Ordering ISDN Service for the Pipeline 25 and 75

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What is in this document?

This document provides the information you need to order ISDN service from your telephone company. It also provides information that the telephone company needs to provision (configure) the ISDN telephone line for the Pipeline. This information applies only to ISDN Basic Rate Interface (BRI) telephone service in North America.

The latest version of this document is available from the Ascend Communications World Wide Web site; see

`http://www.ascend.com/techdocs/isdnlinep.html`

for the HTML version or

`http://www.ascend.com/techdocs/isdnlinep.pdf`

for a version in Adobe Acrobat format.

For information on ordering ISDN BRI service in North America for other Ascend products, see the document "Ordering ISDN BRI Service for Ascend Products." This document is also available from the Ascend Communications World Wide Web site; see

`http://www.ascend.com/techdocs/brilinep.html`

for the HTML version or

`http://www.ascend.com/techdocs/brilinep.pdf`

for a version in Adobe Acrobat format.

For information on ordering Primary Rate Interface (PRI) ISDN service, see the manuals for Ascend products that use this service.

Note: Use the information in this document in place of any BRI provisioning information in the manuals for your Ascend product.

This document contains the following sections:

- Ordering ISDN service
- Provisioning the AT&T 5ESS
- Provisioning the Northern Telecom DMS-100
- Service profile identifiers (SPIDs)

Ordering ISDN service

To order ISDN service for your Pipeline, follow these steps:

1. Call your telephone company's ISDN ordering center and ask what type of switch the telephone company uses for your area.

   In most cases, the switch will be an AT&T 5ESS or a Northern Telecom DMS-100.

2. Ask what type of ISDN service is available to you.

   If the switch for your area is an AT&T 5ESS, this will be National ISDN-1 (NI-1), AT&T Custom Multipoint, or AT&T Custom Point-to-Point. If the switch for your area is a Northern Telecom DMS-100, this will be National ISDN-1 (NI-1) or DMS-100 Custom.

3. Read the section in this document that applies to your switch and service type.

4. Place the order.

   Request 2 ISDN telephone numbers and 2 service profile identifiers (SPIDs) for your ISDN line if they are available for your ISDN service.

5. If the telephone company does not already have the correct provisioning settings for the Pipeline, fax or mail them the provisioning information for your switch and service type that is included in this document.

6. When the telephone company installs your ISDN line, obtain the following information:
   - ISDN switch type
   - ISDN telephone numbers
   - ISDN Service Profile Identifiers (SPIDs)

Provisioning the AT&T 5ESS

The AT&T 5ESS switch supports the following types of ISDN service:

- National ISDN-1 (NI-1)
- AT&T Custom Multipoint
- AT&T Custom Point-to-Point

If your telephone company uses an AT&T 5ESS switch for your area and offers more than one type of ISDN service, National ISDN-1 is normally the best choice, because it lets you use more of the features of the Pipeline. AT&T Custom Multipoint is the next best choice. You should choose AT&T Custom Point-to-Point service only if no other ISDN service is available in your area. For information on the limitations of AT&T Custom Multipoint and AT&T Custom Point-to-Point services, see "Special issues for AT&T Multipoint and Point-to-Point services" later in this document.

The tables in this section list the proper provisioning settings for each type of service.

Note: Local rules may prevent your telephone company from offering certain features. Because of this, the telephone company may not use all the provisioning settings listed.

National ISDN-1 service from an AT&T 5ESS switch

The following table lists the provisioning settings for National ISDN-1 (NI-1) service provided by an AT&T 5ESS switch. Your local telephone company can configure your ISDN line using

the information shown in the following table or by using the Bellcore S1 translation settings. Some features are set for each of the directory numbers (telephone numbers) for your ISDN service.

Provisioning Feature	Setting
Term Type	A
Circuit Switched Voice (CSV)	1
CSV Additional Call Offering (ACO)	Unrestricted
CSV limit	2
CSV Notification Busy (NB) limit	1
Circuit Switched Data (CSD)	2
CSD limit	2
CSD Notification Busy (NB) limit	1
Electronic Key Telephone System (EKTS)	No
Feature button assignments	6=Conference 7=Transfer 8=Drop

Custom Multipoint service from an AT&T 5ESS switch

The following table lists the provisioning settings for AT&T Custom Multipoint service provided by an AT&T 5ESS switch. Some features are set for each of the directory numbers (telephone numbers) for your ISDN service.

