SWITCHED SERVICE NETWORKS

ELECTRONIC TANDEM NETWORK

CUSTOMER ADMINISTRATION CENTER SYSTEM

CUSTOMER ADMINISTRATION PANEL (CAP) AND LOCAL

CUSTOMER ADMINISTRATION SYSTEM (LCAS)

GENERAL DESCRIPTION

1. INTRODUCTION

1.01 This section provides information on the Customer Administration Center System (CACS), the Customer Administration Panel (CAP), and the Local Customer Administration System (LCAS). CACS permits the customer to administer station and tandem switching features and to obtain traffic measurements and circuit assurance data from multiple tandem switching locations.

   (a) CAP is designed for use with a single DIMENSION PBX feature package (FP8).

   (b) LCAS is located on the customer premises and serves one No. 1/1A ESS Centrex tandem.

1.02 This section has been reissued to include information on 1/1A ESS. Revision arrows have been used to denote significant changes.

1.03 The acronyms and abbreviations used in this section are listed below:

ABBREVIATION	TITLE
ACA	Automatic Circuit Assurance
ACU	Automatic Calling Unit

A/D	Abbreviated/Delayed Ringing	RSB	Repair Service Bureau
ANI	Automatic Number Identification	TREAT	Trouble Report Evaluation and Analysis Tool
ARS	Automatic Route Selection	TVC	Trunk Verification by Console
ARSB	Automated Repair Service Bureau	TVS	Trunk Verification Station
CACS	Customer Administration Center System		
CAP	Customer Administration Panel		
CO	Central Office		
ECTS	Electronic Customer Telephone Service		
ETN	Electronic Tandem Network		
FP8	DIMENSION Feature Package 8		
FRL	Facility Restriction Level		
I&R	Installation and Repair		
I/O	Input/Output		
LCAS	Local Customer Administration System		
LMDRS	Local Message Detail Recording System		
MAAP	Maintenance and Administration Panel		
MTTP	Manual Trunk Test Position		
NCO	Network Control Office		
PCO	Plant Control Office		
PSC	Plant Service Center		
PTD	Plant Test Date		
PBX	Private Branch Exchange		
RMATS	Remote Maintenance Administration Traffic System		
RMS	Remote Maintenance Station		

2. GENERAL DESCRIPTION

A. Customer Administration Center System

2.01 The CACS provides a means whereby a customer can remotely access all tandem switches on the Electronic Tandem Network (ETN) for the purpose of administration and data collection. The customer may do any one or all of the following:

(a) Initiate station rearrangement and changes (on DIMENSION FP8 only)

(b) Obtain access to traffic data (local and/or remote)

(c) Perform facilities administration and control

(d) Obtain facilities assurance reports.

2.02 The CACS is a stored program controlled system using the same type processor and cabinet as a DIMENSION 400. The CACS is located on the customer premises.

2.03 The CACS access to the tandem switcher is via a central office switched connection. The central office trunk serving the tandem switcher is dedicated and equipped with a data set. In DIMENSION FP8 these same dedicated facilities are also used by the telephone company (TELCO) for accessing with the Remote Maintenance Administration Traffic System (RMATS). Only one connection can be accommodated at any given time on a first come, first served basis. A customer-owned or Bell System leased terminal such as a DATASPEED® 40/2 or the 43 Teleprinter provides the necessary CACS processor input/output (I/O) and can be located at any convenient operating position designated by the customer that is within approximately 700 feet maximum of the CACS equipment. Distances over 50 feet require treating the CACS-to-terminal link with the local engineered

option of private line data sets functioning as a range extender.

2.04 The CACS has a total of six data ports (see Fig. 1). Ports 1, 4, and 6 are required as part of the basic system. Ports 2, 3, and 5 are optional. These ports are listed below:

- *Port 1*—Primary keyboard/display terminal access.

- *Port 2*—Remote port with data set [port used for Network Control Office (NCO) access].

- *Port 3*—Auxiliary keyboard/display terminal with optional data set.

- *Port 4*—Automatic Calling Unit (ACU) with data set—provides *primary* access to tandem switch.

- *Port 5*—ACU with data set—provides *secondary* access to tandem switch.

- *Port 6*—Data set for access from RMATS-1 for TELCO use.

B. Customer Administration Panel

2.05 The CAP provides noncentralized access to a DIMENSION FP8. This panel allows plug-in access to DIMENSION PBX and gives the customer the ability to perform:

(a) Station rearrangements and changes

(b) Facility administration and control

(c) Access to traffic data on a local basis.

2.06 ▶When the CAP is activated by the customer, the TELCO Maintenance and Administration Panel (MAAP) which shares the same PBX access point is unavailable. A red light is provided on CAP when MAAP is used. A light may be displayed in the PBX equipment room when CAP is used.◀

C. Local Customer Administration System

2.07 The LCAS terminal, directly terminated on the No. 1/1A ESS Centrex/ESSX-1 tandem via a dial up connection to the local customer premises, is a keyboard/display/printer. The LCAS

accesses the same port on the No. 1/1A ESS Centrex/ESSX-1 accessible by the CACS. The LCAS terminal operator uses the same basic language as the CACS does in interfacing with the No. 1/1A ESS Centrex/ESSX-1. It can also request facility traffic measurements from the No. 1/1A ESS Centrex/ESSX-1 and print them in tabular form with a mnemonic mask similar to that of the Selected Traffic Data to Customer feature. There are no means provided for auxiliary storage of the facility traffic measurements for downstream processing.

3. FEATURES

A. Customer Administration Center System Capabilities

3.01 *Station Rearrangement and Change* feature completed by the customer is provided in connection with CACS and CAP for DIMENSION FP8.

(a) On a per-line basis, the customer can assign, change, or remove the following:

(1) Line extension number

(2) Class of service

(3) "Hunt to" number

(4) Call pickup group

(5) Hot line number

(6) Auxiliary Automatic Number Identification (ANI) billing

(7) Controlled restriction group

(8) Speed calling

(9) Facility Restriction Level (FRL).

(b) On a per-station basis with Electronic Custom Telephone Service (ECTS) for FP8, the customer can control the following:

(1) Automatic line connection preferences

(2) Button for:

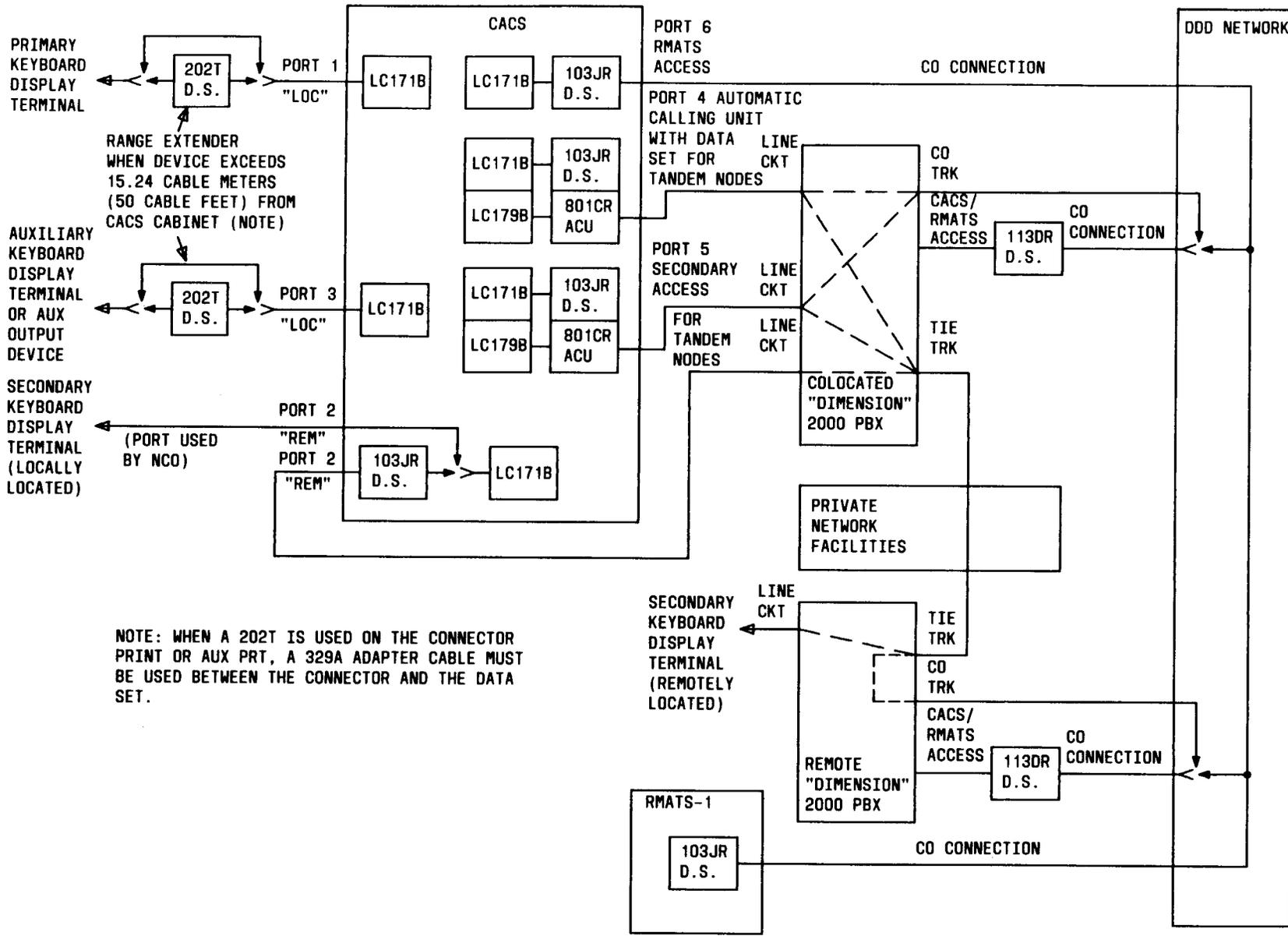- Hold (all types)

- Manual signaling

Fig. 1—Basic CACS Arrangement

- Message waiting

- Abbreviated/delayed (A/D) ringing

- Manual exclusion

- Station ringer cutoff

- Ringing transfer

- Custom calling (all features)

- Direct Station Selection (DSS)

- Station busy

- Dial and non-dial intercom

(3) Line ringing options

(4) Manual signaling tone

(5) Intercom ringing options.

