

Lucent Technologies
Bell Labs Innovations



DEFINITY[®]
Enterprise Communications Server
Release 6
Installation and Test for Single-Carrier
Cabinets Addendum

555-230-894ADD
Comcode 108183187
Issue 1-3
January 1998

Addendum

This addendum covers:

- CAMA/E911 Installation - The pinout chart for the Central Office trunk circuit pack is located on page 5-74.
- External Modem Installation
- Pinouts for the TN2185 ISDN-BRI

This addendum is for the following manual:

DEFINITY®
Enterprise Communications Server
Release 6
Installation and Test for Single-Carrier Cabinets

Document number: 555-230-894ADD
Comcode: 108183187

CAMA/E911 Installation

Configuration

The CAMA/E911 feature will only work on DEFINITY ECS if TN429C CO circuit packs (or later suffix) are used.

Previous versions of DEFINITY ECS include tone clocks other than the TN2182BV2 Tone Clock/Call Classifier (specifically the TN2182, TN2182BV1, TN756 Tone Detector Generator, TN768 Tone Clock, or TN780 Tone Clock) and Touch Tone Receiver/Call Progress Tone Receiver (TTR/CPTR) circuit packs other than the TN7744DV2 Call Classifier - Detector circuit pack. (TN748 Touch Tone Detector/Call Progress Tone Detector, TN744, TN744B, TN744C, and TN744DV1 circuit packs are common.)

DEFINITY ECS Port Networks (PNs) that include TN429C circuit packs used to interface to CAMA trunks require all CPTR resources to be either TN744DV2 and/or TN2182BV2 circuit packs, since TTR/CPTR or General Purpose Tone Receiver (GPTR) resources are selected from the pool available in the PN when needed.

Table 1 denotes which of these circuit packs are compatible and which are not affected.

Table 1. Compatibility Tone Clock, TTR/CPTR, and GPTR Circuit Packs

Circuit Pack	Description	Compatibility with CAMA Trunks in Same PN	Application	Notes
TN420 TN420B TN420C	Touch Tone Detector / Call Progress Tone Detector	Not Compatible	Not used in the U.S.	4TTR and 2 CPTR ports. Used in combination with the TN780 in many countries initially in versions prior to G3V3.3. Use TN744DV2 if CAMA feature is to be supported.
TN744 TN7744B TN744C TN744DV1	Call Classifier - Detector	Not Compatible	Used globally	8 GPTR/call classification ports. Used for call classification only initially prior to G3V3.3. Becomes a GPTR resource in G3V3.3 and later. Use TN744DV2 if CAMA feature is to be supported.
TN744DV2	Call Classifier - Detector	Compatible	Used globally	8 GPTR/call classification ports. Required in PN supporting CAMA trunks if GPTR resources are required in excess of those on the TN2182BV2. Also required (if the TN768 or TN780 tone clocks are used) in place of TN748, TN744, and TN744B and TN744C.

Continued on next page

Table 1. Compatibility Tone Clock, TTR/CPTR, and GPTR Circuit Packs
— Continued

Circuit Pack	Description	Compatibility with CAMA Trunks in Same PN	Application	Notes
TN748 TN748B TN748C TN748D	Touch Tone Detector / Call Progress Tone Detector	Not Compatible	Used in the U.S. and a few other countries	4 TTR and 2 CPTR ports. Used in combination with the TN756, TN768, or TN780 in many countries initially in versions prior to G3V3.3. Use TN744DV2 if CAMA feature is to be supported.
TN756	Tone Detector Generator	Not Compatible	Used in the U.S. and a few other countries	Tone detector/tone clock with 4 TTR and 2 CPTR ports. Used in combination with the TN748 in many countries initially in versions prior to G3V3.3. Used only with SCC/ESCC cabinets with no EPNs, no duplication, no ASAI. Use TN2182BV2 if CAMA feature is to be supported.
TN768	Tone Clock	Not Affected	Used in the U.S. and many other countries	Tone clock only, no TTR/CPTR functionality. Typically found with TN748 circuit packs in the U.S. Use TN7744DV2 instead of TN748 with CAMA.

