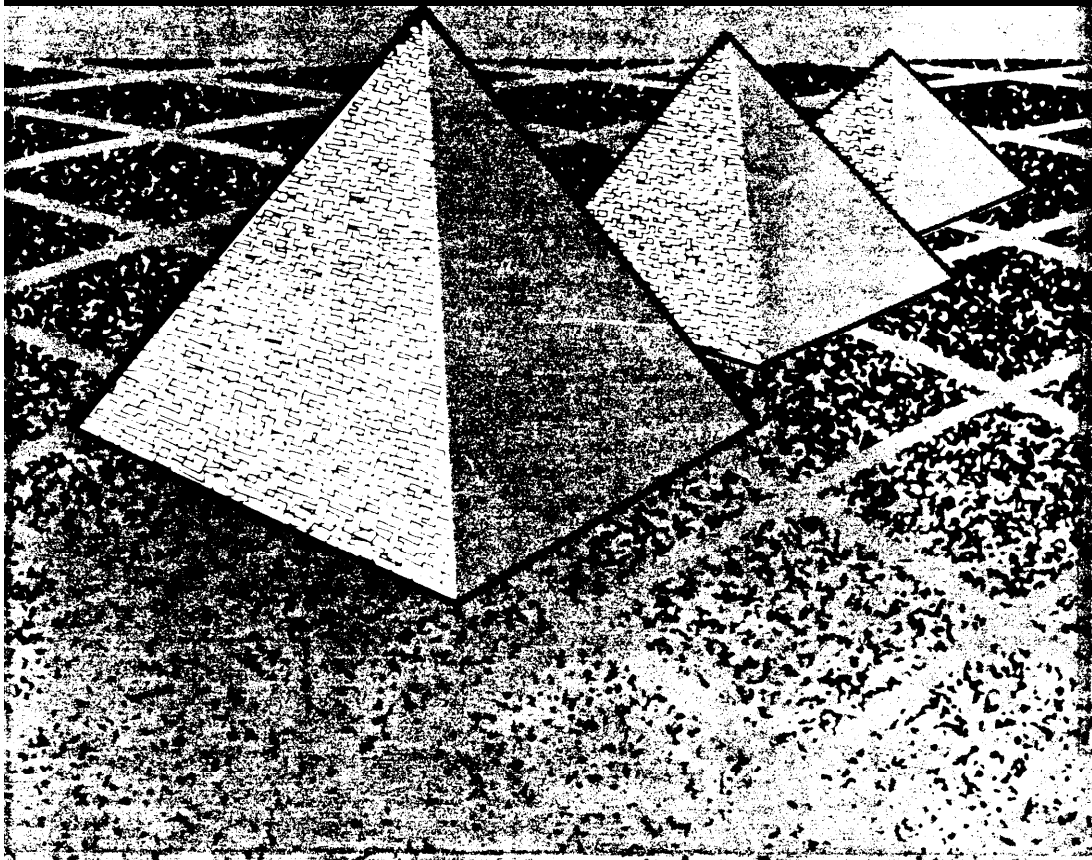


AT&T

DEFINITY<sup>®</sup> Communications  
and System Generic 1  
System 75

Pocket Reference





**DEFINITY**<sup>®</sup> Communications  
and System Generic 1  
System 75

**Pocket Reference**

**Addendum 1, Dated  
September 1990 for  
555-200-202  
Issue 7, February 1990**

555-200-202, Issue 7  
ADDENDUM 1, September 1990

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The AT&T Documentation  
Development Organization

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555-200-202, Issue 7  
ADDENDUM 1, September 1990

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# INTRODUCTION

This document is intended to be used as a quick reference for the following systems:

- DEFINITY Communications System Generic 1 (multi-carrier cabinet)
- DEFINITY Communications System Generic 1 (single-carrier cabinet)
- System 75 (V1, V2, and V3)
- System 75 XE (XEV2 and XEV3).

***The DEFINITY Generic 1 (G1) multi-carrier cabinet compares to System 75 and the DEFINITY Generic 1 (G1) single-carrier cabinet compares to System 75 XE.***

Information in this document applies to all versions and types of the listed systems unless **specifically noted otherwise** in parentheses.

G1 shown in parentheses in the remainder of this document (except in the System Parameters table) refers to both the DEFINITY Communications System Generic 1 multi-carrier cabinet (MCC) **and** single-carrier cabinet (SCC) systems unless otherwise noted.

This issue replaces all previous issues of this document. The reason for reissue is to add additional information on DEFINITY Communications System Generic 1, to provide Duplication Option information, to clarify power requirements, to update the system parameters table, and to make minor revisions. Information that applies to Generic 1 only is noted by showing (G1) throughout the document.

## DESIGN BENEFITS

System Management Permits User Friendly Design,  
Implementation, and Administration by the Customer

A Two Port Network—The Processor Port Network (PPN) Containing  
the System's Control, Software, and Trunk/Terminal Circuit Packs  
and the Expansion Port Network (EPN) Containing the Interface to  
the PPN and Additional Trunk and Terminal Circuit Packs (G1)

Two Multi-Carrier Cabinets Serving up to  
1600 Lines and 400 Trunks (G1)

Two Single Carrier Cabinet Stacks Serving up to  
1200 Lines and 400 Trunks (G1)

Universal Port Hardware for Smooth, Seamless System Growth  
and a High Degree of Investment Protection (G1)

Duplication of the most critical system components, providing  
highly available and highly reliable call processing (G1)

User access to a wide variety of public and private network services and  
facilities through connection to an Integrated Services Digital Network  
(ISDN) (G1)

Greater Connectivity and Conformance with International  
Standards (G1)

Modular System Architecture for Easier Growth, Layered Software, and  
Integrated Pooled Modems

Integrated Voice/Data Switching of Voice and Data  
at Rates Up to 64 kbps

Digital TDM — Dual 2.048 MHz Buses with Distributed Processing  
Down to Port Level

Voice Gain and Conference Capability Resident in Port Circuit

Connectivity to Other System 75, System 85,  
DIMENSION® PBX Switches, DEFINITY Generic 1  
(G1), and Generic 2 (G2)

High Reliability Design and Distributed Power

DS1 Interface (all except V1)

# FEDERAL COMMUNICATIONS COMMISSION (FCC) INFORMATION

The system FCC registration number is AS593M-13283-MF-E. The ringer equivalent is 0.5 ampere.

