SWITCHING SYSTEMS MANAGEMENT
NO. 1 ELECTRONIC SWITCHING SYSTEM
DATA ADMINISTRATION
QUARTER-HOUR MEASUREMENTS

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1. GENERAL

1.01 The quarter-hour measurements are blocks of 15 minute data printed on a teletypewriter (TTY) that gives machine status indications every 15 minutes, all day, every day. The network administrator is responsible for gathering and processing quarter-hour traffic data. This section describes the methods used to schedule, collect, and print out traffic data associated with the quarter-hour schedules including administrative recommendations for its use.

1.02 When this section is reissued, the reason for reissue will be listed in this paragraph.

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1.03 The title for each figure includes a number(s) in parentheses which identifies the paragraph(s) in which the figure is referenced.

1.04 Quarter-hour schedules permit network administrators to obtain data on selected traffic items at more frequent intervals than the hourly schedules provide. There are four quarter-hour schedules that provide the following traffic data.

- TC15 office counts and load measurements
- DA15 selected items from the H or C schedule
- SP15 signal processor heavy load condition indicators

Note: Later generics move these counts to the TC15 schedule.

- HL15 office counts and load measurements related to HILO 4-wire network operation.

1.05 The quarter-hour output messages have changed in number, size and content. Figure 1 contains a block diagram of quarter-hour messages to give an overview of these changes.

2. FIXED QUARTER-HOUR COUNT TC15

TC15 OUTPUT MESSAGE FORMAT

2.01 The TC15 output message is a fixed collection of selected 15-minute traffic counts. The counts collected on this schedule are moved to holding registers and may be added to totaling registers on each quarter-hour. These totaling registers accumulate totals for the hourly or the daily schedules. The accumulators from which the counts are taken are reset to zero when the data is transferred.

2.02 The TC15 output message formats for generic programs CTX-5 through CTX-8 are shown in Fig. 2, 3, 4, and 5.

INCLUSION OF TC15 ITEMS ON THE H OR C SCHEDULE

2.03 Most TC15 traffic items may be included in the hourly H and C schedules. Refer to DFMP, Division H, Section 6i(2), Data Administration—Hourly Measurements for assignment methods and recommendation.

2.04 The measurements listed below cannot be included in the C and H schedules.

- Peripheral order buffer queue peg count.
- Dial tone speed delays over 11 seconds.
- Code blocked calls.
- Trunk group control blocked calls.
- Signal processor trunk scan connections.
- Total number of times signal processor failed to complete all nonsupervisory work on time.
- Total number of times the signal processor failed to find an idle timed scan junior register.
- Total number of times the signal processor failed to find an idle bylink hit timing junior register.
- Total number of times the signal processor failed to find an idle bylink dialing junior register
- Total number of signal processor failures to find an idle bylink J-POB.

TC15 ACTIVATION

2.05 The printing of this schedule may be requested by the network administration or the maintenance TTY using the following input activate message:

LS-QUARTER-T,0N.

2.06 Response: These counts will continue to be printed every quarter-hour.

2.07 The request for terminating the printouts is made with the following input message:

LS-QUARTER-T,0F.

2.08 It is recommended that the TC15 be left in the ***ON*** state (activated).

2.09 The TC15 may also be activated by the system when any of the following conditions exist.

- The line load control is activated.
- An overload conditions exists (as determined by the program)
- Emergency action when call store memory is erased (CTX-4 and later generic programs).

3. SELECTED QUARTER-HOUR SCHEDULE (A) DA15

3.01 The selected quarter-hour schedule DA15 may consist of up to 50 traffic items selected from the H and C schedules. It is provided with CTX-7 and later generic programs. Set card SQHTC controls the size of the DA15 up to 50 traffic items.

3.02 This schedule permits network administrators to obtain data on selected traffic items at more frequent intervals than the normal schedules provide and to obtain data of particular interest without a complete H or C schedule printing. It is expected to be of use particularly in analyzing service problems and overload conditions.

ESS 1400 Form Schedule A Assignments

3.03 The DA15 schedule should include items which may require a closer surveillance such as:

- Customer digit receiver, transmitter and receiver overflows
- Call processing registers such as trunk to trunk memory and automatic message accounting (AMA) registers
- Any item that is critical in an office at any given time. Example: One junctor group is overloaded and requires a close surveillance.

3.04 Data will be entered on the DA15 schedule according to the No. 1 ESS 1400 Form schedule A assignments. All type measurement codes and equipment group or office count numbers that are valid for entry on the H and C schedules are valid on the DA15 schedule. Items entered on the selected DA15 schedule may be changed according to the procedure for changing items on the H or C schedule. Refer to DFMP, Division H, Section 6i(2), for assignment entries.

3.05 In order to obtain meaningful counts on the DA15 schedule, the traffic items must be selected from those entered on the H and C schedules.

3.06 Each item entered on the DA15 schedule requires two corresponding call store words that serve as totaling and holding registers. At the end of each quarter-hour period, data is moved from the totaling register (which is then zeroed) to the holding register where it is available for requested printouts.

3.07 The number of DA15 measurements is determined by the quantity assigned on the schedule A, ESS 1400 Form. Including spare, the number may be a maximum of 50 (00 through 49).