Continued on next page

Table 1. Compatibility Tone Clock, TTR/CPTR, and GPTR Circuit Packs
— *Continued*

Circuit Pack	Description	Compatibility with CAMA Trunks in Same PN	Application	Notes
TN780	Tone Clock	Not Affected	Used in the U.S. (infrequently) for stratum 3 clocking and used in many other countries	Tone clock only, no TTR/CPTR functionality. Typically found with TN748 circuit packs in the U.S. Use TN7744DV2 instead of TN748 with CAMA.
TN2182 TN2182BV1	Tone Clock / Call Classifier - Detector	Not Compatible	Used globally	Tone clock plus 8 GPTR/call classification ports. Use TN2182BV2 if CAMA feature is to be supported.
TN2182BV2	Tone Clock / Call Classifier - Detector	Compatible	Used globally	Tone clock plus 8 GPTR/call classification ports. Replaces TN2182 if CAMA feature is to be supported.

Hardware Setup

1. Insert the TN429C CO circuit pack in any available port slot.
2. Be sure the TN744D Call Classifier - Detector or TN2182B Tone Clock/Call Classifier - Detector circuit packs are Vintage 2 or later.
3. Wire the CAMA trunk to the MDF (the trunk from the CO). See page 5-74.

Administration Setup

1. At the prompt, type **add trunk next** and press Enter.

8. On the Administrable Timers screen (page 3), you may need to adjust these fields according to your CO.

```

                                                                 Page 5 of 11
                                TRUNK GROUP
GROUP MEMBER ASSIGNMENTS
                                Administered Members (min/max): 1/2
                                Total Administered Members: 2
  Port  Code  Sfx  Name
1: 01C0401 TN429  C
2: 01C0402 TN429  C
3:
4:
5:
6:
7:
8:
9:
10:
11:
12:
13:
```

Screen 3. Group Member Assignments form (page 5)

9. On the Group Member Assignments screen (page 5), in the Port field, add the trunk members and press Enter when finished.
10. At the prompt, type **change feature-access-code** and press Enter.

Page 1 of 5

FEATURE ACCESS CODE (FAC)

Abbreviated Dialing List1 Access Code: ____

Abbreviated Dialing List2 Access Code: ____

Abbreviated Dialing List3 Access Code: ____

Abbreviated Dial - Prgm Group List Access Code: ____

 Announcement Access Code: ____

 Answer Back Access Code: ____

Auto Alternate Routing (AAR) Access Code: ____

Auto Route Selection (ARS) Access Code 1: 9__ Access Code 2: ____

 Automatic Callback Activation: ____ Deactivation: ____

Call Forwarding Activation Busy/DA: ____ All: ____ Deactivation: ____

 Call Park Access Code: ____

 Call Pickup Access Code: ____

CAS Remote Hold/Answer Hold-Unhold Access Code: ____

 CDR Account Code Access Code: ____

 Change Coverage: ____

 Data Origination Access Code: ____

 Data Privacy Access Code: ____

 Directed Call Pickup Access Code: ____

Emergency Access To Attendant Access Code: ____

Extended Call Fwd Activate Busy D/A: ____ All: ____ Deactivation: ____

 Facility Test Calls Access Code: ____

 Flash Access Code: ____

Screen 4. Feature Access Code (FAC) form (page 1)

11. The Feature Access Code (FAC) screen (page 1) appears.
12. In the Auto Route Selection (ARS) Access Code 1: field, administer the ARS access code (in the example above, type **9**) and press Enter (must match dial plan).
13. At the prompt, type **change ars analysis <9>** and press Enter.

24. In the Call Type field, enter **emer** and press Enter.
25. At the prompt, type **change route-pattern X** (X = the route pattern to be changed; in the example above, the route pattern is 11) and press Enter.

Pattern Number: 11													Page 1 of X	
Grp. No.	FRL	NPA	Pfx	Hop	Toll	No.	Del	Inserted				IXC		
			Mrk	Lmt	List	Digits		Digits						
1:	1	0										user		
2:												user		
3:												user		
4:												user		
5:												user		
6:												user		
	BCC VALUE					TSC	CA-TSC	ITC	BCIE	Service/Feature		Numbering	LAR	
	0	1	2	3	4	W	Request					Format		
1:	y	y	y	y	y	n	y	none		both	ept	outwats-bnd	BAND: _____	none
2:	y	y	y	y	y	n	n			rest		_____	_____	next
3:	y	y	y	y	y	n	n			rest		_____	_____	rehu
4:	y	y	y	y	y	n	n			rest		_____	_____	none
5:	y	y	y	y	y	n	n			rest		_____	_____	none
6:	y	y	y	y	y	n	n			rest		_____	_____	none

Screen 6. Route Pattern form (Page 1)

26. On the Route Pattern X (X = the desired route pattern) screen, in Grp. No. field, enter the CAMA trunk group number.
27. In the FRL field, enter **0**.



