

Chapter 4

Call Costing Centers

Call Costing Centers

Creating/Modifying Cost Centers

Overview

This chapter focuses on creating, and maintaining call costing centers. Call costing centers are used to define charges for calls made on the phones, define the parameters that determine how the phone should handle credit/calling card calls, and to set up the methods used for routing calls to their destination.

Individual costing center files may be set up for different phone site areas. The particular cost center to be used by a phone is determined by the cost center name that you assign to the phone account. (Cost centers are assigned to phone accounts in the site record. See chapter 3.) Call costing information is downloaded from the computer to the phone during the polling process.

Listed below are instructions for creating, cloning, and deleting, overwriting, and exporting cost centers. Descriptions of each of the fields in a cost center file can be found elsewhere in this chapter.

HELP [F1]

Definitions of each option are available by pressing [F1] "Help" while the highlight bar is positioned on the field in question.

2 Wed. Jan 11, 1995 Choose Cost Center to Edit Screen 2.2L 14:35:25

213255.CA1	J
310641.CA1	
312262CA1	
312286CA1	
312929CA1	
325F1S.CDX	
325F1S1.CDX	
421F1S.CDX	
421F1S1.CDX	
425F1S.CDX	D

ESC Exit Arrow+ENTER Select F3 Add F4 Clone F5 Delete F8 Import F9 Export
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Adding Cost Centers

Adding a cost center

- Select the following keys beginning from the main menu screen:
[2] *Call Costing Centers Menu*.
- Press [F3] *Add*.
- In the field labeled *Name*: enter a name for the new call cost record.
 - Record names may be any combination of up to 12 alpha/numeric characters.
- If this cost center is for phones running BC type software, use the arrow keys to position the cursor to the field labeled "BC Type: []" and press [SPACE] to select "v".
- Press [F2] *Save*.
- Edit, as necessary, the option settings for the cost center. Descriptions of all cost center options can be found elsewhere in this chapter.

Cloning Cost Centers

Cloning a cost center

- Select the following keys beginning from the main menu screen:
[2] *Call Costing Centers Menu*.
- Use the Up/Dn arrow keys to highlight the name of the cost center to be cloned (duplicated) or type the name of the cost center.
- Press [F4] *Clone*.
- In the field labeled *New Record Name*: enter a name for the new call cost record.
 - Record names may be any combination of up to 12 alpha/numeric characters.
- If this cost center is for phones running BC type software, use the arrow keys to position the cursor to the field labeled "BC Type: []" and press [SPACE] to select "v".
- Press [F2] *Save*.

Continued...

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Call Costing Centers

Creating/Modifying Cost Centers (continued)

Deleting Cost Centers

- g. Edit, as necessary, the option settings for the cost center. Descriptions of all cost center options can be found elsewhere in this chapter.

Deleting a cost center

Only those cost centers that are not in use (not assigned to a site record) may be deleted. If necessary, delete all reference to the cost center that you want to delete before you attempt to delete it.

- Select the following keys beginning from the main menu screen:
[2] *Call Costing Centers Menu*.
- Use the Up/Dn arrow keys to highlight the record to be deleted or type the name of the cost center to be deleted, and then press [ENTER].
- Press [F5] *Delete*.
- Press Y at the following prompt: *Do you really wish to delete this record:*
- Press Y at the following prompt: *Verify this record is not assigned to a site.*

Importing Cost Center Data

Overwrite the data in an existing cost center with the settings from an external file.

- Select the following keys beginning from the main menu screen:
[2] *Call Costing Centers Menu*.
- Use the Up/Dn arrow keys to highlight the record to be overwritten or type the name of the record to be overwritten..
- Press [F8] *Import*.
- Press Y at the following prompt: *Are you sure you want to overwrite data in the cost center you have highlighted?*
- In the field labeled *Import File Name:* specify the path and name of the file to be overwritten on top of the highlighted call cost center.
- Press [F2] *Save*.
 - A new screen is displayed prompting you to specify if only rates information should be overwritten or if the entire cost center should be overwritten.
- Use the arrow keys to highlight the desired import option and then press [SPACE] to select.
Select = (✓)
() *Import rates only*
 - Use this option for updating the rates within an existing cost center.
() *Import entire cost center*
 - Use this option only if you want all of the information within the existing cost center to be overwritten.
- Press [F2] *Save*.
- If necessary, edit the option settings for the cost center. Descriptions of all cost center options may be found elsewhere in this chapter.

Exporting Cost Centers

Exporting data from a cost center to an external file.

- Select the following keys beginning from the main menu screen:
[2] *Call Costing Centers Menu*.
- Use the Up/Dn arrow keys to highlight the record to be exported.
- Press [F9] *Export*.
- In the field labeled *Export File Name:* specify the path and the name of the file that the exported data should be saved to.

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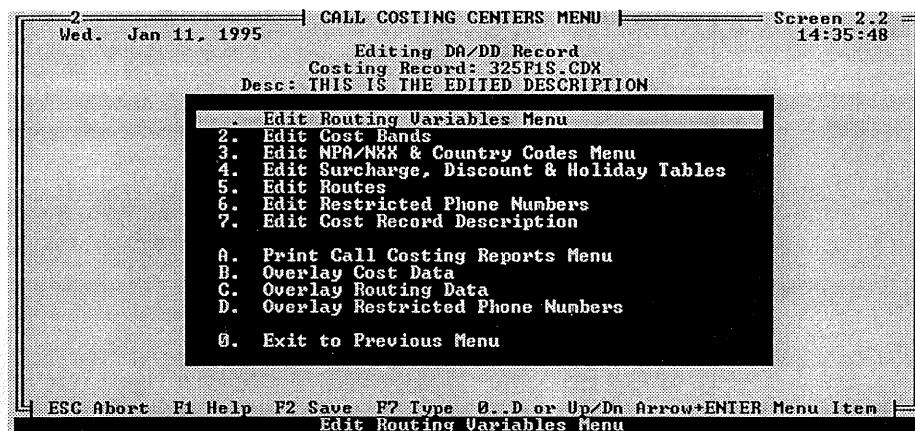
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Call Costing Centers

Main Menu

Listed below are descriptions of the program areas that are accessed from the call costing centers main menu.



Listed below are descriptions of each of the options available from this menu.

Edit Routing Variables Menu

This function is used to define the parameters that determine how card calls are processed by the phone. Information such as speed dial numbers, how the phone responds to card type calls, etc. are defined here.

Edit Cost Bands

This function is used to define call charges and assign call routing parameters.

Edit NPA/NXX & Country Codes Menu

Area codes and/or country codes are assigned to cost bands here.

Edit Surcharge Discount & Holiday Tables

Discount rates are set up here for calls made on holidays and certain times of the day. In addition, surcharges are set up for coin calls, card calls and super collect calls.

Edit Routes

This area if the program is used to set up parameters that determine how calls are processed by the phone. Calls may be routed based on the dialed destination number, the type of credit/calling card used to place the call, and/or based on conditions in the network.

Edit Restricted Phone Numbers

This option is used to specify telephone numbers that the phone should deny from being dialed.

Edit Cost Record Description

This option may be used to enter a descriptive comment about the cost center. In addition, the date that indicates when the record was last edited may be manually changed.

Print Call Costing Reports Menu

Use this option to print a report showing which options have been selected in the call cost record.

Overlay Cost Data

Costing data may be copied from one cost record to another.

Overlay Routing Data

Routing parameters may be copied from one cost record to another.

Overlay Restricted Phone Numbers

Telephone numbers that are to be restricted by the phone may be copied from one cost record to another.

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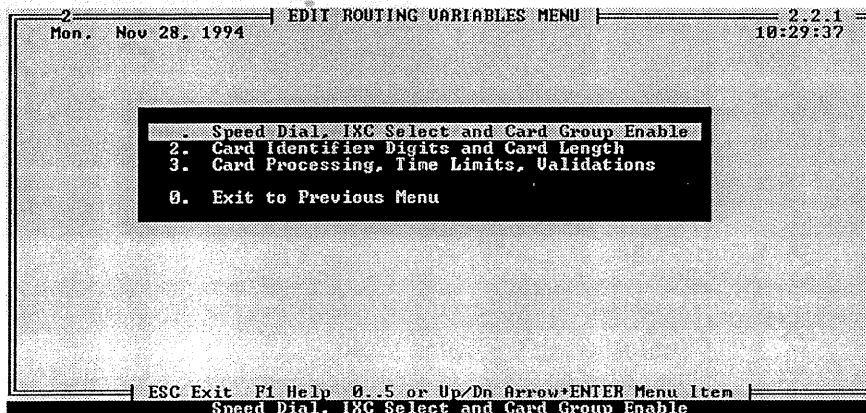
Edit Routing Variables

Overview

This section the program is used to the define the parameters that determine how speed dial and credit card calls are processed by the phone. Information such as how the phone responds to card type calls, etc. are defined here.

Perform the following steps to access the *Edit Routing Variables Menu*.

- a. Press [2] *Call Costing Centers Menu*
- b. Use the arrow keys to highlight the applicable cost center and then press [ENTER].
- c. Press [1] *Edit Routing Variables Menu*



Speed Dial, IXC and Card Group Enable

Seed Dial, IXC and Card Group Enable

This option is used to define the following parameters:

- *Speed Dial* - Define the digits to be automatically dialed out by the phone when a user presses one of the speed dial buttons on the keypad or if a user dials a speed dial code.
- *IXC Select Codes* - Define the IXC (Interexchange Carrier) codes to be dialed by the phone when a card call is made. This is the code required to access the carrier to be used to process the call.
- *Store & Forward Enable - Card Group Enable* - Enable or disable the phone from accepting credit/calling cards and also enable or disable the Store & Forward feature for those cards.

Card Identifier Digits And Card Length

Card Identifier Digits And Card Length

This area of the program is used to specify which credit/calling cards the payphone should accept. All credit/calling cards have what are known as industry identifier digits programmed on the magnetic stripe of the card. The Id number is used to tell the card reading equipment who the issuer of the card is. ExpressNet III® uses this Id number to determine if the phone should accept or deny a particular card and how an accepted card call should be processed.

Card Processing

Card Processing

This option is used to define the following parameters:

- *Special Card Processing* - Define the action to be taken by the phone when a credit/calling card is used. You may specify if certain card groups are to be keyed-in or inserted at the phone. In addition, the type of card checks and validation to be performed are also specified here.
- *Card Validation* - Not Applicable
- *Collect Validation* - Not Applicable
- *Store & Forward Time Limits* - Not Applicable

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Edit Routing Variables

Speed Dial
(Mode 31)

Overview

Speed dial numbers are destination numbers that are automatically dialed by the phone when a payphone user presses one of the speed dial buttons on the keypad. Speed dial numbers are preprogrammed into the phone here on this screen.

When a payphone user presses a speed dial button, the phone automatically dials the number assigned to that button. Additionally, each time a destination number is dialed, the phone compares the dialed number with the numbers set up here in this section of the program. If a match is found, the phone processes the call using the cost band associated with the matched speed dial location (Cost Bands 89 - 100). If a match is not found, the call is processed using the cost band associated with the area code/exchange that was dialed.

Defining Speed Dial Numbers

Use the information below to define speed dial numbers.

- Select the following keys from the main menu screen: [2] *Call Costing Centers Menu*.
- Use the arrow keys to highlight the cost center to be edited and then press [ENTER].
- Press [1] *Edit Routing Variables Menu*
- Press [1] *Speed Dial, IXC Select and Card Group Enable*
 - A screen similar to the following is displayed.

```

2
Mon. Nov 28, 1994      SPEED DIAL, IXC SELECT AND CARD GROUP ENABLE      2.2.1.1
                                                                10:30:28

Speed Dial Numbers (31)
*81 6445558      *82 6445149      *83 6466917
*84 4392944      *85 14073411638      *86
*87 18132708711  *88 18133278211      *89
*80              *91              *92

IXC Select Codes (32)
*81      *82      *83      *84      *85      *86
*87      *88      *89      *90      *91      *92

Store & Forward/Card Group Enable (352)
01. 01      02. 01      03. 01      04. 01
05. 01      06. 01      07. 01      08. 01
09. 01      10. 01      11. 01      12. 01
13. 01      14. 00      15. 00

ESC Abort  F1 Help  F2 Save  Arrows
Enter the speed dial number for this position
    
```

- At the top third of the screen, in the fields labeled *81 through *92, define these fields keeping the following points in mind.
 - Each of the 12 speed dial entries (*81 - *92) are associated with the 12 speed dial buttons on the phone. Speed dial button assignments are as shown below.

Keypad			Speed Dial Buttons		
1	2	3	81	82	83
4	5	6	84	85	86
7	8	9	87	88	89
*	0	#	80	91	92

- Use the arrow keys to highlight the field to be defined and then enter the telephone number to be associated with that speed dial button. The “#” sign may be used as a wild card for any position in the speed dial number.
- Use of “#” as a wild card indicates that any dialed digit in the position marked with an “#” will be a match.

NOTE: If fewer than seven digits are dialed and the dialed number does not match any of the speed dial fields, the call is processed using cost band 105.

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Edit Routing Variables

IXC Select Codes
(Mode 32)

Defining Interexchange Carrier Codes

The interexchange carrier codes (IXC) defined here are digits that are automatically dialed by the phone to access the carrier to be used for a card call. IXC codes may be 1 to 5 digits in length and are assigned by the interexchange carrier.

Use the information below to assign interexchange carrier codes to speed dial buttons.

- Select the following keys from the main menu screen: [2] *Call Costing Centers Menu*.
- Use the arrow keys to highlight the cost center to be edited and then press [ENTER].
- Press [1] *Edit Routing Variables Menu*
- Press [1] *Speed Dial, IXC Select and Card Group Enable*
 - A screen similar to the following is displayed.

SPEED DIAL, IXC SELECT AND CARD GROUP ENABLE					
Mon. Nov 28, 1994 2.2.1.1 10:30:28					
Speed Dial Numbers (31)					
*81 6445558	*82 6445149	*83 6466917			
*84 4392944	*85 14073411638	*86			
*87 18132708711	*88 18133278211	*89			
*80	*91	*92			
IXC Select Codes (32)					
*81	*82	*83	*84	*85	*86
*87	*88	*89	*90	*91	*92
Store & Forward/Card Group Enable (352)					
01. 01	02. 01	03. 01	04. 01		
05. 01	06. 01	07. 01	08. 01		
09. 01	10. 01	11. 01	12. 01		
13. 01	14. 00	15. 00			
ESC Abort F1 Help F2 Save Arrows					
Enter the speed dial number for this position					

*81 = Speed Dial Button 1	*87 = Speed Dial Button 7
*82 = Speed Dial Button 2	*88 = Speed Dial Button 8
*83 = Speed Dial Button 3	*89 = Speed Dial Button 9
*84 = Speed Dial Button 4	*80 = Speed Dial Button 10
*85 = Speed Dial Button 5	*91 = Speed Dial Button 11
*86 = Speed Dial Button 6	*92 = Speed Dial Button 12

TABLE A

- In the center of the screen, in the fields labeled *81 through *92, define the IXC codes to be dialed by the phone when the corresponding speed dial button is pressed by a phone user.
 - Each IXC field is associated with one of the 12 speed dial buttons on the phone. IXC field assignments are as shown in table A.