(c) The customer has the ability by means of manual or automatic search routine to identify for an FP8:

(1) The stations in a pickup group

(2) Stations with the same class of service

(3) Controlled restriction group assignments.

(d) The customer has the ability to identify for an FP8 a line extension number and manually or **automatically** determine the "hunt to" sequence.

3.02 *Facilities Administration and Control* feature is provided in connection with the CACS, CAP, and LCAS. On a per-system basis, the customer has the ability to:

	FP8	ESS
Obtain trunk made busy list	√	—
Assign class-of-service definitions	√	—
Associate FRL with authorization codes	√	√
Obtain summaries of authorization code assignments	√	√
Manually select an ARS pattern group	√	√
Cancel/activate queuing on per-trunk bases	√	√
Change and invoke alternate FRL values	√	√

3.03 *Facilities Assurance Reports* feature is provided in connection with the CACS.

(a) On a per-system basis, the customer can print or display the audit trail on DIMENSION FP8 associated with the automatic circuit assurance (ACA) feature. The ACA audit trail contains data on the 32 most recent call referrals and is printed out as part of the system traffic data or on demand as a separate report. Included in the information is:

- Trunk identification

- Short or long call failure

- Time of day and date

- Whether attendant tested the trunk using trunk verification by station (TVS) feature.

(b) On 1/1A ESS, the CACS can be requested to display nonusage trunk scan (NUTS) and locked-up trunk scan (LUTS).

3.04 *Traffic Data to Customer* feature is provided in connection with the CACS.

(a) For all CACS associated tandems, the customer can—on a per-system basis—print or display traffic summaries, exception reports, or raw traffic data. Summary and exception reports are obtained by polling the information provided by the CACS and includes:

(1) Automatic polling of all tandem locations within each 24-hour period (ie, daily) for up to 7 days per week. For networks involving more than three tandem switches, a second ACU and associated data set is required if hourly traffic polling of traffic data is desired from those switches.

(2) Automatic polling of up to ten selected tandem locations at an hourly rate for up to 16 active hours per day and storage of the last day's results.

(3) Instruction to reinitialize its traffic registers after a successful poll. On FP8, these registers are separate and distinct from those used for storing traffic data for RMATS.

(4) A maximum of three tries if unsuccessful polling results from incomplete calls, drop outs before end of message, or unreliable data. Retrials commence only after completion of the assigned schedule.

(5) Use of traffic data to generate hard copy exception reports and summaries.

(6) Exception reports based on the most recent data exceeding a preset capacity threshold. Traffic output reports are available either automatically or on demand as follows:

• Summary report for either the last 8 days (based on daily polling) or the last 8 hours (based on hourly polling). Sixteen hours of data may be obtained if printing of data is deferred (eg, 1 A.M.).

• Exception report generated when the customer established threshold (optional) is exceeded. For daily polling, printout of the exception report is done upon completion of the daily poll. For hourly polling, the exception report is printed immediately upon recognition of the exception condition. Summary reports are not provided in conjunction with exception reports.

• A demand printout of raw hourly polled data in a matrix format.

(b) To prevent interruptions in a message currently being printed, the CACS processor buffers incoming reports of power failures, breaks in polling routines, etc. After message is completed, the incoming reports will be displayed or printed.

B. Customer Administration Panel Capabilities (DIMENSION FP8)

3.05 *Station Rearrangement and Change* panel completed by the customer is a simplified alternative to the CACS.

(a) On a per-line basis, the customer can add, change, or remove the following:

(1) Line extension number

(2) Class of service

(3) "Hunt to" number

(4) Call Pickup group

(5) Hot line number

(6) ANI billing

(7) Controlled restriction group

(8) Speed calling

(9) FRL.

(b) On a per-station basis with ECTS, the customer can assign, change, or remove the following:

(1) Automatic line connection preferences

(2) Button for:

• Hold (all types)

• Manual signaling

• Message waiting

• A/D ringing

• Manual Exclusion

• Station ringer cutoff

• Ringing transfer

• Custom calling (all features)

• Direct Station Selection (DSS)

• Station busy

• Dial and nondial intercom

(3) Line ringing options

(4) Manual signaling tone

(5) Intercom ringing options.

(c) Customer may do a manual search routine to identify:

(1) Stations in a pickup group

(2) Stations with the same class of service

(3) Controlled restriction group assignments.

(d) The customer has the ability to identify a line extension number and manually determine the "hunt to" sequence.

3.06 *Facilities Administration and Control* feature is provided in connection with the CAP. The customer has the ability to manually:

• Obtain a maintenance busy trunk list

• Assign class of service definitions

• Assign and change default facility restriction levels associated with incoming access lines (tie trunks)

• Associate facility restriction levels with authorization codes

• Obtain summaries of authorization code assignments

• Select an ARS pattern group

• Cancel/activate queuing on a per-trunk group basis

• Change and invoke alternate FRL values.

3.07 *Traffic Data to Customer* feature provides the capability to display the current content of individual DIMENSION FP8 PBX traffic registers.

C. ♦**Local Customer Administration System Capabilities**

3.08 *Facilities Administration and Control* feature is provided in connection with the LCAS. The customer has the ability to:

• Associate FRLs with authorization codes

• Obtain summaries of authorization code assignments

• Select an ARS pattern group

• Cancel/activate queuing on a per-trunk basis

• Change and invoke FRL values.♦

4. CACS TERMINAL COMMANDS

4.01 ♦CACS commands are divided into four main categories as follows:

• System

• Network

• PBX (DIMENSION FP8 only)

• Traffic

The CACS commands are structured into nine restriction levels (see Tables A through G).♦

4.02 The commands are allocated to two user classes: system operator (SYSOP) and CACS attendant (USER). The distinction between SYSOP and USER is made by each customer. In general, the SYSOP is the customer employee who has overall responsibility for the CACS and, perhaps, the network. The USER will normally report to the SYSOP and will have primary responsibility for operating the terminal. SYSOP assigns a command restriction level to each user.

5. CACS INSTALLATION TEST

5.01 The CACS installation test requirements are shown in the appendices. Three tests are required before the CACS installation is complete: a local test to determine that the CACS functions normally with the tandem it homes on and two network tests to ensure normal network operation of CACS controls and data collection. The network queuing test (requirements in the appendices) ensures

that customer data and controls correctly reflect and control network queuing.

5.02 All local tests for the CACS installation by installation and repair (I&R) forces should be completed by the plant test date. The local tests should be an exhaustive check of local administrative commands and the collection of locally generated data. No specific procedures are recommended. Testing of the administration commands by the I&R forces at distant tandems can be combined with the network tests performed by the NCO. With the local tests complete, network tests, aimed at ensuring that correct actions occur when network controls are exercised and that CACS network data is valid, can begin.

Note: These tests must be performed outside of normal business hours because of the need to busy out many of the customer's facilities and the need to keep activity low during testing.

6. TROUBLE REPORTING

6.01 A specific identity should be assigned to each CACS/CAP/LCAS (such as a PBX extension or direct inward dialing number), and all troubles reported should use this number. This will permit analysis and tracking of those troubles using existing procedures outlined in Trouble Report Evaluation and Analysis Tool (TREAT).

6.02 Maintenance of the CACS is handled by the Repair Service Bureau/Automated Repair Service Bureau (RSB/ARSB), who will enlist the aid of the RMATS if available. The CACS has its own internal diagnostics which may cause a message or alarm to be generated (see appendices). When an alarm is generated, the customer should report it to the RSB/ARSB which responds by using RMATS, if available, or by dispatching. In the event a message is generated to the customer DATASPEED 40 printer, the customer should follow the directions in the CACS operating manual. This process allows troubles associated with CACS to be defined and reported either to the RSB/ARSB or NCO.