## DUPLICATION OPTION

The Duplication Option provides:

- A duplicated control carrier (multi-carrier cabinet) or a duplicated control cabinet (single-carrier cabinet) that houses a second Switch Processing Element (SPE). The SPE includes the following:
  - Processor Circuit Pack TN773
  - Network Control Circuit Pack TN777
  - Memory Circuit Pack(s) TN770.
- Power source to the fans from both the control carrier and duplicated control carrier.
- A tape drive circuit pack TN774 in both control carriers.
- Duplicated Tone-Clock circuit packs TN768 that allow the system clock to be generated from either tone-clock circuit pack.
- Duplicated fiber optic cable between the Processor Port Network (PPN) cabinet and the Expansion Port Network (EPN) cabinet.
- Duplicated 4-type lightwave transceivers at both the PPN and EPN cabinets to terminate the fiber optic links.

# ENVIRONMENTAL REQUIREMENTS

## (System 75 and G1 multi-carrier cabinet)

### CABINET

Fully Loaded 5-Carrier (Medium)	800 Lbs	70"x32"x24"
Fully Loaded 2-Carrier (Small)	400 Lbs	42"x32"x24"
Fully Loaded 5-Carrier (PPN or EPN) (G1)	800 Lbs	70"x32"x28"

### HEAT DISSIPATION

8000 BTU/HR	Fully Loaded 5-Carrier (V1, V2, V3, G1)
4000 BTU/HR	Fully Loaded 2-Carrier (V1, V2, V3)
5000 BTU/HR	Average 5-Carrier (V1, V2, V3, G1)
2500 BTU/HR	Average 2-Carrier (V1, V2, V3)

### AC POWER REQUIREMENTS

115 Volts	50-60Hz	50 Amps 5-Carrier (Medium)
115 Volts	50-60Hz	20 Amps 2-Carrier (Small)
115 Volts	50-60Hz	
208 Volts	50-60Hz	

### DC POWER REQUIREMENTS

-48 Volts	66 Amps (G1)
-----------	--------------

### TEMPERATURE/ROOM HUMIDITY RANGE

40° To 110°F.
10% to 95% Relative Humidity at 84°F
10% to 45% Relative Humidity at 110°F



# ENVIRONMENTAL REQUIREMENTS (XEV2, XEV3, and G1 single-carrier cabinet)

## CABINET

Single Cabinet System	130 Lbs	20"x27"x22"
Fully Loaded 4-Cabinet System	500 Lbs	77"x27"x22"

## HEAT DISSIPATION

6700 BTU/HR	Fully Loaded 4-Cabinet System (requirements are same for PPN and EPN)
1700 BTU/HR	Average Single Cabinet System

## AC POWER REQUIREMENTS

115 Volts	50-60Hz	15 Amps	1-Cabinet System
115 Volts	50-60Hz	Two 15 Amps or 20 Amps	2-Cabinet System
115 Volts	50-60Hz	Three 15 Amps or 20 Amps and 15 Amps	3-Cabinet System
115 Volts	50-60Hz	Two 15 Amps and 20 Amps or Two 20 Amps	4-Cabinet System

## DC POWER REQUIREMENTS

-48 Volts 25 Amps Power Source is required for each cabinet (G1)

## TEMPERATURE/ROOM HUMIDITY RANGE

(Same as V1, V2, V3, and G1)

## EQUIPMENT AND MAXIMUM CABLING DISTANCES

EQUIPMENT	24-G WIRE (FEET)	26-G WIRE (FEET)
Attendant Console	2400	1500
Powered from Switch	350	350
510D or 515 Terminals	3000	2200
513 or 610 BCT, 4410 or 4425 terminals, and 615 MT (See Data Module or EIA Interface) Max distance from terminal to Module or ADU is 50 feet.	-	-
Data Modules:		
Z702AL1-DSU Data Module Base	5000	4000
Z703AL1-DSU Data Module Base	5000	4000
7404D Data Module	5000	4000
Digital Terminal Data Module	3400	2200
(Modular) Processor Data Module	5000	4000
(Modular) Trunk Data Module	5000	4000
3270 Data Module	5000	4000
EIA Interface (Data Line Circuit Pack and ADU):		
19.2 kbps	2000	2000
9.6 kbps	5000	4000
4.8 kbps	7000	6000
2.4 kbps	12000	10000
1.2 kbps	20000	16000
0.3 kbps	40000	30000
Voice Terminals:		
Analog Line—8 Ports (TN742, TN769) or 16 Ports (TN785) (On-Premises or Out-of-Building—Same Premises)		
500 or 2500 Type (See Note 1)	20000	13000
500 or 2500 Type (See Notes 1 and 2)	15000	9500
7100 Series	15200	10000
7100 Series (See Note 2)	10500	7000

**Note 1:** Only AT&T 500- or 2500-type terminals can be used off-premises through a Central Office.

**Note 2:** These distances are for battery backup (worst case).

## EQUIPMENT AND MAXIMUM CABLING DISTANCES (Contd)

EQUIPMENT	24-G WIRE (FEET)	26-G WIRE (FEET)
Voice Terminals (Contd):		
Analog Line—16 Ports (TN746) (On-Premises Only—no Out-of-Building, no bridging) AT&T 500 or 2500 Type Terminals Without Adjuncts 16-Port Board (TN785)	3100	2000
(On-Premises or Out-of-Building—Same Premises) 7100 Series	15200	10000
Hybrid Line (TN762) 7300 Series (Without Aux Power)	1000	750
7300 Series (With Aux Power)	2000	2000
Digital Line (TN754 or TN784) 7401D, 7403D, 7404D, 7405D, 7406D, 7407D, 7410D, 7434D		
(On-Premises)	3000	2200
(Out-of-Building—Same Premises) (See Note 3)	2400	1300
MET Line (TN735)	1000	650

**Note 3:** Out-of-Building—Same Premises terminal installation requires line protection.

## PPN CABINET TO EPN CABINET MAXIMUM CABLING DISTANCES

The maximum allowable distance for the fiber optic cable between the PPN cabinet and the EPN cabinet is up to 2.13 Km (approximately 7,000 feet). The speed across the fiber link is 32.788 Megabits per second.