3.08 Changes in this schedule are recent change hunted.

3.09 Refer to Fig. 6 for typical entries on the schedule A, ESS 1400 Form.

DA15 OUTPUT MESSAGE FORMAT

3.10 The DA15 output message is printed following the TC15 output message. It is printed in the same order as assigned on schedule A. Refer to Fig. 7 for an explanation of the DA15 output message format.

DA15 ACTIVATION

3.11 The printing of this schedule may be requested by the network administration or the maintenance TTY using the following input message:

LS-SEQU-0N.

3.12 Response is an immediate printout of the last clock quarter-hour counts. These counts will continue to be printed every quarter-hour.

3.13 The request for terminating the printouts is made with the following input message:

LS-SEQU-0F

4. SIGNAL PROCESSOR QUARTER-HOUR COUNT SP15

4.01 The SP15 quarter-hour schedule provides counts to indicate when the signal processor is becoming overloaded. These messages may be used to monitor the call processing activities of the signal processor during heavy traffic or overloads. The complete schedule requires 20 seconds to print and contains 14 items (13 items in Issue 1 of CTX-7) printed on three lines. With CTX-7, Issue 8 and CTX-8, Issue 3 and later generic programs, the SP15 output message will be deleted and the SP counts will be included in the TC15 output message.

SP15 OUTPUT MESSAGE FORMAT

4.02 The format of the SP15 printout and an explanation of the counts is shown in Fig. 8. An explanation of each line is given in the next three paragraphs.

4.03 ***SP BUSY*** contains counts of deviations from the intended SP work schedule because of a heavy-load condition. The first count is the number of low priority nonsupervisory slips. The second count is the number of intervals between executions of this job which contained more than one low priority nonsupervisory slip. This count is zero in offices without incoming bylink. The third SP BUSY count indicates the number of times POB execution work is rescheduled. The fourth count of the SP BUSY line is the number of SP failures to complete high priority supervisory scanning work in their scheduled intervals.

4.04 ***SP HOP OVFL*** contains three counts and an indicator flag word. The first count is the number of line service request hopper overflows and trunk seizures. Second count is answer hopper overflows. The third item is a count of the number of hopper overflows that caused K-level (signal processor hopper overflow) interrupts in the central control. The fourth count is a flag word identifying which hoppers overflowed causing K-level interrupts recorded in the third count.

4.05 ***SP REG OVFL*** consists of decimal counts of failure to find certain registers and J-POBs, and a peg count of incoming seizures. The counts are:

- Failures to find idle timed scan junior registers
- Failures to find idle step-by-step hit timing junior registers
- Failures to find idle step-by-step junior registers
- Failures to find idle step-by-step J-POBs
- Incoming bylink seizures.

High counts in the SP REG OVFL line may indicate underengineering of the corresponding registers.

SP15 ACTIVATION

4.06 The SP15 message can be requested from the network administration TTY with the following input messages.

- ***SP-TRAF-TON.***= Print the SP15 message at 15 minute intervals until canceled.
- ***SP-TRAF-TOF.*** = Do not print the SP15 message unless a threshold is exceeded.

4.07 The SP15 message can be obtained every 15 minutes on either the maintenance or the network administration TTY after the input message has been typed.

4.08 The SP15 message will print automatically on both TTYs whenever certain SP thresholds are exceeded. The thresholds are:

(a) Low priority nonsupervisory slips greater than or equal to 700.

(b) Multiple low priority nonsupervisory slips between step-by-step (SXS) junior register processing greater than or equal to 0.

(c) Failures to complete POB execution part 2 greater than or equal to 300.

(d) Failures to complete high priority supervisory scan part 1 or part 2 greater than or equal to 180.

(e) SP attempts to scan lines when line scanning was off due to full line service request hopper greater than or equal to 1800.

(f) Failures to find idle step-by-step dialing junior registers greater than or equal to 0.

4.09 The maximum tolerable values for the SP15 counts have not yet been established. It is likely that the counts can become somewhat greater than the threshold values before service is measurably affected.

5. HILO 4-WIRE NETWORK COUNT HL15

HL15 OUTPUT MESSAGE FORMAT

5.01 Output message HL15 is a fixed collection of selected 15-minute traffic counts. It contains office counts and load measurements relating to the HILO 4-wire portion of a No. 1 ESS office.

5.02 The HL15 output message is available with CTX-8, Issue 4 but only when the HILO package is loaded. Refer to Fig. 9 for a description of the output message.

HL15 ACTIVATION

5.03 The HL15 will be activated when the TC15 is activated. It will print out with the TC15. The TC15 will print first and the HL15 will follow.

6. ADMINISTRATIVE USE OF THE QUARTER-HOUR DATA

6.01 Listed below are some of the purposes the quarter-hour data may be used.

(1) Monitoring load service data

(2) Analysis of load service problems

(3) Providing data for call processing capacity determination

(4) Monitoring abnormal traffic load conditions.

6.02 Data may be gathered from the TC15, SP15, and HL15 quarter-hour schedules as required. Traffic measurements not available on any of these schedules, but required for a specific data gathering situation, may be assigned on the DA15 via schedule A. However, the measurements assigned to the DA15 must also be assigned to the C or H schedule. Refer to Part 3 of this section for DA15 assignments.

