

**PERFORMANCE REPORTING OPTION (PRO) 500
DESCRIPTIVE INFORMATION
CALL MANAGEMENT SYSTEM (CMS)**

CONTENTS	PAGE	CONTENTS	PAGE
1. GENERAL	4	ASSOCIATED EQUIPMENT	9
2. EQUIPMENT DESCRIPTION	5	A. LA120 DECWRITER Printer Terminal	9
"PDP*" 11/70 MINICOMPUTER	5	B. RWP06 Disk Pack Drive Subsystem	9
ASSOCIATED EQUIPMENT	5	C. TWE16 Magnetic Tape Subsystem	9
A. LA120 DECWRITER* Printer Terminal	5	D. Software Tapes	9
B. RWP06 Disk Pack Drive Subsystem	5	E. DATASPEED 40 Printer	9
C. TWE16 Magnetic Tape Subsystem	5	F. Lear Siegler, Inc, ADM-42 Display Terminal	9
D. Software Tapes	6	G. INTECOLOR 8001 Display Terminal	9
E. DATASPEED† 40 Printer	6	H. 202T Data Sets	9
F. Lear Siegler, Inc, ADM-42 Display Terminal	6	I. 212A Data Set	10
G. INTECOLOR‡ 8001 Display Terminal	6	J. Prentice Electronics Corp Asynchronous Line Drivers (ALDs)	10
H. 202T Data Sets	6	4. DATA BASE SYSTEM	10
I. 212A Data Set	6	TRANSLATION DATA BASE DESCRIPTION	10
J. Prentice Electronics Corp Asynchronous Line Drivers (ALDs)	6	A. Agent File	10
3. FUNCTIONAL DESCRIPTION	6	B. Trunk File	10
"PDP*" 11/70 MINICOMPUTER	6	C. Facility Group File	10
		D. Queue File	10
		E. Load Compensating Package (LCP) File	10
		CALL STORE DATA BASE DESCRIPTION	10

*Trademark of the Digital Equipment Corporation.

†Registered trademark of AT&T.

‡Registered trademark of the Intelligent Systems Corporation.

NOTICE

Not for use or disclosure outside the
Bell System except under written agreement

CONTENTS	PAGE	CONTENTS	PAGE
STATUS DATA BASE DESCRIPTION	11	RECONFIGURATION	15
A. Individual Agents	11	DATA DICTIONARY (DD)	16
B. Facilities	11	INFORMATIONAL REPORTING GROUP EDITOR (IRGE) SYSTEM	16
C. Facility Groups	11	A. Informational Agent Reporting Group (iarg)	16
D. Queue/Split	11	B. Queue Reporting Group (qrg)	16
PERFORMANCE DATA BASE DESCRIPTION	11	C. Informational Facility Reporting Group (ifrg)	16
A. Individual Agents	12	D. List of Informational Agent Reporting Group (liarg)	17
B. Facility Groups	12	E. Agent Login Identification Reporting Group (idrg)	17
C. Queue	12	AGENT LOGIN FEATURE	17
D. Queue Server	12	A. Agent ID	17
AGENT IDENTIFICATION (ID) DATA BASE DESCRIPTION	12	B. Login Editor (lie)	17
HISTORICAL DATA BASE DESCRIPTION	13	C. Login Status Query (lis)	17
A. Individual Agents	13	D. Login Reports	18
B. Facility Groups	13	E. Login Report Editor (lre)	18
C. Queue	13	REPORT CREATION SYSTEM (RCS)	18
D. Queue Server	13	A. Status Reports	18
FORECAST DATA BASE DESCRIPTION	13	B. Performance Reports	18
TRUNK ENGINEERING DATA BASE DESCRIPTION	14	C. Performance Summary Reports	18
EXCEPTION DATA BASE DESCRIPTION	14	D. Historical Reports	18
A. Exception Definition Data Base	14	E. Historical Summary Reports	18
B. Exception Log Data Base	14	F. Report Header	19
C. Summary Report Data Base	14	G. Background	19
5. USER INTERFACE	14	H. Window(s)	19
REVERSE CHANNEL (revchan)	14		
TRANSLATION INTERROGATION	15		

CONTENTS	PAGE	CONTENTS	PAGE
DISPLAY CREATION SYSTEM (DCS)	20	E. Historical Reports	35
A. Create Display	20	F. Color Reports	47
B. Change Display	21	G. Exception Reports	52
C. Schedule Display	21	H. Translation Reports	54
EXCEPTION SYSTEM (EXSYS)	22	I. Forecast Reports	58
A. Exception Editor (exe)	22	J. Trunk Reports	61
B. Exception Interrogator (exi)	22	7. MAINTENANCE CHARACTERISTICS	63
C. Schedule Exception (se)	23	8. REFERENCES	63
FORECAST SYSTEM	23	9. ABBREVIATIONS	64
A. Agent Forecasting	23	Figures	
B. Trunk Forecasting	23	1. Typical PRO 500 Equipment Room Floor Plan	7
6. REPORT SYSTEM	24	2. Block Diagram of PRO 500 Equipment	8
REPORT GROUP STRUCTURE	24	3. Typical Status Report Header, Background, and Windows	20
A. Functional Agent Reporting Group (farg)	24	4. DCS Header	21
B. Informational Agent Reporting Group (iarg)	24	5. Split Status Report	25
C. Identification Reporting Group (idrg)	24	6. Split Status Summary Report	26
D. Functional Trunk Group	24	7. Agent Status Report	26
E. Informational Trunk Group	24	8. Agent Status Summary Report	27
F. Queue	24	9. Agent Group Summary Report	28
STANDARD REPORTS	24	10. Individual Agent Daily Summary Report	28
A. Status Reports	25	11. Split %OCC and ASA (Split Performance) Report	29
B. Performance Reports	27	12. Split Summary Report	29
C. Login Demand Reports	30	13. Agent Time Profile Demand Report	30
D. Login Daily Reports	31	14. Agent Split Profile Demand Report	30

CONTENTS	PAGE
Figures (Contd)	
15. Agent Summary Demand Report	31
16. Agent Time Profile Daily Report	33
17. Agent Split Profile Daily Report	34
18. Agent Summary Daily Report	35
19. Calls Carried Profile Report	38
20. Daily Efficiency Summary Report	39
21. Daily Call Profile Report	39
22. Daily Split Summary Report	40
23. Daily Trunk Group Summary Report	41
24. Individual Agent Daily Summary Report	42
25. Group Summary Report	43
26. Half-Hourly Call Profile Report	43
27. Half-Hour System Summary Report	44
28. Half-Hour Split Summary Report	44
29. Half-Hour Trunk Group Summary Report	45
30. Daily Trunk Traffic Report	45
31. Weekly Efficiency Summary Report	46
32. Weekly Split Summary Report	46
33. Traffic Profile—Forecast/Actual Report	48
34. Traffic Volume Profile Report	49
35. WCV Profile Report	50
36. Average Answer Profile Report	51
37. Traffic Service Index Report	52
38. Exception Demand Report	53

CONTENTS	PAGE
Figures (Contd)	
39. Agent Exception Summary Report	53
40. Translation Interrogation Report	54
41. Call Store Interrogation Report	57
42. Intraday Forecast Report	59
43. Longterm Forecast Report	60
44. Special Day Forecast Report	61
45. Daily Trunk Group Busy Hour Report	62
46. Monthly Trunk Group Busy Hour Summary Report	62
47. Trunk Group Monthly Engineering Report	63

Table

A. Flagged Login Exceptions in Login Reports	32
---	----

1. GENERAL

1.01 This section describes the physical, functional, and operational characteristics and limitations of the Performance Reporting Option (PRO) 500.

1.02 Whenever this section is reissued, the reason(s) for reissue will be listed in this paragraph.

1.03 The PRO 500 provides the necessary management information on the customer premises to assist in the most efficient use of the Automatic Call Distribution (ACD) feature. The PRO 500 operates in conjunction with a DIMENSION* 2000 PBX equipped with FP8, Issue 2, to provide a Call Management System (CMS).

1.04 The DIMENSION PBX provides all switching and translation functions for the PRO 500.

*Registered trademark of AT&T.

1.05 The PRO 500 provides the customer with periodic reports on the system, such as agent, trunk, and split status. There are eight types of standard reports which are status, performance, historical, color, exception, translation, forecast, and trunk group. These reports may be displayed on a display terminal or printed on a printer. The PRO 500 also contains the Report Creation System (RCS) and the Display Creation System (DCS) to allow the customer the flexibility of creating, scheduling, and displaying reports. The PRO 500 provides the capability for system reconfiguration.

1.06 Commercial power goes to the PRO 500 minicomputer and associated hardware.

2. EQUIPMENT DESCRIPTION

2.01 The PRO 500 system configuration consists of the following equipment:

- PDP 11/70 Minicomputer, Model No. SM-70 CVA-LK
- LA120 DECWRITER Printer Terminal
- RWP06 Disk Pack Drive Subsystem
- TWE16 Magnetic Tape Subsystem
- Software Tapes
- DATASPEED 40 Printer
- Lear Siegler, Inc, ADM-42 Black and White Display Terminal
- INTECOLOR 8001 Display Terminal
- 202T Data Sets
- 212A Data Set (With 2565HKM Telephone Set)
- Prentice Electronics Corp Asynchronous Line Drivers (ALDs).

2.02 A typical PRO 500 equipment room floor plan is shown in Fig. 1.

2.03 The PRO 500 receives agent and facility status information from the LC34B or LC366 circuit data channel through the peripheral interface circuit (PIC). Information is presented in report form on a display terminal or printed (hard copy) on a DATASPEED 40 printer(s). See Fig. 2.

"PDP" 11/70 MINICOMPUTER

2.04 The 11/70 minicomputer consists of four cabinets. Each cabinet is 54.6 cm wide by 76.2 cm deep by 181.6 cm high (21.5 in. by 30 in. by 71.5 in.). Four cabinets positioned side by side require a space approximately 223.5 cm wide (88 in.). The total combined weight for the four cabinets is approximately 1542.2 kg (3400 lb). An additional 91.4 cm (36 in.) in front and 73.7 cm (29 in.) in back are needed for servicing.

ASSOCIATED EQUIPMENT

A. LA120 DECWRITER Printer Terminal

2.05 The LA120 DECWRITER printer terminal is provided with the minicomputer. This printer terminal is 69.9 cm wide by 61 cm deep by 85.1 cm high (27.5 in. by 24 in. by 33.5 in.) and weighs 48.5 kg (107 lb). An additional 61 cm (24 in.) in back and 121.9 cm (48 in.) in front are needed for servicing.

B. RWP06 Disk Pack Drive Subsystem

2.06 The RWP06 disk pack drive subsystem is a free-standing floor cabinet that measures 81.3 cm wide by 81.3 cm deep by 118.1 cm high (32 in. by 32 in. by 46.5 in.) and weighs 272.2 kg (600 lb). An additional 91.4 cm (36 in.) are needed on each side for servicing.

C. TWE16 Magnetic Tape Subsystem

2.07 The TWE16 magnetic tape subsystem is mounted in the minicomputer equipment cabinet. This subsystem uses 26.7 cm (10.5 in.) reels of tape containing 731.5m (2400 ft) of magnetic tape.

D. Software Tapes

2.08 The PRO 500 software tapes provide the operating system and application software necessary for the minicomputer to function as a part of the PRO 500. The TWE16 magnetic tape subsystem uses both 182.9m (600-ft) tapes and tapes that are 731.5m (2400 ft) in length on 26.7 cm (10.5 in.) reels, and certified to 629.9 b/cm (1600 b/in.) minimum.

E. DATASPEED 40 Printer

2.09 The DATASPEED 40 printer is a receive only printer (ROP) equipped with a pedestal and paper rack. The ROP has 132 columns and uses tractor feed. The line-printing capacity is 300 lines per minute.

F. Lear Siegler, Inc, ADM-42 Display Terminal

2.10 This is a black and white display terminal that measures 48.3 cm wide by 64.8 cm deep by 45.7 cm high (19 in. by 25.5 in. by 18 in.). The display terminal and keyboard combined weigh 22.7 kg (50 lb).

G. INTECOLOR 8001 Display Terminal

2.11 This is a color display terminal that measures 49.5 cm wide by 58.4 cm deep by 40.6 cm high (19.5 in. by 23 in. by 16 in.). The keyboard measures 47 cm wide by 16.5 cm deep by 7.6 cm high (18.5 in. by 6.5 in. by 3 in.). The combined weight is 29.5 kg (65 lb).

H. 202T Data Sets

2.12 The 202T data sets are used when the display terminal and printer placement exceeds a maximum distance from the minicomputer. This

maximum distance is 91.4m (300 ft) for the printer and 304.8m (1000 ft) for the display terminal.

I. 212A Data Set

2.13 The 212A data set is used in combination with a 2565HKM telephone set on a dial-up maintenance line.

J. Prentice Electronics Corp Asynchronous Line Drivers (ALDs)

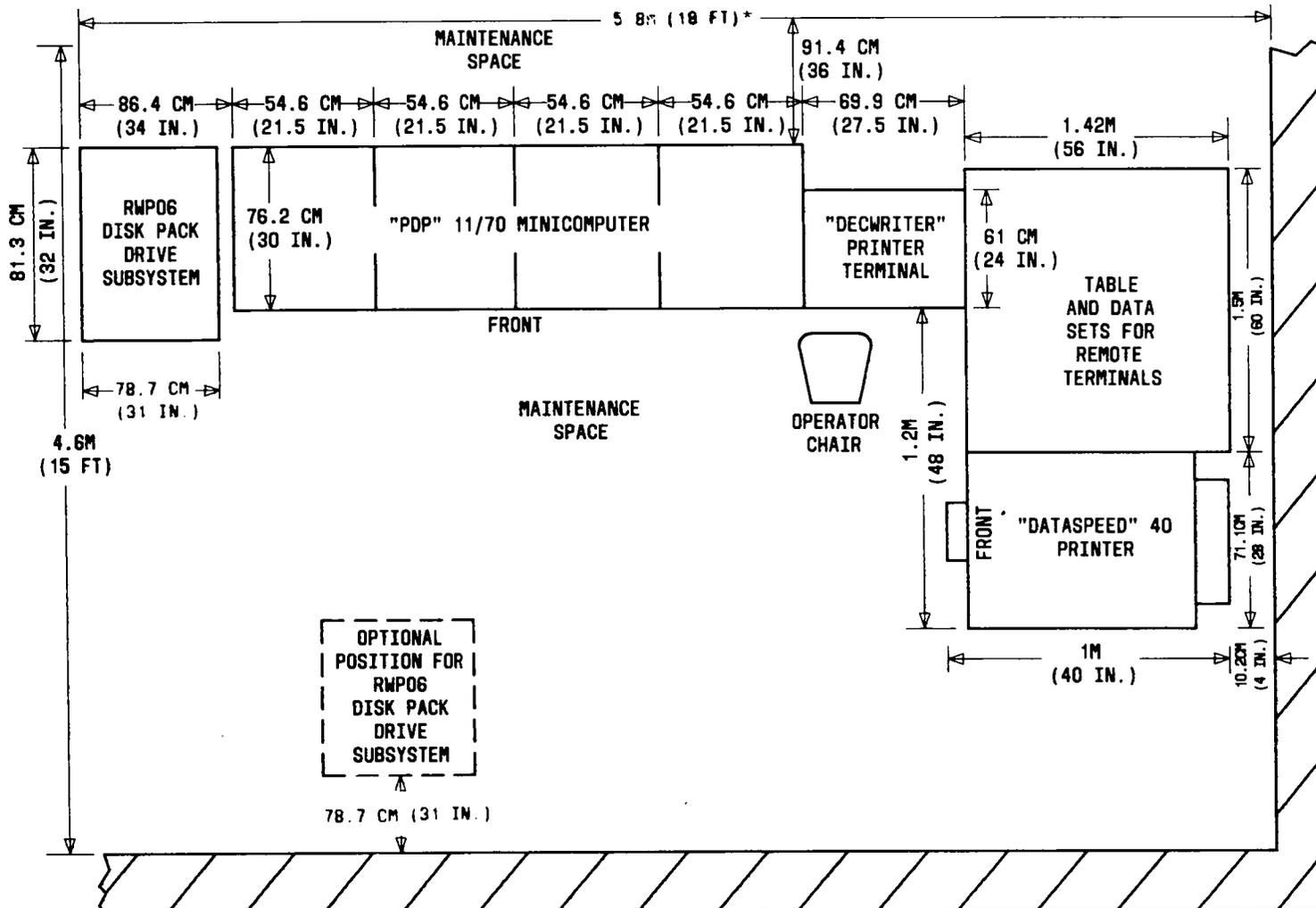
2.14 The ALDs are used between the PIC and the PRO 500 interface when the distance is greater than 22.9m (75 ft). The ALDs can operate over a wide range of baud rates but will pass data at 2400 baud for PRO 500.

3. FUNCTIONAL DESCRIPTION

"PDP" 11/70 MINICOMPUTER

3.01 The minicomputer is the heart of the PRO 500 and permits up to 15 devices to be used in any combination of display terminals and/or printers. Up to ten printers may be used. The display terminals may be either black and white or color. Provision is made for one dial-up maintenance line.

3.02 The minicomputer has a storage capability of 512K words of interleaved parity metal-oxide-semiconductor (MOS) memory.



