous area and central office codes.

*In addition to the 21 currently unassigned NPA type codes, it is anticipated that four NPA-type TWX codes will be released by Western Union in the 1985 to 1990 time frame.

3.02 The assignment of all codes for use as central office codes, with the exception of the seven codes which are reserved for System-wide use, is the sole responsibility of each Operating Company. Each assignment should be made only after due consideration has been given to the service and economic necessity for the use of a code and, to the extent feasible, in accordance with the following guidelines regarding the sequence of assignment:

(a) First-choice codes for CO assignment purposes include all NNX type codes, excluding NNO

TABLE B

ASSIGNMENT OF THE 63* NNO CODES

There are 36 NNO codes which should be assigned as central office codes, to the extent practical, in the following sequence:

PART I

SEQUENCE NUMBER	NNO CODE	SEQUENCE NUMBER	NNO CODE
1	530	19	640
2	420	20	280
3	870	21	790
4	780	22	370
5	440	23	320
6	360	24	890
7	920	25	770
8	830	26	690
9	620	27	840
10	390	28	820
11	340	29	540
12	330	30	350
13	560	31	970#
14	670	32	990
15	630	33	960
16	430	34	860
17	270	35	980
18	750	36	460

When these 36 NNO codes are used, the remaining 27 NNO codes should be assigned, to the extent practical, as central office codes in the following sequence:

PART II

SEQUENCE NUMBER	NNO CODE	SEQUENCE NUMBER	NNO CODE
37	380	51	850
38	570	52	730
39	880	53	720
40	760	54	680
41	450	55	660
42	930	56	490
43	740	57	250
44	580	58	220
45	550	59	650
46	470	60	590
47	290	61	520
48	240	62	480
49	230	63	260
50	940		

When the supply of the 152 N0/1X codes is exhausted, the above codes will be assigned, to the extent feasible, as area codes in the reverse sequence from that shown; namely, 260 first, 480 second, 520 third, etc, with 530 last.

*The 64th NNO Code (950) is reserved for a future System-wide service.

#This code is temporarily used System-wide as a Plant Test Code.

codes and the following six codes that are currently reserved for special System-wide use:

555—Toll Directory Assistance
844—Time Service
936—Weather Service
958—Plant Test
959—Plant Test
976—Future Service

(b) Second-choice codes are the NNO codes listed in Part I of Table B. To the extent practical, that sequence of assignment shown should be followed.

(c) Third-choice codes are NNO codes as listed in Part II of Table B. To the extent feasible, that sequence of assignment shown should be followed. (The 950 code has been omitted from both Part I and II of Table B because of its reservation for a future System-wide service.)

(d) Fourth-choice codes include all codes within the N0/1X group excluding the N11 series. When it becomes necessary to introduce interchangeable codes, the assignment of these codes should, to the extent practicable, start with those not then being used for area code purposes, followed by those assigned for low traffic distant NPAs and Special Area Code use, and last utilizing those codes assigned to the Home and Adjacent NPAs.

3.03 ***Authorization for the assignment of all codes for Area Code purposes,*** either Numbering Plan Area or Special Area as well as System Routing Codes (1XX series and 072 through 079), ***is the sole responsibility of the Assistant Vice President—Network Operations of the AT&T Company. All such assignments require his written approval.***

4. AREA CODE BOUNDARY GUIDELINES

4.01 Numbering Plan Areas have been created and designed in ways to maximize customer understanding while minimizing both dialing effort and telephone plant cost. Boundaries are established to last for long periods of time and are drawn based on the best available estimates of future requirements at that time. Reevaluation of boundaries created many years ago sometimes indicates that better ones could have been selected. However, making changes after the passage of time would often cause massive customer disruption, ie, numerous number as well as expensive plant changes. Principles to be considered in planning NPA boundary changes resulting from either the creation of new NPAs or the realignment of existing boundaries are as follows:

(a) Boundaries ***must not*** cross or extend over state lines.

(b) Boundaries should be drawn to coincide with province or other political subdivision boundaries.

(c) When (b) is impractical, boundaries should follow recognizable physical geographic features or structures; such as, rivers, large lakes, mountain ranges, or major highways.

(d) Boundaries should be drawn to minimize the splitting of existing and future communities of interest or recognized metropolitan areas.

(e) All tributaries of a toll center or toll point should be within the same NPA.

(f) The economics of network planning should be evaluated for alternative boundary alignments.

(g) Any customer affected by a boundary realignment should not be affected by a subsequent realignment for at least ten years.

(h) Since the network costs of introducing interchangeable area codes are substantial, boundary alignment studies should acknowledge the differences between plans in future network costs.

5. CENTRAL OFFICE AND AREA CODE RELIEF

CENTRAL OFFICE CODE RELIEF

5.01 It has been necessary in recent years to augment the supply of CO codes for certain NPAs, and this activity will continue as long as telephone number growth continues. Once the CO code conservation measures discussed in E.L. 2821 (GL74-03-160) or Section 781-610-200 have been

exploited, the only remaining means of achieving CO code relief is to:

(a) Realign NPA boundaries (applies only to multi-NPA states).

