

Quentin Sager Consulting, Inc.

[NALENND® TELEPHONE NUMBER TYPE IDENTIFIER – PREMIUM EDITION]

North American Local Exchange NPA NXX Database reference manual

This document contains the data set and file specifications for the NALENND® Telephone Number Type Identifier – Premium Edition database. These specifications are subject to change without notice. The data it describes is furnished under a license agreement and may be used or copied only in accordance with the terms of the license agreement.

NALENND® Telephone Number Type Identifier – Premium Edition Reference Manual

Revised: October 14, 2020

Published by:

Quentin Sager Consulting, Inc.

1589 South Wallace Point

Crystal River, FL 34429

Copyright © 2020 Quentin Sager Consulting, Inc.

All rights reserved.

No part of this publication may be reproduced in any form, in an electronic retrieval system or otherwise, without the prior written permission of Quentin Sager Consulting, Inc.

Disclaimer and Limitation of Liability

The information provided in this document is directed solely to users who have the appropriate degree of experience to understand and interpret its contents in accordance with generally accepted engineering, industry, or other professional standards and applicable regulations.

NO REPRESENTATION OR WARRANTY IS MADE THAT THE INFORMATION IS TECHNICALLY ACCURATE OR SUFFICIENT OR CONFORMS TO ANY STATUTE, GOVERNMENTAL RULE OR REGULATION, AND FURTHER NO REPRESENTATION OR WARRANTY IS MADE OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OR AGAINST INFRINGEMENT OF INTELLECTUAL PROPERTY RIGHTS. QUENTIN SAGER CONSULTING SHALL NOT BE LIABLE, BEYOND THE AMOUNT OF ANY SUM RECEIVED IN PAYMENT BY QUENTIN SAGER CONSULTING FOR THIS DOCUMENT, WITH RESPECT TO ANY CLAIM, AND IN NO EVENT SHALL QUENTIN SAGER CONSULTING BE LIABLE FOR LOST PROFITS OR OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGES. QUENTIN SAGER CONSULTING EXPRESSLY ADVISES THAT ANY AND ALL USE OF OR RELIANCE UPON THE INFORMATION PROVIDED IN THIS DOCUMENT IS AT THE RISK OF THE USER.

FILE NAMES AND DESCRIPTIONS

The NALENND® Telephone Number Type Identifier Database lists all active United States and Canadian NPA NXX combinations identifying the line type at the thousands block level. Each block represents 1,000 telephone numbers ranging from NPA NXX-X000 through NPA NXX-X999.

Each file in the NALENND® database is a flat, ASCII text, comma-separated-value (CSV) data file. Each file has a single header row followed by one or more data rows. Each row within the file terminates with an ASCII carriage return/line feed (CR/LF) character combination. Elements or columns within a row are separated with a single ASCII comma character. Data elements or column values are encapsulated with opening and closing “Double Quotes” when the data value contains an embedded ASCII comma character.

RECORD LAYOUTS AND FIELD DESCRIPTIONS

FILE: nalennd_tcpa.csv

| Field | Description |
|------------------|---|
| NPA | Numbering Plan Area (NPA) Code. An NPA, also known as a telephone <i>area code</i> , is the first three digits of a 10-digit North American Numbering Plan (NANP) telephone number in the form NXX-NXX-XXXX, where N represents any one of the numbers 2 through 9 and X represents any one of the numbers 0 through 9. Valid numeric range for NPA codes is 200 through 999. |
| NXX | Central Office Code (COC). The COC, commonly called the telephone exchange or prefix, is the second three digits (NXX) of a 10-digit NANP telephone number in the form NXX-NXX-XXXX, where N represents any one of the numbers 2 through 9 and X represents any one of the numbers 0 through 9. Valid numeric range for NXX codes is 200 through 999. |
| BLOCK | Single digit <i>thousands block identifier</i> representing the first digit of the 4-digit station number range x000 through x999. Valid values are the numbers 0 through 9. |
| COUNTRY | 2-character ISO 3166 Country Code (ISO 3166-1:2006 2006) of the Rate Center location. These country codes may differ from the similar FIPS country codes (Federal Information Processing Standards Publication 104-1 1986) used in other telecommunications industry specific databases. |
| STATE | 2-character United States Postal Service state or territory abbreviation and/or 2-character Canada Post province or territory abbreviation. |
| UTC | Time zone specified as <i>Coordinated Universal Time</i> (UTC) offset. Format is +/-hh:mm |
| DST | Daylight Savings Time recognized flag. <ul style="list-style-type: none"> • Y – Daylight savings time is recognized. • N – Daylight savings time is not recognized. • X – Daylight savings time not applicable. This applies to certain NPA NXX combinations where there is no specific geographic location associated with the exchange. |
| BLOCKTYPE | Single character identifying the line type or telephone service type of the NPA NXX thousands block. <ul style="list-style-type: none"> • S – Wireline (Land line) type service. • C – Wireless type service including PCS, Cellular, GSM, etc. • P – Paging and other Messaging services • V – VoIP |
| RESERVED | Reserved for future use. |