* APPROXIMATE DIMENSIONS. CABINET SPACING NOT SHOWN

Fig. 1—Typical PRO 500 Equipment Room Floor Plan

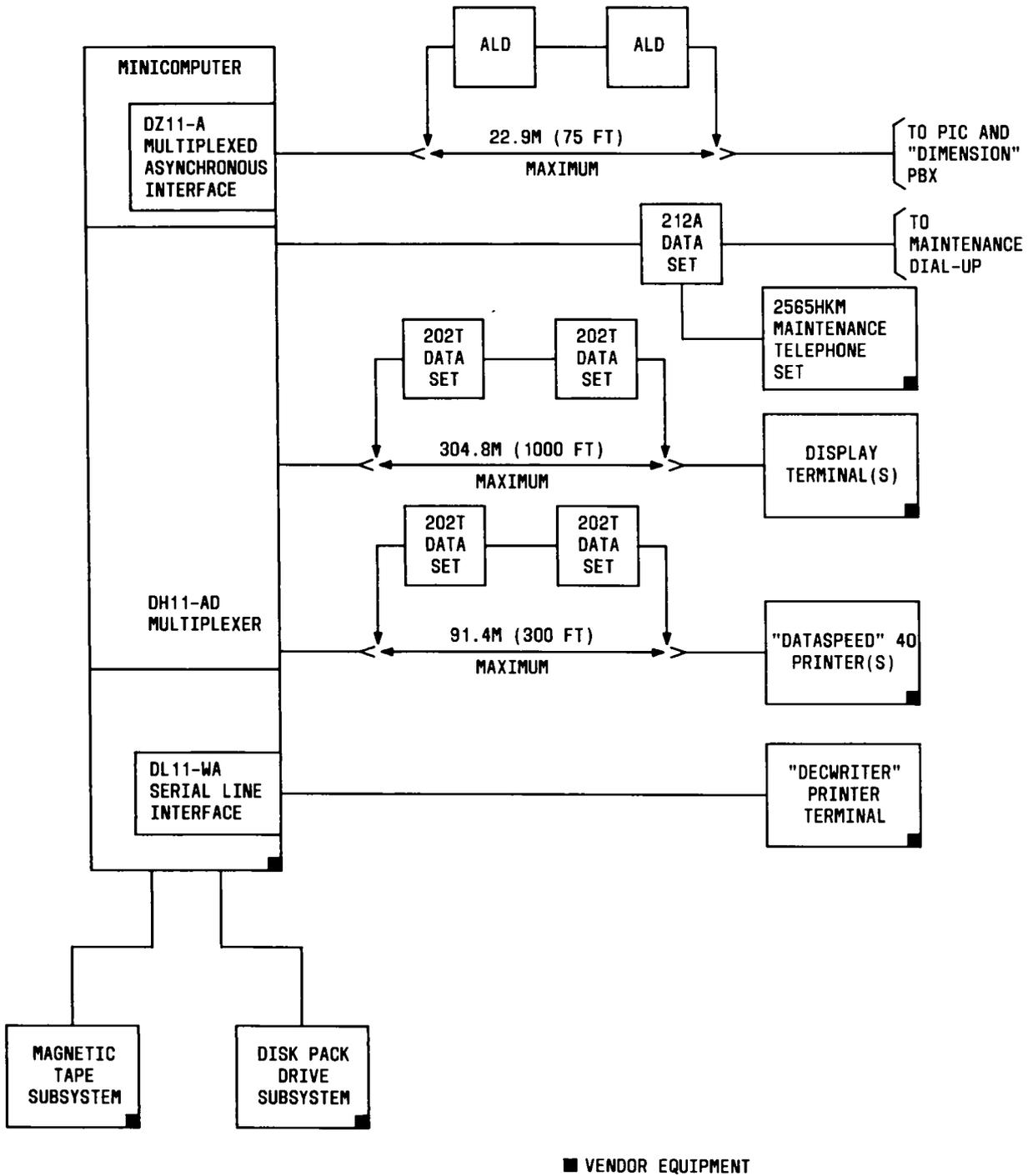


Fig. 2—Block Diagram of PRO 500 Equipment

3.03 The basic minicomputer (three cabinets) requires 115-Vac 60-Hz phase to neutral 3-phase power and uses 1610 watts. A fourth cabinet is required (H960-DH) for the magnetic tape subsystem which uses 1150 watts at 115-Vac 60-Hz single-phase power.

ASSOCIATED EQUIPMENT

A. LA120 DECWRITER Printer Terminal

3.04 The LA120 DECWRITER printer terminal is primarily used to input commands to power the minicomputer up or down. This printer terminal can input/output data at a rate of 30 characters per second and has a 132-column print with 4 characters per centimeter (10 characters per inch) horizontal spacing. The keyboard uses a standard 128-character American Standard Code for Information Interchange (ASCII). This printer terminal uses tractor feed and allows six copies to be made at once. The LA120 printer terminal requires 115-Vac 60-Hz single-phase power and uses 440 watts.

B. RWP06 Disk Pack Drive Subsystem

3.05 The RWP06 disk pack drive subsystem contains one disk pack with eight disks. Each disk pack has a storage capacity of 88 million words. Several disks may be accessed simultaneously. The RWP06 disk pack drive subsystem requires 115-Vac 60-Hz 3-phase power and uses 1460 watts.

C. TWE16 Magnetic Tape Subsystem

3.06 The TWE16 magnetic tape subsystem uses a standard 9-track format and has a recording density of 315/630 b/cm at 114.3 cm/s (800/1600 b/in. at 45 in./s). The reel size is 26.7 cm (10.5 in.) in diameter and contains 731.5m (2400 ft) of tape. Each reel of tape may contain 32 million characters [at 630 b/cm (at 1600 b/in.)]. The TWE16 magnetic tape subsystem requires 115-Vac 60-Hz single-phase power and uses 1150 watts.

D. Software Tapes

3.07 Software tapes are provided by the Western Electric Company. The PRO 500 user makes backup disk copies of the initial software tapes. Disks are then periodically restored, and reports are saved on a backup tape so that system information can be readily restored in case of system failure.

E. DATASPEED 40 Printer

3.08 The DATASPEED 40 printer can print 300 lines per minute using a 132-column format. The printer connects to the DH11-AD multiplexer. The printer may be used locally [up to 91.4m (300 ft) from the minicomputer] without the use of data sets or remotely [more than 91.4m (300 ft) from the minicomputer] with the use of 202T data sets. The printer is used to produce a hard copy of reports which are displayed on a display terminal or automatically routed to a printer. The PRO 500 may contain more than one printer. When there is more than one printer, the user can specify the printer to be used to output a report at report schedule time.

F. Lear Siegler, Inc, ADM-42 Display Terminal

3.09 The ADM-42 display terminal is used by the supervisor to create, display, and schedule reports. The display terminal is interactive and operates in full duplex mode with no parity. The display terminal operates at 4800 baud below 304.8m (1000 ft) (cable distance from minicomputer) and at 1200 baud for distances of 304.8m (1000 ft) or greater. This display terminal requires 115-Vac 60-Hz power and uses 65 watts.

G. INTECOLOR 8001 Display Terminal

3.10 The INTECOLOR 8001 display terminal is generally used by upper level supervisors to display color reports on traffic and forecasts. The display terminal is interactive and operates in full duplex mode with no parity. The display terminal operates at 1200 baud. This display terminal requires 115-Vac 60-Hz single-phase power and uses 250 watts.

H. 202T Data Sets

3.11 One 202T data set (or equivalent) must be used at the minicomputer and another at a display terminal when the cable distance between the minicomputer and display terminal exceeds 304.8m (1000 ft). The 202T data sets operate at 1200 baud in full duplex mode. Each 202T data set requires 115-Vac 60-Hz power and uses 7 watts.

3.12 One 202T data set (or equivalent) must be used at the minicomputer and another at the printer when the distance between the minicomputer and printer exceeds 91.4m (300 ft). The 202T data sets

operate at 1200 baud in full duplex mode. Each 202T data set requires 115-Vac 60-Hz power and uses 7 watts.

I. 212A Data Set

3.13 The 212A data set (or equivalent) is used as an interface to the minicomputer through a dial-up maintenance line arrangement. One data set is used at the minicomputer. This data set is used over the regular switched network. The 212A operates at 300 baud for the dial-up arrangement, in full duplex mode, and is used in combination with a 2565HKM telephone set. The 212A data set requires 115-Vac 60-Hz power and uses 9 watts.

J. Prentice Electronics Corp Asynchronous Line Drivers (ALDs)

3.14 One ALD (or equivalent) is used at the minicomputer and one at the DIMENSION PBX when the distance between the minicomputer and the DIMENSION PBX is greater than 22.9m (75 ft). The ALDs operate at 2400 baud and in full duplex mode.

4. DATA BASE SYSTEM

TRANSLATION DATA BASE DESCRIPTION

4.01 The translation data base consists of a minicomputer copy of program store data. The translation data base stores information on individual agents, facilities, facility groups, and queues. The translation data base manager program is responsible for informing the PRO 500 of any new translations.

A. Agent File

4.02 The agent console extension number is stored in the translation data base to define agent location.

B. Trunk File

4.03 Data items stored in the translation data base for each trunk file include:

- Trunk network number
- Trunk group number.

C. Facility Group File

4.04 Data items stored in the translation data base for each facility group file include:

- Facility group number
- Facility group type (incoming traffic, outgoing traffic, and 2-way incoming and outgoing traffic)
- Facility group size
- Facility group index.

D. Queue File

4.05 Data items stored in the translation data base for each queue file include:

- Queue number
- Split number
- Queue directory number
- Base night transfer directory number
- Queue size
- Number of queue registers
- Inflow threshold
- Primary outflow threshold
- Calls waiting level threshold
- Primary alternate server pool number
- Size of alternate server pool
- Queue index.

E. Load Compensating Package (LCP) File

4.06 The LCP file contains the translation data to define all agent to split assignments.

CALL STORE DATA BASE DESCRIPTION

4.07 The call store data base consists of a subset of the translation data base and stores any completed customer reconfiguration requests. The call store data contains the LCP number, current queue

thresholds, current agent to split assignments, and the current night transfer directory number for each queue. The call store data base manager program is responsible for informing the PRO 500 when changes occur in the call store data base.

4.08 Data items stored in the call store data for each queue include:

- Queue number
- Split number
- Inflow threshold
- Primary outflow threshold
- Remote night directory number area code
- Base night transfer directory number
- Remote night directory number
- Queue index.

STATUS DATA BASE DESCRIPTION

4.09 The status data base maintains the current status and events which occur for individual agents, facilities, facility groups, splits, and queues. This data is made available for logging status data into the performance data base and making reports.

A. Individual Agents

4.10 Data items stored in the status data base for each agent include:

- State (in pool, after call work, outgoing extension call, and ACD call)
- Flags (trouble, assistance required, alert conditions, and supervisor requested)
- Time mark
- Trunk network number
- Priority.

B. Facilities

4.11 Data items stored in the status data base for each trunk include:

- Trunk network number
- State (idle and available, temporary after-seizure for an ACD call or seized for an incoming non-ACD call, on queue, process of

being connected, being used for outgoing call, high-and-wet on ACD call, and disabled)

- Split number
- Time mark
- Priority
- Trunk made busy flag
- Locked out flag.

C. Facility Groups

4.12 Data items stored in the status data base for each facility group include:

- Facility group number
- Number of facilities in group
- Up/down counter for facility state
- Trunk make busy count
- Trunk locked out count
- Type
- All trunks busy time mark.

D. Queue/Split

4.13 Data items stored in the status data base for each queue or split include:

- Queue number
- Split number
- Call queue (number of calls queued, oldest call on queue, and newest call on queue).

PERFORMANCE DATA BASE DESCRIPTION

4.14 The performance data base accumulates data over a 5-minute period for individual agents, facility groups, queues, and queue servers. At the end of the 5-minute period, the accumulated data is made available for reports and for the historical data base.

A. Individual Agents**4.15** Data items stored in the performance data base for each agent position include:

- Usage (maintenance, in pool, after call work, ACD calls, incoming extension calls, outgoing extension calls, incoming extension calls while in auxiliary work, outgoing extension calls while in auxiliary work, and non-ACD calls while in auxiliary work)
- Peg count (incoming extension calls, outgoing extension calls, ACD calls, incoming extension calls while in auxiliary work, and outgoing extension calls while in auxiliary work)
- Event peg count (assist, trouble, alert, supervisor, and agent end-of-period state).

B. Facility Groups**4.16** Data items stored in the performance data base for each facility group include:

- Usage (abandoned, connected, seize queue, incoming non-ACD calls, outgoing calls, error state, high-and-wet, disabled, idle, locked out, trunk make busy, and delay)
- Peg count (abandoned, ACD calls, incoming non-ACD calls, and outgoing calls)
- Event (all trunks busy, number of trouble reports, overflow in, and overflow out)
- End-of-period state (ACD calls, incoming non-ACD calls, and outgoing calls).

C. Queue**4.17** Data items stored in the performance data base for each queue include:

- Delayed routine calls (usage time, peg count, longest call, and profile)
- Delayed priority calls (usage time, peg count, longest call, and profile)
- Abandoned routine calls (usage time, peg count, longest call, and profile)
- Abandoned priority calls (usage time, peg count, longest call, and profile)

- Events (queue overflow 1, queue overflow 2, and queue overflow 3)
- Table (add-on and intraflow).

D. Queue Server

4.18 Queue server information is the accumulated service provided by all agents who served a queue during the report period. For example, during a half-hour report period, agents 1 through 10 served the queue for the first 15 minutes and agents 11 through 20 served the queue for the other 15 minutes. The data collected on the queue for that half-hour will include 15 minutes of data for agents 1 through 10 and 15 minutes of data for agents 11 through 20.

4.19 Data items stored in the performance data base for the queue server include:

- Usage (error, unmanned, in pool, after call work, ACD calls, incoming extension calls, outgoing extension calls, incoming extension calls while in auxiliary work, outgoing extension calls while in auxiliary work, and after call work while in auxiliary work)
- Peg count (ACD calls, incoming extension calls, outgoing extension calls, incoming extension calls while in auxiliary work, and outgoing extension calls while in auxiliary work)
- Profile (after call work and weighted call)
- Event (assist calls, trouble calls, alert calls, supervisor calls, direct call 1, direct call 2, direct call 3, and direct call 4)
- End-of-period state (ACD call, outgoing extension call, incoming extension call, outgoing extension call while in auxiliary work, and incoming extension call while in auxiliary work).

AGENT IDENTIFICATION (ID) DATA BASE DESCRIPTION

4.20 The agent ID data base accumulates data over a 5-minute period for individual ID numbers. Each ID number has an agent name, an ID reporting group, and a console number. At the end of the 5-minute period, the accumulated data is made available for login reports. Data is accumulated for each

ID number to agent name and ID reporting group association.

4.21 Data items stored in the agent ID data base for each ID number include:

- Record header (agent ID, login time, logout time, split number, and exception flags)
- Usage (after call work, ACD calls, outgoing extension calls, in pool, and manned)
- Peg count (outgoing extension calls and ACD calls).

HISTORICAL DATA BASE DESCRIPTION

4.22 The historical data base is a collection of smaller, time-incremented data bases, such as half-hour, day, and month. Data for the historical data base is accumulated for individual agents, facility groups, queues, and queue servers from the performance data base.

A. Individual Agents

4.23 Data items stored in the historical data base for each agent include:

- Usage (auxiliary work, incoming extension calls, outgoing extension calls, ACD after call work, manned, and in pool)
- Peg count (ACD calls, incoming extension calls, and outgoing extension calls).

B. Facility Groups

4.24 Data items stored in the historical data base for each facility group include:

- Usage (abandoned, connected, delay before answer after trunk was seized, incoming non-ACD calls, outgoing calls, error, high-and-wet, disabled, idle, locked out, trunk make busy, and delay)
- Peg count (abandoned, incoming non-ACD calls, outgoing calls, and ACD calls)
- Events (all trunks busy, number of trouble reports, number of overflows in, and number of overflows out)
- End-of-period state (ACD call, non-ACD call, and outgoing extension call).

C. Queue

4.25 Data items stored in the historical data base for individual queues include:

- Delayed routine and priority calls (usage, peg, longest call, and profile)
- Abandoned routine and priority calls (usage, peg, longest routine, and profile)
- Events (queue overflow 1, queue overflow 2, and queue overflow 3)
- Tables (add-on and intraflow).

D. Queue Server

4.26 Data items stored in the historical data base for the queue server include:

- Usage (error, in pool, after call work, ACD calls, incoming extension calls, outgoing extension calls, incoming extension calls while in auxiliary work, outgoing extension calls while in auxiliary work, unmanned, and after call work while in auxiliary work)
- Peg count (ACD calls, incoming extension calls, outgoing extension calls, incoming extension calls while in auxiliary work, and outgoing extension calls while in auxiliary work)
- Event (assist calls, trouble calls, alert calls, supervisor calls)
- Profile (after call work and weighted call)
- End-of-period state (ACD calls, incoming extension calls, outgoing extension calls, incoming extension calls while in auxiliary work, and outgoing extension calls while in auxiliary work).

FORECAST DATA BASE DESCRIPTION

4.27 The forecast data base accumulates the data needed by the forecast system to predict future service requirements. This data is obtained from the performance data base and is updated every 5 minutes.

4.28 The number of calls carried (NCC) data and the weighted call value (WCV) data are stored

for each queue. The NCC is computed by summing the number of incoming calls handled and the number of incoming calls abandoned. The NCC data is stored by half-hour for the previous 21 days and by day for the 366 days prior to the last 21 days. The WCV is computed by dividing the number of ACD calls into the total talk time plus the after call work time on ACD calls. The WCV is stored for the last 7 days.

4.29 Among the items stored in the forecast data base for each queue are current period, current day, backdays, previous year, and special day(s).

TRUNK ENGINEERING DATA BASE DESCRIPTION

4.30 The trunk engineering data base items are collected and stored on a current hour basis for each trunk group in the system. This data is updated every 5 minutes from the performance data base. Among the items stored are number of calls handled, number of calls abandoned, incoming talk time, incoming trunk busy seconds, number of outgoing calls, outgoing talk time, outgoing trunk busy seconds, overflow, and all trunks busy.

4.31 The trunk engineering data base also stores data on a current day basis for each trunk group in the system. The busiest hour values for the current day are retained for each of the data items listed for the current hour.

4.32 Data is also stored on a current month basis for each trunk group in the system. The busiest hour data for each of the month's 5 busiest days is retained for each of the data items listed for the current hour.

4.33 The trunk engineering data base also stores data on a previous month basis. The average of the five sets of values from the current month data makes up the previous month data. Data is retained for the previous 12 months.

EXCEPTION DATA BASE DESCRIPTION

4.34 Three data bases in the exception system contain all the information necessary to detect and report exception conditions in the PRO 500.

A. Exception Definition Data Base

4.35 The exception definition data base information defines the set of exceptions that the exception scanner uses to direct its scanning actions.

Each defined exception in the data base resides in a separate record consisting of data items such as type, report group number, mask list, threshold occurrence count, zero cycle count, value, tty identification letter, occurrence count, state, cycle count, exception counter, and item.

B. Exception Log Data Base

4.36 The exception log data base resides in the PRO 500 file system and is used to keep a record of all exceptions that have occurred since the last log clearing. This data base is capable of containing up to 460 records. Each record is composed of data items such as type, exception number, threshold occurrence count, report group number, tty identification letter, value, mask, item, peg, and time.

C. Summary Report Data Base

4.37 The summary report data base contains the schedule and format for the agent exception summary report. This file contains the data items such as agent reporting group, schedule, and content.

5. USER INTERFACE

5.01 The PRO 500 communicates with the DIMENSION PBX via a data channel through a peripheral interface circuit (PIC). This communication is 2-way. The DIMENSION PBX supplies the PRO 500 with call-processing information, and the PRO 500 supplies the DIMENSION PBX with customer requests for changing the manner of call processing.

5.02 The PRO 500 receives two types of information from the DIMENSION PBX. One type is a state change log which is a continuous stream of messages used to form the basis of reports. The second type is called translations which allows the PRO 500 to relate the state change log information to customer-defined reports.

REVERSE CHANNEL (revchan)

5.03 The PRO 500 communicates with the DIMENSION PBX by using the data link in the revchan direction. Using revchan, the PRO 500 initiates its operation, obtains the time of day (tod), and updates the translation data base and the present state of the ACD.

5.04 The PRO 500 user can use revchan to access translation-type data from the DIMENSION

PBX. The **revchan** can also be used to reconfigure the ACD. The **revchan** can be invoked from any PRO 500 terminal.