(b) Introduce interchangeable codes within NPA requiring relief.

(c) Split existing NPA and introduce a new area code.

5.02 The basic design of the switching machines has made it possible for common control equipment to distinguish readily between NPA codes and CO codes. But, since the introduction of interchangeable codes precludes the ability of central office equipment to determine whether to expect a 7-digit or a 10-digit call based on the presence of a "0" or "1" in the "B" or second digit position, a new methodology is required to distinguish 7-digit calls. Two basic means of accomplishing this have been known for many years:

(a) The ***"Timing Method"*** requires that central office equipment be arranged to wait for a period of 3 to 5 seconds, after receiving 7 digits (excluding the prefix digit 0 or 1) to distinguish between 7-digit and 10-digit toll calls, before routing a call on a 7-digit basis. If one or more additional digits are received within this critical 3- to 5-second "time-out" interval, the equipment expects a 10-digit call. With the use of pretranslation, however, timing will be restricted to only those calls having code ambiguity and will preclude timing on ***all*** local station calls.

(b) The alternative arrangement, called the ***"Prefix Method,"*** utilizes the presence of either a "1" or "0" prefix to identify the call being dialed as having a 10-digit format. This arrangement has mixed virtues in that it would require ***all*** customer dialed-operator serviced traffic be dialed on a "0"+10-digit basis, and in areas with Step-by-Step equipment, Home NPA station toll calls would have to be dialed on a "1"+10-digit basis until that equipment is replaced. On the other hand, there are the advantages in that the larger cost of providing for timing and customer irritation arising from both increased post dialing delay and reaching wrong numbers due to inadvertent time-out, are precluded.

5.03 It is recommended that both methods be carefully evaluated in all cases and that method selection be based on an appropriately balanced evaluation of costs and customer preference, not only initially, but in the long term. Extensive studies conducted by Bell Laboratories indicate that, on an individual call basis, customers prefer to dial three additional digits rather than waiting for a call to time-out. Bell Laboratories also points out that the advantages of new technology in decreasing post-dialing delay are more readily achieved under the "prefix method." In areas ***without*** Step-by-Step equipment, the "prefix method" imposes the incremental 3-digit dialing requirement on only "0+" Home NPA traffic; but, in areas ***with*** Step-by-Step equipment, the additional three digits also would be required for all Home NPA station toll traffic. On the other hand, the "timing method" which utilizes pretranslation capability to limit timing to only those calls involving an ambiguous code in the first three digits dialed will be relatively innocuous when first introduced but will become increasingly noticeable as code ambiguity expands.

5.04 The customer irritation that would occur as a result of the introduction of either method within an NPA is difficult to quantify because it is not solely attributable to irritation associated with a particular type of call multiplied by the frequency of that type of call. It is complicated by the diversity of call-placing experiences. Unusual experiences, such as waiting occasionally for "time-out," can overshadow numerous experiences where "time-out" does not occur. In the long term, Step-by-Step equipment will be replaced with common control or ESS equipment; and only Home NPA "0+" traffic, a very small portion of all traffic, will be affected by either method. Evidence indicates that the "prefix method" will unquestionably be preferable in that time frame.

5.05 Although plan selection will be a matter of individual local company decision, it is recommended that the "prefix method" be given preferential consideration and its near term penalties be carefully weighed against its long term benefits. In at least one large metropolitan area, Home NPA station toll calls have been placed on a 1+10 digit basis for many years without any substantial level of customer complaints and, aside from the problems of transition, there is no reason to expect different customer reaction elsewhere. Transition problems can be eased through early introduction of the interchangeable code dialing procedures

while retaining the existing procedures as permissive until actual code ambiguity is introduced.

5.06 The ramifications of both methods of introducing interchangeable codes are shown in Table D.

AREA CODE RELIEF

5.07 It was pointed out in Part 2 that sometime after 1995 the 152 N0/1X codes originally designated for area code use would have to be supplemented with NNX codes to meet NPA requirements. This will require the introduction of interchangeable code arrangements throughout the North American Numbering Plan in accordance with GL74-01-102. Since interchangeable code arrangements are fundamentally the same for either interchangeable central office or area codes, no changes will be required, when the latter are introduced throughout the Dial Network, in those NPAs where interchangeable CO codes will have already been implemented.

6. TERMINATING TOLL CENTER, SPECIAL ROUTING, AND OPERATOR CODES

6.01 There are two series of 3-digit codes, "0XX" and "1XX," that by design cannot be used by customers. (Two specific exceptions to this, "011" and "010," are discussed in Part 7.) These are terminating toll center and operator codes.

(a) A terminating toll center (TTC) code is assigned to each toll center of Class 1, 2, 3, or 4C ranking in the toll switching hierarchy. The primary use of these codes is to enable outward operators to reach inward, directory assistance, "leave word," and other specific operators in distant city toll centers. The secondary use is by maintenance personnel to reach test equipment in distant offices. Although most TTCs are within the "0XX" series, some may be assigned within the "1XX" series.

