

"We do not yet have teleporter or replicator technology like you saw on 'Star Trek' in college between hookah hits and waiting to pick up your worthless communications degree while the grown–ups actually engaged in the recovery effort were studying engineering..."

- moltenthought.blogspot.com on hurricane Katrina

"The TV news networks, which only a few months ago were piously suppressing emotional fireworks by their pundits, are now piously encouraging their news anchors to break out of the emotional straitjackets and express outrage. A Los Angeles Times colleague of mine, appearing on CNN last week to talk about Katrina, was told by a producer to 'get angry."

- Michael Kinsley, former CNN host, Sept. 12, 2005

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# Enhanced 911 Service – Part 2

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requirements for E911 calls, the E911 MF transmitter CCS should only be added in total to other MF transmitter CCS requirements if the E911 busy hour is coincident with the MF transmitter group busy hour. If not, some portion of the E911 MF transmitter CCS should be subtracted to allow for the noncoincidence.

2.108 The use of any one of the central office transfer services (selective, fixed, or manual) by PSAP attendants requires the provision of 3-port conference circuits. The total amount of ABS BH CCS capacity required will be dependent upon many variables such as the percent of calls which will be transferred and the customer's operating procedures; that is, will the initial PSAP hold on a call until the second PSAP answers or disconnect immediately upon transfer. These variables should be investigated to make a determination of call rates and holding time to determine 3-port conference circuit CCS for E911. Once service has been established, an exact determination of 3-port conference circuit usage by E911 PSAPs may be determined by measuring the centrex group to which the E911 PSAPs have been assigned. Refer to Part 6 B(15) and B(23).

#### SOFTWARE

**Note:** This part contains cost factors and determination of quantities. COEES Planning and Mechanized Ordering Modules are the recommended procedures for developing these requirements. However, for planning purposes or if COEES is not available, the following guidelines may be used.

#### A. Memory

#### 1 ESS Switch

Fixed

- 2.109 The following memory is required whether or not the 9FE911 feature package is loaded.
  - (a) Base Generic Program (Program Store): 100 words are required.

#### Conditional

- 2.110 The following memory is required when the 9FE911 feature package is loaded.
  - (a) Optionally Loaded Feature Package (Program Store):
    - (1) 9FE911 feature package-3264 words are required.

#### (b) Call Store:

- (1) 24 words of call store are required for E911 traffic and error memory block.
- (2) One 9-word E911 call register is required per dedicated E911 outgoing PSAP trunk plus one spare E911 call register is provided in the E911 tandem office.
- (3) 32-word conference registers are required when central office transfer services are provided. Conference registers are provided for equipped 3-port conference circuits on a per office basis.

2.111 When a PDSP is used with a 1 ESS switch for selective routing data, the PIU package must also be loaded. The following memory is required when the 9FPIU feature package is loaded for use with the E911 feature.

- (a) Optionally Loaded Feature Package (Program Store):
  - (1) The 9FPIU feature package requires 7360 words of program store.

(b) Call Store:

(1) The 3A PDSP request block requires 42 words of call store.

(2) The 3A PDSP message blocks require 42 words of call store (6 words per block X 7 blocks = 42 words).

- (3) The 3A PDSP message block control box block requires 15 words of call store.
- (4) The 3A PDSP maintenance data requires 55 words of call store
- **Note:** For engineering guidelines, refer to Part 6 B(28).

#### Variable

2.112 The following memory is required when E911 service is provided and selective routing translations are either not required or are stored in a PDSP.

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- (a) Translations (Program Store):
  - (1) The 3-digit translator requires 1 word.
  - (2) The route pattern expansion table requires 1 word.

(3) The route pattern auxiliary block for screening if any DN is not to be allowed access to E911 service requires 6 words.

(4) The office options table requires 1 word for the E911 intraoffice choke mechanism.

(5) The TNN-to-TGN translator requires 1 primary translation word per TNN plus a 2word auxiliary block if the trunk group is 2-way, or a 3-word auxiliary block if the trunk group is equipped with carrier group alarm.

(6) The TGN translator requires 4 or 5 words per TGN plus 1 word per trunk member if trunk group is 2-way.

(7) The TGN supplementary translator requires 4 words per dedicated E911 incoming trunk group.

- (8) The TCC (trunk class code) expansion requires 4 words per trunk class code.
- (9) The MSN (master scanner number) translator requires 1 word per MSN.
- (10) The ESCO translator requires 2 words plus 1 word per ESCO where  $1 \le ESCO \le 255$ .
- (11) The ESN translator requires 2 words plus 1 word per ESN where 1 ≤ ESN ≤511.
- (12) The ESN auxiliary block requires 8 words per primary ESN with selective transfer.

(13) The 911 DN auxiliary block requires 2 words per PSAP DN without CFBL or make-busy alternate routing options, 3 words per PSAP DN with the CFBL option, and 5 words per PSAP DN with the CFBL and make-busy options.

(14) The RI (route index) expansion table requires 2 words per RI.

- (15) The centrex common block requires one 32-word block when an E911 customer group is provided central office transfer services.
- (16) If optional 2-digit speed calling is provided, each thirty-code 2-digit speed calling list requires 60 words. E911 PSAPs can share a thirty-code list or each PSAP can have its own such list.
- 2.113 In addition to the memory costs given in paragraph 2.112, if selective routing is provided, memory is required in either the 1 ESS switch tandem office program store or in the optional 3A PDSP for the selective routing translations. If stored in the 1 ESS switch, the selective routing data is contained in the DN-to-ESN translator, which can provide for selective routing on a per office code basis, per number group basis, or per DN basis. The memory word costs depend on the level at which selective routing is provided. The DN-to-ESN translator word costs are as follows:
  - (a) DN-to-ESN head table: 5 words
  - (b) DN-to-ESN subtranslator: 1000 words per NPD
  - (c) *DN number group list:* 10 words per office code requiring greater than 3-digit translation
  - (d) DN index list: 258 left half words or 151 right half words per number group requiring 7-digit translation.
- 1A ESS Switch

#### Fixed

- 2.114 The following memory is required whether or not the 9FE911 feature package is loaded.
  - (a) Base Generic Program (Program Store and File Store): 125 words are required.

#### Conditional

- 2.115 The following memory is required when the 9FE911 feature package is loaded.
  - (a) Optionally Loaded Feature Package (Program Store and File Store):
    - (1) 9FE911 feature package 4080 words.

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#### (b) Duplicated Call Store:

(1) E911 traffic and error memory block (duplicated call store) - 24 words.

(2) E911 call register - One 9-word E911 call register per dedicated E911 outgoing PSAP trunk plus one spare E911 call register is provided in the E911 tandem office.

(3) When central office transfer services are provided, 32-word conference registers are required. Conference registers are provided for equipped 3-port conference circuits on a per office basis.

**Note:** For engineering guidelines, refer to Part 6 B(30).

#### Variable

2.116 The following memory is required when E911 service is provided and selective routing translations are not required.

(a) Translations (Unduplicated Call Store and File Store):

- (1) 3-digit translator 1 word.
- (2) Route pattern expansion table 1 word.

(3) Route pattern auxiliary block for screening if any TN is not to be allowed access to E911 service - 6 words.

(4) Office options table - 1 word for the E911 intraoffice choke mechanism.

(5) TNN-to-TGN translator - 1 primary translation word per TNN plus a 2-word auxiliary block if the trunk group is 2-way, or a 3-word auxiliary block if the trunk group is equipped with carrier group alarm.

(6) TGN translator - 4 or 5 words per TGN plus 1 word per trunk member if trunk group is 2-way.

- (7) TGN supplementary translator 4 words per dedicated E911 incoming trunk group.
- (8) TCC expansion 4 words per trunk class code.

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- (9) MSN translator 1 word per MSN.
- (10) ESCO translator 2 words plus 1 word per ESCO where 1 ≤ ESCO ≤ 255.
- (11) ESN translator 2 words plus 1 word per ESN where  $1 \le ESN \le 511$ .
- (12) ESN auxiliary block 8 words per primary ESN with selective transfer.
- (13) 911 DN auxiliary block 2 words per PSAP DN without CFBL or make-busy alternate routing options, 3 words per PSAP DN with the CFBL option, and 5 words per PSAP DN with the CFBL and make-busy options.
- (14) Route index expansion table 2 words per RI.
- (15) Centrex common block One -32-word centrex common block is required when an E911 customer group is provided central office transfer services.

