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Issue 1
January 1995

DEFINITY[®] Communications System

Generic 3 Version 2

Implementation

Addendum 2

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Part 68: Answer-Supervision Signaling. Allowing this equipment to be operated in a manner that does not provide proper answer-supervision signaling is in violation of Part 68 rules. This equipment returns answer-supervision signals to the public switched network when:

- Answered by the called station
- Answered by the attendant
- Routed to a recorded announcement that can be administered by the CPE user

This equipment returns answer-supervision signals on all DID calls forwarded back to the public switched telephone network. Permissible exceptions are:

- A call is unanswered
- A busy tone is received
- A reorder tone is received

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AT&T Business Communications Systems

subject: **Addendum (555-230-653ADD2) for
DEFINITY Communications System Generic 3 V2
Implementation, Issue 1
(555-230-653)**

date: **January 1995**

from: **AT&T**

The packet of addendum information enclosed with this cover memo includes any necessary replacement, supplement, and errata pages to *DEFINITY Communications System Generic 3 V2 Implementation*. It contains both new information and information from any previous addenda to the document. By incorporating the addendum as instructed on the next page, you can update your copy of the document to be current with the latest issue of the DEFINITY® G3V3 release 3.0 Communications System.

When you have incorporated the addendum, be sure to insert the addendum description into your document behind the title page, where it will serve as a record that the document has been updated.

ADDENDUM DESCRIPTION

Addendum 2 includes necessary replacement, supplement, and errata pages to *DEFINITY Communications System Generic 3 V2 Implementation* (AT&T 555-230-653 Issue 1), dated July 1993. Incorporate the addendum as instructed below to update your copy of the document to be current with the latest issue of the DEFINITY® G3V3 release 3.0 Communications System. Then insert this addendum description into the document behind the title page and before the table of contents. It will serve as a record that your document has been addended.

Nature of the Document Changes

The general nature of the changes to your document is as follows:

- The replacement pages contain changes and additions to DS1 Trunk Service implementation for G3V3 E-ICSU.

Nature of the Addenda Pages

The addenda pages in this package maybe of up to three types:

- Replacement pages contain new or changed information. They are to replace existing pages in your document
- Supplement pages contain all new information. They are to be added to your document.
- Errata pages contain lists or descriptions of corrections to be noted by hand in your document.

Instructions for Handling Addenda Pages

Instructions for handling the addenda pages areas follows:

Chapter	Type of Change	Pages Affected	Instructions
Chapter 4	Replacement Pages	4-63 to 4-72d	Replace the pages in the existing Implementation manual with the new pages of the same page number.

Digit Absorption

DIGIT ABSORPTION

Page 1 of 1

List Number: ___

ABSORPTION TREATMENT INFORMATION (All selections must be from same group)

	Choice	Meaning
Group I.	A	Digit not absorbed.
	B	Digit absorbed repeatedly.
	c	Digit absorbed once with no further absorption.
Group II.	A	Digit not absorbed.
	D	Digit absorbed only if it is the first digit.
	E	Digit absorbed only if it is the second digit and the first digit was already absorbed.
	F	Digit absorbed only if it is the first or second digit.

ABSORPTION TREATMENT ASSIGNMENT (Select treatment (A-F) for each digit below)

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

Screen 4-12 Digit Absorption Form (Page 1 of 1)

DS1 Trunk Service

The maximum number of DS1 circuit packs (TN722, TN722B, TN767 [any suffix], TN464B, or TN464 [any suffix]) that may be administered in the system will vary depending on system configuration. Refer to the Capacity Table in Appendix C for maximum values.

Hardware Environment

DS1 Circuit Packs Scope of Usage

Both domestic and international DS1 circuit packs are supported in G3V3. These boards include those that provide both 24- and 32-channel operation.

Refer to Appendix B, *Application Notes*, for a complete listing of DS1 circuit packs and country support.