(b) Operator codes (OpCs) are used exclusively by outward operators to designate specific operator groups associated with toll centers when placing calls to these operator groups. Most operator codes are 3-digit only, eg, "121" for inward and "131" for directory assistance. "Leave word" codes, however, are either four or five digits and are in the "11XX" or "11XXX" series.

6.02 Outward operator dialing procedures are typified by examples of calls placed to inward operators in Table C.

6.03 In order to prevent customers from dialing directly to special groups of operators (other than those normally providing their services) and as a protection against fraudulent use of the service, it is necessary to arrange the equipment in all recording offices to block all customer dialed calls with a "0" or a "1" in the fourth digit or "D" position of 10-digit calls as well as certain calls with a "0" or "1" in the first digit or "A" position.

6.04 Special 3-digit codes in the "0XX" and "1XX" series are also used within the Dial Network on a switching machine generated basis for discrete routing purposes, such as Inward WATS and international services.

7. CUSTOMER DIALING PROCEDURES

7.01 Assuming the "prefix method" described in Part 5 will be used for switching machine identification of interchangeable codes and that, probably after the year 2000, all switching systems will be Common Control and/or ESS. Then, the

TABLE C

LOCATION		DIALING REQUIREMENT	
ORIGINATING	TERMINATING	FORMAT	EXAMPLE
Foreign NPA	Non-Principal City	NPA+TTC+OpC	216+046+121
Foreign NPA	Principal City	NPA+OpC	216+121
Home NPA	Non-Principal City	TTC+OpC	046+121
Home NPA	Principal City	OpC	121 or a locally assigned OXX+121

ultimate dialing format to be achieved uniformly throughout the entire Dial Network is as follows:

- 7 digits—***All*** local station calls including those to a foreign NPA where code protection exists and station toll calls within the home NPA.
- 1+10 digits—***All*** foreign NPA customer dialed station toll calls.
- 0+10 digits—***All*** home and foreign NPA customer dialed—operator serviced toll calls.

7.02 It would be ideal if the dialing procedures for each type of call were identical in all areas. This unfortunately is impossible as long as the capabilities of the switching equipment in use differ. It is expected that multiple dialing procedures will be a practical necessity for many years to come because of the variety of equipment expected to be in use. Table D shows recommendations for dialing procedures for all types of direct dialed calls placed within the Dial Network, except for those utilizing N11 codes. It is urged that these recommendations be followed in the interest of minimizing customer confusion and that any necessary changes toward the goal of uniformity be made as early as practical.

OPTIONAL EAS

7.03 In areas where optional Extended Area Service (EAS) is offered, calls to certain points are local and not detailed billed for customers who select the optional EAS plan; whereas, they are toll for the remaining restricted customers. In these areas, the dialing procedures for ***all*** customers should be identical because of the gross awkwardness and impracticality of instructing customers within the same area to use differing procedures. In addition, the equipment and trunking arrangements would, in many instances, be inordinately costly. The single group of procedures must be that required for the recording of toll calls made by customers who select the most restricted service offering.

LOCAL DIALING FORMAT USING LESS THAN SEVEN DIGITS

7.04 Local equipment arrangements in some locations permit the completion of local calls dialed on less than a 7-digit basis. However, all telephone numbers must actually be formatted in accordance with Part 1 in order to be directly dialable from other network points. Regular 10-digit numbers must be assigned to telephones in these locations, and standard dialing procedures as shown in Table D must be adopted even though less than 7-digit dialing of local calls is permitted. This can be accomplished through the installation of "digit absorbing" or "drop back" selectors in Step-by-Step offices or equivalent equipment in other types of offices.

LOCAL AND TOLL DIRECTORY ASSISTANCE

7.05 Directory assistance calls should be dialed in accordance with Table E.

OPERATOR ASSISTANCE

7.06 The dialing procedure for operator assistance to complete calls including certain emergency type calls not handled by the "911" service within the North American Dial Network is "0" (zero).

UNIVERSAL EMERGENCY NUMBER

7.07 Public emergency service should always be dialed as "911." The use of a "1" prefix to place such a call is unacceptable.

SPECIAL 2-DIGIT CODES

7.08 Three special 2-digit codes are as follows:

(a) "00"—Reserved for special future use.

(b) "10"—Reserved for special future use.

(c) "11"—Reserved for possible use as an adjacent NPA or "crossover" code involving future densely populated metropolitan NPA splits with a high community of cross-boundary interest.