(16) If optional 2-digit speed calling is provided, each thirty-code 2-digit speed calling list requires 60 words. E911 PSAPs can share a 30-code list or each PSAP can have its own such list.

- 2.117 In addition to the memory costs given in paragraph 2.116, if selective routing is provided, additional unduplicated call store and file store is required in the 1A ESS switch for the DN-to-ESN translator. The DN-to-ESN translator can provide for selective routing on a per office code basis, per number group basis, or per TN basis. The memory word costs depend on the level at which selective routing is provided. The DN-to-ESN translator word costs are as follows:
  - (a) DN-to-ESN head table: 5 words.
  - (b) DN-to-ESN subtranslator: 1000 words per NPD.
  - (c) DN number group list: 10 words per office code requiring greater than 3-digit translation.
  - (d) DN index list: Depending on the number of ESNs per number group, the DN index list contains a minimum of 151 words and a maximum of 1013 words. Refer to Table D.

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#### REAL TIME

2.118 The amount of processor real time required to process an E911 call that does not require a transfer is similar to that required to process any local or tandem call. The real time cycle cost for a 911 call depends on the originating source (trunk or line), terminating PSAP, certain modifiers, and whether or not a call is transferred. Table E provides the real time cycle counts for E911 calls. The cycle counts listed are for a 1 ESS switch E911 tandem office which provides selective routing based on the complete 7-digit DN. Real time cycle count modifiers are given for various service conditions. Real time cycle counts for a 1A ESS switch are approximately double those given for a 1 ESS switch.

2.119 The cycle time for a 1 ESS switch is 5.5 microseconds per cycle. The cycle time for a 1A ESS switch is 0.7 microsecond per cycle.

#### 3. ENGINEERING

#### HARDWARE

3.01 A dedicated E911 network generally includes dedicated E911 trunks from each local office in the E911 system to the E911 tandem office, and dedicated E911 trunks from the E911 tandem office to each PSAP. Other than the dedicated E911 incoming and outgoing trunks, the only other dedicated hardware required for the E911 tandem office is the memory required for E911 data storage, translation, and call processing. A 1 ESS switch E911 tandem office may (optionally) utilize a 3A PDSP for selective routing data storage. Customer premises equipment is required for the attendant terminal(s) at each PSAP facility. If either ANI display, ALI, or selective transfer service is provided, E911 equipment is required on the customer premises. Customer premises equipment is discussed in paragraphs 2.03 through 2.16.

#### A. Dedicated E911 Trunks

3.02 To permit selective routing, ANI information is required by the E911 tandem office. Generally, local office trunks to the E911 tandem office are ANI type trunks. The dedicated E911 incoming trunks at the E911 tandem office use the same type of incoming trunk circuits that are used for incoming CAMA (centralized automatic message accounting) trunks. The trunk circuits used at the E911 tandem office for

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dedicated E911 incoming trunks, summarized in Table F, are as follows:

- (a) From SXS (Step-by-Step) offices:
  - (1) SD-1A163 [DP, 2-wire E&M (receive and transmit) signaling]
  - (2) SD-1A237 (DP, 4-wire E&M signaling)
  - (3) SD-1A311 (DP/Loop, 2-wire loop signaling)
- (b) From 1 or 1A ESS switch local offices:
  - (1) SD-1A192 (MF/DP, 2-wire loop signaling)
  - (2) SD-1A312 (MF, 2-wire E&M signaling)
  - (3) SD-1A166-05 (MF, 2-wire loop signaling)
- (c) From other types of local offices:
  - (1) SD-1A192 (MF/DP, 2-wire loop signaling)
  - (2) SD-1A312 (MF, 2-wire E&M signaling)
  - (3) SD-1A236 (MF, 4-wire E&M signaling)
  - (4) SD-1A166-05 (MF, 2-wire loop signaling).

**Note:** A 1 or 1A ESS switch serving as a local office in an E911 network should use either the SD-1A165, SD-1A203, or the SD-1A252-type trunk circuits for the dedicated E911 outgoing trunks to the E911 tandem office. These types of trunks are capable of ANI operation and they are

- the same type trunks used for TSPS (traffic service position) operation. The SD-1A252 trunk circuit should be used when the E911 tandem office uses the SD-1A312 trunk circuit. Either the SD-1A165 or the SD-1A203 trunk circuit should be used when the E911 tandem office uses the SD-1A192 or SD-1A166-05 trunk circuit. The SD-1A165 circuit is preferred since trunks using this circuit can be automatically diagnosed according to a routine schedule.
- s.03 If a local office is not equipped for ANI operation for whatever reason (e.g., an older non-ANI office about to be replaced), it can still be part of an E911 system. The local office can route 911 calls over dedicated or message trunks to the E911 tandem office. If message trunks are used, either the digits "911" must be outpulsed or, if the incoming trunk group at the E911 tandem is classed as a tandem incoming trunk group, the outpulsed digits "11" are sufficient. The E911 tandem office routes incoming

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911 calls received via such trunks to the default ESN for the PSAP associated with that particular trunk group. Typically, the default ESN is that ESN for the PSAP which would otherwise receive the majority of calls from that originating local office if selective routing (based on ANI information) was provided. The E911 tandem office also generates a fictitious ANI code for these calls for transmittal to the PSAP so that the PSAP attendant is aware both of the approximate origin of the call and the possibility that the call might have to be transferred. The form of the fictitious ANI code is 911-0XXX, where XXX designates the originating local office. Each local office is assigned an ESCO number, thus XXX equals the 3-digit ESCO number.

3.04 The dedicated outgoing trunks from the E911 tandem office to an E911 PSAP equipped for ANI display and central office transfer utilize one of the following types of trunk circuits.

- (a) SD-1A165 (Loop signaling)
- (b) SD-1A163 (E&M signaling)
- (c) SD-1A237 (E&M signaling).

**Note:** The SD-1A163 and SD-1A237 trunk circuits are intended for long haul applications in an E911 network where one or more intermediate office facilities are used between the E911 tandem office and a distant PSAP. Each of these type trunk circuits require an E&M applique circuit SD-99774-01 (or equivalent). The E&M signaling must be converted to loop reverse battery signaling in the last intermediate office to be compatible with the PSAP signaling requirements.

3.05 The E911 tandem office may also serve a PSAP not equipped with the standard design E911 customer premises equipment (referred to as a ringing PSAP). Either regular lines or the SD-1A319 special line access trunk circuit may be used for a ringing PSAP. PSAPs not equipped with the standard design E911 customer premises equipment cannot be provided with ANI display, ALI, central office transfer, or night service.

#### B. PDSP Interfaces

3.06 When the PDSP is optionally used with a 1 ESS switch E911 tandem office, the PDSP is connected to the 1 ESS switch via the PIU (peripheral

interface unit). Refer to Figure 9. The PDSP arrangement consists of a duplex configuration of the 3A central control, memory, PIU, and TDC (tape data cartridge); and a simplex configuration of the PROMATS and DATASPEED® 40 terminal. The input/output channel used by the DATASPEED 40 terminal has four ports. Any of the four ports can be used with a data set to accommodate a remote location. This input/output channel operates in what is sometimes called an ECHOPLEX mode. That is, inputs from any source are displayed at all terminals.

3.07 The PROMATS is used only for recent change input and is not used for data base backup or as

an output device. All recent change messages input via the PROMATS are also valid if inputted via the DATASPEED 40 terminal. The PROMATS tapes are generated from the Data Management System data. When recent changes are input via the PROMATS and a message has an error, the DATASPEED 40 terminal prints the message and an error description.