NOTE:

For the following step, if the Central Office (CO) wants KP11ST as the dialed digit string, then leave blank. If the CO wants KP911ST, then insert a "9" in the Inserted Digits field.

28. Administer the **Inserted Digits** field if needed and press Enter.
29. At the prompt, enter **change route-pattern X** (X = the route pattern to be changed; in the example above, the route pattern is 12) and press Enter.

Page 1 of X

Pattern Number: 12

Grp. No.	FRL	NPA	Pfx	Hop	Toll	No. Del	Inserted	IXC
			Mrk	Lmt	List	Digits	Digits	
1:	1	0				1		user
2:								user
3:								user
4:								user
5:								user
6:								user

BCC VALUE	TSC	CA-TSC	ITC	BCIE	Service/Feature	Numbering	LAR
0 1 2 3 4 W		Request				Format	
1: y y y y y n	y	none	both	ept	outwats-bnd	BAND: _____	none
2: y y y y y n	n		rest		_____	_____	next
3: y y y y y n	n		rest		_____	_____	rehu
4: y y y y y n	n		rest		_____	_____	none
5: y y y y y n	n		rest		_____	_____	none
6: y y y y y n	n		rest		_____	_____	none

Screen 7. Route Pattern form (Page 1)

30. On the Route Pattern X (X = the desired route pattern) screen, in Grp. No. field, enter the CAMA trunk group number and press Enter.
31. In the FRL field, enter **0**.



NOTE:

For the following step, if the Central Office (CO) wants KP911ST as the dialed digit string, then leave blank. If the CO wants KP11ST, then delete one digit.

32. Administer No. Del Digits field if needed and press Enter.
33. At the prompt, enter **change cama-numbering** and press Enter.

CAMA NUMBERING - E911 FORMAT Page 1 of 3

System CESID Default: 5241100_____

Ext Len	Ext Code	CESID	Total Length	Ext Len	Ext Code	CESID	Total Length
4_	101_	5381234_____	7_	—	—	—	—
4_	1_	555_____	7_	—	—	—	—
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—

Screen 8. CAMA Numbering Format form

34. In the CAMA Numbering - E911 Format screen (page 1), in **System CESID Default** field, enter your own system default and press Enter. This is the number outpulsed when the extension code is not found in the CAMA Numbering table. See [Screen 8](#).
35. In the **Ext Len**, **Ext Code**, **CESID**, and **Total Length** fields, fill out to your own CAMA numbering plan and press Enter. Be sure to cover all extensions.
36. At the prompt, enter **change cor x** (x = the class of restriction (COR) to be changed) and press Enter. Change all CORs that are defined for stations in order to remove any calling party restrictions for 911 calls.

Page 1 of 3

CLASS OF RESTRICTION

COR Number: 10
COR Description: supervisor

FRL: 0	APLT? y
Can Be Service Observed? n	Calling Party Restriction: none
Can Be A Service Observer? n	Called Party Restriction: none
Time of Day Chart: 1	Forced Entry of Account Codes? n
Priority Queuing? n	Direct Agent Calling? n
Restriction Override: none	Facility Access Trunk Test? n
Restricted Call List? n	Can Change Coverage? n
Unrestricted Call List?	
Access to MCT? y	Fully Restricted Service? n
Category For MFC ANI: 7	Hear VDN of Origin Annc.? n
Send ANI for MFE? n_	Add/Remove Agent Skills? n
Hear System Music on Hold? y	PASTE (Display PBX Data on Phone)? n
Automatic Charge Display? n	
	Can Be Picked Up By Directed Call Pickup? n
	Can Use Directed Call Pickup? n

Screen 9. Class of Restriction form (page 1)

37. On Class of Restriction screen (page 1), in Calling Party Restriction field, enter **none** and press Enter.

Install External Modem

The U.S. Robotics Model 839 external modem is the recommended external modem. Release 6 systems operate with this modem set to the factory default settings.

⇒ NOTE:

You may use a locally obtained, type-approved external modem (33.6 bps and V.34 protocol). Contact your Lucent Technologies representative for more information.