# PROTOCOLS

PROTOCOL	APPLICATIONS	MAX. DATA RATE (kbps)	MAX. DISTANCE (FEET)
DCP	Digital Switch to Data Endpoints	64.0	5000 for data 3400 for voice
RS-232C	PDM to AP (V1, V2, V3) Switch to SAT (V1, V2, V3, XEV2, and XEV3) Switch to Manager I terminal (G1-both cabinets) PDM to Host Computer AP to Data Set (V1, V2, V3) MPDM to Printer  EIA Interface (Data Line to ADU)	19.2      19.2 9.6 4.8 2.4 1.2 0.3	50      2000 5000 7000 12000 20000 40000
RS-449 (V1, V2, and V3)	AP to AP	19.2 9.6 4.8 2.4	200 400 800 1600
SSI (V1, V2, V3)	500 BCT to AP 400 Series Printers to AP	56.0	5000
BISYNC (V1, V2, and V3)	AP Line Controller to Host Computer for Terminal Emulation (9.6)	2.4 4.8 9.6	
BX.25	Communications Interface to AP (V1, V2, V3) DCS, CMS, MSA, or AUDIX  ISDN Gateway  Communications Links Between Multiple APs and With Net 1000 (V1, V2, and V3)	9.6   9.6  9.6	(See Note)   (See Note)  (See Note)

**NOTE:** Data endpoint determines distance limitation.

## PROTOCOLS (Contd)

PROTOCOL	APPLICATIONS	MAX. DATA RATE (kbps)	MAX. DISTANCE (FEET)
SDCPI (V1, V2, V3)	MPDM to AP	64.0	17
RS-366	Host Computer to ACU	64.0	50
	MTDM to ACU	64.0	17
V.35	MPDM to Data Endpoints	56.0	50
Category A Coaxial	3270 Data Modules to 3270-Type Terminals or Cluster Controller	64.0	500
	3270A Data Module in ASCII Emulation Mode	9.6	500
ISDN PRI (G1)	Communication Interface to ISDN Interface	64*	655 to Network or Repeater 1310 PBX to PBX

\* The ISDN PRI sends digitized voice and digital data in T1 frames at a 1.544 Mbps rate. Each frame consists of twenty-four 64 kbps channels plus 8 kbps for framing. This represents 23 Bearer (or B) channels plus 1 Data (or D) channel. The maximum user rate is 64 kbps for voice and data.

## TRUNK SPECIFICATIONS

TRUNK TYPE	CIRCUIT PACK	SPECIFICATIONS
Central Office	TN747B	Capacity: 8 Circuits Transmission: 1-Way In, 1-Way Out, or 2-Way 2-Wire 600 Ohms or RC Balance Network Signaling: Ground Start or Loop Start
Auxiliary Trunk	TN763C	Capacity: 4 Circuits Transmission: 1-Way In, 1-Way Out, or 2-Way 2-Wire Signaling: Loop Start on Tip and Ring; Two Additional Pairs Provide Seizure and Answer Supervision and/or Make Busy Information
Direct Inward Dialing	TN753	Capacity: 8 Circuits Transmission: 1-Way Incoming Fixed Impedance to DID Trunk Signaling: Wink or Immediate Start Accepts Touch-Tone Dialing
Tie Trunk	TN760C	Capacity: 4 Circuits Transmission: 4-Wire Tip and Ring Signaling: E&M. 760C supports Type 1 or Type 5 E&M Signaling

## TRUNK SPECIFICATIONS (Contd)

TRUNK TYPE	CIRCUIT PACK	SPECIFICATIONS
DS1 Trunk	TN722B	<p>Capacity: 24 Trunks for Voice Grade Service. 23 Trunks for Alternate Voice/Data Service or DMI. One Trunk Used for Signaling. Supports tie line service only for trunking.</p> <p>Mode: Multiplexes 24 or 23 Trunks onto 1 Facility and Demultiplexes 1 Facility into 24 or 23 Trunks</p> <p>Speed: Trunks at 64 kbps, 1 Facility at 1.544 Mbps</p> <p>Signaling: DS1 Over 4-Wire</p>
ISDN PRI DS1 Interface (G1)	TN767	<p>Capacity: 24 Trunks for Voice Grade Service. 23 Trunks for Alternate Voice/Data Service or DMI. One Trunk Used for Signaling. TN767 can transmit ISDN PRI I.451 signaling on all 24 channels transparently. Supports tie trunks, CO, FX, DID, and OPS.</p> <p>Mode: Multiplexes 24 or 23 Trunks onto 1 Facility and Demultiplexes 1 Facility into 24 or 23 Trunks</p> <p>Speed: Trunks at 64 kbps, 1 Facility at 1.544 Mbps</p> <p>Signaling: DS1 Over 4-Wire</p>

## SYSTEM PARAMETERS

In the **SYSTEM PARAMETERS** table, the following should be considered:

- The headings V1, V2, V3 refer to System 75.
- The heading G1 refers to the DEFINITY Communications System, multi-carrier cabinet.
- The quantities shown under the V2 and V3 headings are the same for XEV2 and XEV3 **unless otherwise noted**.
- The quantities shown under the G1 heading are the same for the single-carrier cabinet **unless otherwise noted**.



## SYSTEM PARAMETERS

ITEM	V1	V2	V3	G1
Abbreviated Dial Lists:	502	802	802	1600
Personal Lists	400	800	800	1600
Max Entries	10	10	10	10
Per Extension Number	1	3	3	3
Group Lists	100	100	100	100
Max Entries	15	90	90	90
Per Extension Number	3	3	3	3
System List	1	1	1	1
Max Entries	50	90	90	90
Enhanced List			1	1
Enhanced List Entries	-	-	1000	1000
Number of Digits in Each				
Size of List Entry	16	24	24	24
Total Entries	2500	4010	4010	8000
Adjuncts:				
Applications Processors (AP16)	1	1*	1*	-
3B2 Message Server Adjuncts (MSA)	-	-	1	1
AUDIX Systems	-	-	1	1
CMS Systems	-	-	1	1
SMDR Output Devices	1	1	1	2
PMS Systems	-	-	1	1
OCM Adjunct	-	-	-	1†
ISDN Gateway	-	-	-	1†
Attendant Groups:				
Queue Length	30	30	30	30
Daytime Positions	6	6	6	6
Night-Only Positions	1	1	1	1
Emergency Access Queue Slots	-	-	50	50
Authorization:				
Authorization Codes	-	-	5000	5000
Length of Authorization Codes	-	-	4-7	4-7
Barrier Codes (Remote Access)	10	10	10	10
Length of Barrier Code	4-7	4-7	4-7	4-7
Automatic Alternate Routing (AAR) and Automatic Route Selection (ARS):				
Patterns	16	254	254	254
ARS patterns for measurement	-	20	20	20
Trunks in an ARS pattern	6	6	6	6
Toll tables	4	32	32	32

\* Quantity shown is for V2 and V3—XEV2 and XEV3 do not support the AP.