3.08 The TDC is used for program and memory data backup. The data base backup is always stored on duplicate TDC tapes. Recent change messages will not overwrite the data base stored on the TDC. After a set of recent changes are entered, whether via the PROMATS or DATASPEED 40 terminal, the current set of TDC tapes should be stored and the data base is copied on other previously stored backup tapes. The recording mechanism is similar to a simple cassette tape recorder. The recording process, referred to as a TDC update, takes about 10 minutes. If the recent changes are later found to be erroneous or cause system problems, the stored TDC tapes may be used to restore the data base.

3.09 A detailed description of the 3A PDSP is beyond the scope of this document. For No. 3A common systems hardware and descriptive information, refer to Part 6 A(5) through A(11). For detailed hardware and software information concerning the 3A used as a PDSP for E911 service, refer to Part 6 A(12) through A(21).

SOFTWARE

#### A. Translations

3.10 Generally, 911 calls to a PSAP are completed using standard trunk translations for the incoming and outgoing E911 trunks and regular 3/6digit, RRP (rate and route pattern), DN, and RI translations for routing determination. Selective routing,

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default routing, and selective transfer services require special 911 translations to obtain the ESCO number, NPD, DN-to-ESN, and ESN data. Only those translations unique to E911 are discussed in this part. For detailed information concerning translations and translation data structures, refer to Part 6 B(23) through B(25). Due to the types and complexity of the translations used for E911, the translations and translation data structures are presented functionally rather than describing each translator separately. Translations required for 911 calls at the E911 tandem office, include the following functions:

- (a) Receiving and routing E911 incoming trunk calls
- (b) Routing locally originated E911 calls
- (c) ESCO derivation
- (d) ESCO to NPD and/or default ESN translation
- (e) NPD and DN-to-ESN translation
- (f) ESN to PSAP DN translation
- (g) PSAP DN translation
- (h) Routing and trunk translations for E911 outgoing trunks to PSAPs

#### Dedicated E911 Incoming Trunk 911 Calls

3.11 The trunk circuits which may be used as dedicated E911 incoming tandem trunks are listed in

Table F, which also includes the CPI (circuit program index), TPI (trunk program index), and SPI (supervisory program index) data. Trunk class code translations are used as for any trunk class. For detailed information on trunk class code expansion data, refer to Part 6 B(23) through B(25).

3.12 A dedicated E911 tandem trunk group is designated as such in the local tandem trunk group auxiliary block with item E911 = 1 in word 2 as shown in Figure 10. Dedicated E911 incoming trunk groups must also have the Q option word in the supplementary TGN auxiliary block as shown in Figure 11.

3.13 On incoming 911 calls (excluding test calls) a 1or 8-digit ANI number (in the standard ANI format) is always expected, but it may be preceded by the digit(s) 1, 11, or 911 as indicated by the ECD (emergency call digit) item shown in Figure 11. A

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1-digit only ANI number provides an information digit. An 8-digit ANI number provides an information digit plus the ANI TN. If the ANI contains a TN, the ANI TN and the ESCO number obtained from the TGN supplementary auxiliary block (word Q) are used for selective routing. Otherwise, if no ANI TN is available (e.g., rural party, QZ billing, or ANI failure), the 911 call is routed to the default ESN associated with the ESCO number. The default ESN is obtained from the ESCO translator.

**Note:** If a local office in an E911 service area serves two NPAs, two separate dedicated E911 trunk groups must be used because the ESCO, assigned on a per trunk group basis in the E911 tandem office, determines the NPD.

For dedicated E911 incoming trunks, start dial 3.14 conventions similar to CAMA are used. If item ECD = 4 (ANI only) in option word Q (Figure 11), then the TCC start dial signal = 0 and steady off-hook is returned to prompt ANI. For MF trunks, if item ECD  $\neq$  4, then TCC start dial signal = 2 (wink). In this case a wink signal is used to prompt the emergency call digit(s) 1, 11, or 911 or test code digits. Following the wink signal and subsequent digit reception, a steady off-hook signal is used to prompt ANI (except for a test call with item ETST = 1). If item ECD  $\neq$  4 and the trunks are bylink trunks from an SXS office, the digits are immediate dial dial pulse digits. Following the reception of the DP digits, a steady off-hook signal is used to prompt ANI.

> **Note:** If item ECD has the value 4 or 5 then the incoming start dial item in TCC word 2 equals 00 (no) regardless of the title of the trunk class data layout. If, in addition, the trunk group is composed of incoming bylink trunks, the inpulsing type in TCC word 2 will be 001 (MF), not 010 (DP). For complete TCC data, refer to Part 6 B(23).

#### **Dedicated E911 Incoming Trunk Test Calls**

3.15 I wo methods are available for test calls on dedicated E911 incoming trunks. One method uses an assigned 3-digit test code (either followed or not followed by ANI). The other method uses ANI in lieu of a 3-digit test code. Some types of local offices send ANI following the test code and some do not. Item ETST is used to distinguish these. No ANI follows the test code if ETST = 1. If item ETST = 2, the ANI digits received following a test code are absorbed by the ESS switch E911 tandem office. Typically, ETST

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= 1 for an incoming trunk group from any type of ESS switch local office and ETST = 2 for an incoming trunk group from a No. 5 X-Bar local office.

(a) Assigned test codes are used if item ETST = 1 (test code not followed by ANI) or ETST = 2
(test code followed by ANI) in the trunk group option Q word (Figure 11). Test codes can only be used if item ECD ≠ 4 or 5. The test code must be 3 digits distinct from the digits expected for a 911 (regardless of whether item ECD = 1, 2, or 3). For example, if ECD = 1, test codes cannot be 1XX; if ECD = 2, test codes cannot be 11X; and if ECD = 3, the test code cannot be 911. The tandem table associated with a dedicated E911 trunk group (see Figure 10) translates the test code digits to a data type four (DTYP = 4) entry.

(b) If item ETST = 0, no 3-digit test codes are used for that trunk group and item ECD = 4 (ANI only). The ANI contains the encoded test code. With this method, the ANI and the ESCO are used to obtain the ESN (as for a 911 call) which leads to a test line rather than a PSAP. When this method is used, item TNDTBL = 0 in word 2 of the TGN auxiliary block (Figure 10). Typically, this method is used for an incoming trunk group from a 1 crossbar or panel local office.

**Note:** Test calls from step-by-step local offices can be either type. If digits plus ANI are received for a test call, the test code digits for the test call are dial pulse digits just as they are for regular calls.

#### Incoming 911 Calls Via Message Network Trunks

3.16 The message network may be used to route 911 calls from local offices to the E911 tandem office. For example, this arrangement provides for local offices not equipped for ANI which are going to soon be taken out of service. Any message network trunk group can be arranged to handle 911 calls. The manual seizure type trunk group (ECD = 5) can provide what is sometimes referred to as "Hot-Line" Service for routing 911 calls to the E911 tandem office where no digits and no ANI will be received.

3.17 Two methods are possible for obtaining the ESCO for 911 calls via message network trunks. The ESCO is obtained from either the supplementary TGN translator option Q-word (Figure 11) or from the 3/6-digit translator. If the trunk group option Q-word exists for a particular trunk group and item ESCO ≠ 0,

then that ESCO number assigned for the trunk group is used for routing. Otherwise, if the trunk group option Q-word does not exist, or exists and an ESCO is not specified (ESCO = 0), then the ESCO obtained from the 3/6-digit translator is used. In the latter case, the digits for 911 calls are translated via the 3-digit translator as call type 22 (4FESCO). Refer to Figure 12. If the 3/6-digit translator yields an ESCO and the call is via a message network trunk group with an assigned ESCO, the assigned ESCO for the trunk group is used in lieu of the ESCO obtained from the 3/6-digit translator.

**3.18** Several cases are possible with the trunk group option Q-word for translation and routing 911 calls incoming via nondedicated E911 trunks.

(a) If the trunk group has AIOD (automatic identified outward dialing), either the AIOD billing TN or else the trunk group billing TN and the ESCO, or just the ESCO, can be used to obtain the ESN assigned. If the trunk group has CAMA ANI, either the billing TN (received as ANI or used because of ANI failure) and the ESCO, or just the ESCO, can be used to obtain the ESN assigned.

(b) If the trunk has a screening LEN (indicated by a word type 5 in word 2 of the TGN translator), the billing TN associated with the screening LEN and the ESCO are used to select the ESN.