6.03 All trouble reports initiated by the customer on CACS/CAP/LCAS equipment will require initial analyzation by a trained screener/analyzer to determine if a premises visit is required. RMATS capabilities should be used as appropriate to

sectionalize faults. Table H lists some expected CACS troubles. It also lists the work center which should receive the report.

6.04 The NCO has dial up access to CACS via port 5 for trouble location purposes. Using an input/output device, the NCO may determine if the reported trouble is located within the CACS or in circuits and equipment connected to it.

7. REFERENCES

7.01 The following documents provide more detailed information:

SECTION	TITLE
309-400-ZZZ	Switched Service Network— Electronic Tandem Network (ETN)
504-010-141	DIMENSION Customer Administration Center System
554-010-140	DIMENSION PBX-CACS— Description
554-010-141	DIMENSION PBX Customer Administration Panel—General Description
554-111-110	DIMENSION 2000 Custom PBX—Maintenance and System Administration
554-191-169	DIMENSION PBX Customer Administration Center—System Feature
554-191-172	DIMENSION PBX Customer Administration Panel—Feature
589-012-102	Data Auxiliary Set 801C-L1/L2 Description and Operation
591-039-100	Data Set 103J—Description and Operation
999-200-188	How to Operate the Customer Administration Panel
999-200-189	How to Operate and Applications for the Customer Administration Center System (FP8)

SECTION	TITLE	SECTION	TITLE
999-500-129	How to Operate and Applications for No. 1/1A ESS Customer Administration Center System (CACS)	999-500-128	How to Operate and Applications for No. 1/1A ESS Local Customer Administration System (LCAS)

TABLE A

CACS COMMAND RESTRICTION LEVELS

LEVEL	NAME	FP8	ESS	SEE TABLE
1	Basic System Commands	√	√	B
2A	System Commands	√	√	C
2B	Procs Commands	√	√	C
2C	Miscellaneous Command	√	—	C
3	Network Administration	√	√	D
4	PBX Commands	√	Unassigned	E
5	Traffic Commands	√	√	F
6	Unassigned	—	—	—
7	Unassigned	—	—	—
8	Unassigned	—	—	—
9	Restricted System Commands (SYSOP only)	√	√	G

TABLE B

BASIC CACS SYSTEM COMMANDS (LEVEL 1)

COMMAND	FUNCTION	FP8	ESS
C	Insert comments	√	√
CHGPASS	Change password	√	√
LOGOFF	Terminate session	√	√
PT	Printer test	√	√
SETTERM	Set terminal options	√	√
SHOWMSG	Display system messages	√	√
TIME	Display time and date	√	√
TOGS	Suppress displays	√	—
WHO	Display users logged on, which terminal, and if connected to a switch.	√	√

TABLE C

LEVEL 2 COMMANDS

CACS SYSTEM COMMANDS (LEVEL 2A)			
COMMAND	FUNCTION	FP8	ESS
BP	Sets Proc file breakpoint	√	√
CON	Connects designated switch	√	√
ED	Creates and modifies files	√	√
PROCS*	Displays or removes Procs files	√	√
PROFILE	Establishes toggle settings permanently	√	√
REL	Releases network switch connection	√	√
SCHPROC	Allows scheduling of Procs execution	√	√
SEND	Sends a message	√	√
SW	Identifies connected network switch	√	√
SWNAMES	Displays switch names	√	√
TRACE	Displays Procs prior to execution	√	√
NO TRACE	Disables TRACE	√	√

PROCS* COMMANDS (LEVEL 2B)			
COMMAND	FUNCTION	FP8	ESS
INPUT	Prompts and reads input	√	√
P	Prints information during execution of a Proc	√	√
SET	Assign values to variables	√	√
GO	Provides testing and branching capabilities within a Proc	√	√

MISCELLANEOUS COMMAND (LEVEL 2C)			
COMMAND	FUNCTION	FP8	ESS
RUNTAPE	Used to make translation changes permanent	√	—

* Customer written computer program in CACS

TABLE D

NETWORK ADMINISTRATION COMMANDS (LEVEL 3)

COMMAND	FP8 FUNCTIONS	ESS FUNCTION
AAR	Displays AAR lists	—
ACA	Administers ACA feature	—
ALTFRL	Administers alternate FRL	Administers alternate FRL
ARS	Displays and sets ARS plans and patterns	Displays and sets ARS plans
ARSCLK	Sets and displays ARS clock	—
AUTH	Displays and changes FRL and network access for given authorization codes	Displays and changes FRL for given authorization codes
CAS	Displays or changes assignments of a branch centralized attendant service (CAS) location	—
ESAC	—	Administers authorization code replacements
FRL	Displays authorization codes and trunk groups for an FRL	—
NLT	—	Displays the nonused/locked up trunks (NUTS/LUTS) scan list
QUEUE	Administers deluxe queuing feature	Activates/deactivates queuing on a per-facility group basis
SYNC	Synchronizes network and CACS clocks	Displays network and CACS clocks
TKG	Administers network switch trunk group translation parameters	Displays FRLs associated with trunk groups

TABLE E

PBX COMMANDS — FP8 ONLY (LEVEL 4)

COMMAND	FUNCTION
	LINE ADMINISTRATION
ALNX	Administers associated extensions
COS	Administers classes of service and extensions in a class-of-service
CPG	Display, adds, or removes extensions in a class pickup group
CRG	Displays, adds, or removes extensions in controlled restriction groups
DDC	Administers direct department calling group parameters
EQPT	Administers extension number assignment to equipment location
HUNT	Displays hunt-to and hunt-from assignments
ICM	Administers custom intercom groups
LNDSP	Displays complete line extension information
LNMOV	Changes equipment location of line extensions
LNRMV	Removes non-ECTS line extensions from service
LNX	Displays and administers line features
LUSE	Displays usage and administers custom intercom and speed calling list size
MTRG	Administers miscellaneous trunk restriction groups dial acces codes
SPD	Administers speed calling lists
TVS	Administers control station for trunk verification by station
UCD	Administers uniform call distribution group parameter
	ECTS ADMINISTRATION
ECTS	Administers ECTS stations and features
ECTSIG	Administers manual signaling tones, ECTS intercom ring rate, and abbreviated/ delayed ringing cycles
EICM	Displays ECTS intercom groups
LPKU	Administers ECTS line ringing options
MSIG	Displays ECTS manual signaling feature
REPACK	Repacks memory of designated ECTS controller
SBI	Displays ECTS station busy indicator feature
STNEQ	Displays, adds, or removes ECTS stations
STNMOV	Moves ECTS stations

TABLE F

TRAFFIC COMMANDS (LEVEL 5)

COMMAND	FUNCTION	FP8	ESS
FADS	Administers force administration data system (FADS) feature for CAS	√	—
SHOWEXC	Displays stored exception messages	√	√
SHOWTRF	Displays currently stored polling result messages	√	√
TNAMES	Establishes trunk group names in a switch	√	√
TRF	Administers traffic polling and reporting	√	√
TRFCLK	Sets and displays traffic clock	√	—
TRFMSK	Defines subsets (masks) of trunk groups for inclusion in the summary report	√	√
TRFINIT	Updates traffic polling translation data	√	√

TABLE G

RESTRICTED SYSTEM COMMANDS — SYSOP ONLY (LEVEL 9)

COMMAND	FUNCTION	FP8	ESS
CRL	Sets and displays command restriction levels	√	√
SETCLK	Sets system time-of-day clock	√	√
UID	Administers system user IDs and password	√	√

TABLE H

EXAMPLES OF EXPECTED CACS TROUBLES

TROUBLES REPORTED TO REPAIR SERVICE BUREAU (RSB)
No response when command initiated from
System Message 7 (Tape Failure)
System Message 10 (System Inoperable)
Completion Message (Failed Tape)
Completion Message (Failed Data)
Can't access local switch to do administrative changes
Major alarm
Minor alarm
TROUBLES REPORTED TO NETWORK CONTROL OFFICE (NCO)
Can't access distant switch to do administrative changes
Unreliable data from distant switch
No response to scheduled poll from distant switch

INFORMATION AND TABLES FOR FP8

ELECTRONIC TANDEM NETWORK

SWITCHED SERVICE NETWORKS

1. PURPOSE

1.01 The purpose of this appendix is to provide tables which contain information pertaining to FP8.

(a) The CACS installation tests are shown in Table A.

(b) The network queuing test (if applicable) requirements are shown in Table B.

(c) The CACS messages indicating a possible trouble consist of four types:

- System messages—Table C

- Polling result messages—Table D

- Command-Related messages—Table E

- Alarm messages—Table F.

