

## OVERVIEW

**Account Codes** Account Codes are often used for cost allocation of the call or the time the caller was involved on a phone call. The codes are printed on a Station Message Detail Recording (SMDR) printout along with other call details so that all calls are associated with a specific account code.

Account codes may be:

- Forced (required after dialing all or specific phone numbers) or
- Voluntary (optionally entered anytime during calls).

An Account Code is used to provide an ID code for a call (outgoing or terminating) with a trunk line and to record the call in SMDR. With this feature, the user can classify the charge for the call and identify the destination or the type of the call. An account code consists of dials 0 - 9 and \*, and is 4 - 15 digits long. Dial # cannot be used for an account code.

An Account code is either forced or optional and is also either verified or not by the system. Four types of account codes are considered to be included in one system. The application of each type of account code is shown in the following table.

<b>Account Code Types</b>				
	<b>Forced</b>		<b>Voluntary</b>	
	<b>Verifiable</b>	<b>Non-verifiable</b>	<b>Verifiable</b>	<b>Non-verifiable</b>
<b>Outgoing Call</b>	Yes	Yes	Yes	Yes
<b>Incoming Call</b>	No	No	Yes	Yes
<b>Internal Call</b>	No	No	Yes	Yes

In the table above, "Forced" is used for outgoing calls only and "Voluntary" is applicable to any type of call. "Voluntary" may be entered while conversing with the internal destination, although it has no significance to internal calls. If an outgoing call is made within the same context of the call, "voluntary" is applied to that call.

To permit forced input of account codes, it is necessary to input a forced account code when the extension station or the incoming line group that is set to require a forced account code makes a trunk line call from the outgoing line group that is set to require inputting a forced account code. If the originating station, the incoming line group, or the outgoing line group make an outgoing connection, it doesn't require a forced account code (it is unnecessary to input a forced account code).

Whether the forced account code is verified depends on the station or the incoming line group setting. If a wrong account code or a short account code is entered when the forced account code is required and needs to be verified, Reorder Tone is sent to the originator and the call disconnects. When the forced account code is required, whether or not it needs to be verified, if a correct account code is entered, no particular

tone is sent and the call continues. The number of digits of the account code must be correct even if the code doesn't need to be verified.

### Forced Account Code Requirement

Setting of originator		Setting for Outgoing Line Group	
		Forced required	Forced Not-required
Forced required	Verifiable	Correct Account Code must be entered. Otherwise, the call is not allowed.	Account Code is not required by the system.
	Non-Verifiable	Any Account Code in the correct length must be entered.	
Forced not-required	Verifiable		
	Non-Verifiable		

Only when both an originator and an outgoing line group are set as "Forced ACC required," does the system prompt the originator for the Forced Account Code.

The system can set up to four exceptional external numbers for the forced account code including 911. When the head of the dialed External Digits coincides with these exceptional numbers, the system does not require account code even if it is the call requiring the forced account code. As a system option, if the dialed digits do not start with the long distance prefix (1), the system will not enforce the entry of account code to the user. Furthermore, if the system regards the dialed digits as Credit Card Calling according to Credit Card Calling specification, the system will not require the forced account code.

A voluntary account code can be entered at any time during the period from the start of the call to the end. When the station or the incoming line group requires verification of the account code, the account code is verified and the result is indicated by a 1-second success tone (ST) or reorder tone (ROT) and the call continues. If verification is not required, the result is not indicated by the tone and the call continues.

**Input Sequences** Enter the account code in the following sequence.

1. Forced account code

Dial the external digits, send the entry tone, and enter the account code. When the necessary number of digits is dialed, the call is connected. Even if the voluntary account code is entered before the forced account code is requested, the system still requires the forced account code. This is because the system cannot deny the call because of a wrong voluntary account code when it is set to "verifiable."

2. Voluntary account code

While hearing the dial tone (PDT), input the account code access number, the account code key and then the account code. The verification result is indicated by tone if verification is required. Send the dial tone (PDT) again. Otherwise, enter the account code after the account code key while talking. In this case, it is unnecessary to put

the destination in Consultation Hold, and leave the call continued. Or, put the destination in Consultation Hold while talking and enter the account code. In this case, the success tone (ST) or the reorder tone (ROT) is sent for one second and then the call is automatically restored.