LOCAL TELEPHONE REPAIR SERVICE AND BUSINESS OFFICE

7.09 For several years some of the Operating Companies have used the "611" code for access to Repair Service and the "811" code for access to the Business Office. The universal adoption of these previously recommended procedures has been impractical because of the high costs involved in activating these codes in some areas. Recently, the Operating Companies have been

TABLE D

RECOMMENDED CUSTOMER DIALING PROCEDURES

TYPE OF CALL	AREAS WITH SXS EQUIPMENT: PREFIX REQ'D	AREA CODE	C.O. CODE	TERM. DIGITS	USE RECOM	NOTES	AREAS WITHOUT SXS EQUIPMENT: PREFIX REQ'D	AREA CODE	C.O. CODE	TERM. DIGITS	USE RECOM	NOTES
STATION PAID												
						WITHOUT INTERCHANGEABLE CODES						
HNPA-Local			NNX	XXXX	S	5			NNX	XXXX	S	5
	1+		NNX	XXXX	D	2,3	1+		NNX	XXXX	D	3,6
								NO/1X +	NNX	XXXX	D	3,6
	1+	NO/1X +	NNX	XXXX	P	2,4	1+	NO/1X +	NNX	XXXX	P	4,6
FNPA (Protected Codes) — Local			NNX	XXXX	S	1,5			NNX	XXXX	S	1,5
	1+		NNX	XXXX	D	1,2,3	1+		NNX	XXXX	D	1,3,6
	1+	NO/1X +	NNX	XXXX	P	1,2,7	1+	NO/1X +	NNX	XXXX	P	1,6,7
FNPA (Nonprotected Codes) — Local								NO/1X +	NNX	XXXX	S	3
	1+	NO/1X +	NNX	XXXX	S	2,5	1+	NO/1X +	NNX	XXXX	P	5
HNPA-Toll									NNX	XXXX	S	5
	1+		NNX	XXXX	S	3	1+		NNX	XXXX	D	3,6
								NO/1X +	NNX	XXXX	D	3,6
	1+	NO/1X +	NNX	XXXX	P	5	1+	NO/1X +	NNX	XXXX	P	4,6
FNPA-Toll								NO/1X +	NNX	XXXX	S	
	1+	NO/1X +	NNX	XXXX	S	5	1+	NO/1X +	NNX	XXXX	P	5,6
CUSTOMER DIALED – OPERATOR SERVICED												
HNPA-All	0+		NNX	XXXX	S	3	0+		NNX	XXXX	S	3
	0+	NO/1X +	NNX	XXXX	P	5	0+	NO/1X +	NNX	XXXX	P	5
FNPA-Protected Codes	0+		NNX	XXXX	S	3	0+		NNX	XXXX	S	3
	0+	NO/1X +	NNX	XXXX	P	5	0+	NO/1X +	NNX	XXXX	P	5
FNPA-Nonprotected Codes	0+	NO/1X +	NNX	XXXX	S	5	0+	NO/1X +	NNX	XXXX	S	5
						WITH INTERCHANGEABLE CO CODES (NOTE 9)						
		— Timing on "1+ and 0+" Calls —						— Timing on "0+" Calls only (Note 8) —				
STATION PAID												
HNPA-Local			NXX	XXXX	S				NXX	XXXX	S	
	1+	NO/1X +	NXX	XXXX	P	2	1+	NO/1X +	NXX	XXXX	P	6
FNPA (Protected Codes) — Local			NXX	XXXX	S	1			NXX	XXXX	S	1
	1+	NO/1X +	NXX	XXXX	P	1,2,7	1+	NO/1X +	NXX	XXXX	P	1,6,7
FNPA (Nonprotected Codes) — Local	1+	NO/1X +	NXX	XXXX	S		1+	NO/1X +	NXX	XXXX	S	
HNPA-Toll	1+		NXX	XXXX+TO	S				NXX	XXXX	S	
	1+	NO/1X +	NXX	XXXX	P	4	1+	NO/1X +	NXX	XXXX	P	4,6
FNPA-Toll	1+	NO/1X +	NXX	XXXX	S		1+	NO/1X +	NXX	XXXX	S	
CUSTOMER DIALED – OPERATOR SERVICED												
HNPA-All	0+		NXX	XXXX+TO	S		0+		NXX	XXXX+TO	S	
	0+	NO/1X +	NXX	XXXX	P	4	0+	NO/1X +	NXX	XXXX	P	4,6
FNPA-Protected Codes	0+		NXX	XXXX+TO	S	1	0+		NXX	XXXX+TO	S	1
	0+	NO/1X +	NXX	XXXX	P	1,4	0+	NO/1X +	NXX	XXXX	P	1,6
FNPA-Nonprotected Codes	0+	NO/1X +	NXX	XXXX	S		0+	NO/1X +	NXX	XXXX	S	

TABLE D (Cont)

