

DIV. 7: DCS (DIGITAL CELLULAR SWITCH) FORMS

SEC. 1: DIGITAL CELLULAR SWITCH FORMS

SEC. 1A: 5050 RECORD
DIGITAL CELLULAR SWITCH PARAMETERS FORM - APXPARM

1. GENERAL

The APXPARM form (5050 Record) is available for 5E9(1) and later Software Releases. It is used to administer global parameters that are required when a 5ESS Switch is functioning as a digital cellular switch in a cellular network.

1.1 Recent Change View

The corresponding Recent Change view for this form is 8.28.

2. FORM AND RECORD ENTRIES

2.1 BASE AND CONTROL, ESS UNIT

Enter the Base and Control Number and Office Name on each page of the record.

2.2 * OFFICE ID

Description: The office identifier may be the common language office name.

Required Field.
Valid Entries: 1 - 8 alphanumeric characters

Data Rules:

Only one APXPARM form may be defined for an office. Its OFFICE ID must match the OFFICE ID on the OFCOPT form (5509 Record).

2.3 DISC TIMER

Description: The disconnect acknowledgement timer is used to set the amount of time in seconds the 5ESS Switch will wait for a response from the ECP (Executive Cellular Processor) complex when a disconnect occurs.
Valid Entries: 5 - 25 (seconds)

2.4 INC CALL RESP TIMER

Description: The incoming call response timer is used to set the amount of time in seconds the 5ESS Switch will wait for a response from the ECP (Executive Cellular Processor) complex on an incoming call.
Valid Entries: 10 - 120 (seconds)

2.5 ECP POINT CODE

Description: This field is used to assign a point code to the ECP (Executive Cellular Processor) that connects to this 5ESS Switch which serves as a DCS (Digital Cellular Switch). The point code consists of three 3-digit segments (the Network Indicator, the Cluster Region and Type, and the Cluster Member number); each segment must be in the range 0 - 255.
Valid Entries: 9 digits

Data Rules:

When SFID ACT 130 on the SFSYS form (5713 Record) is "Y", ECP POINT CODE must be entered; when SFID ACT 130 is "N", ECP POINT CODE must not be entered.

2.6 INTER VENDOR TRK LIMIT

Description: This field specifies the number of ATEP (Autoplex Task Execution Process) terminal processes available to the ECP (Executive Cellular Processor) when requesting the loopback or restoration of inter-vendor trunks.

This limit, therefore, specifies the maximum number of simultaneous test sessions.
Valid Entries: 1 - 20

2.7 MAX TRK TESTS PER HOUR

Description: This field limits the maximum duration (in hours) of tasks performed by the AATA (Autoplex Automatic Task Administrator). AATA tasks subject to this time limit include trunk test demand, inter-vendor loopback, and dedicated switch connection loopback requests.
Default: 24
Valid Entries: 0 - 168 (hours)

TERM MTCE TRK TST OPT

The following fields These fields (Section 2.8 - Section 2.12) are used for terminal maintenance trunk test options.

2.8 TIME

Description: This field indicates whether local time or Greenwich Mean Time will be used for ATTS (Automatic Trunk Test Scheduler) schedules.

Required Field.
Default: LOCAL
Valid Entries:

Valid TIME Entries

Entry	Definition
LOCAL or L	Local time.
UTC or U	Universal Time Coordinated (Greenwich Mean Time).

2.9 BSY TRK ON RETRY LIST

Description: Put busy trunks on the retry list? This field determines if test calls that abort due to a busy status during ATTS sessions will be put on a retry list.

Required Field.
Default: Y
Valid Entries: Y, N

2.10 DEFAULT LANGUAGE

Description: The DEFAULT LANGUAGE field is used to specify a default language code for playing announcements for the mobile subscribers.

Software Release: 5E13 and later
Valid Entries:

For 5E14 and earlier: 1, 2, 6, 7

For 5E15 and later: 1 - 255

See tables below.

Valid LANGUAGE CODE Entries for 5E14 and Earlier

Entry	Definition
Blank	No value.
1	English
2	French
6	Mandarin
7	Cantonese

Valid LANGUAGE CODE Entries for 5E15 and Later

Entry	Definition
Blank	No value.
1	English
2	French
3	Spanish
4	German
5	Portuguese
6	Cantonese
7	Mandarin
8	Hangul (Korea)
9	Bahasa-Indonesia
10	Hindi
11	Urdu
12	Tagalog (Phillippines)
13	Youroba (West Africa)
14	Swahili
15	Gaelic
16	Hebrew
17	Nihongo (Japan)
18	Russian
19	Arabic
20	Dutch
21	Italian
22	Polish
23	Vietnamese
24	Greek
25	Yiddish
26	Thai
27	Laotian
28	Persian
29	French Creole
30	Armenian
31	Navaho
32	Hungarian
33	Mon-Khmer (Cambodian)
34	Gujarathi
35	Ukranian
36	Czech
37	Pennsylvania Dutch
38	Miao (Hmong)
39	Norwegian
40	Slovak
41	Swedish
42	Serbian
43	Kru

44	Rumanian
45	Lithuanian
46	Finnish
47	Punjabi
48	Formosan
49	Croatian
50	Bosnian
51	Turkish
52	Llocano
53	Bengali
54	Danish
55	Flemish
56	Syrian
57	Tamil
58	Samoan
59	Malayalam
60	Cajun
61	Amharic

NOTE: For 5E15 and later, any four languages can be selected.

Data Rules:

For 5E13 and later, when DEFAULT LANGUAGE is entered, it must be defined as "LANGUAGE CODE" on the FIXRTRAF form (5058 Record).

2.11 AMPS DCS GSM

Description: The AMPS (Advanced Mobile Phone Service) DCS (Digital Cellular Switch) GSM (Global Switching Module) field indicates the type of platform used within the DCS for CCS (Common Channel Signaling Subsystem) transport. The type is indicated by the number "0" for CNI (Common Network Interface) platform and a number from "1- 192" GSM for PSU platform. This field was added to support the Wireless Support of SS7/PSU feature. (For more detailed information about this feature, see Division 2, Section 7AY.)

Software Release: 5E15 FR 1and later
Valid Entries: Blank, or 0, or 1 - 192

NOTE: Enter a number from 0 to 192; where 0 is for CNI Platform and 1 - 192 GSM is for PSU Platform.

Data Rules:

When AMPS DCS GSM is entered, ECP POINT CODE must be entered.

When a value of "1 - 192" is entered in the AMPS DCS GSM field on this form, "PSU" or "ALL" must be entered in the COMMON CHAN SIG field on the OFCOPT form (5509 Record).

When "0" is entered in the AMPS DCS GSM field on this form, "CNI" or "ALL" must be entered in the COMMON CHAN SIG field on the OFCOPT form (5509 Record).

When a value of "1 - 192" is entered in the AMPS DCS GSM field on this form, the GSM must be defined on the CCGSM form (6008 Record).

2.12 MAX REL CONFIG

Description: Is this AMPS DCS Global SM configured for maximum reliability? This field was added to support the Signaling Only GSM (99-5E-7776) feature. See Division 2, Section 8X.