1. Connect the cable to the modem.
2. Connect the opposite end to the AUX connector on the rear of the system cabinet (an adapter may be required).
3. Plug the modem power cord into an electrical outlet and turn on the modem.

Connect Modem to Telephone Network

1. Cross-connect the network jack on the modem to the network interface (via a 103A or modular wall jack). See [Table 2](#) for the pinout.

Table 2. Pinout of Network Jack

Pin Number	Signal
1	Unused
2	Tip
3	Ring
4	Unused

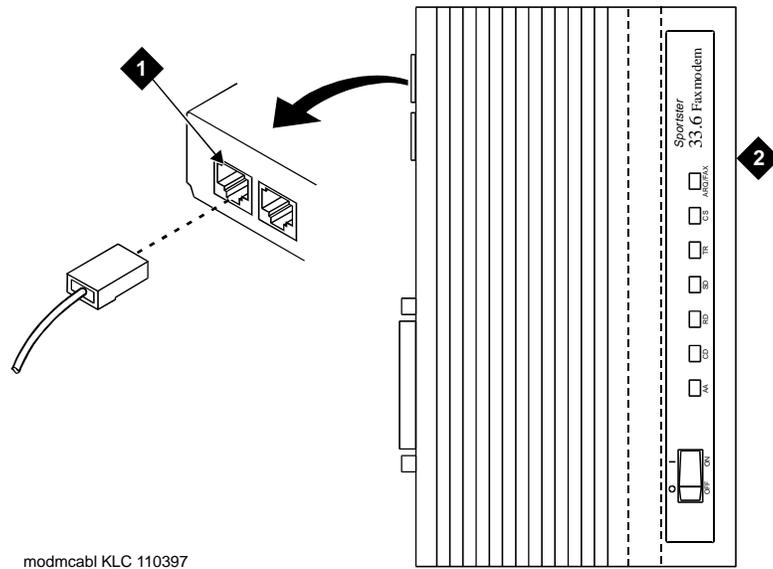


Figure 1. Network Jack on U.S. Robotics Modem

Figure Notes

- 1. Pin 1 of Network Jack
- 2. Modem

External Modem Option Settings

- 1. If a non-U.S Robotics Model 839 modem is installed, refer to the setup instructions provided with that modem. Refer to [Table 4](#) while setting up the modem. Go to Step 4 to complete the modem administration.
- 2. If no modem is installed, or if a U.S Robotics Model 839 modem is installed, perform the following.
- 3. Use [Table 3](#) to set the 8 option switches on the U.S. Robotics modem.

Table 3. U.S. Robotics Model 839 External Modem Switch Settings

Switch	Setting	Function
1	OFF (Up)	DTR (Data Terminal Ready) override
2	OFF (Up)	Verbal result codes (text-formatted feedback characters such as <i>connected</i> or <i>no carrier</i>)
3	ON (Down)	Enable result codes
4	OFF (Up)	Displays keyboard commands (local echo)
5	ON (Down)	Auto answer (modem answers on preset number of rings). Set Auto Answer Ring Number on system parameters maintenance form.
6	OFF (Up)	CD (Carrier Detect) override (modem sends CD signal on connect, drops CD on disconnect)
7	OFF (Up)	Power-on and ATZ reset software defaults (loads Y or Y1 configuration from NVRAM)
8	ON (Down)	AT (Attention) command set recognition (enables recognition, smart mode)

4. At the management terminal, enter **change system-parameters maintenance** and press Enter. Scroll to page 3 of the form.
5. Set the **Modem Connection:** field to **external** if a modem is installed. Set the field to **none** if no modem is installed. This field must be administered or alarms will be generated.

**NOTE:**

The **Modem Connection:** field cannot be set to **none** if Alarm Origination is activated.

6. Set the **Data Bits:** field to **8** (default).
7. Set the **Parity:** field to **none** (default).
8. Set the remaining modem fields as shown in [Table 4](#).
9. Press Enter when the modem fields are properly administered.