TABLE A

TEST REQUIREMENTS FOR CACS INSTALLATIONS ("DIMENSION" FP8) (NOTE)

REQUIRED TEST OR CHECK	WORK CENTERS	SUPPORT TOOLS/CENTERS	SPECIFIC PROCEDURE
LOCAL TESTS (ON PTS FOR CACS INSTALLATION) Test CACS Local Operation (a) Local Data (b) Local Administrative Controls	PSC — I&R Force	PSC — CACS	No specific procedures are recommended.
NETWORK TESTS (ON PTD FOR TEST PLAN) Test CACS Network Controls (As Applicable) (a) Suspend/Reinstate Qs at a tandem (b) Suspend/Reinstate Network Qs (c) Change ARS pattern group at a tandem (d) Change ARS pattern group on network basis (e) Switch to alternate FRLs at a tandem (f) Switch to alternate FRLs on network basis	PCO NCO PSC — I&R Force CO — Work Force	PCO — RMS NCO — CACS Access PSC — LMDRS, MAAP CO — LMDRS, MTTP	QUEUING Step: 1. Steps 1 through 11 for Network Queuing. (If applicable, see Table F.) ARS — 3 Times-of-Day Patterns Steps: 1. NCO uses CACS terminal to change ARS pattern in effect. 2. NCO after 1 minute uses CACS terminal to change ARS pattern. 3. NCO after 1 minute uses CACS terminal to restore the original ARS pattern. 4. PSC or CO monitors message detail for ARS pattern change messages. (This verifies Steps 1, 2, and 3 actually were effective.) 5. Repeat Steps 1 through 4 for each tandem. 6. Repeat Steps 1 through 4 for each network. ALTERNATE FRLs Steps: 1 PSC, CO, or PCO initiates calls at a tandem with known FRLs spanning FRL range. 2. NCO users CACS terminal to switch to alternate FRLs. 3. Repeat Step 1 with same authorization codes. 4. PSC or CO monitors message detail to see changes in FRLs 5. Repeat Steps 1 through 4 for each tandem. 6. Repeat Steps 1 through 4 for the network.
TEST CACS DATA (a) CACS traffic mask correct and traffic registers assigned properly at each tandem (b) Check CACS trunk maintenance busy list (c) Check CACS ACA Audit Trail	NCO PSC — I&R Force CO — Work Force	NCO — CACS Access PSC — RMATS, MAAP, TVC CO — MTTP	TRUNK MAINTENANCE BUSY Steps: 1 NCO uses CACS terminal to poll traffic data to confirm that CACS Mask is correct and that all traffic registers are assigned correctly. 2. PCO busies out at least one circuit using RMS at tandem (if applicable). 3. PSC busies out one circuit via RMATS, one circuit via MAAP, and one circuit using customer's TVC at tandem (if applicable). 4. CO busies out one circuit at tandem (if applicable) ESS. 5. NCO uses CACS terminal to read trunk maintenance busy list at tandem and confirms outages with PCO, PSC, and CO. 6. Repeat Steps 2 through 5 for each tandem. 7. Repeat Step 5 for the network. APPLICABLE ONLY TO TANDEMS WITH ACA FEATURE — ACA AUDIT TRAIL Steps: 1. PCO at each tandem uses RMS to create sufficient number of short calls to trigger 2 ACA exception reports. 2. I&R uses customer's TVC to access one of the trunks indicated 3. NCO uses CACS terminal to access ACA audit trail and confirms each exception report (one should indicate no TVC check). 4. Repeat Steps 1 through 3 for each tandem. 5. Repeat Step 3 for the network.

Note: These tests must be performed outside of normal business hours because of the need to busy out many of the customer's facilities and the need to keep activity low during testing.

TABLE B

TEST REQUIREMENTS FOR NETWORK QUEUING INSTALLATIONS
("DIMENSION" FP8) (NOTE)

STEP	PROCEDURE
1	PCO arranges to busy out all trunk groups at a tandem.
2	PSC, CO or PCO initiates test calls to test that Qs are active at that tandem (assume attendant network tests have been completed).
3	NCO uses CACS terminal to suspend Qs at that tandem individually (use CACS — Section 999-200-189).
4	PCO initiates calls to test Q suspension (no Q tone — Circuit Busy 120 IPM).
5	NCO uses CACS terminal to reinstate Qs at that tandem individually.
6	PSC, CO or PCO initiates calls to test that Qs are active.
7	Repeat Steps 1 through 6 for each tandem.
8	With all trunks busy, NCO uses CACS terminal to suspend Qs on network basis.
9	PSC, CO or PCO initiates calls to test Q suspension.
10	NCO uses CACS terminal to reinstate Qs on network basis.
11	PSC, CO, or PCO initiates calls to test if Qs are active.
12	Put all trunks back into service.
13	During testing, NCO monitors CACS traffic data reports to ensure Qs and Q sizes properly reflected in CACS mask.

Note: These tests must be performed outside of normal business hours because they rely on busying-out many of the customer's trunks.

TABLE C

SYSTEM MESSAGES (FP8)

MESSAGE	MEANING	USER RESPONSE
LOC. PORT UNAVAILABLE FOR REPORTS	Activity in progress when traffic report required the port.	Check the causes which could make port unavailable; ie, someone logged on, equipment associated with port is turned off or unplugged. All other troubles, call RSB.
AUX. PORT UNAVAILABLE FOR REPORTS	Activity in progress when traffic report required the port.	Check the causes which could make port unavailable; ie, someone logged on, equipment associated with port is turned off or unplugged. All other troubles, call RSB.
REM. PORT UNAVAILABLE FOR REPORTS	Activity in progress when traffic report required the port.	Check the causes which could make port unavailable; ie, someone logged on, equipment associated with port is turned off or unplugged. All other troubles, call RSB.
POLLING DELAYED — ACU UNAVAILABLE	Automatic call unit busy.	User should release connection to the switch (REL command).
SCHEDULE FILE READ/WRITE FAILURES	Tape failure.	Call RSB.
CACS RELOAD (POSSIBLE POWER FAILURE) RESET CLOCK	Clock may be inaccurate.	Reset system clock (SETCLK command). If message occurs frequently and no power failures have occurred, notify RSB.
TRANSLATION NOT SAVED AT LOGOFF (CACS MAAP PLUGGED IN)	Program tape could not be run for updating at this time. Tape will be updated as soon as possible to do so.	If message is repeated after every log off, call RSB.
AUX, LOC, or REM TERMINAL NOT READY	A device is not ready (ie, out of paper or turned off).	Correct indicated problem. The CACS will not output to the nonready terminal for up to 30 minutes. If the terminal is not ready by then, all pending output is lost.
POLLING DELAYED — SWITCH N CONNECTED BY (LOC/REM/AUX) TERMINAL	The specified terminal is connected to the switch which is scheduled for polling. A poll retry will be attempted each 10 minutes until successful or an hour elapses.	None.

TABLE C (Contd)

SYSTEM MESSAGES (FP8)

MESSAGE	MEANING	USER RESPONSE
POLLING DELAYED — DIALING FAILED SWITCH N	A scheduled poll was unable to complete because of a busy condition at the switch access port. A poll retry will be attempted each 10 minutes until successful or an entire hour elapses.	If it continues to occur and causes missed polls, call RSB.
POLL ABANDONED — HOUR TIME (FP8 ONLY)	Polling attempts failed for entire 1-hour interval.	None.

TABLE D

POLLING RESULT MESSAGES

MESSAGE	MEANING	USER RESPONSE
OK	Successful poll completed (hourly or daily). Data written on tape.	No action required.
RELOAD OCCURRED	PBX reloaded since last poll; current poll was completed but could contain unreliable data.	Ask RSB to reset traffic clock in switch.
FAILED — NEW TRANSLATION	A major change affecting the switch traffic translation has occurred. No further polling will take place until the CACS receives the new translation via the TRFINIT command.	Execute the TRFINIT command.
FAILED — REPORT ACTIVE	Traffic summary report(s) was active for this switch during the attempted polling interval.	No action required.
FAILED — CACS CONNECTED (ADMIN)	This switch was connected by a CACS terminal during the attempted polling interval.	No action required.
FAILED — DATA	Poll failed due to transmission errors during poll.	Call RSB or NCO*.
FAILED — TAPE	Tape read or write failure occurred during polling. Unreliable data on tape.	Call RSB or NCO*.
FAILED — DIALING	Failed to connect to switch for polling. Occurs if switch port is in use by RMATS, incorrect dial code, or failure in the ACU.	Call RSB or NCO*.
FAILED — FACILITIES UNAVAILABLE	The poll was unable to complete because one or more of the following resources was in use by other CACS functions: 1. ACU(s) 2. CACS memory space 3. CACS tape	Try later; if unsuccessful, call RSB or NCO*
POLL ABANDONED — HOUR TIMEOUT	Polling attempts failed for entire one-hour interval.	None.

* If location in trouble is local, call RSB.
   If location in trouble is in other area, call the NCO.