(c) Otherwise, without ANI or a screening LEN, the 911 call will be routed to the default ESN assigned in the ESCO translator.

**Note:** For 911 calls routed to a default ESN, if ANI display is provided for the terminating PSAP, the E911 tandem office will generate and send a special ANI code in the form 911-aaaa (where aaaa equals the ESCO number). This provides an indication of the approximate originating location.

#### E911 Tandem Office Local 911 Calls

3.19 The 3-digit translator is used to obtain the call type and ESCO item for 911 calls originated from lines served by the E911 tandem office. The 3-digit translator is also used for 911 calls from customer tie trunks and message network trunks which require 3-digit translation. For such calls, the 3-digit translator contains or points to RRP data. As shown in Figure 12, call type = 22 (4FESCO) is associated with 911 calls. For the rate center used for the E911 tandem

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office local customers, the associated RRP, PTW, or RRP auxiliary block also contains the ESCO number (ESCO  $\neq$  0) assigned for that E911 tandem office rate center. Chart column screening can be used to intercept 911 calls from lines which are not in the E911 service area. A 911 call from such a line may be routed to an announcement, overflow tone, or intercept.

**Note:** If the E911 tandem office serves as a local office with two or more NPAs, the 3/6-digit translator must yield a different ESCO for each NPA.

3.20 The TN of the calling line used for selective routing is the TN which would be used as the billing TN. To reiterate this arrangement, the billing TN is the special billing TN or AIOD TN if available; otherwise, it is the calling TN or, for multiline groups with multiline hunt type not equal to three [MLHTYP (multiline hunt type) ≠ 3], the pilot TN. Exceptional cases are rural party or QZ billed lines (i.e., STB = 1 in LENCL 3) which have no defined billing TNs. With E911, a 911 call originated from a line without an identified or defined TN is routed to the ESCO default ESN with an appropriate ANI information digit and digit sequence to indicate the originating office (if the PSAP has ANI display).

#### Retaining the Conference Circuit on E911 Call Transfer

3.21 Bit 21 in the first word of the office options table is set to retain the conference circuit used when a primary PSAP operator transfers an E911 call to a secondary PSAP operator until the secondary PSAP operator flashes or goes on-hook.

#### Intraoffice E911 Call Limit for the E911 Tandem Office

3.22 Bits 0 through 8 in the second word of the office options table contain the maximum number of simultaneous intraoffice E911 calls allowed for the E911 tandem office. See Figure 13. The intraoffice E911 call limit is referred to generally as the E911 "choke" mechanism. It is desirable to limit the ..umber of 911 calls that can be handled from any office to prevent 911 facilities from being tied up due to a large influx of 911 calls originating from any one office. This limit is normally inherent in the number of trunks in the dedicated incoming 911 trunk group(s) from another local office(s). The E911 choke mechanism allows a similar call limiting capability within the E911 tandem office for local 911 calls. This method prevents having to use loop around trunks in the E911 tandem office to accomplish the same objective. The maximum

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number of intraoffice calls allowed is determined in the same manner as if loop around trunks had to be engineered. Peg and overflow counts are available for intraoffice 911 calls. Refer to Part 5.

#### ESCO Translator

3.23 To provide selective routing, the ESCO is translated to an NPD. The NPD and ANI TN of the

calling station are translated to obtain the primary ESN associated with the calling station. The ESN identifies the primary PSAP associated with the calling station.

3.24 The ESCO translator (Figure 14) is pointed to by word 23 of the master head table annex. The

ESCO translator provides a PTW (primary translation word) for each assigned ESCO (255 maximum). An ESCO PTW contains a default ESN, an NPD, an EPDSP (emergency peripheral data storage processor) item, and an EN01 item. When selective routing translations are resident in the E911 tandem office, item EN01 = 1. When selective routing translations are resident in a PDSP, item EPDSP = 1. The default ESNis used if both the EPDSP and EN01 items are zero indicating no selective routing, if there is an ANI failure, if the TN-to-ESN translation does not yield a valid ESN, or when the ANI information is not a TN (e.g., rural party lines). The default ESN is also used if item EPDSP = 1 but the PDSP does not return proper ESN data to the E911 tandem office. The NPD assigned is used to index into the DN-to-ESN translations. If the EPDSP item is set, then DN-to-ESN translations are accomplished in the PDSP; otherwise, they are resident in the E911 tandem office. Item EN01, when set, indicates selective routing translations are stored in the E911 tandem office.

3.25 The NPD item contains two bits for NPD data. An E911 service area may sometimes serve multiple NPAs. The NPD item is used to indicate the NPA from which an E911 call originated. A PSAP with ANI display always receives eight digits for display. The first digit sent to the PSAP indicates the NPD obtained from item NPD in the ESCO translator as shown in Figure 14. If the first digit sent to a PSAP is 0, 1, 2, or 3 (corresponding to NPD 0, 1, 2, and 3), the ANI display is not flashed. If the first digit is 4, 5, 6, or 7 (corresponding to NPD 0, 1, 2, and 3), the ANI display is flashed.

**Note:** If a local office does not send ANI or does not require selective routing, the ESCO PTW for that office can have item EPDSP = 0 and item EN01 = 0. In this case, the ESCO PTW

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will provide the NPD and the default ESN used for default routing. Otherwise, selective routing is done based on the NPD and ANI TN to obtain the primary ESN.

#### NPD and DN-to-ESN Selective Routing Translations

#### 1 ESS Switch

3.26 If a PDSP is used, NPD and DN-to-ESN translations for selective routing are resident in the PDSP. The selective routing translations in the PDSP are structured similar to those in the E911 tandem office. Selective routing translations and data base generation in a PDSP are discussed in Part 6 A(20). The following paragraphs discuss selective routing translations resident in the E911 tandem office only. The DN-ESN translator (Figure 15) which provides for selective routing includes the following:

- (a) DN-to-ESN head table
- (b) DN-to-ESN subtranslator (office code subtranslator)
- (c) DN number group list (number group subtranslator)
- (d) DN index list.

**Note:** In the E911 ESS switch data structures, the ANI TN is used as DN; therefore, the data structure layouts reflect the term "DN" in lieu of "ANI TN".

3.27 Generally, the ESN can be obtained from either of several levels of translations, depending on the level required to accomplish selective routing. For example, if an entire office code is served by only one set of agencies, the ESN may be obtained from the office code subtranslator. Other levels from which the ESN may be obtained are the number group subtranslator and the DN index list. If an entire thousands group is served by the same PSAP, the primary ESN may be obtained from the number group subtranslator. If the thousands group is served by more than one PSAP, the ESNs are obtained on a per DN basis from the DN index list.

3.28 The NPD obtained from the ESCO translator indexes the DN-to-ESN head table, which contains the address of the office code subtranslator. The office code of the ANI TN indexes the proper office code PTW, which either yields the ESN, or contains a pointer to the number group subtranslator, or contains an unassigned entry. When a number group subtranslator is used, the fourth digit of the ANI TN is used to index the appropriate number group translation word which either yields the ESN or contains the address of the DN index list.

The DN index list is similar to the abbreviated 3.29 3/6-digit translator. The last three digits of the ANI TN select an AESN (abbreviated ESN) which then expands to a full ESN as shown in Figure 15. Up to 8 ESNs may be assigned per number group in a 1 ESS switch. Therefore, an AESN is a three-bit binary representation, which points to the full ESN. The DN index list contains a valid AESN for every DN index regardless of whether or not the DN is assigned to a customer. Furthermore, by convention, AESN = 0 (the primary ESN which is assigned the majority of the DNs in the list) should be used for unassigned lines. The primary ESN contained in word 0 is pointed to by AESN = 0, which should be the most frequently used AESN for assigned lines. This does not mean that AESN = 0 is an error type of default ESN. It is merely preassigned to DNs that would otherwise not be assigned an ESN.