Note: Use the following information if you want card calls routed to a switch & using the Select-a-Carrier option.

- Using Select-a-Carrier prompt from phone:** If the value entered for the card group in Mode 351 (Card Group Enable) is "1" and the value of the *Select-a-Carrier* field in Mode 36 is "4", the user is prompted to select an Interexchange carrier for the call. When a carrier button (one of the speed dial buttons) is pressed, the IXC number entered here, for that particular speed dial button, is sent out by the phone. See routing variables switch positions 5 & 6 for information on when this code is sent to the switch.
- Using Select-a-Carrier prompt from a switch:** Simply enter the IXC code as it should be sent to the switch upon pressing a carrier button.

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Edit Routing Variables

Card Group Enable (Mode 352)

Defining Mode 352

This area of the program is used to enable or disable the phone from accepting credit/calling cards.

Use the information below to define the settings for this option.

- Select the following keys from the main menu screen: [2] *Call Costing Centers Menu*.
- Use the arrow keys to highlight the cost center to be edited and then press [ENTER].
- Press [1] *Edit Routing Variables Menu*
- Press [1] *Speed Dial, IXC Select and Card Group Enable*
 - A screen similar to the following is displayed.

```

2 | SPEED DIAL, IXC SELECT AND CARD GROUP ENABLE | 2.2.1.1
Mon. Nov 28, 1994 | 10:30:28

Speed Dial Numbers <31>
*81 6445558 *82 6445149 *83 6466917
*84 4392944 *85 14073411638 *86
*87 18132708711 *88 18133278211 *89
*80 *91 *92

IXC Select Codes <32>
*81 *82 *83 *84 *85 *86
*87 *88 *89 *90 *91 *92

Store & Forward/Card Group Enable <352>
01. 01 02. 01 03. 01 04. 01
05. 01 06. 01 07. 01 08. 01
09. 01 10. 01 11. 01 12. 01
13. 01 14. 00 15. 00

ESC Abort F1 Help F2 Save Arrows
Enter the speed dial number for this position
    
```

- In the lower third of the screen, in the fields labeled 01 through 15, specify the settings for these fields while keeping the following points in mind.
 - Each field (01 through 15) corresponds to card groups 01 through 15. Card groups are defined in Mode 33 (Card Identifier Digits & Card Length.)
 - Legal entries for each field consist of a two digit code. (See table A below.)

01 = Enable Card Group
00 = Disable Card Group

TABLE A

Edit Routing Variables

Card Identifier Digits and Card Length (Mode 33)

This area of the program is used to specify which credit/calling cards the payphone should accept. All credit/calling cards have what are known as industry identifier digits programmed on the magnetic stripe of the card. The Id number is used to tell the card reading equipment (Payphone) who the issuer of the card is. ExpressNet III® uses this Id number to determine if the phone should accept or deny a particular card and how an accepted card call should be processed.

There are fifteen card groups which may be set with up to eight different card ID numbers. Use the information below to define the settings for this mode.

Specifying Card ID Numbers

- Select the following keys from the main menu screen: [2] *Call Costing Centers Menu*.
- Use the arrow keys to highlight the cost center to be edited and then press [ENTER].
- Press [1] *Edit Routing Variables Menu*
- Press [2] *Card Identifier Digits and Card Length*
 - A screen similar to the following is displayed.

2

CARD IDENTIFIER DIGITS AND CARD LENGTH

2.2.1.2

Mon. Nov 28, 1994

10:32:38

Grp#	#	Code	Len	#	Code	Len	#	Code	Len	#	Code	Len
#1:	1	51*****	16	2	52*****	16	3	53*****	16	4	54*****	16
	5	551*****	16	6	552*****	16	7	555*****	16	8	556*****	16
#2:	1	558*****	16	2		0	3		0	4		0
	5		0	6		0	7		0	8		0
#3:	1	4*****	13	2	4*****	16	3		0	4		0
	5		0	6		0	7		0	8		0
#4:	1	37*****	15	2		0	3		0	4		0
	5		0	6		0	7		0	8		0
#5:	1	3*****	11	2	3*****	14	3		0	4		0
	5		0	6		0	7		0	8		0
#6:	1	94*****	10	2	389*****	14	3		0	4		0

ESC Abort F1 Help F2 Save Arrows

Enter the "wild card" credit card identifiers

- Define the applicable card groups keeping the following points in mind:
 - Each card group should be set up with card Id numbers unique to a particular type of card (Example: Card Group 1 could be used to specify card Id numbers unique to Master Card, Card Group 2 for Id numbers unique to Visa, etc...)
 - The field labeled **Code** is used to define the card identification number. These numbers must be entered as 8 digits in length. Wild cards (*) may be used to fill in the blank spaces that make up the required 8 digit field.
 - Card prefix numbers (numbers before the “*”) are the known digits of the card Id.
 - A “#” sign as the only digit in the first field of a card group causes the phone to accept any card number for that group.
 - The field labeled **Len** is used to specify the actual length of the card Id number. This is the number of digits that make up the Id number programmed on the magnetic stripe of the card. (Note: If “#” is used as the first digit, “Len” is not applicable.)
 - Use the [PgUp] and [PgDn] keys to access the screens for the remaining card groups.

Note: Each card group is associated with a particular cost band (Bands 122-136). If a credit/calling card number is entered in the phone and that card number matches one of the numbers specified here on this screen, the cost band associated with that particular card group is used to process the call.

The table to the right shows card group/cost band assignments.

Card Group/Cost Band Assignments	
Card Group 1...	Cost Band 122
Card Group 2...	Cost Band 123
Card Group 3...	Cost Band 124
Card Group 4...	Cost Band 125
Card Group 5...	Cost Band 126
Card Group 6...	Cost Band 127
Card Group 7...	Cost Band 128
Card Group 8...	Cost Band 129
Card Group 9...	Cost Band 130
Card Group 10...	Cost Band 131
Card Group 11...	Cost Band 132
Card Group 12...	Cost Band 133
Card Group 13...	Cost Band 134
Card Group 14...	Cost Band 135
Card Group 15...	Cost Band 136

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Edit Routing Variables

Special Card Processing (Mode 34)

Defining Mode 34

This area of the program is used to define the action to be taken by the phone when a credit/calling card is used. Here you may enable the phone to screen the card numbers that are either inserted in the phone or keyed in at the payphone keypad. You may specify if certain card groups are to be accepted or denied by the phone as well as specifying the type of card checks and card validation to be performed on a card.

Each field is five digits in length where each digit defines a specific action to be taken by the phone when a card number is entered.

Use the information below to define card processing parameters.

- Select the following keys from the main menu screen: [2] *Call Costing Centers Menu*
- Use the arrow keys to highlight the cost center to be edited and then press [ENTER].
- Press [1] *Edit Routing Variables Menu*
- Press [3] *Card Processing, Time Limits, Validations*
 - A screen similar to the following is displayed.

```

2- Mon. Nov 28, 1994 CARD PROCESSING, TIME LIMITS, VALIDATIONS 2.2.1.3 10:33:30
Special Card Processing (34)

1. 00110 2. 00110 3. 00110 4. 00110 5. 00110
6. 00110 7. 00110 8. 00000 9. 00100 10. 00100
11. 00100 12. 00100 13. 10000 14. 00000 15. 00000

Card Validation
Card*Tel ID Number: 00000000000000000000
Customer ID Number: Bank Number:
Terminal Type: Merchant Number:
Telenet Address:

Collect Validation (353)
0. N 1. N 2. N 3. N 4. N 5. N 6. N 7. N

Store & Forward Limits
S/F Time Limit: 0
S/F Grace Period: 0

ESC Abort F1 Help F2 Save Arrows
Enter special card processing codes
    
```

- Define the applicable fields keeping the following points in mind:
 - Each field corresponds to one of the fifteen card groups in Mode 33 (Card Identifier Digits & Card Length.)
 - The definition of each field consists of a five digit code. Legal values for each of the five digits are as shown below in Table A below.
 - If a field is left blank (no numeric values,) the phone will not accept any of the card numbers associated with that particular card group.

Legal Values for Mode 34

Digit 1	1 = Phone accepts card numbers entered at keypad. 0 = Phone denies card numbers entered at keypad.
Digit 2	1 = Phone denies cards inserted in payphone. 0 = Phone accepts cards inserted in payphone.
Digit 3	1 = Enable MOD 10 check 0 = Disable MOD 10 check
Digit 4	1 = Enable date validation (Bank cards only) 0 = Disable date validation (Bank cards only)
Digit 5	0 = Disable card validation 1 = Unused (Test) 2 = CARD*TEL is used for credit card validation 3 = CARD*TEL is used for calling card validation 4 = Global Tel*Link is used for credit card validation 5 = Global Tel*Link is used for calling card validation

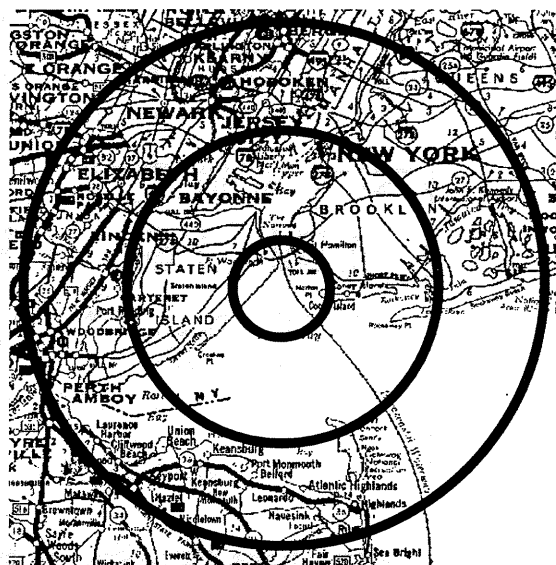
TABLE A

Edit Cost Bands

Defining Cost Bands

This area of the program is used to specify call charges and routing parameters for the different types of calls that can be made on a payphone. Call charges vary depending upon the type of call placed (411, 911, speed dial, 1-800, etc...) and/or the distance (mileage) between the payphone and the actual destination number dialed (cost band). Up to 138 cost bands may be set up for different types of calls. In theory, cost bands are imaginary circles around a telephone's location (See the diagram below.) where each circle in the diagram below represents a different cost band.

Once call charges are assigned to cost bands and area codes and exchange numbers are assigned to use a particular cost band, call charges and routing parameters can be calculated by the phone.



Each of the 138 cost bands (bands 00 - 137) may be set up with the following information:

Discount Tables

Used to reference surcharge rates and discount rates for coin calls, card calls, super collect calls, calls made on holidays and calls made at different times of the day.

Initial Rate

This is the amount of money the user must deposit in order for the phone to process the call.

Overtime Rate

This field is used by the phone to calculate charges for overtime.

Initial Time Period

This is the amount of time the user has before the phone charges overtime.

Overtime Period

Amount of time before more overtime charges are incurred

Fraud Deterrence

This field is used to enable/disable the phone from using the acoustic coupler antifraud feature.

Keypad

This field is used to enable/disable the phone's keypad from being used during a call session.

LATA Screening (0+ calls only)

Used to direct IntraLata calls to the local exchange carrier and InterLata calls to an alternate operator service.

Route Number

The number entered in this field is the route to be used to process the call.

Card Enable/SAC/AD/CI

This information determines if card calls are allowed/denied when using the corresponding cost band. In addition, the "select-a-carrier" message is enabled/disable, answer detection type is selected, and the action to be taken if a card is reinserted during a call session is defined here.

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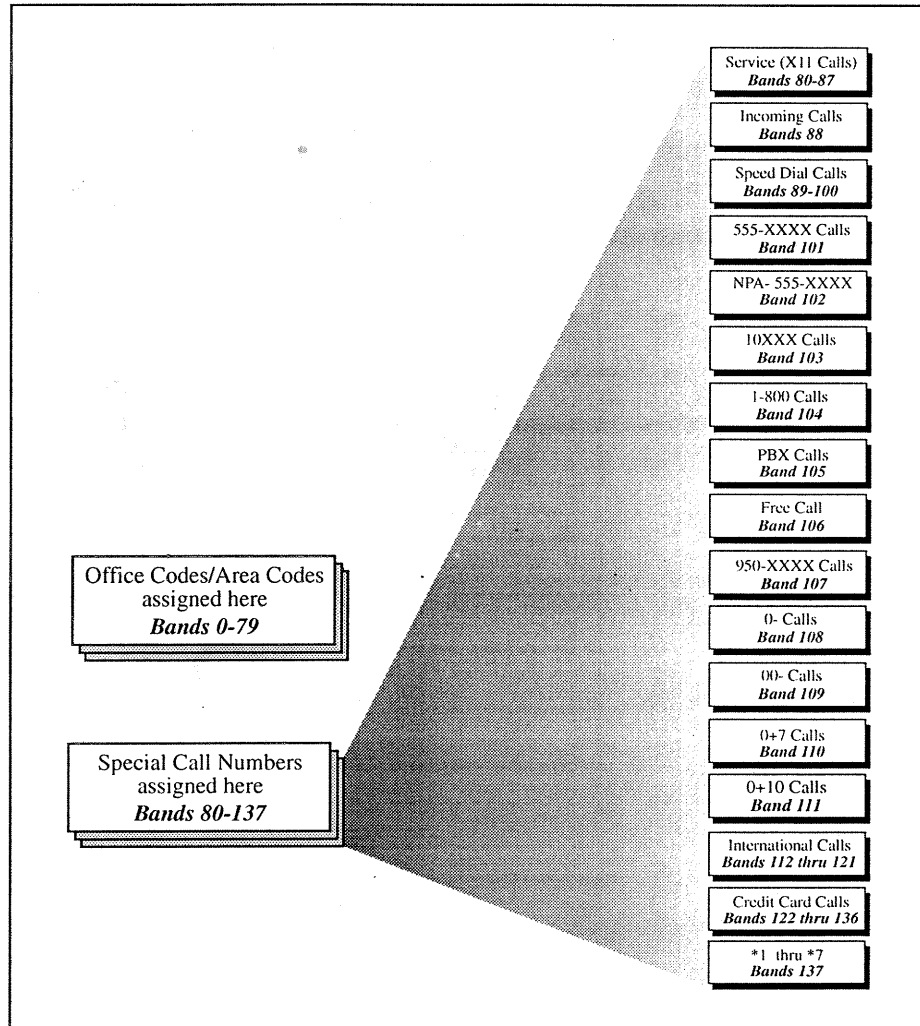
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Edit Cost Bands

Cost Band Assignments

Cost band Assignments

There are basically three types of cost bands, cost bands for the exchanges within area codes, cost bands for entire area codes, and cost bands for special types of calls. The diagram below shows the different cost bands and their assignments.