DS1 Circuit Pack Usage

- The TN722 and TN722B DS1 trunks may only be used for data and voice applications in non-ISDN capacity.
- The TN767 24-channel DS1 may be used for data and voice in non-ISDN and ISDN applications.
- The TN464B DS1 trunks may be used for data and voice in non-ISDN and ISDN 32-channel applications.
- TN464C (and later versions) DS1 trunks may be used for data and voice in non-ISDN and ISDN 24- and 32-channel applications.

Wideband Switching, and its associated Roll About Video feature, require the use of the TN464C (or later release) UDS1 circuit pack

Roll About Video allows the sharing of video equipment between offices using wideband video rates. Two or more rooms are provisioned for video connectivity to the Switch but have no video equipment. A shared portable video unit is simply rolled into any of these rooms, plugged into the wall jack, and is operational.

Signaling Parameters

The following table lists some of the operational and signaling parameters for each DS1 interface. This is not a complete list of all the parameters; this is a list of ones that when grouped together make it easier to understand the DS1's capabilities and administrable choices. This table reflects the enforced combinations of these parameters.

DS1 Circuit Packs					
Board Code	Allowed Trunk Members	Bit Rate	Companding	Signaling Mode	Trunk Type [1]
TN722	1-23 1-24	1.544	mulaw	common-than robbed-bit	Tie, DMI-BOS, CO[2] Tie
TN722B	1-23 1-24	1.544	mulaw	common-than robbed-bit	Tie, DMI-BOS, CO[2] CO/DID/Tie
TN767D,E[6]	1-23 1-24 1-23 (24th is D-chan) 1-24	1.544	mulaw	common-than robbed-bit isdn-pri[5] isdn-ext[5]	Tie, DMI-BOS, CO[2] CO/DID/Tie ISDN ISDN
TN464B[3]	1-30 1-31 1-31	2.048	alaw/mulaw[4] alaw	CAS isdn-pri isdn-ext	CO/DID/Tie ISDN ISDN
TN464C,D,E,F[6]	1-23 1-24	1.544	mulaw	common-chan robbed-bit	Tie, DMI-BOS, CO[2] CO/DID/Tie
	1-23 (24th is D-chan)	1.544[5]	alaw/mulaw	isdn-pri	ISDN
	1-31 (16th is D-chan)	2.048			
	1-24	1.544[5]	alaw/mulaw	isdn-ext	ISDN
	1-31 1-30	2.048 2.048	alaw/mulaw	CAS	CO/DID/Tie

NOTES:

- CO is any of the following trunk types: co, fx, wats.
Tie is any of the following trunk types: access, tie, tandem, rlt, aplt.
- Common-Chan DS1 boards used in CO bunk groups must have a Trunk type of "auto/..."
- The TN464B's Companding is based upon the system level commanding administered by the user.
- ISDN-PRI calls are not guaranteed to work for the TN464B if the system's Commanding is set to mu-law.
- Mixed Mode signaling is allowed. This means that if the Signaling Mode is "isdn-ext", or "isdn-pri", a port from that circuit pack maybe used in any trunk group that allows "robbed-bit" signaling.
- Integrated CSU functionality is only available with the TN767D and TN464E or later suffix DS1 Circuit boards. Enhanced ICSU functionality is only available with the TN767E and TN464F or later suffix DS1 circuit boards.

The DS1 interface board TN767 provides 24 ports that correspond to the 24 DS0 channels. A DS1 "frame" contains 193 bits (8 bits per channel times 24 channels plus 1 frame bit). The DS1 frame rate is the same as the switch frame rate, 8,000 frames per second.

The TN722, TN722B and TN767 allow all or a subset of the following signaling options. Each signaling option is described below.

- In the "common-channel" signaling mode, 23 channels are available for voice or data, including AVD and DMI services, and signaling information for all channels is multiplexed on the 24th-channel.
- In the "robbed-bit" mode, all 24 channels may be used for voice, and the least significant bit of the eight-bit channel codes is "robbed" in every sixth frame to transmit signaling status for the corresponding channels. This is known as in-band signaling.