**Note:** The digit "0", which normally has a value = 10, is converted to value = 0 for indexing the DN index list.

#### 1A ESS Switch

 3.30 In the 1AE5 generic program, up to 8 ESNs may be assigned per number group. The DN-to-ESN selective routing translations in a 1A ESS switch (with a 1AE5 generic program) are identical to those in a 1 ESS switch except left half memory does not exist in a 1A ESS switch. See Figure 15. Therefore, a left half DN

index list does not exist in a 1A ESS switch.
3.31 In the 1AE6 and later generic programs, up to 511 ESNs may be assigned per number group.

The maximum number of ESNs per office is also 511 ESNs. Each number group can have a different ESN limit (i.e., either 8, 16, 32, 64, 125, 256, or 511) which depends on the number of ESNs needed per number group. The DN-to-ESN translations are the same except item ESNLM (ESN limit) has been added in word 0 of the DN index list and the size of the DN index list varies according to the number of ESNs required per number group. Also, a minus one word, containing the length of the DN index list, is used for those DN index lists that have an ESN limit greater than eight. Figure 16 shows the DN-to-ESN translator for a 1A ESS switch with a 1AE6 or later generic program. Figure 16 depicts the translator with an ESN limit of 32. The size of the DN index list will vary according to the number of ESNs per number group as shown in Table G.

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#### ESN Translator

3.32 The ESN obtained from the selective routing translations must be translated to a PSAP DN via the ESN translator shown in Figure 17. A single entry PTW (type 3) in the ESN head table is used when selective transfer does not apply for a particular ESN. When selective transfer service is provided, the PSAP primary DN and a list of secondary PSAP DNs (six maximum per primary ESN) are contained in the ESN auxiliary block. With selective transfer, the primary PSAP is the initial answering point. The primary PSAP or subsequent answering points (secondary PSAPs if equipped for selective transfer) can generate a selective transfer digit), which indexes the selective transfer list.

3.33 Any assigned DN is considered valid in the ESN translator; however, standard usage DNs are considered as those DNs associated with a nonringing PSAP, ringing PSAP, maintenance testing, and remote call forwarding to another PSAP.

3.34 If a PSAP is provided ANI display, the first digit

sent to the PSAP indicates both the NPD (from the ESCO translator) and whether or not the ANI display should be flashed to alert the attendant for special 911 call situations. For example, a PSAP arranged for flashing ANI display may be assigned as the primary ESN for all FX (foreign exchange) lines that terminate outside the E911 service area. If item FCLD (flash calling line display data) is set (FCLD = 1) in the ESN translator, the first digit sent to the primary PSAP to indicate the NPD also indicates that the ANII display should be flashed. The first digit sent to a PSAP to indicate the NPD and FCLD contains the following information.

FIRST DIGIT	NPD	FCLD
0	0	0
1	1	0
2	2	0
3	3	0
4	0	1
5	1	1
6	2	1
7	3	1
8 (not used)		
9 (not used)		

**Note:** If a call requiring special attention is subsequently transferred to a secondary PSAP equipped with ANI display, the same ANI information including the first digit is sent to the secondary PSAP.

#### PSAP DN Translations

3.35 The PSAP DN obtained from the ESN translator is translated via DN translations. The DN subtranslator (word type 7) contains the address of the 911 DN auxiliary block. Refer to Figure 18 for data contained in the 911 DN auxiliary block. Any DN may be assigned as a valid PSAP DN. The four standard types of DN assignments recommended are as follows:

(a) DN with a terminating major class of 3 and a program index of 3 for a nonringing PSAP. This type may be used when providing expanded 911 service. Each PSAP should have only one such DN.

(b) DN with a terminating major class of 28 and a program index of 3 for a ringing PSAP. Generally, ringing PSAPs are associated with B911 service; however, the E911 tandem office can also route calls to a ringing PSAP.

- (c) DN with a terminating major class of 3 and a program index of 1 for incoming maintenance test calls over dedicated E911 incoming trunks arranged for ANI operation. Refer to paragraph 3.15.
- (d) DN with remote call forwarding major class that routes to another PSAP (e.g., a small town fire-house) served by another office. This DN should not be part of a centrex group.

3.36 The RI in word 0 (Figure 18) is the RI assigned for the outgoing dedicated 911 trunk group to the particular PSAP. The terminating major class data indicates either a PSAP without ringing (TMAJ = 3) or a PSAP with ringing (TMAJ = 28). The program index equals three (PIND = 3) for 911 service.

3.37 With TMAJ = 3 and PIND = 3, the DN auxiliary block may optionally contain the CFBL word (word 2). If CFBL is specified, the special line format may also be specified with a make-busy MSN and the BS (busy sense) option indicator (i.e., no MTDNs allowed). The CFBL and make-busy MSN options may be arranged to provide the following call forwarding services.

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(a) Night service and/or power failure call forwarding forwards calls to the CFBL DN only if the MSN is made busy due to either night service or a PSAP power failure. For this option, the items specified are CFBL and CFILB (call forwarding inhibit line busy) = 1, and the MSN is specified in word 3.

(b) Traffic busy forwarding only forwards calls to the CFBL DN only if the PSAP is traffic busy. For this option, the items specified are CFBL and CFILB = 0 (and no MSN specified in word 3).

(c) Night service/power failure and traffic busy forwarding forwards calls to the CFBL DN if either the MSN is made busy (night service/power failure) or the PSAP is traffic busy. The same CFBL DN is used for either condition. For this option, the items specified are CFBL and CFILB = 0, and the MSN is specified in word 3.

**Note:** Call forwarding for E911 PSAPs will accommodate the usual five levels of forwarding. No detailed or usage sensitive billing is available. Also, if a PSAP is transferring a 911 call to another PSAP and the forwarding mechanism routes the call back to the transferring PSAP, the E911 tandem office provides overflow tone.

#### **RI (Route Index) Expansion**

3.38 The RI obtained from the 911 DN auxiliary block must be expanded to obtain trunk group data. Regular RI expansion is done via a 2-word RI expansion table indexed using the RI assigned for the PSAP DN. Refer to Figure 19. In word 0, the next RI equals stop and the TGN is assigned. Item TROK (transfer okay) equals one (TROK = 1), if central office transfer is provided; otherwise, TROK = 0. DEL NO (digits deleted) and prefix digits equal zero. If the RI expansion is for a PSAP without ANI display, item XMTYP (transmitter type) equals zero. If the RI expansion is for a PSAP with ANI display, item XMTYP equals one.

#### **Dedicated E911 PSAP Trunk Translations**

3.39 Regular TGN and TCC translations are required for dedicated E911 outgoing trunks to PSAPs. Standard trunk translations are used. The trunk circuits which can be used to complete 911 calls to PSAPs are SD-1A165, SD-1A163, and SD-1A237 trunk circuits. Figure 20 shows the TCC expansion data. For detailed translation requirements and data structures

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for these trunk circuits, refer to Part 6 B(23) through B(25).

3.40 When a PSAP is provided central office transfer service, the trunk group must be a centrex tie

trunk group with a screening LEN. Word 1 in the TGN auxiliary block is marked as trunk group type six (TGTYP = 6) and the screening LEN is marked in word 2. The screening LEN auxiliary block is marked for attendant major class and release link operation. Otherwise, if the PSAP is not provided central office transfer service, the trunk group can be marked as TGTYP = 1 (one-way outgoing) in the TGN auxiliary block.

#### **Centrex Data for PSAPs**

3.41 Central office transfer service requires centrex translations for the E911 PSAPs with transfer service. Centrex translations are required to implement call transfer service for those E911 trunk groups to E911 PSAPs requiring call transfer. TDT (trunk dial transfer) is provided for those E911 PSAP trunk groups. Excluding any special dialing plan considerations, all PSAPs in the E911 service area can belong to the same centrex group. For a detailed description of the centrex common block items and data structure, refer to Part 6 B(23) through B(25). The LDN contained in word 0 may be the DN for a particular PSAP or may be some other DN assigned for the customer group. The PSAP trunks are assigned screening LENs, which may be provided selective, fixed, or manual dial transfer. Since these E911 trunks are in a centrex trunk group and "9+" dialing is not desirable for PSAP attendants, "assume dial 9" service is used. Because of this, the initial digits 0 through 9 all translate to data type 4. Thus the only initial digits usable for other features and/or dialing patterns are \* (digit 11) and # (digit 12). The digit 11 (\*) is used as the initial digit of assigned centrex extension numbers for secondary PSAPs. Furthermore, if the PSAP DNs are nondialable, the speed calling codes of the PSAPs must translate to the centrex extension number. Otherwise, if they translate to a regular DN, the call will not complete since the DNs are nondialable.