- **Area Groups (Bands 0 through 79)**
Area codes and exchange numbers are assigned to cost bands on screen 2.2.3.2. There are 79 cost bands available for these type of calls.
- **Special Call Types (Bands 80 through 137)**
These cost bands are permanently assigned to certain types of calls (411, 911, speed dial, 1-800, etc...) See the diagram above for call type/cost band assignments.

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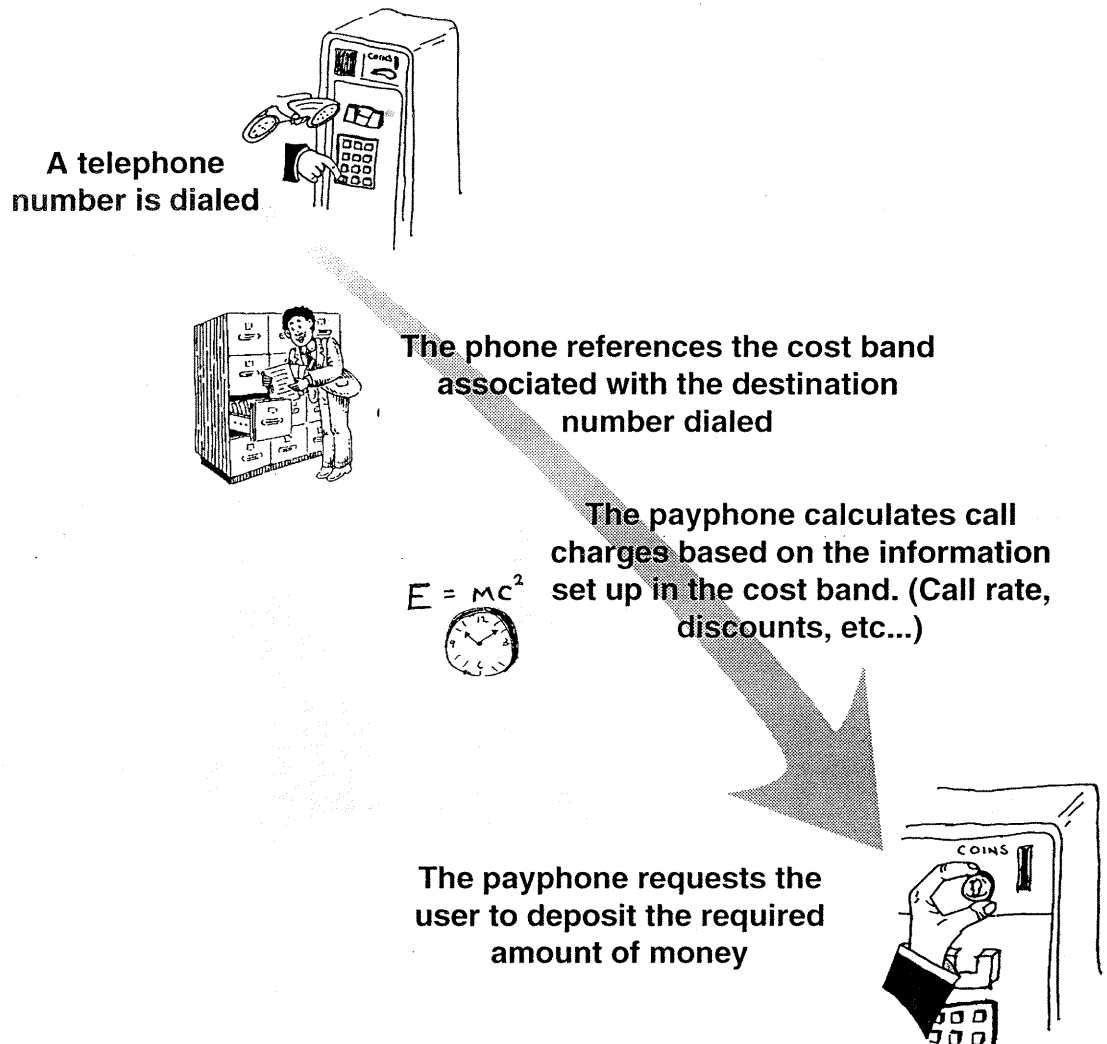
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Edit Cost Bands

Cost bands And Call Charges

Simplified Call Charge Diagram

Below is a simplified diagram showing how Protel's payphones calculate call charges. When a user dials a phone number, the payphone analyzes the number to determine if an area code, office code or some other type of number was dialed. The phone then searches for the cost band associated with the dialed number.



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Edit Cost Bands

Defining Cost Band Parameters

The screen shown below is the first of ten screens in this area of the program.. To access the full range of the 138 cost bands use the PgUp/PgDn keys to move from one screen to the next. The arrow keys are used to position the flashing cursor to the cost band field to be edited.

Use the information below to edit cost band settings for your particular needs.

2		EDIT COST BANDS				Screen 2.2.2	
						13:00:47	
Band	Description/ Discount Table	Int Rate/ Out Rate	Int Time/ Out Time	Fraud/ Keypad	Lata/ Route	Card Enable/ SAC/CI/AD	
0	IntraS/InterL 1	0.55 0.50	2 2	Enable 2	Inter 15	0111111111111111 000	
1	None	0.25 0.25	30 15	Enable 2	Intra 13	0000000000000000 000	
2	IntraS/IntraL 1	0.25 0.20	2 2	Enable 2	Intra 14	0000000000000000 000	
3	IntraS/IntraL 1	0.35 0.30	2 2	Enable 2	Intra 14	0000000000000000 000	
4	IntraS/IntraL 1	0.40 0.40	2 2	Enable 2	Intra 14	0000000000000000 000	
5	IntraS/InterL 1	0.50 0.40	2 2	Enable 2	Inter 15	0000000000000000 000	
ESC Exit F1 Help Up/Dn/Lf/Rt/PgUp/PgDn Move F7 GlobCE F8 GlobSAC F2 Save							
Cost for Initial Time Period of call.							

Editing Cost Band Parameters

Editing a Cost Band

To edit the parameters of a cost band, perform the following steps:

- Select the following keys beginning from the main menu screen:
 - Call Costing Centers Menu
 - Edit Cost Bands
- Use the PgUp/PgDn keys to advance the screen to the applicable cost band range.
- Use the Up/Dn arrow keys to position the flashing cursor to the cost band to be edited.
- Use the left/right arrow keys to position the cursor to the field(s) to be edited.
- Enter the applicable value for the field setting (See field definitions below.)
- Follow steps **b** through **e** until all necessary cost bands are defined.
- Press the [F2] key to save changes and exit to the previous screen.

Listed below are definitions of each of the fields in this mode.

Cost band

Band

This column shows the cost band numbers that correspond to each field. These numbers may not be edited by the computer operator as they are for reference purposes only. To display the full range of cost bands, use the PgUp/PgDn keys to advance through the remaining screens.

Description

Description

This column displays a description of the type of call that should use that particular cost band. This description may not be edited by the computer operator as it is used for reference purposes only.

Discount Table

Discount Table

This field is used to specify which discount table should be used to calculate discount charges for calls. The discount tables specify holiday and time of day call rates. Use the information below to assign a discount table to the cost band.

- Use the arrow keys to highlight the *Discount table* field.
- Press [SPACE] for a listing of available choices.
- Use the arrow keys to highlight the applicable discount table (see chart at right).
- Press [ENTER]

Discount Table Choices

local Calls [No Discounts]
Intra State/ Intra Lata 1
Intra State/ Inter Lata 1
Inter State 1
Intra State/ Intra Lata 2
Intra State/ Inter Lata 2
Inter State 2
Local Calls

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Edit Cost Bands

Cost Bands Field Definitions (continued)

Initial Rate

Initial Rate

This field is used to specify the initial amount of money that the payphone user must deposit in order for the call to be processed.

- The initial rate is specified in dollars and cents.
- The maximum amount allowed is \$12.75.
- The amount entered should be in nickel increments. If the amount entered is not in nickel increments the phone will automatically round the value (charge) up to the next nickel.
- If the amount entered in this field is 00.00, an initial call charge is not requested.

Note: *If the phone is operating on a coin line, Cost Band 88 should NOT be set up with charges for incoming calls.*

Overtime Rate

Overtime Rate

Specify the amount of additional money that must be deposited for call time that extends past the *initial time* period.

- The overtime rate is specified in dollars and cents.
- The maximum amount allowed is \$12.75.
- The amount entered should be in nickel increments. If the amount entered is not in nickel increments the phone will automatically round the value (charge) up to the next nickel.
- If the phone is setup for non-coin line operation (See Options & Registers) and the amount entered in this field is 00.00 the call is disconnected when the initial time period expires.
- If the phone is setup for coin line operation (See Options & Registers) the value entered in this field must be 00.00.

Initial Time Period

Initial Time

This field is used to specify how much call time should be granted to the user for the amount of money specified in the *initial charge* field. The user must deposit the initial charge amount in order to be granted the amount of time specified in this field.

- The initial time is specified in minutes.
- The amount of time specified can range from 000 minutes to 255 minutes.
- If the Initial time is set to 000, the initial call time is unlimited (no overtime charges).

Over Time Period

Over Time

The value entered in this field determines how often the user must deposit more money for additional call time. The amount required to be deposited is specified in the field labeled *over time rate*.

- The over time period is specified in minutes.
- The amount of time specified can range from 00 minutes to 15 minutes.
- If the value entered in this field is 00, all calls using this cost band are denied.
- If the phone is set up for non-coin line operation (See Options & Registers) and the value entered in this field is "02" or above, answer detection is enabled even if the call is free of charge. This provides for accurate record keeping of free calls.
- If the phone is set up for coin line operation (See Options & Registers) the value entered in this field should be "01" minutes for local prepay or "02" minutes for local post pay.

Fraud Detection

Fraud

This field is used to enable or disable the acoustic coupler antifraud feature of the phone.

- Legal values for this field are 0 or 1.
- If the value entered in this field is "0", the acoustic coupler antifraud feature is disabled.
- If the value entered in this field is "1", the phone sends three "1" digits out on to the line if second dial tone is detected and interrupted, and if DTMF digits generated by an acoustic coupler are detected by the phone. This is done in an attempt to disrupt the dialing.

If the keypad is enabled, the "1" digits are sent by the phone in either DTMF or DP depending on the setting in Options & Registers - Central Office Options.

If the keypad is disabled, or if the field labeled "Keypad" is set to "1" the digits are sent in DTMF regardless of whether the phone is set for DTMF or DP operation.

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Edit Cost Bands

Cost Bands Field Definitions (continued)

Keypad Activity

Keypad

The value entered in this field determines which digits will be accepted by the phone if they are dialed after the called party answers the call (during the call session).

- Legal values for this digit are 1 through 8.
- Use the chart below to determine the value to be entered in this field.
(X=0 through 9)(Y=1 through 9)(N=2 through 9)(.=X up to maximum allowable digits)

Option #	Allowable Digit Combinations	Maximum Digits	Initial Timeout	Interdigit Timeout
1	No digits will be accepted	0	0	0
2	NXXXXXXX...			
3	NXXXXXXX... or 0YXXXXXX...	25	45 sec	6 sec
4	NXXXXXXX... or 0YXXXXXX...	25	45 sec	6 sec
5	XXXXXXX...	25	45 sec	60 sec
6	XXXXXXX...	40	45 sec	60 sec
7	XXXXXXX...	40	3 min	3 min
8	XXXXXXX...	100	unlimited	4.25min

LATA Screening

LATA Screening

For cost bands 110 & 111 this field is used to enable screening of intralata 0+ calls. In addition, for cost bands 00-79 this field determines call type (intralata or interlata) for NPA's and office exchange codes that are assigned to these bands.

- For cost bands 110-111 this should be set to **intra** to enable screening for intralata 0+ calls.
- For cost bands 110-111 this should be set to **inter** to disable screening for intralata 0+ calls.
- For cost bands 00-79 set to **intra** to designate intralata NPA/NXXs assigned to that band.
- For cost bands 00-79 set to **inter** to designate interlata NPA/NXXs assigned to that band.

Route Numbers

Route

This field is used to assign a route number for calls that use this cost band. For BC payphone firmware listed in Table 1 on the following page, legal route values can be found in tables 2 & 3. For CA/DA & CD/DD firmware, the route to be used to process the call is determined by the settings on screen 2.2.5.

There are two modes within the **Edit Routes** section of the program (Mode 80 and Mode 81). Mode 80 is where routing parameters are configured for coin calls and Store & Forward calls that have passed the dial-up validation process. Mode 81 is where routing parameters are configured for non Store & Forward card calls and Store & Forward calls that have not passed the dial-up validation process.

Modes 80 and Mode 81 both have 15 different routes and each route can be configured with different parameters. The particular route to be used for the call must be specified here on screen 2.2.2. in the field labeled **Route**.

As a general rule, cost bands 000 through 121 use the routes in Mode 80 and cost bands 122 through 137 use the routes in Mode 81.

Use the information below to determine the route number to be entered in this field:

- Legal values for this field are 00 through 15

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Continued...

Edit Cost Bands

Cost Bands Field Definitions (continued)

Route Numbers (continued)

- For BCXXXX payphone firmware, tables 2 & 3 list the definitions of the route values for the payphone. Depending on the version firmware installed in the phone, legal values for this field may vary.

Route Value

BC Firmware Route Definitions

- 00 = Call will be dialed direct (no rerouting)
- 01 = Call will use the route specified in the "Service Re-Route Number" field in Mode 2
- 02 = OSP type I (See Table 3 Below)
- 03 = OSP type II (See Table 3 Below)
- 04 = OSP type III (See Table 3 Below)
- 05 = OSP type IV (See Table 3 Below)
- 06 = The destination number dialed will be prefixed by the number entered in Speed Dial field *80 in Mode 3
- 07 = The destination number dialed will be prefixed by the number entered in Speed Dial field *89 in Mode 3
- 08 = The destination number dialed will be prefixed by the number entered in Speed Dial field *88 in Mode 3
- 09 = The number dialed will be the number entered in Speed Dial field *80 in Mode 3
- 10 = The number dialed will be the number entered in Speed Dial field *89 in Mode 3
- 11 = The number dialed will be the number entered in Speed Dial field *88 in Mode 3
- 12 = The destination number dialed will be prefixed by the number entered in Speed Dial field *80 in Mode 3 and redirect on DTMF "B" within 1 minute after transmitter turns on.
- 13 = The destination number dialed will be prefixed by the number entered in Speed Dial field *89 in Mode 3 and redirect on DTMF "B" within 2 minutes after transmitter turns on.
- 14 = The destination number dialed will be prefixed by the number entered in Speed Dial field *88 in Mode 3 and redirect on DTMF "*" within 1 minute after transmitter turns on.