GLOSSARY

Basic Trading Area (BTA)

United States Basic Trading Areas are based on the Rand McNally 1992 Commercial Atlas & Marketing Guide, 123rd Edition, at pages 38-39, with the following additions: American Samoa (492), Guam (490), Northern Mariana Islands (493), San Juan, Puerto Rico (488), Mayaguez/Aguadilla-Ponce, Puerto Rico (489), and the United States Virgin Islands (491).

Central Office

Also referred to as a *Wire Center* or *End Office*, a *Central Office* is the building where end user lines are joined to switching equipment that connects other end users to each other, both locally and via long distance carriers. The central office contains the associated inside plant network elements required to perform this function, such as distribution frames, interoffice facility termination points, and so on.

Local Access and Transport Area (LATA)

A *Local Access and Transport Area* defines the area within which those local Service Providers directly addressed by the 1984 Modified Final Judgment (MFJ) (i.e. AT&T Divestiture) are permitted to carry traffic. Cross-LATA traffic, except in isolated wavered cases, is handled by interexchange carriers. Although LATA restrictions do not apply to companies not addressed by the MFJ, due to the various interconnection needs among carriers, the influence of LATA restrictions impacts all carriers to a degree.

Major Trading Area (MTA)

United States Major Trading Areas are based on the Rand McNally 1992 Commercial Atlas & Marketing Guide, 123rd Edition, at pages 38-39 and are used by the U.S. Federal government for determining service areas for some wireless Service Providers.

North American Numbering Plan (NANP)

The *NANP* is the basic numbering scheme for the telecommunications networks in the following 19 countries in ITU Country Code 1: Anguilla, Antigua & Barbuda, Bahamas, Barbados, Bermuda, British Virgin Islands, Canada, Cayman Islands, Dominica, Dominican Republic, Grenada, Jamaica, Montserrat, St. Kitts & Nevis, St. Lucia, St. Vincent & the Grenadines, Trinidad & Tobago, Turks & Caicos Islands, and the United States of America (including Puerto Rico, the U.S. Virgin Islands, Guam, the Commonwealth of the Northern Mariana Islands, and American Samoa).

National Exchange Carrier Association (NECA)

Formed in 1983 by the Federal Communications Commission (FCC), NECA is a not-for-profit corporation whose members are local telephone companies. NECA provides Company Codes, used to identify telecommunications carriers and service providers; and helps administer the FCC access charge plan and other federal and state telecommunications programs.

Numbering Plan Area (NPA)

Numbering Plan Area, also called *Area Code*. An NPA is the 3-digit code that occupies the A, B, and C positions in the 10-digit NANP format that applies throughout the NANP serving area. NPAs are of the form NXX, where N represents the digits 2-9 and X represents any digit 0-9. In the NANP, NPAs are classified as either geographic or non-geographic.

Rate Center

A *Rate Center* is technically the approximate midpoint of a geographical area called a *Rate Exchange Area*, although the term Rate Center has also been used synonymously with the geographic area itself. The Rate Center point is used as basis to determine mileage between Rate Centers. Rate Exchange Area and Rate Center information, as well as other aspects (e.g. V&H) are addressed and defined in local exchange tariffs filed with each state commission by Service Providers operating in each state.