Table 4. Release 6 Modem Fields

Field	Description
Modem Connection	Set to external if a modem is used.
Modem Name	This field is 20 characters long and permits alphanumeric characters to provide a unique qualifier for a given modem (such as USRrobotics839).
RTS/CTS Enabled	Informs modem that communication with the data source UART is driven with RTS/CTS flow control. The default 6-character field name is &H1 . Set the field name to \Q3 for Intel modems. This field is not case-sensitive.
Asynchronous Data Mode	Configures modem as an asynchronous device. This 8-character field name has a default value of &M0 (default) for Release 6csi. Set the field to &M0&Q0 for Intel modems. This field is not case-sensitive.
DTE Auto-Data Speed	Adjusts the speed of the data source (DTE) UART to the outgoing (modem-to-modem) data rate. At maximum, this speed is 9600 baud. It is not desirable to have the serial data fill the modem buffer faster than the outgoing data rate, since data compression is disabled. The field name has a 6-character blank default value. The Paradyne products use S90=1 to enable this functionality while the Intel product uses \J1 to enable similar functionality. This field is not case-sensitive.
Disable Data Compression	Turns off the default data compression algorithms used by most modems. The field has a blank field of 6 characters as default. The AT commands that control this are supported by similar commands; however, these commands do not operate in the same manner. The Intel modems require H0%C0 to disable V.42bis & MNP Class 5 data compression algorithms. The Paradyne products only use %C0 to disable both algorithms. This field is not case-sensitive.
Enable Error Control	Turns on the V.42 LAPM and MNP error control protocols. The field has a blank default of 6 characters. The Paradyne products use the command \N5 to enable V.42/MNP/Buffer error control while the Intel product uses \N3 to provide similar functionality.
Misc. Init. Param	This field has a 20-character blank default and supports any initialization parameters not already specified. The AT commands specified in this field are always the last initialization parameters to be sent to the external modem. This field is not case-sensitive.
Auto-Answer Ring Number	This field controls the number of rings required before the modem answers an incoming call. This field should be set to S0=10.

Continued on next page

Table 4. Release 6 Modem Fields — Continued

Field	Description
Dial Type	This field controls the type of interregister signaling used between the modem and the CO. This 3-character field is denoted by "T" for tone dialing (default) and "P" for pulse dialing. This setting depends on type of line (tone or pulse) to the modem.
Adjustable Make/Break Ratio	This field controls the make/break ratios of pulses and DTMF dialing. Most modems have support for different make/ break options for pulse dialing only. Paradyne, Intel, and U.S. Robotics use the default &P0 to select a ratio of 39% make and 61% break for communication for the United States and Canada. The option &P1 sets a ratio of 33% make and 67% break for the United Kingdom and Hong Kong. This is a 5-character blank field (default) and is not case-sensitive.
Dial Command	This field has a default of "D" in a 3-character field. This field denotes the standard dialing command of the modem and is not case-sensitive.
No Answer Time-Out	Most modems provide a timer that abandons any outbound data call after a predetermined interval. This is a non-administrable parameter.

Pinouts for TN2185 ISDN-BRI

Table 5 shows the pinouts for the TN2185 ISDN-BRI 4-wire S Interface.

Table 5. TN2185 ISDN-BRI — 4-Wire S Interface Pinout

Port	Signal	Cross-Connect Pin	Color	Amphenol Pin	Backplane Pin
1	TXT.1	1	W-BL	26	102
	TXR.1	2	BL-W	01	002
	PXT.1	3	W-O	27	103
	PXR.1	4	O-W	02	003
2	TXT.2	5	W-G	28	104
	TXR.2	6	G-W	03	004
	PXT.2	7	W-BR	29	105
	PXR.2	8	BR-W	04	005
3	TXT.3	9	W-SL	30	106
	TXR.3	10	SL-W	05	006
	PXT.3	11	R-BL	31	107
	PXR.3	12	BL-R	06	007
4	TXT.4	13	R-O	32	108
	TXR.4	14	O-R	07	008
	PXT.4	15	R-G	33	109
	PXR.4	16	G-R	08	009
5	TXT.5	17	R-BR	34	110
	TXR.5	18	BR-R	09	010
	PXT.5	19	R-SL	35	111
	PXR.5	20	SL-R	10	011
6	TXT.6	21	BK-BL	36	112
	TXR.6	22	BL-BK	11	012
	PXT.6	23	BK-O	37	113
	PXR.6	24	O-BK	12	013
7	TXT.7	25	BK-G	38	302
	TXR.7	26	G-BK	13	202
	PXT.7	27	BK-BR	39	303
	PXR.7	28	BR-BK	14	203
8	TXT.8	29	BK-SL	40	304
	TXR.8	30	SL-BK	15	204
	PXT.8	31	Y-BL	41	305
	PXR.8	32	BL-Y	16	205