When the call is to be recorded in SMDR, the following is in effect.

- Forced account code and verifiable: Only the verified account code is recorded.
- Forced account code and non-verifiable: Only the account code with correct number of digits is recorded.
- Voluntary account code: The account code with correct number of digits is recorded in SMDR each time it is inputted while talking. If more than one account code is entered before the far end answers, the last entry is valid. (See SMDR for details.) If the number of digits is wrong, the account code is not recorded.

The account code is valid for each call. That is, when the account code is entered it is applied until that call is finished. When waiting for an idle trunk such as LCR, Off-hook Camp On, Automatic Call Back feature, or when making an outgoing call again with the Automatic Busy Redial, the account code already entered is held until that call is finished.

#### Verification of Account Code

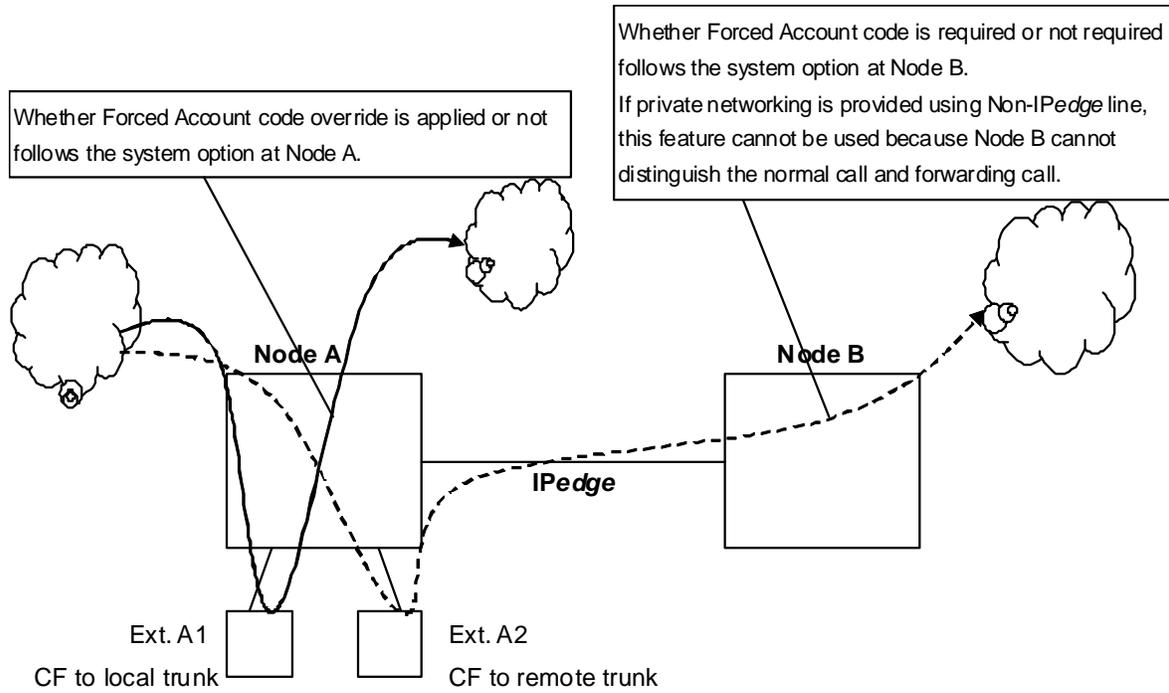
An Account Code has 4 to 15 digits. The head or all of these digits can be verified with the account code that is already listed in the system. At this time, the number of digits to be verified is not necessarily identical to the number of digits that were entered. For example, when verifying the first four digits (1234) of the account code entered as 123456789, the residual five digits (56789) can be any optional numbers. These tail dial numbers, not verified, can be used as a sub-field for identifying the destination.

When the account code is verified, the user can make an outgoing call using the outgoing class (FRL, DRL) that is previously set for each account code. This class can be lower than the originator class (the allowable range is narrower). In this case, reference the originator class.

#### Call Forward External Override Forced Account Code Option

When calls are forwarded to an external destination by Call Forward or System Call Forward, the system requires callers to enter a forced account code if both the forwarding station and the outgoing line group are set to require a forced account code entry. However, if the call forward external override forced account code option is set, the system allows the call to forward externally without requiring the caller to enter a forced account code.