Table 2

OSP Type 1 (Mode 6 Route value = "02") <ol style="list-style-type: none"> 1. Phone Dials Re-Route number specified in Mode 2 2. Phone waits for 400Hz tone from OSP. 3. Phone dials "#", ANI, "#", 0+destination number, "#" Credit Card Number, "#". 	OSP Type 2 (Mode 6 Route value = "03") <ol style="list-style-type: none"> 1. Phone Dials Re-Route number specified in Mode 2 2. Phone waits for Dial Tone from OSP. 3. Phone dials ANI, destination number.
OSP Type 3 (Mode 6 Route value = "04") <ol style="list-style-type: none"> 1. Phone Dials Re-Route number specified in Mode 2 2. Phone waits for Dial Tone from OSP. 3. Phone dials OCC number. 4. Phone waits for Dial Tone from OSP. 5. Phone dials ANI, destination number. 	OSP Type 4 (Mode 6 Route value = "05") <ol style="list-style-type: none"> 1. Phone Dials Re-Route number specified in Mode 2 2. Phone waits for Dial Tone from OSP. 3. Phone dials ANI, 1+ destination number, Credit Card number, "##". (If no card number is entered by the user the phone will instead dial the ANI number, 0+ destination number.

Table 3

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**Enabling
Super Collect
&
Card Use
Per
Cost Band**

Edit Cost Bands

**Card Enable
(Mode 351)**

This field is used to enable or disable credit/calling card usage for calls that use the corresponding cost band. This field consists of a 16-digit code where the first of the 16-digits is used to enable/disable the "Operator this is not a billable number" message. The remaining fifteen digits correspond to each of the fifteen card groups that are set up on Screen 2.2.1.2. Each card group may be enabled or disabled per cost band.

Keep the following points in mind when defining this field.

First Digit

The first digit in each field is used to enable or disable the "Operator, this is not a billable number" message that may be sounded on "0-" calls.

Legal values for the first digit are 0 or 1.

- 0** = • Disables the "not a billable number" message.
- 1** = • Enables the "not a billable number" message.

Remaining 15 Digits

The remaining fifteen digits correspond to the fifteen card groups. The first of the 15 digits corresponds to Card Group 1 and the last of the 15 digits corresponds to Card Group 15.

Legal values are 0 or 1.

- 0** = • Disables all of the cards in the card group from being used with this cost band.
- 1** = • Enables the card group for use with this cost band. The call is routed through a switch. The call is routed using the card group route [Mode 81] as specified in the cost band.

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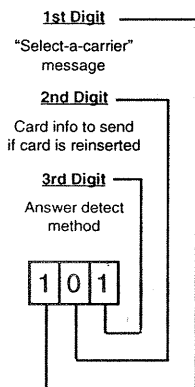
Edit Cost Bands

SAC/AD/CI
(Mode 36)

Select-a-Carrier/ Card Information/ Answer Detection

Field Definitions

Field Definition



This field consists of a three digit code that is used to specify the following:

- If the Select-a-Carrier message should be sounded to prompt a phone user to select the Interexchange carrier that they want to use for a bank card call.
- The information to be sent on to the phone line if a card is reinserted during the current call session.
- The method of answer detection to be used for the call.

Use the information below to define the settings for this field

First Digit ("Select-a-Carrier" message) (Legal Values are 0 or 4)

This digit is used to enable or disable the Select-a-Carrier message for InterLata calls.

- 0 = Disables the Select-a-Carrier message.
- 4 = Enables the Select-a-Carrier message when an InterLata bank card call is made. This function is only applicable for those calls that are processed using cost bands 122 - 136. These cost bands are used for card calls.

NOTE: Mode 32 (IXC Select Codes) and the Mode 8 (Routes) switch format positions 5 & 6 also need to be set to enable this option.

Second Digit (Card information to send if reinserted) (Legal Values are 0 - 3)

This digit determines the information from the magnetic strip of the card that is sent out on to the phone line if a card is reinserted during the current call session.

- 0 = Do not send the data from the card strip out on to the phone line.
- 1 = Send the data on the card strip out on to the phone line as follows:
 - AT&T and LEC cards*
Send the 10 digit account number and the 4 digit PIN number.
 - All other cards*
Send the data between the beginning sentinel and the end sentinel if there is no field separator in the string. If there is a field separator in the string then send the data between the beginning sentinel and the field separator.
- 2 = Send card account number and validation date:
Send all data on the card strip including the beginning and end sentinel.
- 3 = Send card account number and validation date:
 - AT&T and BELL cards*
Send the 10 digit account number and the 4 digit PIN number.
 - All other cards*
Send the data between the beginning sentinel and ending after the date.

Third Digit (Answer Detection Method) (Legal Values are 0, 1 or 3)

This digit is used to select the method of answer detection to be used.

- 0 = Standard answer detection
- 1 = Loop reversal answer detection
- 2 = Answer detection disabled

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Edit NPA/NXX & Country Codes

Overview

This area of the program is where area codes and country codes are assigned to use specific cost bands.

Listed below are definitions of the function available from this menu.

```
2 EDIT NPA/NXX & COUNTRY CODES MENU Screen 2.2.3
Thu. Mar 2, 1995 Editing DA/DD Record
Cost Center : 325F1S.CDX
1. Edit NXXs in Adjacent NPAs
2. Edit Out-of-State NPAs
3. Edit Country Codes
0. Exit to Previous Menu

ESC Exit F1 Help 0..3 or Up/Dn Arrow+ENTER Menu Item
Change the Out-of-State NPAs
```

Edit NXXs in Adjacent NPAs

This function is used to assign the exchange codes with specified NPA's, to the cost band that should be used to process the call.

Edit Out-Of-State NPAs

This function is used to assign entire area codes to specific cost bands. In this case, all exchanges within the specified NPA will use the assigned cost band for call processing.

Edit Country Codes

This function is used to assign international direct dial numbers to cost bands. This function is only applicable for CD/DD and CA/DA type cost centers.

Edit NPA/NXX & Country Codes

Edit NXXs in Adjacent NPAs (for DA & DD phones)

This function is used to assign the exchange codes (NXXs) within specified area codes (NPA's), to the cost band that should be used to process the call.

Use the information below to add an area code to the database.

Adding NPA's

NOTE

The first NPA that you assign must be the home NPA for all phones that are assigned to this cost center.

Adding an NPA to the database

Use this function to add an NPA to the database.

- Select the following keys beginning from the main menu screen:
 - [2] *Call Costing Centers Menu*
 - [3] *Edit NPA/NXX & Country Codes Menu*
 - [1] *Edit NXXs in Adjacent NPAs*
- Press [F3] *Add*
- In the field labeled *Enter New NPA*, enter the NPA to be added to the database.
- Press [F2] *Save*.
 - The new NPA is now added to the list of NPA's on the screen (Screen 2.2.3.1L). To assign the exchange codes within the NPA to specific cost bands, follow the instructions below (Steps b through e).

Assigning exchange codes to cost bands

Use the instructions below to assign exchange codes to cost bands.

- Select the following keys beginning from the main menu screen:
 - [2] *Call Costing Centers Menu*
 - [3] *Edit NPA/NXX & Country Codes Menu*
 - [1] *Edit NXXs in Adjacent NPAs*
- Use the arrow keys to highlight the NPA associated with the exchange codes that you want to assigned to cost bands.
- Press [ENTER]. A screen similar to the following should be displayed.

Thu, Mar 2, 1995		Edit NXX Bands										Screen 2.2.3.1 13:29:00	
NXX	..0	..1	..2	..3	..4	..5	..6	..7	..8	..9			
20	-	-	-	-	-	-	-	-	-	-	-	-	-
21	-	-	-	-	-	-	-	-	-	-	-	-	-
22	4	4	4	4	4	4	4	4	4	4	4	4	4
23	4	4	4	4	4	4	4	4	4	4	4	4	4
24	4	4	4	4	4	4	4	4	4	4	4	4	4
25	4	4	4	4	4	4	4	4	4	4	4	4	4
26	4	4	4	4	4	4	4	4	4	4	4	4	4
27	4	4	4	4	4	4	4	4	4	4	4	4	4
28	4	4	4	4	4	4	4	4	4	4	4	4	4
29	4	4	4	4	4	4	4	4	4	4	4	4	4
30	4	4	4	4	4	4	4	4	4	4	4	4	4
31	4	4	4	4	4	4	4	4	4	4	4	4	4
32	4	4	4	4	4	4	4	4	4	4	4	4	4
33	4	4	4	4	4	4	4	4	4	4	4	4	4
34	4	4	4	4	4	4	4	4	4	4	4	4	4

Use the "+" and "-" keys to change the Cost Band for the selected NXX.
 (813) 200 - xxxx Cost Bands range 0 to 99. "-" = band 0 (default).
 ESC Exit F1 Help Arrow Move +/- Change F2 Save F8 Status F10 Clear
 Cost Band# 0. 0.55 / 2 mins. 0.50 / 2 min. Table 2 = R-LATA \$ 1.00

- Use the arrow keys to position the cursor to the exchange code to be assigned to a cost band.
 - The bottom left of the screen displays the exchange number that the cursor is positioned on.
- Press the "+" or "-" keys to select the cost band to be used to process calls made to this exchange. The selected cost band number is displayed in the field that the cursor is positioned on.

Note: All unassigned exchange codes are by default assigned to cost band zero (0).

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Edit NPA/NXX & Country Codes

**Edit NXXs
in Adjacent NPAs
(for DA & DD phones)**

Deleting NPA's from the Database

Deleting an NPA from the database

Use this function to delete an NPA from the database.

- a. Select the following keys beginning from the main menu screen:
 - [2] *Call Costing Centers Menu*
 - [3] *Edit NPA/NXX & Country Codes Menu*
 - [1] *Edit NXXs in Adjacent NPAs*
- b. Use the Up/Dn arrow keys to highlight the NPA that you want to delete.
- c. Press [F5] *Delete*
- d. Press Y at the following prompt: *NPA XXX is selected for deleting, Are you sure that you want to delete it?*
 - The specified NPA is removed from the database.

Designating an NPA as a 7-Digit NXX

Designating an NPA as a 7-Digit NXX

Use the information below to make a selected NPA the 7-digit NXX. The NXXs within this NPA may be assigned to any of the first 79 cost bands.

- a. Select the following keys beginning from the main menu screen:
 - [2] *Call Costing Centers Menu*
 - [3] *Edit NPA/NXX & Country Codes Menu*
 - [1] *Edit NXXs in Adjacent NPAs*
- b. Highlight the NPA that you want to make the 7-Digit NXX.
- c. Press [F6] *7-Digit NXX*
- d. Press Y at the following prompt: *This action will make NPA XXX a 7-Digit NXX. Are you sure that you want to continue?*
 - The specified NPA is now designated as a 7-digit NXX.

Associate NXX's to the same cost bands as another NPA

Associate NXX's to the same cost bands as another NPA

This function will cause the NXXs within a specified NPA to use the same cost bands as the NPA that you associate with.

- a. Select the following keys beginning from the main menu screen:
 - [2] *Call Costing Centers Menu*
 - [3] *Edit NPA/NXX & Country Codes Menu*
 - [1] *Edit NXXs in Adjacent NPAs*
- b. Use the arrow keys to highlight the NPA that you want to associate with.
- c. Press [F7] *Associate*.
- d. At the prompt, enter the NPA that you want to be associated with the NPA that you highlighted in step b.
- e. Press [F2] *Save*.

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Edit NPA/NXX & Country Codes

Edit Out-of-State NPAs

This function is used to assign out-of-state area codes to the cost band that should be used to process the call.

Use the information below assign area codes to cost bands

Assigning NPA's to Cost Bands

Assigning NPAs to cost bands

Use this function to assign NPAs to cost bands.

- Select the following keys beginning from the main menu screen:
 - [2] *Call Costing Centers Menu*
 - [2] *Edit NPA/NXX & Country Codes Menu*
 - [2] *Edit Out-of-State NPA's*
- Use the arrow keys to highlight the NPA associated with the exchange codes that you want to assigned to cost bands.
- Press [ENTER]. A screen similar to the following should be displayed.

2		Edit NPA Bands										Screen 2.2.3.2	
Thu. Mar 2, 1995												13:29:25	
NPA	0	1	2	3	4	5	6	7	8	9			
20.	64	68	67	68	64	67	68	68	68	68			
21.	68	64	68	68	68	67	67	67	68	68			
22.	64	64	64	64	64	64	64	64	64	64			
23.	64	64	64	64	64	64	64	64	64	64			
24.	64	64	64	64	64	64	64	64	64	64			
25.	64	64	64	64	64	64	64	64	64	64			
26.	64	64	64	64	64	64	64	64	64	64			
27.	64	64	64	64	64	64	64	64	64	64			
28.	64	64	64	64	64	64	64	64	64	64			
29.	64	64	64	64	64	64	64	64	64	64			
30.	64	67	67	68	67	64	64	68	68	68			
31.	68	64	68	68	67	68	68	67	67	68			
32.	64	64	64	64	64	64	64	64	64	64			
33.	64	64	64	64	64	64	64	64	64	64			
34.	64	64	64	64	64	64	64	64	64	64			
35.	64	64	64	64	64	64	64	64	64	64			

Use the "+" and "-" keys to change the Cost Band for the selected NPA.
NPA = 200 Cost Bands range 0 to 99. "-" = band 0 (default).
ESC Exit F1 Help Arrow Move +/- Change F2 Save F8 Status F10 Clear
Cost Band 64: RESTRICTED

- Use the arrow keys to position the cursor to the NPA code to be assigned to a cost band.
 - The bottom left of the screen displays the NPA that the cursor is positioned on.
- Press the "+" or "-" keys to select the cost band to be used to process calls made within this NPA. The selected cost band number is displayed in the field that the cursor is positioned on.

Edit NPA/NXX & Country Codes

Editing Country Codes

Assigning Country Codes to Cost Bands

International direct dial numbers, commonly referred to as country codes, are assigned to cost bands here in this area of the program. This option is only applicable for CD/DD & CA/DA type call cost centers.

Use the information below to assign country codes to cost bands.

- a. Select the following keys beginning from the main menu screen:

[2] *Call Costing Centers Menu*
[3] *Edit NPA/NXX & Country Codes Menu*
[3] *Edit Country Codes*

- b. A screen similar to the following should be displayed.