3.42 When selective and/or dial transfer services are provided, the CTI (call transfer individual) and CTU (call transfer unlimited) items must be marked (CTI = 1, CTU = 1) in word 1 of the centrex common block. Another use of CTI is available. CTO (call transfer outside) already allowed the controlling party to add a DOD (direct outward dialed) call to either a DID (direct inward dialed) or DOD call. The added

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option (valid only if CTO = 1) allows the controlling party to abandon after adding a DOD call to a DID call without disconnecting both parties. When this option is provided, item CTDD (call transfer DID or DOD) in word 20 is set (CTDD = 1).

**3.43** The selective transfer service uses the data type 5, subtype 5, sub-subtype 3 (DTYP5, STYP5, SSTYP3) for the access code in the centrex digit interpreter table. The selective transfer access code (in the form of \*1X) includes the ETD (emergency transfer digit = X) which is translated via the ESN auxiliary block (Figure 17). The form \*1X is used where  $X = 1 \le$  ETD  $\le 6$ .

3.44 The 2-digit speed calling feature uses the DTYP5, STYP2, SSTYP0 as the access code.
Speed calling codes \*2X, \*3X, and/or \*4X (where X = 0 through 9) may be used for manual dial transfer using the speed calling feature. Fixed transfer uses the speed calling code \*2X only (where X = 1 through 6).

**Note:** These speed calling code formats are not in accordance with the standard numbering and dialing plan for central office vertical services. However, due to the design of the E911 feature, they must be used in this application. (See paragraph 3.31.)

3.45 The secondary PSAP DNs can be part of the centrex extension range either as DTYP2 or DTYP6 entries. Speed calling entries for secondary PSAPs must have the PSAP centrex extensions listed, not the PSAP DNs. For example, if \*23 is the speed calling code assigned for the PSAP DN 727-6601, then the 5-digit centrex extension entry is \*6601. If a secondary PSAP has ANI display, the original ANI will be sent to the secondary PSAP for transferred 911 calls.

#### B. Parameters/Call Store

- 3.46 The E911 feature requires parameters to provide call store memory for:
  - (a) E911 call registers
  - (b) Traffic and error counts for 911 calls
  - (c) Peripheral processor request data. (This call store memory is required only when a PDSP is used to store the TN-to-ESN data for a 1 ESS switch E911 tandem office.)

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For detailed parameter and call store information, refer to Part 6 B(26) through B(28).

#### E911 Call Registers

3.47 E911 call registers are specified by parameter word I4E911. Refer to Figure 21. Parameter

word I4E911 is located in the I4REGS table at I4REGS+17. I4REGS is a table of pointers to variable call store giving the start address of each register type and the number of registers. Set card NE911 defines the number of E911 call registers specified by parameter I4E911. If NE911 equals zero, I4E911 data is as follows:

#### 14 = NE911, 23 = E911

where NE911 is the number of E911 call registers and E911 is the call store address of a call store block of size 9° NE911. NE911 = 1 plus the number of outgoing trunks to E911 PSAPs.

3.48 E911 registers are used to complete all 911 calls to an E911 PSAP. An E911 register is used for the duration of a 911 call. The register contains state, queue, link, scan, path memory, ANI, and other related information for a 911 call. See Figure 22 for the E911 call register data layout.

#### E911 Traffic and Error Data Block

3.49 A block of variable call store memory is required to record traffic and error counts for E911 service. When feature package 9FE911 is loaded, parameter word E9TFCT (Figure 23) contains the call store address of the third word (word 0) of a 24-word call store table. The E911 feature package set card is 9FE911. If 9FE911 equals zero, E9TFCT equals zero. If 9FE911 equals one, E9TFCT data is as follows:

$$14 = 0, 23 = csadr + 2$$

where csadr is the address of a 24-word call store block.

3.50 The variable call store block for E911 traffic is used to control the printing of the EN01 (E911 error) output message and to collect the counts that are printed as EN02 (E911 error counts) and EN03 (E911 traffic counts) output messages. Refer to Figure 24. The odd-numbered words are counts pertaining to the TGN being monitored. The even-numbered words are total office counts minus the counts pertaining to the TGN being monitored. Therefore, for E911 traffic, the

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total traffic count for the office is the total of the oddplus even-word counts in the register.

#### **1 ESS Switch Memory for PDSP**

- 3.51 When a PDSP is used to provide TN-to-ESN data for a 1 ESS switch E911 tandem office, the PIU feature is required. The PIU serves as a data buffer for the directional communications (requests and data) between the 1 ESS switch and the PDSP. Refer to Figure 9. The PIU is coupled to the 1 ESS switch call store bus. For a description of the PIU interface feature, refer to Part 6 A(21).
- 3.52 When a PDSP is used, feature package 9FPIU is loaded in the generic program. Parameters are required for the PIU interface. Two parameter words required for the PIU interface, but not unique to E911 service, are P2PPMSC and P2PPMC.
  - (a) Parameter word P2PPMSG (Figure 25) is used to build peripheral processor message blocks in variable call store to receive incoming messages (data) from the PIU. Set card PPMB specifies the number of message blocks to be built. Parameter word P2PPMSG contains the number of message blocks (PPMB), block size (BLKSZ = 7), and the call store address of the first message block.
  - (b) Parameter word P2PPMC (Figure 26) is used to build a block of call store (referred to as a box block), which provides for peripheral processor message block control data. Data in the box block controls the use of the peripheral processor message blocks pointed to by P2PPMSG. Control data in the box block is used to identify message confirmations received after a message is sent to the PIU and for retaining requests for message blocks when none are idle. The P2PPMC control data controls the transfer of data from the PDSP (via the PIU) to the appropriate 1 ESS switch application program(s). Parameter word P2PPMC, specified by set card PPMC, contains the number of words (length = 15) in the call store box block (control block) and the call store address.
- 3.53 Parameter word P2PPRB (Figure 27) is provided when feature packages 9FPIU and 9FE911 are loaded in the generic program. P2PPRB builds a block of variable call store used to buffer 1 ESS switch processor requests for data from the PDSP. Set card PPRB specifies the number of simultaneous requests allowed for E911 data from the PDSP. If a PDSP is not used for E911 service, item PPRB equals zero. When a

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PDSP is used for E911 service, item PPRB equals ten (PPRB = 10). Item csadr is the address of the call store block of size  $4^{\circ}$ PPRB+2.

3.54 The call store message buffer formats for 1 ESS switch requests to the PDSP and replies from the PDSP (via the PIU) for E911 TN-to-ESN data, and ESN verification data are shown in Figure 28. For detailed information concerning the PDSP and PIU, refer to Part 6 A(5), A(8), and A(12) through A(21).

#### FEATURE OPERATION

- **3.55** The E911 tandem office completes 911 calls received from local offices and 911 calls originated by local customers served by the E911 tandem office. As with any other call, the call processing includes the originating phase, the terminating phase, and the disconnect phase. In addition, when selective routing is provided, selective routing may be considered as a separate phase.
- 3.56 The originating phase includes digit reception and translations required to determine the call

type, rate and route pattern, and initial routing information. Selective routing provides the primary PSAP DN associated with the calling station's ANI TN. The terminating phase includes the final routing and connection based on the ESN, DN, RI, and trunk translations to complete the call to a particular PSAP via a dedicated E911 outgoing trunk group. The disconnect phase includes supervision of the established connection. Disconnect actions depend on whether the 911 call is a local or tandem call and whether the calling party or the PSAP attendant disconnects first. In this description of feature operation, PSAP call transfer and maintenance test calls are discussed after the descriptions of the originating, selective routing, terminating, and disconnect phases for an E911 call.

