

CPC System

Canadian Postal Codes

WorksRight Software, Inc.
211 Waterford Square
Madison, Mississippi 39110
Phone 601-856-8337
Fax 601-856-9432
E-mail software@worksrigh.com
Web www.worksrigh.com
Copyright 1999-2010 WorksRight Software, Inc.

TABLE OF CONTENTS

Copyright	1
License	1
Warranty	1
Service and Support	1
Introduction	2
Getting Started	3
Installation	4
Deinstallation	5
CPC System Menu	6
Browsing CPC files	8
Audit or update files	11
Selection Options	17
Interactive Postal Coding	23
Distance Calculations	27
Browsing Area Codes	28
Nearest Dealer Locator	29
System Values	33
Callable Programs	34
System Information	35

COPYRIGHT INFORMATION

All of the software contained in the CPC System is copyrighted property of WorksRight Software, Inc.

LICENSE

The CPC System is licensed to the subscriber for use on a single **iSeries** or **AS/400** CPU. For use on multiple **iSeries** or **AS/400's**, a subscription must be purchased for each **iSeries** or **AS/400**.

Purchasing a subscription to the CPC System entitles the subscriber to unlimited use of the CPC System software and data on a single **iSeries** or **AS/400**, provided the copyrights are observed. Payment of the subscription invoice shall be deemed to be acceptance of the terms of this license.

WARRANTY

WorksRight Software, Inc. warrants that the CPC System will generally perform the advertised functions. Due diligence has been used in the design and coding of the system. However, it is impossible to warrant that all possible combinations of actions and operations will be correct.

The user of the CPC System must assume responsibility for due diligence and care in the selection of activities and in the use of the CPC System. The user must review the results produced by the CPC System and exercise judgment as to their fitness for use in the user's business.

In the event that any error in the CPC System is discovered, WorksRight Software, Inc. will make every reasonable effort to correct the error in the code. In any event, WorksRight Software, Inc.'s liability is limited to the purchase price of the CPC System paid by the purchaser to WorksRight Software, Inc.

SERVICE AND SUPPORT

Purchasers of the CPC System are provided with unlimited, free telephone support. Call 601-856-8337 if you need any assistance in using the CPC System.

We welcome your comments and suggestions. Please fax any comments or suggestions to 601-856-9432.

INTRODUCTION

The CPC System is designed to provide an easy-to-use method for viewing postal codes and their corresponding province/city combinations. The CPC System consists of data files containing all the Canadian delivery addresses, postal codes, and easy-to-use programs for viewing and using the information. The CPC data can be viewed in either postal code sequence or in province/city sequence.

The CPC System includes programs for matching addresses to the Canadian postal code file and updating user files in batch mode. Addresses may also be matched interactively. Address matching can also be done with callable programs which are part of the CPC System.

A distance calculation program is also provided. The air-line distance between two postal codes can be calculated based on the latitude and longitude of each postal code.

The telephone area code and time zone associated with a postal code are part of the CPC System. A flag to indicate if a postal code is in an area that observes daylight savings time is also included.

The Nearest Dealer Locator function is a subsystem designed to aid customer service operations. It uses the customer's postal code to identify the nearest customer service location based on the distance to the dealer's postal codes. The ten nearest dealers will be identified.

Callable programs are provided for almost all of the features of the CPC System, allowing you to add these features to your own application software.

VERY IMPORTANT! The postal information is stored in an encrypted format. It cannot be accessed directly by user-written programs. All of the information in the CPC System can be accessed with our callable programs.

We provide sample source code for use of our callable programs. The sample source code is stored in QSAMPLESRC source file in library CPCLIB.

GETTING STARTED

The CPC System is extremely easy to install and use. Although a basic understanding of how to use your workstation is necessary, no programming experience is needed.

First, install the CPC System using the instructions in this book. The installation should take only a few minutes. When the installation ends, you will be viewing the CPC menu.

Next, use menu option one to view the CPC postal code file. The file is always displayed first in postal code sequence. A function key can be used to change the sequence to province/city.

Please review this entire book. While you may not want to read every word, it is important that you browse every page so that you will have a good understanding of the features provided by the CPC System.

No programming skills are required to use the menu options. However, to use the callable programs and take advantage of all features, a programmer will need to modify your existing software systems.

CANADIAN ADDRESS FORMATS

Canadian addresses, when mailed from the United States, should be formatted in the following manner:

**Mr Billy Smith
555 Northern St
Ottawa ON K1A 0B1
CANADA**

We have included on the CPC CD-ROM a PDF copy of the Canadian Postal Service addressing standards guide.

INSTALLATION

The same installation procedure is used for both new installations and for updates, unless special instructions are provided with a monthly update.

To install the CPC System, do the following:

1. Sign on to your system as any user with *ALLOBJ authority.
2. Insure that QTEMP is in your library list
3. Load the CPC System CD-ROM
4. Key LODRUN DEV(device name)
5. Press ENTER
6. When loading for the first time, you will be asked for a password.
7. If prompted for a password, enter the password provided by WorksRight and then press ENTER. After the password is accepted, use command key F1 to continue.
8. When loading for the first time, you will also be prompted to accept the License. If you accept the license, the installation will continue. If you decline to accept the license, the installation will end.