Thousands Block Number Pooling

Thousands-block number pooling is a process by which the 10,000 numbers in a central office code (NXX) are separated into ten sequential blocks of 1,000 numbers each (thousands-blocks), and allocated separately within a Rate Center. Number Pooling has been established in accordance with the FCC Report and Order No. 00-104 and the INC Thousands Block Pooling Administration Guidelines (INC 99-0127-023).

Wire Center

Wire Center is often used interchangeably with the terms *Central Office* and *switch*. Technically, the wire center is the location where the local exchange carrier terminates subscriber local loops, along with the testing facilities necessary to maintain them. A wire center can be a building or space within a building that serves as an aggregation point on a local exchange carrier's network, where transmission facilities and circuits are connected or switched. "Wire Center" can also denote a building in which one or more central office, used for the provision of exchange services and access services, is located.

V&H Coordinates

Vertical and Horizontal (V&H) coordinates have been used in telephony since the late 1950's as a means to determine "airline" distance between two points using a simple "distance" formula. The projection algorithm uses latitude and longitude as well as various other factors in deriving the coordinate values. These coordinates are used to identify geographic locations and calculate relative distances between network elements (e.g. switch locations), and between Rate Centers.

SQL SCRIPTS AND SCHEMAS

MySQL

```
CREATE DATABASE if not exists `nalennd`;
USE `nalennd`;

DROP TABLE IF EXISTS `npanxx`;
CREATE TABLE `npanxx` (
  `NPA` char(3) NOT NULL,
  `NXX` char(3) NOT NULL,
  `BLOCK` char(1) NOT NULL,
  `COUNTRY` char(2) NOT NULL,
  `STATE` char(2) NOT NULL,
  `UTC` char(6) NOT NULL,
  `DST` char(1) NOT NULL,
  `BLOCKTYPE` char(1) NOT NULL,
  `RESERVED` varchar(128) NULL,
  PRIMARY KEY (`NPA`,`NXX`,`BLOCK`)
) TYPE=MyISAM;
```

Microsoft SQL Server

```
CREATE DATABASE [nalennd] ON PRIMARY
GO
USE [nalennd]
GO
SET ANSI_NULLS ON
GO
SET QUOTED_IDENTIFIER ON
GO
SET ANSI_PADDING ON
GO
CREATE TABLE [dbo].[npanxx] (
  [NPA] [char] (3) NOT NULL,
  [NXX] [char] (3) NOT NULL,
  [BLOCK] [char] (1) NOT NULL,
  [COUNTRY] [char] (2) NOT NULL,
  [STATE] [char] (2) NOT NULL,
  [UTC] [char] (6) NOT NULL,
  [DST] [char] (1) NOT NULL,
  [BLOCKTYPE] [char] (1) NOT NULL,
  [RESERVED] [varchar] (128) NULL,
  CONSTRAINT [PK_npanxx] PRIMARY KEY CLUSTERED
  (
    [NPA] ASC,
    [NXX] ASC,
    [BLOCK] ASC
  ) WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, IGNORE_DUP_KEY = OFF, ALLOW_ROW_LOCKS = ON,
  ALLOW_PAGE_LOCKS = ON) ON [PRIMARY]
) ON [PRIMARY]
GO
```

ORACLE

```
CREATE TABLE "npanxx" (
  "NPA" CHAR(3) NOT NULL ENABLE,
  "NXX" CHAR(3) NOT NULL ENABLE,
  "BLOCK" CHAR(1) NOT NULL ENABLE,
```

```
"COUNTRY" CHAR(2) NOT NULL ENABLE,  
"STATE" CHAR(2) NOT NULL ENABLE,  
"UTC" CHAR(6) NOT NULL ENABLE,  
"DST" CHAR(1) NOT NULL ENABLE,  
"BLOCKTYPE" CHAR(1) NOT NULL ENABLE,  
"RESERVED" VARCHAR(128) NULL ENABLE,  
    CONSTRAINT "npanxx_pk" PRIMARY KEY ("NPA", "NXX", "BLOCK") ENABLE  
);
```