Provisioning Feature	Setting
Term Type	A
Call Appearances (CA)	1
CA Quantity	1
Circuit Switched Voice (CSV)	1 per Directory Number
Circuit Switched Data (CSD)	2 per Directory Number

Custom Point-to-Point service from an AT&T 5ESS switch

The following table lists the provisioning settings for AT&T Custom Point-to-Point service provided by an AT&T 5ESS switch. Some features are set for each of the directory numbers (telephone numbers) for your ISDN service.

Provisioning Feature	Setting
Term Type	A
Call Appearances (CA)	1
CA Quantity	1
Circuit Switched Voice (CSV)	1
Circuit Switched Data (CSD)	2

Special issues for AT&T Multipoint and Point-to-Point services

Regardless of the type of ISDN service you have, you cannot receive a voice call when there are data calls to two different sites. However, AT&T Custom Multipoint service and AT&T Custom Point-to-Point service have an additional limitation: if you have one of these services, you cannot receive a voice call when both B channels are used for a data call to the same site. Outgoing calls are not affected by this limitation, because they are controlled by the Pipeline rather than by the switch. If you try to make an outgoing call when both B channels are used for a data call to the same site, the Pipeline can borrow one of the B channels for the voice call.

Provisioning the Northern Telecom DMS-100

The Northern Telecom DMS-100 supports the following types of ISDN service:

- National ISDN-1 (NI-1)
- DMS-100 Custom

The tables in this section list the proper provisioning settings for each type of service.

Note: Local rules may prevent your telephone company from offering certain features. Because of this, the telephone company may not use all the provisioning settings listed.

National ISDN-1 service from a Northern Telecom DMS-100 switch

The following table lists the provisioning settings for National ISDN-1 (NI-1) service provided by a Northern Telecom DMS-100 switch. Your local telephone company can configure your ISDN line using the information shown in the following table or by using the Bellcore S1 translation settings. Some features are set for each of the directory numbers (telephone numbers) for your ISDN service.

Provisioning Feature	Setting
Signaling	Functional
Protocol version control (PVC)	2 (National ISDN-1)
TEI assignment	Dynamic

Provisioning Feature	Setting
Maximum number of keys (maxkeys)	9 (although any number from 9 to 64 is OK)*
Release key	No
Ringing indicator	No
Electronic Key Telephone System (EKTS)	Yes (or No if Additional Call Offering =Yes)**
Additional Call Offering (ACOU)	Yes (or No if Electronic Key Telephone Service=Yes)**
Number of call appearances	2
Notification Busy Limit	1***
Feature button assignments	6=Conference 7=Transfer 8=Drop

*If you will not use the Conference, Drop, or Transfer features of the Pipeline, this can be any number from 1 to 64.

**Either Electronic Key Telephone System (EKTS) or Additional Call Offering (ACO) must be Yes, but not both. Only one of these two settings can be set to Yes.

***The Notification Busy Limit setting is needed only if Additional Call Offering (ACO) is Yes.

DMS-100 Custom service from a Northern Telecom DMS-100 switch

The following table lists the provisioning settings for DMS-100 Custom service provided by a Northern Telecom DMS-100 switch. Some features are set for each of the directory numbers (telephone numbers) for your ISDN service.

Provisioning Feature	Setting
Signaling	Functional
Protocol version control (PVC)	1 (Custom)
TEI assignment	Dynamic
Maximum number of keys (maxkeys)	9 (although any number from 9 to 64 is OK)*
Release key	No
Ringing indicator	No
Electronic Key Telephone System (EKTS)	Yes (or No if Additional Call Offering =Yes)**

Provisioning Feature	Setting
Additional Call Offering (ACOU)	Yes (or No if Electronic Key Telephone Service=Yes)**
Number of call appearances	2
Notification Busy Limit	1***
Feature button assignments	6=Conference 7=Transfer 8=Drop

*If you will not use the Conference, Drop, or Transfer features of the Pipeline, this can be any number from 1 to 64.

**Either Electronic Key Telephone System (EKTS) or Additional Call Offering (ACO) must be Yes, but not both. Only one of these two settings can be set to Yes.

***The Notification Busy Limit setting is needed only if Additional Call Offering (ACO) is Yes.

Service profile identifiers (SPIDs)

A Service Profile Identifier (SPID) is a number that identifies ISDN equipment attached to your ISDN line. Depending on the type of ISDN service you have, there are one, two, or no SPIDs. When you order ISDN service, the telephone company should give you the necessary SPID or SPIDs, which you then use when configuring your Pipeline.