Software Release: 5E15 FR 3 and later
Valid Entries: Y, N

Data Rules:

When "Y" is entered, the following non-signaling forms must not be defined for the corresponding Global SM:

EQLU (19.1)
EQTU (19.2)
EQDU (19.4)
EDQDNU-S (19.14)
EQAIU (19.16)
EQPLTU (19.24)

```
                                5ESS Switch                _
apxparm                    OFFICE DATA ADMINISTRATION
(5050)                DIGITAL CELLULAR SWITCH PARAMETERS

*1. OFFICE ID              OFFICE1
 2. DISC TIMER             __
 3. INC CALL RESP TIMER    ___
 4. ECP POINT CODE         __________
 5. INTER VENDOR TRK LIMIT __
 6. MAX TRK TESTS PER HOUR  24
 7. TIME                   LOCAL
 8. BSY TRK ON RETRY LST   Y
```

Figure 1 SAMPLE APXPARM FORM 5E9(1) - 5E12 SOFTWARE RELEASES

```
apxparm                           5ESS Switch              _
                             OFFICE DATA ADMINISTRATION
(5050)                DIGITAL CELLULAR SWITCH PARAMETERS

*1. OFFICE ID              _________
 2. DISC TIMER             20
 3. INC CALL RESP TIMER    ___
 4. ECP POINT CODE         __________
 5. INTER VENDOR TRK LIMIT __
 6. MAX TRK TESTS PER HOUR  24
 7. TIME                   LOCAL
 8. BSY TRK ON RETRY LST   Y
 9. DEFAULT LANGUAGE       ___
```

Figure 2 SAMPLE APXPARM FORM 5E13 - 5E14 AND LATER SOFTWARE RELEASES


```
apxparm                          5ESS Switch            _
                           OFFICE DATA ADMINISTRATION
(5050)                DIGITAL CELLULAR SWITCH PARAMETERS

*1. OFFICE ID              ________
 2. DISC TIMER             20
 3. INC CALL RESP TIMER    ___
 4. ECP POINT CODE         __________
 5. INTER VENDOR TRK LIMIT __
 6. MAX TRK TESTS PER HOUR  24

   TERM MTCE TRK TST OPT
 7. TIME                   LOCAL
 8. BSY TRK ON RETRY LST   Y
 9. DEFAULT LANGUAGE       ___
10. AMPS DCS GSM           ___
11. MAX REL CONFIG         ___
```

Figure 3 SAMPLE APXPARM FORM 5E15 AND LATER SOFTWARE RELEASES

SEC. 1B: 5051 RECORD
ECP ANNOUNCEMENT ROUTE INDEX FORM - APXANNC

1. GENERAL

The APXANNC form (5051 Record) is available for 5E9(1) and later Software Releases. It is used to associate an identification number from the ECP (Executive Cellular Processor) to a route index for an announcement. This form is populated when the switch is serving as a digital cellular switch in a cellular network.

An APXANNC form can be entered only if SFID ACT 130 on the SFSYS form (5713 Record) is "Y". When SFID ACT 130 is "Y", at least one APXANNC form must be submitted.

1.1 Recent Change View

The corresponding Recent Change view for this form is 10.38.

2. FORM AND RECORD ENTRIES

2.1 BASE AND CONTROL, ESS UNIT

Enter the Base and Control Number and Office Name on each page of the record.

2.2 * ECP INDEX

Description: The Executive Cellular Processor index is an announcement number sent from the Executive Cellular Processor to a 5ESS Switch serving as a digital cellular switch in a cellular network.

Required Field.
Valid Entries: 1 - 127

2.3 BARGE IN RTI

Description: The Barge-in Route Index specifies a route to an announcement trunk that has barge-in capability.
Valid Entries:
For 5E10 and earlier: 1 - 3617
For 5E11 and 5E12: 1 - 4095
For 5E13 and later: Blank, or 1 - 16382

Data Rules:

Either or both BARGE IN RTI and NON BARGE IN RTI must be entered.

When BARGE IN RTI is entered, it must be defined in the ROUTE INDEX field on an RTIDX form (5303 Record). The TRUNK GROUP NUMBER on the RTIDX form must be defined in the TGN field of a TKGRP form (5202 Record). On the TKGRP form the TRKCLS must be "ANNCMNT", BARGE IN must be "Y", and CYCLES must be 0 or not entered. TKGRP form is found by matching TGN on the TKGRP form with the TRUNK GROUP NUMBER on the RTIDX form. (RTIDX form is found by matching ROUTE INDEX with BARGE IN RTI on the APXANNC form).

For 5E10 and later, BARGE IN RTI must not equal NON BARGE IN RTI.

2.4 NON BARGE IN RTI

Description: The Non-Barge-in route index specifies a route to an announcement trunk that does not have barge-in capability.
Valid Entries:
For 5E10 and earlier: 1 - 3617
For 5E11 and 5E12: 1 - 4095
For 5E13 and later: Blank, or 1 - 16382

Data Rules:

Either or both BARGE IN RTI and NON BARGE IN RTI must be entered.

When NON BARGE IN RTI is entered, it must be defined in the ROUTE INDEX field on an RTIDX form. The TRUNK GROUP NUMBER on the RTIDX form must be defined in the TGN field of a TKGRP form. On the TKGRP form the TRKCLS must be "ANNCMNT", BARGE IN must be "N", and CYCLES must be 0 or blank.

2.5 ROUTE TYPE

Description: The fixed route type is used to specify a fixed route type for the announcement.

Software Release: 5E13 and later
Required Field.
Default: APXTANN
Valid Entries:

Valid ROUTE TYPE Entries

Entry	Definition
APXTANN	Autoplex Tones and Announcements
DCSnnn	Digital Cellular Switch Treatment nnn.

Data Rules:

For 5E13 and later, when ROUTE TYPE is "APXTANN", BARGE IN RTE must not equal NON BARGE IN RTI.

```
                                5ESS Switch                _
apxannc                     OFFICE DATA ADMINISTRATION
(5051)                    ECP ANNOUNCEMENT ROUTE INDEX

*1. ECP INDEX         001
 2. BARGE IN RTI      0023
 3. NON BARGE IN RTI  ____
```

Figure 1 SAMPLE APXANNC FORM 5E9(1) - 5E12 SOFTWARE RELEASES

```
apxannc                           5ESS Switch              _
                            OFFICE DATA ADMINISTRATION
(5051)                    ECP ANNOUNCEMENT ROUTE INDEX
```



```
*1. ECP INDEX         ___
 2. BARGE IN RTI      _____
 3. NON BARGE IN RTI  _____
 4. ROUTE TYPE        APXTANN
```

Figure 2 SAMPLE APXANNC FORM 5E13 AND LATER SOFTWARE RELEASES

SEC. 1C: 5052 RECORD
ATTS TEST SESSION SCHEDULE DATA FORM - ATSDATA

1. GENERAL

The ATSDATA form (5052 Record) is available for 5E9(1) and later Software Releases. It is used to provide data that defines a test session in a certain test schedule to be invoked by ATTS (Automatic Trunk Testing Scheduler) for the purpose of performing automated trunk testing over a specific range of equipped members of a specified trunk group.

Test sessions within the same ATTS schedule cannot overlap. The START HOUR and START MINUTE of one ATSDATA form cannot fall between the start and stop times of another ATSDATA form defined for the same SCHEDULE, WEEK, and DAY.

1.1 Recent Change View

The corresponding Recent Change view for this form is 14.9.

2. FORM AND RECORD ENTRIES

2.1 BASE AND CONTROL, ESS UNIT

Enter the Base and Control Number and Office Name on each page of the record.

2.2 * SCHEDULE

Description: This field specifies the individual ATTS schedule for which this test session is defined.

Required Field.
Valid Entries: 1 - 20

2.3 * WEEK

Description: This field specifies the week within the individual ATTS schedule when the test session is to begin executing.

Required Field.
Valid Entries: 1 - 8

2.4 * DAY

Description: This field specifies the day within the given WEEK when the test session is to begin executing.

Required Field.
Valid Entries: 1 - 7

2.5 * START HOUR

Description: This field specifies the hour within the given DAY when the test session is to begin executing.

Required Field.
Valid Entries: 0 - 23

Data Rules:

START HOUR may not be greater than STOP HOUR.

2.6 * START MINUTE

Description: This field specifies the minute within the given START HOUR when the test session is to begin executing.

Required Field.
Valid Entries: 0 - 59

2.7 # STOP HOUR

Description: This field specifies the hour within the given DAY when the test session is to stop executing.

Required Field.
Valid Entries: 0 - 23

Data Rules:

STOP HOUR must be greater than or equal to START HOUR.

2.8 # STOP MINUTE

Description: This field specifies the minute within the given STOP HOUR when the test session is to stop executing.

Required Field.
Valid Entries: 0 - 59

Data Rules:

When START HOUR and STOP HOUR are the same, STOP MINUTE must be greater than START MINUTE.

2.9 # TGN

Description: This field identifies the individual Trunk Group Number to be tested during the test session. Every ATSDATA form(s) must have a matching TKGRP form (matching TGN values).