Appendix A – State, province, and territory codes

United States - States and territories

| | | | |
|----|----------------------|----|---------------------------------------|
| AL | Alabama | NJ | New Jersey |
| AK | Alaska | NM | New Mexico |
| AZ | Arizona | NY | New York |
| AR | Arkansas | NC | North Carolina |
| CA | California | ND | North Dakota |
| CO | Colorado | OH | Ohio |
| CT | Connecticut | OK | Oklahoma |
| DE | Delaware | OR | Oregon |
| DC | District of Columbia | PA | Pennsylvania |
| FL | Florida | RI | Rhode Island |
| GA | Georgia | SC | South Carolina |
| HI | Hawaii | SD | South Dakota |
| ID | Idaho | TN | Tennessee |
| IL | Illinois | TX | Texas |
| IN | Indiana | UT | Utah |
| IA | Iowa | VT | Vermont |
| KS | Kansas | VA | Virginia |
| KY | Kentucky | WA | Washington |
| LA | Louisiana | WV | West Virginia |
| ME | Maine | WI | Wisconsin |
| MD | Maryland | WY | Wyoming |
| MA | Massachusetts | AS | American Samoa ¹ |
| MI | Michigan | FM | Micronesia |
| MN | Minnesota | GU | Guam |
| MS | Mississippi | MH | Marshall Islands |
| MO | Missouri | MP | Northern Mariana Islands ² |
| MT | Montana | PW | Palau |
| NE | Nebraska | PR | Puerto Rico |
| NV | Nevada | UM | Minor Islands |
| NH | New Hampshire | VI | Virgin Islands |

Canada - Provinces and territories

| | | | |
|----|--|----|----------------------|
| AB | Alberta | NU | Nunavut ³ |
| BC | British Columbia | ON | Ontario |
| MB | Manitoba | PE | Prince Edward Island |
| NB | New Brunswick | QC | Quebec ⁴ |
| NL | Newfoundland and Labrador ⁵ | SK | Saskatchewan |
| NT | Northwest Territories | YT | Yukon |
| NS | Nova Scotia | | |

Mexico - States and territories

| | | | |
|-----|-----------------|-----|---------|
| AGS | AGUASCALIENTES | MOR | MORELOS |
| BC | BAJA CALIFORNIA | NAY | NAYARIT |

¹ COMMON LANGUAGE® abbreviation for American Samoa is AM

² COMMON LANGUAGE® abbreviation for Northern Mariana Islands is NN

³ COMMON LANGUAGE® abbreviation for Nunavut is VU

⁴ COMMON LANGUAGE® abbreviation for Quebec is PQ

⁵ COMMON LANGUAGE® abbreviation for Newfoundland and Labrador is NF

| | | | |
|------|---------------------|------|-----------------|
| BCS | BAJA CALIFORNIA SUR | NL | NUEVO LEON |
| CAM | CAMPECHE | OAX | OAXACA |
| COAH | COAHUILA | PUE | PUEBLA |
| COL | COLIMA | QRO | QUERETARO |
| CHIS | CHIAPAS | QROO | QUINTANA ROO |
| CHIH | CHIHUAHUA | SLP | SAN LUIS POTOSI |
| DF | DISTRITO FEDERAL | SIN | SINALOA |
| DGO | DURANGO | SON | SONORA |
| GTO | GUANAJUATO | TAB | TABASCO |
| GRO | GUERRERO | TAM | TAMAULIPAS |
| HGO | HIDALGO | TLAX | TLAXCALA |
| JAL | JALISCO | VER | VERACRUZ |
| MEX | MEXICO | YUC | YUCATAN |
| MICH | MICHOACAN | ZAC | ZACATECAS |

Appendix B – Country codes

Countries, islands, and territories participating in the North American Numbering Plan.