† The system can have either OCM or ISDN Gateway but not both on the same switch.

## SYSTEM PARAMETERS (Contd)

ITEM	V1	V2	V3	G1
Automatic Alternate Routing (AAR) and Automatic Route Selection (ARS)(Contd):				
NPAs (X-0/1-X)	200	200	200	200
NXXs	800	800	800	800
RNXs	-	640	640	640
ARS HNPA tables	1	1	4	8
ARS RHNPA tables	4	32	32	32
FNPA tables	1	1	4	8
RNX tables	-	1	4	8
TOD charts	-	-	-	8
Choices per RHNPA table	-	12	12	12
Entries in TOLL table	800	800	800	800
Entries in HNPA & RHNPA tables	800	800	800	800
Entries in RNX table	-	640	640	640
Entries in FNPA table	200	200	200	200
Entries in 10- to 7-digit conversion table	-	-	-	180
FRLs	8	8	8	8
Digits inserted for ARS/AAR	-	36	36	36
Digits deleted for ARS/AAR	-	11	11	11
Partition groups	-	-	4	8
Automatic Callback Calls	40	80	80	160
Automatic Wakeup:				
Wakeup Requests per Extension	-	-	1	1
Max Wakeup Requests (Shared With Do Not Disturb)	-	-	800	1600
Max Wakeup Requests in any 15-min Interval	-	-	200	200
Advance Wakeup Request Time (Hours)	-	-	23	23
(Minutes)	-	-	55	55
Attendant Consoles and/or Front Desk Terminals in Display Mode	-	-	10	10
Basic Call Management System				
Agents Measured by BCMS	-	-	-	30
Trunk Groups Measured by BCMS	-	-	-	30
Splits Measured by BCMS	-	-	-	30
Time Slices for Storing Data	-	-	-	25
Bridged Call Appearances	400	500	800	1600

## SYSTEM PARAMETERS (Contd)

ITEM	V1	V2	V3	G1
<b>Cabinets</b>				
System 75 and G1 MCC System				
Basic/PPN	1	1	1	1
EPN	-	-	-	1
System 75 XE and G1 SCC System				
Basic/PPN Control	-	1	1	1
Duplicated Control	-	-	-	1
Port (Without Duplication)	-	3	3	3
Port (With Duplication)	-	-	-	2
Expansion Control	-	-	-	1
Port	-	-	-	3
<b>Call Coverage:</b>				
Coverage Paths per System	200	400	400	600
With Hospitality Parameter				
Reduction	-	-	5	5
Coverage Points per Path	3	3	3	3
Coverage Answer Groups	100	200	200	200
Members per Coverage Answer	8	8	8	8
Group				
Max number of Coverage Paths in	1	1	4	4
a Coverage Path List				
<b>Call Park</b>				
Attendant Group Common Shared	10	10	10	10
Extension Numbers				
<b>Call Pickup Groups</b>				
With Hospitality Parameter	200	400	400	800
Reduction	-	-	5	5
Members per Group	25	50	50	50
Total Members	400	800	800	1600
<b>Carriers:</b>				
Control (PPN Cabinet-Without Duplication)	1	1	1	1
Control (PPN Cabinet-With Duplication)	-	-	-	2
Port (PPN Cabinet-Without Duplication)	4	4	4	4*
Port (PPN Cabinet-With Duplication)	-	-	-	3†
Expansion Control (EPN Cabinet)	-	-	-	1
Port (EPN Cabinet)	-	-	-	4‡

\* This quantity is 3 for G1 single-carrier cabinets.

† This quantity is 2 for G1 single-carrier systems with duplication.

‡ This quantity is 3 for G1 single-carrier cabinets.

## SYSTEM PARAMETERS (Contd)

ITEM	V1	V2	V3	G1
Centralized Attendant Service				
Release Link Trunks (Branch)	-	16	16	16
Release Link Trunks (Main)	-	-	200	400
Branches Per Main	-	-	99	99
Classes of Restriction	64	64	64	64
Classes of Service	16	16	16	16
Communications Interface Links*				
Multi-Carrier Cabinet	1	4	4	8
Single-Carrier Cabinet	-	4	4	4
Conference Parties	6	6	6	6
Dial Plan:				
Extensions	600	1200	1200	2500
Dial access codes	50	50	70	70
Trunk access codes	100	118	157	197
Name size in characters	15	15	15	15
Max extension size	4	5	5†	5†
Digital Data Endpoints	200	400	400	800
Do Not Disturb				
Do Not Disturb Requests (Shared With Automatic Wakeup)	-	-	800	1600
Attendant Consoles and/or Front Desk Terminals in Display Mode	-	-	10	10
DS1 Circuit Packs	-	20	20	30
Facility Busy Indicators	1000	1600	1600	2400
Buttons per Tracked Resource	100	100	100	100
Hunt Groups, Splits, or OCM	32	32	32	99‡
With Hospitality Parameter				
Reduction	-	-	5	5
Measured ACD Agents per System (CMS)	-	-	200	400
Measured ACD Agents per System (BCMS)	-	-	-	30
ACD Supervisors per System	-	-	32	32
Members per Group	32	32	100	200
Members per System	448	448	448	500
Queue Slots per Group	35	35	100	200
Queue Slots per System	1120	1120	1000	1000
Announcements per Group	1	1	2	2

\* Only one link can be used for the AP (V1, V2, and V3 only—XE and G1 do not support the AP).

† A prefixed extension can be 6 digits.

‡ Only hunt groups 1 through 32 can be measured by Call Management System (CMS).

## SYSTEM PARAMETERS (Contd)

ITEM	V1	V2	V3	G1
Intercom Groups (Automatic and Dial Combined)	32	32	32	32
Members per Group	32	32	32	32
Members per System	1024	1024	1024	1024
Integrated Directory Entries	400	800	800	1600
Number of Digits in Each List Entry	15	15	15	15
Leave Word Calling (Switch-Based, No AP):				
Messages Stored	1000	2000	2000	2000
Messages per User	125	125	125	125
Individual Message Retrievers	60	60	60	60
Systemwide Message Retrievers	10	10	10	10
Remote Message Waiting Indicator:				
Per Extension Number	1	1	80	80
Per System	50	80	80	80
Move Agents from CMS				
Max Agents Moved per Request	-	-	32	32
Multiple Listed Directory Numbers	50	50	50	50
DID Numbers	8	8	8	8
Names Registration (G1 Only)				
Number of characters per name	-	-	-	15
Number of digits in room extension	-	-	-	5
Paging:*				
Loudspeaker zones	9	9	9	9
Code calling IDs	125	125	125	125
Personal CO Line (PCOL) Group:				
PCOL groups	25	40	40	40
PCOL members in a group	4	4	4	4
Pooled Modems:				
Groups	1	5	5	5
Members per Group	32	32	32	32
Integrated	32	160	160	160
Combined	-	160	160	160

\* These maximum parameters do not apply if PagePac† Paging Systems are used.