IMPORTANT CONCEPT – Once installation is complete, keying **STRPCP** on any command line will take you directly to the CPC System menu. This command will add CPCLIB to the library list and display the CPC main menu.

DEINSTALLATION

To permanently remove the CPC System, do the following:

1. On any command line key STRCPC
2. Press ENTER
3. Key CALL CPCLIB/CPDEINSTAL
4. Press ENTER
5. Sign off and then sign on to any library other than CPCLIB
6. Key DLTLIB CPCLIB
7. Press ENTER

CPC MENU

```
CPMENU                               CPMENU Menu

Select one of the following:          All of the options on this menu are
                                       related to Canadian postal codes.

 1. Work with Canadian postal codes
 2. Audit or update a mailing file
 3. Work with selection options
 4. Work with Canadian street addresses
 5. Work with distance calculations
 6.
 7. Work with area codes
 8.
 9. Work with Nearest Dealer Locator
10. Work with CPC system values

90. Sign off                          Canadian Postal Code System
                                       Release A          Release C.XX.XX
                                       Database valid till NN/NN/NN
                                       (c) 2010 WorksRight Software, Inc.

Selection or command
====> _____

F3=Exit   F4=Prompt   F9=Retrieve   F12=Cancel
F13=User support   F16=System main menu
```

The CPC System provides all the valid postal codes in the Canadian provinces.

Option one on the CPC menu allows you to browse postal code information in postal code order or in city name order. You are also allowed to browse the address information associated with each postal code. This is strictly a browse function.

Geocoding information is also provided. The information provided is based on the latitude and longitude of a postal code. This enables the calculation of air-line distance between two postal codes. The computation is approximate because the latitude and longitude of a given postal code are not precise. Most postal codes cover a fairly wide area.

Option two on the CPC main menu allows you to audit or update a file containing Canadian mailing addresses. The program matches addresses to the Canadian address database.

If an address can be matched it will be standardized and the correct postal code will be assigned.

In the audit mode, you can print a list showing potential errors and the updates that can be made. In the audit mode, no changes are made to the file.

In the update mode you can update the file to correct certain error conditions. A list can be printed to show the changes that were made and the errors that were not corrected.

Option three on this menu takes you to the selection options. Options are provided to allow you to select postal codes based on province, city, area code, or distance. Selected postal codes will be placed into a "finder" file. The selected postal codes can then be used in any user-written applications.

Option four on the CPC menu will allow you to work with Canadian street addresses.

On the input screen enter as much information as you have. Then press Enter. If a match can be made the updated address and postal code will be displayed. You can also use F18 or F6 to search the street address file.

Addresses are generally displayed as range records for the street numbers. Select the desired street address range record and place your cursor on that line. Then press ENTER.

The postal code for that range record will be returned to the input screen. Since the program does not know the specific address. It will return the entire line you have selected.

Option five on this menu allows you to compute the air-line distance between two postal codes. When you enter two valid postal codes, the program will do the calculation based on the latitude and longitude of the two postal codes.

The resulting distance is the approximate air-line distance between the two postal codes. A postal code usually covers a fairly wide geographic area; thus, the latitude and longitude, and therefore the distance, will not be exact.

Keep in mind that the air-line distance will be different from the distance in highway miles. The distance is displayed in miles and in kilometers.

If either of the postal codes is not valid, no distance will be computed. If the latitude and longitude are not available, no distance will be computed.

Option seven on this menu allows you to browse a list of Canadian area codes.

Option nine on this menu takes you to the Nearest Dealer Locator. The Nearest Dealer Locator function is a subsystem designed to aid customer service operations. It uses the customer's postal code to identify the nearest customer service location based on the distance to the dealer's postal codes. The ten nearest dealers will be identified.

Option ten on this menu allows you to change CPC system values to aid in the daily management of the CPC system.

BROWSE OPTIONS

Work with Canadian Postal Codes							
Position to _____				Sequence=Postal Code			
Place Cursor on a line and press ENTER for street Information							
Postal				Area Time			
Code	Prov	City	Code	Zone	DLS	Latitude	Longitude
A0A 1A0	NF	Aquaforte	709	N	Y	47.000000	52.966666
A0A 1C0	NF	Bay Bulls	709	N	Y	47.316667	52.816666
A0A 1E0	NF	Bay de Verde	709	N	Y	48.083333	52.900000
A0A 1G0	NF	Bay Roberts	709	N	Y	47.600000	53.266666
A0A 1H0	NF	Bell Island Front	709	N	Y	00.000000	00.000000
A0A 1J0	NF	Shea Heights	709	N	Y	47.516667	52.633333
A0A 1K0	NF	Brigus	709	N	Y	47.533333	53.216666
A0A 1L0	NF	Broad Cove BDV	709	N	Y	47.883333	53.083333
A0A 1M0	NF	Burnt Point BDV	709	N	Y	48.000000	52.983333
A0A 1N0	NF	Calvert	709	N	Y	47.050000	52.916666
A0A 1P0	NF	Cape Broyle	709	N	Y	47.100000	52.950000
A0A 1R0	NF	Caplin Cove BDV	709	N	Y	46.968520	52.95879
A0A 1S0	NF	Cappahayden	709	N	Y	46.968520	52.95879
A0A 1V0	NF	Chapel Cove	709	N	Y	47.433333	53.133333
A0A 1W0	NF	Clarkes Beach	709	N	Y	47.581660	53.27327
A0A 1X0	NF	Coleys Point South	709	N	Y	47.581660	53.27327

F3=Exit F10=Change sequence 12= Return F18=Display province list

This program allows you to browse the data in the postal code file. You have the option to display the data in postal code sequence or in province/city alphabetic sequence. The data is displayed in the same format in either mode; only the sequence changes.