5.05 There are three **revchan** command options. When option **i** is requested (**revchan —i**), help information for interrogation requests is provided. When option **r** is requested (**revchan —r**), help information for reconfiguration requests is provided. When option **b** is requested (**revchan —b**), actual messages sent, received, and expected are displayed in binary. (This last option can be used for troubleshooting.)

5.06 The reverse channel is accessed by typing **revchan** (plus any option desired) at a terminal displaying a system prompt. Then the locally assigned password is entered. A message indicating the established level is displayed (eg, manager mode). If help information is requested, help information is displayed. Then the interrogation or reconfiguration request is entered.

TRANSLATION INTERROGATION

5.07 The PRO 500 provides the PBX user with the ability to access translation type data from the DIMENSION PBX using **revchan**. The interrogation requests are:

- **init:** Request translation initialization
- **tod:** Request the time of day and date
- **exit:** Request **revchan** to terminate without sending a request.

RECONFIGURATION

5.08 The PRO 500 provides the PBX user with the ability to reconfigure the ACD using **revchan** (versus service order procedures). This changes the translations for DIMENSION PBX. The commands available to the PBX user in the reconfiguration mode are defined below.

Move Terminal to Split (**mts**)

5.09 The **mts** command permits an agent console to be moved from split to split or a block of agent consoles to be moved from one split to another. This command facilitates traffic flow by moving agent consoles to needed areas.

Change Night Transfer Directory Number (**cdn**)

5.10 The **cdn** command changes the night service number, thus routing night traffic to a different console, split, or location. This command permits the most efficient night service.

Restore Base Night Transfer Directory Number (**rdn**)

5.11 The **rdn** command restores the original base night directory number to service.

Change Inflow Threshold (**cit**)

5.12 The **cit** command changes the inflow threshold, in number of waiting calls, above which inflow will not be permitted. Below the set threshold, the split can assist in answering calls which inflow from another split which has too many calls waiting.

Change Primary Outflow Threshold (**cpo**)

5.13 The **cpo** command changes the outflow threshold, in number of waiting calls, above which outflow can occur (if permitted by another split inflow threshold). The outflow threshold must exceed the inflow threshold.

Invoke Split Pattern (**isp**)

5.14 The **isp** command can be used to return the system assignments to a known split configuration. There is one preset split configuration [load compensating package (LCP)] available.

Exit (**exit**)

5.15 The **exit** command takes the user out of **revchan** without issuing another request.

Reverse Channel Log (**revlog**)

5.16 A log of the last seven reconfiguration and initialization requests is stored inside the PRO 500. For information in the case of questions concerning past operations, this log can be displayed on a terminal or printer via the **revlog** command. The identification of the terminal originating the request, the time the request was made, and the actual request are saved if the request was executed successfully. As each new request is successfully executed, the oldest one is lost from the log and the newest one is added. The log has the oldest on the top of the display and the most recent on the bottom.

DATA DICTIONARY (DD)

5.17 The DD is a software module designed to work as a component of the PRO 500. The DD files provide an English translation, thus allowing use of familiar names and terms along with system prompts. These prompts are preprogrammed questions asked the user in English. The DD is used in the Report Creation System (RCS), the Display Creation System (DCS), the Informational Reporting Group Editor (IRGE) System reconfiguration, and the report run time package.

5.18 The Data Dictionary Editor (DDE) allows the user to edit the DD contents. The edit routine allows the user to:

- Enter a symbolic equivalence
- Delete a symbolic equivalence
- Enter a calculation on reporting groups or queues
- Delete a calculation on reporting groups or queues
- Enter a reporting group name
- Delete a reporting group name
- Look up an item
- List the contents
- Edit a definition.

5.19 Privileged DDE operations are accessible only by the Product Engineering Control Center (PECC) to:

- Enter a variable or data base item
- Delete a variable or data base item
- Enter a function
- Delete a function
- Enter a report data class
- Delete a report data class.

INFORMATIONAL REPORTING GROUP EDITOR (IRGE) SYSTEM

5.20 The IRGE System allows the user to control the reporting groups by selecting data without changing the translations and enables the customer to examine the current split configuration.

A. Informational Agent Reporting Group (iarg)

5.21 The **iarg** commands allow the user to:

- Display all informational agent reporting groups
- Add agent to an informational agent reporting group
- Search (verify) informational agent reporting group assignment
- Examine contents of informational agent reporting group
- Remove agent from informational agent reporting group
- Clear informational agent reporting group.

B. Queue Reporting Group (qrg)

5.22 The **qrg** commands allow the user to:

- Display all queue reporting groups
- Add queue to a queue reporting group
- Search (verify) queue reporting group assignment
- Examine contents of queue reporting group
- Remove queue from queue reporting group
- Clear queue reporting group.

C. Informational Facility Reporting Group (ifrg)

5.23 The **ifrg** commands allow the user to:

- Display all informational facility reporting groups
- Add facility to an informational facility reporting group

- Search (verify) informational facility reporting group
- Examine contents of informational facility reporting group
- Remove facility from informational facility reporting group
- Clear facility from an informational facility reporting group.

D. List of Informational Agent Reporting Group (liarg)

5.24 The **liarg** commands allow the user to:

- Display all list of informational agent reporting groups
- Add agent reporting group to list of informational agent reporting groups
- Search (verify) list of informational agent reporting group assignments
- Examine contents of list of informational agent reporting groups
- Remove agent reporting group from list of informational agent reporting groups
- Clear list of informational agent reporting groups.

E. Agent Login Identification Reporting Group (idrg)

5.25 The agent login **idrg** commands allow the user to:

- Display all ID reporting groups
- Add agent to ID reporting groups
- Search (verify) agent ID reporting group assignment
- Examine contents of agent ID reporting group
- Remove agent from ID reporting group
- Clear ID reporting group.

AGENT LOGIN FEATURE

5.26 The agent login feature provides a PRO 500 user with a way of controlling agent ID information. Agent ID information is collected on an individual agent.

A. Agent ID

5.27 Each agent is assigned a unique 4-digit ID number. Data bases are generated based on individual agent ID performance information. A summary of agent ID performance information is taken from the data base and presented in daily and demand reports.

B. Login Editor (lie)

5.28 The **lie** commands provide a way to change or determine ID to agent name and ID report group associations by allowing the user to:

- Add an agent ID to agent name
- Delete an agent ID to agent name
- Edit an agent ID to agent name
- List each agent ID to agent name.

C. Login Status Query (lis)

5.29 The **lis** commands provide a way to review ID status by allowing the user to:

- Locate an agent through name or ID
- Determine if an ID is currently in use
- Identify the owner of an ID
- Identify the ID reporting group of an agent
- Identify all members of an ID reporting group
- Determine the login status of a particular console
- Determine the login status of all consoles
- Obtain a list of all IDs in use
- Obtain an alphabetized list of all agents known to the system

- Obtain a list of members of all ID reporting groups.

D. Login Reports

5.30 Information on ID performance can be displayed by demand or scheduled daily. Agent ID demand and daily reports are available in the following styles:

- Agent time profile
- Agent split profile
- Agent summary.

Demand reports provide agent ID performance summaries for today or yesterday. Daily reports provide agent ID performance summaries for yesterday.

E. Login Report Editor (lre)

5.31 The **lre** commands are used to edit and schedule the agent ID daily report and allow the user to:

- Edit daily login subreport parameters
- Edit daily login subreport parameters common to all subreports.

REPORT CREATION SYSTEM (RCS)

5.32 The RCS provides a flexible means of generating customer-oriented reports without programming experience. A report may be created or modified only on a display terminal. Agent login feature reports cannot be created or modified by the RCS. Reports are created or modified by typing **rcs**, answering header report control questions, typing in data items in the background (report name and column titles), and answering window control questions. Header and window report control questions vary depending on the window or report type. The reports are formatted and displayed in a customer-specified manner.

5.33 The RCS may be used to create five types of reports: status, performance, performance summary, historical, and historical summary.

A. Status Reports

5.34 This type of report displays rapidly changing agent status information. This information is

displayed by teams (reporting groups) and may be combined on a display terminal screen with other reports. Status reports receive traffic information from the status data base and are updated in 10-second or greater intervals and displayed only on display terminals.

B. Performance Reports

5.35 This type of report displays information that is accumulated over a period of time, such as the number of calls received by a split in a 10-minute interval. This information is updated in 5-minute or greater intervals. The performance data base supplies the information for performance reports and is routed to a display terminal(s) or a printer.

C. Performance Summary Reports

5.36 This type of report is a summary of a performance report. Information is gathered from performance reports on a half-hour or greater update basis. The extent of the summary depends on the summary interval and period. The period is the time the report information started (summary start) to the time when no more data is gathered for the report (summary stop). The summary stop time must be later than the present time. Reports are routed to a display terminal or a printer.

D. Historical Reports

5.37 This type report receives data from the historical data base. Historical reports are similar to performance reports except a data extent is specified. The data extent is the time over which data is collected. The minimum update time for historical reports is 30 minutes. These reports may be routed to a printer or a display terminal.

E. Historical Summary Reports

5.38 This type report is similar to a performance summary report. The historical summary collects data over past intervals of 30 minutes (or longer) and has a report period of an hour, day, week, etc. Data may only be collected up to the present time. The report period is the time between the summary start to the summary stop. Data for this type of report is gathered from the historical data base. These reports are routed to a printer but may be displayed on a display terminal.

F. Report Header

5.39 The report header contains the report control information defining the report, such as name, report type, update time, etc (Fig. 3). If a new report is being created, the appropriate control information (varies with report type) must be entered as follows:

- **name:** Identity of report; must be less than or equal to ten characters
- **report type:** Type of report being created; eg, historical, historical summary, performance, performance summary, or status
- **update time:** Report update and display time; eg, 30min (optional)
- **data extent:** Period of time for which data is to be collected (optional)
- **duration:** How long report is to be displayed (optional); if not specified, will only erase when updated
- **position:** Line number on display terminal that report display will start on (optional)
- **routing:** Identifies printer or display terminal to display report (optional); if not specified, routed to display terminal on which header information originated
- **summary start:** Specifies time summary accumulation is to begin (historical and performance summaries only)
- **summary stop:** Specifies time summary accumulation is to stop (historical and performance summaries only)
- **summary interval:** Period of time covered by report (historical and performance summaries only)
- **group name (1-11):** Group(s) used to generate data for report and must be less than or equal to 13 characters and contain no imbedded blanks.

G. Background

5.40 The background information contains labels, titles, legends, column headings, and any special characters (eg, percent signs, commas, etc), and

specifies the position, type, and content of "windows" (Fig. 3).

H. Window(s)

5.41 Window(s) are a set of input parameters used in the RCS to define and locate the various items which make up a report (Fig. 3).

5.42 Each window in a report is defined by assigning values to the following parameters:

(a) **number:** Window number is assigned for the system at the time the window is defined.

(b) **type:** Type of data item is as follows:

(1) **detail:** Indicates that the window contains a single data item, such as the current calendar date.

(2) **record:** Single line of information of two or more data items; summarizes data in body of report. Parameters are as follows:

- **data name (1-11):** Name of the information in that column; eg, a column heading. The name must be less than or equal to 13 characters and contain no imbedded blanks.

- **column space:** Distance in characters between the far left character of one column to the leftmost character of the next consecutive column and depends on the number of columns. The maximum width is 80 characters.

(3) **list:** Indicates the window with a number of different data items with value impact on more than one report line. Typically, these values would pertain to a list of reporting entities (agents, trunk groups, etc) or to specific periods of time. For example, a window which displays a list of agents in a report group and the data item values associated with each one would be defined as a list. Each list window contains the following questions:

- **data name (1-11):** Name of the information in that column; eg, a column heading. The name must be less than or equal to 13 characters and contain no imbedded blanks.

- **column space:** Distance in characters between the far left character of one column to

the leftmost character of the next consecutive column and depends on the number of columns. The maximum width is 80 characters.

- **row space:** Horizontal line spacing; eg, single space, double space.
- **list length:** Number of rows in the list.

(4) **histogram:** Indicates that the values associated with the various data items will be displayed as a bar graph. Each histogram window contains the following questions:

- **horz data:** Horizontal data is plotted on the x-axis but limited to 80 characters.
- **vert data:** Vertical data is plotted on the y-axis.
- **no. of bars:** Number of individual bars that make up the graph.
- **horz size:** Horizontal size limited to 80 characters (display terminal screen width).
- **vert size:** Defines (by lines) the total height of the graph.

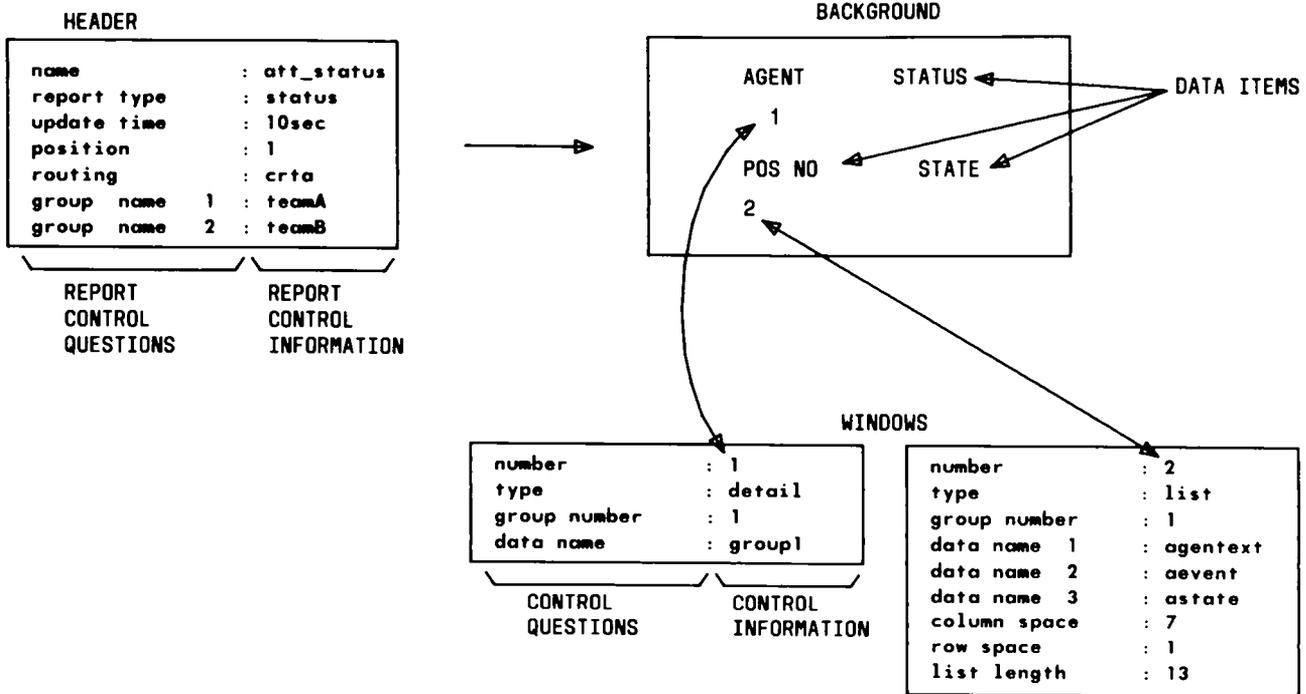


Fig. 3—Typical Status Report Header, Background, and Windows

DISPLAY CREATION SYSTEM (DCS)

5.43 The DCS is a software module that operates on reports previously defined in the RCS. The DCS permits one or more reports to be scheduled under one name. Addition/deletion of reports, changing report data, and scheduling reports are done on a display terminal. The DCS works together with the display scheduler to form a complete display system.

Note: Reports must be scheduled to be displayed on a display terminal or printed on a printer.

A. Create Display

5.44 The display header contains the display control information defining the display, such as name, update time, etc (Fig. 4). If a new display is

```

display name           : dis
update time           : 10min
data extent           : 30min
duration              : 3min
position              : 1
routing               : crtb
summary start         : -1wk
summary stop          : -
summary interval      : 1day
group name 1          : team1
report 1              : agent-stat
report 2              : team-stat

```

Fig. 4—DCS Header

being created, the appropriate display control information must be entered as follows:

- **name:** Identity of display; must be less than or equal to ten characters
- **update time:** Report update and display time; eg, 30min (optional)
- **data extent:** Period of time for which data is to be collected (optional)
- **duration:** How long display is to be displayed (optional); if not specified, will only erase when updated
- **position:** Line number on display terminal that report display will start on (optional)
- **routing:** Identifies printer or display terminal to display report (optional); if not specified, routed to display terminal on which header information originated
- **summary start:** Specifies time summary accumulation is to begin (historical and performance summaries only)
- **summary stop:** Specifies time summary accumulation is to stop (historical and performance summaries only)
- **summary interval:** Period of time covered by report (historical and performance summaries only)
- **group name (1-11):** Group(s) used to generate data for report and must be less than or equal to 13 characters and contain no imbedded blanks (optional)
- **report (1-100):** Reports scheduled under one display name.

B. Change Display

5.45 The DCS permits the user to specify and modify a display with a complete set of editing commands. Through use of the editing commands, a user may add a report to an existing display. The DCS operates on a copy of the original; therefore, changes made on the copy do not affect the original until the desired changes are completed.

5.46 Changing report data allows reports that have identical scheduling to be grouped under one name. The display control information (answers) need not be alike. The DCS enables the user to create a display and add or change parameters (display control information) in both the display and reports.

C. Schedule Display

5.47 In the DCS a report created using the RCS or a standard report can be scheduled for output to a terminal at customer-specified times of the day and days of the week or the report may be demanded for almost immediate output. (Any delay is a function of the current PRO 500 processing load.)

5.48 A display is scheduled by typing **run display**, the display name, start and stop times, and any other optional parameters such as routing, update, and duration. These optional parameters have been defined in the RCS or predefined for standard reports. If routing is not specified in the RCS or DCS, the report runs on the display terminal used for scheduling the display.

EXCEPTION SYSTEM (EXSYS)

5.49 The PRO 500 EXSYS detects and stores exceptional conditions occurring in the ACD. These exceptional conditions are displayed or printed in the form of special reports covering either informational or physical components. The user has flexibility in defining the conditions considered exceptional, flexibility in formatting and scheduling the summary report(s), and control of where the exception reports are displayed.

5.50 User interface is provided by three programs: exception editor (**exe**), exception interrogator (**exi**), and schedule exception (**se**).

A. Exception Editor (**exe**)

5.51 The **exe** program allows the user to add and delete exception definitions as well as modify an existing definition through an edit command. The user can display a particular exception definition or display all of the definitions currently in the system. The user can also display exception peg count summaries and selectively clear these counters. The user can also obtain an exception snap which reports on the current state of a particular exception. This can be displayed on all defined exceptions. There are also commands to activate and deactivate an exception scan; this essentially shuts off an exception without removing its definition and allows it to be reactivated later.