- In the "isdn-pri" signaling mode, each DS1 circuit pack provides a maximum of 23 trunks (channels). Trunks of either Robbed Bit signaling or ISDN-PRI can be assigned to the same span resulting in mixed signaling types. For ISDN-PRI configuration the 24th channel is always reserved as an out-of-band signaling channel.
- In the "isdn-ext" signaling mode, the board still uses ISDN signaling, but the 24th channel on the board will be used as a B-channel (bearer channel) rather than as a D-channel. All trunks on this board will be signaled either using inband robbed-bit signaling or by an ISDN D-channel on another DS1 interface.

The DS1 interface boards TN464C and later releases provide 24 channels using the above signaling modes. The TN464B and later releases provide 32 channels using the following signaling options.

- In the "CAS" signaling mode, 30 channels are available. Channel 16 is reserved for the signaling, and channel 0 is reserved for framing; however, the user will administer from 1-30. The mapping to the correct channel will be made internally.
- In the "isdn-pri" signaling mode, each DS1 circuit pack provides a maximum of 30 trunks. For the ISDN-PRI 32-channel configuration, the 16th channel is always reserved as an out-of-band signaling channel.
- In the "isdn-ext" signaling mode, the board still uses ISDN signaling, but the 16th channel on the board will not be used as a D-channel, but it will be used as a B-channel (bearer channel). This will allow the total 31 channels to be used as B-channels. All trunks on this board will be signaled by an ISDN D-channel on another DS1 interface.

Other Circuit Packs

For ISDN capabilities with the G3i, the Processor Interface (PI) or Packet Control (PACCON) board is required. The PI board terminates layer 2 (LAPD) of the PRI protocol. For ISDN capabilities with the G3r, the Packet Interface (PKTINT) board is required.

Administration Commands

The following administration commands can be used to access the DS1 Circuit Pack form. In some cases, just the most commonly used commands are shown. Refer to "Administration Commands" in Chapter 2 for a complete listing of all administration commands, the command structure, and the use of abbreviated command words when entering a command.

Action	Object	Qualifier*
add	ds1	[P]C ^{ss} **
change	ds1	[P]C ^{ss} (board)
display	ds1	[P]C ^{ss}
list	measurements ds summary	location
list	measurements ds1 log	location
remove	ds1	[P]C ^{ss}

* Brackets [] indicate the qualifier is optional.

** [P] — part of qualifier representing pnn
 C — part of qualifier representing carrier (A-F)
 s s — part of qualifier representing slot number

Form Instructions

Make assignments as required for the following fields on the form:



CAUTION:

Once administered it may not be possible to make changes to fields without removing associated translations.

- **Location** — This is a display-only field when the form is accessed using an administration command such as *add* or *change*. Enter the DS1 Interface circuit pack port location when completing a paper form. Enter seven characters.

The entry breaks down as follows:

Characters	Meaning	Value
1-2	Cabinet Number	01 through 22 (G3r V2) 01 through 03 (G3i V2) 01 (G3s V2)
3	Carrier	A through E
4-5	Slot Number	01 through 20
6-7	Circuit Number	01 through XX (depending on circuit pack type)

The location should also be identified for record purposes on the Port Assignment Record and the Circuit Pack Administration form.

- **Name** — Enter the name of the DS1 link (limit 15 characters). Typically, this is the destination of the link.
- **Bit Rate** — Enter "1.544" for the 24-channel DS1 rate. Enter "2.048" for the 32-channel DS1 rate (TN464 only).



NOTE:

Once an *add ds1* operation is complete (that is, the DS1 form has been submitted) the Bit Rate field can not be changed. To change the Bit Rate, execute a *remove ds1* command followed by an *add ds1* command then readminister the DS1 form.