Required Field.
Valid Entries:
For 5E10 and earlier: 1 - 2000
For 5E11 and later: 1 - 4000

Data Rules:

The TGN must be defined on a TKGRP form (5202 Record).

An ATSDATA form(s) must not have an associate TKGRP form where the TRKCLS is "IVBST", "A2", or "A5".

For 5E15 and later, an ATSDATA form(s) must not have an associated TKGRP form where the TRKCLS is "A5", "SVC", "FRBC", "BCM", "ADT", "PKTPIPE", "3GPD", "PCF", or "ISLPM".

2.10 MEMB LOW

Description: This field specifies the first in a range of members of the specified trunk group to be tested during this session.
Default: 0
Valid Entries: 0 - 1951

Data Rules:

MEMB LOW may not be greater than MEMB HIGH.

2.11 MEMB HIGH

Description: This field specifies the last in a range of trunk group members to be tested during the session.

MEMB HIGH must be populated with a value in the range 0 through the member number of the highest numbered trunk equipped in the group, or 1952. When the special value 1952 is entered in MEMB HIGH, and MEMB LOW is 0, all equipped trunks in the specified trunk group will be tested.
Valid Entries: 0 - 1952

Data Rules:

The MEMB HIGH value must be less than the highest trunk member number assigned to the trunk group. The highest trunk member is determined by summing the MEMB and QTY fields on the TRUNK form (assigned to the TGN) that has the greatest MEMB number.

2.12 ORDER

Description: This field indicates the sequence in which the trunk group members will be tested, either ascending or descending.

Required Field.
Default: ASCENDING
Valid Entries:

Valid ORDER Entries

Entry	Definition
ASCENDING	Test the trunks in ascending order.
DESCENDING	Test the trunks in descending order.

2.13 LINK

Description: Should this test session begin executing immediately when the previous session completes its execution early?

Required Field.
Default: N
Valid Entries: Y, N

Data Rules:

Two test sessions from the same ATTS schedule may be linked only if the stop time (STOP HOUR and STOP MINUTE) of the first form matches the start time (START HOUR and START MINUTE) of the second form. Test sessions are linked if their respective ATSDATA forms have the same SCHEDULE, WEEK, and DAY;

and the LINK field of the later one is set to "Y".

2.14 SKIP

Description: Should the test session be skipped when its scheduled starting time arrives?

Required Field.
Default: N
Valid Entries: Y, N

2.15 ATME TRAN TEST

Description: This field specifies the type of transmission test to be performed on all members of the trunk group equipped on ATME (Automatic Transmission Measuring Equipment).

This field is reserved for future use; currently, no value can be entered into it.

2.16 ATME SIG TEST

Description: This field specifies the type of signaling test to be performed on all members of the given trunk group equipped on ATME (Automatic Transmission Measuring Equipment).

This field is reserved for future use; currently, no value can be entered into it.

2.17 PVELBK ALGOR

Description: This field is used as a Protocol Handler for Voice encoding loop back test algorithm.

Software Release: 5E19(1) and later
Valid Entries:

Valid PVELBK ALGOR Entries

Entry	Definition
13K	13K voice service for SPCHNDLR trunk groups.
EVRCB	Enhanced Variable Rate Coder - Version B
EVRC	Enhanced Variable Rate Coding.
SMV	Selectable Mode Vocoder

Data Rules:

When PVELBK ALGOR is entered on ATSDATA form (5052 Record), SERV TYPE must be "CEV13", "SME13", or "EVEVB".

When PVELBK ALGOR is entered on this form (ATSDATA), and SCHEDULE on the ATSPARM form (5053 Record) matches the value of SCHEDULE on the ATSDATA form, TEST TYPE on the ATSPARM form must be set to "PVELBK".

```
                              5ESS Switch                _
atsdata                   OFFICE DATA ADMINISTRATION
(5052)                 ATTS TEST SESSION SCHEDULE DATA

*1. SCHEDULE      1                    13. SKIP N
*2. WEEK         1                     14. ATME TRAN TEST __
```



```
*3. DAY          1                    15. ATME SIG TEST  __
*4. START HOUR    0
*5. START MINUTE  0
#6. STOP HOUR     4
#7. STOP MINUTE   0
#8. TGN          0043
 9. MEMB LOW     0000
10. MEMB HIGH    1951
11. ORDER        ASCENDING
12. LINK         N
```

Figure 1 SAMPLE ATSDATA FORM 5E9(1) THROUGH 5E18 SOFTWARE RELEASES

```
atsdata                          5ESS Switch            _
                           OFFICE DATA ADMINISTRATION
(6001)                   ATTS TEST SESSION SCHEDULE DATA

*1. SCHEDULE     __             13. SKIP           N
*2. WEEK         _                  ATME TRAN TEST __
*3. DAY          _                  ATME SIG TEST  __
*4. START HOUR   __             16. PVELBK ALGOR   _____
*5. START MINUTE __
#6. STOP HOUR    __
#7. STOP MINUTE  __
#8. TGN          ____
 9. MEMB LOW     0000
10. MEMB HIGH    ____
11. ORDER        ASCENDING
12. LINK         N
```

Figure 2 SAMPLE ATSDATA FORM 5E19(1) AND LATER SOFTWARE RELEASES

SEC. 1D: 5053 RECORD
ATTS TEST SESSION SCHEDULE PARAMETERS FORM - ATSPARM

1. GENERAL

The ATSPARM form (5053 Record) is available for 5E9(1) and later Software Releases. It is used to define parameters and options that control ATTS (Automatic Trunk Test Scheduler) test sessions on a per schedule basis.

The Automatic Trunk Test Scheduler is a secured feature that must be purchased before an ATSPARM form can be entered. ATTS can be purchased as a separate feature (SFID 134) or as part of the Autoplex secured feature (SFID 130). The ACT field must be set to "Y" for one of these features on the SFSYS form (5713 Record).

An ATSPARM form must be entered for each unique SCHEDULE that appears on an ATSDATA form (5052 Record).

1.1 Recent Change View

The corresponding Recent Change view for this form is 14.10.

2. FORM AND RECORD ENTRIES

2.1 BASE AND CONTROL, ESS UNIT

Enter the Base and Control Number and Office Name on each page of the record.

2.2 * SCHEDULE

Description: This field specifies the individual ATTS schedule for which this test session is defined.

Required Field.
Valid Entries: 1 - 20

2.3 # TEST TYPE

Description: This field specifies the type of test to be performed during the test session associated with the ATTS Schedule.

Required Field.

Valid TEST TYPE Entries

Entry	Definition
CONT	Continue.
NINV	Non-inverting.
NSYS	Non-synchronous.
PB	Permanent Busy.
PVELBK	PHV (Protocol Handler for Voice) voice encoding loop back test
SHCT	Software Release: 5E10 and later. Speech Handler trunk PCM loop back test.This enumeration supports the CDMA (Code Division MultipleAccess) feature. For more information on this feature, seeDivision 2, Section 8B.
SYS	Synchronous.
102LB	102 loop-back test.
105	105 test.

2.4 MAX MISC ABORTS

Description: This field specifies the maximum number of consecutive aborted trunk test attempts allowed per test session. It is used as a threshold which, when reached, causes a test session to terminate.

Required Field.
Default: 20
Valid Entries: 1 - 20

2.5 MAX CONGESTION

Description: This field specifies the maximum number of consecutive trunk test attempts per test session which are allowed to result in detection of congestion. It is used as a threshold which, when exceeded, causes a test session to terminate.

Required Field.
Default: 20
Valid Entries: 1 - 20

2.6 MAX ANS TIME OUT

Description: This field specifies the maximum number of consecutive trunk test attempts per test session which are allowed to result in the director timing out while waiting for an answer or equivalent signal from the far end. It is used as a threshold which, when exceeded, causes a test session to terminate.

Required Field.
Default: 20
Valid Entries: 1 - 20

2.7 MAX DIR TIME OUT

Description: This field specifies the maximum number of consecutive trunk test attempts per test session which are allowed to result in the director timing out while waiting for an event other than receipt of an answer or equivalent signal from the far end. It is used as a threshold which, when exceeded, causes a test session to terminate.