5.52 The following commands are used with **exe**:

- **add**: Defines a new exception
- **delete**: Removes an exception definition

- **activate**: Enables an exception definition
- **deactivate**: Disables an exception definition
- **edit**: Modifies an exception definition
- **list**: Displays an exception definition
- **lista**: Displays all exception definitions
- **save**: Saves exception definition work copy by transferring to permanent file system copy
- **restore**: Copies permanent file system exception definition copy to work copy
- **snap**: Displays status of an exception
- **snapa**: Displays status of all exceptions
- **summary**: Displays peg (occurrence) counts for all exceptions
- **zero**: Clears peg (occurrence) count for an exception
- **index**: Prints last data base index used in exception definition table
- **startc**: Clears an exception cycle counter.

B. Exception Interrogator (**exi**)

5.53 The **exi** program serves as a tool for searching and displaying information from the exception log data base. This data base holds a log of exception violations that have occurred since the last generation of the agent exception summary report.

5.54 There are three basic exception interrogator commands. One command (**ttyr**) is used to display the most recent exception routed to a terminal. Another command (**tty**) is used to display all of the exceptions that were scheduled to route to a display terminal. The remaining command (**demand**) allows the customer to selectively search for particular classes of exceptions.

C. Schedule Exception (se)

5.55 The se summary report program provides the schedule and current format for the agent schedule summary report. The user can change the current schedule and format or supply new information if an agent exception summary report is not scheduled. (See paragraph 6.57.)

FORECAST SYSTEM

5.56 The agent and trunk forecast system aids the user in planning for both long- and short-term staff or trunk requirements. It gives the user the ability to update and refine traffic projections based upon observed trends. Agent forecasting is a separate task from trunk forecasting and is discussed independently.

A. Agent Forecasting

5.57 The agent forecasting system allows the user to determine staffing requirements and to adjust to these requirements based on business fluctuations. This system design provides the user with the means to generate intraday agent forecast reports, special day forecast reports, and longterm agent forecast reports for up to 35 days from the current day. The user can also display and update data contained in the forecast data base and the user-changeable parameters used by the agent forecast system.

5.58 The forecast editor allows access to forecast data with commands as follows:

- **parms** (user parameters): Displays current value of user-changeable parameters (Parameters are queue, weighted call value, delay, and facilities.)
- **pcc** (print current configuration): Shows relationship between actual PBX queue number and forecast data base index
- **times** (update time): Displays last update time of forecast data base and current time
- **ftimes** (file update time): Displays last update time of forecast files and current time
- **plast** (print last completed time): Displays number of calls carried for last completed half-hour period for all queues in system

- **pwcv** (print weighted call value): Displays weighted call value for previous 7 days by queue, current day's number of ACD calls, and sum of ACD talk time and after call work time
- **pcp** (print current period): Displays NCC for current half-hour period by queue
- **pcd** (print current day): Displays NCC in 48 half-hour intervals for current day
- **pbd** (print backdays): Displays NCC by half-hour periods for past 21 days or for a particular day out of 21 days
- **pyd** (print year days): Displays daily total of NCC for specified day of past year
- **psd** (print special days): Displays NCC by half-hour period for days that have been identified as special days
- **pftp** (print forecasted traffic profile): Displays current longterm forecast table
- **papr** (print average positions required): Displays average positions required table used by forecast reports
- **ppd** (print performance data): Displays current performance data base queue information
- **ubd** (update backday): Allows user to enter data into backdays' section of data base
- **usd** (update special day): Allows user to change special day's data stored in data base
- **ldi** (longterm data input): Allows user to enter year-ago data in the forecast data base on per-queue basis.

B. Trunk Forecasting

5.59 The trunk engineering features allow the user to forecast the trunk requirements for the DIMENSION PBX based on trunk group busy-hour statistics and trunk engineering reports.

5.60 The trunk editor allows the user access to trunk forecast data as follows:

- **parms** (user parameters): Displays current values of user-changeable parameters
- **pcc** (print current configuration): Displays current trunk group configuration
- **times** (update time): Displays last update time of trunk data base
- **pch** (print current hour): Displays facility group information for current hour
- **pcd** (print current day): Displays facility group information for current day
- **ppm** (print previous month): Displays summarized facility group information for a previous month for past year
- **ppd** (print performance data): Displays facility group performance data used in generating trunk data base
- **phd** (print historical data): Displays various items from historical data base that are useful in monitoring data collection of trunk data base.

6. REPORT SYSTEM

REPORT GROUP STRUCTURE

6.01 Information on the call-carrying facilities, agents, and queues in the DIMENSION PBX is grouped in the structure shown below for accumulation by the PRO 500.

A. Functional Agent Reporting Group (farg)

6.02 The farg consists of all the agents currently assigned to a particular split. Whenever the contents of a split are altered by reconfiguration, the makeup of the appropriate functional groups will automatically change in the PRO 500.

B. Informational Agent Reporting Group (iarg)

6.03 The user may collect data on a selected group of agents or team of agents. An iarg may contain from one to the total number of agents in the system with changes made at any time by the user.

C. Identification Reporting Group (idrg)

6.04 The agent login feature will collect data on a selected group of ID numbers. Up to 200 idrg's may be defined. An idrg may contain a maximum of 200 ID numbers. Each ID may be assigned to only one idrg.

D. Functional Trunk Group

6.05 There is a functional group for each trunk group. Whenever a group of facilities is changed via service order, the contents of the appropriate functional trunk group will automatically change. The PRO 500 reports on traffic over the following types of facility groups:

- Dedicated trunk groups which carry ACD traffic exclusively
- Trunk groups which carry ACD and non-ACD traffic (shared facilities).

E. Informational Trunk Group

6.06 An informational trunk group will allow the user to monitor a specified group of functional trunk groups. For example, this would be of value when the user wishes to determine calling similarities for geographical locations which are served by more than one trunk group, such as in an advertising campaign. An informational trunk group may be added or changed by the user at any time.

F. Queue

6.07 Each split contains one queue. This queue can receive two types of calls, priority and routine with priority calls answered first. Information is collected on both routine and priority calls.

STANDARD REPORTS

6.08 The PRO 500 provides a set of standard reports. The report parameters are predefined and contain fixed formats. When reports are scheduled to run, they may be displayed or printed upon demand.



Standard reports are not intended to be changed through use of the Report Creation System (RCS).

6.09 A standard report may be duplicated, and the duplicate report can be modified to suit a particular customer's needs using the RCS. New reports may also be created by the customer using the RCS.

A. Status Reports

6.10 The status reports supplied with the PRO 500 are defined below.

Split Status Report

6.11 The information displayed on the first line of the split status report (Fig. 5) is a snapshot of the split status taken every 30 seconds. Average speed of answer (ASA) and percent occupancy (%OCC) are summary data indicating conditions averaged over 5-minute time increments that is updated every 5 minutes and is routed to a display terminal.

Split Status Summary Report

6.12 The split status summary report is designed to provide a periodically updating indication of

the current status of six groups of agents comprising a split. Every 30 seconds the values in this report update to indicate the number of agents in each group that are currently in each of the states shown in Fig. 6. This report is displayed on a display terminal upon demand.

Agent Status Report

6.13 The agent status report is designed to provide a continuously updating (every 10 seconds) indication of the status of each agent position in two reporting groups. In addition to the normal states (ACD, AVAIL, etc), this report also indicates when any agent in either group depresses one of the special-purpose buttons (ALERT, SUPV, etc) on that agent's console as shown in Fig. 7.

Agent Status Summary Report

6.14 The agent status summary report is designed to provide a continuously updating indication on a display terminal of the current status of two groups of agents. Each time this report is updated, it will indicate how many agents in each group are in the five states as shown in Fig. 8. The report is updated every 10 seconds and is routed to a display terminal when requested.

----- SPLIT STATUS -----				
NCW	OCW	AVAIL	NOC	PM
10	42	0	27	150
	ASA		%OCC	
	22		89	

NOTE: ASA - AVERAGE SPEED OF ANSWER (seconds)
 AVAIL - AVAILABLE
 NCW - NUMBER OF CALLS WAITING
 NOC - NUMBER OF OUT CALLS
 OCW - OLDEST CALL WAITING (seconds)
 %OCC - PERCENT OCCUPANCY
 PM - POSITIONS MANNED

Fig. 5—Split Status Report

SPLIT STATUS SUMMARY Sun Jan 7 15:54:56 1979

	AVAIL	ACD	ACW	EXT IN	EXT OUT	TOTAL
attgp6	0	7	9	6	3	25
attgp7	0	5	5	9	6	25
attgp8	0	9	2	5	9	25
.
attgp11	0	15	3	2	5	25
<hr/>						
TOTAL	0	64	31	28	27	150

NOTE: ACD - ATTENDANTS ON ACD CALLS
 ACW - ATTENDANTS IN AFTER CALL WORK STATE
 AVAIL - AVAILABLE
 EXT IN - ATTENDANTS ON INCOMING EXTENSION CALLS
 EXT OUT - ATTENDANTS ON OUTGOING EXTENSION CALLS

Fig. 6—Split Status Summary Report

AGENT STATUS Wed Mar 21 13:30:20 1979

POS NO	attgp1 FLAG	STATE	POS NO	attgp2 FLAG	STATE
2542	ASSIST	ACD	2538		AVAIL
2543		ACW	2539	SUPV	ACD

NOTE: ACD - ATTENDANT(S) ON ACD CALL
 ACW - AFTER CALL WORK STATE
 AVAIL - AVAILABLE
 EXT IN - ATTENDANT(S) ON INCOMING EXTENSION CALL
 EXT OUT - ATTENDANT(S) ON OUTGOING EXTENSION CALL
 SUPV - ATTENDANT(S) REQUIRING ASSISTANCE
 TRBL - TROUBLE STATE

Fig. 7—Agent Status Report

AGENT STATUS SUMMARY

	AVAIL	ACD	ACW	EXT IN	EXT OUT
alress	3	4	3	1	2
nmress	2	5	3	1	1

TOTAL	5	9	6	2	3

NOTE: ACD - ATTENDANT(s) ON ACD CALL
 ACW - AFTER CALL WORK STATE
 AVAIL - AVAILABLE
 EXT IN - ATTENDANT(s) ON INCOMING EXTENSION CALL
 EXT OUT - ATTENDANT(s) ON OUTGOING EXTENSION CALL

Fig. 8—Agent Status Summary Report

B. Performance Reports

6.15 The performance reports supplied with the PRO 500 are defined below.

Agent Group Summary Report

6.16 The agent group summary report is designed to provide a summary of the call-handling activities of two groups of agents over the past 5 minutes. The report is updated every 5 minutes. (See Fig. 9.)

Individual Agent Daily Summary Report

6.17 The individual agent daily summary report shown in Fig. 10 is a performance summary designed to provide an end-of-day summary of the call-handling activities of a particular agent over the

course of that agent's work day. It is capable of handling up to 10 hours of information. This report is updated every 10 hours and is normally routed to a printer.

Split %OCC and ASA (Split Performance) Report

6.18 The split %OCC and ASA (split performance) report is designed to provide a periodically updating indication of the performance of a split over the last 5 minutes. This report normally appears along with the split status report on a display terminal upon demand. (See Fig. 11.)

Split Summary Report

6.19 The split summary report is designed to provide a 5-minute summary of the call-handling activities of a split and the groups of agents who serve it. (See Fig. 12.)

AGENT GROUP SUMMARY: Fri Mar 23 0930 - 1000 79

	NCH	ATT	ACW	%OCC	EFF
alress	200	150	120	87	92.5
nmress	180	160	105	91	105.7

TOTAL	380	155	113	89	98.2

NOTE: ACW - AFTER CALL WORK STATE
 ATT - AVERAGE TALK TIME (seconds)
 EFF - EFFICIENCY
 NCH - NUMBER OF CALLS HANDLED
 %OCC - PERCENT OCCUPANCY

Fig. 9—Agent Group Summary Report

INDIVIDUAL AGENT DAILY SUMMARY Wed Mar 28 08:00:00 1979

JaneP

TIME	NCH	ATT	ACW	NOC	OHT	TIM	%OCC	EFF
----	---	---	---	---	---	---	---	---
0830	5	181	68	1	115	30	76	100.4
0900	4	179	49	2	93	30	61	109.6
0930	4	189	57	1	150	30	63	101.6
1000	3	182	73	0	0	20	94	98.0
1600	4	190	65	0	0	25	93	97.0

TOTAL	90	172	55	10	91	135	79	110.1

NOTE: ACW - AFTER CALL WORK (seconds)
 ATT - AVERAGE TALK TIME (seconds)
 EFF - EFFICIENCY
 NCH - NUMBER OF CALLS HANDLED
 NOC - NUMBER OF OUT CALLS
 OHT - OUT CALL HOLDING TIME (seconds)
 %OCC - PERCENT OCCUPANCY
 TIM - TOTAL TIME MANNED (minutes)

Fig. 10—Individual Agent Daily Summary Report

----- SPLIT STATUS -----				
NCW	OCW	AVAIL	NOC	PM
10	42	0	27	150
	ASA		%OCC	
	22		89	

NOTE: ASA - AVERAGE SPEED OF ANSWER (seconds)
 AVAIL - AVAILABLE
 NCW - NUMBER OF CALLS WAITING
 NOC - NUMBER OF OUT CALLS
 OCW - OLDEST CALL WAITING (seconds)
 %OCC - PERCENT OCCUPANCY
 PM - POSITIONS MANNED

Fig. 11—Split %OCC and ASA (Split Performance) Report

SPLIT SUMMARY										
Fri Mar 23 1200 - 1205 79										
	ASA	NCH	NCA	ATT	ACW	%OCC	NOC	OHT	APM	APR
teamS	14	200	14	178	100	96	9	172	199	216
team11		20		150	98		5	167	18	
team12		30		169	104		12	132	30	
team13		16		165	106		9	190	16	
team14		27		155	110		24	180	27	
team16		67		199	96		0	0	68	

NOTE: ACW - AFTER CALL WORK TIME (seconds)
 APM - AVERAGE POSITIONS MANNED
 APR - AVERAGE POSITIONS REQUIRED
 ASA - AVERAGE SPEED OF ANSWER (seconds)
 ATT - AVERAGE TALK TIME (seconds)
 NCA - NUMBER OF CALLS ABANDONED
 NCH - NUMBER OF CALLS HANDLED
 NOC - NUMBER OF OUT CALLS
 %OCC - PERCENT OCCUPANCY

Fig. 12—Split Summary Report

C. Login Demand Reports

6.20 The login demand reports provide performance information for a single agent. Agent time profile, agent split profile, and agent summary demand report styles are available. Data for the login demand reports is updated in 5-minute intervals and may be based on either current data or a summary of yesterday's data on a single agent. The report can be routed to any or all printers. The login demand reports are defined below.

Agent Time Profile Demand Report

6.21 The agent time profile demand report is shown in Fig. 13. Each line of the report shows a summary of agent performance for a login session.

Agent Split Profile Demand Report

6.22 Agent performance is displayed by split number. Each line summarizes the agent's login sessions for a split assignment. (See Fig. 14.)

Agent Summary Demand Report

6.23 The agent summary demand report provides a performance summary for each agent. Each line of the report displays a summary of agent login sessions. (See Fig. 15.)

AGENT TIME PROFILE DEMAND REPORT

GROUP: SUP_5

CURRENT TIME: Thu Sep 11 17:51 EDT 1980
REPORT PERIOD: Thu Sep 11 1980

ID	NAME	IN	OUT	SP	TTM	ZTS	NCH	ATT	ACW	NOC	OHT	ZOC	EFF
1234	Doe, John	9:30	11:30	2	2:00	32	35	140	50	2	170	97	95
		11:30	12:50	4	1:20	21	25	110	60	1	180	92	106
		13:45	14:25	2	0:40	10	10	125	55	2	160	88	100
		14:45	15:35	7	1:00	16	18	120	50	1	180	90	106
		15:35	16:55	2	1:20	21	22	115	65	3	150	92	100
TOTALS					6:20	100	110	124	56	9	163	93	100

Fig. 13—Agent Time Profile Demand Report

AGENT SPLIT PROFILE DEMAND REPORT

GROUP: SUP_5

CURRENT TIME: Thu Sep 11 17:51 EDT 1980
REPORT PERIOD: Thu Sep 11 1980

ID	NAME	IN	OUT	SP	NL	TTM	ZTPS	NCH	ATT	ACW	NOC	OHT	ZOC	EFF
1234	Doe, John	9:30	16:55	2	3	4:00	63	67	130	56	7	159	94	97
				4	1	1:20	21	25	110	60	1	180	92	106
				7	1	1:00	16	18	120	50	1	180	90	106
TOTALS						6:20	100	110	124	56	9	163	93	100

Fig. 14—Agent Split Profile Demand Report

AGENT SUMMARY DEMAND REPORT

GROUP: SUP_5		CURRENT TIME: Thu Sep 11 17:51 EDT 1980									
		REPORT PERIOD: Thu Sep 11 1980									
ID	NAME	NL	TTM	NCH	ATT	ACW	NOC	OHT	%OC	EFF	
1234	Doe, John	5	6:20	110	124	56	9	163	93	100	

Fig. 15—Agent Summary Demand Report

D. Login Daily Reports

6.24 The login daily reports record agent summaries for the entire workday. The login daily report is printed on a printer and is organized by ID reporting groups. Agent time profile, agent split profile, and agent summary reports are available. Data for the login daily reports is updated in 5-minute intervals. The login daily report consists of all the agents in the specific ID reporting group. Output parameters for the login daily reports may be modified by the login report editor.

6.25 Exception conditions are flagged in the login daily reports. The exception conditions are organized into two groups, one that pertains specifically to an ID number and the other that pertains to a specific login session or split (Table A). Flags **t**, **y**, **u**, and **l** will be printed on the left side of the line immediately following the ID number and agent name line. Flag **m** will be shown as follows for each of the three login daily reports:

- Agent Time Profile Report: Left of the applicable login time
- Agent Split Profile Report: Left of the applicable split number
- Agent Summary Report: Left of the applicable number of login entries.

Agent Time Profile Daily Report

6.26 Each line of the agent time profile daily report shows a summary of agent performance for a login session. Every agent in the specified ID reporting group will be listed. Agent ID exceptions will be flagged on the reports. (See Fig. 16.)

Agent Split Profile Daily Report

6.27 Agent performance is displayed by split number. Each line summarizes the agent's login sessions for a split assignment. Every agent in the specified ID reporting group will be listed. Agent ID exceptions will be flagged on the reports. (See Fig. 17.)

Agent Summary Daily Report

6.28 The agent summary daily report provides a performance summary for each agent in the specified ID reporting group. Each line of the report displays a summary of agent login sessions. Agent ID exceptions will be flagged on the reports. (See Fig. 18.)

TABLE A

FLAGGED LOGIN EXCEPTIONS IN LOGIN REPORTS

FLAG (NOTE)	DEFINITION
t	Agent is logged in at midnight today.
y	Agent is logged in at midnight yesterday.
u	Agent name is unassigned.
l	Performance data is lost because of data base overflow.
m	Multiple login of an ID number (more than one console).

Note: Flags t, y, u, and l are exceptions per ID number. Flag m is an exception per login session or split.