If you use the "position to" field, you must enter an exact postal code. If you do not know the exact postal code, use F10 to go to the alphabetic search.

The ROLL keys may be used to go forward or backward in the file. Pressing the ENTER key has the same effect as using the roll forward key.

If you use function key 10 to switch modes, you will see the following display. The province/city information will be displayed in alphabetic order beginning with the city displayed at the top of the last postal code order display.

F3=Exit
F10=Change display sequence
F12=Return
F18=Display province list

BROWSE OPTIONS

```
Work with Canadian Postal Codes

Position to Prov __ City _____ Sequence=Prov/City
Place Cursor on a line and press ENTER for street Information
Postal Code Area Time
Code Zone DLS Latitude Longitude
SON 0A0 SK Abbey 306 C Y 50.716667 108.75000
SOK 0A0 SK Aberdeen 306 C Y 52.316667 106.28333
S0A 0A0 SK Abernethy 306 C Y 50.750000 103.41666
SON 0B0 SK Admiral 306 C Y 49.716667 108.01666
S0J 3G0 SK Air Ronge 306 C Y 55.083333 105.31666
S0C 0A0 SK Alameda 306 C Y 49.266667 102.28333
S0J 0A0 SK Albertville 306 C Y 53.441056 105.36499
S0C 0B0 SK Alida 306 C Y 49.383333 101.86666
S0K 0C0 SK Allan 306 C Y 51.883333 106.06666
S0L 0A0 SK Alsask 306 C Y 51.383333 109.98333
S0M 0A0 SK Alticane 306 C Y 52.724818 107.35387
S0K 0E0 SK Alvena 306 C Y 52.516667 106.01666
SON 0C0 SK Aneroid 306 C Y 49.716667 107.33333
S0K 0G0 SK Annaheim 306 C Y 52.316667 104.81666
S0C 0E0 SK Antler 306 C Y 49.566667 101.45000
S0E 0A0 SK Arborfield 306 C Y 53.100000 103.65000
S0E 0B0 SK Archerwill 306 C Y 52.433333 103.85000

F3=Exit F10=Change sequence F12=Return F18=Display province list
```

You can position the program to view anywhere in the file by entering the province code and city name in the field at the top of the screen.

If you enter an exact province/city combination in the "position to" field, the browse will be positioned to that city. If an exact match is not found, the browse will be positioned to the nearest position in the file matching the city name you have entered.

The ROLL keys can be used to move back and forth through the file. Pressing ENTER has the same effect as using the roll forward key.

The fields displayed should be self-explanatory except DLS, which tells if that location observes daylight savings time.

Function key usage:

F3=Exit

F10=Change display sequence

F12=Return

F18=Display province list

If you place your cursor on a particular postal code and press ENTER, the addresses behind that postal code will be displayed.

Address Details by Postal Code							CPC200F3	
Postal Code	A0N 1A0	Province	NL	City	AGUATHUNA			
Low	High	Even				Low	High	
<u>Range</u>	<u>Range</u>	<u>Odd</u>	<u>Street or Name</u>		<u>Suffix</u>	<u>Dir</u>	<u>Suite</u>	
1	89		PO BOX					
			RR 1					

F3=Exit F12=Return

When you use function key 18, the following province list is displayed.

Province List	
<u>Code</u>	<u>Name</u>
AB	Alberta
BC	British Columbia
MB	Manitoba
NB	New Brunswick
NL	Newfoundland and Labrador
NT	NW Territories
NS	Nova Scotia
ON	Ontario
PE	Prince Edward Island
QC	Quebec
SK	Saskatchewan
YT	Yukon Territory

Quebec Province was formerly PQ.
Newfoundland was formerly NF.

F3=Exit

AUDIT OR UPDATE A USER MAILING FILE

FIXED FORMAT

```

                                Audit or Update a Mailing File                                CPC303FM
FIXED FORMAT
File name ..... CANNL
Library name ..... QS36F
Member name ..... *FIRST

                                Begins  Length  Packed
Record key, optional ..... 9         08   _ (P if packed) (maximum of 15)
Firm name, optional ..... 66        35   (maximum of 60)
Secondary address ..... 101       35   (maximum of 64)
Delivery address ..... 136       35   (maximum of 64)
City name ..... 171            30   (maximum of 30)
Province name ..... 206         2    (maximum of 25)
Postal code ..... 208          7    (6 or 7)
Combined City/Prov/PC ....                 (maximum of 64)

Audit or Update ..... U  (A or U)
If update, upper case .... Y (Y, N or S)
Type report ..... C  (A,C,E or N)
Output single address to secondary or delivery address ... S (S or D)

F13=Submit to batch   F10=Additional parms   F18=Floating Format
F1=Run interactively  F3=Exit       F5=Refresh       F9= Retrieve prior job F12=Prior

```

Option two on the CPC main menu allows you to audit or update a user mailing file containing Canadian postal codes. The records will be checked for a match for city name, province name and delivery address, and the postal code.