Country Code Definition #1:	for cost band# 112
Country Code Definition #2:	for cost band# 113
Country Code Definition #3:	for cost band# 114
Country Code Definition #4:	for cost band# 115
Country Code Definition #5:	for cost band# 116
Country Code Definition #6:	for cost band# 117
Country Code Definition #7:	for cost band# 118
Country Code Definition #8:	for cost band# 119
Country Code Definition #9:	for cost band# 120

ESC Abort F1 Help F2 Save Arrows
Enter the the international country codes (0-9, #, *, A-D)

- c. Use the [Tab] key to highlight the country code field to be defined.
- d. Enter the county code number to be associated with the corresponding cost band. Keep the following points in mind when defining country codes.
- Field entries may be a maximum of six digits in length.
 - Legal values for the digits in a field are "1 through 9 and #". The "#" pound sign may be used as a wild card to cause the phone to accept any digit for that position in the country code.
 - The first digit in the field is ignored and can be set to any of the following characters, "0", "1" or "#".
 - If a "#" is entered as the first digit in the field and no other digits are entered, all international direct dial numbers that do not have their country code assigned to another cost band will use the cost band associated with the country code field with the "#" as the first and only digit.
 - If fewer than six digits are entered in a field, the computer automatically fills the rest of the digits in the field with "#". The "#" characters that are used to fill the field are not be displayed on the computer screen.
- e. Press the [F2] *save* after you have completed making changes to this screen.

Edit Surcharge, Discount & Holiday Tables

Overview

This area of the program is used to set up discount costs for holidays and calls made at different times of the day. The discount costs set up here are used by the phone to recalculate charges and allow the payphone user to make calls that cost less money on certain days and times than calls made on the phone at other times.

There are a total of seven discount tables. Each table may be set up with different discount costs for day, evening and night time calls. There are also three holiday tables. The holiday tables are used to specify the particular days of the year that holiday costs are in effect. Each holiday table is associated with one of the seven discount tables.

Discount tables are assigned to cost bands in the *Edit Cost Bands* section of the program. When a telephone number is dialed by the payphone user, the phone determines which cost band should be used to process the call. The phone then references the discount table assigned to that cost band to determine any discounts that may apply.

Setting Up Discount Costs

Setting Discount Costs

As shown in the diagram below there are seven discount tables that may be setup with discount costs. Discount tables are assigned by call type (cost band) therefore, it is important that the correct discount table be assigned to the corresponding cost band on screen 2.2.2 to ensure that accounting information is recorded in the proper area. Discount table assignments are as follows.

Use the following information to select edit discount rates.

- a. Select the following keys beginning from the main menu screen:

[2] *Call Costing Centers Menu*

[4] *Edit Surcharge, Discount & Holiday Tables*

- A screen similar to the following is displayed.

```
2 Mon. Nov 28, 1994 EDIT SURCHARGE, DISCOUNT & HOLIDAY TABLES 2.2.4 10:44:08
Costing Record: 325FIS.CDX
1. Edit Intra State/Intra Lata 1
2. Edit Intra State/Inter Lata 1
3. Edit Interstate 1
4. Edit Intra State/Intra Lata 2
5. Edit Intra State/Inter Lata 2
6. Edit Interstate 2
7. Edit Local Calls
8. Edit Holiday Tables
9. Exit to Previous Menu
ESC Exit F1 Help 0..8 or Up/Dn Arrow ENTER Menu Item
Press ENTER to edit this surcharge-discount table
```

- b. Use the arrow keys to highlight the applicable discount table and then press [ENTER]
- c. Use the information on the following pages to determine the settings for the discount table options.

Edit Surcharge, Discount & Holiday Tables

Surcharge/Discount Costs

Editing a Discount Table

Editing a Discount Table

- Use the [TAB] key to position the cursor to the field to be edited.
- Enter the applicable data. (See field definitions below.)
- After all necessary fields have been edited, press [F2] to save changes and exit to the previous screen.

2 Mon. Nov 28, 1994 EDIT INTRA STATE/INTRA LATA 1 2.2.4.1 10:44:34

Coin Surcharge: 1.00 Card Surcharge: 0.00
 Minimum Cost: 0.00 Super Collect Surcharge: 0.00
 Tax Percentage(%): 0

DAY	PERIOD	INITIAL DISCOUNT	SUBSEQUENT DISCOUNT	ENDING HOUR
Mon - Fri	Night	60	60	8
	Day	0	0	17
	Evening	35	35	23
Sat	Night	60	60	8
	Day	60	60	17
	Evening	60	60	23
Sun	Night	60	60	8
	Day	60	60	17
	Evening	35	35	23

ESC Abort F1 Help F2 Save Arrows

Surcharge to be added to all coin calls using this surcharge-discount table

Cost Tables

Band	Description/ Discount Table	Int Rate/ Ovt Rate	Int Time/ Ovt Time	Fraud/ Keypad	Lata/ Route	Card Enable/ SAC/CI/AD
6	IntraS/InterL 1	0.55	2	Enable	Inter 15	000000000000000000

Initial cost
 - Discount
 + Surcharge
 Cost for call
 + Tax
 New Call Cost

Surcharges

Coin Surcharge

This field is used to define the surcharge amount for coin calls that are other than local direct dial. This surcharge amount is added to the initial cost for the call and must be divisible by 5 (a nickel.)

Use the information below to enter a surcharge price for coin calls other than direct dial.

- Use the [TAB] key to position the flashing cursor to the field labeled **Coin Surcharge**.
- Enter the surcharge amount. (Amount must be divisible by 5 (a nickel).)

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Edit Surcharge, Discount & Holiday Tables

Surcharge/Discount Costs

Initial Discount Costs

Initial Discount

These fields are used to enter the percentage to be discounted from the initial cost for the call. If the initial cost specified in the cost band is \$1.50, and the surcharge setup on this screen is 75 cents, and the initial discount for a call made on a Wednesday Evening is 10%, the cost for the call would be \$2.10 plus any tax. The calculation for the charges is shown at right.

Initial cost	
- Initial Discount	
+ Surcharge	
Cost for call	
+ Tax	
New call cost	

2		EDIT INTRA STATE/INTRA LATA 1		2.2.4.1	
Mon. Nov 28, 1994				10:44:34	
Coin Surcharge: 1.00		Card Surcharge: 0.00			
Minimum Cost: 0.00		Super Collect Surcharge: 0.00			
		Tax Percentage(%): 0			
DAY	PERIOD	INITIAL DISCOUNT	SUBSEQUENT DISCOUNT	ENDING HOUR	
Mon - Fri	Night	60	60	8	
	Day	0	0	17	
	Evening	35	35	23	
Sat	Night	60	60	8	
	Day	60	60	17	
	Evening	60	60	23	
Sun	Night	60	60	0	
	Day	60	60	17	
	Evening	35	35	23	
ESC Abort F1 Help F2 Save Arrows					
Surcharge to be added to all coin calls using this surcharge-discount table					

Cost Tables

Band	Description/ Discount Table	Int Rate/ Ovt Rate	Int Time/ Ovt Time	Fraud/ Keypad	Lata/ Route	Card Enable/ SAC/CI/AD
6	IntraS/InterL 1	0.55 0.50	2 2	Enable 2	Inter 15	0000000000000000 000

Subsequent Discount Costs

Subsequent Discount

These fields are used to enter the percentage to be discounted from the over time cost set in the cost band. If the over time cost specified in the cost band is \$.50 and the subsequent discount for a call made on a Wednesday evening is 10%. The cost for additional time would be \$.45 plus any tax. The calculation for the charges is shown at right:

Over Time Cost	
- Subsequent Discount	
Overtime Cost for call	
+ Tax	
New Overtime Cost	

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Edit Surcharge, Discount & Holiday Tables

Surcharge/Discount
Costs

Cost Period
Ending Hour

Ending Hour

Enter the hour that the discount period should end for this day/period. The beginning hour for the next period starts at the time that this period ends. The time must be entered in the 24-hour format. Valid entries are 00 - 24.

Example:

If we look at the **Mon - Fri Ending Hour** column on the sample screen below, we can see that the **Night** cost is in effect from 11 PM until 8 AM. This is shown as follows: (The **Evening Cost** ends at 23 hours which is 11:00 PM and the **Ending Hour** for the **Night** cost is 08 which is 8:00 AM.) We can also see that the **Day** cost is in effect 8:00 AM to 5:00 PM. This is shown as follows: (The **Night Cost Ending Hour** = 08 = 8:00 AM and the **Day cost Ending Hour** = 17 = 5:00 PM; thus, the **Day Cost** is in effect from 8:00 AM to 5:00 PM)

```

2
Mon. Nov 28, 1994
EDIT INTRA STATE/INTRA LATA 1
2-2-4-1
10:44:34

Coin Surcharge: 1.00
Minimum Cost: 0.00
Super Card Surcharge: 0.00
Collect Surcharge: 0.00
Tax Percentage(%): 0

DAY PERIOD INITIAL DISCOUNT SUBSEQUENT DISCOUNT ENDING HOUR
Mon - Fri Night 20% 20% 08
Day 00% 00% 17
Evening 10% 10% 23
Sat Night 30% 30% 08
Day 20% 20% 17
Evening 25% 25% 23
Sun Night 30% 30% 24
Day 30% 30% 24
Evening 30% 30% 24

ESC Abort F1 Help F2 Save Arrows
Surcharge to be added to all coin calls using this surcharge-discount table

```

Setting the Ending Hour:

- Use the arrow keys to position the flashing cursor to the field labeled **Ending Hour**.
- Enter the ending hour for that particular time period (use 24 Hour Format).
- After all entries have been made, press the [F2] key to save your changes and exit the screen.

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Edit Surcharge, Discount & Holiday Tables

Holiday Tables

Holiday Dates

Holiday Table & Discount Table Assignments

Edit Holiday Tables

This screen is used to specify the particular days of the year that holiday costs are to be applied.

There are three holiday tables that may be set up with different holiday dates. Each holiday table is associated with one of the seven discount tables. The holiday table to be used for a call is determined by the discount table number assigned to the cost band that is used to process the call.

The chart below shows the holiday table/discount table assignments.

Holiday Table 1 used for:	Intrastate, IntraLATA 1 Interstate, InterLATA 2
Holiday Table 2 used for:	Interstate 1 Intrastate, IntraLATA 1
Holiday Table 3 used for:	Intrastate, InterLATA 2 Interstate 2 Local Calls

Each holiday table may be set up with eight different holiday dates. When a destination number is dialed, the phone checks the NPA/NXX assignments to determine which cost band is to be used to calculate the charge for the call. The phone then checks the cost band to determine if a discount table has been assigned to that cost band. If a discount table has been assigned, the charge for the call is calculated based on the figures entered in the discount table. If the date that the call is made, is one of the dates listed in the holiday table, the phone applies evening or night time costs as specified on this screen.

```
2
Thu. Mar 16, 1995      EDIT HOLIDAY TABLES      Screen 2.2.4.8
                                09:40:14

Use Night Costs During Holidays: ( )
Use Evening Costs During Holidays: (X)

Holiday Table #1
#1 #2 #3 #4 #5 #6 #7 #8
01/01 12/25 07/04 00/00 00/00 00/00 00/00 00/00

Holiday Table #2
#1 #2 #3 #4 #5 #6 #7 #8
01/01 12/25 07/04 00/00 00/00 00/00 00/00 00/00

Holiday Table #3
#1 #2 #3 #4 #5 #6 #7 #8
01/01 12/25 07/04 00/00 00/00 00/00 00/00 00/00

ESC Abort F1 Help F2 Save Arrows
Use night costs for holiday call costing. Press SPACE to enable.
```

Defining Holiday Dates

Use the information below to assign holiday dates.

- Use the arrow keys to position the cursor to one of the following two fields at the top of the screen: "Use Night Costs During Holidays", "Use Evening Costs During Holidays," and then use the information below to determine the appropriate setting.

Use Night Costs During Holidays

Specify if the night time discount cost specified in the discount table should be used to calculate charges for calls made at any time of the day on those dates that are listed in the holiday table.

- Press [SPACE] to toggle the selection between [✓] and [].

[✓] = Phone uses night discount costs to calculate charges for calls made at any time of day on those dates that are listed in the holiday table.

Continued...

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**Defining
Holiday Dates
continued**

Edit Surcharge, Discount & Holiday Tables

Holiday Tables

[] = Phone does not use night discount costs to calculate charges for calls made at any time of day on those dates that are listed in the holiday table.

Use Evening Costs During Holidays

Specify if the evening discount cost specified in the discount table should be used to calculate charges for calls made at any time of the day on those dates that are listed in the holiday table.

■ Press [SPACE] to toggle the selection between [√] and [].

[√] = Phone uses evening discount costs to calculate charges for calls made at any time of day on those dates that are listed in the holiday table.

[] = Phone does not use evening discount costs to calculate charges for calls made at any time of day on those dates that are listed in the holiday table.

- b. Use the arrow keys to position the flashing cursor to the holiday table to be edited.
- c. Use the arrow keys to position the cursor to the field to be modified. Each table may have up to eight different holiday dates entered.
- d. Start from position #1 and enter the dates that holiday costs should apply. The date should be entered as four digits, Month/Day (*Example*: December 25 = 1225). The "/" is automatically entered by the computer.
- e. Press the [F2] key to save changes and exit the screen.

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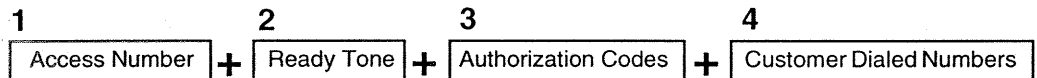
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Edit Routes

Call Routing

Protel's payphones provide flexible call routing capability. Configured in this area of the program are the parameters that determine how calls are routed to their destination. Routing parameters allow the payphone(s) to route or reroute calls through almost any type of modern phone network in use today. The phones can also be programmed to route almost any combination of numbers, tones or routing sequences. After a route is configured with the parameters that determine how a call should be routed, the route is assigned to a cost band on screen 2.2.2.