This option is referenced at the outgoing trunk node. The system decides whether the override is applied or not by determining the call type properly. When a call is forwarded to a remote trunk via a private line not using IPedge protocol, a forced account code cannot override because the system doesn't know if it is normal call or a forwarding call (see [Figure 1](#)).



**Figure 1 - Account Code Entry when Call is Forwarded**

**Account Codes**

Account Codes are often used for cost allocation of the call or the time the caller was involved on a phone call. The codes are printed on a Station Message Detail Recording (SMDR) printout along with other call details so that the customer can identify all calls associated with a specific account code.

Account codes may be forced (required after dialing all or specific phone numbers) or voluntary (optionally entered anytime during calls). Codes can be as long as 15 digits and can be verified or non-verified by the system.

**Account Codes**

Account Codes (Forced or Voluntary) can be used for a variety of reasons including billing, tracking, and line restriction applications. Account Codes are assigned in the system as a fixed length (default is six digits) and are recorded by the system, along with the details of the calls, which can be printed on a Station Message Detail Recording (SMDR) report.

Verified/Non-Verified  
Account Codes

Verified Account Codes ensure that the system checks the account code you entered against a list created by the System Administrator. If the code is not in the list, the call will not go through.

Non-Verified Account Codes must be a uniform length but any digits are accepted.

Account Codes and Lengths are set up and managed by the System Administrator.

Forced Account Codes

Some applications require you to enter an Account Code. These Forced Account Codes may be verified or non-verified, depending upon the application, but in either case the caller must enter a code before proceeding.

Dial using Forced Account  
Codes

1. Place a call using the normal method.  
If the call requires an Account Code, a burst of tone (Entry Tone) is heard (after dialing the telephone number) alerting you to enter the Account Code.

2. Enter the account number.

When the number of digits designated for account codes has been entered, the number is checked against the verified list, if chosen, and the call continues normal. If the number of digits entered for the account code is not reached or the verified code does not match, then re-order tone is heard and the call is rejected.

You can bypass Forced Account Code requirements with three emergency numbers, including 911. See your System Administrator for these numbers:

- 1) 911      2) \_\_\_\_\_      3) \_\_\_\_\_

Voluntary Account Codes  
(Verified/Non-Verified)

Voluntary Account Codes are optional. They can be entered during a call and are used for tracking selected calls using Station Message Detail Report (SMDR) call detail recording option.

If the system is set for Verified Account Codes, station users must enter a specific code when entering the Voluntary Account Code(s) or the code is not validated for the SMDR call report. This does not affect the call.

**Voluntary Account Codes**

There are two ways to dial using a Voluntary Account Code:

## Using the Account Code Button

**Note:** This requires a Programmable Feature Button to be programmed on your telephone set with the Account Code feature access code (#46).

1. After accessing a Group Central Office (GCO) line, press the **Account Code** button. LCD telephones prompt you to "ENTER ACCOUNT CODE NOW."
2. Enter the account code digits. The LCD prompt disappears upon entry of the first account code digit. After the account code is entered, the time indicator is restored to the LCD.
3. If your station is set for Verified Account Codes, you hear a confirmation tone when the code is valid. If the code is invalid, you hear two short tones.
4. Enter the Account Code. Your conversation is not interrupted.

## Using Access Codes

**Note:** It's a good idea to warn the other party that you will be disconnected momentarily when you enter the access code. Once the code is entered, you will be connected again.

1. After accessing a GCO line, press **Cnf/Trn**. Once you press **Cnf/Trn**, your call is interrupted; you and the other party cannot hear each other. You will hear feature dial tone.
2. Dial **#46**. LCD telephones prompt you to "ENTER ACCOUNT CODE NOW."
3. Enter the account code digits. The prompt disappears upon entry of the first account code digit. After the account code is entered, the connection is restored and the LCD shows the time.

## PROGRAMMING

The system can be programmed to verify only a portion of an account code (Digit Length tab, Verified Digit Length field). For example, a company may choose to identify its customers with four digit numbers but have an overall account code length of eight digits. Registered Digit Length would be eight and Verified Program Length would be four. Upon entry of the first four verifiable digits and then four random digits to fill out the required length, the call would be processed.

