# ISDN

## Digital Set User's Guide

## SRS-2100

## National ISDN

**Please click on the individual chapter titles highlighted in blue in the Table of Contents (pages 12 through 14) to view specific chapters.**

**Fujitsu**

*Delivering on the promise of ISDN*

Fujitsu Network Switching of America, Inc.
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U.S.A.

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## Warning:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference with radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference with radio or television reception, which can be determined by unplugging the equipment to turn it off, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna of the affected receiver.
- Increase the separation between the equipment and the affected receiver.
- Connect the equipment to an outlet on a circuit different from the one to which the affected receiver is connected.
- Consult a dealer or experienced radio or television technician for help.

**Cable Notice:** The use of standard shielded cables to connect external data devices is required to ensure compliance with FCC Part 15 Rules for Class B devices.

## FCC Notice

This equipment complies with Part 68 of the FCC Rules. The FCC Part 68 Label is located on the bottom of the enclosure. This label contains the FCC Registration Number for this equipment. If requested, the FCC Registration Number and the following information must be provided to your telephone company.

If this telephone equipment causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuous of service may be required. But, if advance notice is not practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

The telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the proper functioning of your equipment. If changes are made, you will be notified in advance to order to make necessary modifications to maintain uninterrupted service.

This equipment may not be used on coin service provided by the telephone company. Connection to party lines is subject to state tariffs.

Repairs to this equipment can only be made by the manufacturer or its authorized agents. If this equipment is causing harm to the telephone network, the telephone company may request that it be unplugged from the modular outlet until the problem has been corrected. To obtain repair service or warranty information, contact:

Technical Assistance Center
Fujitsu Network Communications, Inc.
4403 Bland Road, Somerset Park
Raleigh, NC 27609
Phone: (919) 790-2211 or 800-228-4736

## FCC Warning

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

# PREFACE

This guide provides descriptions and procedures for using Fujitsu's Digital Set, the SRS-2100, when it is attached to a switch supporting National ISDN (NISDN).

This guide is for anyone interested in using the SRS-2100 to gain the benefits of the combined voice and data network capabilities of ISDN technology.

Read the sections that follow for information on:

- Using this guide efficiently
- Special features of your ISDN telephone
- Background on ISDN technology

## *USING THIS GUIDE*

This section can help you make the most efficient use of this guide. The section describes the overall organization, aids to finding information, and conventions.

### *Organization*

This guide is organized in the following chapters:

| Chapter | Content |
|---|---|
| Chapter 1 | Has illustrations to introduce the physical layout of the SRS-2100. It also describes the features and functions of its components. |
| Chapter 2 | Describes the use of the basic voice services, such as placing and receiving calls and using the speaker/microphone (handsfree mode). It also explains how to use one-touch calling, the unanswered-call feature, and the function buttons SPEAKER, MIC-OFF, REDIAL, HOLD, CONFERENCE, TRANSFER, and DROP. |

| Chapter | Content |
|---|---|
| Chapter 3 | Explains how to set up SRS-2100 features such as one-touch buttons, unanswered call logging, and the calendar/clock. |
| Chapter 4 | Explains how to use the optional data terminal adapter to place or receive data calls. |

### *Conventions and Layout*

In procedures, the required actions are noted, with the buttons you press in capital letters, such as HOLD or REDIAL.

Other important words, such as messages that appear on the display, also appear in CAPITAL LETTERS.

Actions that pertain to only a specific phone system have the following symbols inserted. These symbols appear in the section heading when the information applies entirely to that system, or they appear adjacent to a command where only a specific action applies to that system.

**|☎5ESS|** Required for Lucent Systems.

**|☎DMS-100|** Required for Nortel Systems.

**|☎EWSD|** Required for Siemens Systems.

**Note:** 5ESS, DMS-100, and EWSD are registered trademarks of Lucent, Nortel, and Siemens Telecom Networks respectively.

Menus or screen displays appear as text in boxes.

```
. . . . . .
. . . . . .
12:55PM      SATURDAY      May 10
UNA-LIST     DATA     CLEAR     DIR-LIST
```

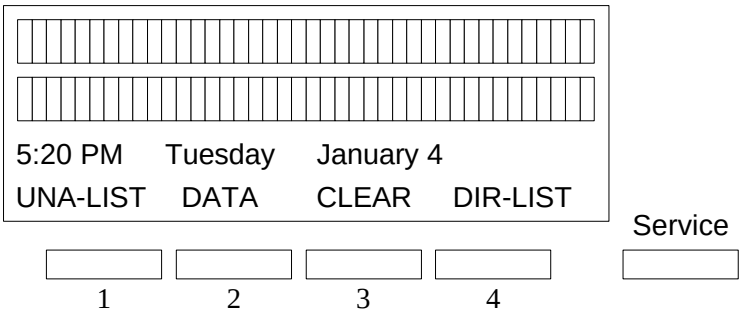
### *Helpful Tips About Your SRS-2100*

Because ISDN technology is new, some features of your SRS-2100 may be unfamiliar.