6.03 Load-service data may require monitoring for the following reasons:

(1) After a cutover or an addition

(2) During a transition period

(3) To monitor a load or service item that is near its limit.

6.04 Trouble analysis of load—service problems may be more readily identified using the quarter-hour data for the following reasons.

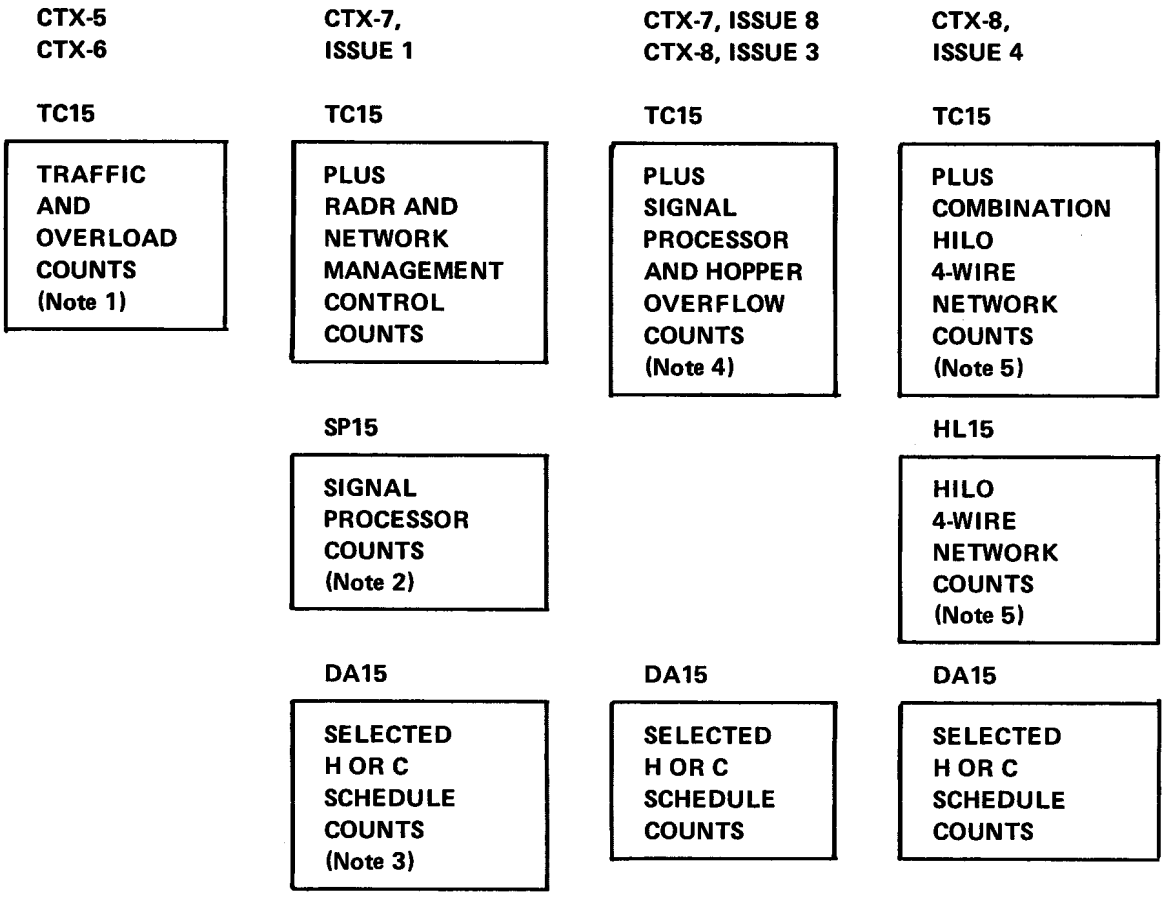
(1) The item of data required to identify the trouble may only appear on the quarter-hour schedule.

(2) Some severe traffic load peaks may be masked in the hourly measurements but become obvious in the quarter-hour data.

(3) A quarter-hour may peak resulting in a service problem in some hour not normally monitored. This can be identified in the quarter-hour data because it collects data every 15 minutes, all day, every day.

6.05 Some of the quarter-hour data is used for determining the call capacity of the central control (CC) and signal processor (SP). Refer to DFMP, Division H, Section 6i(6), Data Administration, PATROL for capacity administration of the CC and SP.

6.06 The quarter-hour data is used to monitor adnormal traffic load conditions. Refer to DFMP, Division H, Section 6m, Abnormal Traffic/Load Conditions, for administrative procedures.



(RADR = Receiver Attachment Delay Reports)

Note 1: TC15 contains traffic load, overload, and service indicators.

Note 2: SP15 contains counts to indicate when the signal processor is becoming overloaded.

Note 3: DA15 contains up to 50 traffic items selected from the H or C schedule by the network adminstrator.

Note 4: SP15 is deleted and the SP counts are included in the TC15 output message.

Note 5: HILO and HL15 counts are available only when the HILO package is loaded.