#### A. Call Origination

#### E911 Tandem Office Trunk Originated 911 Call

 3.57 The E911 tandem office is capable of processing incoming 911 traffic from step-by-step, panel, crossbar, and ESS switch local offices. The incoming 911 traffic from local offices may be received via either dedicated E911 trunks equipped for ANI operation or regular message network trunks.

(a) If 911 calls from a local office are to be selectively routed and/or are routed to a PSAP with ANI display, the incoming 911 calls from that local

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office must be over dedicated E911 trunks arranged for ANI transmission. This is necessary because the ANI information provides the ANI TN used for both selective routing and for the ANI display. If the ANI does not provide a TN or if there is an ANI failure, the 911 call will be routed to a default ESN based on the incoming trunk group. If the ESCO translator indicates that selective routing does not apply, the default ESN is used to route the call. Paragraphs 4.11 through 4.15 describe the translations for a 911 call via an E911 dedicated trunk group.

(b) If all 911 calls from a local office are to be routed

to the same ESN and ANI display is not provided, the incoming 911 calls from that local office can be received via regular message network trunks since ANI information is not required. This is not a recommended arrangement, however, since it does not provide the service protection for 911 calls that is provided by using dedicated trunks for the E911 network. The 911 calls that are received over message network trunks are typically routed (on a per incoming trunk group basis) to the default ESN obtained from the ESCO translator. Exceptions to this are message network trunks which have either AIOD or CAMA ANI operation and tie trunks with screening LENs. This more detailed routing occurs only if selective routing translations are provided for the ESCO assigned for a particular trunk group. With CAMA ANI, the ANI TN and the ESCO are used to obtain the correct PSAP ESN. With AIOD, either the AIOD billing TN or else the trunk group billing TN and the ESCO, or just the ESCO, can be used to obtain the ESN. For customer tie trunks, the billing TN associated with the screening LEN is used to obtain the PSAP ESN. In general, for 911 calls received via message network trunks, the ESCO from 3/6-digit translations is used unless the TGN has the supplementary TGN Q option word with item ESCO  $\neq$  0. In this case, the ESCO in the O option word is used.

3.58 Several different signaling combinations are possible, depending on the type of 'ncoming trunk and the type of local office routing 911 calls to the E911 tandem office. TGN and TCC translations are discussed in paragraphs 3.11 through 3.18. The dedicated E911 incoming trunks (Table F) may be immediate dial dial pulse (DP) trunks for bylink operation or MF trunks for nonbylink operation. The dedicated E911 outgoing trunks from local offices are the same as would be used for outgoing CAMA trunks. The format of the ANI which a local office sends to an E911

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tandem office is the same format as used for an outgoing call to a TSPS. Primed start pulses, as allowed by these formats, are accepted as start pulses by an E911 tandem office; however, an E911 tandem office does not require primed start pulses. Sometimes a local office is equipped with excess TSPS type outgoing trunks, which could be reassigned for use as dedicated E911 outgoing trunks.

(a) E911 dedicated trunks from non-SXS offices are incoming MF type trunks equipped for MF ANI operation. On these type trunks, a 911 call is recognized when any of the following digit combinations are received.

(1) KP - 911 - ST + ANI (typical from No. 5 crossbar)

(2) KP - 11 - ST + ANI (preferred from ESS switch because 10X test codes can be used for testing)

- (3) KP 1 ST + ANI (possible from ESS switch)
- (4) Direct seizure + ANI (typical from panel or 1 crossbar, CAMA or LAMA).

(b) E911 dedicated trunks from SXS offices are always bylink incoming trunks equipped for MF ANI operation. On these type trunks, a 911 call is recognized when any of the following digit combinations are received.

- (1) 911 + ANI (possible from senderized SXS)
- (2) 11 + ANI
- (3) 1 + LB Direct seizure + ANI (bylink trunks are not required in this case).

**Note:** For any given trunk group, only one digit combination is allowed.

- (c) 911 calls originating via nondedicated message network trunks are detected as normal seizures with 911 or 11 being received to indicate a 911 call as discussed in paragraph 3.16. The digits "11" can only be received via those tandem trunks for which one "X11" code can be associated. Manual seizure trunks are direct trunks to the E911 tandem office requiring no digits and no ANI to be sent.
- **3.59** The originating phase is described according to the type of trunk and type of inpulsing signal

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received. The possible digit sequences received over dedicated E911 trunks are:

- (a) MF digits + MF ANI (only from non-SXS offices
- (b) DP immediate dial digits + MF ANI (only from SXS offices
- (c) Direct seizure + MF ANI (from either SXS or non-SXS offices)
- (d) Direct seizure without ANI
- (e) 911 calls incoming via message network trunks.

**3.60** *MF Digits Followed by MF ANI:* The E911 tandem office detects the seizure on a dedicated 911 incoming trunk and bids for an idle MF receiver. If the local office times out before the E911 tandem office can seize and connect an idle MF receiver, the local office will return reorder tone to the calling party and will send an on-hook signal (indicating trunk release) to the E911 tandem office. Otherwise, if an idle MF receiver is connected prior to local office time-out, the normal sequence of events occurs as discussed below. Actions due to failure modes are described where appropriate.

(a) After seizure, the E911 tandem office attaches an MF receiver, sends the start pulsing signal

(wink signal) to the local office, and begins standard PSPD timing for receipt of the digits. If PSPD time-out occurs, the incoming 911 trunk is put on the high and wet list. Otherwise, the digits are received before the PSPD time-out.

(b) After the digits are received, the E911 tandem office transmits the ANI start pulsing signal (steady off-hook) and begins 8- to 9-second timing for receipt of the complete ANI information. If time-out occurs prior to receiving complete ANI information, the E911 tandem office completes the call as an ANI failure. An ANI failure causes the call to be routed to the default ESN associated with the ESCO assigned for the incoming trunk group. Refer to paragraphs 3.13 and 3.24. Otherwise, the complete ANI information is received prior to time-out.

(c) After receiving the ANI information, the E911 tandem office processes and routes the call according to the ESCO, the NPD, and ANI TN obtained from translations. Refer to paragraphs 3.11 through 3.14. Selective routing, the terminating phase, and the disconnect phase are discussed in subsequent paragraphs. After call completion, the call is supervised for disconnect and for a PSAP transfer request (if transfer service is provided).

3.61 Dial Pulse Immediate Dial Digits Followed by MF ANI: The E911 tandem office detects the seizure on the incoming bylink trunk and sets up for immediate digit collection and begins PSPD timing for permanent signal or early dial. If time-out occurs due to a permanent signal or if early dial is detected, the incoming 911 trunk is connected to reorder tone, and if disconnect is not received, the incoming trunk is eventually put on the high and wet list. Otherwise, after reception of the dial pulse digits (i.e., 1 or 11), the E911 tandem office attempts to connect an MF receiver.

(a) If an MF receiver is not available, the E911 tandem office sends the steady off-hook ANI start dial signal directly to the E911 incoming trunk so that the local office will transmit ANI and cut through the calling customer. Of course the ANI digits do not register at the E911 tandem office since no MF receiver is connected. Approximately 1 to 2 seconds after sending the off-hook signal, the E911 tandem office default routes the call to the default ESN based on the ESCO of the incoming trunk group.

(b) Otherwise, after the dial pulse digits are received and an MF receiver is connected, the call proceeds as described in paragraph 3.60, subparagraphs
(b) and (c).

3.62 Direct Seizure Followed by MF ANI: After the trunk is seized, the E911 tandem office immediately sends a steady off-hook signal and begins 8- to 9-second timing for receipt of the complete ANI information. The call proceeds as described in paragraph 3.60 subparagraphs (b) and (c).

**3.63** Direct Seizure Without ANI: After the trunk is seized by the local office, the E911 tandem office returns off-hook to the local office and immediately default routes the call to the default ESN based on the ESCO of the incoming trunk group.

**3.64** 911 Calls Incoming Via Message Network Trunks: This type of 911 call is received as any other tandem call. After the local office determines a calling party has dialed 911, the local office attempts to seize a message trunk to the E911 tandem office. If no trunks are available, the local office returns reorder tone to the calling party. Otherwise, a message trunk is seized and the digits 911 or 11 are outpulsed to the

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E911 tandem office. The digits are translated as a call type 22 (911 call) and the call is typically routed to either the ESN associated with the ESCO obtained from 3/6-digit translations, or to the default ESN based on the ESCO of the incoming trunk group. Refer to paragraphs 3.16 through 3.18.