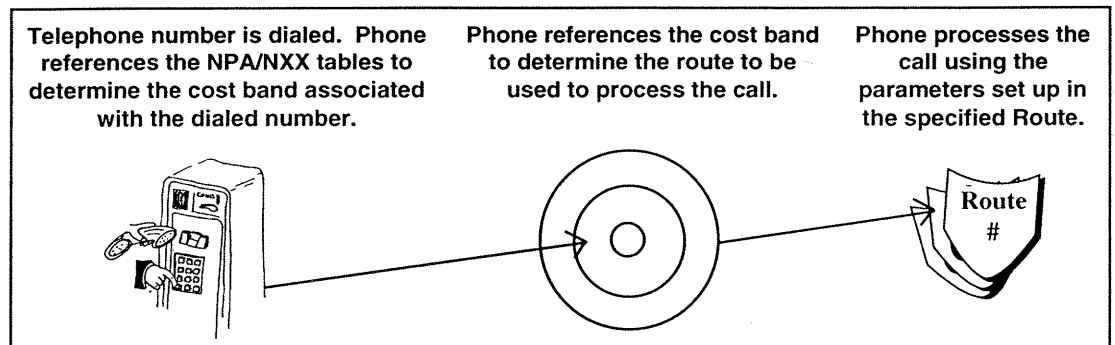
There can be up to thirty different routes configured here, fifteen routes for coin type calls and fifteen routes for non-coin type calls (card calls). A typical call route may proceed as follows:



- 1 The phone sends a programmed group of digits usually called an access number (specified in this area of the program), to the Interexchange carrier (IXC.) The access number is the telephone number of the IXC switch.
- 2 After the IXC switch answers the call, the phone waits a programmed length of time for certain progress tones or ready tones to be received back from the switch. These tones indicate that the IXC switch is ready to accept more digits.
- 3 After a ready tone is detected by the phone, authorization digits are sent by the phone to the IXC switch.
- 4 The destination number dialed by the phone user is then sent. The sequence of events that occur during the routing process varies from IXC to IXC. This area of the program is where the sequence of events is set up to match what the IXC expects to see from the phone.

Calls can be routed according to the digits dialed or the type of credit/calling card used. In addition, calls may be rerouted according to conditions in the network. Since deregulation, many routing choices have become available. Generally, the choices are based on economic or regulatory reasons. Certain types of calls will be routed one way (such as 1+ traffic) and other types of calls will be routed another way (such as card calls or international calls).

The illustration below shows how the payphone determines the particular route to be used to process a call.



Edit Routes

Glossary of Routing Terms

Listed below are definitions of commonly used call routing acronyms. Please review this list to become familiar with these terms.

- Routing** The process of directing a call through a specific carrier or call route.
- Rerouting** The process of redirecting a call to a new route because the original route failed or was blocked.
- IXC** Inter Exchange Carrier - Long distance carriers like MCI, Sprint, ITT, etc.
- LEC** Local Exchange Carrier
- PIC** Picked Interstate Carrier - when a customer pre-subscribes to an IXC.
- OSP** Operator Service Provider - Handles 0± traffic.
- LATA** Local Access and Transport Area
- InterLATA** Calls between LATAs (Inter is Latin for "between")
- IntraLATA** Calls within a single LATA (Intra is Latin for "within")
- 1+** Telephone numbers that are preceded by the digit "1".
- 0+** Telephone numbers that are preceded by the digit "0".
- 0-** Access to local operator (0 dialed without any other digits)
- 00-** Access to long distance operator (00 dialed without any other digits)

Glossary Of Routing Terms

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Edit Routes

Call Routes

Call Routing

Shown below is the main screen of the *Edit Routes* area of the program. This mode is divided into two sections (Mode 80XX & Mode 81XX) as discussed below.

- **Mode 80XX** — Offers fifteen routes for non-card type calls (coin calls). Typically, these routes are assigned to cost bands 000-121.
- **Mode 81XX** — Offers fifteen routes for card type calls. These routes are assigned to cost bands 122-137.

```

2
Mon. Nov 28, 1994      EDIT ROUTES      2.2.5
                                      10:47:22

Mode 80XX      Mode 81XX
8001      8101
8002      8102
8003      8103
8004      8104
8005      8105
8006      8106
8007      8107

8008      8108
8009      8109
8010      8110
8011      8111
8012      8112
8013      8113
8014      8114
8015      8115

ESC Abort  F1 Help  F2 Save  Arrows
Press SPACE to edit this mode 80 route
    
```

Selecting a Route for Editing

From the main screen as shown above, a particular route may be selected for editing. Each route has three fields of information that need to be configured. The following pages outline the definitions of each of these fields.

Selecting a route for editing

Use the steps below to select a route for editing:

- Select the following keys beginning from the main menu screen:
[2] *Call Costing Centers Menu*
 - Use the arrow keys to highlight the applicable cost center and then press [ENTER].
 - Press [5] *Edit Routes*.
 - Use the arrow keys to highlight the route that you want to edit.
 - Press [SPACE].
- A screen similar to the following is displayed.

```

2
Tue. Dec 6, 1994      Edit mode 8001      Screen 2.2.5
                                      10:47:12

Access Number: 051093400

Auth #2      Delay      Buffer      Dest #2      Delay #2      Splash rt      Card format
Switch Pmt:00 00 **8*000 00 00 *
12 34 5678901 23 45 6

Tone      Time Out rt      Splash Tons      Tone #2
Auth #1      Dest #1      Field Separator & :
End of data marker

Table 1 - Tone
0 = No tone      7 = Ringback
1 = 360-400 Hz  A = DTMF A
2 = 380-420 Hz  B = DTMF B
3 = 420-460 Hz  C = DTMF C
4 = 460-500 Hz  D = DTMF D
5 = Dial tone   # = DTMF #
6 = DTMF *

Table 2 - Delay / Timeout
0 = 0.0 / 0.0      8 = 6 / 6
1 = 0.3 / 0.3      9 = 10 / 10
2 = 0.5 / 0.5      A = 20 / 20
3 = 0.8 / 0.8      B = 20 / 30
4 = 1.0 / 1.0      C = 20 / 40
5 = 1.5 / 1.5      D = 20 / 50
6 = 2.0 / 2.0      # = 20 / 60
7 = 3.0 / 3.0

ESC Abort  F1 Help  F2 Save  Arrows
Enter the switch format
    
```

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There are three fields of information that may be defined for each route; the *Access Number*, the *Switch Format*, and the *Field Separator & Data Marker*.

Edit Routes

Mode 8 Programmable Fields

Mode 8 Programming

Shown below are brief descriptions of the three fields that need to be defined to ensure proper routing of calls. Detailed definitions of these fields can be found on the following pages.

2
Tue. Dec 6, 1994 | Edit mode 8001 | Screen 2.2.5.
10:47:12

Access Number: 051093400

Auth #2 Delay Buffer Dest #2 Delay #2 Splash rt Card format

Switch Fmt: 00 00 **#*000 00 00 *

12 34 5678901 23 45 6

Tone Auth #1 Dest #1 Time Out rt Splash Tone Tone #2

Field Separator & :
End of data marker

ESC Abort F1 Help F2 Save Arrows
Enter the switch format

Table 1 - Tone

0 = No tone	7 = Ringback
1 = 360-400 Hz	A = DTMF A
2 = 380-420 Hz	B = DTMF B
3 = 420-460 Hz	C = DTMF C
4 = 460-500 Hz	D = DTMF D
5 = Dial tone	# = DTMF #
6 = DTMF *	

Table 2 - Delay / Timeout

0 = 0.0 / 0.0	8 = 6 / 6
1 = 0.3 / 0.3	9 = 10 / 10
2 = 0.5 / 0.5	A = 20 / 20
3 = 0.8 / 0.8	B = 20 / 30
4 = 1.0 / 1.0	C = 20 / 40
5 = 1.5 / 1.5	D = 20 / 50
6 = 2.0 / 2.0	# = 20 / 60
7 = 3.0 / 3.0	

There are three fields of information that need to be defined for a route; the *Access Number*, the *Switch Format*, and the *Field Separator & Data Marker*.

- **Access Number**

The number entered in this field is the first number to be sent out on to the phone line when a call is routed. The maximum number of digits that may be entered in this field is fifteen. More detailed information can be found on the following pages.

- **Switch Format**

This field is used to configure parameters that are necessary to match the protocol of the IXC or OSP switch. There are sixteen digits in the switch format field. The various digit positions in the field define such things as; buffer limits, tone detect, time-outs/delays, splashback, alternate route numbers, etc. Definitions for each digit can be found on the following pages. This switch format field defines the instructions necessary for the payphone to properly access the IXC or OSP switch.

- **Field Separator and End of Data Marker**

This is an optional field that may be used to define the digits that are used to signal the switch that all data has been sent. In addition, the field separator digits in this field are used to separate card data from the dialed destination number. A maximum of ten digits may be entered in this field. More detailed information can be found on the following pages.

Edit Routes

Access Number

Programming the Access Number Field

The field labeled *Access Number* is used to specify the first number to be dialed by the phone during the routing process. A maximum of fifteen digits may be entered in this field. Use the information below to specify the access number.

- Use the [TAB] key or arrow keys to position the flashing cursor to the field labeled *Access Number*.
- Specify the access number using the format as shown in the example at the bottom of this page. The access number is the first number to be dialed by the phone during the routing process.

NOTES

- Reference Appendix D for 950, 10XXX, and 800 access numbers.
- The first two digits of the access number are used to specify the length of the access number (access number = digits to be sent out on the line by the phone).
- The digit following the access number is used to specify the tone that the phone will wait for from the carrier signaling that the access number was received and that the phone should continue processing the call as specified in the switch format.
- The next digit specifies the amount of time that the phone should wait to receive the tone from the carrier. (See switch format position 4 for more information on the value of this digit.)
- Proceed to the section titled *switch format* on the following page.

Digit	Tone
0	No Tone
1	360-400Hz
2	380-420Hz
3	420-460Hz
4	460-500Hz
5	Dial Tone
6	DTMF *
7	Ring Back Tone
A	DTMF A
B	DTMF B
C	DTMF C
D	DTMF D
#	DTMF #

Legal Tone Values

Digit	Delay	Timeout
0	0	0
1	30	30
2	50	50
3	80	80
4	1	1
5	1.5	1.5
6	2	2
7	3	3
8	6	6
9	10	10
A	20	20
B	20	30
C	20	40
D	20	50
#	20	60

Legal Delay Values

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Tue, Dec 6, 1994
Edit mode 8001
Screen 2.2.5.
10:47:12

Access Number: 051093400

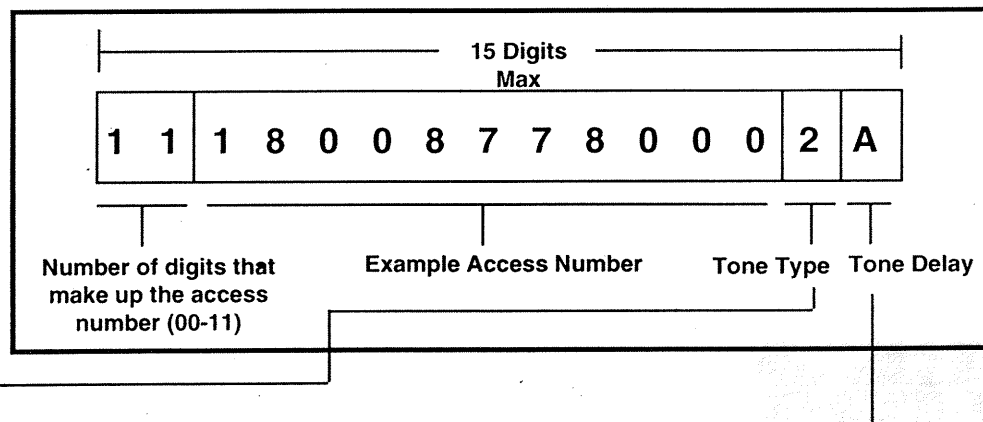
Auth #2 Delay Buffer
Dest #2 Delay #2
Switch Pmt:00 00 **1*000 00 00 *
12 34 5678901 23 45 6
Tone Auth #1 Dest #1
Time Out rt
Splash Tone
Tone #2
Field Separator & :
End of data marker

Table 1 - Tone
0 = No tone
1 = 360-400 Hz
2 = 380-420 Hz
3 = 420-460 Hz
4 = 460-500 Hz
5 = Dial tone
6 = DTMF *
7 = Ringback
A = DTMF A
B = DTMF B
C = DTMF C
D = DTMF D
= DTMF

Table 2 - Delay / Timeout
0 = 0.0 / 0.0
1 = 0.3 / 0.3
2 = 0.5 / 0.5
3 = 0.8 / 0.8
4 = 1.0 / 1.0
5 = 1.5 / 1.5
6 = 2.0 / 2.0
7 = 3.0 / 3.0
8 = 6 / 6
9 = 10 / 10
A = 20 / 20
B = 20 / 30
C = 20 / 40
D = 20 / 50
= 20 / 60

ESC Abort
F1 Help
F2 Save
Arrows
Enter the switch format

Example Access Number



Edit Routes

Switch Format

Defining the Switch Format Field

Switch Format

This field is used to configure the parameters that are necessary to match the protocol of the IXC or OSP switch. There are sixteen digits in the switch format field. Each digit position in the field define parameters such as; *buffer limits, tone detect, time-outs/delays, splashback, alternate route numbers*, etc. This switch format field defines the instructions necessary for the payphone to properly access the IXC or OSP switch.

The following pages provide definitions of the sixteen digits that make up the switch format field. Each digit in the field must be defined. Editing this field is accomplished as follows:

- Use the [TAB] key or arrow keys to position the cursor to the field labeled *Switch Fmt*.
- Beginning from position one, enter the value for each of the digits in the sixteen digit field. Definitions of each digit can be found on the following pages.
- Proceed to the section titled *Field Separator & End of Data Marker*.

The screenshot shows the 'Edit mode 8001' screen with the date 'Tue. Dec 6, 1994' and time '10:47:12'. The 'Access Number' is '051093400'. The 'Switch Fmt' field is displayed as '00 00 **#*000 00 00 *' with digit positions 12, 34, 56, 78, 90, 1, 23, 45, 6 indicated below. To the right, 'Table 1 - Tone' and 'Table 2 - Delay / Timeout' provide definitions for digits 0-9. At the bottom, navigation keys are listed: 'ESC Abort E1 Help E2 Save Arrows'.