Fig. 1—Block Diagram of Quarter-Hour Output Messages (1.05)

TC15 OUTPUT MESSAGE FORMAT (CTX-5 AND CTX-6 Generic Programs)

TC15 aaaaaa b c

dddddd	eeeeee	ffffff	gggggg	hhhhhh
iiiiii	jjjjjj	kkkkkk	llllll	mmmmmm
nnnnnn	oooooo	pppppp	rrrrrr	

EXPLANATION OF VARIABLE FIELD

All readings are for the last clock quarter-hour.

aaaaaa = Office identification

b = Originator of printout

- M = Requested by maintenance TTY
- T = Requested by traffic TTY
- L = Requested by line load control program
- Ø = Requested by overload program
- = Can be any combination of above sources (MT, ØL, LØTM, etc)

c = Cause of printout

- CDPR = Customer dial pulse receive queue overflow
- CTTR = Customer TOUCH-TONE receiver queue overflow
- M = Multifrequency receiver queue overflow
- RV = Revertive pulse receiver queue overflow
- TT = Trunk combination TOUCH-TONE and dial pulse receiver queue overflow
- DPR = Trunk dial pulse receiver queue overflow
- MISC = There has been a system reinitialization within the last 15 minutes
No overflow exists

dddddd = Total originating calls

eeeeee = Total incoming calls

ffffff = Total incoming calls that have overflowed due to matching loss (IML)

gggggg = Dial tone speed test initiations from dial pulse lines

hhhhhh = Dial tone speed test initiations from TOUCH-TONE lines

iiiiii = Dial pulse line dial tone delays greater than 3 seconds

jjjjjj = TOUCH-TONE line dial tone delays greater than 3 seconds

kkkkkk = Total main program cycles (E-to-E)

llllll = Line scan completion (in offices without a signal processor this count is always 000000)

Fig. 2—Output Message Format—TC15 (CTX-5 and CTX-6) (Sheet 1 of 2) (2.02)

mmmmmm = POB queue peg count

nnnnnn = Dial tone delays, either dial pulse or TOUCH-TONE, greater than 11 seconds

oooooo = Peg count of signal processor trunk scan completions (See Note.)

pppppp = Total number of times the signal processor failed to complete POB execution within the allotted time (See Note.)

rrrrrr = Total number of signal processor failures to complete all nonsupervisory work within a 5-ms interval (See Note.)

Note: Available with CTX-6, Issue 8 (in offices without a signal processor this count will be 000000).

Fig. 2—Output Message Format—TC15 (CTX-5 and CTX-6) (Sheet 2 of 2) (2.02)

TC15 OUTPUT MESSAGE FORMAT (SP-CTX-7, Issue 1; CC-CTX-7 and Later Generic Programs)

TC15	aaaaaa	b	c	dd:dd	ee/ee
INC	TA	IO	DT	TT	OR
ffffff	hhhhhh	jjjjjj	llllll	nnnnnn	pppppp
gggggg	iiiiii	kkkkkk	mmmmmm	oooooo	
EE/LS	POEX	RM	RD	RR	CB/TGC
qqqqqq	ssssss	uuuuuu	wwwwww	yyyyyy	222222
rrrrrr	tttttt	vvvvvv	zzzzzz	zzzzzz	333333

EXPLANATION OF VARIABLE FIELDS

aaaaaa = Office identification

b = Originator of printout

- M = Requested by maintenance TTY
- T = Requested by traffic TTY
- L = Requested by line load control program
- Ø = Requested by overload program
- = Can be any combination of above sources (MT, ØL, LØTM, etc)

c = Cause of printout

- CDPR = Customer dial pulse receiver queue overflow
- CTTR = Customer TOUCH-TONE receiver queue overflow
- MF = Multifrequency receiver queue overflow
- RV = Revertive pulse receiver queue overflow
- DP = Dial pulse receiver queue overflow
- MISC = Other than receiver queue overflow

dd:dd = Time of collect

ee/ee = Date of collect

ffffff = Total incoming calls

gggggg = Incoming call first failure to match

hhhhhh = Total tandem calls

iiiiii = Tandem calls first failure to match

jjjjjj = Total intraoffice calls

kkkkkk = Intraoffice calls — overflow

llllll = Dial tone speed test initiations from dial pulse lines

Fig. 3—Output Message Format—TC15 (CTX-7) (Sheet 1 of 2) (2.02)

mmmmmm	=	Dial pulse line dial tone delays greater than 3 seconds
nnnnnn	=	Dial tone speed test initiations from TOUCH-TONE lines
oooooo	=	TOUCH-TONE line dial tone delays greater than 3 seconds
pppppp	=	Total originating calls
qqqqqq	=	Total main program cycles (E-to-E)
rrrrrr	=	Line scan completions
ssssss	=	POB queue
tttttt	=	Dial tone delays, either dial pulse or TOUCH-TONE, greater than 11 seconds
uuuuuu	=	Multifrequency receiver attachment tests
vvvvvv	=	Multifrequency receiver attachment delays over 3 seconds.
wwwwww	=	Dial pulse receiver attachment tests
xxxxxx	=	Dial pulse receiver attachment delays over 3 seconds
yyyyyy	=	Revertive pulse receiver attachment tests
zzzzzz	=	Revertive pulse receiver attachment delays over 3 seconds
222222	=	Calls encountering network management code block controls
333333	=	Calls encountering network management trunk group controls
0/0 0:00	=	Month/date hour:quarter-hour

```
A  30  TC15  000222  T              14:30   5/25
              INC     TA       IO       DT       TT       OR
           000091  000000   000036   000012   000022   000171
           000000  000000   000000   000000   000000
           EE/LS   PO/EX     RM       RD       RR       CB/TGC
           010079  000008   000050   000000   000000   000000
           043746  000000   000000   000000   000000   000000
```