Required Field.
Default: 20
Valid Entries: 1 - 20

2.8 MAX LOOPS

Description: This field specifies the maximum number of passes that should be performed per test session through a list of trunks associated with aborted tests for which another test attempt should be made. It is used as a threshold which causes a test session to terminate when trunks remain on the list after the specified maximum number of passes through the list have been made. If this field is left blank, the retry list will be turned off.
Valid Entries: 1 - 20

2.9 RETRY ON ABORT

Description: Should the test be retried when it aborts?

Required Field.
Default: N
Valid Entries: Y, N

2.10 RETEST ON FAILURE

Description: Should the test be immediately repeated when it fails?

Required Field.
Default: N
Valid Entries: Y, N

2.11 COUNT BUSY ABORTS

Description: Should tests that abort because the trunk is busy be included in the counter associated with the threshold for miscellaneous aborted tests?

Required Field.
Default: N
Valid Entries: Y, N

2.12 PRINT REPORT

Description: This field specifies how to output in real time the result of each test.

Valid PRINT REPORT Entries

Entry	Definition
PFA	Print all results.
FA	Print non-passing results only.
A	Print aborted results only.
F	Print failing results only.
P	Print passing results only.

2.13 SESSION COUNT

Description: This is a Recent Change only field which specifies the number of the test schedule defined on the ATSDATA form.

```
                                5ESS Switch                _
atsparm                    OFFICE DATA ADMINISTRATION
(5053)               ATTS TEST SESSION SCHEDULE PARAMETERS

*1. SCHEDULE           1
#2. TEST TYPE         CONT
 3. MAX MISC ABORTS   20
 4. MAX CONGESTION    20
 5. MAX ANS TIME OUT  20
 6. MAX DIR TIME OUT  20
 7. MAX LOOPS         __
 8. RETRY ON ABORT    N
 9. RETEST ON FAILURE N
10. COUNT BUSY ABORTS N
11. PRINT REPORT      ___
```



```
    SESSION COUNT
```

Figure 1 SAMPLE ATSPARM FORM 5E9(1) AND LATER SOFTWARE RELEASES

SEC. 1E: 5054 RECORD
DIGITAL CELLULAR SWITCH - DIGITAL TESTS FORM - DCSDT

1. GENERAL

The DCSDT form (5054 Record) is available for 5E9(1) and later Software Releases. It is used to define digital tests for an automatic trunk test table. The digital test result threshold specified on this form will be used to define the pass/marginal/fail criteria for the tests.

1.1 Recent Change View

The corresponding Recent Change view for this form is 14.11.

2. FORM AND RECORD ENTRIES

2.1 BASE AND CONTROL, ESS UNIT

Enter the Base and Control Number and Office Name on each page of the record.

2.2 * ATTTN

Description: The ATTTN (Automatic Trunk Test Table Number) and its associated test data provides tests to be executed by Trunk APT (Automatic Progression Testing) and by manual trunk testing initiated at the 5ESS Switch.

Required Field.
Valid Entries: 1 - 999

2.3 DURATION

Description: This field specifies the total duration of the test in seconds.

Required Field.
Default: 20
Valid Entries: 1 - 240 (seconds)

Data Rules:

When BIT ERROR RATIO is 5, DURATION must be greater than 1; when 6, DURATION must be greater than 16; and when 7, DURATION must be greater than 159.

2.4 BLOCK SIZE

Description: This field specifies the block size of the digital bit streams used in the test.

Required Field.
Default: 2047
Valid Entries: 1 - 64000

2.5 BIT ERR RATIO

Description: This field specifies the acceptable bit error ratio for the test

Required Field.
Default: 6
Valid Entries: 1 - 7

```
                                5ESS Switch
dcsdt                    OFFICE DATA ADMINISTRATION
(5054)             DIGITAL CELLULAR SWITCH - DIGITAL TESTS

*1. ATTTN          001
 2. DURATION         20
 3. BLOCK SIZE    2047
 4. BIT ERR RATIO 6
```

Figure 1 SAMPLE DCSDT FORM 5E9(1) AND LATER SOFTWARE RELEASES

SEC. 1F: 5055 RECORD
DIGITAL CELLULAR SWITCH - TRANSMISSION TEST FORM - DCSTT

1. GENERAL

The DCSTT form (5055 Record) is available for 5E9(1) and later Software Releases. It is used to define transmission tests for an automatic trunk test table. Tone measurement thresholds and noise or return loss thresholds defined on this form will be used to define the pass/marginal/fail status for the test calls.

1.1 Recent Change View

The corresponding Recent Change view for this form is 14.12.

2. FORM AND RECORD ENTRIES

2.1 BASE AND CONTROL, ESS UNIT

Enter the Base and Control Number and Office Name on each page of the record.

2.2 * ATTTN

Description: The ATTTN (Automatic Trunk Test Table Number) and its associated test data provides tests to be executed by Trunk APT (Automatic Progression Testing) and by manual trunk testing initiated at the 5ESS Switch.

Required Field.
Valid Entries: 1 - 999

2.3 * TEST TYPE

Description: This field identifies the type of test to be performed.

Required Field.

Valid TEST TYPE Entries

Entry	Definition
102LB	102 loop-back test.
105	105 test.
PVELBK	Software Release: 5E15 and later. PHV Voice Encoding Loopback Test. This entry supports the One-Way Audio Detection Tool Phase 2 feature. For more information on this feature, see Division 2, Section 8V.

Data Rules:

When TEST TYPE is "102LB", all fields for the following must be blank: TONE 404 HZ DEV, TONE 2804 HZ DEV, NOISE FAR END, NOISE 1004 FILTER, ECHO RET LOSS, SINGING RET LOSS, HI FREQ RET LOSS.

When TEST TYPE is 105:

- All the TONE 1004 HZ LOSS fields must be in the range -32 to 3.
- Values must be entered in all fields for the following: TONE 404 HZ DEV, TONE 2804 HZ DEV, NOISE FAR END, NOISE 1004 FILTER, ECHO RET LOSS, SINGING RET LOSS, and HI FREQ RET LOSS.

TONE 1004 HZ LOSS AT 0 DBM

These fields (Section 2.4 - Section 2.7) are used to set the TONE 1004 HZ LOSS values.

2.4 # FAIL MIN

Description: This field is used to specify the lower bound of the tone level deemed marginal passed. A tone lower than this value will be deemed failed.

Required Field.
Default: -10
Valid Entries: -48 - 3 (dB)

Data Rules:

FAIL MIN cannot be greater than MARG MIN.

2.5 # MARG MIN

Description: This field is used to specify the lower bound of the tone level deemed passed. A tone lower than this value, but higher than FAIL MIN will be deemed marginal passed.

Required Field.
Default: -9
Valid Entries: -48 - 3 (dB)

Data Rules:

MARG MIN cannot be greater than MARG MAX.

2.6 # MARG MAX

Description: This field is used to specify the upper bound of the tone level deemed passed. A tone higher than this value, but lower than FAIL MAX will be deemed marginal passed.

Required Field.
Default: 0
Valid Entries: -48 - 3 (dB)

Data Rules:

MARG MAX cannot be greater than FAIL MAX.

2.7 # FAIL MAX

Description: This field is used to specify the upper bound of the tone level deemed marginal passed. A tone higher than this value will be deemed failed.

Required Field.
Default: 0
Valid Entries: -48 - 3 (dB)

TONE 404 HZ DEV

These fields (Section 2.8 - Section 2.11) define the deviations for 404 Hz tones detected in the marginal and unacceptable ranges.

2.8 MARG POS

Description: This field is used to specify the positive deviation for a tone detected in the marginal passed range.
Valid Entries: 0 - 9

2.9 FAIL POS

Description: This field is used to specify the deviation for a tone detected in the failed range.
Valid Entries: 0 - 9

2.10 MARG NEG

Description: This field is used to specify the negative deviation for a tone detected in the marginal range.
Valid Entries: 0 - 9

2.11 FAIL NEG

Description: This field is used to specify the negative deviation for a tone detected in the failed range.
Valid Entries: 0 - 9

TONE 2804 HZ DEV

These fields (Section 2.12 - Section 2.15) define the deviations for 2804 Hz tones detected in the marginal and unacceptable ranges.