---

† Trademark of Harris Corporation Dracon Division

## SYSTEM PARAMETERS (Contd)

ITEM	V1	V2	V3	G1
Port Circuit Pack Slots *				
PPN-Without Duplication Option	85	85 (68)	85 (68)	88 (63)
PPN-With Duplication Option	-	-	-	76 (54)
PPN/EPN-Without Duplication Option	-	-	-	184 (131)
PPN/EPN-With Duplication	-	-	-	169 (119)
Power Failure Transfer Extensions:				
Model 574-5 Panel	35	35	35	35
Z1A Panel	42	42	42	42
Recorded Announcements	10	10	64	64
Integrated Recorded Announcements:				
Integrated Announcement Circuit Packs	-	-	1	1
Channels per Integrated Announcement				
Circuit Pack	-	-	16	16
Calls Connected Simultaneously per				
Integrated Announcement Port	-	-	5	5
Integrated Announcement Queue Slots				
per System	-	-	50	50
Integrated Announcement Circuit Pack				
Capacity				
(Minutes)	-	-	4	4
(Seconds)	-	-	16	16
Analog Line Recorded Announcements:				
Analog Line Circuit Packs (8 port)	2	2	8	8
Calls Connected Simultaneously to				
each Analog Announcement Port	1	1	1	1
Analog Line Announcement Queue Slots				
per System	50	50	150	150
Analog Line Announcement Queue Slots				
per Announcement	5	5	150	150

\* Port circuit pack slots available for use after installing required standard tone detector, expansion interface, and tone clock circuit packs. Quantities in ( ) apply to XE and G1 single-carrier cabinet.

## SYSTEM PARAMETERS (Contd)

ITEM	V1	V2	V3	G1
Remote Access Barrier Codes	10	10	10	10
Reports Scheduled by Report Scheduler (G1)	-	-	-	50
System Printers	-	-	-	1
Restriction—Toll/Code:				
Allowed Calls List Codes	10	10	10	10
Digit Absorption Lists	5	5	5	5
Ringback Queue Slots	100	120	120	120
Speech Synthesizer Circuit Packs	-	6	6	6
Channels per Speech Circuit Pack	-	4	4	4
Terminating Extension Groups	32	32	32	32
Members per Group	4	4	4	4
Time Slots:				
Total	512	512	512	1024
Call Switching	473	483	483	966
Simultaneous Conversations	236	241	241	482*
Tone Detectors:				
Call Progress	10‡	10‡	10‡	40§
Touch-Tone	20‡	20‡	20‡	80§
Traffic Handling Capability [in Hundred Call Seconds (CCS)]	8500	8670	8670	17352
Busy Hour Call Completions†	3600	3600	3600	7200
Trunks	200	200	200	400
With Hospitality Parameter Reduction	-	-	50	50
Trunk Groups	50	60	99	99
Trunks per Group	60	60	60	99
Queue Slots for Trunks	100	120	198	198

\* Based on 241 simultaneous conversations, using time slots on the PPN bus and 241 simultaneous conversations using time slots on the EPN bus.

† Based on a distribution of 36% incoming, 36% outgoing, and 28% intercom calls—traffic capabilities for individual configurations will vary.

‡ Requires 5 TN748B or C circuit packs.

§ Requires 20 TN748B or C circuit packs.

## SYSTEM PARAMETERS (Contd)

ITEM	V1	V2	V3	G1
Voice Terminals:				
Combination of Digital, Hybrid and Analog Terminals (Also includes 515 or 510D terminals, external alerts, and announcement machines.)	400	800	800	1600*
Digital Terminals	400	680	680	1472*
Max Button Modules (Terminal Modules [adjuncts] and Terminals with more than 10 assignable buttons.)	125	450	450	1000
Max Digital Display Modules	62	225	225	500
Phantom Users	125	125	125	150

\* Combination of Digital, Hybrid, and Analog Terminals for G1 single-carrier cabinet = 1200. Digital terminals for G1 single-carrier cabinet = 1048.



# INTERFACE CIRCUIT PACKS

## V3, XEV2, XEV3, AND G1

### Processor Interface TN765

- Provides 4 data links to the TDM bus and a link to the processor
- Provides AUDIX, CMS, DCS, OCM, ISDN, or MSA interface
- Provides a single EIA port for direct access to AUDIX, CMS, DCS, OCM, ISDN, or MSA

## V1, V2, AND V3

### Interface 1 TN716B

- Interfaces Processor With System Bus Protocol

### Interface 2 TN720 or TN738

- 64 KBYTES ROM 128 KBYTES RAM
- Forms Channel to AP Using BX.25 Protocol
- TN738 Provides Data Channel Capability Required for the DCS (V2 and V3 Only), CMS (V3 Only), and AUDIX (V3 Only)

### Interface 3 TN719

- Terminates DCP for Data Coming From AP or DCS Via TDM Bus

# **CONTROL CIRCUIT PACKS**

## **SYSTEM 75 V1, V2, AND V3 AND SYSTEM 75 XEV2 AND XEV3**

### **Maintenance TN731 or TN731B (V1, V2, V3)**

- Access to System Access Terminal (SAT)
- Monitors Power Units, Processor Circuit Pack, Air Temperature, and Air Flow
- Originates Alarm Calls to INADS (Synchronous)
- Provides Synchronous or Asynchronous (TN731B) Remote SAT Access

### **Network Control TN727 (V1, V2, V3, XEV2, XEV3)**

- Continuously Monitors Port Circuit Packs
- Transfers Data to Processor Circuit Packs
- Houses Data Channels for SMDR, PMS, and Remote SAT Access

### **Processor TN711 (V1) or TN711B (V1, V2, V3)**

- Manages Control of Entire System
- 2K RAM
- 264K ROM/EPROM

### **Processor TN759 (XEV2, XEV3)**

- Manages Control of Entire System
- 2K RAM
- 64K ROM/EPROM
- Provides EIA connection for SMDR