- **Line Coding** — Enter “b8zs” (bipolar eight zero substitution), “ami-basic” (alternate mark inversion basic), “ami-zcs” (alternate mark inversion with zero code suppression), or “hdb3” (high density bipolar 3). The line coding method must match the method used on the other end of the link. The line coding entry indicates which line coding format will be used to ensure that the data meets T1 or E1 carrier requirements. When the DS1 circuit pack is used for ISDN, the ISDN D-channel data is inverted when “ami-basic” or “ami-zcs” is entered and not inverted when “b8zs” or “hdb3” is entered.

Hdb3 or ami-basic is allowed when the Bit Rate field is “2.048”. B8zs, ami-basic or ami-zcs is allowed when the Bit Rate field is “1.544.”

Bipolar eight zero code suppression (b8zs) is an alternate line coding technique that uses a bipolar violation pattern to ensure adequate “ones” density in a bit sequence. Eight sequential zeros trigger the bipolar violation pattern. This bipolar violation pattern is removed by the DS1 board on the receiving side and is therefore totally transparent.

Zero code suppression (zcs) is a technique for ensuring adequate “ones” density. It checks for all zeros in an 8-bit time slot. If all zeros exist, bit 2 is changed from a 0 to a 1. When zcs is invoked on an all zeros octet data is permanently lost.

- **Line Compensation** — Enter a number from 1 to 5 as follows (default is “1”):

- For 22-gauge ABAM cable terminated on a DSX-1 cross-connect:

<u>Compensation Length (feet)</u>	
1	000-133
2	133-266
3	266-399
4	399-533
5	533-655

- For 22-gauge ABAM cable directly connecting to DS1 interfaces:

<u>Compensation Length (feet)</u>	
1	0000-0266
2	0286-0532
3	0532-0798
4	0798-1066
5	1066-1310

- **Framing Mode** — Enter “d4” or “esf” (default). This mode must match the method used on the other end of the link. The network diagram should indicate which choice for the particular DS1/T1-span. D4 is a framing format of 12 frames for analog representation on T1 Carrier using DS1 signals.

To get the enhanced performance measurements, the framing mode must be set to esf on the DS1 Circuit Pack form. When “esf” is entered for a TN464F or TN767E or later suffix DS1 board, a second page of the DS1 Circuit Pack form is available to administer ESF Data Link options.

- **Signaling Mode** — Enter “CAS,” “common-chan,” robbed-bit,” “isdn-pri,” or “isdn-ext” (default is “common-chan”). This mode must match the method used on the other end of the link.

Common Channel Signaling (common-chan) is an industry-standard signaling technique in which the signals on one facility control the operation of several facilities. When applied to DS1 operation, it is a signaling technique in which any 1 of the channels carries the signals for the other channels. AT&T implementation of common channel signaling uses the last channel for carrying the signals. This signaling technique is a much broader concept than 24th channel signaling and is not limited to DS1 facilities. When the system is configured for Facility Associated Signaling, the 24th channel signaling technique uses the 24th channel in a DS1 facility to carry signals for the remaining 23 channels; also known as “clear channel,” “out-of-band,” or Alternate Voice Data (AVD) signaling.

CAS is similar to common channel signaling, except that it is used only when the Bit Rate field is 2.048 (the trunk is used with a CEPT1 (E1) interface). CAS provides framing on channel 0. Signaling for the 30 bearer channels is done on the 16th channel. This is a CCITT standard interface signaling mode.

Robbed-Bit Signaling (robbed-bit) is a per-channel signaling technique for transmitting signaling bits within each band on each of the channels in a DS1 facility. The least significant bit in every sixth transmitted information frame is “robbed” and replaced by a signaling bit. Also called “in-band” signaling. For voice tie trunks, enter “robbed-bit” and “common-chan” for alternate voice data (avd) trunks.

The choice of “isdn-pri” requires that the TN767 or TN464 (C or later) DS1 Interface circuit pack be used. This choice enables ISDN-PRI signaling to be carried over the last channel of the DS1 interface, and causes the “DMI-BOS” field not to be displayed and the “Connect” field to be displayed on the form.