RECOMMENDED CUSTOMER DIALING PROCEDURES

TYPE OF CALL	AREAS WITH SXS EQUIPMENT: PREFIX REQ'D	AREA CODE	C.O. CODE	TERM. DIGITS	USE RECOM.	NOTES	AREAS WITHOUT SXS EQUIPMENT: PREFIX REQ'D	AREA CODE	C.O. CODE	TERM. DIGITS	USE RECOM.	NOTES
					WITH INTERCHANGEABLE CO CODES (NOTE 9)							
					— Using Prefix Method —							
STATION PAID												
HNPA-Local			NXX	XXXX	S				NXX	XXXX	S	
	1+	N0/1X +	NXX	XXXX	P	2	1+	N0/1X +	NXX	XXXX	P	6
FNPA (Protected Codes) — Local			NXX	XXXX	S	1			NXX	XXXX	S	1
	1+	N0/1X +	NXX	XXXX	P	1,2	1+	N0/1X +	NXX	XXXX	P	1,6
FNPA (Nonprotected Codes) — Local	1+	N0/1X +	NXX	XXXX	S		1+	N0/1X +	NXX	XXXX	S	
HNPA-Toll									NXX	XXXX	S	
	1+	N0/1X +	NXX	XXXX	S		1+	N0/1X +	NXX	XXXX	P	6
FNPA-Toll	1+	N0/1X +	NXX	XXXX	S		1+	N0/1X +	NXX	XXXX	S	
CUSTOMER DIALED-OPERATOR SERVICED												
All	0+	N0/1X +	NXX	XXXX	S		0+	N0/1X +	NXX	XXXX	S	

LEGEND

S — Standard procedure
D — Deny procedure
P — Permit in addition to standard procedure
N — Any digit 2 through 9
0/1 — The digits 0 and 1
X — Any digit 0 through 9
+TO — 3 to 5 second time-out required (on ambiguous codes only)
HNPA — Home Numbering Plan Area
FNPA — Foreign Numbering Plan Area

NOTES

(1) Protected codes are defined and discussed in E.L. 2821 (GL74-03-160) or Section 781-610-200.

(2) Unnecessary use of the prefix "1" in SXS equipment involves the unnecessary use of transmission, recording, and switching equipment. The use of these "permitted" procedures is left up to the discretion of the local company.

(3) This procedure will be denied in the long term.

(4) This procedure will be permissive in the long term.

(5) This procedure will be standard in the long term.

(6) Only minor unnecessary use of local switching equipment is involved.

(7) This procedure will be permissive in the long term if code protection is not eliminated and standard if it is eliminated.

(8) By utilizing the prefix "1" for all 10-digit station calls, no timing is required on HNPA station calls, whether local or toll.

(9) When interchangeable area codes are introduced, the procedures will be identical to those shown except that NXX codes will replace the N0/1X codes in the Area Code columns.

TABLE E

DIRECTORY ASSISTANCE DIALING PROCEDURES

SERVICES PROVIDED	CODE REQUIREMENT								TERM.	
	PREFIX		SERVICE	NPA		C.O.			DIGITS	NOTES
Home NPA — Local			411							1
	1	+	411							2, 3
Home NPA — Toll						555	—		1212	4
	1	+				555	—		1212	5
				N0/1X	+	555	—		1212	6,10
	1	+		N0/1X	+	555	—		1212	7, 10
Foreign NPA — Local			411							1, 9
	1	+	411							1, 3, 9
Foreign NPA — Toll				N0/1X	+	555	—		1212	8, 10
	1	+		N0/1X	+	555	—		1212	10, 11

Notes:

(1) Standard for all areas.

(2) Acceptable alternative for small SXS offices.

(3) Acceptable alternative in areas with SXS equipment where it is necessary to record Directory Assistance calls in CAMA Tandems.

(4) Standard for areas *without* SXS equipment.

(5) Standard for areas *with* SXS equipment.

(6) Deny procedure.

(7) Permit in addition to standard or acceptable alternative procedure.

(8) Standard for areas *without* SXS equipment prior to interchangeable codes.

(9) The number of practical applications should be minimized.

(10) Area codes will be in NXX form rather than N0/1X after interchangeable area codes are introduced.

(11) Standard for areas *with* SXS equipment prior to interchangeable codes and for all areas thereafter.

expanding their use of different Business Offices for different classes of service, and Repair Service Centers have been similarly divided in some locations. While additional N11 codes could probably be assigned to accommodate these changes, the expenditures required for modifying the switching equipment would be excessive in most areas. The resulting impracticality, for many years, of making N11 codes universal for these purposes suggests the use of 7-digit numbers for any future splintering of these services and the ***gradual phasing out*** of "611" and "811" as opportunities arise. In the interim, the use of these N11 codes should be considered as ***optional***, but their use should be uniform within metropolitan or directory serving areas.

7.10 All N11 codes, exclusive of "411" and "911," should be kept available for future special services but may be ***used as temporary test codes*** provided that such use can be stopped on short notice.

TOUCH-TONE® SYMBOLS

7.11 The TOUCH-TONE symbols are as follows:

(a) "*" (asterisk)—Reserved for future use.

(b) "#" (number sign)—Currently used in IDDD and Custom Calling Service to cancel timing. Also used for PICTUREPHONE® and future wideband data services as illustrated in Part 8.

7.12 In addition, the "*" and "#" are both used for certain PBX/CENTREX features serving intra-PBX or CENTREX functions.

CENTRAL OFFICES SERVING CUSTOMERS IN SEVERAL NPA(S)

7.13 A central office located near the boundary of an NPA may furnish service to customers in one or more adjacent NPAs. In such offices it is necessary to assign separate and different CO codes to the groups of customers within each NPA. In addition, the central office equipment must be arranged to route all calls properly and record them appropriately for billing. Dialing procedures to be used for such arrangements must be selected with the awareness of whether code protection exists.