| ISO 3166-1 | FIPS 104-1 | Country |
|------------|------------|----------------------------------|
| US | US | United States |
| CA | CA | Canada |
| BS | BA | Bahamas |
| BB | BD | Barbados |
| AI | AI | Anguilla |
| AG | AN | Antigua and Barbuda |
| VG | BV | Virgin Islands, British |
| KY | CQ | Cayman Islands |
| BM | BM | Bermuda |
| GD | GN | Grenada |
| TC | TC | Turks and Caicos Islands |
| MS | RT | Montserrat |
| LC | SA | Saint Lucia |
| DM | DM | Dominica |
| VC | ZF | Saint Vincent and the Grenadines |
| DO | DR | Dominican Republic |
| TT | TR | Trinidad and Tobago |
| KN | KA | Saint Kitts and Nevis |
| SX | SF | Sint Maarten |
| JM | JM | Jamaica |

Appendix C – United States Major Trading Areas

| | | | |
|----|---|----|------------------------|
| 01 | New York | 27 | Phoenix |
| 02 | Los Angeles-San Diego | 28 | Memphis-Jackson |
| 03 | Chicago | 29 | Birmingham |
| 04 | San Francisco-Oakland-San Jose | 30 | Portland |
| 05 | Detroit | 31 | Indianapolis |
| 06 | Charlotte-Greensboro-Greenville-Raleigh | 32 | Des Moines-Quad Cities |
| 07 | Dallas-Fort Worth | 33 | San Antonio |
| 08 | Boston-Providence | 34 | Kansas City |

| | | | |
|----|---------------------------------|----|-------------------------------|
| 09 | Philadelphia | 35 | Buffalo-Rochester |
| 10 | Washington-Baltimore | 36 | Salt Lake City |
| 11 | Atlanta | 37 | Jacksonville |
| 12 | Minneapolis-St. Paul | 38 | Columbus |
| 13 | Tampa-St. Petersburg-Orlando | 39 | El Paso-Albuquerque |
| 14 | Houston | 40 | Little Rock |
| 15 | Miami-Fort Lauderdale | 41 | Oklahoma City |
| 16 | Cleveland | 42 | Spokane-Billings |
| 17 | New Orleans-Baton Rouge | 43 | Nashville |
| 18 | Cincinnati-Dayton | 44 | Knoxville |
| 19 | St. Louis | 45 | Omaha |
| 20 | Milwaukee | 46 | Wichita |
| 21 | Pittsburgh | 47 | Honolulu |
| 22 | Denver | 48 | Tulsa |
| 23 | Richmond-Norfolk | 49 | Alaska |
| 24 | Seattle (Excluding Alaska) | 50 | Guam-Northern Mariana Islands |
| 25 | Puerto Rico-U.S. Virgin Islands | 51 | American Samoa |
| 26 | Louisville-Lexington-Evansville | | |

Appendix D – United States Telephone Number Format and Values

The telephone numbering address is a ten-digit number that consists of the following three basic parts:

- A 3-digit Numbering Plan Area (NPA) code, commonly called the area code.
- A 3-digit Central Office (CO) code referred to as the NXX code. The term Central Office, or CO, code is used in this document because of its long-standing use and because the NXX format is used for both CO Codes and NPA codes.
- A 4-digit line number previously referred to as a station number.

The format of a NANP Number is NXX-NXX-XXXX⁶ where N = digits 2 through 9 and X = any digit of 0 through 9. The digit positions in the NANP format can be identified by alphabetical characters using the following format ABC-DEF-GHIJ, where ABC is the NPA, DEF is the CO Code, and GHIJ is the Line Number.

Therefore: A United States telephone number is a ten-digit number that contains two 3-digit codes and a 4-digit line number. The values of these telephone numbers are the decimal digits 0 through 9.

When written or printed, these groups of digits should be visually separated by dashes, spaces or periods in accordance with ITU-T Rec. E.123 “Notation for national and international telephone numbers, e-mail addresses and Web addresses” in order to make them easier to recognize and remember (e.g., NXX-NXX-XXXX).

When a United States telephone number is written or printed as an international number, the number should be prefixed by “+1” and a space (e.g., +1 NXX-NXX-XXXX).

⁶ The use of the Area Code is optional in some areas that permit 7-digit local dialing.