The choice of "isdn-ext" also requires use of the TN767 or TN464 (C or later) DS1 Interface circuit pack. This choice enables the TN767 or TN464 to use ISDN signaling, but the 24th channel **will not** be used as a D-channel. When the system is configured for Non-Facility Associated Signaling, all channels on a DS1 facility may be used for voice and/or data. The signaling for these channels is provided by the 16th channel (for 32-channel facilities) or the 24th channel (for 24-channel facilities) on another DS1 facility. The system may be configured for Facility and Non-Facility Associated Signaling at the same time. Refer to the "Facility and Non-Facility Associated Signaling" feature in Chapter 3.

- **Interface** — Only displayed when the "Connect" field is "pbx." Valid entries are "network," "peer-master," "peer-slave," or "user" (system default). Specify whether the PBX corresponds to the "network" or "user" side of the interface, which is needed for the ISDN-PRI Layer 2 protocol and is also used at Layer 3 to handle glare conditions. For other cases, the required entry is inferred from the "Conned" field entry: a host connection implies a network interface, and a network connection implies a user interface.



NOTE:

When the far end is a DEFINITY Generic 3i or Generic 3r system, the "Interface" field on one end of the connection must be "user" and the other end must be translated as "network."

For PRI private network protocol layer 2 operations, two other values are possible: "peer-master" and "peer-slave." Entering either of these values causes two additional fields to appear: "Peer Protocol" and "Side"

- **Country Protocol** — Enter 1 to 18 to indicate the type of protocol and signaling that must be used on the line. These are determined by the country where the trunk terminates. Refer to <XREF IDREF="APPB"> Appendix B, *Application Notes*, for a complete listing of country codes.
- **Peer Protocol** — This field is displayed if the value "peer-master" or "peer-slave" is chosen for the "Interface" field. This allows you to administer the PEER level protocol that will operate in the private network. At this time, "ecma" is the only possible value; it is the default value as well. The value "ecma" is necessary for implementing QSIG Global Network Basic Call.
- **Protocol Version** — This field appears if the Country Protocol is "1" (USA) or "13" (Germany), the signaling mode is "isdn-pri," Connect is "pbx" or "network," and the Interface is "user" or "Network." Enter "a" or "b" as appropriate using the following guidelines:
 - If the Country Code is 1:
 - + Enter "a" for the AT&T G3V2 protocol.
 - + Enter "b" for the NI-2/Bellcore protocol (applicable in G3V3 and higher versions).

- If the Country Code is 13:
 - + Enter “a” for the ITR6 protocol.
 - + Enter “b” for the ETSI protocol.



WARNING:

The AT&T Switched Network Protocol does not support restricted displays of connected numbers. Therefore, if you administer the 1a country-protocol/protocol-version combination on the DS1 form, you cannot administer the “Send Connected Number” field to “r” (restricted) on the ISDN-PRI Trunk Group form as this causes display problems.

Refer to the section in this book on ISDN-PRI for more information.

- **Side** — This field appears if the value “peer-master” or “peer-slave” is chosen as the “Interface” field value. This value is used for call collision (glare) resolution at layer 3. The default value of the field changes depending upon which value the “Peer Protocol” field contains. The default “a” is paired with “peer-master” and the default “b” is paired with “peer-slave.” The reason for these defaults is that logically, side “a” is the “master” at layer 3, in that side “a” wins the contested trunk in call collision situations. However, it is critical that this administration correctly pairs with the far-end administration. If the far-end is administered as the “b” side, this field should be set to “a” regardless of whether layer 2 designation is peer-master or peer-slaved, and vice versa.
- **Connect** — Only displayed when the “Signaling Mode” field is “isdn-pri.” Specify what is on the far end of the PBX to control Layer 3 protocol properly. If “pbx” is entered, the “Interface” field is displayed. When “line-side” is entered, this implies that the switch is acting as the network side of the isdn-pri interface. This is required to support the Roll About Video capability. Valid entries are “network” (system default), “host,” “line-side,” and “pbx.”
- **Interconnect** — Enter “pbx” or “CO.” If pbx is selected, the trunk operates as a tie trunk. If CO is selected, the trunk operates as a CO or DID trunk.
- **CRC** — Enter “y” to indicate that a cyclic redundancy check is to be performed on transmissions that the board receives.
- **Interface Companding** — Enter “alaw” or “mulaw.” This field is displayed only if the board is a TN464C or later.
- **Idle Code** — Enter the 8-digit string to be sent out on idle DSO channels. The string to be entered depends upon the country where the trunk terminates. Refer to the individual-country coverage in Appendix B for valid entries in this field.