### Account Codes

1. Select **LCR/DR > Account Codes**.
2. Select the IPedge Server from the dropdown.
3. In the Digit Length tab, enter digit length for verified and non-verified digits.

If registered digit length exceeds the verified digit length, the first digits entered by the customer are verified, additional unverified digits are required up to the registered digit length. If the Registered digits and Verified digits match, then the entire code is verified.

4. In the Set Account Code tab, Click on the **New** icon or check the account code to be modified/deleted
5. Enter Verified accounts. (Account length must match Verified Digit length set above) then click on **Save**.

Account codes can be deleted by placing a check to the left of a code and clicking Delete.

6. In the Exception Number tab, four exceptions to the override can be assigned. 911 is assigned by default.
7. Click on **Save** when all exceptions have been added.

### Class of Service

To set the station COS requires Account Code entry (forced account code) to complete an outgoing call.

1. Click on **System > Class of Service**.
2. Select the Server from the dropdown.
3. Select the COS Number.
4. Place a check mark to the right of Forced Account Codes to require stations with this COS to use account codes when making a call. Default is disabled.
5. Place a check mark to the right of Verified Account Codes to have the server verify all or part of the account codes dialed. Default is disabled.
6. Reset to Default sets all values to factory defaults.
7. Click on **Save** or click on **Apply To** if you want to copy the changes to multiple servers.

### Trunk Group

1. Click on **Trunk > trunk Groups**.

2. Select the Server from the dropdown.
3. Check the appropriate outgoing line group.
4. Click on **Edit**.
5. Click Show advance configuration.
6. Select Enable from the Account Code dropdown.
7. Click on **Save**.

Account Code key To program an Account Code key on a station.

1. Click on **Station > Station Assignment**.
2. Check the Station to be programmed.
3. Click on **Edit**.
4. Select the **Key tab**.
5. Right-click the key to be programmed. This will highlight the key and pop-up a screen with button types.
6. Select **Feature > Account Code**.
7. Click on **Save**.

Account Code Digit Length Prerequisite: None.

Accounting Codes need to be specified for the number of digits that are expected to be used for registering a number. This allows dialing within IPedge to proceed automatically once the correct account code is dialed. The following numbers are then dialed digits used for making the phone call.

A second length is provided to allow the number of digits to be used for verification of the code to be less than the total code entered, thus the code may contain two parts, one required and one part optional to the user.

Field	Description
Verified Digit Length	<p>The Verified Digit Length sets the number of leading digits within an account code to be verified against the table built in Verified Account Codes. The Verified Digit Length may be shorter than, or as long as, the Registered Digit Length.</p> <p><b>Note:</b> This field is not changed, when the Verified Account Codes are registered.</p> <p>Possible values: 4~15 (default = 4)</p>
Registered Digit Length	<p>The Registered Digit Length sets the number of digits in all account codes whether voluntary, forced and/or verified.</p> <p><b>Note:</b> The Registered Digit Length must be greater than or equal to the Verified Digit Length.</p> <p>Possible values: 4~15 (default = 6)</p>

Field	Description
Call Forward External Override FAC	<p>Override Forced Account Code to allow Call Forwarding to an external destination.</p> <p>Possible values: Enable - Allows calls to a Forced Account Code station to forward without entering an Account Code.                      Disable - Requires the caller to enter an Account Code before the call will forward. If a valid Account Code is not entered the call will disconnect.</p>

Verified Account Codes      Prerequisite: Set the account code digit length.

This adds or deletes entries in the DR Table associated with the DRL entered.

Field	Description
Verified Account Code	<p>Enter the code to be used as a valid accounting code that the user is expected to dial. The Registered Digit Length must be greater than or equal to the Verified Digit Length.</p> <p>Number of Verified Account Codes per system: 4000                      4~15 digits (default = 6)</p>
DRL	<p>This DRL is applied to a call when this Verified Account Code is entered.                      0~16 (default = 0)</p>
FRL	<p>This FRL is applied when this Verified Account Code is entered.                      0~16 (default = 0)</p>
Network COS	<p>This Network COS is applied when this Verified Account Code is entered.                      1~32 (default = 1)</p>

Exception Numbers for Forced Account Codes      Up to four telephone numbers can be programmed as exceptions to the forced and /or verified account code entries (including 911). These special codes enable numbers to bypass the verification process and proceed unhindered.