Fig. 3—Output Message Format—TC15 (CTX-7) (Sheet 2 of 2) (2.02)

TC15 OUTPUT MESSAGE FORMAT (SP-CTX-7, Issue B; SP-CTX-8, Issue 3 and Later Generic Programs)

TC15	aaaaaa	b	c	dd:dd	ee/ee/ee
INC	TA	IO	DT	TT	OR
ffffff	hhhhhh	jjjjjj	llllll	nnnnnn	pppppp
gggggg	iiiiii	kkkkkk	mmmmmm	oooooo	
EE/LS	PO/EX	RM	RD	RR	CB/TGC
qqqqqq	ssssss	uuuuu	wwwwww	yyyyyy	222222
rrrrrr	tttttt	vvvvvv	xxxxxx	zzzzzz	333333
TS/FS	PI/BLS	TR/HR	BJ/BP	LH/TH	KH/HOP
444444	666666	888888	AAAAAA	BBBBBB	CCCCCC
555555	777777	999999	DDDDDD	EEEEEE	FFFFFFFF

EXPLANATION OF VARIABLE FIELDS

aaaaaa = Office identification

b = Originator of printout

- M = Requested by maintenance TTY
- T = Requested by traffic TTY
- L = Requested by line load control program
- Ø = Requested by overload program
- = Can be any combination of above sources (MT, ØL, LØTM, etc)

c = Cause of printout

- CDPR = Customer dial pulse receiver queue overflow
- CTTR = Customer TOUCH-TONE receiver queue overflow
- MF = Multifrequency receiver queue overflow
- RV = Revertive pulse receiver queue overflow
- DP = Dial pulse receiver queue overflow
- MISC = Other than receiver queue overflow

dd:dd = Time of collect

ee/ee = Date of collect

ffffff = Total incoming calls

gggggg = Incoming call first failure to match

hhhhhh = Total tandem calls

iiiiii = Tandem calls first failure to match

jjjjjj = Total intraoffice calls

kkkkkk = Intraoffice calls — overflow

llllll = Dial tone speed test initiations from dial pulse lines

Fig. 4—Output Message Format—TC15 (CTX-7 and CTX-8) (Sheet 1 of 3) (2.02)

mmmmmm = Dial pulse line dial tone delays greater than 3 seconds

nnnnnn = Dial tone speed test initiations from TOUCH-TONE lines

oooooo = TOUCH-TONE line dial tone delays greater than 3 seconds

pppppp = Total originating calls

qqqqqq = Total main program cycles (E-to-E)

rrrrrr = Line scan completions

ssssss = POB queue

tttttt = Dial tone delays, either dial pulse or TOUCH-TONE, greater than 11 seconds

uuuuuu = Multifrequency receiver attachment tests

vvvvvv = Multifrequency receiver attachment delays over 3 seconds

wwwwww = Dial pulse receiver attachment tests

xxxxxx = Dial pulse receiver attachment delays over 3 seconds

yyyyyy = Revertive pulse receiver attachment tests

zzzzzz = Revertive pulse receiver attachment delays over 3 seconds

222222 = Calls encountering network management code block controls

333333 = Calls encountering network management trunk group controls

444444 = Total number of signal processor trunk scan completions

555555 = Total number of times the signal processor failed to complete all nonsupervisory work within a 5 msec interval

666666 = Total number of times the signal processor completed POB execution

777777 = Total incoming bylink seizures

888888 = Total number of times the signal process or failed to find an idle timed scan junior register

999999 = Total number of times the signal processor failed to find an idle bylink hit timing junior register

AAAAAA = Total number of times the signal processor failed to find an idle bylink dialing junior register

BBBBBB = Total number of line service request hopper overflows

CCCCCC = Total number of all hopper overflows which caused K-level interrupts

DDDDDD = Total number of signal processor failures to find an idle bylink J-POB

EEEEEE = Total number of trunk seizure and answer hopper overflows

FFFFFFFF = Octal flag word indicating which hoppers overflowed adding to count CCCCCC (Notes 1 and 2)

Fig. 4—Output Message Format—TC15 (CTX-7 and CTX-8) (Sheet 2 of 3) (2.02)

LS-QUAR-TON.OK

M 01 TC15 000222 T MISC 0:01 0/0

INC	TA	IO	DT	TT	OR
000004	000000	000002	000049	000127	000005
000000	000000	000000	000000	000000	
EE/LS	PO/EX	RM	RD	RR	CB/TGO
040005	000000	000000	000000	000000	000000
101667	000000	000000	000000	000000	000000
TS/FS	PI/BLS	TR/HR	BJ/BP	LH/TH	KH/HOP
008933	035732	000000	000000	000000	000000
000000	000000	000000	000000	000000	000000

Note 1: For CTX-7, Issue 9,generic program (nonsignal processor offices), the hopper overflow is not added to CCCCCC. The octal flag work still indicates which hoppers overflowed.