TABLE E

COMMAND-RELATED MESSAGES

MESSAGE	MEANING	COMMAND
ILLEGAL LOCATION CODE	The location code entered was found to be invalid at the network switch; enter a valid location code (20-99, 220-999) and try again.	AAR
CODES INVALID	The second code entered was less than the first; reenter.	
PATTERNS INVALID	A range was requested which was outside the legal range of the accessed switch; enter valid pattern and try again.	
ACA DSP TIME RQST FAILED FOR SWITCH ss	A request to the DIMENSION PBX failed; verify that the feature exists in the DIMENSION PBX and that the data link is still up.	ACA
ACA SET TIME RQST FAILED FOR SWITCH ss	See ACA DSP TIME above.	
ACA RQST FAILED FOR SWITCH ss	See ACA DSP TIME above.	
MAAP ERROR ON SWITCH ss "nnnn"	See ACA DSP TIME above.	
INVALID ENTRY	Probably a typing error; check parameters an retry.	
DATA PORT ERROR — EXCESSIVE DATA ERRORS, NOTIFY TELCO	Excessive transmission errors were detected on the port to the network switch (ie, parity error, noisy or dropped data link).	ALNX
EXTENSION xxxx NOT A PRIMARY EXTENSION	The extension number entered was not assigned; use EQPT command to assign the extension number, or enter a valid, assigned extension number.	
EXTENSION xxxx NOT ADDED	The extension was not added as an associated extension to the specified primary extension; possibly an invalid number for an associated extension number; enter a valid number (one not assigned).	
EXTENSION xxxx NOT ASSOCIATED WITH EXTENSION xxxx	Self-explanatory; enter valid, primary, and associated extension numbers and continue.	

TABLE E (Contd)

COMMAND-RELATED MESSAGES

MESSAGE	MEANING	COMMAND
PRIMARY EXTENSION FOR EXTENSION xxxx CHANGED TO xxxx	The intended primary extension number has not been assigned; use EQPT command to assign the primary extension number, or enter an assigned extension number.	ALNX (Contd)
EXTENSION xxxx IS A PRIMARY EXTENSION	The extension number specified cannot be assigned as an associated extension if it has been assigned.	
EXTENSION xxxx NOT ASSOCIATED EXTENSION	Self-explanatory; enter a valid associated extension number and continue.	
AUTHORIZATION CODE INVALID	The entered authorization code was found to be invalid at the network switch; may use the "FRL DSP AUTH" commands to list valid authorization codes and reenter.	AUTH
NO RLTs IN BRANCH	Centralized attendant service cannot be administered in a branch switch which has no release link trunks.	CAS
RECALL TIME NOT CHANGED TO hhmm	Probably caused by exceeding the valid range of one (1 to 31) 2-second intervals; enter a valid interval and try again.	
TOI LEVEL NOT TO hhmm	Probably exceeded the valid range of 1-99 calls in the queue for overflow indication; enter a valid level and try again.	
BACKUP EXTENSION NOT CHANGED TO xxxx	The specified extension number cannot terminate a call; enter a valid extension number and try again.	
	Note: These messages also appear in all commands that require connection to one or more network switches.	
ALREADY CONNECTED	If the connected switch is not responding, try reconnecting by issuing "REL" followed by "CON."	CON
ACU NOT AVAIL. — SWITCH ss "nnnn"	The equipped ACU hardware is in use by other CACS processes including traffic polling and/or other terminal users who are currently connected to a switch; try again later.	
DIALING FAILED — SWITCH ss "nnnn"	The attempted dial-up connection did not reach an answering data set, which indicates that either the destination port was busy or that the dial code is in error. If condition persists, call RSB.	

TABLE E (Contd)

COMMAND-RELATED MESSAGES

MESSAGE	MEANING	COMMAND
TIME hhmm PLAN x STATUS x - - NOT ADDED	Another active plan may already exist for this time; also, the plan number must be 1, 2, or 3.	ARSCLK
TIME hhmm PLAN x STATUS x - - NOT REMOVED	No clear reason for failure; report successive failures to the RSB.	
TIME hhmm PLAN x STATUS NOT CHANGED TO x	Same as "NOT REMOVED" above.	
FEATURE NOT IN PROGRAM	The feature (or restriction) accessed, although included in the display, is not included in the translation of your DIMENSION PBX.	COS
ERROR ON EXT xxxx	Unsuccessful attempt to add extension to this class of service; the extensions listed before xxxx (if any) should have been added successfully; enter valid extension number and continue.	
MAAP ERROR ee	Error number ee occurred while administering restrictions in the definition of this class-of-service; verify validity of values entered and reenter; report valid failures to the RSB.	
ERROR ON EXTENSION xxxx	Attempt to add or remove extension xxxx was unsuccessful because of a bad extension number; extensions listed before xxxx (if any) should have been successfully added or removed; enter valid extension number and continue.	CPG
EXTENSION NUMBER xxxx NOT IN DIAL PLAN OR UNASSIGNED	Select an assigned extension number and continue.	
ERROR ON EXTENSION xxxx	Attempt to add or remove extension xxxx was unsuccessful because of a bad extension number; extensions listed before xxx (if any) should have been successfully added or removed; enter valid extension number and continue.	CRG
EXTENSION NUMBER xxxx NOT IN DIAL PLAN OR UNASSIGNED	Select an unassigned extension number and continue.	

TABEL E (Contd)

COMMAND-RELATED MESSAGES

MESSAGE	MEANING	COMMAND
STATION x NOT FOUND	The station id entered is not assigned in the connected switch. Station ids must be entered as a 5-digit station number (ie, "01002"). To assign the station, use the "STNEQ" command. The required hardware must be in place before the new assigned station will function.	ECTS
BUTTON x NOT ON STATION y	The specified button number x is not on the current station y.	
ERROR REMOVING CURRENT FEATURE ON BUTTON x	A nonrecoverable error occurred at the switch while trying to remove the feature on button x. This error can occur when inconsistent translation exists in the switch. In the worst case, it may be necessary to remove the station in order to clear the problem. A station picture should always be printed prior to making changes so that recovery is easier in the case where catastrophic errors occur.	
WARNING BUTTON x NOW UNASSIGNED	User has escaped from a change sequence resulting in an unassigned button x. In most cases, the previously assigned button feature is removed once a new feature is entered for a given button.	
EXT x — NOT ON STATION y	Attempting to reference a line extension number x which is not picked up on the current station y. User should display "Station Picture" to verify the valid extension numbers.	
TRUNK x IS NOT A CO LINE PICKUP	Attempting to add CO line pickup (PCO) to a trunk x which is not in the CO line pickup trunk group.	
TRUNK EQPT x INVALID	Attempting to reference a trunk equipment location which is not assigned in the switch. Trunk equipment location must be specified as seven digits.	
BUTTON x ON STATION y ALREADY ASSIGNED	Attempting to assign a feature to button x which is already assigned to a feature. Current assignment must be removed before new assignment can be made for any station other than the one under control of the ECTS command.	
EXT x NOT ASSIGNED TO ECTS	Attempting to administer a line extension number x which is not assigned to ECTS. Use EQPT command to assign a line extension number to ECTS.	
EXT x NOT IN DIAL PLAN	Attempting to reference a line extension number x which does not appear in the dial plan for the switch.	

TABLE E (Contd)

COMMAND-RELATED MESSAGES

MESSAGE	MEANING	COMMAND
INTERCOM x INVALID	Attempting to add a button to an intercom group which does not exist in the switch translation. The number of allowed intercom groups is a function of memory size.	ECTS (Contd)
DIAL CODE x INVALID CHECK EXISTING DIAL CODES	Attempting to add a dial intercom member with an invalid dial code x. Dial codes within a given intercom group are limited to 3 tens groups. The tens digit may not be used as a standalone units digit. (For example, if the twenties (20s) group is being used, then "2" cannot be used as a dial code.)	
NO PREF CHANGE ON SINGLE LINE OR NO BUTTON STATION	Attempting to change the line preferences (PREF) when the current station is a single line or a no-button station type. Line preference changes can only be made on multiline stations.	
WARNING: STATION BUSY BEING REMOVED	The warning message is displayed when a button assignment is removed which contains a station busy indicator assignment (dual assignment).	
INVALID FEATURE NAME	Attempting to enter a feature name which is unknown to CACS.	
NO LINE PICKUP ON SINGLE LINE STN	Attempting to add a line pickup (LPKU) to a single-line station (custom, station). A single-line station is allowed only one line appearance which does not require an associated button.	
CANNOT BE ASSIGNED TO DSS	Attempting to assign a feature other than direct station select (DSS) or speed calling (SPD) to a button in the DSS field (buttons 11 through 20).	
RINGER TRANSFER AND EXCLUSION CAN BE ASSIGNED TO ONLY ONE BTN PER EXTENSION NUMBER	Attempting to assign a ringer transfer or exclusion button to an extension number which already has a button assigned on this or another station.	
MEMBER NUMBER INVALID	Attempting to enter a speed call member number which is not allowed in the current switch.	
EQPT LOCS MUST BE IN SAME MODULE	All stations picking up the same CO line must have their tip/ring equipment locations in the same module of the DIMENSION PBX.	
MAX OF 16 APPEARANCES	Attempting to add more than 16 appearances to a given CO line pickup.	