2.12 MARG POS

Description: This field is used to specify the positive deviation for a tone detected in the marginal passed range.
Valid Entries: 0 - 9

2.13 FAIL POS

Description: This field is used to specify the deviation for a tone detected in the failed range.
Valid Entries: 0 - 9

2.14 MARG NEG

Description: This field is used to specify the negative deviation for a tone detected in the marginal range.
Valid Entries: 0 - 9

2.15 FAIL NEG

Description: This field is used to specify the negative deviation for a tone detected in the failed range.
Valid Entries: 0 - 9

NOISE NEAR END

These fields (Section 2.16 - Section 2.17) are used to specify the minimum acceptable and minimum immediate action limits for noise at the near end. A value above MIN IACT will be deemed failed. A value above MIN ACC but below MIN IACT will be deemed marginal passed. A value below MIN ACC will be deemed passed.

2.16 # MIN ACC

Description: This field specifies the noise at near end minimum acceptance limit (in dBrnC, a measure in decibels using C-message filters).

Required Field.
Default: 43
Valid Entries: 15 - 55 (dBrnC)

2.17 # MIN IACT

Description: This field specifies the noise at near end minimum immediate action limit (in dBrnC).

Required Field.
Default: 44
Valid Entries: 15 - 55 (dBrnC)

NOISE FAR END

These fields (Section 2.18 - Section 2.19) are used to specify the minimum acceptable and minimum immediate action limits for noise at far end. A value above MIN IACT will be deemed failed. A value above MIN ACC but below MIN IACT will be deemed marginal passed. A value below MIN ACC will be deemed passed.

2.18 MIN ACC

Description: This field specifies the noise at far end minimum acceptance limit (in dBrnC, a measure in decibels using C-message filters).
Valid Entries: 15 - 55 (dBrnC)

2.19 MIN IACT

Description: This field specifies the noise at far end minimum immediate action limit (in dBrnC).
Valid Entries: 15 - 55 (dBrnC)

NOISE 1004 FILTER

These fields (Section 2.20 - Section 2.21) are used to specify the minimum acceptable and minimum immediate action limits for noise with 1004 Hz filter. A value above MIN IACT will be deemed failed. A value above MIN ACC but below MIN IACT will be deemed marginal passed. A value below MIN ACC will be deemed passed.

2.20 MIN ACC

Description: This field specifies the noise with 1004 Hz filter minimum acceptance limit (in dBrnC, a measure in decibels using C-notch filters).

Valid Entries: 34 - 74 (dBrnC)

2.21 MIN IACT

Description: This field specifies the noise with 1004 Hz filter minimum immediate action limit (in dBrnC).
Valid Entries: 34 - 74 (dBrnC)

ECHO RET LOSS

These fields (Section 2.22 - Section 2.23) are used to specify the minimum acceptable and minimum immediate action limits for echo return loss. A value below MIN IACT will be deemed failed. A value above MIN IACT but below MIN ACC will be deemed marginal passed. A value above MIN ACC will be deemed passed.

2.22 MIN ACC

Description: This field specifies the echo return loss minimum acceptance limit.
Valid Entries: 0 - 40 (dB)

2.23 MIN IACT

Description: This field specifies the echo return loss minimum immediate action limit.
Valid Entries: 0 - 40 (dB)

SINGING RET LOSS

These fields (Section 2.24 - Section 2.25) are used to specify the minimum acceptable and minimum immediate action limits for singing return loss. A value below MIN IACT will be deemed failed. A value above MIN IACT but below MIN ACC will be deemed marginal passed. A value above MIN ACC will be deemed passed.

2.24 MIN ACC

Description: This field specifies the singing return loss minimum acceptance limit.
Valid Entries: 0 - 40 (dB)

2.25 MIN IACT

Description: This field specifies the singing return loss minimum immediate action limit.
Valid Entries: 0 - 40 (dB)

HI FREQ RET LOSS

These fields (Section 2.26 - Section 2.27) are used to specify the minimum acceptable and minimum immediate action limits for high frequency signal return loss. A value below MIN IACT will be deemed failed. A value above MIN IACT but below MIN ACC will be deemed marginal passed. A value above MIN ACC will be deemed passed.

2.26 MIN ACC

Description: This field specifies the high frequency signal return loss minimum acceptance limit.
Valid Entries: 0 - 40 (dB)

2.27 MIN IACT

Description: This field specifies the high frequency signal return loss minimum immediate action limit.
Valid Entries: 0 - 40 (dB)

```
                                5ESS Switch                _
dcstt                     OFFICE DATA ADMINISTRATION
(5055)           DIGITAL CELLULAR SWITCH - TRANSMISSION TEST

*1. ATTTN     001                          MARG POS  FAIL POS  MARG NEG  FAIL NEG
*2. TEST TYPE 105     7. TONE 404 HZ DEV     2         3         1         2
                     12. TONE 2804 HZ DEV    2         3         1         2
 TONE 1004 HZ LOSS AT 0 DBM
#3. FAIL MIN  -10
#4. MARG MIN   -9                           MIN ACC  MIN IACT
#5. MARG MAX    0   #17. NOISE NEAR END        43       44
#6. FAIL MAX    0    20. NOISE FAR END         43       44
                     23. NOISE 1004 FILTER     40       41
                     26. ECHO RET LOSS         40       39
                     29. SINGING RET LOSS      40       39
                     32. HI FREQ RET LOSS      40       39
```

Figure 1 SAMPLE DCSTT FORM 5E9(1) AND LATER SOFTWARE RELEASES

SEC. 1G: 5056 RECORD
CELLULAR MOBILE CARRIER IDENTIFICATION (CHARGING)

1. GENERAL

The 5056 Record is available with the 5E9(1) Software Release and is Recent Change only. The Cellular Mobile Carrier Identification (Charging) view (10.16) is used to associate a 10-digit billing number with a 2-digit Cellular Mobile Carrier Identification number, in order to facilitate billing of a cellular mobile carrier. The ODA equivalent fields for this form are on the TKGRP form. See BILLING DN and the LATA/TTOLL field section on the TKGRP form.

1.1 Recent Change View

The Recent Change View for this record is 10.16

2. FORM AND RECORD ENTRIES

2.1 BASE AND CONTROL, ESS UNIT

Enter the Base and Control Number and the Office Name on each record.

2.2 * CMC ID

Description: Enter the Cellular mobile carrier identification number.

Software Release: 5E9(1) and later.
Required Field.
Valid Entries: 1 - 60

Data Rules:

A CMC ID of 00 is not allowed.

2.3 CMC BILL

Description: Enter the Cellular mobile carrier 10-digit billing number.

Software Release: 5E9(1) and later.
Valid Entries: 10-digit TN

```
                                      5ESS SWITCH
                                   RECENT CHANGE  10.16
(5056)              CELLULAR MOBILE CARRIER IDENTIFICATION (CHARGING)

*1. CMCID     __
#2. CMC BILL ___________
```

Figure 1 SAMPLE RC_CMCID FORM 5E9(1) AND LATER SOFTWARE RELEASES

SEC. 1H: 5058 RECORD
FIXED ROUTE TYPE RECORDED ANNOUNCEMENT DATA FORM - FIXRTRAF

1. GENERAL

The 5058 Record is available with the 5E13 and later Software Update. The Fixed Route Type Recorded Announcement form provides capability for specifying announcement data of a fixed route type for a preferred language.

1.1 Recent Change View

The corresponding Recent Change View for this form is 8.68.

2. FORM AND RECORD ENTRIES

2.1 BASE AND CONTROL, ESS UNIT

Enter the Base and Control Number and the Office Name on each record.

2.2 * ROUTE TYPE

Description: The ROUTE TYPE field is used to specify a fixed route type for the announcement within a preferred language code.

Required Field.
Valid Entries: DCS001 - DCS099

2.3 * LANGUAGE CODE

Description: The LANGUAGE CODE field is used to specify the preferred language code using the phrase.

Required Field.
Valid Entries:

For 5E14 and earlier: 1, 2, 6, 7

For 5E15 and later: 1 - 255

See tables below.