0 = No tone	7 = Ringback
1 = 360-400 Hz	A = DTMF A
2 = 380-420 Hz	B = DTMF B
3 = 420-460 Hz	C = DTMF C
4 = 460-500 Hz	D = DTMF D
5 = Dial tone	# = DTMF #
6 = DTMF *	

0 = 0.0 / 0.0	8 = 6 / 6
1 = 0.3 / 0.3	9 = 10 / 10
2 = 0.5 / 0.5	A = 20 / 20
3 = 0.8 / 0.8	B = 20 / 30
4 = 1.0 / 1.0	C = 20 / 40
5 = 1.5 / 1.5	D = 20 / 50
6 = 2.0 / 2.0	# = 20 / 60
7 = 3.0 / 3.0	

Switch Format Field

Shown below is the layout and digit positions of the switch format field:

0	0	0	0	*	*	#	1	0	0	0	0	0	0	0	1
1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6

Labels for digit positions:

- Position 1: Buffer Limit
- Position 2: Tone Detect
- Position 3: Time Delay
- Position 4: Authorization Code/ANI Number 1
- Position 5: Authorization Code/ANI Number 2
- Position 6: Card/Destination Number 1
- Position 7: Card/Destination Number 2
- Position 8: Tone Detect
- Position 9: Time Delay
- Position 10: Splashback Tone
- Position 11: Alternate Route (Splashback/IntraLATA)
- Position 12: Alternate Route (Time-out/Busy)
- Position 13: Card Format

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Edit Routes

Switch Format (continued)

Positions 1 & 2 Buffer Limit

1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6		

Legal Values: 01 to 99 (00 = No Limit)

These two positions define the maximum number of digits that may be sent out on to the phone line immediately after the access number is sent. These digits are sent in a continuous string after the access number but before a delay or tone is received from the carrier or OSP. After sending the specified number of digits, the payphone must either delay for a set period of time or wait for a confirmation tone from the carrier before sending more data. Consult your carrier or OSP for guidance on buffer restrictions.

Position 3 Tone

1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6		

This digit defines the tone that the phone will wait for from Carrier or OSP signaling that the phone should continue sending data. The phone looks for this tone after the buffer limit (set in digits 1 & 2) has been reached.

Legal Values for Position 3 →

Digit Value	Carrier Tone	Digit Value	Carrier Tone
0	No tone	7	Ring Back Tone
1	360-400Hz	A	DTMF A
2	380-420Hz	B	DTMF B
3	420-460Hz	C	DTMF C
4	460-500Hz	D	DTMF D
5	Dial Tone	#	DTMF #
6	DTMF *		

Position 4 Delay/Timeout

1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6		

If position 3 is set to a value other than "0", position 4 is used to determine the amount of time that the phone will wait for tone from the carrier. If the carrier fails to send the proper tone before this time-out period expires, the call is rerouted as specified in positions 14 & 15 of the switch format. If tone is received before the time-out period expires, the routing process continues as specified in the rest of the switch format.

Digit Value	Time in Seconds Delay	Time in Seconds Timeout	Digit Value	Time in Seconds Delay	Time in Seconds Timeout
0	0	0	8	6	6
1	0.30	0.30	9	10	10
2	0.50	0.50	A	20	20
3	0.80	0.80	B	20	30
4	1	1	C	20	40
5	1.5	1.5	D	20	50
6	2	2	#	20	60
7	3	3			

Legal Values for Position 4

If position 3 is set to "0" [No Tone], position 4 is used as a time delay causing the payphone to pause (for the amount of time defined in this switch position 4) after reaching the buffer limit before sending the remaining data. This is a one digit entry.

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Edit Routes

Switch Format (continued)

Position 5 Authorization Code #1

Position 6 Authorization Code #2

1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	

The value entered in position 5 determines when authorization code/ANI number 1 is sent from the phone. See the table at right for the proper value to be entered in this position of the switch format. Note: authorization codes are programmed in the site record for the account.

The value entered in position 6 determines when authorization code/ANI number 2 is sent. Note: If position 6 is programmed with the same value as position 5, the authorization numbers are sent in numeric order, position 5 first, then position 6.

Digit Auth Code/ANI will be sent?

- * Send no number
- 1 After Access number
- 2 After Card/Dest. number 1
- 3 After Field separator
- 4 After Card/Dest. number 2
- 5 After End-of-data marker

Position 7 Card/Destination # 1

Position 8 Card/Destination # 2

1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	

The value entered in position 7 determines if the destination number or credit/calling card number is sent before the other during the routing process. The value entered in this position also determines the format that the destination number is sent. Use the table below to determine the value to be entered for this position in the switch format. All values other than "*" or "1" define how the destination number is sent.

The value entered in position 8 is determined as follows:

- If position 7 is set to send the destination number first (values 2 through #), position 8 must be set to "1" (send card number) or "*" (send no number).
- If position 7 is set to "1" (send card number first), position 8 must be programmed to send either the destination number (values 2 through #) or no number ("*"). Use the table below to determine the appropriate value for this digit.

Digit Value Description

- * Send no number
- 1 Send Credit Card data in format specified by position 16.
- 2 Send non 0+ numbers as 0+.
- 3 Send destination number as entered by user.
- 4 Add HAC to 7 or 1+7 or 0+7 digit numbers.
- 5 Absorb "0", send remaining digits.
- 6 Absorb "0", add HAC to 7 or 8 digit calls.
- 7 Begin destination number with "1". If 1st digit is "0", replace with "1".
- 8 Begin destination number with "1". If 1st digit is "0", replace with "1" Add HAC to 7 or 1+7 digit calls.
- 9 Absorb "1" or "0" on Inter/Intra State calls
- 0 Absorb "1" or "0" on Inter/Intra State calls. Add HAC to 7- or 8 digit calls.
- A Absorb HAC. Otherwise, send exactly as user entered it.
- B Absorb HAC. Otherwise, send "1" as first digit.
- C Absorb HAC. Otherwise, send "0" as first digit.
- D On calls within HAC, absorb HAC and the "1" or "0" as first digit. Send "1" as first digit on all other calls.
- # Send non 0+ destination numbers as 0+. Add HAC to 7, 1+7 or 0+7 digit calls.

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Edit Routes

Switch Format (continued)

Position 9 Carrier Tone After Card/Dest. Number 2

1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	

The value entered in position 9 determines the tone that the phone will look for from the carrier or OSP signaling that the card/destination number 2 (Switch Position 8) was received. Use the chart at right to determine the value to be entered in this position (9) of the switch format.

Legal Values for Position 9 →

Digit Value	Carrier Tone	Digit Value	Carrier Tone
0	No tone	7	Ring Back Tone
1	360-400Hz	A	DTMF A
2	380-420Hz	B	DTMF B
3	420-460Hz	C	DTMF C
4	460-500Hz	D	DTMF D
5	Dial Tone	#	DTMF #
6	DTMF *		

Position 10 Time Delay/Timeout After Card/Dest. Number 2

1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	

If position 9 is set to detect a tone, position 10 determine the amount of time that the phone will wait for the tone from the carrier. If the phone does not detect the tone before this timeout period expires, the call is rerouted as specified in positions 14 & 15 of the switch format. If the tone is received before the timeout period expires, the routing process proceeds as specified in the rest of the switch format.

Digit Value	Time in Seconds Delay	Time in Seconds Timeout	Digit Value	Time in Seconds Delay	Time in Seconds Timeout
0	0	0	8	6	6
1	0.30	0.30	9	10	10
2	0.50	0.50	A	20	20
3	0.80	0.80	B	20	30
4	1	1	C	20	40
5	1.5	1.5	D	20	50
6	2	2	#	20	60
7	3	3			

Legal Values for Position 10

If position 9 above is set for "0" [no tone], position 10 is used as a time delay causing the payphone to pause (for the amount of time defined in this switch position 10) after sending the card or destination number, before sending the remaining data.

Position 11 Splashback Tone Detect

1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	

The value entered in position 11 determines the splashback tone that the phone should recognize from the OSP. The splashback tone is used to signal the phone to hang up and then redirect the call to the local operator. If the carrier does not use a splashback tone, program this position in the switch format with "0" [no tone].

Legal Values for Position 11 →

Digit Value	Carrier Tone	Digit Value	Carrier Tone
0	No tone	7	Ring Back Tone
1	360-400Hz	A	DTMF A
2	380-420Hz	B	DTMF B
3	420-460Hz	C	DTMF C
4	460-500Hz	D	DTMF D
5	Dial Tone	#	DTMF #
6	DTMF *		

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Switch Format (continued)

**Positions
12 & 13
Alternate Route
For Splashback
or IntraLATA**

1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6

Legal Route Values: 00 to 15 (00 = Redirects to the LEC)

Positions 12 & 13 of the switch format define the alternate route to be used for a call . An alternate route is used if either of the following two conditions occur:

1. Carrier sends a splashback tone to the phone. The splashback tone received must be in the frequency specified in switch format position 11.
2. If Lata screening is enabled in bands 110 or 111

The particular alternate route to be used for the call is specified here in switch format positions 12 & 13. Usually you will want the payphone to reroute the call to the local operator. In this case, set these positions in the switch format to "00". If the alternate route is to be other than the local operator, use specify which alternate route should be used to process the call. Legal route values are "00" through "15"

**Positions
14 & 15
Alternate Route
For
Timeout/Busy**

1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6

Legal Route Values: 00 to 15 (00 = Redirects to the LEC)

Positions 14 & 15 of the switch format determine the alternate route to be used for calls that are sent to an OSP/Carrier and the OSP/Carrier either does not answer or is busy.

Use these positions (14 & 15) in the switch format to specify which alternate route should be used to process the call. Legal route values are "00" through "15"

Position 16 Card Data Format

1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6

Position 16 of the switch format is used for card calls. The value entered in this position determines the data from the magnetic stripe of the card that will be sent to the switch. Use the table below to determine the appropriate value for this position in the switch format.

Digit Value	Description
*	Send no card number
1	Send account only. On 8555 AT&T and Bell calling cards, send 10-digit account and 4 digit pin number. All other cards, send data between the beginning sentinel and the field separator. (Essentially, this option sends the data/numbers which you see on the front of the card.)
2	Send all of card data including the beginning and ending sentinels.
3	Send account and expiration date. On 8555 AT&T and Bell calling cards, send 10 digit account and 4-digit PIN number. All others send data beginning after the beginning sentinel and ending after the expiration date.

Programming the Field Separator & End of Data Marker

Edit Routes

Field Separator & End of Data Marker

This field is used to program two parameters, the first being the Field Separator and the second being the End of Data Marker.

The field separator is used to separate the card number from the destination number that is sent during the routing process. The end-of-data marker is used to signal the AOS or switch that all data has been transmitted.

2
Tue. Dec 6, 1994

Access Number: 051093400

Auth #2
Delay
Buffer

Dest #2
Delay #2
Splash rt
Card format

Switch Pmt: 00 00 **0*000 00 00 *
12 34 5678901 23 45 6

Tone
Auth #1
Dest #1

Time Out rt
Splash Tone
Tone #2

Field Separator & :
End of data marker

Table 1 - Tone

0 = No tone	7 = Ringback
1 = 360-400 Hz	A = DIMP A
2 = 380-420 Hz	B = DIMP B
3 = 420-460 Hz	C = DIMP C
4 = 460-500 Hz	D = DIMP D
5 = Dial tone	# = DIMP #
6 = DIMP *	

Table 2 - Delay / Timeout

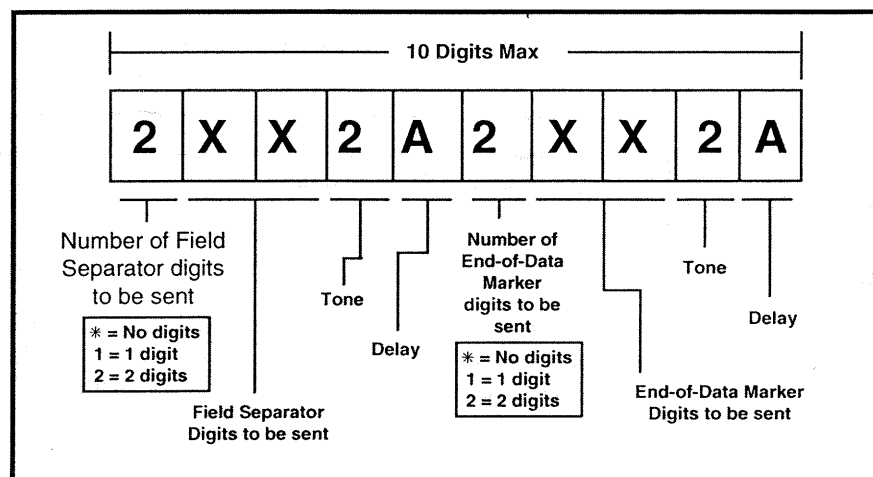
0 = 0.0 / 0.0	8 = 6 / 6
1 = 0.3 / 0.3	9 = 10 / 10
2 = 0.5 / 0.5	A = 20 / 20
3 = 0.8 / 0.8	B = 20 / 30
4 = 1.0 / 1.0	C = 20 / 40
5 = 1.5 / 1.5	D = 20 / 50
6 = 2.0 / 2.0	# = 20 / 60
7 = 3.0 / 3.0	

ESC Abort F1 Help F2 Save Arrows
Enter the switch format

This field can be a maximum of ten digits. Normally, the first five digit positions are used for field separator parameters and the last five digit positions are used for end-of-data marker parameters. In many cases only some of the digits within the field need to be defined depending on the function to be performed by the phone. A table is provided on the next page showing some typical combinations of field separator and end-of-data marker values. Shown below is the general format for entries in this field.

Field Format

Field Separator & End of Data Marker



Use the information shown below to program this field.

- Use the [TAB] key or arrow keys to position the flashing cursor to the field labeled *Set Field Separator & End of Data Marker*.
- Enter the field separator and end-of-data marker values. (see next page for examples)
- Press the [F2] key to save entries and exit the screen.

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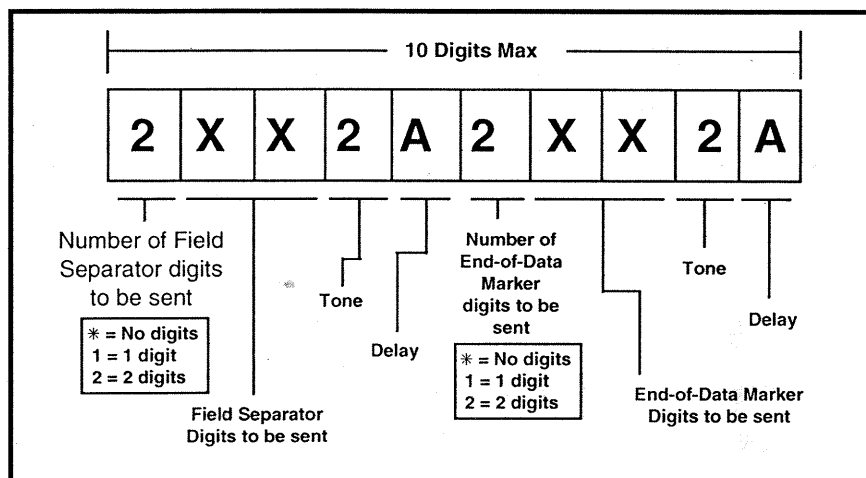
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Edit Routes

Field Separator & End of Data Marker

Field Separator & End of Data Marker Format



Examples of Field Separator & End of Data Marker Entries

Note:

If no Field Separator digits are to be sent, set the first digit in the field to a star (*). The second digit should then be used to define the frequency of the ready tone to be received and the third digit should specify how long the phone should wait for the tone.