Wed Sep 10 1980 AGENT TIME PROFILE REPORT Page 1

GROUP: SUP_5

ID	NAME	IN	OUT	SP	TTM	XTS	NCH	ATT	ACW	NOC	OHT	XOC	EFF
1234	Doe, John	9:30	11:30	2	2:00	32	35	140	50	2	170	97	95
		11:30	12:50	4	1:20	21	25	110	60	1	180	92	106
		13:45	14:25	2	0:40	10	10	125	55	2	160	88	100
		14:45	15:35	7	1:00	16	18	120	50	1	180	90	106
		15:35	16:55	2	1:20	21	22	115	65	3	150	92	100
TOTALS					6:20	100	110	124	56	9	163	93	100
1589	Smith, Mary y l	0:00	2:30	2	2:00	32	35	140	50	2	170	97	95
		11:30	12:50	4	1:20	21	25	110	60	1	180	92	106
		m13:45	14:25	2	0:40	10	10	125	55	2	160	88	100
		m14:45	15:35	7	1:00	16	18	120	50	1	180	90	106
		15:35	16:55	2	1:20	21	22	115	65	3	150	92	100
TOTALS					6:20	100	110	124	56	9	163	93	100
3542	t u	m 9:30	11:30	2	2:00	32	35	140	50	2	170	97	95
		m11:30	12:50	4	1:20	21	25	110	60	1	180	92	106
		13:45	14:25	2	0:40	10	10	125	55	2	160	88	100
		14:45	15:35	7	1:00	16	18	120	50	1	180	90	106
		22:35	23:55	2	1:20	21	22	115	65	3	150	92	100
TOTALS					6:20	100	110	124	56	9	163	93	100
9999	t y u	0:00	2:15	2	2:00	32	35	140	50	2	170	97	95
		11:30	12:50	4	1:20	21	25	110	60	1	180	92	106
		13:45	14:25	2	0:40	10	10	125	55	2	160	88	100
		14:35	15:35	7	1:00	16	18	120	50	1	180	90	106
		22:30	24:00	2	1:20	21	22	115	65	3	150	92	100
TOTALS					6:20	100	110	124	56	9	163	93	100
(REPEATED FOR EACH AGENT IN GROUP)													
					TTM	NCH	ATT	ACW	NOC	OHT	XOC	EFF	
GROUP TOTALS					XXXXXX	XXXXX	XXX	XXX	XXXXX	XXX	XXX	XXX	XXX

Fig. 16—Agent Time Profile Daily Report

GROUP: SUP_5

ID	NAME	IN	OUT	SP	NL	TTM	XTPS	NCH	ATT	ACW	NOC	OHT	%OC	EFF
1234	Doe, John	9:30	16:55	2	3	4:00	63	67	130	56	7	159	94	97
				4	1	1:20	21	25	110	60	1	180	92	106
				7	1	1:00	16	18	120	50	1	180	90	106
TOTALS						6:20	100	110	124	56	9	163	93	100
1589	Smith, Mary y l	0:00 11:30	2:30 16:55	M2	3	4:00	63	67	130	56	7	159	94	97
				4	1	1:20	21	25	110	60	1	180	92	106
				M7	1	1:00	16	18	120	50	1	180	90	106
TOTALS						6:20	100	110	124	56	9	163	93	100
3542	t u	9:30 22:35	15:35 24:00	M2	3	4:00	63	67	130	56	7	159	94	97
				M4	1	1:20	21	25	110	60	1	180	92	106
				7	1	1:00	16	18	120	50	1	180	90	106
TOTALS						6:20	100	110	124	56	9	163	93	100
9999	t y u	0:00 11:30	2:15 15:35	2	3	4:00	63	67	130	56	7	159	94	97
				4	1	1:20	21	25	110	60	1	180	92	106
				7	1	1:00	16	18	120	50	1	180	90	106
TOTALS						6:20	100	110	124	56	9	163	93	100

(REPEATED FOR EACH AGENT IN GROUP)

	SP	NL	TTM	NCH	ATT	ACW	NOC	OHT	%OC	EFF
GROUP TOTALS PER SPLIT	2	XX	XXXXX	XXXXX	XXX	XXX	XXX	XXX	XXX	XXX
	4	XX	XXXXX	XXXXX	XXX	XXX	XXX	XXX	XXX	XXX
	7	XX	XXXXX	XXXXX	XXX	XXX	XXX	XXX	XXX	XXX
GROUP TOTALS	XX	XXXXX	XXXXX	XXXXX	XXX	XXX	XXX	XXX	XXX	XXX

Fig. 17—Agent Split Profile Daily Report

Wed Sep 10 1980 AGENT SUMMARY REPORT Page 1

GROUP: SUP_5

ID	NAME	NL	TTM	NCH	ATT	ACW	NOC	OHT	XOC	EFF
1234	Doe, John	5	6:20	100	110	124	56	9	163	93 100
1589	Smith, Mary y l	M5	6:20	100	110	124	56	9	163	93 100
3542	t u	M5	6:20	100	110	124	56	9	163	93 100
9999	t y u	5	6:20	100	110	124	56	9	163	93 100
(REPEATED FOR EACH AGENT IN GROUP)										
GROUP TOTALS		XX	XXXXX	XXXXX	XXX	XXX	XXX	XXX	XXX	XXX

Fig. 18—Agent Summary Daily Report

E. Historical Reports

6.29 The historical reports supplied with the PRO 500 are defined below.

Calls Carried Profile Report

6.30 The calls carried profile report is designed to provide a histogram that represents the number of ACD calls answered and abandoned by the split over the last 12 hours. It also provides a numerical indication of the total number of ACD calls answered and abandoned during the 12-hour period. The height of each vertical bar represents an approximation of the actual calls handled and calls abandoned values of each 1-hour period. This report is updated every 12 hours and is normally routed to a printer. (See Fig. 19.)

Daily Efficiency Summary Report

6.31 The daily efficiency summary report is designed to be the major managerial report for daily use by the upper level supervisor (Fig. 20). It provides daily summaries of three significant calculations: average speed of answer (ASA), schedule efficiency ratio (SER), and efficiency (EFF) ratio as

well as daily call statistics on a split basis. Supervisors can quickly determine if answer objectives were met, if the schedule provided sufficient agents to handle the offered traffic, and if calls were handled efficiently. The report is generated and updated daily and routed to a printer.

Daily Call Profile Report

6.32 The daily call profile report is designed to provide a pictorial and a numerical value indication of the calling public's tolerance to delay on a particular split over the course of a business day. This report is generated and updated daily and is normally routed to a printer. (See Fig. 21.)

Daily Split Summary Report

6.33 The daily split summary report permits a supervisor to analyze the operation of each split on a total day basis. It depicts traffic patterns by half-hour for the split as well as supplying data relative to the average delay in answering incoming calls. It also provides calculated statistics relative to average talking times, after call work times, occupancy rates, number of out calls made, number of agents that were on duty to handle calls, and the number of

agents that should have been on duty to meet the customer predefined speed of answer.

6.34 This report also calculates an efficiency rating for each half-hour period of the report (Fig. 22). From this information a supervisor can determine how well all the agents in a split are meeting the standard (customer designated) for handling a call. The standard includes both talking time as well as after call work time. The report indicates peak-period usage and trends occurring during a day.

6.35 The summary is generated at the end of the day but can be requested at any time. When requested it will display the half-hourly data for the most recent 16 half-hours and the total from the beginning of the day to the most recent half-hour. The report can be displayed on a display terminal but is normally routed to a printer.

Daily Trunk Group Summary Report

6.36 The daily trunk group summary report is a historical summary report designed to provide a daily summary, by half-hour, of the call-handling statistics for a particular split. This report is updated daily and is routed to a printer. (See Fig. 23.)

Individual Agent Daily Summary Report

6.37 The individual agent daily summary report in Fig. 24 is a historical summary report designed to provide a summary of the call-handling activities of a particular agent console during a 10-hour period that is determined by the user when scheduling the report. This report is updated every 30 minutes and is normally routed to a printer.

Group Summary Report

6.38 The group summary report is a historical report designed to provide a 10-hour summary of the call-handling activities performed by the agents assigned to a particular agent reporting group. This report is updated every 10 hours and is normally routed to a printer. (See Fig. 25.)

Half-Hourly Call Profile Report

6.39 The half-hourly call profile report provides the supervisor with a graphic indication of incoming caller tolerance for delay. This information can be used to determine if the present average answer performance (actual or objective) should be

changed. This report also can be used to determine subtle trunk group problems. For example, if there were a high degree of abandoned calls in the 0- to 2-second range, it could be an indication that a trunk was dropping calls (Fig. 26). This report is generated when requested at the end of each half-hour, updated half-hourly, and routed to a display terminal or a printer.

Half-Hour System Summary Report

6.40 The half-hour system summary report provides the primary administrative analysis tool for a supervisor to monitor system operation on the individual splits within the total system on a half-hourly basis. It supplies summarized statistics of call volumes and incoming call delays as well as calculated statistics relating to occupancy rates and numbers of agents that were required to handle the workload received during the previous half-hour (Fig. 27). This report is updated and generated every half-hour and normally routed to a printer but may be displayed on a display terminal.

Half-Hour Split Summary Report

6.41 The half-hour split summary report permits a supervisor to monitor the operation of a particular split and performance of groups of agents within a split. This report supplies summarized statistics on calls and call delays as well as calculated statistics relating to occupancy rates and numbers of agents required to handle the load during the previous 30 minutes (Fig. 28). This report is generated at the end of every 30 minutes and is displayed on a display terminal or a printer.

Half-Hour Trunk Group Summary Report

6.42 The half-hour trunk group summary report is generated by a command from the system supervisor and is routed to a display terminal or a printer. This report gives a supervisor an indication of loading on various trunk groups, on a 30-minute update basis, and trunk group congestion (Fig. 29).

Daily Trunk Traffic Report

6.43 The daily trunk traffic report is a historical summary report designed to provide daily, by half-hour, statistics on four key trunk group parameters. These parameters are a percentage of all trunks

busy, number of calls handled, number of calls abandoned, and an estimate of the number of calls lost. With this report, the user can determine not only how many calls actually occupied the trunk group but also how many calls were lost because of an all-trunks-busy condition. (See Fig. 30.)

Weekly Efficiency Summary Report

6.44 The weekly efficiency summary report is designed to provide a weekly summary by day of week of call-handling statistics and efficiency measures on the entire system by day of the week. The

information in this report is a compilation of the TOTAL lines from the daily efficiency summary reports for the past week. (See Fig. 31.)

Weekly Split Summary Report

6.45 The weekly split summary is designed to provide a weekly summary of the call-handling activities of a split by day of the week. Each line of information in this report consists of the same information contained in the TOTAL line of the daily split summary reports. (See Fig. 32.)

CALLS CARRIED PROFILE Sun Oct 8 00:00:00 1978

repairs

CALLS HANDLED 4389

	776													
	731													
	688													
	645													
	602													
	559													
	516													
	473													
	430													
	387													
NCH	344													
	301													
	258													
	215													
	172													
	129													
	86													
	43													
	0													
		0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	

CALLS ABANDONED 54

	16													
	14													
	12													
	10													
	8													
	6													
NCA	4													
	2													
	0													
		0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	

NOTE: NCA - NUMBER OF CALLS ABANDONED
 NCH - NUMBER OF CALLS HANDLED

Fig. 19—Calls Carried Profile Report

DAILY EFFICIENCY SUMMARY Sun Jan 7 00:00:00 1979

SPLIT	ASA	SER	EFF	NCC	NCH	NCA	ATT	ACW	WCV
repairq	8	1.03	98.8	6824	6705	119	178	75	253
alresq	13	1.00	97.1	251	242	9	603	272	858
hmresq	.	.	.	.	.	.	.	.	.
cvserq	15	.97	102.1	487	473	14	250	142	392
TOTAL	9	1.03	98.9	7562	7420	142	196	86	282

NOTE: ACW - AFTER CALL WORK TIME (seconds)
 ASA - AVERAGE SPEED OF ANSWER (seconds)
 ATT - AVERAGE TALK TIME (seconds)
 NCA - NUMBER OF CALLS ABANDONED
 NCC - NUMBER OF CALLS CARRIED
 NCH - NUMBER OF CALLS HANDLED
 SER - SCHEDULED EFFICIENCY RATIO
 WCV - WEIGHTED CALL VALUE

Fig. 20—Daily Efficiency Summary Report

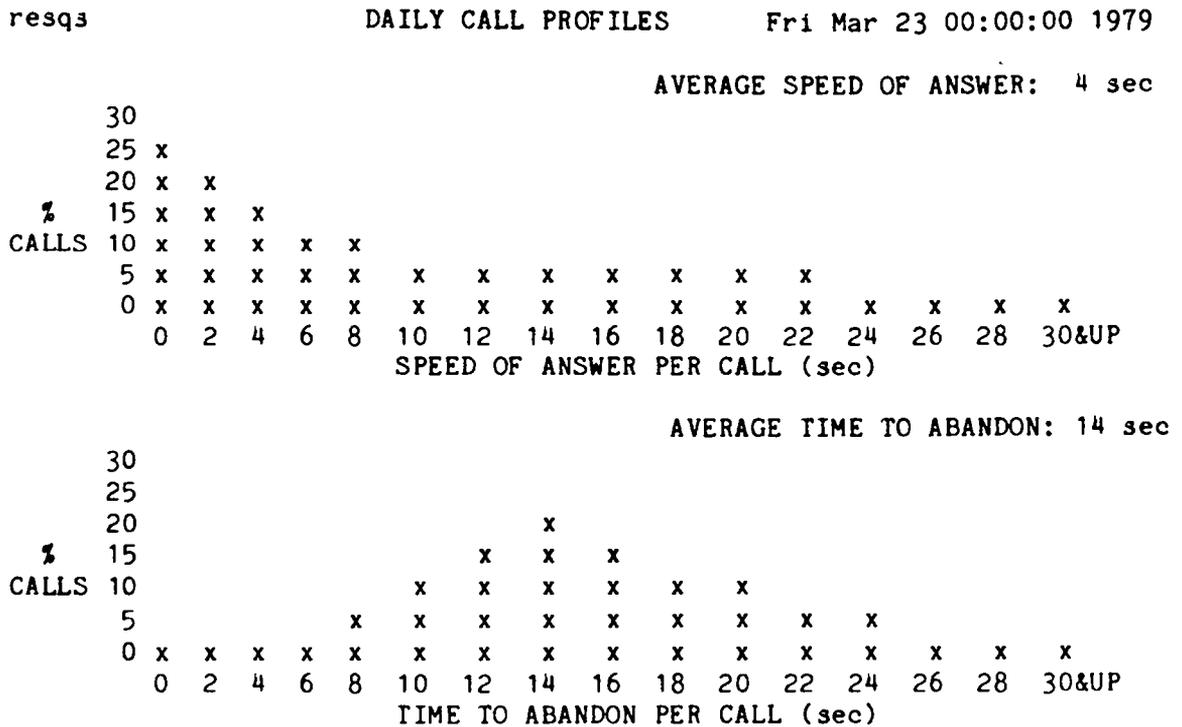


Fig. 21—Daily Call Profile Report

DAILY SPLIT SUMMARY

Wed Mar 28 00:00:00 1979

RESQS TIME	ASA	NCH	NCA	ATT	ACW	%OCC	APM	APR	NOC	EFF
0030	0	1	0	152	23	5	1	1	0	142.9
0100	0	1	0	233	15	7	1	1	0	100.8
0130	0	2	0	375	200	16	1	1	1	43.5
0200	0	1	0	150	36	5	1	1	0	134.4
.
.
.
2230	0	1	0	51	758	22	1	3	0	30.9
2300	0	0	0	0	795	22	1	3	0	31.4
2330	0	3	0	22	516	15	1	2	1	46.5
2400	0	1	0	41	136	5	1	2	0	141.3
TOTAL	5	1409	19	163	69	42	242	270	156	107.8

NOTE: ACW - AFTER CALL WORK TIME (seconds)
 APM - AVERAGE POSITIONS MANNED
 APR - AVERAGE POSITIONS REQUIRED
 ASA - AVERAGE SPEED OF ANSWER (seconds)
 ATT - AVERAGE TALK TIME (seconds)
 EFF - EFFICIENCY
 NCA - NUMBER OF CALLS ABANDONED
 NCH - NUMBER OF CALLS HANDLED
 NOC - NUMBER OF OUT CALLS
 %OCC - PERCENT OCCUPANCY

Fig. 22—Daily Split Summary Report

DAILY TRUNK GROUP SUMMARY Sun Jan 7 00:00:00 1979

trkfs

TIME	INCOMING				OUTGOING			TOTAL		
	NCH	NCA	AHT	CCS	NOC	OHT	CCS	OVFL	%OCC	%ATB
0030	15	0	148	22	0	0	0	0	0	0
0100	11	0	123	14	1	65	1	0	4	0
0130	9	0	175	16	3	49	1	0	5	0
0200	1	0	124	1	2	375	8	0	3	0
0230	2	0	354	7	0	0	0	0	2	0
.
1200	91	0	151	137	3	110	3	0	39	0
1230	110	0	181	199	9	38	3	3	56	3
1300	92	3	239	220	0	0	0	0	61	0
2330	25	0	168	42	2	93	2	0	12	0
2400	16	0	184	29	0	0	0	0	8	0

NOTE:

- AHT - AVERAGE HOLDING TIME (seconds)
- CCS - CENTUM CALL SECONDS
- NCA - NUMBER OF CALLS ABANDONED
- NCH - NUMBER OF CALLS HANDLED
- NOC - NUMBER OF OUT CALLS
- OHT - OUT CALL HOLDING TIME (seconds)
- OVFL - OVERFLOW (OUTGOING CALL ATTEMPTED)
- %ATB - PERCENT ALL TRUNKS BUSY
- %OCC - PERCENT OCCUPANCY

Fig. 23—Daily Trunk Group Summary Report

INDIVIDUAL AGENT DAILY SUMMARY Wed Mar 28 08:00:00 1979

e2541

TIME	NCH	ATT	ACW	NOC	OHT	ITM	%OCC	EFF
0830	5	181	68	1	115	30	76	100.4
0900	4	179	49	2	93	30	61	109.6
0930	4	189	57	1	150	30	63	101.6
1000	3	182	73	0	0	10	94	98.0
1030	5	175	48	0	0	25	67	112.1
1100	6	169	52	0	0	30	74	113.1
1130	7	165	45	0	0	30	82	119.0
1200	8	180	39	0	0	30	97	114.2
.
.
.
1600	7	173	71	0	0	30	95	102.5
TOTAL	90	172	55	10	91	245	79	110.1

NOTE: ACW - AFTER CALL WORK (seconds)
ATT - AVERAGE TALK TIME (seconds)
EFF - EFFICIENCY
NCH - NUMBER OF CALLS HANDLED
NOC - NUMBER OF OUT CALLS
OHT - OUT CALL HOLDING TIME (seconds)
%OCC - PERCENT OCCUPANCY
ITM - TOTAL TIME MANNED (minutes)