Valid LANGUAGE CODE Entries for 5E14 and Earlier

Entry	Definition
Blank	No value.
1	English
2	French
6	Mandarin
7	Cantonese

Valid LANGUAGE CODE Entries for 5E15 and Later

Entry	Definition
Blank	No value.
1	English
2	French
3	Spanish
4	German

5	Portuguese
6	Cantonese
7	Mandarin
8	Hangul (Korea)
9	Bahasa-Indonesia
10	Hindi
11	Urdu
12	Tagalog (Phillippines)
13	Youroba (West Africa)
14	Swahili
15	Gaelic
16	Hebrew
17	Nihongo (Japan)
18	Russian
19	Arabic
20	Dutch
21	Italian
22	Polish
23	Vietnamese
24	Greek
25	Yiddish
26	Thiai
27	Laotian
28	Persian
29	French Creole
30	Armenian
31	Navaho
32	Hungarian
33	Mon-Khmer (Cambodian)
34	Gujarathi
35	Ukranian
36	Czech
37	Pennsylvania Dutch
38	Miao (Hmong)
39	Norwegian
40	Slovak
41	Swedish
42	Serbian
43	Kru
44	Rumanian
45	Lithuanian
46	Finnish
47	Punjabi
48	Formosan
49	Croatian
50	Bosian
51	Turkish
52	Llocano
53	Bangali
54	Danish
55	Flemish
56	Syrian
57	Tamil
58	Samoan
59	Malayalsmm
60	Cajun
61	Amharic

NOTE: For 5E15 and later, any four languages can be selected.

2.4 # ANNC HDR ID

Description: The ANNC HDR ID field is used to specify a unique announcement header within an announcement application.

Required Field.

Valid Entries: 1 - 131071

Data Rules:

When ANNC HDR ID is entered, it must be defined as HEADER ID on the ANNHD form (5531 Record) with APPLICATION set to "VARRRAF".

When the ANNC HDR ID matches the HEADER ID on the ANNHD form (5531 Record) and the PHR of the PHRASE_LIST on the ANNHD form matches the PHRASE ID on the PHRASE form (5534 Record), the LANGUAGE CODE entered on this form must match the PHRASE form.

2.5 ANNC CYCLE LIMIT

Description: The ANNC CYCLE LIMIT field is used to specify number of cycles the announcement is to be played.
Valid Entries: 0 - 5

```
fixrtraf                          5ESS Switch            _
                            OFFICE DATA ADMINISTRATION
(5058)              FIXED ROUTE TYPE RECORDED ANNOUNCEMENT DATA

*1. ROUTE TYPE        ________
*2. LANGUAGE CODE     ___
#3. ANNC HDR ID       _______
 4. ANNC CYCLE LIMIT 1
```

Figure 1 SAMPLE QPHPIPE FORM 5E13 AND LATER SOFTWARE RELEASES

SEC. 2: PSU LINK ASSIGNMENT FORMS

SEC. 2A: 5057 RECORD
PSU LINK ASSIGNMENT - PSULNK

1. GENERAL

The 5057 Record is available for 5E10 and later Software Releases. The PSU Link Assignment form is used to define links between packet switch units using PHAs (Protocol Handlers for Asynchronous Transfer Mode). The PHA feature is a Secured Feature that must be purchased by the office before data can be entered on this form. A SFSYS form must be entered with SFID 224 ACT field set to "Y". For more information on the PHA feature, see Division 2, Section 4A224. For more information on the CDMA (Code Division Multiple Access) feature, see Division 2, Section 8B.

The Interswitch Soft Hand-off feature (99-5E-3082) provides the means to interconnect packet switching units of different 5ESS-2000 Switches, either through a direct point-to-point (PSU link-to-PSU link) configuration or through a point-to-Multipoint ATM Network Connection configuration. With the Interswitch Soft Hand-off feature, more 5ESS-2000 switches can be involved which in effect expands the contiguous "soft hand-off" area (see Division 2, Section 8E). To support the Interswitch Soft Hand-off feature, the LINK TYPE field was added to this form to define the PSU link configuration.

Effective with the 5E11 Software Release, the Extended Soft Hand-off Through a Multipoint ATM Network Connection feature (99-5E-3081) provides a means for interconnecting large numbers of packet switching units of the 5ESS-2000 Switch. See Division 2, Section 8D. The CON TYPE field was moved to this form from the EQPSU form (5741-1/2 Record) (Division 8, Section 22) to indicate whether the connection terminates to a point-to-multipoint configuration or to a point-to-point PSU link.

The SD THRESH and SF THRESH fields were added to comply with SONET (Synchronous Optical Network) requirements to make Signal Degrade and Signal Failure parameters configurable by the user. The user can adjust these parameters to match signal conditions on a particular link.

The APS TYPE field was added to support APS (Automatic Protection Switching). When a link is provisioned as duplex (i.e., both channels equipped), APS can occur when SONET defects are detected. "Uni-directional" APS means that the selected channel at one end of the line does not have to be the same as the other end. "Bi-directional" APS means that both ends will always have the same line "on protection." An APS TYPE of "NONE" is similar to Unidirectional except that the PHA will always transmit zeroes in the K1/K2 bytes of the SONET overhead. "NONE" should normally be selected only when the link is provisioned simplex (i.e., one channel provisioned). When the link is duplex, the APS type should be selected to match the PHA or other equipment at the far end of the line. It should be noted that APS will NOT switch away from a defect on one channel if there is already a more severe defect on the other channel.

1.1 Optional Keys

When entering the optional keys for this form, one of the following must be entered:

NEAR COM ADDR

or

NEAR SM and PSU.

However, all three may be entered.

In addition, one of the following must be entered:

FAR COM ADDR

or

FAR SM and PSU.

However, all three of these may be entered.

1.2 Derived Entries

The values for the 6 optional key fields on this form may be derived from the EQPSU form. The derived values in these fields cannot be duplicated.

The derived values from the EQPSU form are as follows:

- If NEAR COM ADDR is not entered, its derived value is COM ADDR from the EQPSU form via the corresponding PSULNK NEAR SM field.
- If NEAR SM is not entered, its derived value is SWITCHING MODULE from the EQPSU form, where NEAR COM ADDR is matched to EQPSU field COM ADDR.
- If NEAR PSU is not entered, its derived value is 0.
- If FAR COM ADDR is not entered, its derived value is COM ADDR from the EQPSU form via the corresponding PSULNK FAR SM.
- If FAR SM is not entered, and LINK TYPE is "INTRA", its derived value is SWITCHING MODULE from the EQPSU form, where FAR COM ADDR is matched to the EQPSU field COM ADDR.
- If FAR PSU is not entered, and LINK TYPE is "INTRA", its derived value is 0. If LINK TYPE is "INTER", leave FAR PSU blank.

1.3 Recent Change View

The corresponding Recent Change View for this form is 22.22

2. FORM AND RECORD ENTRIES

2.1 BASE AND CONTROL, ESS UNIT

Enter the Base and Control Number and the Office Name on each record.

2.2 (*) NEAR COM ADDR

Description: Enter the Near Community Address Number that is used to specify the community address for the near PSU (Packet Switch Unit). This value is specified in the COM ADDR field on the Packet Switch Unit form EQPSU (5741 Record). When NEAR COM ADDR is entered, NEAR SM and NEAR PSU can be left blank. Either the one field NEAR COM ADDR, or the two fields NEAR SM and NEAR PSU is enough to designate the NEAR Packet Switching Unit.
Valid Entries: 0 - 254

Data Rules:

Either the one field NEAR COM ADDR, or the two fields NEAR SM and NEAR PSU must be entered.

If NEAR COM ADDR is entered and/or FAR COM ADDR is entered with LINK TYPE set to "INTRA" on the PSULNK form, the COM ADDR must match a COM ADDR on the EQPSU form, and CON TYPE on the PSULNK form must be "POINT".

NEAR COM ADDR must not match FAR COM ADDR. (Note that if NEAR COM ADDR is not entered, its value is derived from COM ADDR on the EQPSU form by the PSULNK NEAR SM. If FAR COM ADDR is entered, its value is derived from COM ADDR on the EQPSU form by the PSULNK FAR SM.)