The first screen displayed is for a FIXED FORMAT file layout. If you need to process a FLOATING FORMAT file layout, use F18.

The audit option allows you to test the match and print a report showing the exceptions. No records are updated in the audit mode.

In the update mode the match will be made and the record updated if needed and sufficient information is available.

The program tries to make an exact match to the delivery address, which may be a street address or PO BOX.

NOTE: This program should be used on files containing only Canadian addresses. If non-Canadian addresses are processed, unpredictable results may occur.

The following parameters are used:

FILE/LIBRARY/MEMBER

Enter the name of the file to be processed, the name of the library where the file is stored, and the name of the member containing the data.

RECORD KEY

The record key is optional. If used, it can be any "character" field up to forty-five characters in length. If it is a packed field, the maximum length is fifteen.

If used, enter the key's beginning position in the record, the field length, and a "P" if needed to identify a packed field. If packed, it must be a single field.

ADDRESS INFORMATION LOCATION

Enter the beginning position in the record in which the various address elements. Also enter the field length. If one of the address lines is not used, leave it blank.

CITY NAME

Enter the beginning position in the record in which the city name is located. Enter the number of characters used by the city name field. The maximum length of the city name field is thirty characters.

PROVINCE NAME

Enter the beginning position in the record in which the province name is located. Enter the number of characters used by the province name field. The maximum length of the province name field is twenty characters. The usual number will be two.

POSTAL CODE LOCATION

Enter the beginning position in the record in which the postal code is located. Enter 6 or 7 for the postal code length. This indicates whether or not the postal code uses a middle space.

AUDIT OR UPDATE

You have the option to audit the file, in which case the file is not updated, or to update the file. If you select the update mode, the file will be updated only in cases where the program can be certain of the type of correction needed.

IF UPDATE, UPPER CASE

Updated address information can be returned as all upper case, mixed case, or in the same case in which it was submitted. Y equals all upper case. N equals mixed case. S equals same case. Y and N apply to the entire file. S applies to individual records.

TYPE REPORT

In either audit or update mode, a report will be printed. You can specify the type report to be printed. A = all detail records will be printed. E = only error records will be printed. N = no detail records will be printed. A total page will be printed in every case to show the total records processed, in error, and updated.

OUTPUT SINGLE ADDRESS LINE

This value is used in those cases where your address file allows two lines of address, but a given address consists of only one line of information. You can specify whether the single line of information is to be written back to the secondary or delivery address line.

RUN OPTIONS

You can run the audit or update interactively by pressing F1.

You can run the audit or update in batch mode by pressing F13.

If you use F13 to select batch processing, the following prompt will be displayed.

```

                                CPC System

Batch Update Program                Current date  8/08/0
                                     Current time  14:16:1

Enter submit options:

Hold on job queue .....  *NO
Schedule date .....      *CURRENT
Schedule time .....      *CURRENT
Job queue .....          *JOB
  Library .....          *LIBL

F3=Exit  F12=Return
```

Usually you will just press enter to take the defaults. You may change the values if you like.

Use F18 to switch to the FLOATING FORMAT prompt.

AUDIT OR UPDATE A USER MAILING FILE FLOATING FORMAT

```
Audit or Update a Mailing File                                CPC305FM
FLOATING FORMAT
File name ..... CANFLOAT
Library name ..... CPCWORK
Member name ..... *FIRST

          Begins  Length  Packed
Record key, optional ..... 1      08   (P if packed) (maximum of 15)
Address line 1 ..... 9         45   (maximum of 64)
Address line 2 ..... 54        45   (maximum of 64)
Address line 3 ..... 99        45   (maximum of 64)
Address line 4 ..... 144       45   (maximum of 64)
Address line 5 ..... 189       45   (maximum of 64)
Address line 6 ..... 234       45   (maximum of 64)
Postal code ..... 279        7    (6 or 7)

Audit or Update ..... U (A or U)
If update, upper case .... N (Y, N or S)
Type report ..... C (A,C,E or N)

F13=Submit to batch  F18=Switch to fixed format
F1=Run interactively F3=Exit  F5=Refresh  F9=Retrieve prior job  F12=Prior
```

When you use F18 from the **fixed** format prompt, the prompt for **floating** format is displayed. This format is intended for use in “block” style addresses where the address information floats up and down with several identical lines depending upon how much information is entered.

This program matches addresses in a file to addresses in the Canadian postal address database.

The audit option allows you to test the match and print a report showing the exceptions. No records are updated in the audit mode.

In the update mode the match will be made and the record updated if needed and sufficient information is available.

The program tries to make an exact match to the delivery address, which may be a street address or PO BOX.