TABLE E (Contd)

COMMAND-RELATED MESSAGES

MESSAGE	MEANING	COMMAND
I/O ERROR TO ECTS CONTROLLER	This error will occur if the remaining controller memory is not sufficient to support the attempted translation change (a REPACK should be attempted). This error may be the result of a hardware problem at the switch. If the "REPACK" operation does not clear the problem, the RSB should be called.	ECTS (Contd)
ONLY 1 NON-DIAL INTERCOM PER STATION	Attempting to add more than one nondial intercom to a given station.	
2 AUTO INTERCOMS ALREADY ASSIGNED	Attempting to add an AUTO intercom to a nondial intercom which currently contains two auto intercoms.	
MAX APPEARANCES CURRENTLY	Only 16 appearances of a nondial intercom and 28 appearances of a dial intercom are allowed. The number of appearances is currently at the maximum. The user must remove an appearance in order to add a new station.	
INTERCOM GROUP x INVALID	Attempting to display an intercom group which does not exist in the switch translation. The number of allowed intercom groups is a function of the memory size.	EICM
EQUIPMENT NUMBER INVALID ee*	The 7-digit equipment number entered had one of its parts out of range or unassigned; verify correct equipment number and reenter.	EQPT
MAAP ERROR — NO CHANGE MADE ee*	The extension number entered to be assigned to this equipment number caused error ee; usually this is due to an extension number already being assigned or not in the dial plan; select an unassigned extension number and continue.	
	* The value of ee is used for error diagnosis and should be repeated along with any applicable trouble report to the RSB.	
FADS NOT EQUIPPED	The force administration data system feature cannot be administered if the TELCO has not installed the necessary hardware.	FADS
FADS NOT SET TO x	The attempt to turn FADS "off" or "on" failed; if successive attempts fail, call RSB.	
FADS AUTO-PRINT NOT SET TO x	The attempt to turn the automatic print feature of FADS "off" or "on" failed; again, if successive attempts fail, notify RSB.	

TABLE E (Contd)

COMMAND-RELATED MESSAGES

MESSAGE	MEANING	COMMAND
MINUTES OFFSET NOT CHANGED TO xx	Probably caused by attempting to set the offset to a value which is not a multiple of 5 and within the range 0-55; enter a valid number and try again; report repeated failures to RSB.	FADS (Contd)
EXTENSION xxxx HUNTING SEQUENCE EXCEEDS 256 EXTENSIONS	The CACS capacity to determine circularity of a hunting sequence is limited to 256 extensions; upon exceeding this limit, CACS will print all 256 extensions and the message: ARRAY OVERFLOW. Instead of "TERMINAL" or "CIRCULAR", do a HUNT TO with the last extension in the list. *Note: This will lose the check for circularity or terminality.*	HUNT
MAAP ERROR — NO CHANGE MADE	An error occurred while trying to add a new list or while trying to set or remove a member of the list or change the size of the list; verify that a valid extension number was used and try again.	ICM
EXTENSION xxxx NOT ADDED	Usually due to an invalid number, select unassigned extension number and continue.	
EXT xxxx NOT IN LIST	Extension xxxx cannot be removed unless it is already in the list.	
EXT xxxx NOT ASSIGNED	An invalid extension number was entered as the controller of the list; try again with a valid controller or add a new list with extension xxxx as the controller.	
EXT xxxx NOT A CONTROLLER	The specified extension number is not a custom intercom list controller; select a valid controller.	
MEMBER #mm NOT CHANGED TO xxxx	Select a valid extension number and continue.	
DUPLICATE EXTENSION NUMBER NOT ALLOWED	This list of extensions to be removed must be at least two numbers long, with no duplicate numbers, and all must be presently assigned and in use; try again	LNMOV
EXTENSION NUMBER xxxx CANNOT BE MOVED	This message may appear due to extension xxxx being unassigned, an ECTS line, or not in the dial plan; select a valid, non-ECTS line and try again.	

TABLE E (Contd)

COMMAND-RELATED MESSAGES

MESSAGE	MEANING	COMMAND
MAAP ERROR — NO CHANGE MADE	The attempt to change the controlling extension failed because of a bad extension number; enter a valid, assigned extension number and try again.	LNRMV
EXTENSION xxxx NOT ASSIGNED	An unused extension number cannot be removed.	
EXTENSION xxxx NOT IN DIAL PLAN	Check the extension number for validity and try again.	
CANNOT REMOVE EXTENSION xxxx — ECTS LINE	Select a non-ECTS line extension number and try again.	
CANNOT REMOVE xxxx — CUSTOM INTERCOM CONTROLLER	The controller of an intercom list must be changed or the list removed before the extension can be removed.	
CANNOT REMOVE xxxx — SPEED CALLING CONTROLLER	The controller of a speed calling list must be changed or the list removed before the extension can be removed.	
MAAP ERROR — NO CHANGE MADE	The attempt to change a value of a particular feature failed, and the display of the translation for the extension should reveal which change request was not completed; reenter with valid values.	LNX
EXTENSION xxxx NOT ASSIGNED	Use EQPT command to assign the extension number to an equipment location.	
WARNING! CHANGING TO nn WILL DELETE ALL CURRENT mm MEMBER LISTS	The mix allows 10- and 20-member lists or 10- and 30-member lists, but not both simultaneously, and changing the mix will release the currently defined 20- or 30-member lists; be sure you know what you are doing.	LUSE
ERROR: EXT x NOT ASSIGNED TO ECTS	Attempting to display a line extension number x which is not assigned to ECTS. Use the "EQPT" command to assign an extension to ECTS.	LPKU
ERROR: EXT x NOT ON STATION y	Attempting to display or change a line appearance x which does not appear on the specified station y.	

TABLE E (Contd)

COMMAND-RELATED MESSAGES

MESSAGE	MEANING	COMMAND
ONLY FOUR TRUNK DIAL ACCESS CODES PER GROUP	Verify that the attempted change is within the system capabilities, and make appropriate corrections.	MTRG
MAAP ERROR — NO CHANGE MADE	The dial access code entered was not according to the dial plan; try again with a valid trunk dial access code.	
DIAL ACCESS CODE dac INVALID	Reenter with a valid trunk dial access code.	
STATION x INVALID	The specified station is not assigned in the connected switch. Correct the input or assign the station with the "STNEQ" command.	MSIG
QUEUING STATUS NOT CHANGED	If on a per-trunk-group basis, the trunk group may not be set up for queuing, in which case use a another trunk group or have the TELCO set up this trunk group for queuing.	QUEUE
NO SWITCH CONNECTED	The switch has previously been released; "REL" is not necessary.	REL
REPACK FAILED — CONTROLLER x	Repack operation was unsuccessful. RSB should be called to resolve problem.	REPACK
STATION x INVALID	The specified station is not assigned in the connected switch. Correct the input or assign the station with the "STNEQ" command.	SBI
MAAP ERROR — NO CHANGE MADE	An error occurred while trying to add a new list or while trying to change the size of the list; verify that a valid extension number was used and try again.	SPD
EXTENSION xxxx NOT ADDED	Usually due to an invalid extension number; try again with a valid extension number.	
PLEASE RE-ENTER	Probably typing error, verify correct action and retry.	
EXT xxxx NOT IN LIST	Extension xxxx cannot be removed unless it is already in the list.	
EXT xxxx NOT ASSIGNED	An invalid extension number was entered as the controller of the list; try again with a valid controller or add a new list with extension xxxx as the controller.	
EXT xxxx NOT a CONTROLLER	The specified extension number is not a speed calling list controller; select a valid controller.	

TABLE E (Contd)

COMMAND-RELATED MESSAGES

MESSAGE	MEANING	COMMAND
ERROR IN CALLED NUMBER: dac I aaa ooo-xxx	Some part of the called number was invalid; try again.	SPD (Contd)
ERROR IN SMDR NUMBER: dac aaaaa	Some part of the SMDR number was invalid; try again.	
CANNOT PRINT LONG NAMES	Long names will not be printed if memory space is exhausted or if there is a tape read error; try again.	SWNAMES
SWITCH ss DOES NOT HAVE A NAME	Assign it a name using the "SWNAMES" command if a name is desired.	
STATION x INVALID	The specified station x is not assigned in the connected switch. Correct input or assign station using the "STNEQ" command.	STNEQ
ERROR: MAINTENANCE STN CANNOT BE REMOVED	Attempting to remove the maintenance station from a controller. The maintenance station must remain assigned until the controller has been removed (not a customer capability).	
REMOVE STN BUSY FIRST	Attempting to remove a station which has the station busy feature assigned. All station busy assignments on the on the specified station must be removed before the station can be removed from the system.	
STATION x IS IN USE	Attempting to remove a station which is currently in use. The station x cannot be removed until it is idle.	
DATA INVALID	The date entered must be such that month is a number 1-12, day is a numer 1-31 (with checking to assure that the months with less than 31 days are entered correctly), and the year must be 1978 or later, reenter.	SYNC
SWITCH CLOCK NOT SET	The attempt to set the CACS clock from the network switch clock failed, because the switch clock is not set or because information on the data link was garbled; verify that the network switch clock is set, and try again.	