If NEAR COM ADDR and NEAR SM are both entered on the PSULNK form, then COM ADDR on the corresponding EQPSU form must equal NEAR COM ADDR.

When NEAR COM ADDR, NEAR SM, and NEAR PSU are entered on this form, and COM ADDR on the EQPSU form (5741 Record) form matches NEAR COM ADDR, then the corresponding SM/PSU must match with SM/PSU on the IPATMRTG form (5896 Record), and SUBNET on the IPATMRTG form must match with SUBNET ID on the CDMAOPT form (5599 Record).

2.3 (*) NEAR SM

Description: Enter the Near Switching Module which is used to specify the near Switching Module on which the PSU (Packet Switch Unit) is located.

- ***NOTE:*** If NEAR SM is not entered, its value is derived from SWITCHING MODULE on the EQPSU form where the entry in NEAR COMADDR is matched to EQPSU field COM ADDR; NEAR PSU is assumed to be 0.

Valid Entries: 1 - 192

Data Rules:

If NEAR SM is entered, then NEAR PSU must also be entered.

The combination of entries for NEAR SM and NEAR PSU must not equal the FAR SM and FAR PSU entries.

If NEAR SM (and/or FAR SM) is entered, then the SM must be defined on the EQPSU form. On the EQPSU form (5741 Record), COM ADDR must be entered, and CON TYPE on the PSULNK form must be "POINT". Forms correspond if NEAR SM matches SWITCHING MODULE on the EQPSU form.

NEAR SM must not match FAR SM.

For each unique NEAR SM or FAR SM on the PSULNK form, the maximum number of PSULNK forms allowed is 10. Note that if NEAR SM is blank, its value is derived from SWITCHING MODULE on the EQPSU form where PSULNK key NEAR COMADR is matched to EQPSU field COM ADDR; NEAR PSU is assumed to be 0. If LINK TYPE is "INTER", it is not necessary to check the FAR SM. Otherwise, if LINK TYPE is "INTRA", and FAR SM is blank, its value is derived from SWITCHING MODULE on the EQPSU form where PSULNK key FAR COM ADDR is matched to the COM ADDR field on the EQPSU form; FAR PSU is assumed to be 0.

For each unique NEAR SM on the PSULNK form, the set of corresponding FAR COM ADDR values cannot contain duplicates.

2.4 (*) NEAR PSU

Description: Enter Near PSU (Packet Switch Unit) number.

Valid Entries:

5E15 and earlier: Blank, or enter 0
5E16 and later: Blank, or enter 0 - 1

Data Rules:

If NEAR PSU is entered, then NEAR SM must also be entered.

2.5 (*) FAR COM ADDR

Description: Enter the Far Community Address Number for the far packet switch unit. If FAR COM ADDR is entered, then FAR SM and FAR PSU do not need to be entered. Either the one field FAR COM ADDR, or the two fields FAR SM and FAR PSU, is enough to designate the FAR Packet Switching Unit.
Valid Entries: 0 - 254

Data Rules:

Either this field FAR COM ADDR, or the two fields FAR SM and FAR PSU, must be entered. If NEAR SM and/or FAR SM is entered, then the SM must be defined on the EQPSU form. On the EQPSU form (5741 Record), COM ADDR must be entered; on the PSULNK form, CON TYPE must be "POINT". Forms correspond if FAR SM matches SWITCHING MODULE on the EQPSU form.

If FAR COM ADDR and FAR SM are both entered on the PSULNK form, then COM ADDR on the corresponding EQPSU form must equal FAR COM ADDR on this form.

For 5E11 and later, when FAR COM ADDR is 0 and CON TYPE is entered, CON TYPE must be "ATMNET."

For 5E11 and later, when FAR COM ADDR is not 0 and CON TYPE is entered, CON TYPE must be "POINT".

For 5E15 FR4 and later, when FAR COM ADDR is 0 and CON TYPE is entered, CON TYPE must be "ATMGW" or "ATMNET"

For 5E18(1) and later, when FAR COM ADDR is 0 and CON TYPE is entered, CON TYPE must be "ATMNET".

2.6 (*) FAR SM

Description: Enter the Far Switching Module on which the PSU (Packet Switch Unit) is located.

- ***NOTE:*** If FAR SM is not entered, its value is derived from SWITCHING MODULE on the EQPSU form where PSULNK key FAR COM ADDR is matched to EQPSU field COM ADDR; FAR PSU is assumed to be 0.

Valid Entries: 1 - 192

Data Rules:

If FAR SM is entered, then FAR PSU must also be entered.

For each unique NEAR SM or FAR SM on the PSULNK form, the maximum number of PSULNK forms allowed is 10.

For each unique FAR SM on the PSULNK form, the set of corresponding NEAR COM ADDR values cannot

contain duplicates. (Note that if FAR SM is blank, and LINK TYPE is "INTRA", its value is derived from SWITCHING MODULE on the EQPSU form where PSULNK key FAR COM ADDR is matched to the COM ADDR on the EQPSU form. Otherwise, if LINK TYPE is "INTER", it is not necessary to check the FAR SM. If NEAR COM ADDR is blank, its value is derived from the COM ADDR field on the EQPSU form keyed by the PSULNK NEAR SM.

For 5E11 and later, when FAR SM is entered and CON TYPE is entered, CON TYPE must be "POINT".

2.7 (*) FAR PSU

Description: Enter the Far PSU (Packet Switch Unit) number..
Valid Entries:

5E15 and earlier: Blank, or enter 0
5E16 and later: Blank, or enter 0 - 1

Data Rules:

If FAR PSU is entered, then FAR SM must also be entered.

2.8 LINK TYPE

Description: When PHAs are used in a "point-to-point" configuration, this field indicates whether the FAR PSU community address is in "this" (the same) switch office ("INTRA") or another switch office ("INTER"). When the PHA is used for the "Point-to-multipoint" configuration, this field must be set to "INTER" whether the link is carrying intra-office traffic, inter-office traffic, or both.

Software Release: 5E10 and later
Required Field.
Default: INTRA
Valid Entries:

Valid LINK TYPE Entries

Entry	Definition
INTRA	Link is between PSUs on the same switch.
INTER	Link is between PSUs on different switches.

Data Rules:

When "INTER" is entered and any NEAR field is entered for a channel, NEAR SHELF and NEAR POSITION must be entered.

When "INTER" is entered, FAR SHELF, FAR POSITION and FAR CHL GRP must not be entered for either channel.

When LINK TYPE is "INTER", FAR SM must not be entered.

When LINK TYPE is "INTRA", FAR SHELF must be entered in every row where NEAR SHELF is entered.

When LINK TYPE is "INTRA" and any field is entered for a channel, NEAR SHELF, NEAR POSITION, FAR SHELF, and FAR POSITION must be entered.

LINK TYPE must not be both "INTER" and "INTRA" between the same 2 FAR/NEAR COM ADDR values.

2.9 APS TYPE

Description: Enter the Automatic Protection Switching Type used on the link.

Software Release: 5E11 and later
Required Field.
Default: BIDIRECT
Valid Entries:

Valid APS TYPE Entries

Entry	Definition
NONE	No automatic protection switch type; used for simplex (one channel provisioned). When the link is duplex, the APS type should be selected to match the PHA or other equipment at the far end of the line.
BIDIRECT	Bi-directional; both ends will always have the same line protected.
UNIDIRECT	Uni-directional; the selected channel at one end of the line does not have to be the same as the other end.

2.10 SD THRESH

Description: Enter the Signal Degrade Threshold. This threshold is used to indicate the signal degrade bit-error threshold used for each channel of the PSU link. When this threshold is reached for a channel, the channel will go into a signal degrade condition where recovery action may be taken.

Software Release: 5E11 and later
Required Field.
Default: TENEM9
Valid Entries:

Valid SD THRESH Entries

Entry	Definition
TENEM5	10E-5.
TENEM6	10E-6.
TENEM7	10E-7.
TENEM8	10E-8.
TENEM9	10E-9.