### **Memory TN734 (V1, V2, V3)**

- Contains All System Translations
- 2 MBYTES RAM Using 88 256K Devices

### **Memory TN761 (V3, XEV2, XEV3)**

- Contains All System Translations
- 4 MBYTES RAM

### **Tape Control TN729 (V1, V2, V3)**

- Provides Control and Data Transfer

### **Tone-Clock TN714 or TN741**

- Provides tone and clock generation
- TN741 Provides Clock for Network Synchronization (V2, V3, XEV2, XEV3)

### **Tone Detector/Generator TN756 (XEV2, XEV3)**

- Provides 4 Touch-tone Receiver Ports and 2 Tone Detector Ports
- Provides tone and clock generation for systems without DS1 trunks
- Use TN714/TN741 and TN748C in systems with DS1 trunks

### **Tone Detector TN748C (V1, V2, V3, XEV2, XEV3)**

- Provides 4 Touch-tone Receiver Ports and 2 Tone Detector Ports

# **CONTROL CIRCUIT PACKS (Contd)**

## **DEFINITY COMMUNICATIONS SYSTEM, G1**

### **Network Control TN777**

- Continuously Monitors Port Circuit Packs
- Transfers Data to Processor Circuit Packs
- Houses Data Channels for switched Manager I terminal access
- Provides real time of day clock with battery backup
- Monitors status of system clocks
- Supports the duplicated processor option

### **Processor TN773**

- Manages Control of Entire System
- 32K RAM
- 196K ROM/EPROM

### **Memory TN770**

- Contains All System Translations
- 6 MBYTES RAM
- One required for basic system, two required for duplicated system

### **Tape Drive TN774**

- Provides control and data transfer

### **Tone-Clock TN768 (standard in multi-carrier cabinet—optional in single-carrier cabinet)**

- Supplies tones and clocks
- Provides clock for Network Synchronization
- One required for basic PPN system, two required for duplicated PPN system.
- One required for basic EPN cabinet, two required for EPN cabinet in a duplicated system.

### **Tone Detector/Generator TN756 (single-carrier cabinet).**

- Provides 4 Touch-tone Receiver Ports and 2 Tone Detector Ports
- Provides tone generation and clock generation
- Used instead of TN768 and TN748C in systems without DS1, EPN, or DO

### **Tone Detector TN748C**

- Provides 4 Touch-tone Receiver Ports and 2 Tone Detector Ports.

# **CONTROL CIRCUIT PACKS (Contd)**

## **DEFINITY COMMUNICATIONS SYSTEM, G1**

### **Duplication Interface TN772**

- Controls and provides the memory shadowing function with the Duplication Option

### **Expansion Interface TN776**

- Extends the TDM bus from the PPN cabinet to the EPN cabinet
- Communicates with the TN776 Expansion Interface Circuit Pack in the EPN cabinet

### **Lightwave Transceivers (4-Type)**

- Mount on an I/O connector located on the backplanes of multi-carrier cabinet (MCC) and single-carrier cabinet (SCC) systems requiring an Expansion Port Network
- Terminates the fiber optic link(s) between the PPN cabinet and the EPN cabinet

### **Current Limiter Card 982LS**

- Connects to back of processor circuit pack slot
- Provides current limited accessory 48 volts, emergency transfer logic, current limited 5 volts to trip main circuit breaker in high temperature condition and duplicated 48 volts for fan units in the PPN cabinet.

### **Expansion Interface TN776**

- Extends the TDM bus from the PPN cabinet to the EPN cabinet
- Communicates with the TN776 Expansion Interface Circuit Pack in the PPN cabinet and the TN775 Maintenance Circuit Pack in the Expansion Control carrier

### **Lightware Transceivers (4-Type)**

- Mount on an I/O connector located on the backplanes of multi-carrier cabinet (MCC) and single-carrier cabinet (SCC) systems requiring an Expansion Port Network
- Terminates the fiber optic link(s) between the PPN cabinet and the EPN cabinet

# EXPANSION CONTROL CIRCUIT PACKS

## DEFINITY COMMUNICATIONS SYSTEM, G1

### **Maintenance TN775**

- Controls and monitors the environmental and power systems in the EPN cabinet
- Provides two serial links to communicate with the TN776 Expansion Interface circuit packs
- Provides access for the Manager I terminal

### **Current Limiter Card CFY1**

- Connects to the back of the maintenance circuit pack slot
- Provides same function for the EPN cabinet that 982LS provides for the PPN cabinet

### **Tone-Clock TN768 (standard in multi-carrier cabinet—optional in single-carrier cabinet)**

- Supplies tones and clocks
- Provides clock for Network Synchronization
- One required for basic PPN system, two required for duplicated PPN system.
- One required for basic EPN cabinet, two required for EPN cabinet in a duplicated system.

### **Tone Detector/Generator TN756 (single-carrier cabinet)**

- Provides 4 Touch-tone Receiver Ports and 2 Tone Detector Ports
- Provides tone generation and clock generation
- Used instead of TN768 and TN748C in systems without DS1, EPN, or DO

### **Tone Detector TN748C**

- Provides 4 Touch-tone Receiver Ports and 2 Tone Detector Ports

# PORT CIRCUIT PACKS

Analog Line (8-port)	TN742
Analog Line (16-port)	TN746 (all except V1)
Analog Line (8-port)	TN769 (all except V1)
Analog Line (16-port)	TN785 (G1) (same functions as TN769)
Announcement	TN750 (V3, XEV3, and G1)
Auxiliary Trunk	TN763C
CO Trunk	TN747B
Data Line (EIA)	TN726 (all except V1)
DID Trunk	TN753
Digital Line	TN754
Digital Line	TN784 (with lightning protection)
DS1 Interface	TN767 (G1)
DS1 Tie Trunk	TN722B (all except V1)
Hybrid Line	TN762B
MET Line	TN735
Pooled Modem	TN758
Speech Synthesizer	TN725B (V2, V3, XEV2, XEV3, and G1)
Tie Trunk	TN760C
Tone Detector	TN748C

# **POWER UNITS**

## **V1, V2, V3, XEV2, and XEV3**

### **631AR, 631WA1, or 631DA1 Power Unit (V1, V2, and V3)**

- Provides +5 volt dc 60-amp power on the backplane on the control carrier and the port carriers

### **631BR, 631WB1, or 631DB1 Power Unit (V1, V2, and V3)**

- Provides -48 volt dc 8-amp and -5 volt dc 6-amp power on the backplanes of the carriers

### **TN736 Power Unit Circuit Pack (V1, V2, and V3)**

- Provides -5 volt dc on the backplanes of all carriers for the port circuit packs (not required with 631DB1 Power Unit)