TABLE E (Contd)

COMMAND-RELATED MESSAGES

MESSAGE	MEANING	COMMAND
SYNC FAILED	The synchronization failed because the switch clock is not set and/or the date/time of the switch is in someway invalid; retry, and if it still fails, reset the switch clock.	SYNC (Contd)
INVALID SWITCH [NAME OR NUMBER(S)]	Input for switch name was unrecognizable; reenter name or number.	TRF
SWITCH NON-EXISTENT	Switch number entered not set up by TELCO; enter correct switch or have TELCO equip switch number.	
LOC TERMINAL UNEQUIPPED — CANNOT PRINT REPORTS	If the specified terminal has not been defined in CACS software, no report can be printed on it; request the TELCO to equip the terminal.	
REM TERMINAL UNEQUIPPED -- CANNOT PRINT REPORTS	(See LOC message above.)	
AUX TERMINAL UNEQUIPPED — CANNOT PRINT REPORTS	(See LOC message above.)	
	Note: Immediate reports not allowed on terminals other than your own during report period 100 to 500. Direct the report to your own terminal or schedule it for some time other than 1:00 A.M. to 5:00 A.M.	
LEGAL POLLING HOURS ARE BETWEEN 5:00 AND 23:00	The user cannot set up polling during hours outside these limits; reschedule the poll between 6:00 and 23:00.	
SWITCH ss "nnnn" NOT SCHEDULED	The specified switch is not included in the polling schedule; schedule it if desired.	
TRAFFIC DATA NOT AVAILABLE FOR SWTICH xx	The TRFCLK command is for use on traffic pollable switches only.	TRFCLK
SWITCH TYPE/ CONFIG. MISMATCH	Errors in the translation data at the network switch were detected; notify the RSB.	TRFINIT

TABLE E (Contd)

COMMAND-RELATED MESSAGES

MESSAGE	MEANING	COMMAND
TIMEOUT DURING XLN DUMP	The elapsed time between data transfers from the CACS to the network switch exceeded 2 seconds, indicating either a dropped data link or an inactive network switch; try again, report problems to RSB.	TRFINIT (Contd)
DATA ERRORS FROM SWITCH	Excessive parity errors were detected in the translation dump; try again.	
TRFINIT ABORTED	This message is printed in conjunction with all of the other messages listed here under the TRFINIT command.	
TAPE BUSY	The tape request failed; try again.	
AN ERROR HAS OCCURRED ON A TAPE READ/WRITE	This error should be accompanied by a minor alarm indication; retry, and if it occurs again, notify the RSB.	
CONTROL EXTENSION NOT CHANGED TO xxxx	Probably due to an invalid extension number; try another extension number.	TVS
xxxx REJECTED	The extension number specified to be the group controller is probably unassigned; enter a valid extension number and try again.	UCD/DDC
xx REJECTED	The level specified as the warning level cannot be set if the warning lamp and its associated hardware have not been installed by the TELCO	
USER ID LIMIT REACHED	The system limit for user IDs is 8; one must be removed in order to add another one.	UID
USER ID INVALID	During a change of password, the user ID was either typed incorrectly or was not found in the catalog of user IDs; try again.	
USER ID "uuuu" NOT FOUND	The attempt to remove a user ID failed, because it was not in the catalog; reenter.	
USER ID "uuuu" ALREADY ACTIVE	The attempt to add or change a user ID was canceled because the name to be used was already in use; choose another user ID.	

TABLE F

ALARM MESSAGES

MESSAGE	MEANING	USER RESPONSE
****MAJOR ALARM****	Major trouble in CACS	Call RSB
a>	Minor trouble in CACS	Call RSB

INFORMATION AND TABLES FOR 1/1A ESS

ELECTRONIC TANDEM NETWORK

SWITCHED SERVICE NETWORKS

1. PURPOSE

1.01 The purpose of this appendix is to provide tables which contain information pertaining to 1/1A ESS.

(a) The CACS installation tests are given in Table A.

(b) The network queuing test (if applicable) requirements are given in Table B.

(c) The CACS messages indicating a possible trouble consist of four types:

● System messages—Table C

● Polling result messages—Table D

● Command-Related messages—Table E

● Alarm messages—Table F.

TABLE A

TEST REQUIREMENTS FOR CACS INSTALLATIONS (ESS) (NOTE)

REQUIRED TEST OR CHECK	WORK CENTERS	SUPPORT TOOLS/CENTERS	SPECIFIC PROCEDURE
LOCAL TESTS (ON PTS FOR CACS INSTAL-LATION) Test CACS Local Operation (a) Local Data (b) Local Administrative Controls	PSC — I&R Force	PSC — CACS	No specific procedures are recommended.
NETWORK TESTS (ON PTD FOR TEST PLAN) Test CACS Network Controls (As Applicable) (a) Suspend/Reinstate Qs at a tandem (b) Suspend/Reinstate Network Qs (c) Change ARS pattern group at a tandem (d) Change ARS pattern group on network basis (e) Switch to alternate FRLs at a tandem (f) Switch to alternate FRLs on network basis	PCO NCO PSC — I&R Force CO — Work Force	PCO — RMS NCO— CACS Access PSC — LMDRS, MAAP CO — LMDRS, MTTP	QUEUING Step: 1. Steps 1 through 11 for Network Queuing. (If applicable, see Table F.) ARS — 3 Times-of-Day Patterns Steps:1. NCO uses CACS terminal to change ARS pattern in effect. 2. NCO after 1 minute uses CACS terminal to change ARS pattern. 3. NCO after 1 minute uses CACS terminal to restore the original ARS pattern. 4. PSC or CO monitors message detail for ARS pattern change messages. (This verifies Steps 1, 2, and 3 actually were effective.) 5. Repeat Steps 1 through 4 for each tandem. 6. Repeat Steps 1 through 4 for each network. ALTERNATE FRLs Steps:1 PSC, CO, or PCO initiates calls at a tandem with known FRLs spanning FRL range. 2. NCO users CACS terminal to switch to alternate FRLs. 3. Repeat Step 1 with same authorization codes. 4. PSC or CO monitors message detail to see changes in FRLs 5. Repeat Steps 1 through 4 for each tandem. 6. Repeat Steps 1 through 4 for the network.
TEST CACS DATA (a) CACS traffic mask correct and traffic registers assigned properly at each tandem (b) Check CACS trunk maintenance busy list (c) Check CACS ACA Audit Trail	NCO PSC — I&R Force CO — Work Force	NCO— CACS Access PSC — RMATS, MAAP, TVC CO — MTTP	TRUNK MAINTENANCE BUSY Steps:1 NCO uses CACS terminal to poll traffic data to confirm that CACS Mask is correct and that all traffic registers are assigned correctly. 2. PCO busies out at least one circuit using RMS at tandem (if applicable). 3. PSC busies out one circuit via RMATS, one circuit via MAAP, and one circuit using customer's TVC at tandem (if applicable). 4. CO busies out one circuit at tandem (if applicable) ESS. 5. NCO uses CACS terminal to read trunk maintenance busy list at tandem and confirms outages with PCO, PSC, and CO. 6. Repeat Steps 2 through 5 for each tandem. 7. Repeat Step 5 for the network. APPLICABLE ONLY TO TANDEMS WITH ACA FEATURE — ACA AUDIT TRAIL Steps:1. PCO at each tandem uses RMS to create sufficient number of short calls to trigger 2 ACA exception reports. 2. I&R uses customer's TVC to access one of the trunks indicated 3. NCO uses CACS terminal to access ACA audit trail and confirms each exception report (one should indicate no TVC check). 4. Repeat Steps 1 through 3 for each tandem. 5. Repeat Step 3 for the network.

Note: These tests must be performed outside of normal business hours because of the need to busy out many of the customer's facilities and the need to keep activity low during testing.

TABLE B

TEST REQUIREMENTS FOR NETWORK QUEUING INSTALLATIONS (ESS) (NOTE)

STEP	PROCEDURE
1	PCO arranges to busy out all trunk groups at a tandem.
2	PSC, CO or PCO initiates test calls to test that Qs are active at that tandem (assume attendant network tests have been completed).
3	NCO uses CACS terminal to suspend Qs at that tandem individually (use CACS — Section 999-200-189).
4	PCO initiates calls to test Q suspension (no Q tone — Circuit Busy 120 IPM).
5	NCO uses CACS terminal to reinstate Qs at that tandem individually.
6	PSC, CO or PCO initiates calls to test that Qs are active.
7	Repeat Steps 1 through 6 for each tandem.
8	With all trunks busy, NCO uses CACS terminal to suspend Qs on network basis.
9	PSC, CO or PCO initiates calls to test Q suspension.
10	NCO uses CACS terminal to reinstate Qs on network basis.
11	PSC, CO, or PCO initiates calls to test if Qs are active.
12	Put all trunks back into service.
13	During testing, NCO monitors CACS traffic data reports to ensure Qs and Q sizes properly reflected in CACS mask.

Note: These tests must be performed outside of normal business hours because they rely on busying-out many of the customer's trunks.