Fig. 24—Individual Agent Daily Summary Report

GROUP SUMMARY

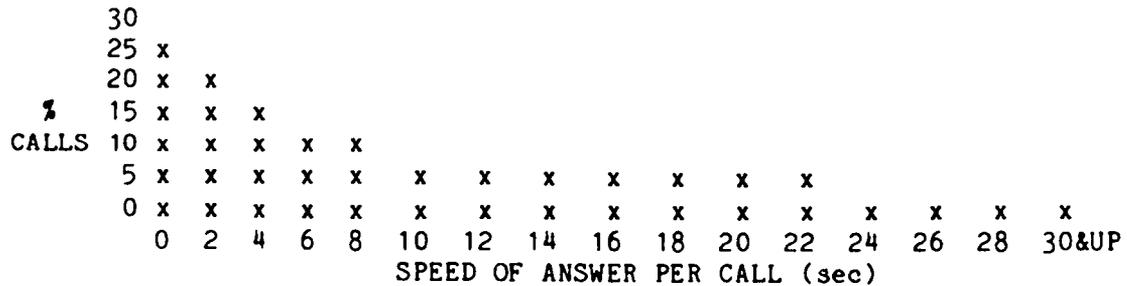
CVSERS		Fri Mar 23 0930 - 1000 79							
AGENT	NCH	ATT	ACW	NOC	OHT	ITM	%OCC	EFF	
2530	5	180	71	3	250	30	83	99.6	
2533	2	173	94	45	70	30	84	93.6	
.	
.	
2540	5	165	71	0	0	25	77	105.0	

NOTE: ACW - AFTER CALL WORK (seconds)
 ATT - AVERAGE TALK TIME (seconds)
 EFF - EFFICIENCY
 NCH - NUMBER OF CALLS HANDLED
 NOC - NUMBER OF OUT CALLS
 OHT - OUT CALL HOLDING TIME (seconds)
 %OCC - PERCENT OCCUPANCY
 ITM - TOTAL TIME MANNED (minutes)

Fig. 25—Group Summary Report

repqs HALF HOURLY CALL PROFILES Fri Mar 23 1130 - 1200 79

AVERAGE SPEED OF ANSWER: 4 sec



AVERAGE TIME TO ABANDON: 14 sec

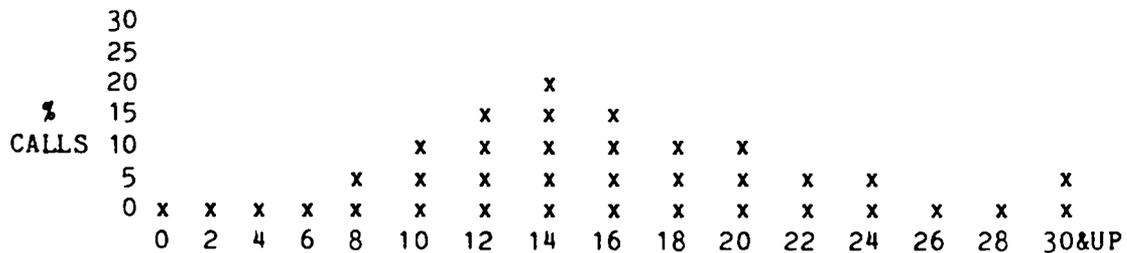


Fig. 26—Half-Hourly Call Profile Report

HALF HOUR SYSTEM SUMMARY

Fri Mar 23 0930 - 1000 79

	ASA	NCH	NCA	ATT	ACW	%OCC	NOC	OHT	APM	APR
repairq	6	1000	22	157	100	92	55	180	161	161
alresq	32	100	8	185	134	98	7	204	33	39
hmresq										
cvserq										
SYSTEM	10	1180	30	161	105	93	62	183	194	200

NOTE: ACW - AFTER CALL WORK TIME (seconds)
 APM - AVERAGE POSITIONS MANNED
 APR - AVERAGE POSITIONS REQUIRED
 ASA - AVERAGE SPEED OF ANSWER (seconds)
 ATT - AVERAGE TALK TIME (seconds)
 NCA - NUMBER OF CALLS ABANDONED
 NCH - NUMBER OF CALLS HANDLED
 NOC - NUMBER OF OUT CALLS
 OHT - OUT CALL HOLDING TIME (seconds)
 %OCC - PERCENT OCCUPANCY

Fig. 27—Half-Hour System Summary Report

HALF HOUR SPLIT SUMMARY

Fri Mar 23 1200 - 1230 79

	ASA	NCH	NCA	ATT	ACW	%OCC	NOC	OHT	APM	APR
gp6_11	14	1200	70	178	100	96	56	172	199	216
attgp6		120		150	98		5	167	18	
attgp7		180		169	104		12	132	30	
attgp8		100		165	106		9	190	16	
attgp9		160		155	110		24	180	27	
attgp11		400		199	96		0	0	68	

NOTE: ACW - AFTER CALL WORK TIME (seconds)
 APM - AVERAGE POSITIONS MANNED
 APR - AVERAGE POSITIONS REQUIRED
 ASA - AVERAGE SPEED OF ANSWER (seconds)
 ATT - AVERAGE TALK TIME (seconds)
 NCA - NUMBER OF CALLS ABANDONED
 NCH - NUMBER OF CALLS HANDLED
 NOC - NUMBER OF OUT CALLS
 OHT - OUT CALL HOLDING TIME (seconds)
 %OCC - PERCENT OCCUPANCY

Fig. 28—Half-Hour Split Summary Report

HALF HOUR TRUNK GROUP SUMMARY Fri Mar 23 0930 - 1000 79

TRK GRP	----- INCOMING -----				--- OUTGOING ---			----- TOTAL -----		
	NCH	NCA	AHT	CCS	NOC	OHT	CCS	OVFL	%OCC	%ATB
nyrep	80	3	183	146	5	82	4	1	52	12
nycv3	192	6	159	305	0	0	0	0	53	2
watsrep	104	5	242	252	3	159	5	3	64	13
watsalr	83	2	192	159	0	0	0	0	49	6
watsnmr	0	0	0	0	22	143	31	2	29	17

NOTE: AHT - AVERAGE HOLDING TIME (seconds)
 CCS - NUMBER OF CALLS ABANDONED
 NCH - NUMBER OF CALLS HANDLED
 NOC - NUMBER OF OUT CALLS
 OHT - OUT CALL HOLDING TIME (seconds)
 OVFL - OVERFLOW (OUTGOING CALL ATTEMPTED)
 %ATB - PERCENT ALL TRUNKS BUSY
 %OCC - PERCENT OCCUPANCY

Fig. 29—Half-Hour Trunk Group Summary Report

DAILY TRUNK TRAFFIC REPORT

TIME	alltgs <u>Sun Oct 8 00:00:00 1979</u>			
	%ATB	NCH	NCA	NCL(est)
0030	2	177	2	9
0100	5	159	18	15
0130	0	0	0	0
0830	10	211	1	6
0900	12	161	0	5
2330	8	91	0	2
0000	7	76	0	1
TOTAL	7	6303	77	0

NOTE: %ATB - PERCENT ALL TRUNKS BUSY
 NCA - NUMBER OF CALLS ABANDONED
 NCH - NUMBER OF CALLS HANDLED
 NCL(est) - NUMBER OF CALLS LOST (estimated)

Fig. 30—Daily Trunk Traffic Report

WEEKLY SYSTEM EFFICIENCY SUMMARY Sun Jan 7 00:00:00 1979

repairs DAY	ASA	SER	EFF	NCC	NCH	NCA	ATT	ACW	WCV
SUN 7	7	.94	88.0	9524	9345	179	205	79	284
MON 8	9	1.03	98.9	7562	7420	142	196	86	282
TUE 9	4	.97	91.6	6760	6752	8	202	71	273
WED 10	5	1.01	95.4	6938	6931	7	194	68	262
THU 11	6	1.00	93.3	7066	7010	56	195	73	268
FRI 12	5	.97	93.6	7464	7398	75	199	68	267
SAT 13	11	.96	83.6	6194	6152	42	213	86	299
TOTAL	7	.98	92.1	52508	51008	509	201	76	277

NOTE: ACW - AFTER CALL WORK TIME (seconds)
 ASA - AVERAGE SPEED OF ANSWER (seconds)
 ATT - AVERAGE TALK TIME (seconds)
 NCA - NUMBER OF CALLS ABANDONED
 NCC - NUMBER OF CALLS CARRIED
 NCH - NUMBER OF CALLS HANDLED
 SER - SCHEDULED EFFICIENCY RATIO
 WCV - WEIGHTED CALL VALUE

Fig. 31—Weekly Efficiency Summary Report

WEEKLY SPLIT SUMMARY Sun Mar 3 00:00:00 1979

CVSQS DAY	ASA	NCH	NCA	ATT	ACW	%OCC	APM	APR	NOC	EFF
SUN 3	3	1695	32	190	85	82	158	150	17	103.7
MON 4	16	3000	179	157	59	94	194	233	172	115.7
TUE 5	11	2304	67	159	55	75	245	263	205	116.8
WED 6	.	.	.	.	.	.	.	.	.	.
THU 7	.	.	.	.	.	.	.	.	.	.
FRI 8	.	.	.	.	.	.	.	.	.	.
SAT 9	4	2004	52	179	74	56	250	237	150	98.8
TOTAL	7	17541	364	162	58	73	1550	1610	994	104.1

NOTE: ACW - AFTER CALL WORK TIME (seconds)
 APM - AVERAGE POSITIONS MANNED
 APR - AVERAGE POSITIONS REQUIRED
 ASA - AVERAGE SPEED OF ANSWER (seconds)
 ATT - AVERAGE TALK TIME (seconds)
 EFF - EFFICIENCY
 NCA - NUMBER OF CALLS ABANDONED
 NCH - NUMBER OF CALLS HANDLED
 NOC - NUMBER OF OUT CALLS
 %OCC - PERCENT OCCUPANCY

Fig. 32—Weekly Split Summary Report

F. Color Reports

6.46 The color reports supplied with the PRO 500 are defined below.

Traffic Profile—Forecast/Actual Report

6.47 The traffic profile—forecast/actual report plots the forecasted traffic against the actual traffic volume for the day (Fig. 33). The solid black line indicates the forecast, and the underlying green area indicates the actual traffic volume. The report is updated every 30 minutes and displayed on a color display terminal.

Traffic Volume Profile Report

6.48 The traffic volume profile report provides a graphical representation of the number of calls that were carried (answered plus abandoned) by the split and the number of calls that were abandoned. This report can be run at any time during the day and will display a plot of the carried and abandoned calls by half-hour since midnight for up to 24 hours. The abandoned calls plot as red bars and the carried calls as green bars. The report is updated every 30 minutes and displayed on a color display terminal. (See Fig. 34.)

Weighted Call Value (WCV) Profile Report

6.49 The WCV profile report provides a graphical indication of how well the objective weighted call value ($WCV = \text{talk time plus after call work time}$) is being met. This report can be run at any time during the day and will display a plot of the WCV by half-hour since midnight. The display consists of a horizontal bar representing the objective WCV and vertical bars of color representing the actual WCV. When the actual WCV exceeds the objective in any half-hour period, that portion of the vertical bar representing WCV values in excess of the objective will be displayed in red. The report is updated every 30 minutes and displayed on a color display terminal. (See Fig. 35.)

Average Answer Profile Report

6.50 The average answer profile report provides a graphical representation of the average speed of answer over a 5-hour period for any split. The user may interpret the three colors in one of two ways. One way of interpreting the three colors used in this

report is to represent the average speed of answer for incoming calls with respect to a user-defined objective. With this interpretation green indicates that the average speed of answer was within an acceptable range of the objective. Yellow indicates that the average speed of answer was higher than the objective, but still within an acceptable range. Red indicates that the average speed of answer was significantly higher than the objective. Another way of interpreting the three colors is based on call answering delays. With this interpretation green indicates that there may be too many idle agents. Yellow indicates a good agent and incoming call balance. Red indicates that calling parties may be waiting too long and may result in abandoned calls.

6.51 While this report is running, it will update periodically and add a new bar of color to the display. The height of the bar represents the numerical value of average speed of answer (average delay). The average speed of answer can be determined from the values displayed along the vertical axis.

6.52 When the report display is completely filled, the data that was on the right half of the screen will be redisplayed at the left of the screen. The balance of the display will continue to update at the rate entered for the update parameter. This sequence will continue for as long as the report continues to run. Since this report is generated from performance data base data, it must be active while the queue data is gathered. It is not necessary for the report to be continuously on display during this period. It can be suspended while other color reports are displayed. (See Fig. 36.)

Traffic Service Index Report

6.53 The traffic service index report provides a graphic representation of the percentage of incoming calls answered in less than or equal to a user-specified service level. Green indicates that at least 90 percent of the calls entering the queues are being answered below the user-specified objective service level. This may indicate that there are too many idle agents. Yellow indicates that between 80 and 90 percent of the calls entering the queues are being answered below the user-specified objective service level. This may indicate that the split calls are being handled at an acceptable rate. Red indicates that less than 80 percent of the calls entering the queues are being answered below the user-specified objective level. This may indicate that the calls are being handled too slowly. (See Fig. 37.)