- **DMI-BOS** — Only displayed when the Signaling Mode is “common-chan.” Enter “y” (default) to activate the Digital Multiplexed interface Bit Oriented Signaling (DMI BOS) mode.

Digital Multiplexed Interface/Bit-Oriented Signaling (DMI/BOS) is a 24th channel signaling scheme using a DS1 facility that uses 23 message channels and 1 signaling channel (24th). DMI/BOS has greater capacity (ability to carry 64 kbps channels) than the 24th-channel Robbed-Bit Signaling scheme. Entering “n” indicates the DS1 will provide the AT&T proprietary format; “y” indicates the DS1/DMI interface will provide the DMI format.

- **Slip Detection** — Enter “y” to enable the slip-rate status of this circuit pack to be used by maintenance software to determine whether an excessive frame slip rate exists. Enter “n” (default) when DMI is used or when testing is not required.

 **NOTE:**

Those DS1/T1 facilities that are used to provide the primary and secondary synchronization references should be administered for slip detection “y.” Typically, those other DS1/T1 spans that are used for data applications and which are used as synchronization service should also be administered for slip detection. This excludes all T1-spans connecting channel banks, unless the channel bank is externally timed. Normally, those DS1/T1 spans that are used exclusively for voice and that are not designed as the primary or secondary synchronization source, should be administered for slip detection “n.” Refer to the network synchronization diagram to determine which option to choose.

The digital switch maintains a slip count record for each DS1 interface. The slip count is used to determine if the T1-span is experiencing errors and, if so, the severity of the errors (type alarm). Option “y” enables switching between the primary, secondary, or internal high-accuracy clock.

 **NOTE:**

If as many as 50 percent of those spans that are administered for slip detection are experiencing slips (with respect to the primary), then a decision is made to switch to the secondary.

- **Near-end CSU Type** — Appears only when the DS1 board is a TN767E or TN464F or later suffix model, the Bit Rate is 1.544 and the Country Protocol is 1 (U.S.). Enter “other” or “integrated.” The value “other” indicates that no CSU is attached to the DS1 facility, or that the CSU is an external unit. No options will be available for administering the CSU. The value “integrated” indicates that a 120A CSU module is attached to the DS1 board. This “integrated” CSU (ICSU) can accept software administrable option downlinks and perform the enhanced ICSU functionality if the following conditions are met. The G3 version must be V3 on the system-parameters customer-options form and the correct suffix of DS1 board (TN767E or TN464F or later) must be administered via a circuit pack form or must be installed in the PBX. When you enter a value of “integrated,” a second page of the DS1 Circuit Pack form is available to administer CSU module options.

- **Alarm When PRI Endpoint Detached** — Displayed only when the “Connect” field is “line-side.” Enter “y” if the UDS1 circuit pack is connected to Roll About Video equipment. Normally if the video equipment is disconnected, off-board alarms are raised to indicate the loss of connectivity from the system. By entering “y” in this field, when the UDS1 circuit pack detects a loss of signal, it is assumed the equipment was disconnected by the user and no alarms will be raised.

Valid entries are “y” (default), and “n.”

Page 2 of the Form

Page 2 of the form appears only when: the G3 version is "V3" or greater; the DS1 board is TN767E, TN464F, or later release board; and the Framing Mode is “esf” or the CSU type is “integrated.”