### **TN752 Power Unit Circuit Pack (V3)**

- Converts -48 volt dc to -5 volt dc required by the circuit packs and also provides 150-volt dc for neon message waiting
- Should be used in conjunction with the Analog Line circuit packs that support neon message waiting (TN746, TN769, or TN785)

### **WP-91153 L2 Power Supply (XEV2 and XEV3)**

- Provides +5 volt dc power, -5 volt dc power, -48 volt dc power, +12 volt dc power, ringing voltage, and battery charge voltage
- Provides circuit breakers and EMI filtering

### **TN755B Power Unit (V3, XEV2, and XEV3)**

- Supports applications requiring neon message waiting lamps

# POWER UNITS (Contd)

## G1

### **631DA1 Power Unit (G1)**

- Provides +5 volt dc 60-amp power on the backplane on the control carrier and the port carriers

### **631DB1 Power Unit (G1)**

- Provides -48 volt dc 8-amp and -5 volt 6-amp power on the backplanes of the carriers

### **644A Power Unit (G1)**

- Provides +5 volt dc 60-amp power on the backplane on the control carrier and the port carriers of -48 volt DC powered cabinets

### **645B Power Unit (G1)**

- Provides -48 volt dc 8-amp and -5 volt dc 6-amp power on the backplanes of the carriers of -48 volt DC powered cabinets
- The control carrier contains one 645B Power Unit to power the circuit packs in all slots

### **WP-91153 L2 Power Supply (G1)**

- Provides +5 volt dc power, -5 volt dc power, -48 volt dc power, +12 volt dc power ringing voltage, and battery charge voltage for single-carrier cabinets
- Provides circuit breakers and EMI filtering

### **TN755B Power Unit (G1)**

- Supports applications requiring neon message waiting lamps

### **676B Power Unit (G1)**

- Provides +5 volt dc power, -5 volt dc power, -48 volt dc power, +12 volt dc power, and ringing voltage for -48 volt DC powered single-carrier cabinets



## **DATA MANAGEMENT FEATURES**

Data Call Setup  
Data Hot Line (all except V1)  
Data-Only Off-Premises Extensions  
Data Privacy  
Data Restriction  
Digital Multiplexed Interface (DMI) (all except V1)  
DS1 Tie Trunk Service (all except V1)  
EIA Interface (all except V1)  
Information Systems Network (ISN) Interface  
Modem Pooling  
Permanent Switched Calls (all except V1)  
PC/PBX Connection (all except V1)  
Uniform Call Distribution (UCD)

## **SYSTEM MANAGEMENT FEATURES**

Interface to Customer-Provided Equipment (CPE) Alarm  
(XEV2, XEV3, and G1)  
Facility Test Calls  
Move Agent From CMS (V3, XEV3, and G1)  
Recent Change History (G1)  
Report Scheduler and System Printer (G1)  
Station Message Detail Recording (SMDR)  
System Measurements  
System Status Report (all except V1)

# VOICE MANAGEMENT FEATURES

Abbreviated Dialing  
AP Demand Print (V1, V2, V3)  
Attendant Auto-Manual Splitting  
Attendant Call Waiting  
Attendant Control of Trunk Group Access  
Attendant Direct Extension Selection With Busy Lamp Field  
Attendant Direct Trunk Group Selection  
Attendant Display  
Attendant Recall  
Attendant Release Loop Operation  
Audio Information Exchange (AUDIX) Interface  
(V3, XEV3, and G1)  
Authorization Codes (V3, XEV3, and G1)  
Automatic Callback  
Automatic Incoming Call Display (all except V1)  
Bridged Call Appearance—Multi-Appearance Voice Terminal  
Bridged Call Appearance—Single-Line Voice Terminal (G1)  
Busy Verification of Terminals and Trunks (all except V1)  
Call-By-Call Service Selection (G1)  
Call Coverage  
Call Forwarding All Calls  
Call Park  
Call Pickup  
Call Waiting Termination  
Centralized Attendant Service (Branch) (V2, V3, XEV3, and G1)  
Centralized Attendant Service (Main) (V3, XEV3, and G1)  
Class of Restriction  
Class of Service  
Code Calling Access  
Conference—Attendant  
Conference—Terminal  
Consult  
Coverage Callback  
Coverage Incoming Call Identification  
Dial Access to Attendant  
Dial Plan

## **VOICE MANAGEMENT FEATURES (Contd)**

Direct Department Calling (DDC) and  
Uniform Call Distribution (UCD)  
Direct Inward Dialing (DID)  
Direct Outward Dialing (DOD)  
Distinctive Ringing  
Emergency Access to the Attendant (V3, XEV3, and G1)  
Facility Busy Indication  
Forced Entry of Account Codes (all except V1)  
Go to Cover  
Hold  
Hot Line Service  
Hunting  
Individual Attendant Access (all except V1)  
Integrated Directory  
Intercept Treatment  
Intercom—Automatic  
Intercom—Dial  
Inter-PBX Attendant Calls (all except V1)  
Last Number Dialed  
Leave Word Calling  
Line Lockout  
Loudspeaker Paging Access  
Loudspeaker Paging Access—Deluxe (G1)  
Manual Message Waiting  
Manual Originating Line Service  
Manual Signaling  
Multi-Appearance Preselection and Preference  
Multiple Listed Directory Numbers  
Music-on-Hold Access  
Night Service—Hunt Group (V3, XEV3, and G1)  
Night Service—Night Console Service  
Night Service—Night Station Service  
Night Service—Trunk Answer From Any Station  
Night Service—Trunk Group (V3, XEV3, and G1)  
Outbound Call Management (G1)  
Personal CO Line  
Personalized Ringing (all except V1)  
Power Failure Transfer  
Priority Calling  
Privacy—Attendant Lockout  
Privacy—Manual Exclusion

## VOICE MANAGEMENT FEATURES (Contd)

Recall Signaling  
Recorded Announcement  
Recorded Telephone Dictation Access  
Remote Access  
Restriction—Controlled  
Restriction—Miscellaneous Terminal  
Restriction—Miscellaneous Trunk  
Restriction—Toll/Code  
Restriction—Voice Terminal—Inward  
Restriction—Voice Terminal—Manual Terminating Line  
Restriction—Voice Terminal—Origination  
Restriction—Voice Terminal—Outward  
Restriction—Voice Terminal—Termination  
Ringback Queuing  
Ringer Cut Off  
Rotary Dialing (all except V1)  
Send All Calls  
Senderized Operation  
Single-Digit Dialing and Mixed Station Numbering  
(V3, XEV3, and G1)  
SMDR Account Code Dialing  
Straightforward Outward Completion  
Temporary Bridged Appearance  
Terminating Extension Group  
Through Dialing  
Timed Reminder  
Touch-Tone Dialing  
Transfer  
Trunk Group Busy/Warning Indicators to Attendant  
Trunk Identification By Attendant (all except V1)  
Trunk-to-Trunk Transfer  
Voice Message Retrieval (all except V1)  
Voice Terminal Display