Note: You normally don't need to know about SPIDs; you simply enter the numbers when configuring the Pipeline. If, however, the telephone company does not provide the necessary SPIDs or provides SPIDs that are incorrect, the information in the following sections can help you explain to the telephone company what you need.

About SPID formats

A SPID is normally derived from a telephone number for the ISDN BRI line. It may or may not include the area code, and it may have a special prefix and/or suffix. The SPID formats used by most telephone companies are described in the following sections.

Generic SPIDs for NI-1 and NI-2 service

A generic SPID format for National ISDN-1 (NI-1) and National ISDN-2 (NI-2) service is used by some telephone companies. The format for these generic SPIDs, which is the same for all switches, is as follows:

`aaannnnnnnsstt`

- `aaa` is the 3-digit area code and `nnnnnnn` is the 7-digit telephone number for the ISDN BRI line.
- `ss` is the Sharing Terminal Identifier (ID), which a two-digit number from 01 to 32. These two digits are normally 01.

- `tt` is a 2-digit code Terminal ID (TID), which is a two-digit number from 01 to 08. These two digits are normally 01.

For example, if the telephone company assigns the telephone numbers `510-769-6001` and `510-769-6002` to the ISDN BRI line, and the IDs and TIDs for both SPIDs are all `01`, the SPIDs are `51076960010101` and `51076960020101`.

SPIDs for an AT&T 5ESS switch

For National ISDN-1 (NI-1) service from an AT&T 5ESS switch, SPIDs are normally in this format:

`01nnnnnnn0tt`

- `nnnnnnn` is a 7-digit telephone number (not including the area code) of the ISDN BRI line.
- `tt` is a 2-digit Terminal ID code (TID) from `00` to `62`. If you have a choice, use `00` for this code.

For example, if the telephone company assigns the telephone numbers `769-6001` and `769-6002` to the ISDN BRI line, and `00` is the TID for both numbers, the SPIDs are `017696001000` and `017696002000`.

For AT&T Custom Multipoint service, SPIDs are normally in this format:

`01nnnnnnn0`

- `nnnnnnn` is a 7-digit telephone number (not including the area code) of the ISDN BRI line.

For example, if the telephone company assigns the telephone numbers `769-6001` and `769-6002` to the ISDN BRI line, the SPIDs are `0176960010` and `0176960020`.

There are no SPIDs for AT&T Custom Point-to-Point service.

SPIDs for a Northern Telecom DMS-100 switch

For National ISDN-1 (NI-1) service from a Northern Telecom DMS-100 switch, SPIDs are normally in this format:

`aaannnnnnnsstt`

- `aaa` is the 3-digit area code and `nnnnnn` is the 7-digit telephone number for the ISDN BRI line.
- `ss` is an optional SPID suffix. If present, it is either one digit or two digits. If it is one digit, it must be one of these values:
  - `0`, `1`, or `2`

  A different digit is normally used for each of the two SPIDs for the ISDN line.

  If it is two digits, it must be one of the following two-digit pairs:
  - `00`, `01`, or `02`

  A different pair is normally used for each of the two SPIDs for the ISDN line.
- `tt` is a 2-digit code from `00` to `62`. If you have a choice, use `00` for this code.

For example, if the telephone company assigns the telephone numbers `769-6001` and `769-6002` to the ISDN BRI line, `01` and `02` are the SPID suffixes, and `00` is the two-digit code for both SPIDs, the SPIDs are `51076960010100` and `51076960020200`.

For DMS-100 Custom service from a Northern Telecom DMS-100 switch, SPIDs are normally in this format:

`aaannnnnnss`

- `aaa` is the 3-digit area code and `nnnnnn` is the 7-digit telephone number of the ISDN line.
- `ss` is an optional SPID suffix. If present, it is either one digit or two digits. If it is one digit, it must be one of these values:
  - `0`, `1`, or `2`

  A different digit is normally used for each of the two SPIDs for the ISDN line.

  If it is two digits, it must be one of the following two-digit pairs:
  - `00`, `01`, or `02`

  A different pair is normally used for each of the two SPIDs for the ISDN line.

For example, if the telephone company assigns the telephone numbers `769-6001` and `769-6002` to the ISDN BRI line, and `00` and `01` are the SPID suffixes, the SPIDs are `510555121200` and `510555121201`.