Ready Tone values: See chart at bottom of page.

Delay values: See chart at bottom of page.

Example Field Entry	Definition
No entry in this field	No field separator or end-of-data marker will be sent.
*2A	* = No field separator digits will be sent. 2 = Phone will expect to see "380-420Hz" tone. A = Phone will wait 20 seconds for the tone.
102A	1 = Phone will send one field separator digit. 0 = The field separator digit that the phone will send is "0." 2 = Phone will expect to see "380-420Hz" tone. A = Phone will wait 20 seconds for the tone.
2012A	2 = Phone will send two field separator digits. 0 = The first digit of the field separator to be sent is "0." 1 = The second digit of the field separator to be sent is "1." 2 = Phone will expect to see "380-420Hz" tone. A = Phone will wait 20 seconds for the tone.
112A1254	1 = Phone will send one field separator digit. 0 = The field separator digit to be sent is "1." 2 = Phone will expect to see "380-420Hz" tone. A = Phone will wait 20 seconds for the tone. 1 = Phone will send one digit as an end of data marker. 2 = The end of data marker digit to be sent is "2." 5 = Phone will expect to see dial tone. 4 = Phone will wait 1 second for the dial tone.

Legal Tone Values

Digit Value	Carrier Tone	Digit Value	Carrier Tone
0	No tone	7	Ring Back Tone
1	360-400Hz	A	DTMF A
2	380-420Hz	B	DTMF B
3	420-460Hz	C	DTMF C
4	460-500Hz	D	DTMF D
5	Dial Tone	#	DTMF #
6	DTMF *		

Legal Delay Values

Digit Value	Time in Seconds Delay	Time in Seconds Timeout	Digit Value	Time in Seconds Delay	Time in Seconds Timeout
0	0	0	8	6	6
1	0.30	0.30	9	10	10
2	0.50	0.50	A	20	20
3	0.80	0.80	B	20	30
4	1	1	C	20	40
5	1.5	1.5	D	20	50
6	2	2	#	20	60
7	3	3			

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See Switch Format Position 3 for more information on the definition of this digit

See Switch Format Position 4 for more information on the definition of this digit

Restricted Phone Numbers

This area of the program may be used to specify up to 50 destination numbers that the phone should deny. The specified destination numbers will be blocked from all phone accounts that use the corresponding cost record.

Denying Destination Numbers

NOTE

This function is only applicable for those phones running DD type firmware.

Use the information below to define destination numbers that the phone should deny.

- Select the following key from the main menu screen: [2] *Call Costing Centers Menu*
- Use the arrow keys to highlight the applicable cost center and then press [ENTER].
- Press [6] *Edit Restricted Phone Numbers*.
 - A screen similar to the following is displayed.

2		EDIT RESTRICTED PHONE NUMBERS		2:2:6	
Mon. Nov 28, 1994				10:48:39	
# 1	#18	#35			
# 2	#19	#36			
# 3	#20	#37			
# 4	#21	#38			
# 5	#22	#39			
# 6	#23	#40			
# 7	#24	#41			
# 8	#25	#42			
# 9	#26	#43			
#10	#27	#44			
#11	#28	#45			
#12	#29	#46			
#13	#30	#47			
#14	#31	#48			
#15	#32	#49			
#16	#33	#50			
#17	#34				

ESC Abort F1 Help F2 Save Arrows
Enter restricted phone numbers

- Beginning from position #1, specify the destination numbers that should be denied by the phone. Reference Table A below for definitions of wild card characters.

Note: A "*" must precede any 7-digit or 10-digit number that you want to be denied.
- Press [F2] *Save* after all changes have been made.

Wild Card Character Definitions

D - In any position within the specified digit sequence:

Represents any digit 2 through 9. Phone will block all specified destination numbers that have the digit 2,3,4,5,6,7,8 or 9 in the position of the "D".

- In any position within the specified digit sequence:

Represents any digit 0 through 9. Phone will block all specified destination numbers that have the digit 0,1 2,3,4,5,6,7,8 or 9 in the position of the "#".

E - As the prefix digit of the specified 7,8,10, or 11-digit sequence:

Phone will deny the specified 7,8,10, or 11 digit number. **Example:** If the specified number were E813-333-4444, the phone would block the following numbers from being dialed: 1-813-333-4444, 0-813-333-4444, and 813-333-4444.

C - As the prefix digit of the specified 7,8,10, or 11-digit sequence:

Phone will deny 7,8,10, or 11 digit numbers that fall within the range of the specified number. **Example:** If the specified number were C813-333-4444, the phone would block the following numbers from being dialed: 333-4444, 1-333-4444, 0-333-4444, 813-333-4444, 1-813-333-4444, and 0-813-333-4444.

* - As the prefix digit of the specified 7 or 10-digit sequence:

Causes the phone to deny the specified 7 or 10-digit number. The call will only be allowed if the user prefixes the dialed number with a 1 or a 0.

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Table A

Edit Cost Record Description

Changing the Cost Record Description

This area of the program may be used to change the text description for the current cost record. In addition, the date indicating when the record was last modified may be edited from this screen.

Use the information below to use this feature.

- a. Select the following key from the main menu screen: [2] *Call Costing Centers Menu*.
- b. Use the arrow keys to highlight the applicable cost center and then press [ENTER].
- c. Press [7] *Edit Cost Record Description*.
 - A screen similar to the following is displayed.

2 EDIT COST RECORD DESCRIPTION FOR 325F1S.CDX 2.2.7
Mon. Nov 28, 1994 10:49:08

Desc: Converted from ExpressNet
Date: / /

ESC Abort F1 Help F2 Save Arrows
Enter description for this record

- d. In the field labeled *Desc*, enter a descriptive comment that can be associated with this cost record.
 - Any combination of up to 40 alpha/numeric characters may be used.
- e. In the field labeled *Date*, enter a date that reflects when this record was created or last modified.
- f. Press [F2] *Save* after all changes have been made.

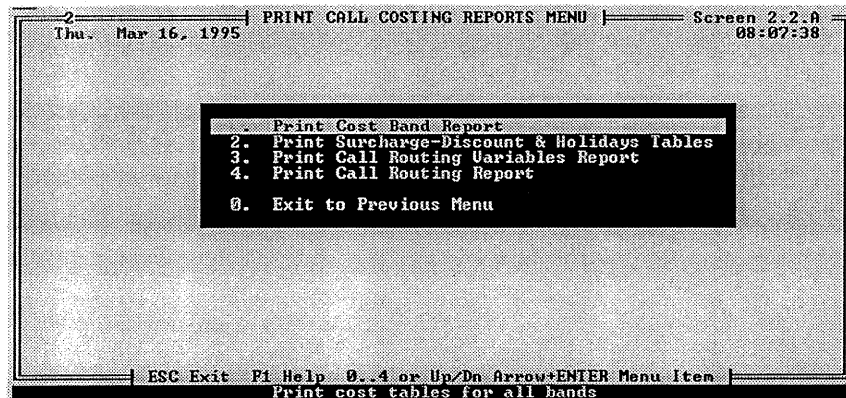
Print Call Costing Reports

Printing Call Costing Reports

This area of the program may be used to generate a hard copy of the parameter settings within the *Call Costing Centers* area of the program.

Use the information below to use this feature.

- a. Select the following key from the main menu screen: [2] *Call Costing Centers Menu*.
- b. Use the arrow keys to highlight the applicable cost center and then press [ENTER].
- c. Press [A] *Print Call Costing Reports Menu*
 - A screen similar to the following is displayed.



- d. To select a report to be printed either press the number key that corresponds to your menu choice or use the arrow keys to highlight the applicable report and then press [ENTER]. The report is directed to the local printer port.

Print Cost Band Report

This option generates a report showing all of the settings within the *Edit Cost Bands* section of the program. The report contains information such as: call type description and NPA associated with each cost band, initial/overtime cost and initial/overtime period settings per cost band, discount table assignments for each cost band, lata/route number assigned for each cost band, fraud detection setting and keypad enable/disable setting for each cost band, and settings for determining how card calls are handled.

Print Surcharge Discount & Holiday Tables

This option generates a report showing the settings within the *Edit Surcharge Discount & Holiday Tables* section of the program. The report contains information such as: surcharges for coin, card, and super collect calls, minimum charge allowed for a call, discount percentage and tax amount to be applied to call charges, and holiday dates that discounts are to be applied to.

Print Call Routing Variables Report

This option generates a report showing the settings within the *Edit Routing Variables* section of the program. The report contains information such as: speed dial numbers, IXC numbers, card group enable/disable settings, card identification numbers, and card processing parameters.

Print Call Routing Report

This option generates a report showing the settings within the *Edit Routes* section of the program. The report contains information such as: access numbers, switch format setting, and field separator/End of data marker settings.

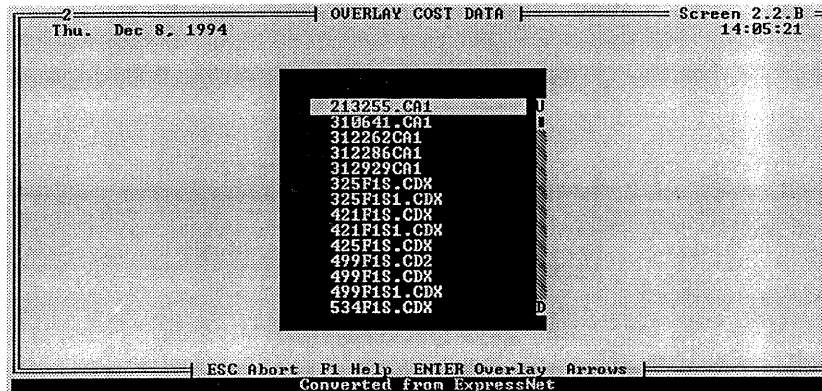
Overlay Cost Data

This option is used to copy call costing information (pricing information) from a different costing record into the record that is highlighted. This is useful in situations where the current record has previously been configured with the necessary option settings but the costing information needs to be changed to reflect settings that are specified in another cost record.

Upon selection of this option, a list of costing records is displayed. Choose the record that contains the costing data that you want to be copied to the record currently in use.

Use the information below to copy costing data from another record into the current record.

- a. Select the following key from the main menu screen: [2] *Call Costing Centers Menu*.
- b. Use the arrow keys to highlight the applicable cost center and then press [ENTER].
- c. Press [B] *Overlay Cost Data*.
 - A screen similar to the following is displayed.



- d. Use the arrow keys to highlight the cost record that you want to copy the settings from.
- e. Press [ENTER]
 - This completes the steps necessary to copy call costing data from one record to another.

NOTE: Only the following cost bands are affected: 00 through 79, 82, 87, 101, and 102. In addition, the following fields in the cost band are not affected when overlaying costing data: frd, kypd, RT, card enable, and SAC/CI/AD.

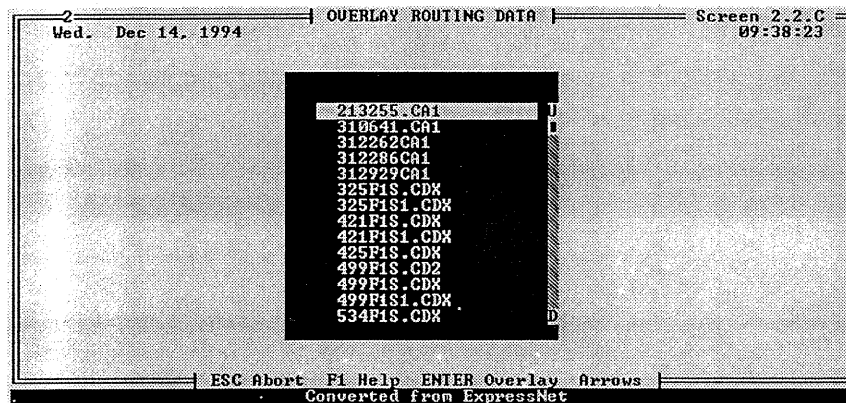
Overlay Routing Data

This option is used to copy call routing information from one call costing record to another. This is useful in situations where the current record has previously been configured with the necessary costing information but the call routing information needs to be changed to reflect settings that are specified in another cost record.

Copying Call Routing Parameters From one Record to Another

Use the information below to copy costing data from another record into the current record.

- Select the following from the main menu screen: [2] *Call Costing Centers Menu*.
- Use the arrow keys to highlight the applicable cost center and then press [ENTER].
- Press [C] *Overlay Routing Data*.
 - A screen similar to the following is displayed.



- Use the arrow keys to highlight the cost record that you want to copy the settings from.
- Press [ENTER]
 - This completes the steps necessary to copy call routing parameters from one record to another.

Overlay Restricted Phone Numbers

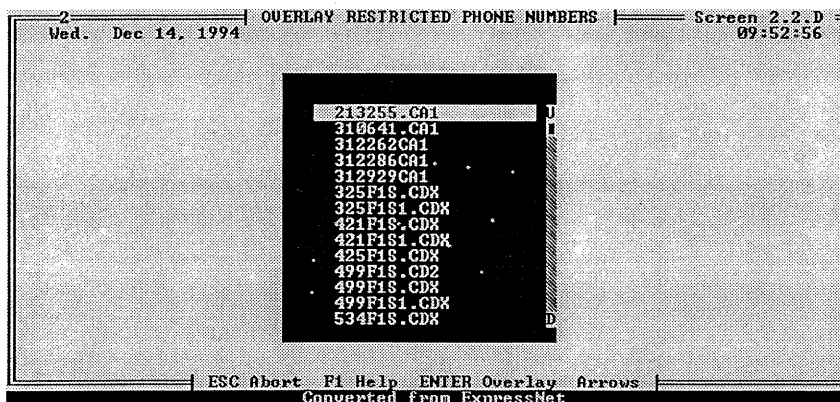
This option is used to copy the listing of restricted phone numbers from one costing record to another. This is useful in situations where the listing of telephone numbers that the phone should deny, is already set up in another costing record and you want to copy the preconfigured list from that other record into this cost record.

Note: This function is only applicable for those phones running DD type firmware.

Upon selection of this option, a list of costing records is displayed. Choose the record that contains the restricted number data that you want to be copied to the record currently in use.

Use the information below to use this function.

- a. Select the following key from the main menu screen: [2] *Call Costing Centers Menu*.
- b. Use the arrow keys to highlight the applicable cost center and then press [ENTER].
- c. Press [D] *Overlay Restricted Phone Numbers*
 - A screen similar to the following is displayed.



- d. Use the arrow keys to highlight the cost record that you want to copy the settings from.
- e. Press [ENTER]
 - This completes the steps necessary to copy the restricted phone number listing from one record to another.

Copying Restricted Phone Number Listing From one Record to Another

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