NOTE: This program should be used on files containing only Canadian addresses. If non-Canadian addresses are processed, unpredictable results may occur.

The following parameters are used:

FILE/LIBRARY/MEMBER

Enter the name of the file to be processed, the name of the library where the file is stored, and the name of the member containing the data.

RECORD KEY

The record key is optional. If used, it can be any "character" field up to forty-five characters in length. If it is a packed field, the maximum length is fifteen.

If used, enter the key's beginning position in the record, the field length, and a "P" if needed to identify a packed field. If packed, it must be a single field.

ADDRESS INFORMATION LOCATION

Enter the beginning position in the record of up to six fields containing the address information. It is expected that all the fields be of identical length. If the fields are not of identical length, unpredictable results may occur. It is also expected that the bottom line containing information will be the city, province, postal code line, or contain the word "Canada".

POSTAL CODE LOCATION

A separate, optional, postal code field may be specified. This is useful for searches and sorting. Enter the beginning position in the record in which the postal code is located. Enter 6 or 7 for the postal code length. This indicates whether or not the postal code is stored with a middle space.

AUDIT OR UPDATE

You have the option to audit the file, in which case the file is not updated, or to update the file. If you select the update mode, the file will be updated only in cases where the program can be certain of the type of correction needed.

IF UPDATE, UPPER CASE

Updated address information can be returned as all upper case, mixed case, or in the same case in which it was submitted. Y equals all upper case. N equals mixed case. S equals same case. Y and N apply to the entire file. S applies to individual records.

TYPE REPORT

In either audit or update mode, a report will be printed. You can specify the type report to be printed. A = all detail records will be printed. E = only error records will be printed. N =

no detail records will be printed. A total page will be printed in every case to show the total records processed, in error, and updated.

RUN OPTIONS

You can run the audit or update interactively by pressing F1.

You can run the audit or update in batch mode by pressing F13.

If you use F13 to select batch processing, the following prompt will be displayed.

If you use F18 to switch to the FLOATING FORMAT prompt.

```
                                CPC System

Batch Update Program                                Current date  8/08/0
                                                    Current time 14:16:1

Enter submit options:

Hold on job queue ..... *NO
Schedule date ..... *CURRENT
Schedule time ..... *CURRENT
Job queue ..... *JOB
Library ..... *LIBL

F3=Exit  F12=Return
```

Usually you will just press enter to take the defaults. You may change the values if you like.

SELECTION MENU

```
CSMENU                               CSMENU Menu
Select one of the following:

1. Select postal codes by distance
2.
3. Select postal codes by province
4.
5. Select postal codes by area code
6.
7. Select postal codes by city
8.
9.
10.

90. Sign off

Ready for option number or command
===> _____

F3=Exit   F4=Prompt   F9=Retrieve   F12=Cancel
F13=User support   F16=System main menu
```

This menu allows you to select postal codes based on several options. Postal codes can be selected by distance, province, area code, or city.

The postal codes selected will be placed into a file where they can then be used as "finder" records in another application.

The selection file has a record length of 7, and will contain only the postal codes. For all options, the default selection file name is CPSELECT in library CPCLIB. You can change the file/library names if you wish.

The selected postal codes can be added to a prior selection file or placed in an empty selection file. This allows you to do things such as selecting all the postal codes in a particular city plus selecting all the postal codes in an area code, placing all the selected postal codes into a single file.

The intent is that in user-written application programs, you will be able to use the selection file to identify desired addresses for further processing.

Option one on this menu allows you to select postal codes based on the distance from a central postal code. Any postal code within the specified distance of the postal code will be selected and placed in the selection file.

Option three on this menu allows you to select postal codes based on the province in which the postal codes are located. You can select any combination of provinces. Postal codes for the entire province are selected.

Option five on this menu allows you to select postal codes based on the telephone area code in which the postal codes are located. Up to ten area codes can be used for selection.

Option seven on this menu allows you to select postal codes based on the province/city in which the postal codes are located. Up to ten province/city combinations can be selected.

SELECT BY DISTANCE

CPC SYSTEM		CPC010FM
This program selects all postal codes within a given number of miles.		
Enter the postal code	_____	
Select all postal codes within ...	_____ miles	
Name for selection file	<u>CPSELECT</u>	
Library for selection file	<u>CPCLIB</u>	
Add to prior selection file	<u>N</u> (Y or N)	
List selected postal codes	<u>Y</u> (Y or N)	
The selected postal codes will be placed in a selection file and can be used as finder records in another application.		
F13=Submit to batch		
F1=Run interactively F3=Exit		

This option allows you to select all postal codes within X miles of another postal code. The selected postal codes will be placed into a selection file which can be used in your own application programs.

The default selection file name is CPSELECT in library CPCLIB. You can change the file/library names if you wish.

The selected postal codes can be added to a prior selection file or placed in an empty file.

You have the option to print a list of the selected postal codes. Enter Y or N.