#### *Softkeys*

Softkeys are a way of simplifying the phone and still supporting the richness of ISDN features. These keys assume different functions depending on the feature you are using, thus avoiding the need for a large number of permanent function keys.

The SRS-2100 softkeys are the four keys located just below the display. When you press the SERVICE button to their right, the display changes and REGISTER appears over the fourth softkey.




**Standard Softkey Layout**

### *Timeouts*

When you are setting up local features as described in Chapter 3, some of the data entry displays have built-in timers. If you do not enter information within fifteen seconds, the display reverts to the menu for selecting the feature you were setting up. You must reselect the feature and start again.

### *Starting Over*

If for any reason you become confused while setting up a local feature in menu mode, you can always press REGISTER, softkey number 4, to return to the setup menus and start over.

### *Phone Operation*

The following two features of ISDN phones may be different from what you are used to:

Dialing 9. When you dial for an outside line (usually by pressing 9), you do not hear a pause and a second dial tone. You can begin dialing the telephone number immediately.

Onhook dialing. You can dial a number before you get a dial tone. The number you dial appears on the display and remains there for three minutes. When you lift the handset and press an idle Call Appearance button, or press the SPEAKER button for handsfree mode, the phone initiates the call automatically.

## *ISDN CONCEPTS: INTEGRATED VOICE AND DATA*

ISDN stands for Integrated Services Digital Network, which provides many voice and communication features. (The SRS-2100 data features, available with the voice/data version are described in Chapter 4. For more information, please see the *Data User's Guide*.)

The basic ISDN service provides two 64,000 bits per second "B" channels for voice or data communications. Each B-channel can support circuit-switched or packet-switched data services. There is also one "D" channel, at 16,000 bits per second, for network signaling and packet-switched data service. The combination is often referred to as "2B+D", or the Basic Rate Interface (BRI).

### *Voice Features*

The voice features of an ISDN telephone have several advantages:

- They allow your telephone to **handle multiple calls** simultaneously, receiving calls while keeping others on hold.
- They also permit a call coming in to a single directory number to **ring more than one** physical telephone. This feature facilitates call handling within a group.
- They provide **easy-to-use-access** to powerful features such as call conferencing and call transfer, to enhance your productivity.
- They allow the incoming directory number to be displayed if it is available.

### *Data Features*

The voice/data version of the SRS-2100 includes the following data capabilities:

- Communication on the D-channel using packet switching with an asynchronous RS-232 terminal at terminal speeds up to 19,200 bits per second
- Communication on the B-channel using circuit switching with an asynchronous RS-232C terminal at speeds up to 38,400 bits per second
- Communications on the B-channel using circuit switching via an RS-232 connector for synchronous data transmission at speeds of 56,000 or 64,000 bits per second.

  The supporting network data features must also be assigned to the line.

### *Multipoint Configurations*

In older ISDN installations, most phone connections are point-to-point. Each phone in a point-to-point configuration requires a separate line into your building. However, most service providers now offer multipoint configurations as a subscription option. In a multipoint configuration, up to eight devices (digital sets and/or terminal adapters) can be connected to a single line. For example, your company could connect two digital sets and two data terminal adapters to a single line. The two digital sets could each use one B-channel for voice communication, and the data terminal adapters could use the D-channel for packet-switched data calls.

### *SPID*

For your SRS-2100 to work, it must have a valid Service Profile Identifier (SPID). (If your SRS-2100 is the voice/data version, you need two SPIDs, one for voice and one for data.) The SPID number is usually entered when the SRS-2100 is installed. So if your digital set already has a SPID number, you don't have to reenter it. If you do need to enter a SPID number, you can find out what it should be from your System Administrator or service provider. For the procedure to enter a SPID, see Appendix B.

**CAUTION:** Once the SPID number is entered, don't change it unless your System Administrator tells you to do so. Your SRS-2100 won't work without the correct SPID number. If the SPID number is wrong, the set displays the message SPID NG. (The message is redisplayed a second time if the data terminal adapter SPID is also invalid.) Enter the correct SPID number and you'll get the normal dial tone.

### *System Administrator*

ISDN is very flexible in allowing businesses to customize how it works to meet their specific needs. This User's Guide refers you to your System Administrator if a customized option may have been chosen during installation.

Your System Administrator may be your phone company representative or a member of your telecommunications department.

### *Call Appearance Preference*

The SRS-2100 allows you to specify which Call Appearance button it selects when you go offhook (lift the receiver or press SPEAKER). You have four choices:

- Primary line preference. The SRS-2100 always selects button number 1, the Call Appearance associated with your primary directory number.
- No preference. The SRS-2100 does not automatically select any Call Appearance button when you go offhook. You must press the button you wish to be connected to either before or after you go offhook.
- Ringing line preference. The SRS-2100 selects the Call Appearance button that is ringing with an incoming call. You are immediately connected to the call.
- Idle preference. The SRS-2100 selects an idle Call Appearance.

For more details about Call Appearance preference, see "Selecting CA Preference," in Chapter 3.

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