TABLE C

SYSTEM MESSAGES (ESS)

MESSAGE	MEANING	USER RESPONSE
LOC. PORT UNAVAILABLE FOR REPORTS	Activity in progress when traffic report required the port.	Check the causes which could make port unavailable; ie, someone logged on, equipment associated with port is turned off or unplugged. All other troubles, call RSB.
AUX. PORT UNAVAILABLE FOR REPORTS	Activity in progress when traffic report required the port.	Check the causes which could make port unavailable; ie, someone logged on, equipment associated with port is turned off or unplugged. All other troubles, call RSB.
REM. PORT UNAVAILABLE FOR REPORTS	Activity in progress when traffic report required the port.	Check the causes which could make port unavailable; ie, someone logged on, equipment associated with port is turned off or unplugged. All other troubles, call RSB.
POLLING DELAYED— ACU UNAVAILABLE	Automatic call unit busy.	User should release connection to the switch (REL command).
SCHEDULE FILE READ/WRITE FAILURES	Tape failure.	Call RSB.
CACS RELOAD (POSSIBLE POWER FAILURE) RESET CLOCK	Clock may be inaccurate.	Reset system clock (SETCLK command). If message occurs frequently and no power failures have occurred, notify RSB.
TRANSLATION NOT SAVED AT LOGOFF (CACS MAAP PLUGGED IN)	Program tape could not be run for updating at this time. Tape will be updated as soon as possible to do so.	If message is repeated after every log off, call RSB.
AUX, LOC, or REM TERMINAL NOT READY	A device is not ready (ie, out of paper or turned off).	Correct indicated problem. The CACS will not output to the non-ready terminal for up to 30 minutes. If the terminal is not ready by then, all pending output is lost.
POLLING DELAYED— SWITCH N CONNECTED BY (LOC/REM/AUX) TERMINAL	The specified terminal is connected to the switch which is scheduled for polling. A poll retry will be attempted each 10 minutes until successful or an hour elapses.	None.

TABLE C (Contd)

SYSTEM MESSAGES (ESS)

MESSAGE	MEANING	USER RESPONSE
POLLING DELAYED—DIALING FAILED SWITCH N	A scheduled poll was unable to complete because of a busy condition at the switch access port. A poll retry will be attempted each 10 minutes until success-ful or an entire hour elapses.	If it continues to occur and causes missed polls, call RSB.

TABLE D

POLLING RESULT MESSAGES

MESSAGE	MEANING	USER RESPONSE
OK	Successful poll completed (hourly or daily). Data written on tape.	No action required.
ESS PHASE OR CLOCK CHANGE	A phase or clock change has occurred at switch since last poll; current poll was completed but could contain unreliable data.	No action required. This message will be displayed when the ESS clock is changed to accommodate daylight savings time and when changes are made (via customer request) to the traffic collection schedule at the switch.
FAILED — NEW TRANSLATION	A major change affecting the switch traffic translation has occurred. No further polling will take place until the CACS receives the new translation via the TRFINIT command.	Execute the TRFINIT command.
FAILED — REPORT ACTIVE	Traffic Summary Report(s) was active for this switch during the attempted polling interval.	No action required.
FAILED — CACS CONNECTED (ADMIN)	This switch was connected by a CACS terminal during the attempted polling interval.	No action required.
FAILED — DATA	Poll failed due to transmission errors during poll.	CALL RSB or NCO*.
FAILED — TAPE	Tape read or write failure occurred during polling. Unreliable data on tape.	CALL RSB or NCO*.
FAILED — ACU	Failed to connect to switch for polling. Occurs if switch port is in use, incorrect dial code, or failure in the ACU.	CALL RSB or NCO*.

TABLE D (Contd)

POLLING RESULT MESSAGES (Contd)

MESSAGE	MEANING	USER RESPONSE
FAILED — ESS TRAFFIC UPDATE	Poll aborted because the CACS was polling at the same time the traffic register update or a major translation change was being performed at the ESS switch.	If message keeps repeating, call RSB.
FAILED — FACILITIES UNAVAILABLE	The poll was unable to complete because one or more of the following resources was in use by other CACS functions 1. ACU(s) 2. CACS memory space 3. CACS tape.	Try later; if unsuccessful, call RSB or NCO*.
POLL ABANDONED — HOUR TIMEOUT	The CACS has unsuccessfully attempted to poll the switch for an entire hour. The poll has been abandoned in anticipation of the following hour's polling.	No action required.

* If location in trouble is local, call RSB.
 If location in trouble is in other area, call the NCO.

TABLE E

COMMAND-RELATED MESSAGES

MESSAGE	MEANING	COMMAND
TABLE INVALID — REINITIALIZE	Alternate FRL table not initialized; enter command again.	ALTFRL
FRL INVALID	Invalid FRL entered. Enter FRL in range of 0 through 7.	
PLAIN INVALID	Plan must be between 1 and 3.	ARS
TIME INVALID	Incorrect day or time entered. Day must be 1 through 7, and time must be 0000-2345 in 15-minute increments.	
AUTHORIZATION CODE INVALID	The entered authorization code was found to be invalid at the network switch. Enter correct code.	AUTH, ESAC
FRL INVALID	Invalid FRL entered. Enter FRL in range of 0 through 7.	
RANGE INVALID	Authorization codes must be same number of digits, and ac2 must be greater than or equal to ac1. Enter correct authorization code(s).	
RC UNAVAILABLE NO CHANGE MADE	Recent change (RC) area in memory is full; call RSB.	
RC WARNING CHANGE MADE THROUGH nnnn	Recent change (RC) area in memory 80% or more full. Command successfully executed through authorization code nnnn; call RSB.	
	Note: These messages also appear in all commands that require connection to one or more network switches.	
ALREADY CONNECTED	If the connected switch is not responding, try reconnecting by issuing "REL" followed by "CON."	CON
ACU NOT AVAIL. — SWITCH ss "nnnn"	The equipped ACU hardware is in use by other CACS processes including traffic polling and/or other terminal users who are currently connected to a switch; try again later.	
DIALING FAILED — SWITCH ss "nnnn"	The attempted dial-up connection did not reach an answering data set. This indicates that either the designation port was busy or that the dial code is in error. If condition persists, call RSB.	

TABLE E (Contd)

COMMAND-RELATED MESSAGES

MESSAGE	MEANING	COMMAND
NEW CODE OUT OF BOUNDS	Replacement authorization code exceeds range of replacement codes. Verify range by entering ESAC ac DSP.	ESAC
RC WARNING	Recent change area in memory is 80% or more full; call RSB.	
RC NOT AVAILABLE	Recent change area in memory is full; call RSB.	
NO SWITCH CONNECTED	The switch has previously been released; "REL" is not necessary.	REL
CANNOT PRINT LONG NAMES	Long names will not be printed if memory space is exhausted or if there is a tape read error; try again.	SWNAMES
SWITCH ss DOES NOT HAVE A NAME	Assign it a name using the "SWNAMES" command if a name is desired.	
INVALID SWITCH NAME OR NUMBER(S)	Input for switch name was unrecognizable; reenter name or number.	TRF
SWITCH NON-EXISTENT	Switch number entered not set up by TELCO; enter correct switch or have TELCO equip switch number.	
LOC TERMINAL UNEQUIPPED — CANNOT PRINT REPORTS	If the specified terminal has not been defined in CACS software, no report can be printed on it; request the TELCO to equip the terminal.	
REM TERMINAL UNEQUIPPED — CANNOT PRINT REPORTS	(See LOC message above.)	
AUX TERMINAL UNEQUIPPED — CANNOT PRINT REPORTS	(See LOC message above.)	
	Note: Immediate reports not allowed on terminals other than your own during report period 100 to 500. Direct the report to your own terminal or schedule it for some time other than 1:00 A.M. to 5:00 A.M.	
LEGAL POLLING HOURS ARE BETWEEN 6:00 AND 23:00	The user cannot set up polling during hours outside these limits; reschedule the poll between 6:00 and and 23:00.	
SWITCH ss "nnnn" NOT SCHEDULED	The specified switch is not included in the polling schedule; schedule it if desired.	

TABLE E (Contd)

COMMAND-RELATED MESSAGES

MESSAGE	MEANING	COMMAND
TRFINIT ABORTED	This message is printed in conjunction with all of the other messages listed here under the TRFINIT command.	TRFINIT
SWITCH TYPE/ CONFIG. MISMATCH	Errors in the translation data at the network switch were detected; notify the RSB.	
TIMEOUT DURING XLN DUMP	The elapsed time between data transfers from the CACS to the network switch exceeded 2 seconds, indicating either a dropped data link or an inactive network switch; try again, report problems to RSB.	
DATA ERRORS FROM SWITCH	Excessive parity errors were detected in the translation dump; try again.	
TAPE BUSY	The tape request failed; try again.	
AN ERROR HAS OCCURRED ON A TAPE READ/WRITE	This error should be accompanied by a minor alarm indication; retry, and if it occurs again, notify the RSB.	
USER ID LIMIT REACHED	The system limit for user IDs is 8; one must be removed in order to add another one.	UID
USER ID INVALID	During a change of password, the user ID was either typed incorrectly or was not found in the catalog of user IDs; try again.	
USER ID "uuuu" NOT FOUND	The attempt to remove a user ID failed, because it was not in the catalog; reenter.	
USER ID "uuuu" ALREADY ACTIVE	The attempt to add or change a user ID was canceled, because the name to be used was already in use; choose another user ID.	

TABLE F

ALARM MESSAGES

MESSAGE	MEANING	USER RESPONSE
****MAJOR ALARM****	Major trouble in CACS	Call RSB
a>	Minor trouble in CACS	Call RSB