F1=Run the job interactively
F3=Exit and cancel the job
F13=Submit the job to batch processing

SELECT BY PROVINCE

```
Select Postal Codes by Province                                CPC030FM

1=Select  Selection file CPSELECT      Library CPCLIB      Add N (Y or N)

_ AB ALBERTA
_ BC BRITISH COLUMBIA
_ MB MANATOBA
_ NB NEW BRUNSWICK
_ NL NEWFOUNDLAND
_ NT NW TERRITORIES
_ NS NOVA SCOTIA
_ ON ONTARIO
_ PE PRINCE EDWARD ISLAND
_ QC QUEBEC
_ SK SASKATCHEWAN
_ YT YUKON TERRITORY

F13=Submit to batch                                Print Selected Postal Codes Y
F1=Run interactively      F3=Exit
```

This program allows you to select all postal codes within a given province or provinces. The selected postal codes will be placed in a selection file. The default file name is CPSELECT in library CPCLIB.

The selection file can be used as a "finder" file for further selection within your application programs.

The selection file has a record length of 7. The only information is a seven-character postal code.

The selected postal codes can be added to a prior selection file or placed in an empty file.

You have the option to print a list of the selected postal codes. Enter Y or N.

F1=Run the job interactively
F3=Exit and cancel the job
F13=Submit the job to batch processing

SELECT BY TELEPHONE AREA CODE

```
                Select Postal Codes by Area Code

Enter up to ten area codes .....  ___  ___
                                     ___  ___
                                     ___  ___
                                     ___  ___
                                     ___  ___

Selection file to be used.....  CPSELECT
Library for selection file....  CPCLIB
Add to prior selection file...  Y (Y or N)
List selected postal codes ...  Y (Y or N)

F13=Submit to batch
F1=Run interactively   F3=Exit
```

This program allows you to select all postal codes within a given area code. Up to ten area codes may be used for selection. The selected postal codes will be placed in a selection file. The default file name is CPSELECT in library CPCLIB.

The selection file can be used as a "finder" file for further selection within your application programs.

The selection file has a record length of 7. The only information is a seven-character postal code.

The selected postal codes can be added to a prior selection file or placed in an empty file.

You have the option to print a list of the selected postal codes. Enter Y or N.

F1=Run the job interactively
F3=Exit and cancel the job
F13=Submit the job to batch processing

SELECT BY CITY NAME

```

                                Select Postal Codes by City Name

Enter up to ten city/province names

City                               Province
-----                             ---
-----                             ---
-----                             ---
-----                             ---
-----                             ---
-----                             ---
-----                             ---
-----                             ---
-----                             ---
-----                             ---

Selection file to be used.....  CPSELECT
Library for selection file.....  CPCLIB
Add to prior selection file....  Y (Y or N)
List selected postal codes ....  Y (Y or N)

F13=Submit to batch
F1=Run interactively  F3=Exit
```

This program allows you to select all postal codes within a given city or cities. The selected postal codes will be placed in a selection file. The default file name is CPSELECT in library CPCLIB.

The selection file can be used as a "finder" file for further selection within your application programs.

The selection file has a record length of 7. The only information is a seven-character postal code.

The selected postal codes can be added to a prior selection file or placed in an empty file.

You have the option to print a list of the selected postal codes. Enter Y or N.

F1=Run the job interactively
F3=Exit and cancel the job
F13=Submit the job to batch processing

INTERACTIVE POSTAL CODING

```
8/08/10 16:26:19      CPC - Interactive Address Matching      CPC219F1

Business name _____
Address one.. _____
Address two.. 1 University Dr
City..... Athabasca          Prov AB  Postal Code T9S_3A3

Province name ..... Alberta
City abbreviation ..... _____
Area code ..... 780
Time zone ..... M
Daylight savings ..... Y
Latitude ..... 54.749570
Longitude ..... 113.241820
Single postal code ..... -

F3=Exit   F5=Refresh   F6=Search   F12=Return
F18=Pass address to database search
```

Option four on the menu allows you to do interactive postal coding. Enter an address and press ENTER. If the address can be matched to the database, a postal code and other information will be returned.

If the address can't be matched, an error code will be returned.

You can search the database of address records by using command keys 6 and 18. F6 will allow you to select a province, then select a city, then select street records.

If you use F18, the program will use the address on the screen to begin the search.

Province Selection

08/26/2010

CPC220F1

AB Enter the province you wish to select and press ENTER.

Code	Name
AB	Alberta
BC	British Columbia
MB	Manitoba
NB	New Brunswick
NL	Newfoundland
NS	Nova Scotia
NT	NW Territories
NU	Nunavut
ON	Ontario
PE	Prince Edward Island
QC	Quebec
SK	Saskatchewan
YT	Yukon Territory

Quebec Province was formerly PQ.

Newfoundland was formerly NF.

F3=Exit F12=Return

Enter the province you wish to select and press ENTER. A city list for that province will be displayed.

08/26/2010

City Selection

CPC221F1

Position to (Full or partial city name)

City ATHABASCA Province AB

Place cursor on city you wish to select and press ENTER.

ABEE
ACADIA VALLEY
ACHESON
ACME
ADEN
AETNA
AIRDRIE
ALBERTA BEACH
ALCOMDALE
ALDER FLATS
ALDERSYDE
ALHAMBRA
ALIX
ALLIANCE
ALSIKE
ALTARIO
AMISK

More ...