Field	Description
Exception Number 1	Enter a Forced Account Code Exception.
Exception Number 2	Up to 4 digits. Exception 1 default = 911
Exception Number 3	Exception 2~4 default = no value
Exception Number 4	One of the assigned exception numbers should be 911. Exception numbers for forced account code fields cannot be duplicated.

**CAPACITY**

The number of verified account codes possible is 4000.

**AVAILABILITY**

An account code can be entered from an extension line (IPT, attendant console) or a trunk line.

Verified Account Codes apply only to trunks in an Outgoing Line Group set as "forced account code required."

Internal line (IPT, attendant console) requires an extension station to have a forced account code.

<b>Station/Line</b>	<b>Descriptions</b>
IPT	Applied
Soft IPT	Applied
IP Attendant	Applied
SIP-Compliant station	Unavailable for forced account code (Cannot enter additional digits while calling.)  Applied for voluntary account code
SLT (via FXS gateway)	Unavailable for forced account code (This cannot enter additional digits while calling.)  Applied for voluntary account code
SIP trunk	Applied for voluntary account code.
IPedge	Applied
ISDN trunk (via FXO gateway)	Unavailable for forced account code if this is the incoming trunk. (Cannot enter additional digits while calling.)  Applied for voluntary account code.
T1 trunk (via FXO gateway)	Unavailable for forced account code if this is the incoming trunk. (Cannot enter additional digits while calling.)  Applied for voluntary account code.

**RESTRICTION**

Restrictions if SIP trunk is incoming trunk:

It is not supported to enter additional digits if the incoming trunk is a SIP trunk and the outgoing trunk requires a forced account code. Thus, the call disconnects before the waiting timer for entering an account code expires if the outgoing trunk requires a forced account code.

**HARDWARE**

No additional hardware is required for this feature.

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**FEATURE INTERACTION**

Automatic Busy Redial	An Account code that is successfully entered (or associated Class of Service in case of verifiable account code) is valid to the retry calls by Automatic Busy Redial feature.
Automatic Call Back	An Account code that is successfully entered (or associated Class of Service in case of verifiable account code) is valid to the retry calls by Automatic Call Back feature.
Basic Survivability	It is necessary to set the same programming setting for both primary and secondary servers.
Call Forward	<p>When a call is forwarded to the public trunk by the Call Forward feature, the originator is required to enter a forced Account Code.</p> <p>The Class Of Service of the forwarding party is used to examine if an Account Code is required. Depending on the usage, the originator may encounter an unexpected situation that requires entry of a forced Account Code. Thus, it is necessary to be careful in setting a Call Forward destination as an external number which requires an Account Code.</p>
Call History	This is applied the same as an ordinal call.
Cancel Button	Entering an Account Code is not canceled even if the Cancel button is pressed while entering the Account Code. Pressing the Cancel button is ignored.
Class Of Service	<p>When an Account Code is verified, it is possible to originate the outgoing call with the outgoing class (FRL, DRL) which was set previously. However, the originator's outgoing class is referenced if the outgoing trunk's class is not associated with the Account Code.</p> <p>If the class's previously associated account code is lower than the originator's outgoing class (the allowable range is narrower), the originator's outgoing class is referenced. (This function is switchable by programming.)</p> <p>Whether the originator requires a forced Account Code or not depends on the originator's Class Of Service. (Need to set the seized trunk.)</p> <p>Whether the entered Account Code is verified or not depends on the originator's Class Of Service (Whether verified account code is required or not).</p>