NOTE:

The following three fields appear only if the Framing Mode is “esf”:

- **Network Management Protocol** — Enter “tabs” (default).
- **Send ANSI-T1.403 One-Second Performance Reports** — Appears only when the Network Management Protocol is “tabs.” Valid entries are “y” and “n” (default).

- **Far-end CSU Address** — Appears only when the Network Management Protocol is “tabs.” This field administers the transmit direction address used for the **ESF data link** command. Enter “a” or “b” (default).



NOTE:

The following four fields appear only if the Near-end CSU Type is “integrated”:

- **Transmit LBO** — (Transmit Line Build-Out) The amount of fixed loss inserted in the transmit direction. Enter “0db” (default), “-7.5db,” “-15db,” or “-22.5db.”
- **Receive ALBO** — (Receive Automatic Line Build-Out) The gain inserted automatically in the receive direction to compensate for line losses. Enter “26db” (default) or “36db.”
- **Upon DTE LOS** — Identifies how the signal should be handled if the signal is lost (LOS) from the DTE (DS1 board) towards the network. Enter “loopback” (default) for returning the network signal to the network, or enter “ais” to send an unframed all-ones signal to the network (the AIS or “Blue Alarm”).
- **Supply CPE Loopback Jack Power** — Enter “y” if the DS1 board should supply power to the CPE Loopback Jack equipment during loopback testing. Otherwise, enter “n” (default).

DS1 CIRCUIT PACK

Location: _____	Name: _____
Bit Rate: _____	Line Coding: _____
Line Compensation: —	Framing Mode: _____
Signaling Mode: _____	
Connect: _____	Interface: _____
Interconnect: _____	Country Protocol: _____
	Side: _ *
Interface Companding: _____	CRC? _
Idle Code: _____	
DMI-BOS? _	
MAINTENANCE PARAMETERS	
Slip Detection? _	Near-end CSU Type: _____

Screen 4-13. DS1 Circuit Pack Form (Page 1 of 1)

* The Side field appears when the Interface is “peer-master” or “peer-slave.”

```

                                DS1 CIRCUIT PACK
Location: _____ Name: _____
Bit Rate: _____ Line Coding: _____
Line Compensation: _ Framing Mode: _
Signaling Mode: _____
Connect: _____ Interface: _____
Interconnect: _ Peer Protocol: _____
Protocol Version: _ *
Interface Commanding: _____ CRC? _
Idle Code: _____
DMI-BOS? _
                                MAINTENANCE PARAMETERS
Slip Detection? _ Near-end CSU Type: _____

```

Screen 4-13a. DS1 Circuit Pack Form (Page 1 of 1)

*The Protocol Version field appears when the interface is "network" or "user," the Signaling Mode is "isdn-pri," the Country Protocol is "1" or "13" and the reconnect is "pbx."

```

                                DS1 CIRCUIT PACK
Location: 01A07 Name:
Bit Rate: 1.544 Line Coding: ami-zcs
Line Compensation: 1 Framing Mode: esf
Signaling Mode: robbed-bit
Idle Code: 11111111
                                MAINTENANCE PARAMETERS
Slip Detection? n Near-end CSU Type: integrated

```

Screen 4-13b. DS1 Circuit Pack Form (Page 1 of 2)

```

                                DS1 CIRCUIT PACK
ESF DATA LINK OPTIONS
                                Network Management Protocol: tabs
Send ANSI-T1.403 One-Second Performance Reports? n
                                Far-end CSU Address: b
INTEGRATED CSU OPTIONS
                                Transmit LBO: 0db
                                Receive ALBO: -26db
                                Upon DTE LOS: loopback
CPE LOOPBACK JACK OPTIONS
                                Supply CPE Loopback Jack Power? n
```

Screen 4-13c. DS1 Circuit Pack Form (Page 2 of 2)

Implementation Note:

The fields that appear on a particular screen vary depending upon the type of board being administered, the speed, signaling mode, and so on.