2.11 SF THRESH

Description: Enter the Signal Failure Threshold. This threshold is used to indicate the signal fail bit-error threshold used for each channel of the PSU link. When this threshold is reached for a channel, the channel will go into a signal fail condition. For example, with the default rate of "TENEM3" (or .001), a condition will be declared when (on the average) at least 1 out of every 1000 bits is received in error.

Software Release: 5E11 and later
Required Field.
Default: TENEM3
Valid Entries:

Valid SF THRESH Entries

Entry	Definition
TENEM3	10E-3.
TENEM4	10E-4.
TENEM5	10E-5.

CHANNELS

The following CHANNELS list fields (Section 2.12 - Section 2.18) define both channels of the packet switch unit link. The channels are defined by assigning physical PHA1s (Protocol Handlers for Asynchronous Transfer Mode Type 1) and channel groups.

Data Rules:
If any field is entered for a CHANNEL, then NEAR SHELF, NEAR POSITION, FAR SHELF and FAR POSITION must be entered.

NEAR fields must be entered for CHANNEL 1, and FAR fields must be entered for CHANNEL 1.

For each CHANNEL, NEAR fields must all be entered or all blank, the FAR fields must all be entered or all blank.

For each near or far CHANNEL entered:

- the NEAR SM, PSU, SHELF, CHL GRP or FAR SM, PSU, SHELF, CHL GRP must match respectively to SM, PSU, PSU SHELF, GRP on the PSUGP form where PH TYPE is "PHA1".
- the NEAR SM, SHELF, POSITION or FAR SM, SHELF, POSITION must match respectively to SWITCHING MODULE, PSU SHELF, PH on the EQPSUPH form. The corresponding EQPSUPH PROTOCOL HANDLERS entry must have "O" (Operational) entered for EQST and 00000010 (PHA1) entered for PH CLI.

2.12 NEAR SHELF

Description: Enter the packet switch unit shelf where the near PHA1 (Protocol Handler for ATM (Asynchronous Transfer Mode)) 1 is located.
Valid Entries: 0 - 4

Data Rules:

NEAR SHELF and NEAR POSITION must be unique for both channels.

The combination of SHELF and POSITION may not be duplicated within an SM.

The combination of SHELF and CHL GRP may not be duplicated within an SM. Note that if NEAR SM is blank, its value is derived from SWITCHING MODULE on the EQPSU form where PSULNK key NEAR COM ADDR is matched to the COM ADDR field on the EQPSU form; NEAR PSU is assumed to be 0. If FAR SM is blank and LINK TYPE is "INTRA", its value is derived from SWITCHING MODULE on the EQPSU form where PSULNK key FAR COM ADDR is matched to the COM ADDR field on the EQPSU form, and FAR PSU is assumed to be 0. If LINK TYPE is "INTER", it is not necessary to check the FAR SM.

PSULNK forms can not have a SHELF and CHL GRP which are mixed with the same Protocol Handler from other BRI or PRI DSLs in the same SM, i.e., on the following ODA forms:

DSLUSR
MDLNK
MISLINK
PSULNK
QPHPIPE
TRUNK
XAT

2.13 NEAR POSITION

Description: Enter the Near Position number where the near protocol handler for ATM (PHA1) is located.
Valid Entries: 0 - 15

Data Rules:

The PHA1 defined for the NEAR POSITION must have an EQSTAT of "O" on the Protocol Handler EQPSUPH form (5742 Record). And, for Recent Change, it must be out of service before adding it to a PSU link or removing it from a PSU link.

2.14 NEAR CHL GRP

Description: Enter the Near Channel Group on the NEAR SHELF for this PSU link channel.

NOTE: For Recent Change only, this field can be left blank if desired and an available channel group number on the NEAR SHELF will be selected for the channel of the PSU link. If this field is entered and the PH TYPE on the PSUGP form (5949 Record) is blank for the channel group entered, the PH TYPE will be set to PHA1 on the PSUGP form.

Valid Entries: 0 - 15

2.15 FAR SHELF

Description: Enter the Packet Switch Unit shelf on which the far protocol handler for ATM (PHA1) is located.
Valid Entries: 0 - 4

Data Rules:

FAR SHELF and FAR POSITION must be unique for both channels.

The combination of SHELF and POSITION may not be duplicated within an SM. Note that if NEAR SM is blank, its value is derived from SWITCHING MODULE on the EQPSU form where PSULNK key NEAR COM ADDR is matched to the COM ADDR field on the EQPSU form; NEAR PSU is assumed to be 0. If FAR SM is blank, and LINK TYPE is "INTRA", its value is derived from SWITCHING MODULE on the EQPSU form where PSULNK key FAR COM ADDR is matched to the COM ADDR field on the EQPSU form, and FAR PSU is assumed to be 0. If LINK TYPE is "INTER", it is not necessary to check the FAR SM.

PSULNK forms can not have a SHELF and CHL GRP which are mixed with the SHELF and CHL GRP (the first three characters of ISCNs) from other BRI or PRI DSLs in the same SM, i.e. on the following ODA forms:

- DSLUSR
- MISLINK
- PSULNK
- TRUNK
- XAT

The combination of SHELF and CHL GRP may not be duplicated within an SM.

2.16 FAR POSITION

Description: Enter the position number where the far protocol handler for ATM (PHA1) is located.
Valid Entries: 0 - 15

2.17 FAR CHL GRP

Description: Enter the channel group on the FAR SHELF for this PSU link channel.

NOTE: For Recent Change only, this field can be left blank if desired and an available channel group number on the FAR SHELF will be selected for the channel of the PSU link. If this field is entered and the PH TYPE on the PSUGP form (5949 Record) is blank for the channel group entered, the PH TYPE will be set to PHA1 on the PSUGP form.

Valid Entries: 0 - 15

2.18 CON TYPE

Description: Enter the connection type of the PSU links which are defined for this PSU. Both channels should always have the same CON TYPE value unless converting the link from point-to-point to a multipoint ATM Network. When the channel terminates to another PSU, CON TYPE must be "POINT". When the channel terminates to an ATM switch, the value should be ATMNET.

This field supports the PHA for CDMA. For more information on this feature, see Division 2, Section 4A224.

NOTE: Effective with the 5E11 Software Release, this field was moved from the EQPSU form (5741-1/2 Record), Division 8, Section 22, and "NOCON" was eliminated as a valid entry.

Software Release: 5E10 and later.
Valid Entries:

Valid CON TYPE Entries

Entry	Name
N or NOCON	Software Release: 5E10 only. No connection type assigned to this PSU.
P or POINT	Software Release: 5E10 and later. Point-to-Point configuration. The PSU link terminates to another PSU link.
ATM[N]ET	Software Release: 5E11 and later. Point-to-Multipoint configuration. The PSU link terminates to an ATM switch.

Data Rules:

When CON TYPE is "ATMNET" or "ATMGW":

- FAR SM must not be entered.
- FAR fields must not be entered.
- FAR COM ADDR must be 0.
- FAR SHELF must not be entered.
- LINK TYPE must be "INTER".

When CON TYPE is "POINT", FAR COM ADDR must not be 0.

When CON TYPE is "ATMNET":

FAR COM ADDR must be 0.

FAR SM and FAR SHELF must not be entered.

LINK TYPE must be "INTER".

```
psulnk                              5ESS Switch              _
                                OFFICE DATA ADMINISTRATION
(5057)                              PSU LINK ASSIGNMENT

(*)1. NEAR COM ADDR ___     (*)4. FAR COM ADDR ___      7. LINK TYPE INTRA
(*)2. NEAR SM       ___     (*)5. FAR SM       ___      8. APS TYPE  UNIDIRECT
(*)3. NEAR PSU      _       (*)6. FAR PSU      _        9. SD THRESH 9
                                                       10. SF THRESH 3

                              11. CHANNELS
          NEAR  NEAR      NEAR    FAR   FAR       FAR      CON
ROW CHAN SHELF POSITION CHL GRP SHELF POSITION CHL GRP TYPE
 1   0     _      __       __      _      __       __    _______
 2   1     _      __       __      _      __       __    _______
```

Figure 1 SAMPLE PSULNK FORM 5E11 AND LATER SOFTWARE RELEASES