## **NETWORK SERVICES FEATURES**

AAR/ARS Partitioning (V3, XEV3, and G1)  
Automatic Alternate Routing (AAR) (all except V1)  
Automatic Circuit Assurance (all except V1)  
Automatic Route Selection (ARS)  
DCS Alphanumeric Display for Terminals (all except V1)  
DCS Attendant Control of Trunk Group Access (all except V1)  
DCS Attendant Direct Trunk Group Selection (all except V1)  
DCS Attendant Display (all except V1)  
DCS Automatic Callback (all except V1)  
DCS Automatic Circuit Assurance (all except V1)  
DCS Busy Verification of Terminals and Trunks (all except V1)  
DCS Call Forwarding All Calls (all except V1)  
DCS Call Waiting (all except V1)  
DCS Distinctive Ringing (all except V1)  
DCS Leave Word Calling (all except V1)  
DCS Multi-Appearance Conference/Transfer (all except V1)  
DCS Trunk Group Busy/ Warning Indication (all except V1)  
Facility Restriction Levels and Traveling Class Marks  
(all except V1)  
Generalized Route Selection (G1)  
Integrated Services Digital Network—Primary  
Rate Interface (ISDN-PRI) (G1)  
Network Access—Private  
Network Access—Public  
Off-Premises Station  
Subnet Trunking (all except V1)  
Ten-Digit to Seven-Digit Conversion (G1)  
Time of Day Routing (G1)  
Uniform Dial Plan (all except V1)

## **HOSPITALITY SERVICES FEATURES (V3, XEV3, and G1)**

- Automatic Wakeup
- Do Not Disturb
- Hospitality Parameter Reduction
- Names Registration (G1)
- Property Management System Interface
  - Check-In/Check-Out
  - Controlled Restriction
  - Maid Status In Room
  - Maid Status Designated Terminal
  - Housekeeping Status
  - Message Waiting Notification
  - Room Change/Room Swap
  - Room Data Image
  - Status Inquiry
  - Guest Information Input/Change

## **CALL MANAGEMENT FEATURES (V3, XEV3, and G1)**

- Abandoned Call Search
- Agent Call Handling
- Automatic Call Distribution (ACD)
- Basic Call Management System (G1)
- Intraflow and Interflow
- Move Agent From CMS
- Queue Status Indications
- Report Scheduler and System Printer (G1)
- Service Observing

## **REFERENCES**

An abbreviated listing of DEFINITY Communications System Generic 1 and System 75 documents is given on the following page. For a complete listing of these documents, refer to *DEFINITY Communications System Generic 1 and System 75—Documentation Guide and Subject Index*, 555-200-010.

## REFERENCE DOCUMENTS

Document Number	Document Title	Iss. No.	Version			
			V1	V2*	V3*	G1*
350-060	AT&T Telecommunication Electrical Protection	1	✓	✓	✓	✓
555-015-104	DEFINITY Communications System Generic 1 and Generic 2 and System 75 and System 85 Terminals and Adjuncts Installation and Test	1	✓	✓	✓	✓
555-015-201	DEFINITY Communications System Generic 1 and Generic 2 and System 75 and System 85 Terminals and Adjuncts Reference	2	✓	✓	✓	✓
555-200-104	AT&T System 75 Installation and Test	5	✓	✓	✓	
555-200-105	AT&T System 75 Maintenance	4	✓	✓	✓	
555-200-106	AT&T System 75 Upgrades and Additions	4	✓	✓	✓	
555-200-111	DEFINITY Communications System Generic 1 and System 75 Wiring	1	✓	✓	✓	✓
555-200-200†	AT&T System 75 System Description	5	✓	✓	✓	
555-200-201	DEFINITY Communications System Generic 1 and System 75 Feature Description	6	✓	✓	✓	✓
555-200-500	DEFINITY Communications System Generic 1 and System 75 Administration and Measurement Reports	5	✓	✓	✓	✓

\* Includes XE and Single-Carrier Cabinet, unless otherwise noted.

† Does not include XE.

## REFERENCE DOCUMENTS (Contd)

Document Number	Document Title	Iss. No.	Version			
			V1	V2*	V3*	G1*
555-200-600	DEFINITY Communications System Generic 1 and System 75 Planning/Configuration	5	✓	✓	✓	✓
555-200-650†	AT&T System 75 Implementation Manual Release 1 Version 1	1	✓			
555-200-651	AT&T System 75 Implementation Release 1 Version 2	3		✓		
555-200-652	AT&T System 75 Implementation Release 1 Version 3	3			✓	
555-200-700	DEFINITY Communications System Generic 1 and System 75 Console Operation	4	✓	✓	✓	✓
555-200-701	DEFINITY Communications System Generic 1 and System 75 Voice Terminal Operations	4	✓	✓	✓	✓
555-200-722	DEFINITY Communications System Generic 1 and System 75 ACD Agent Instructions	1			✓	✓
555-200-723	DEFINITY Communications System Generic 1 and System 75 Hospitality Operations	1			✓	✓
555-200-724	DEFINITY Communications System Generic 1 and System 75 ACD Supervisor Instructions	1			✓	✓
555-201-200	AT&T System 75 XE System Description	3		✓	✓	

\* Includes XE and Single-Carrier Cabinet, unless otherwise noted.

† Does not include XE.



## REFERENCE DOCUMENTS (Contd)

Document Number	Document Title	Iss. No.	Version			
			V1	V2	V3	G1
555-204-104	DEFINITY Communications System Generic 1 Installation and Test	2				✓
555-204-105	DEFINITY Communications System Generic 1 Maintenance	2				✓
555-204-106	DEFINITY Communications System Generic 1 Upgrades and Additions	1				✓
555-204-200	DEFINITY Communications System Generic 1 System Description	2				✓
555-204-499	DEFINITY Communications System Generic 1.1 Capabilities	1				✓
555-204-654	DEFINITY Communications System Generic 1 Implementation	2				✓

## NOTES:

555-200-202  
Issue 7, February 1990

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