Note 2: Layout of hopper overflow information flag word with corresponding parameter set card names for the hoppers.

BIT	HOPPER OVERFLOW INDICATION	PARAMETER SET CARD
0	MF digit reception hopper	MFH
1	Revertive pulsing digit reception hopper	RDH
2	Bylink reorder, abandon, and interdigital timing hopper	BLH
3	TOUCH-TONE digit reception hopper	TTH
4	Trunk dial pulse hopper	TDH
5	Customer dial pulse digit reception and abandon hopper	DPH
6	Release dial tone hopper	DTH
7	Revertive digit outpulsing hopper	RPH
8	Centrex key hopper	CTH
9	Miscellaneous scan hopper	MSH
10	Trunk dial pulse outpulsing hopper	DOH
11	Ringing trip hopper	RTH
12	Hit scan result hopper	HSH
13	Trunk seizure and answer hopper	TSH
14	Line ferrod disconnect hopper	LFH
16	TTY hopper	TYH
18	K-level interrupt hopper	KLH
21	Error found in one of the previously described hopper overflow reports by the overflow program	—

Fig. 4—Output Message Format—TC15 (CTX-7 and CTX-8) (Sheet 3 of 3) (2.02)

TC15 OUTPUT MESSAGE FORMAT (CTX-8, Issue 4)

TC15 aaaaaa b cd ee:ee ff/ff/ff

INC	TA	IO	DT	TT	OR
gggggg	iiiiii	kkkkkk	mmmmmm	oooooo	qqqqqq
hhhhhh	jjjjjj	llllll	nnnnnn	pppppp	
EE/LS	PO/EX	RM	RD	RR	CB/TGC
rrrrrr	tttttt	vvvvvv	xxxxxx	zzzzzz	333333
ssssss	uuuuuu	wwwwww	yyyyyy	222222	444444
TS/FS	PI/BLS	TR/HR	BJ/BP	LH/TH	KH/HOP
555555	777777	999999	BBBBBB	CCCCCC	DDDDDD
666666	888888	AAAAAA	EEEEEE	FFFFFF	GGGGGGGG

EXPLANATION OF VARIABLE FIELDS

aaaaaa = Office identification

b = Originator of printout

- M = Requested by maintenance TTY
- T = Requested by traffic TTY
- L = Requested by line load control program
- Ø = Requested by overload program
- = Can be any combination of above sources (MT, ØL, LOTM, etc)

c = H if dddd is a HILO queue overflow

= Blank if dddd is a 2-wire queue overflow

d = Cause of printout

- CDPR = Customer dial pulse receiver queue overflow
- CTTR = Customer TOUCH-TONE receiver queue overflow
- MF = Multifrequency receiver queue overflow
- RV = Revertive pulse receiver queue overflow
- DP = Dial pulse receiver queue overflow
- MISC = Other than receiver queue overflow

ee:ee = Time of collect

ff/ff/ff = Date of collect

gggggg = Total incoming calls

hhhhhh= Incoming call first failure to match

iiiiii = Total tandem calls

jjjjjj = Tandem calls first failure to match

Fig. 5—Output Message Format—TC15 (CTX-8) (Sheet 1 of 4) (2.02)

kkkkkk = Total intraoffice calls

llllll = Intraoffice calls — overflow

mmmmmm = Dial tone speed test initiations from dial pulse lines

nnnnnn = Dial pulse line dial tone delays greater than 3 seconds

oooooo = Dial tone speed test initiations from TOUCH-TONE lines

pppppp = TOUCH-TONE line dial tone delays greater than 3 seconds

qqqqqq = Total originating calls

rrrrrr = Total main program cycles (E-to-E)

ssssss = Line scan completions

tttttt = POB queue

uuuuuu = Dial tone delays, either dial pulse or TOUCH-TONE, greater than 11 seconds

vvvvvv = Multifrequency receiver attachment tests

wwwwww = Multifrequency receiver attachment delays over 3 seconds

xxxxxx = Dial pulse receiver attachment tests

yyyyyy = Dial pulse receiver attachment delays over 3 seconds

zzzzzz = Revertive pulse receiver attachment tests

222222 = Revertive pulse receiver attachment delays over 3 seconds

333333 = Calls encountering network management code block controls (combined HILO and 2-wire)

444444 = Calls encountering network management trunk group controls (combined HILO and 2-wire)

555555 = Total number of trunk scan completions

666666 = Total number of failures to complete all nonsupervisory work within a 5 msec interval

777777 = Total number of times the POB execution was completed within the allotted time

888888 = Total incoming bylink seizures

999999 = Total number of failures to find an idle timed scan junior register

AAAAAA = Total number of times the signal processor failed to find an idle bylink hit timing junior register.

BBBBBB = Total number of times the signal processor failed to find an idle bylink dialing junior register

CCCCCC = Total number of line service request hopper overflows

DDDDDD = Total number of all hopper overflows which caused K-level interrupts

EEEEEE = Total number of signal processor failures to find an idle bylink J-POB

FFFFFFFF = Total number of trunk seizure and answer hopper overflows

GGGGGGGG = Octal flag word indicating which hoppers overflowed. In offices with a signal processor, this count indicates which hoppers overflowed adding to count DDDDDD (Note 1).