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Class Of Service Override	When Class of Service Override is used and the combination of the station used for calling and the external line needs a Forced Account Code, the system demands the Account Code after the external line number. When the dialed Account Code is verifiable and is associated with the Class of Service, whether the service is available is determined by taking the logical OR of Class of Services associated with either Class of Service Override Code or Account Code. When the outgoing call to a certain destination is allowed by any Class of Service, the call is initiated.
Conferencing	When the conference master calls the participant, the outgoing call including the Account Code can be invoked if the digits, including voluntary Account Code, are specified.
Credit Card Calling	When the system recognizes the dialed external digits as Credit Card Calling, the system does not request the forced account code.
Enhanced 911 (E911 Interface)	A Forced Account Code is not required when an E911 call is originating. Entering an Account Code during E911 call origination is not supported.
Group CO Button	The Account Code feature is applied even if the trunk's outgoing call is made using the group CO button.
Least Cost Routing	When a station set as "forced account code required" makes an outgoing call with the Least Cost Routing feature, whether an outgoing call is seized or not, if at least one of the object Outgoing Line Groups requires the forced account code, the entry tone is sent after the external line number is dialed. Then you input the account code. When a call requires a forced account code, a line is seized after the forced account code is inputted.
Line Group	When an external line participates in talking while the outgoing connection makes an outgoing call during conversation, it cannot be a call that requires a forced account code.
Off-hook Camp On	The system keeps the Account code during Off-hook Camp On and conversation with the party camped on, provided Voluntary Account Code or Verified Account Code is used for the trunk outgoing call.
One Touch Button	Since the inter digit timer stops during the Stop Function so that the inter digit timer expiration does not occur, depending on the programming, there may be cases where the mode does not enter Account Code mode after entering the outgoing trunk digits. In such cases, either set the number of established trunk access digits appropriately or enter "#" at the end of the trunk's outgoing digits.

Outgoing Call	The system provides the method to enter an account code if the trunk requires it. A Forced Account Code must be entered before seizing the trunk.
Pooled Line Button	The Account Code feature is applied even if the trunk's outgoing call is made using the Pool button.
Private Networking Over IP	<p>When a forced Account Code is requested while making a trunk call from a remote node, after connecting to a remote node using the Network Feature Access Code, the account code is collected at the remote node and verified as needed. When the forced account code is requested at a local node (e.g., in case of LCR) or a certain account is entered, the Account Code is collected at the local node and collated when needed.</p> <p>When the Account Code is collected at the local node where the originating party belongs and the class of service is changed, the changed class of service is notified to the specified remote node as Traveling Class Mark.</p> <p>When the Account Code is collected at a remote node and the class of service is changed, the changed class of service is not notified to the local node where the originating party belongs.</p>
Repeat Last Number Dialed	The Account Code feature is applied for an originating call by using the Redial feature, which is the same as ordinal originating.
SIP Extension	<p>There may be cases when a SIP station cannot send an Account Code correctly if it originates the call by using the trunk with Account Code required during originating. (PPR: CTX520-0154) In such cases, Programming "SIP inband tone" must be set as enabled. It may be possible to send DTMF when early media is received.</p> <p>Entering a forced Account Code during originating is not supported; the call will be disconnected if SIP Inband mode is disabled.</p> <p>It is possible to include a forced and/or voluntary Account Code in originating digits, or by placing the call on consultation hold.</p>
SIP Trunking	<p>A Voluntary Account code can be used while hearing a DT if making a SIP trunk call.</p> <p>If an incoming party is a SIP station, SIP trunk, or stations or trunks connected to a gateway by SIP protocol, and the outgoing party is a SIP trunk, a forced Account Code cannot be entered, IPedge Net disconnects the incoming call. If an incoming call comes from a Loop trunk without release supervision, IPedge Net cannot disconnect the call so that the administrator must not set an external number specifying the trunk with a forced Account Code as the destination.</p>

SMDR	Depending on the specification of SMDR, an account code may or may not be output.
Speed Dial (System/ Station)	It is required to enter a forced Account Code the same as an ordinal call for an outgoing call if the outgoing call to a public trunk is invoked by using Speed Dial.
System Call Forward	The forwarding party's Class Of Service is used to examine whether an Account code is required for the call that is forwarded to the public trunk by the System Call Forward feature. Depending on the usage, the originator may encounter an unexpected situation that requires entry of a forced Account Code. Thus, it is necessary to be careful activating a System Call Forward destination as an external number, which requires an Account Code.
Toll Restriction	<p>It is possible to originate an outgoing call to a public trunk by using the outgoing class (FRL, DRL) preset per Account Code when the Account Code is verified.</p> <p>The account code DRL is used to determine whether toll restriction is required or not when DRL is changed by entering a verified Account Code.</p>