F3=Exit F12=Return

Enter a city you would like to select and press ENTER. The display will be positioned to that city. Place your cursor on the desired city and a list of the streets in that city will be displayed.

08/26/2010

Browse Address Records

CPC222F1

Position to street UNIVERSITY (Full or partial name)

City ATHABASCA Province AB

Place your cursor on an address line to select that postal code.

Low	High	E/O	Street	Suffix	Dir	Unit	L/H	Pos	Cod
5901	6101	O	ALEXANDER	AVE				T9S	1B1
1	43	O	ASPEN	DR				T9S	1T4
2	38	E	ASPEN	DR				T9S	1T4
29	59	O	BIRCH	ST				T9S	1T4
32	62	E	BIRCH	ST				T9S	1T4
4601	4609	O	BROWN	CRT				T9S	1J3
4602	4610	E	BROWN	CRT				T9S	1J5
1	1	O	BUFFALO	AVE				T9S	1S2
3401	3703	O	CANYON	RD				T9S	1J6
3901	4021	O	CHAMPAGNE	DR				T9S	1J2
4002	4016	E	CHAMPAGNE	DR				T9S	1J2
4601	4613	O	CHAMPAGNE	DR				T9S	1J5
4606	4610	E	CHAMPAGNE	DR				T9S	1J5
4615	4615	O	CHAMPAGNE	DR				T9S	1J2
2801	2805	O	CORNWALL	DR				T9S	1N6
2802	2806	E	CORNWALL	DR				T9S	1N6
2807	2815	O	CORNWALL	DR				T9S	1N7

More ...

F3=Exit F12=Return

You can select a street record by placing your cursor on that street. The entire address record will be returned to the input screen. This will include the high and low ranges and odd/even indicator.

DISTANCE CALCULATIONS

COMPUTE DISTANCE BETWEEN TWO POSTAL CODES

Enter the first postal code ... A0A_1K0

Enter the second postal code .. A0A_1V0

The approximate distance is ... 7.94 Miles 12.80 Kilometers

F3=Exit

This program computes the air-line distance between two postal codes. Enter two valid postal codes and press ENTER. The approximate air-line distance between them will be displayed. The distance is displayed in miles and in kilometers.

The computation is based on the latitude and longitude of the postal codes involved. This is not a precise calculation since most postal codes cover a wide area. Keep in mind that the air-line distance will almost always be less than the distance in highway miles.

If either postal code is not valid, or if no latitude/longitude information is available, no distance will be computed.

BROWSE AREA CODES

Area code Display

Position to ____

<u>Area</u> <u>Code</u>	<u>Province</u>	<u>Time</u> <u>Zone</u>	<u>Area</u> <u>Code</u>	<u>Province</u>	<u>Time</u> <u>Zone</u>	<u>Area</u> <u>Code</u>	<u>Province</u>	<u>Time</u> <u>Zone</u>
204	MB	C	902	NS	A			
250	BC	P	905	ON	E			
306	SK	C						
403	AB	M						
416	ON	E						
418	QC	E						
450	QC	E						
506	NB	A						
514	QC	E						
519	ON	E						
604	BC	P						
613	ON	E						
705	ON	E						
709	NL	N						
807	ON	C						
819	QC	E						

More...

F3=Exit

This option allows you to browse the information in the area code file. You may position the display to a specific area code, or use the ENTER key to roll forward in the file.

The only information displayed is the area code, province, and time zone. Please note that some area codes span times zones.

NEAREST DEALER LOCATOR

```
NDLMNU                                NDLMNU Menu

Select one of the following:

1. Define dealer file

5. Locate the nearest dealer

90. Sign off your workstation

Selection or command
===> _____

F3=Exit          F10=Work with commands  F12=Cancel
F13=Command area F20=Reverse              F24=More keys
```

The options on this menu allow you to determine the nearest dealer location based on the dealer's and customers' postal codes. Up to ten dealers will be identified. The dealer's number or record key will be returned along with the air-line distance in miles between the customer's postal code and the dealer's postal code.

It is very important that you understand the underlying concepts of the Nearest Dealer Locator System. The locations are based on the average latitude and longitude of the postal codes involved. In some rural areas, postal codes cover very large geographic areas; thus, the computed distances are likely to be less than absolutely accurate.

You must keep in mind some obvious but easy-to-overlook facts. If the customer and the dealer are located in the same postal code, the distance will be zero miles. Two adjacent postal codes may show a larger distance than actually exists.

The density of the dealer population will affect the accuracy and usefulness of the System. Dealer populations that are very dense or very sparse will reduce the value of the information provided.

Option one on this menu allows you to describe the dealer file from which dealer locations will be selected. You must provide a record key for dealer identification and the location of the postal code within the dealer record. The record key will usually be a dealer number assigned within your application program. However, it can be any portion of the

dealer record. Up to thirty positions can be used to identify the dealer. The thirty positions must be contiguous in the dealer record. The dealer record must contain a valid postal code.

Your original dealer file will not be changed in any way.

Option five on this menu runs the nearest dealer locator program. Prior to using this option you must define your dealer file.

