Quentin Sager Consulting, Inc.

[NALENND® NPA NXX TO ZIP CODE - FIPS EDITION]

NPA NXX to ZIP Code Cross-reference Database reference manual

This document contains the data set and file specifications for the NALENND® NPA NXX to ZIP Code – FIPS 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® NPA NXX to ZIP Code Edition Reference Manual
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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.

File Names and Descriptions

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.

File	Primary data contents
npanxx2zipfips.txt	Active NPA NXX (central office codes) to United States 5-digit ZIP Code cross-reference data master.
county.csv	United States FIPS county codes and names; Canadian census division codes and names

Record Layouts and Field Descriptions

FILE: npanxx2zipfips.txt

The NPA NXX to United States ZIP Code file contains a listing of all NPA NXX combinations found in use in a particular ZIP Code. To build a unique single index key you must join all three key fields (NPA, NXX, and ZIP) to create a unique value. Each individual field may be indexed however you must create the index to allow duplicates of the individual field.

Field	Description
NPA	Numbering Plan Area (NPA) Code. An NPA, also known as a telephone *area code*, 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 9and X represents any one of the numbers 0 through 9. Valid numeric range for NXX codes is 200 through 999.
ZIP	5-digit United States ZIP Code.
STATE	2-character United States Postal Service abbreviation for the state, or territory of the city and Rate Center location.
CITY	United States Postal Service recognized name for the city or locale identified by the current ZIP code.
FIPSCOUNTY	5-digit code commonly referred to as the FIPS county code. The first two digits of this code are the unique 2-digit numeric code for a U.S. state as specified in Ansi INCITS 38:200x (formerly FIPS 5-2) followed by the 3-digit numeric code that uniquely identifies the county or equivalent division as specified in Ansi INCITS 31:200x (formerly FIPS 6-4)
FIPSPLACE	5-digit code commonly referred to as the FIPS Place Code. Formerly the FIPS 55 Place Code, this code is being replaced by the newer Ansi INCITS 446-2008 feature code but continues to be used to uniquely identify locations within the United States[1].
RC	10-character Rate Center abbreviated name[2] identifying local service area where the NPA NXX is assigned.
MTA	The Major Trading Area the Rate Center is located in. MTAs are used by the FCC to defined coverage of spectrum licenses for certain services.

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[1] As an example the Streamlined Sales Tax Governing Board uses the FIPS place code as an aid in identifying local sales tax jurisdictions.
[2] Concurs with industry standard abbreviation as specified in the Telcordia® LERG™

FILE: county.csv

Field	Description
CountyCode	County, county equivalent, or census division code • **United States** – 5-digit Federal Information Processing System (FIPS) County code. • **Canada** – 4-digit Statistics Canada census division code
Country	Two-character ISO 3166-1 Country Code
State	Two character state, province, or territory abbreviation
Name	Name of county or county equivalent
Type	Organizational recognition of the county
LandArea	Land area in square miles
Population	County, county equivalent population. • **United States** - U.S. Census Bureau 2018 population estimate. • **Canada** - Statistics Canada reported 2016 population

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), Mayagüez/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`;

CREATE TABLE npanxx2zip (
  `NPA` char(3) NOT NULL,
  `NXX` char(3) NOT NULL,
  `ZIP` char(5) NOT NULL,
  `STATE` char(2) NOT NULL,
  `CITY` varchar(128) NOT NULL,
  `FIPSCOUNTY` char(5) NOT NULL,
  `FIPSPLACE` char(5) NULL,
  `RC` char(10) NOT NULL,
  `MTA` integer NULL);

LOAD DATA LOCAL INFILE ' npanxx2zip.txt' INTO TABLE npanxx2zip FIELDS TERMINATED BY
',' LINES TERMINATED BY '\r\n' IGNORE 1 LINES;

CREATE TABLE `county`(
  `CountyCode` `char`(5) NOT NULL,
  `Country` `char`(2) default NULL,
  `State` `char`(2) default NULL,
  `Name` `varchar`(128) default NULL,
  `Type` `varchar`(80) default NULL,
  `LandArea` `int`(11) default NULL,
  `Population` `int`(11) default NULL,
  PRIMARY KEY  (`CountyCode `)
) 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].[npanxx2zip](
    [NPA] [char](3) NOT NULL,
    [NXX] [char](3) NOT NULL,
    [ZIP] [char](5) NOT NULL,
    [STATE] [char](2) NOT NULL,
    [CITY] [varchar](128) NOT NULL,
    [FIPSCOUNTY] [char](5) NOT NULL,
    [FIPSPLACE] [char](5) NULL,
    [RC] [char](10) NOT NULL,
    [MTA] integer NULL)
GO

CREATE TABLE [dbo].[county](
      [CountyCode] [char](5) NOT NULL,
      [Country] [char](2) NOT NULL,
      [State] [char](2) NOT NULL,
      [Name] [varchar](128) NOT NULL,
```

```
        [Type] [varchar](80) NULL,
        [LandArea] [int] NULL,
        [Population] [int] NULL)
GO
```

ORACLE

```
CREATE TABLE  " npanxx2zip " (
    "NPA" CHAR(3) NOT NULL ENABLE,
    "NXX" CHAR(3) NOT NULL ENABLE,
    "ZIP" CHAR(5),
    "STATE" CHAR(2),
    "CITY" VARCHAR(128),
    "FIPSCOUNTY" CHAR(5),
    "FIPSPLACE" CHAR(5),
    "RC" CHAR(10),
    "MTA" INTEGER);

CREATE TABLE "county"(
        "CountyCode" CHAR(5) NOT NULL ENABLE,
        "Country" CHAR(2),
        "State" CHAR(2),
        "Name" VARCHAR(128),
        "Type" VARCHAR(80),
        "LandArea" "int"(11),
        "Population" "int"(11),
         CONSTRAINT "county_PK" PRIMARY KEY ("CountyCode ") 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[3]
MI	Michigan	FM	Micronesia
MN	Minnesota	GU	Guam
MS	Mississippi	MH	Marshall Islands
MO	Missouri	MP	Northern Mariana Islands[4]
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[5]
BC	British Columbia	ON	Ontario
MB	Manitoba	PE	Prince Edward Island
NB	New Brunswick	QC	Quebec[6]
NL	Newfoundland and Labrador[7]	SK	Saskatchewan
NT	Northwest Territories	YT	Yukon
NS	Nova Scotia		

Mexico - States and territories

AGS	AGUASCALIENTES	MOR	MORELOS
BC	BAJA CALIFORNIA	NAY	NAYARIT

3 COMMON LANGUAGE® abbreviation for American Samoa is AM
4 COMMON LANGUAGE® abbreviation for Northern Mariana Islands is NN
5 COMMON LANGUAGE® abbreviation for Nunavut is VU
6 COMMON LANGUAGE® abbreviation for Quebec is PQ
7 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
AN	NT	Netherlands Antilles
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
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-XXXX[8] 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).

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