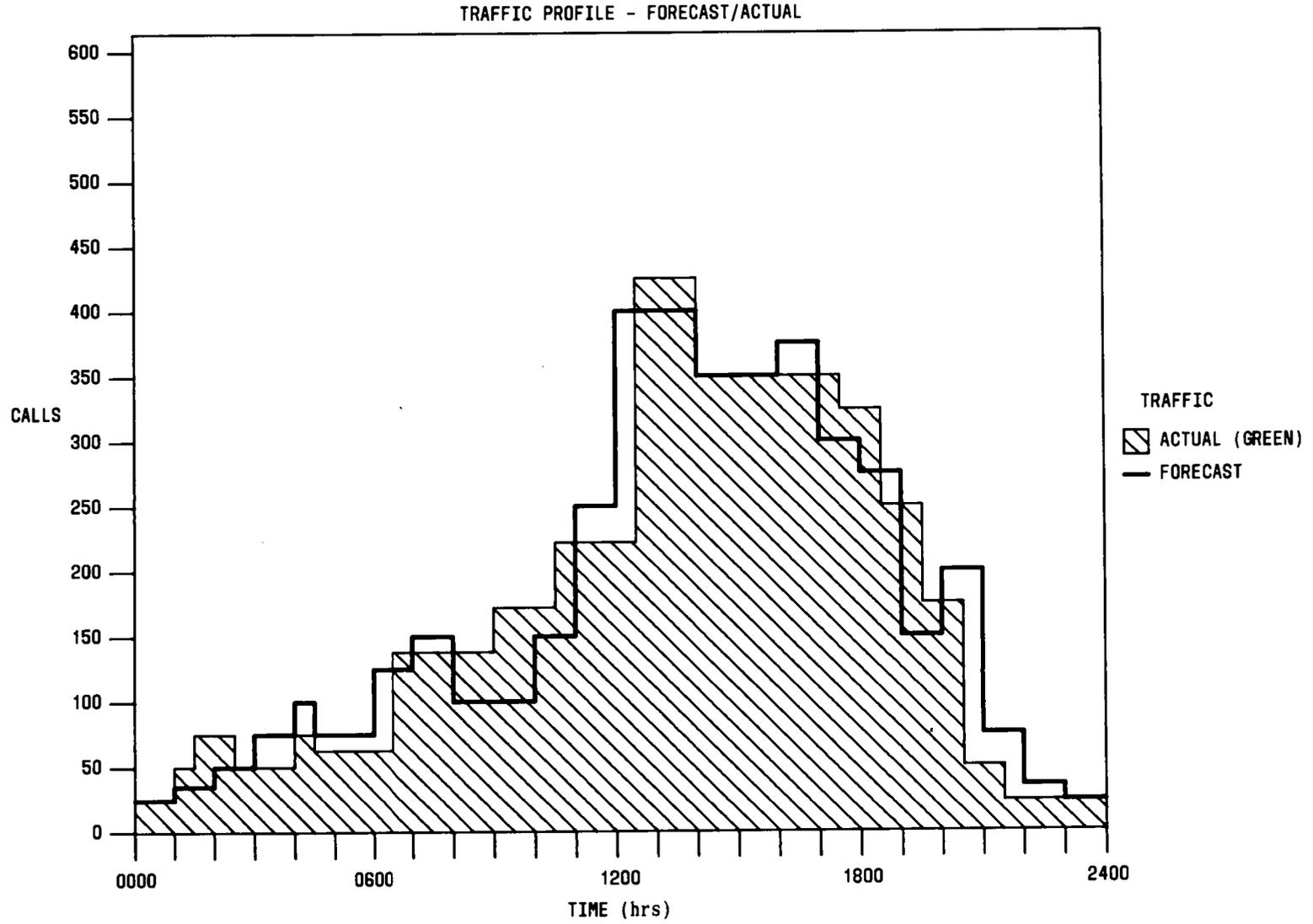


Fig. 33—Traffic Profile—Forecast/Actual Report

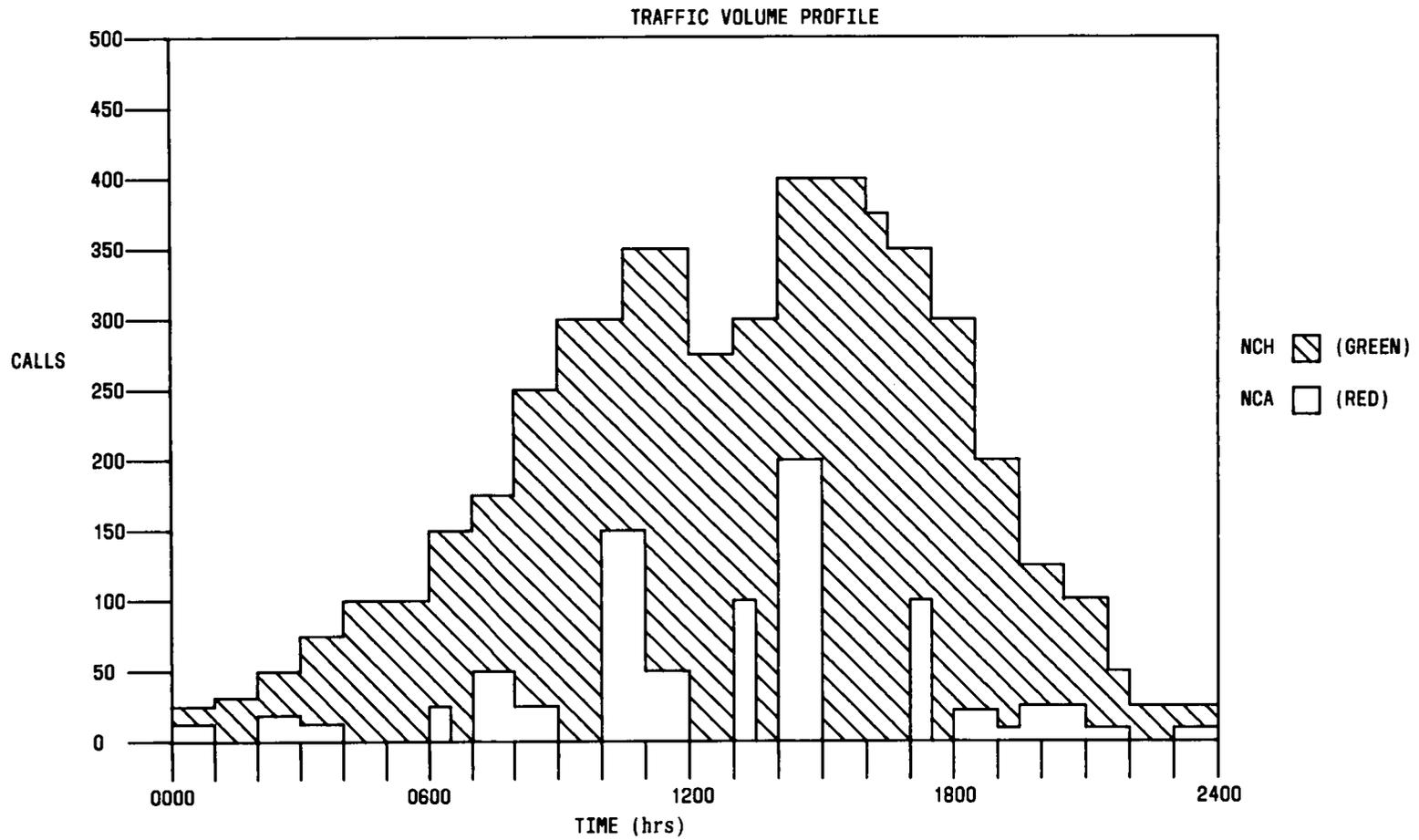


Fig. 34—Traffic Volume Profile Report

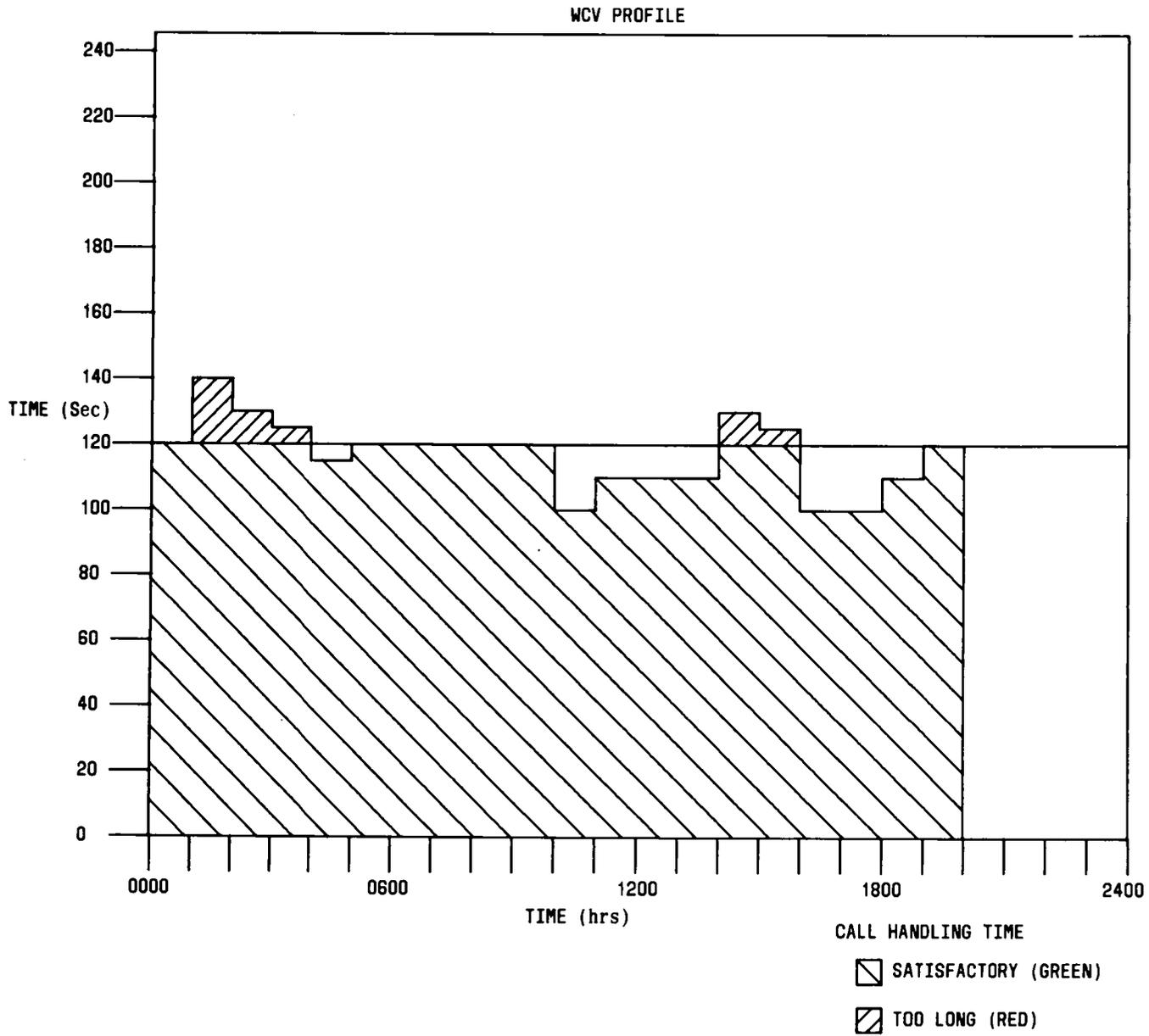


Fig. 35—WCV Profile Report

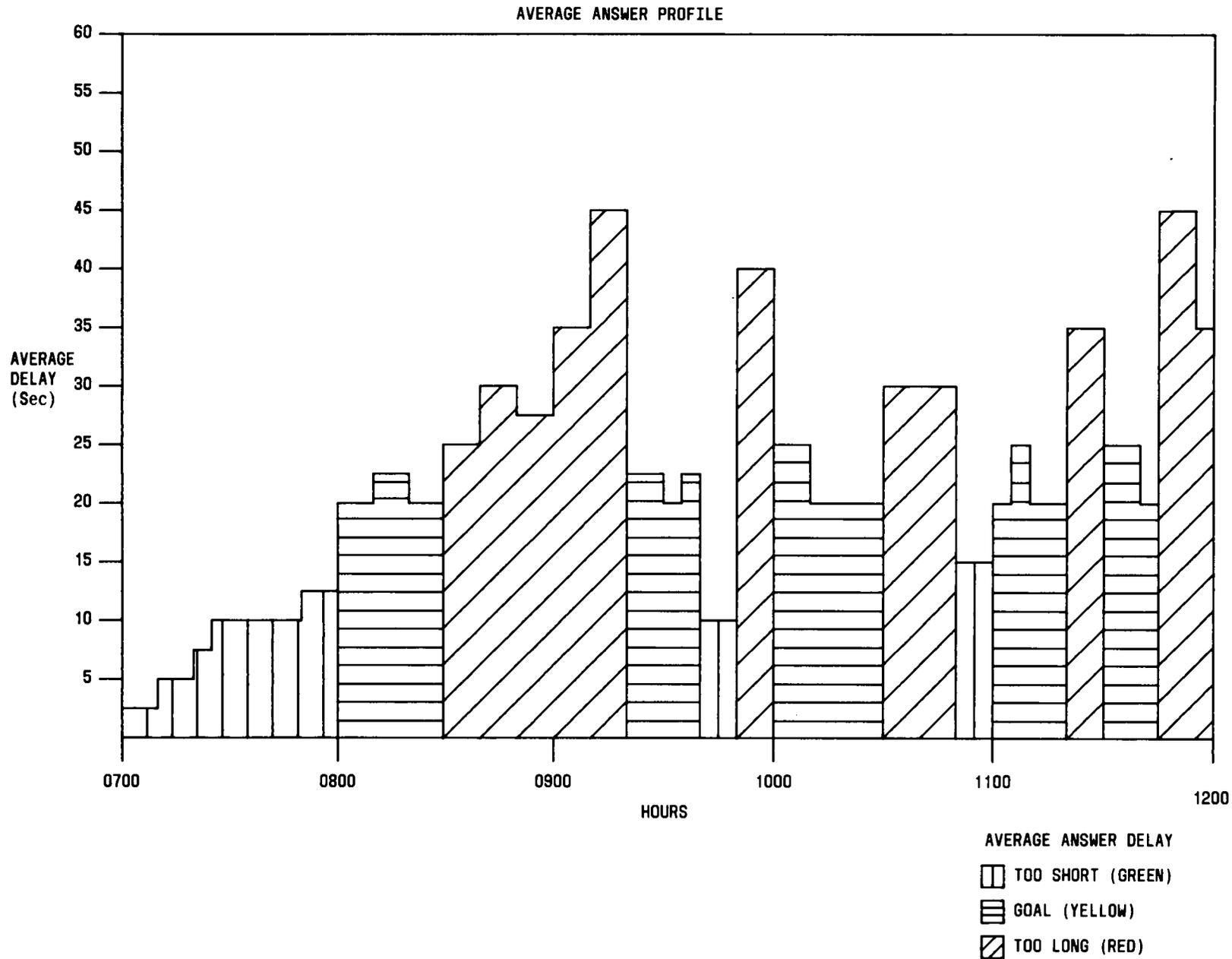
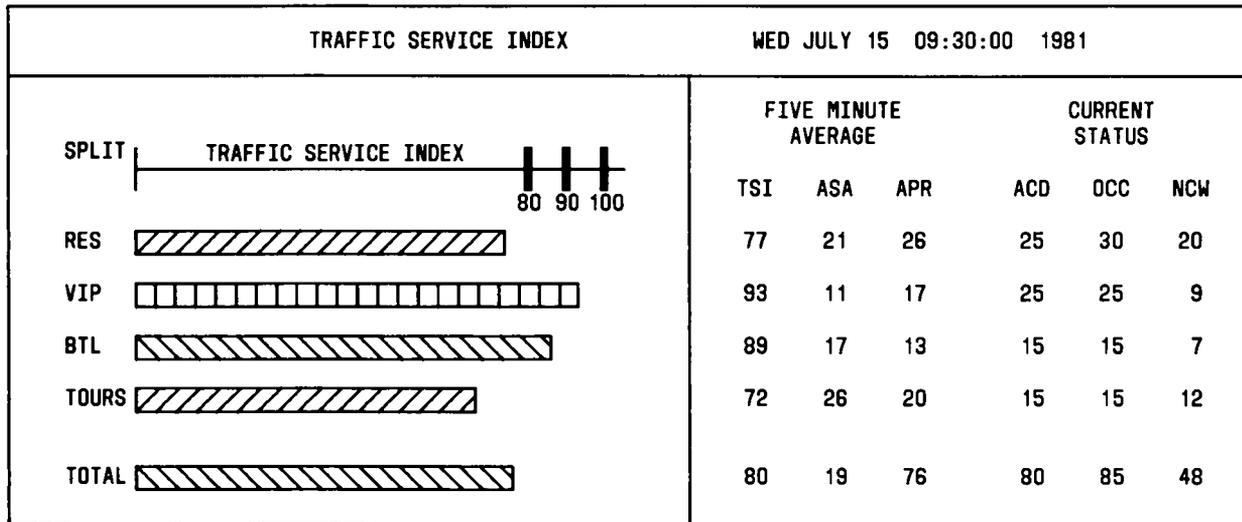


Fig. 36—Average Answer Profile Report



PERCENTAGE OF CALLS HANDLED

- FASTER THAN OBJECTIVE SERVICE LEVEL (GREEN)
 MEETING OBJECTIVE SERVICE LEVEL (YELLOW)
 SLOWER THAN OBJECTIVE SERVICE LEVEL (RED)

Fig. 37—Traffic Service Index Report

G. Exception Reports

6.54 The exception reports supplied with the PRO 500 are defined below.

Exception Report Waiting Message Report

6.55 An exception report waiting message report is displayed at the bottom of a display terminal screen whenever a user-designated threshold is exceeded. An example of a message display is as follows:

*****EXCEPTION: e7 - 7 ase 200 acd; ITEM=2500*****

This message indicates the occurrence of the exception known as **e7**, which is an agent state exception. The preceding example states that extension **2500** was in the ACD state for greater than **200** seconds.

Exception Demand Report

6.56 The exception demand report is preempted by the exception report waiting notice and displayed only when requested. The user can determine the frequency and extent of various types of exceptions that have occurred by using the exception demand report and specifying the type of exceptions desired. If desired, all exceptions can be included in the report. Normally, the exception demand report is routed to a display terminal but can be routed to a printer. (See Fig. 38.)

Agent Exception Summary Report

6.57 The agent exception summary report is a summary of user-specified agent exception violations that have occurred since the last agent exception summary report was printed. The report is scheduled to run by the user and is routed to a printer. (See Fig. 39.)

EXCEPTION DEMAND REPORT

```

                Tue Apr 25   03:05:33 1978
+++++
queue:   qualq                               qualqs                               a
qte      rti pri ; 60
10       Tue Apr 25   03:24:37 1978
+++++
agent:   4153                               qual_2                               c
ase      acd ; 130
3        Tue Apr 25   07:54:01 1978
+++++
agent:   4146                               qual_2                               c
ase      acd ; 180
10       Tue Apr 25   08:58:30 1978
+++++
agent:   4136                               qual_1                               c
ase      acd ; 180
7        Tue Apr 25   03:56:35 1978
-----
    
```

Fig. 38—Exception Demand Report

AGENT EXCEPTION SUMMARY

MON APR 10 00:31:17 1978 -- MON APR 10 08:30:49 1978

teamE

agent	ACD	ACW	IEX	OEX	AUX	ASSIST	TRBL	ALERT
	600	120	300	300	1800	5	5	
2538	0	0	0	0	0	0	0	0
2539	0	0	0	0	0	0	0	0
2540	0	0	0	0	0	0	0	0
2541	0	0	0	0	0	0	0	0
2542	0	0	0	0	0	0	0	0
2543	2	4	0	1	0	0	0	0
2544	0	0	0	0	0	0	0	0
2545	0	0	0	0	0	0	0	0
2546	1	0	0	0	0	0	0	0
2547	0	0	0	0	0	0	0	0
TOTALS	5	6	0	2	0	0	0	0

NOTE: ACD - ACD WORK EXCEPTION(S)
 ACW - AFTER CALL WORK EXCEPTION(S)
 AUX - AUXILIARY WORK EXCEPTION(S)
 IEX - INCOMING EXTENTION EXCEPTION(S)
 OEX - OUTGOING EXTENTION EXCEPTION(S)
 TRBL - TROUBLE REPORT EXCEPTION(S)

Fig. 39—Agent Exception Summary Report

H. Translation Reports

6.58 The translation reports supplied with the PRO 500 are defined below.

Translation Interrogation Report

6.59 The translation interrogation report is a printout of the program store data. This report contains trunk information, facility group information, queue information, and console split assignments. This report is automatically printed on a printer whenever translation information is received from the DIMENSION PBX and installed in

the PRO 500 translation data base. The report can also be printed upon demand. (See Fig. 40.)

Call Store Interrogation Report

6.60 The call store interrogation report summarizes the current call store queue information and terminal-to-split assignments. The load compensating package (LCP) number is also printed. This report is automatically printed on a printer whenever a new call store configuration is received from the DIMENSION PBX. The report can also be printed upon demand. (See Fig. 41.)

```
*****
*
*   TRANSLATION INFORMATION   *
*
*****
```

```
*****
* TRUNK INFORMATION *
*****
```

Trunk group: 1

trunk network nos.:

```

          455      597      839      937      2518
        2285
          .
          .
          .
```

Trunk group: 3

trunk network nos.:

```

          12      12      22      32      42      52
```

```
*****
* Facility group information *
*****
```

fgrp. no.	fgrp. type	fgrp. size	fgrp. index
1	incoming	6	0
2	incoming	6	1
3	incoming	5	2
4	incoming	5	3

Fig. 40—Translation Interrogation Report (Sheet 1 of 3)

 * Queue information *

 queue number: 1

queue index	split number	queue size	number queue req.	queue direc. number	transfer number
0	2	11	11	1234	957-1234

prim. out thresh	sec.* out thresh	inflow thresh	size alt. pool	prim. alt. server pool no.	sec. alt.* server pool no.
1023	0	511	2	1	

calls waiting level thresholds:

 multiplication factors(sec): 18 12 12
 lamp code: 1

Queue alternate server pool:

 4 1
 : :
 : :

 queue number: 5

queue index	split number	queue size	nombre queue req.	queue direc. number	transfer number
4	6	0	1	2793	955-2793

prim. out thresh	sec.* out thresh	inflow thresh	size alt. pool	prim. alt. server pool no.	sec. alt.* server pool no.
0	0	0			

calls waiting level thresholds:

 multiplication factors(sec): 0 0 0
 lamp code: 1

Queue alternate server pool:

* NOT APPLICABLE TO "DIMENSION" PBX

Fig. 40—Translation Interrogation Report (Sheet 2 of 3)

 * Lcp information *

 Agent Terminal split assignments

(SEE NOTE)

	lcp0	lcp1	lcp2	lcp3	lcp4	lcp5	lcp6	lcp7
Agent:2500	1							
Agent:2501	2							
Agent:2502	2							
Agent:2503	2							
.	.							
Agent:2589	2							
Agent:2590	2							
Agent:2591	2							
Agent:2592	1							
Agent:2593	1							
Agent:2594	1							
Term.: 96	1							
Term.: 97	1							
Term.: 98	1							
Term.: 99	1							
Term.: 100	1							
.	.							
Term.: 110	1							
Term.: 111	1							
Term.: 112	1							
Term.: 113	1							
Term.: 114	1							
Term.: 115	1							
Term.: 116	1							
Term.: 117	1							

NOTE: ONE lcp (lcp 0) IS USED IN "DIMENSION" PBX.

Fig. 40—Translation Interrogation Report (Sheet 3 of 3)

```

*****
*
*   SUMMARIZED CALL STORE INFORMATION   *
*
*****
    
```

```

*****
* Queue information *
*****
    
```

queue num	queue index	split number	inflow thresh	prim flow thresh	out flow thresh	sec out flow thresh	rem dir	night num	area code	rem dir	night num
1	0	2	0	0	0	0				160-1234	
2	1	3	0	0	0	0				160-2790	
3	2	4	0	0	0	0				160-2791	
4	3	3	0	0	0	0				160-2792	
5	4	6	0	0	0	0				160-2793	

```

*****
* Agent Split information *
*****
    
```

CURRENT LCP: 0

```

Agent:2500 Split: 1; Agent:2501 Split: 2; Agent:2502 Split: 2;
Agent:2503 Split: 2; Agent:2504 Split: 2; Agent:2505 Split: 2;
Agent:2506 Split: 2; Agent:2507 Split: 2; Agent:2508 Split: 2;
Agent:2509 Split: 2; Agent:2510 Split: 2; Agent:2511 Split: 2;
    
```

```

Term.: 121 Split: 1; Term.: 122 Split: 1; Term.: 123 Split: 1;
Term.: 124 Split: 1; Term.: 125 Split: 1; Term.: 126 Split: 1;
Term.: 127 Split: 1; Term.: 128 Split: 1; Term.: 129 Split: 1;
    
```

* NOT APPLICABLE TO "DIMENSION" PBX

Fig. 41—Call Store Interrogation Report

I. Forecast Reports

6.61 The forecast reports enable the PRO 500 user to predict the number of positions required (NPR) and the forecasted calls carried (FCC). A forecast report is made on a split. Split information is obtained from the performance data base. The forecast reports are defined below.