Fig. 5—Output Message Format—TC15 (CTX-8) (Sheet 2 of 4) (2.02)

LS-QUAR-TON.OK

```
M  01   TC15 000222    T MISC    0:01  0/0
              INC      TA       IO       DT       TT       OR
            000004  000000  000002  000049  000127  000005
            000000  000000  000000  000000  000000
             EE/LS   PO/EX     RM       RD       RR     CB/TGO
            040005  000000  000000  000000  000000  000000
            101667  000000  000000  000000  000000  000000
             TS/FS   PI/BLS   TR/HR    BJ/BP    LH/TH   KH/HOP
            008933  935732  000000  000000  000000  000000
            000000  000000  000000  000000  000000  00000000
```

Note 1: Layout of hopper overflow information flag word with corresponding parameter set card names for the hoppers:

BIT	HOPPER OVERFLOW INDICATION	PARAMETER SET CARD
0	MF digit reception hopper	MFH
1	Revertive pulsing digit reception hopper	RDH
2	Bylink reorder, abandon, and interdigital timing hopper	BLH
3	TOUCH-TONE digit reception hopper	TTH
4	Trunk dial pulse hopper	TDH
5	Customer dial pulse digit reception and abandon hopper	DPH
6	Release dial tone hopper	DTH
7	Revertive digit outpulsing hopper	RPH
8	Centrex key hopper	CTH
9	Miscellaneous scan hopper	MSH
10	Trunk dial pulse outpulsing hopper	DOH
11	Ringing trip hopper	RTH
12	Hit scan result hopper	HSH
13	Trunk seizure and answer hopper	TSH
14	Line ferrod disconnect hopper	LFH
16	TTY hopper	TYH
18	K-level interrupt hopper	KLH
21	Error found in one of the previously described hopper overflow reports by the overflow program	—

Fig. 5—Output Message Format—TC15 (CTX-8) (Sheet 3 of 4) (2.02)

General Notes :

(a) All counts contained in the message, unless stated otherwise, are 2-wire counts. Where noted, the counts are combined HILO and 2-wire.

(b) In a combined HILO/2-wire office, all three sections of this message will be printed, when requested.

(c) In a 2-wire only office, all three sections of this message will be printed.

(d) In a HILO only office, only the third section of the message, beginning with the header TS/FS PI/BLS, etc,will be printed.

Fig. 5—Output Message Format—TC15 (CTX-8) (Sheet 4 of 4) (2.02)

ESS 1400(04)TG-1A

TRAFFIC REGISTER ASSIGNMENT RECORD

NO. 1 ESS 2 WIRE

DATE_____

TEL CO 012

BASE 1234 CONT. GR. CD

FORM CODE 80

ESS UNIT District

SCHEDULE A

LIST NUMBER 1ST & 2ND DIGITS 00

TEN'S UNITS	TYPE	MEASUREMENT CODE	EQUIPMENT GROUP OR OFFICE COUNT NUMBER						FAST SCAN	5 MINUTE COLLECT	2 WORD ITEM	REMARKS
22 23	24	26	27	28	29	30	31	32	33	34		
00	00	8	L	0	0	L	0	0				L-L JTR
01			L	0	0	L	0	1				
02			L	0	0	L	0	2				
03			L	0	1	L	0	1				
04			L	0	1	L	0	2				
05			L	0	2	L	0	2				
06			L	0	0	T	0	0				L-T JTR
07			L	0	0	T	0	1				
08			L	0	1	T	0	2				
09			L	0	1	T	0	0				
10			L	0	1	T	0	1				
11			L	0	1	T	0	2				
12			L	0	2	T	0	0				
13			L	0	2	T	0	1				
14			L	0	2	T	0	2				
15				0	0	T	0	0				T-T JTR
16			T	0	0	T	0	1				
17			T	0	0	T	0	2				
18			T	0	1	T	0	1				
19			T	0	1	T	0	2				
20			T	0	2	T	0	2				
21	00	1				1	2	7				IAØ TK PC
22	00	2				1	2	7				OVFL
23	00	0				1	2	7				USAGE
24	00	6				1	2	7				MAINT USAGE
25	00	5				1	1	6				"A" Link Usage
26						0	4	9				T-T MEMORY
27						2	0	5				INC 1ST FAIL MTCH
28						0	1	6				INC MTCH-LOSS
29	STO	P										STOP PRINT
30	01	0										SPARE
31	01	0										
32	01	0										
33	01	0										
34	01	0										
35												
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TEN'S UNITS	TYPE	MEASUREMENT CODE	EQUIPMENT GROUP OR OFFICE COUNT NUMBER						FAST SCAN	5 MINUTE COLLECT	2 WORD ITEM	REMARKS
22 23	24	26	27	28	29	30	31	32	33	34		
50												
51												
52												
53												
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Fig. 6—ESS 1400 Form, Schedule A Typical Entries (3.09)

DA15 OUTPUT MESSAGE FORMAT (CTX-7 AND LATER GENERIC PROGRAMS)