INTERNATIONAL DIRECT DISTANCE DIALING (IDDD)

7.14 This dialing arrangement was first introduced in 1970 and will be extended in the future to many locations in the Dial Network as outlined in GL73-11-063. The codes "01," "011," and "010" have been set aside for this use. Code "011" was used with initial service and code "01" is planned for use with TSPS this year. Planned dialing procedures from either coin or noncoin stations are as follows:

(a) Station Paid Direct Dialed Call: 011 + country code + national number

(b) Customer Dialed—Operator Serviced Call: 01 + country code + national number

(c) International Assistance Operator: 010 is presently reserved for the future.

7.15 Since the total number of digits required for an IDDD call to some countries varies widely, it may be necessary to use timing to determine whether dialing has been completed by the customer. TOUCH-TONE customers served by ESS may optionally use the # (number sign) symbol, located at the lower right of the 12-button TOUCH-TONE pad, as an "end of dialing" signal to cancel timing and permit the call to be processed more promptly.

8. SPECIAL SERVICES DIALING PROCEDURES AND PBX/CENTREX NUMBERING PLANS

SPECIAL SERVICES DIALING PROCEDURES

8.01 Rapid expansion of Custom Calling Services (CCS) feature availability throughout the Dial Network is expected in the next few years. As these features continue to increase in development, and the base of in-service customers broadens, the telephone industry will be faced with an increasing need and awareness to closely define the dialing procedures for CCS to insure standardization throughout the North American Numbering Plan. In order to accomplish this, Table F has been prepared to help guide the Operating Companies in selecting the recommended dialing arrangement.

PBX/CENTREX NUMBERING PLANS

8.02 PBX and CENTREX service should be provided by number assignments that will

TABLE F

RECOMMENDED DIALING FORMAT

TYPE OF CALL	NON-PBX	EXAMPLE
CUSTOM-CALLING SERVICES:		
Speed Calling —		
8 number list	N + #	4 + #
change list	74 + # (SDT) + N + @	74 + # + (SDT) + 6 + 555-2368
Speed Calling —		
30 number list	YX + #	35 + #
change list	75 + # (SDT) + YX + @	75 + # (SDT) + 37 + (1+) 311 + 555-2368
Call Forwarding —		
Activate	72 + # (SDT) + @	72 + # (SDT) + 555-2386
Cancel	73 + # (DT)	73 + # (DT)
OTHER SERVICES:		
PICTUREPHONE	(#) + @	(#) + (1+) 311 + 555-2368
Wideband Data (future)	(#) + X + # + @	(#) + 8 + # + 555-2368

Legend:

N = Any digit 2 through 9.
X = Any digit 0 through 9.
Y = Any digit 2 through 4.
(DT) = Regular central office dial tone.
(SDT) = Special or second dial tone required before proceeding.
= Customer's optional use of the # (number sign) symbol, located lower right of 12-button TOUCH-TONE pad, in lieu of the 3 to 5 second time-out required by all rotary dial customers.
(#) = Customer is required to access this type of call by using the # (number sign) symbol, on 12-button TOUCH-TONE set, to activate the proper switching equipment in the central office.
@ = Network dialing procedures to be followed in accordance with Part 7.
(1+) = Optional use of this digit in all common-control areas before interchangeable codes are introduced.

permit station users to dial a minimum number of digits. Furthermore, the dialing procedures format should be simple to understand, easy to use, and provide flexibility and maximum uniformity throughout the North American Numbering Plan.

8.03 It is recognized that some PBX/CENTREX Systems provide special service features, such as conference calling, call forwarding, intercom, speed calling, call pickup and hold, etc, which require unique dialing arrangements. For these particular cases the general letter covering the specific PBX or CENTREX System of interest should be consulted as to its feature availability, recommended numbering plan, and operational guidelines.

9. GENERAL LETTER (GL) REFERENCE LIST

GL NUMBER	SUBJECT	DATE
71-06-029	Custom Calling Services — Planning Information	June 7, 1971
71-12-101	Customer Calling Services — Customer Instruction	December 13, 1971
72-06-063	1971 Central Office Code Utilization Survey (COCUS)	June 12, 1972
73-01-222	Nationwide Numbering Plan and Dialing Procedures — Introduction of N0/1X Central Office Codes	January 29, 1973
73-06-108	Nationwide Numbering Plan and Dialing Procedures — Code Assignment Responsibilities	June 19, 1973
73-10-006 and 73-11-124	Radio Common Carrier (RCC) Interconnection — Reviews Guidelines and Procedures	October 3, 1973 and November 27, 1973
73-11-063	IDDD — IOTC Plans and Procedures	November 14, 1973
74-01-102	Use of an Alternative Strategy to Timing when Interchangeable Codes are Introduced	January 16, 1974
74-03-160 (E.L. 2821) (Section 781-610-200)	Nationwide Numbering Plan and Dialing Procedures — Efficient Code Utilization and Conservation Program	March 25, 1974 and January 1975