Intraday Forecast Report

6.62 The intraday forecast report is designed to provide the user with an estimate of the number of calls to be expected over the next 16 half-hours and the number of positions it will take to handle these calls. This report can be run on any split at any time during the day and will display the values on a display terminal. (See Fig. 42.)

6.63 The values of the forecasted parameters in this report are based upon the actual traffic received up to the time the report is generated. With this report, the user has information to fine-tune the staffing requirements.

6.64 There are three variables used in the forecasting model which are changeable by the user. They are as follows:

- Number of trunks serving the queue being forecasted
- Objective weighted call value for the queue being forecasted
- Objective delay for calls served by the queue.

Longterm Forecast Report

6.65 The longterm forecast report enables a supervisor to schedule agents on a split basis for each day (Fig. 43). The report first forecasts incoming call volumes by split and then translates these half-hour call volumes into agent requirements. This report is routed to a printer.

6.66 This report is capable of being run for up to 35 days into the future. That is, the user can generate a separate forecast for each split in the system for each of the next 35 days.

6.67 The following five variables are used in the forecasting model which may be changed by the user:

- Number of trunks serving the queue being forecasted
- Objective weighted call value for the queue being forecasted
- Objective delay for calls served by the queue
- Weighing factors to be applied to each of the previous 3 weeks' data being used in the forecast
- Growth factor to be applied in cases where a dramatic change in traffic is expected.

Special Day Forecast Report

6.68 The special day forecast report is designed to provide the user with an estimate of the number of calls that can be expected during some future day which is of special interest. In addition, this report also provides a forecast of the number of positions it will take to handle the forecasted traffic. (See Fig. 44.)

6.69 The PRO 500 forecast system provides the capability to generate up to ten different special day forecasts for each queue. This will enable the user to determine staffing requirements for those days of the year which historically experience traffic patterns that are radically different from normal.

6.70 The following five variables are used in the forecasting model which may be changed by the user:

- Number of trunks serving the queue being forecasted
- Objective weighted call value for the queue being forecasted
- Objective delay for calls served by the queue
- Growth factor to be applied where a dramatic change in traffic is expected
- Identity of the "special day."

TIME	FCC	NPR	%OCC
1000-1030	579	63	86
1030-1100	594	64	87
1100-1130	598	64	88
1130-1200	622	66	89
1200-1230	629	67	88
1230-1300	645	68	89
1300-1330	666	70	89
1330-1400	666	70	89
1400-1430	658	69	90
1430-1500	578	62	88
1500-1530	558	60	87
1530-1600	524	57	86
1600-1630	581	63	87
1630-1700	543	59	86
1700-1730	448	49	86
1730-1800	437	48	85
TOTAL	9326	999	88

INTRADAY FORECAST - q1 - THU JUL 5 79 - 6:29
WCV: 170 sec DELAY: 8 sec FACILITIES: 120
TOTAL NCC: 408
TOTAL FCC: 515
RATIO: 0.79

NOTE: FCC - FORECASTED CALLS CARRIED
NPR - NUMBER OF POSITIONS REQUIRED
%OCC - PERCENT OCCUPANCY

Fig. 42—Intraday Forecast Report

LONGTERM FORECAST - q1 - THU JUL 5 79
 FORECAST BASED ON: JUN 28 79, JUN 21 79, JUN 14 79
 WEIGHTING FACTORS: 6.00 3.00 1.00
 FORECAST CORRECTION FACTOR: 1.00
 ASSUMED OR OBJECTIVE WCV: 170sec
 ASSUMED OR OBJECTIVE DELAY: 8sec
 NUMBER OF FACILITIES SERVING q1: 120

TIME	FCC	NPR	%OCC
0- 30	26	6	40
30- 100	19	6	29
100- 130	8	4	18
130- 200	3	2	14
200- 230	5	3	15
230- 300	8	4	18
300- 330	8	4	18
330- 400	16	5	30
400- 430	35	7	47
430- 500	55	10	51
500- 530	124	17	68
530- 600	208	25	78
.	.	.	.
2130-2200	230	28	77
2200-2230	147	19	73
2230-2300	93	14	62
2300-2330	55	10	51
2330-2400	39	8	46
TOTAL	21336	2320	86

NOTE: FCC - FORECASTED CALLS CARRIED
 NPR - NUMBER OF POSITIONS REQUIRED
 %OCC- PERCENT OCCUPANCY

Fig. 43—Longterm Forecast Report

SPECIAL DAY FORECAST - q1
 FORECAST BASED ON: CHRISTMAS
 FORECAST CORRECTION FACTOR: 1.00
 ASSUMED OR OBJECTIVE WCV: 250 sec
 ASSUMED OR OBJECTIVE DELAY: 10 sec
 NUMBER OF FACILITIES SERVING q1: 116

TIME	FCC	NPR	%OCC
0- 30	38	9	59
30- 100	50	11	63
100- 130	63	14	63
.	.	.	.
930-1000	570	88	90
1000-1030	602	92	91
1030-1100	592	90	91
1100-1130	635	96	92
.	.	.	.
2200-2230	248	43	80
2230-2300	263	44	83
2300-2330	150	28	74
2330-2400	138	27	71
TOTAL	14560	2246	84

NOTE: FCC - FORECASTED CALLS CARRIED
 NPR - NUMBER OF POSITIONS REQUIRED
 %OCC - PERCENT OCCUPANCY

Fig. 44—Special Day Forecast Report

J. Trunk Reports

6.71 The trunk reports supplied with the PRO 500 are defined below.

Daily Trunk Group Busy Hour Report

6.72 The daily trunk group busy hour report is designed to give an indication of the loading on various trunk groups for the busiest hour of the day for each trunk group. This report may be scheduled for output at midnight or may be displayed or printed upon demand at any time during the day. This report may be routed to either a printer or a display terminal. (See Fig. 45.)

Monthly Trunk Group Busy Hour Summary Report

6.73 The monthly trunk group busy hour summary report is designed to provide an end-of-month

summary of the call-handling statistics for the average of the 5 busiest hours for each trunk group in the system. When scheduled, this report will output at the end of the month. This report can be routed to either a printer or a display terminal. (See Fig. 46.)

Trunk Group Monthly Engineering Report

6.74 The trunk group monthly engineering report is designed to calculate the number of trunks required to handle the average bouncing busy hour traffic in each trunk group for the current month or any of the previous 12 months. (The average bouncing busy hour is the busy-hour average for the 5 highest busy hours of 5 separate days.) The report also provides an indication of the calculated blocking for the month of interest. This report can be scheduled to output at the end of the month and can be routed to a printer or a display terminal. (See Fig. 47.)

DAILY TRUNK GROUP BUSY HOUR									THU 5 JUL 79		
TRK GRP	-----INCOMING-----				--OUTGOING--				-----TOTAL-----		
	NCH	NCA	AHT	CCS	NOC	OHT	CCS	OVFL	%OCC	%ATB	
outgrpa	0	0	-	0	2	107	2	0	5	5	
outgrpb	0	0	-	0	30	97	29	0	7	0	
inwats	251	0	184	463	0	-	0	0	19	0	
ingrpa	6	1	139	8	0	-	0	0	11	1	

NOTE: AHT - AVERAGE HOLDING TIME (SECONDS)
 CCS - CENTUM CALL SECONDS
 NCA - NUMBER OF CALLS ABANDONED
 NOC - NUMBER OF OUT CALLS
 OHT - OUT CALL HOLDING TIME (SECONDS)
 OVFL - OVERFLOW (OUTGOING CALL ATTEMPTED)
 %ATB - PERCENT ALL TRUNKS BUSY
 %OCC - PERCENT OCCUPANCY

Fig. 45—Daily Trunk Group Busy Hour Report

MONTHLY TRUNK GROUP BUSY HOUR SUMMARY											JUN 79
TRK GRP	NCH	NCA	AHT	CCS	NOC	OHT	CCS	OVFL	%OCC	%ATB	
outgrpa	0	0	-	0	21	202	42	12	99	39	
outgrpb	0	0	-	0	236	154	365	277	92	57	
inwats	1535	8	191	2933	0	-	0	397	98	24	
ingrpa	27	4	154	41	0	-	0	19	57	39	

NOTE: AHT - AVERAGE HOLDING TIME (SECONDS)
 CCS - CENTUM CALL SECONDS
 NCA - NUMBER OF CALLS ABANDONED
 NCH - NUMBER OF CALLS HANDLED
 NOC - NUMBER OF OUT CALLS
 OHT - OUT CALL HOLDING TIME (SECONDS)
 OVFL - OVERFLOW (OUTGOING CALL ATTEMPTED)
 %ATB - PERCENT ALL TRUNKS BUSY
 %OCC - PERCENT OCCUPANCY

Fig. 46—Monthly Trunk Group Busy Hour Summary Report

TRUNK GROUP MONTHLY ENGINEERING REPORT						JUN 79
		BUSY		ACTUAL	NO	CURRENT
TRK	GRP	HOUR	BLOCK	BLOCK	TRKS	NO
		CCS	OBJ		REQD	TRNKS
outgrpa		0	0.05	0.00	1	1
outgrpb		471	0.05	0.00	18	37
inwats		536	0.05	0.00	20	38
ingrpa		291	0.05	0.13	14	10

NOTE: CCS - CENTUM CALL SECONDS

Fig. 47—Trunk Group Monthly Engineering Report

7. MAINTENANCE CHARACTERISTICS

7.01 The PRO 500 has a remote maintenance line for dial-up applications. This line operates over a standard switched network and requires a 2565HKM telephone set and a 212A data set (or equivalent) on the remote maintenance end and the minicomputer end.

Minicomputer and Associated Equipment

7.02 The minicomputer and associated equipment may be repaired as needed on a separate maintenance contract.

Display Terminals

7.03 The display terminals are repaired or replaced on a separate maintenance contract.

Data Sets

7.04 The asynchronous line drivers (ALDs), 202T data sets, and 212A data set are replaceable units.

Power

7.05 If the loss of power is due to a commercial power failure, the minicomputer must be rebooted and the data link restored to service before resuming normal operation.

8. REFERENCES

8.01 The following J-drawings are associated with the PRO 500 and may be referred to for additional information:

DRAWING	TITLE
J59212A-1	PBX Systems — 11A Customer Information System — ACD-ESS Management Information System (AEMIS) — Minicomputer Equipment Specification
J59212AA-1	PBX Systems — 11A Customer Information System — ACD-ESS Management Information System (AEMIS) — Terminal Equipment Specification
J59212AB-1	PBX Systems — 11A Customer Information System — ACD-ESS Management Information System (AEMIS) — Data Set Equipment Specification
J59212G-1	PBX Systems — 11A Customer Information System — ACD-ESS Management Information System (AEMIS) — Software Equipment Specification

SECTION 554-010-143

8.02 The following SD and associated CD is applicable to the PRO 500 and may be referred to when required:

DRAWING	TITLE
SD-66953-01	PBX Systems — Customer Information — AEMIS — System Circuit

8.03 The following sections should be referred to for additional information:

SECTION	TITLE
554-010-144	Performance Reporting Option (PRO) 500 — Identification Information — Call Management System (CMS)
554-010-145	Performance Reporting Option (PRO) 500 — Preinstallation Information — Call Management System (CMS)

8.04 The following Task Oriented Practice (TOP) provides additional information on the PRO 500.

TOP	TITLE
554-010-146	Performance Reporting Option (PRO) 500 — Call Management System (CMS) — Installation, Test, and Maintenance

9. ABBREVIATIONS

9.01 Abbreviations used in this section are listed below with definitions as applicable.

ACD	Automatic Call Distribution.
ACW	After Call Work—A state on agent status reports indicating that an agent or agents are performing after call work and unavailable to handle an incoming ACD call. On all other reports, ACW indicates the average amount of after call work per incoming ACD call during the report period and

the total after call work time is divided by the number of ACD calls handled during the report period.

AHT Average Holding Time—Indicates the average amount of time that a trunk facility was in use per incoming CMS call during the report period. Includes both delay time and talking time.

ALD Asynchronous Line Driver.

ALERT A state indicating that an agent is handling a call of an extraordinary nature requiring that alert procedures be involved. The state is triggered when the ALERT button is depressed.

APM Average Positions Manned—Indicates the average number of positions manned during the report period and calculated by dividing the total position manned usage time by length of report period in seconds.

APR Average Positions Required—Indicates the average number of positions required during the report period to handle the traffic volumes, at the present weighted call value, to meet the customer-specified objective average answer.

ASA Average Speed of Answer—Indicates the average delay encountered per incoming ACD call during the report period. The delay includes answered and abandoned calls.

ASCII American Standard Code for Information Interchange.

ASSIST A state indicating that an agent is requesting assistance by depressing the ASSST button.

ATT Average Talk Time—Indicates the average amount of time per

	incoming ACD call spent in the talking state during the report period.	exi	Exception Interrogator.
		EXSYS	Exception System.
AVAIL	Available—Idle.	EXT IN	Extension Incoming Call—A state indicating that an agent or group of agents are talking on incoming extension calls.
AUX	Auxiliary—Work Exceptions.		
BDN	Base Night Transfer Directory Number.	EXT OUT	Extension Outgoing Call—A state indicating that an agent or group of agents are talking on outgoing extension calls.
BLOCK	Blocking Objective—Indicates customer-designated percent blocking objective on trunk groups. OBJ	farg	Functional Agent Reporting Group.
BUSY HOUR CCS	Busy Hour Centum Call Seconds—Indicates the average usage of the 5 busiest hours of 5 separate days expressed in increments of 100 seconds.	FCC	Forecasted Calls Carried— Indicates the forecasted number of calls to be received by a split during some future period of time.
CCS	Centum Call Seconds—Indicates usage on trunk groups expressed in increments of 100 seconds (1 call that lasts 100 seconds equals 1 CCS).	ftimes	File Update Time.
		iarg	Informational Agent Reporting Group.
cdn	Change Night Transfer Directory Number.	ID	Identification—A number for agent as assigned by agent login feature.
cit	Change Inflow Threshold.	idrg	Identification Reporting Group.
CMS	Call Management System.	IEX	Incoming Extension Exception.
cpo	Change Primary Outflow Threshold.	ifrg	Informational Facility Reporting Group.
DCS	Display Creation System.	IRGE	Informational Reporting Group Editor.
DD	Data Dictionary.	isp	Invoke Split Pattern.
DDE	Data Dictionary Editor.	LCP	Load Compensating Package.
EFF	Efficiency—Indicates the relative efficiency of an agent or agent group in relation to a customer-defined standard weighted call value. An efficient agent or agent group is indicated by a value greater than 100.	ldi	Longterm Data Input.
		liarg	List of Informational Agent Reporting Group.
exe	Exception Editor.	lie	Login Editor—For agent login feature.

lis	Login Status Query—For agent login feature.		ber of agents required to handle the traffic load at the customer-specified weighted call value to meet the customer-specified objective average answer during some future period of time.
lre	Login Report Editor—For agent login feature.		
MOS	Metal-Oxide-Semiconductor.		
mts	Move Terminal to Split.	OCW	Oldest Call Waiting—Indicates the length of delay of the call that has experienced the longest delay.
NCA	Number of Calls Abandoned—Indicates the number of ACD calls abandoned during the report period.	OEX	Outgoing Extension Exception.
NCC	Number of Calls Carried—Indicates the total number of calls received during the report period. Includes calls answered or abandoned. $NCA + NCH = NCC$	OHT	Out Call Holding Time—Indicates the average amount of time per outgoing call spent in the talking state.
NCH	Number of Calls Handled—Indicates the number of ACD calls answered during the report period.	OVFL	Overflow—Indicates the number of times an attempt was made to access a facility to make an outgoing call and all facilities were busy during the report period.
NCL(est)	Number of Calls Lost—Indicates an estimated number of calls lost.	papr	Print Average Positions Required.
NCW	Number of Calls Waiting—Indicates the number of simultaneous calls delayed and waiting to be answered.	parms	User Parameters.
NL	Number of Times Agent Has Logged In.	pbd	Print Backdays.
NOC	Number of Out Calls—A state on the split status report indicating the number of simultaneous outgoing calls being made. On all other reports, NOC indicates the number of outgoing calls made during the report period.	pcc	Print Current Configuration.
		pcd	Print Current Day.
		pch	Print Current Hour.
		pcp	Print Current Period.
		PECC	Product Engineering Control Center.
NO. TRKS REQD	Number of Trunks Required—Indicates the number of trunks required to handle the traffic load at the customer-defined blocking objective during the previous report period.	% ATB	Percent All Trunks Busy—Indicates the percent of time that all trunks in a trunk group were busy during the report period.
		% OCC	Percent Occupancy—Indicates the percent of time that agents or trunks were occupied and not available to handle additional calls.
NPR	Number of Positions Required—Indicates the num-		

% TPS	Percent Time per Split.	SER	Schedule Efficiency Ratio—Indicates the relative efficiency of the actual positions manned hours in relation to the required positions manned hours to handle the traffic load. An efficient schedule is indicated by a value within the range of .95 to 1.05.
% TS	Percent Time per Session.		
pfpt	Print Forecasted Traffic Profile.		
phd	Print Historical Data.		
PIC	Peripheral Interface Circuit.	SUPV	Supervisor—A state indicating that an agent has requested the supervisor by depressing the SUPV button.
plast	Print Last Completed Time.		
PM	Positions Manned—Indicates the number of positions currently manned by agents with headset(s) plugged in.	times	Update Time.
ppd	Print Performance Data.	tod	Time of Day.
ppm	Print Previous Month.	TRBL	Trouble—A state indicating that an agent is experiencing difficulty and has depressed the TRBL button.
PRO	Performance Reporting Option.		
psd	Print Special Days.		
pwev	Print Weighted Call Value.	TTM	Total Time Manned—Indicates the total time that an agent had the headset plugged in to the agent position jack.
pyd	Print Year Days.		
qrg	Queue Reporting Group.	tty	Display Terminal.
RCS	Report Creation System.	ubd	Update Backday.
rdn	Restore Base Night Transfer Directory Number.	usd	Update Special Day.
revchan	Reverse Channel.	WCV	Weighted Call Value—Indicates the average time to handle an incoming ACD call during the report period. It includes both talking time and after call work time.
revlog	Reverse Channel Log.		
ROP	Receive Only Printer.		
se	Schedule Exception.		