Although this program can be used to run the nearest dealer locator program, it is anticipated that most users will use the callable programs to add this function to their own application programs.

NEAREST DEALER LOCATOR

```
NEAREST DEALER LOCATOR

Dealer file name ..... CUSTMAST
Member name ..... *FIRST
Library where stored ..... *LIBL

                Begins  Length  Packed
Dealer key location ..... 0001   08    P
Postal code location .... 0208   05

F1=Update  F3=Exit
```

Use this screen to define your dealer file. Your dealer file will not be changed. This description will be used to create a new dealer locator file.

DEALER FILE NAME - The name of the physical file containing your dealer information.

MEMBER NAME - The name of the physical file member containing your dealer information. This is usually *FIRST.

LIBRARY WHERE STORED - The name of the library where your dealer physical file is stored.

KEY LOCATION - The location within the dealer file where the dealer number or key is located. The beginning position and length are needed. If the field is packed, enter "P". Provide the field length in record positions. For example, a seven-position dealer number would use seven positions if unpacked, or four positions if packed. The maximum key length is 30 positions for a character field and 15 positions for a numeric field.

The dealer key is normally a dealer number assigned by your application software. However, it can be any portion of the dealer record up to thirty positions.

POSTAL CODE LOCATION - The location within the dealer file where the dealer's postal code is located. Only the beginning position is needed.

NEAREST DEALER LOCATOR

```
HELP                                NEAREST DEALER LOCATOR

Enter the customer postal code ..... T1Y_1A5

                                     Miles
The nearest dealers are .....
BESTBURNE ELECTRIC SUPPLY           7.55
XXCOL ELECTRIC LTD.                  9.64
UNITED FARMERS OF ALBERTA COOP      11.41
SULLEN TRANSPORTATION               25.65
NATIONAL SPARKS                     280.20
ADVANCE PRODUCTS                    423.06
CITY OF BRANDON                     640.85
BESTBURNE ELECTRIC                  763.19
LASPARD & SONS LTD                  765.99
TAKE ONE INC                        765.99

F3=Exit
```

This program allows you to locate the nearest dealer to a customer based on the customer's postal code and the dealer's postal code.

The ten nearest dealers will be located, based on the air-line miles between postal codes. The computation is based on the latitude and longitude of the postal codes.

If the customer and the dealer are both located within the same postal code, the distance will be displayed as "zero" miles.

The program run by this menu option is a complete working program. However, it is anticipated that most users will use the callable program provided with the CPC System in order to add this function to their own application programs. Please see the section on callable programs for more information.

SYSTEM VALUES

8/09/02	CPC System	CPMENU10FM
11:14:48		
CHANGE SYSTEM VALUES		
Users that will receive CPC System messages	<u>QSYSOPR</u>	
	<u>QSECOFR</u>	
Print device for CPC expiration warnings	<u>PRT07</u>	
Automatic advance with Postal Code entry on browse screen .	<u>*YES</u>	
User program to be run when CPC updates are installed	<u>*NONE</u>	
Library where user program is stored	<u>*LIBL</u>	
Home system Postal Code	<u> </u>	
F3=Exit		

The message queues for the user ID's entered here will be used to send warning messages about the database expiration. The messages will be sent once per day to the specified users beginning ten days before the expiration date of the database.

The messages will be sent the first time CPC is accessed each day during those last ten days and will continue until the software is updated. If CPC is not accessed, no messages will be sent.

During the last ten days of the life of the database, a warning will be printed. Specify the print device to be used.

On the browse postal codes screen the program can automatically advance to the next screen when a postal code is entered or you can require that the ENTER key be used.

You can specify a user written program to be run when a CPC update is installed. At the end of the normal CPC update installation, the user specified program will be called.

Enter the postal code where the home system is located.

CALLABLE PROGRAMS

We have included callable programs in the CPC System that can be added to your user-written programs. These callable programs can be used in native **iSeries** or **AS/400** programs or in System/36 environment programs. Sample RPG source code is provided in source file QSAMPLESRC in library CPCLIB. This source code is for programs that are expected to be called from user-written application programs.

We expect that the program most users will have the most need for is CPC108, which will allow you to submit an address and have the system match the address and return the correct postal code.

Please review all sample code in QSAMPLESRC in library CPCLIB to pick the programs you need.

SYSTEM INFORMATION

CPC System uses a single library named CPCLIB. The programs are written in RPG. No source code is provided.

ALL OF THE SOFTWARE CODE IN THE CPC SYSTEM IS COPYRIGHTED PROPERTY OF WORKSRIGHT SOFTWARE, INC.

All the program calls in CPC System are qualified by the CPCLIB library name. The menu options manage the library list. You do not need to add CPCLIB to your library list when using the CPC menu options. You will need to add CPCLIB to your library list if you use any of the callable programs provided with the CPC library in your own application programs.

VERY IMPORTANT! The postal information is stored in an encrypted format. Do not attempt to access the data files directly from user-written programs. Invalid results will occur. Use our callable programs to access the data.

If there is some feature that you needed that is not included in CPC, please call us. We will make every effort to add features that are needed.

The CPC System was written by WorksRight Software, Inc.