R. H. Kaschner
June 1974

ASSIGNED NUMBERING PLAN AREAS AND CODES BY AREA OR SPECIAL AREA CODE IN NUMERICAL ORDER (AT THE END OF 1974)

AREA CODE	STATE/PROVINCE OR OTHER SPECIAL USE
201	— New Jersey
202	— District of Columbia
203	— Connecticut
204	— Manitoba
205	— Alabama
206	— Washington
207	— Maine
208	— Idaho
209	— California
212	— New York
213	— California
214	— Texas
215	— Pennsylvania
216	— Ohio
217	— Illinois
218	— Minnesota
219	— Indiana
301	— Maryland
302	— Delaware
303	— Colorado
304	— West Virginia
305	— Florida
306	— Saskatchewan
307	— Wyoming
308	— Nebraska
309	— Illinois
312	— Illinois
313	— Michigan
314	— Missouri
315	— New York
316	— Kansas
317	— Indiana
318	— Louisiana
319	— Iowa
401	— Rhode Island
402	— Nebraska
403	— Alberta
404	— Georgia
405	— Oklahoma
406	— Montana
408	— California
412	— Pennsylvania
413	— Massachusetts
414	— Wisconsin
415	— California
416	— Ontario
417	— Missouri
418	— Quebec
419	— Ohio
501	— Arkansas
502	— Kentucky
503	— Oregon
504	— Louisiana
505	— New Mexico
506	— New Brunswick
507	— Minnesota
509	— Washington
510	— TWX (U.S.A.)
512	— Texas
513	— Ohio
514	— Quebec
515	— Iowa
516	— New York
517	— Michigan
518	— New York
519	— Ontario
601	— Mississippi
602	— Arizona
603	— New Hampshire
604	— British Columbia
605	— South Dakota
606	— Kentucky
607	— New York
608	— Wisconsin
609	— New Jersey
610	— TWX (Canada)
612	— Minnesota
613	— Ontario
614	— Ohio
615	— Tennessee
616	— Michigan
617	— Massachusetts
618	— Illinois
701	— North Dakota
702	— Nevada
703	— Virginia
704	— North Carolina
705	— Ontario
707	— California
709	— Newfoundland
710	— TWX (U.S.A.)
712	— Iowa
713	— Texas
714	— California
715	— Wisconsin
716	— New York
717	— Pennsylvania
800	— Inward WATS
801	— Utah
802	— Vermont
803	— South Carolina
804	— Virginia
805	— California
806	— Texas
807	— Ontario
808	— Hawaii
809	— Bermuda, Puerto Rico, Virgin Islands, and other Caribbean Islands
810	— TWX (U.S.A.)
812	— Indiana
813	— Florida
814	— Pennsylvania
815	— Illinois
816	— Missouri
817	— Texas
819	— Quebec
900	— Mass Calling
901	— Tennessee
902	— Nova Scotia and Prince Edward Island
903	— Northwest Mexico
904	— Florida
905	— Mexico City
906	— Michigan
907	— Alaska
910	— TWX (U.S.A.)
912	— Georgia
913	— Kansas
914	— New York
915	— Texas
916	— California
918	— Oklahoma
919	— North Carolina

Fig. 1—NPA Codes in Numerical Order

ASSIGNED NUMBERING PLAN AREAS AND CODES BY GEOGRAPHICAL LOCATION OR SPECIALIZED USE IN ALPHABETICAL ORDER (AT THE END OF 1974)

STATE/PROVINCE OR OTHER SPECIAL USE	AREA CODE
Alabama	205
Alaska	907
Arizona	602
Arkansas	501
Bermuda, Puerto	809
Rico, Virgin Islands	809
and other	809
Caribbean Islands	809
California	209
California	213
California	408
California	415
California	707
California	714
California	805
California	916
Canada:	
Alberta	403
British Columbia	604
Manitoba	204
New Brunswick	506
Newfoundland	709
Nova Scotia and	902
Prince Edward	902
Island	902
Ontario	416
Ontario	519
Ontario	613
Ontario	705
Ontario	807
Quebec	418
Quebec	514
Quebec	819
Saskatchewan	306
Colorado	303
Connecticut	203
Delaware	302
District of Columbia	202
Florida	305
Florida	813
Florida	904
Georgia	404
Georgia	912
Hawaii	808
Idaho	208
Illinois	217
Illinois	309
Illinois	312
Illinois	618
Illinois	815
Indiana	219
Indiana	317
Indiana	812
Inward WATS	800
Iowa	319
Iowa	515
Iowa	712
Kansas	316
Kansas	913
Kentucky	502
Kentucky	606
Louisiana	318
Louisiana	504
Maine	207
Maryland	301
Massachusetts	413
Massachusetts	617
Mass Calling	900
Mexico:	
Mexico City	905
Northwest Mexico	903
Michigan	313
Michigan	517
Michigan	616
Michigan	906
Minnesota	218
Minnesota	507
Minnesota	612
Mississippi	601
Missouri	314
Missouri	417
Missouri	816
Montana	406
Nebraska	308
Nebraska	402
Nevada	702
New Hampshire	603
New Jersey	201
New Jersey	609
New Mexico	505
New York	212
New York	315
New York	516
New York	518
New York	607
New York	716
New York	914
North Carolina	704
North Carolina	919
North Dakota	701
Ohio	216
Ohio	419
Ohio	513
Ohio	614
Oklahoma	405
Oklahoma	918
Oregon	503
Pennsylvania	215
Pennsylvania	412
Pennsylvania	717
Pennsylvania	814
Rhode Island	401
South Carolina	803
South Dakota	605
Tennessee	615
Tennessee	901
Texas	214
Texas	512
Texas	713
Texas	806
Texas	817
Texas	915
TWX:	
Canada	610
U.S.A.	510
U.S.A.	710
U.S.A.	810
U.S.A.	910
Utah	801
Vermont	802
Virginia	703
Virginia	804
Washington	206
Washington	509
West Virginia	304
Wisconsin	414
Wisconsin	608
Wisconsin	715
Wyoming	307