DA 15 aaa bb:bb:bb cc/cc dd:dd:dd ee/ee

ITM	TMC	EGO	CNT
f	ggg	hhhh	iiiiii
f	ggg	hhhh	iiiiii
f	ggg	hhhh	iiiiii
f	ggg	hhhh	iiiiii
f	ggg	hhhh	iiiiii
f	ggg	hhhh	iiiiii
f	ggg	hhhh	iiiiii
f	ggg	hhhh	iiiiii
f	ggg	hhhh	iiiiii
f	ggg	hhhh	iiiiii
f	ggg	hhhh	iiiiii

EXPLANATION OF VARIABLE FIELD

aaa = Office identifying number
bb:bb:bb = Time (hour:minute:second) of last collect
cc/cc = Date (month:day) of last collect
dd:dd:dd: = Time (hour:minute:second) of previous last collect
ee/ee = Date (month:day) of previous last collect
f = 0-49 = Number of traffic items appearance in list
ggg = Type measurement code
hhhh = Equipment, group, or office count number
iiiiii = Traffic count

Fig. 7—Output Message Format—DA15 (3.10)

SP15 OUTPUT MESSAGE FORMAT

```
     SP15 aaaaaa  bbb  cc:cc:cc  dd/dd
SP BUSY        eeeeee   ffffff   gggggg   hhhhhh   iiiiii
SP HOP OVFL    jjjjjj   kkkkkk   mmmmmm   nnnnnnnn
SP REG OVFL    pppppp   qqqqqq   rrrrrr   ssssss   tttttt
```

EXPLANATION OF VARIABLE FIELD

aaaaaa = Office identifying number

bbb = AUT — Requested automatically by traffic measurements program whenever certain counts in the SP15 message exceed threshold limits during the last quarter-hour

= MAN — Requested manually that the SP15 message be printed each subsequent quarter until canceled.

cc:cc:cc = Time of print. Data collected is for the last quarter-hour. (The counts eeeeee through ttttttt are described below).

dd/dd = Date of print

eeeeee = SP low priority nonsupervisory slips

ffffff = Multiple low-priority nonsupervisory slips occuring during scheduled 30-millisecond intervals.
(The scheduled 30-millisecond interval is delineated by the execution of the SXS pulse count junior register processor job.)

gggggg = SP failures to complete POB execution part 2 during last quarter-hour

hhhhhg = SP failures to complete high priority supervisory scan work in its scheduled intervals.

iiiiii = SP attempts to scan lines when line scanning was turned off due to a full line service request hopper.

jjjjjj = Line service request hopper overflows.

kkkkkk = Trunk seizure and answer hopper overflows.

mmmmmm = Hopper overflows which caused K-level interrupts

nnnnnnnn = Octal flag word indicating which hoppers overflowed adding to count mmmmmm.

pppppp = SP failures to find an idle timed scan junior register.

qqqqqq = SP failures to find an idle bylink (SXS) hit timing junior register.

rrrrrr = SP failures to find an idle bylink (SXS) dialing junior register.

ssssss = SP failures to find an idle bylink (SXS) J-POB

tttttt = Incoming bylink seizures

Note: The SP15 output message format was provided with CTX-7, Issue 1, generic program. With CTX-7, Issue 8, and CTX-8, Issue 3 and later generic programs, the SP15 will be deleted and the SP counts will be included in the TC15 output message.

Fig. 8—Output Message Format—SP15 (4.02)

HL15 OUTPUT MESSAGE FORMAT (CTX-8, Issue 4 and Later Generic Programs)

```
HL15        aaaaaa      b      c     dd:dd  ee/ee
     INC        RM        RD        CB/TGC      EE/PO      TA
     ffffff     hhhhhh    kkkkkk    mmmmmm      oooooo     rrrrrr
    gggggg     jjjjjj    llllll     nnnnnn      pppppp
```

EXPLANATION OF VARIABLE FIELD

aaaaaa = Office identification

b = Originator of printout

- M = Requested by maintenance TTY
- T = Requested by traffic TTY
- L = Requested by line load control program
- Ø = Requested by overload program
- = Can be any combination of above sources (MT, ØL, LØTM, etc)

c = Cause of printout

- CDPR = Customer dial pulse receiver queue overflow
- CTTR = Customer TOUCH-TONE receiver queue overflow
- MF = Multifrequency receiver queue overflow
- RV = Revertive pulse receiver queue overflow
- DP = Dial pulse receiver queue overflow
- HMF = HILO multifrequency receiver queue overflow
- HRV = HILO revertive pulse receiver queue overflow
- HDP = HILO trunk dial pulse receiver queue overflow
- MISC = Other than receiver queue overflow

dd:dd = Time of collect

ee/ee = Date of collect

ffffff = HILO incoming calls peg count

gggggg = HILO incoming calls first failure to match

hhhhhh = HILO multifrequency receiver attachment delay report (RADR) test

jjjjjj = HILO multifrequency RADR test failures

kkkkkk = HILO dial pulse RADR tests

llllll = HILO dial pulse RADR test failures

mmmmmm = Calls affected by network management code block controls

nnnnnn = HILO calls affected by network management trunk group controls

oooooo = E-E program cycles

pppppp = POB queue peg count

rrrrrr = HILO tandem call attempts

Fig. 9—Output Message Format—HL15 (5.02)