Fig. 2—NPA Codes in Alphabetical Order

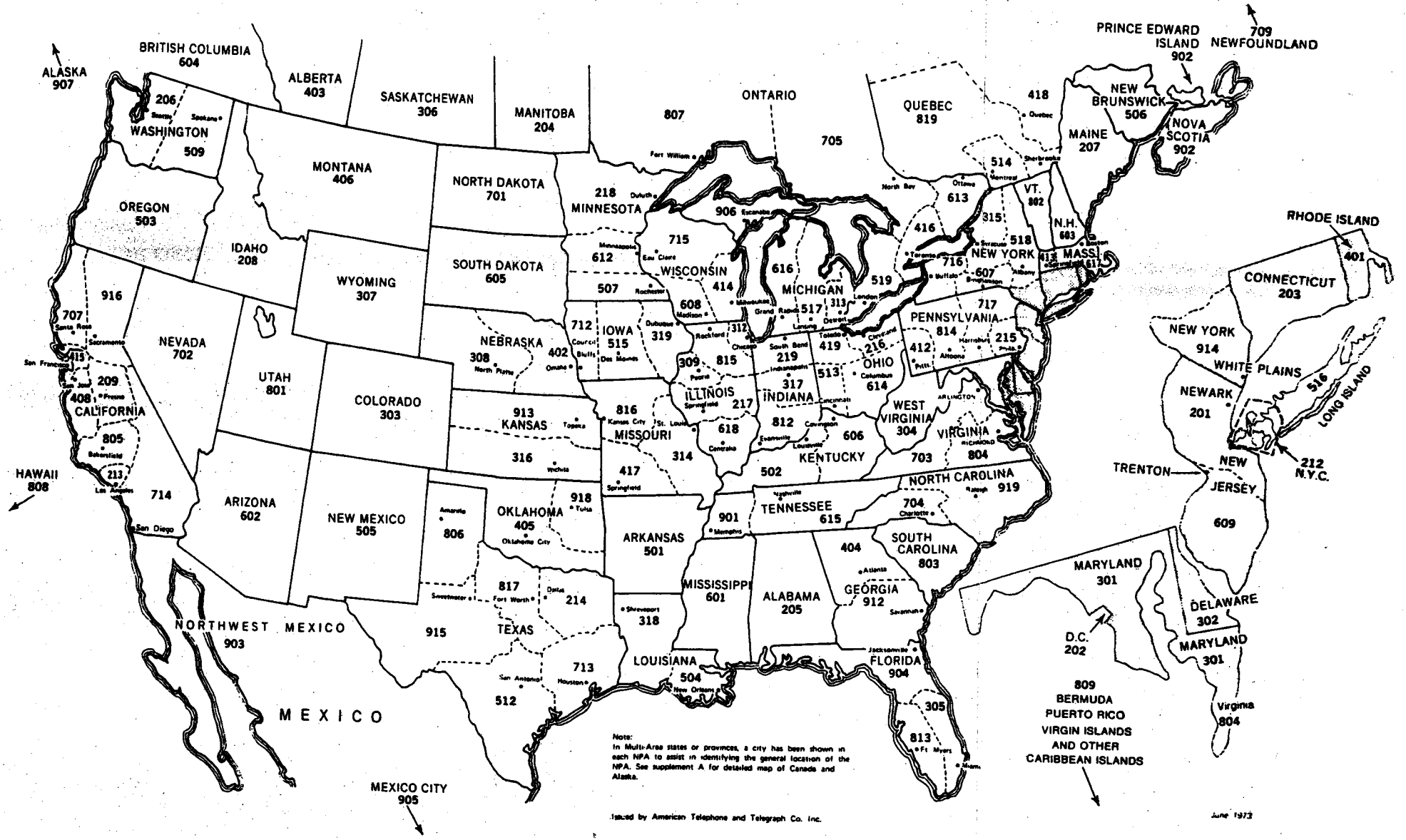

Fig. 3—NPA Map of Continental United States

Fig. 4—NPA Map of Canada and Alaska