#### E911 Tandem Office Line Originated 911 Call

3.65 An E911 tandem office line originated 911 call is translated via 3-digit translations as a call type 22 (4FESCO). Route pattern expansion yields the ESCO number associated with the E911 tandem office. Refer to paragraphs 3.19 and 3.20 and Fig. 12.

The ESCO number is translated via the ESCO 3.66 translator (Fig. 14) to obtain the NPD, default ESN, and to determine whether or not selective routing applies. If the ESCO translator indicates that selective routing does not apply (i.e., selective routing data for that ESCO does not exist in either the 1 or 1A ESS switch or a PDSP), the default ESN is considered to be the primary ESN and is used for routing the call. If selective routing applies for an ESCO, the selective routing translations are stored in either the E911 tandem office or in a PDSP (for 1 ESS switch only) as indicated by items EN01 and EPDSP in the ESCO translator (Fig. 14). If selective routing applies for an ESCO, the NPD and the calling station's ANI TN are used to index selective routing translations to obtain the primary ESN associated with the calling line.

3.67 During the initial 911 call processing, if the maximum number of 911 intraoffice calls already exist (based on the E911 intraoffice choke mechanism, paragraph 3.22), overflow tone is returned to the originating line. In cases where a billing TN does not exist (such as for multiparty or QZ billing lines), or an ANI failure occurs, the call is routed to the default ESN obtained from the ESCO translator. Otherwise, the call is selectively routed using the NPD obtained from the ESCO translator and the ANI TN of the originating line.

#### **B.** Selective Routing

3.68 Selective routing translations are resident in either the E911 tandem office or in a PDSP used in conjunction with a 1 ESS switch tandem office. Item EPDSP in the ESCO translator indicates that selective routing translations are resident in a PDSP (EPDSP = 1) or not in a PDSP (EPDSP = 0). Item EN01 in the ESCO translator indicates that selective routing translations are resident in the E911 tandem office (EN01 =

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1) or not in the E911 tandem office (EN01 = 0). If both EPDSP = 0 and EN01 = 0 selective routing are not provided for that ESCO, the default ESN is used.

3.69 If a PDSP is used, an ESN data request is sent to

the PDSP via the PIU interface. Refer to paragraphs 3.51 through 3.54. The ESS switch request for PDSP ESN data includes the NPD and ANI TN of the calling station. The PDSP reply data contains the correct ESN for the NPD and ANI TN. Refer to Fig. 28 for the message buffer formats for ESS switch request and PDSP reply data. The selective routing translations in the PDSP are structured similar to and provide the same function as those resident in the E911 tandem office. If the PDSP fails or if an invalid ESN is returned, the call is routed using the default ESN which was initially obtained from the ESCO translator and stored in the PPRB memory block (Fig. 27). Otherwise, if the selective routing translations are resident in the E911 tandem office, the call is routed using the ESCO translator data and the selective routing translations described in paragraphs 3.26 through 3.31.

3.70 The NPD obtained from the ESCO translator and the ANI TN of the calling station are used to index the NPD and DN-to-ESN translations which may provide selective routing translation data on a per office code, per number group, or per TN basis. Refer to paragraphs 3.26 through 3.31 and Fig. 15 and 16. The NPD and DN-to-ESN translations yield the ESN for the 911 call.

#### C. Call Termination

The call termination phase includes ESN, PSAP 3.71 DN, RI, and trunk group translations. Either the default ESN obtained from the ESCO translator or the ESN obtained from the DN-to-ESN translator is translated via the ESN translator (paragraphs 3.32 through 3.34 and Fig. 17) to obtain the PSAP DN assigned for the ESN. The PSAP DN obtained is translated via the 911 DN auxiliary block (paragraphs 3.35 through 3.37 and Fig. 18) to obtain program index, terminating major class, RI, and call forwarding data. Typically, an E911 call will route to a DN for nonringing E911 PSAP with PIND = 3 and TMAJ = 3. If a nonringing E911 PSAP is indicated, an E911 call register (paragraphs 3.47 and 3.48 and Fig. 22) is initialized and linked for the call.

> **Note:** The PSAP DN can be any valid DN. With the E911 feature, the E911 tandem office may also route 911 calls to ringing PSAPs.

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Ringing PSAPs are typically associated with B911 service. For a 911 call to a ringing PSAP, if all 911 lines to that PSAP are busy, busy tone is returned to the calling party. Otherwise, ringing is provided and the call connection is established upon receipt of answer. Alternate routing is not available for ringing PSAPs.

3.72 The RI obtained from the 911 DN auxiliary block is expanded via RI expansion (paragraph 4.38) to obtain the TGN assigned for the particular PSAP. Regular TGN and TCC translations are used to find an idle 911 trunk to the PSAP. The E911 tandem office hunts for and attempts to seize an idle 911 trunk to the PSAP. One of several conditions can be encountered.

(a) If no idle trunk in the trunk group can be found, and the optional call forwarding service (traffic busy alternate routing) is not provided, the calling station receives reorder tone.

(b) If no idle trunk can be found due to either a traffic busy condition, night service, and/or a power failure condition, and alternate routing is provided for traffic busy, night service and/or power failure, the call is alternate routed to the CFBL-DN contained in the 911 DN auxiliary block (Fig. 18). The CFBL-DN must be translated and the connection phase must be repeated for the CFBL-DN. The CFBL-DN may be associated with another E911 PSAP, a B911 PSAP, or any other facility which may be assigned a DN; however, the CFBL-DN typically is associated with another E911 PSAP. As for any alternate routing, up to five attempts may be made for alternate routing. If the alternate routing results in the call being routed to an entity other than an E911 PSAP, the E911 feature no longer has any impact on the call.

(c) Otherwise, if a 911 trunk to the PSAP is available, the trunk is seized either on a manual seizure basis or the trunk is seized which requires an MF transmitter. The trunk seizure and connection phase depends on whether or not the PSAP has the ANI display, which requires MF outpulsing.

#### Connection to an E911 PSAP Without ANI Display

3.73 For an E911 PSAP without the ANI display option, an idle 911 trunk to the PSAP is seized on a manual seizure basis and the call is automatically cut through to the PSAP. The network connections are established as for any other line or trunk-to-trunk

connection. When the trunk seizure is detected by the PSAP customer premises equipment, the PSAP customer premises equipment signals the attendant(s) and returns audible ringing to the originating line via the path established. The E911 tandem office supervises the calling line for abandon and the 911 trunk for answer. When the 911 call is answered at the PSAP, the talking connection is established at the PSAP and the off-hook answer signal is returned to the E911 tandem office. After the answer signal is received, the E911 tandem office supervises the call for disconnect and for a call transfer request if call transfer service is provided.

#### Connection to an E911 PSAP With ANI Display

3.74 MF outpulsing is required to send ANI information to an E911 PSAP having the ANI display option. An idle 911 trunk to the PSAP is seized and an attempt is made to seize and connect an idle MF transmitter to the outgoing 911 trunk. If an MF transmitter is not available, the call is routed to reorder tone. Otherwise, when an MF transmitter is available, it is seized and connected to an E911 outgoing trunk to the PSAP. Standard start dial timing is done for receipt of the ANI start signal (approximately 250  $\pm$  50 millisecond wink signal) from the PSAP customer premises equipment. There are several failure modes that can occur after the E911 tandem office seizes a dedicated E911 outgoing trunk and connects an MF transmitter.

**3.75** The normal sequence of events after 911 trunk seizure is described below. Failure modes are discussed as they are applicable to a particular sequence.

(a) The E911 tandem office sends an off-hook signal to the PSAP indicating 911 trunk seizure.

(b) The E911 tandem office times, for a period of 16 to 20 seconds, for receipt of the ANI start pulsing wink signal from the PSAP. The normal call sequence continues if the PSAP returns the start pulsing wink signal. If the start pulsing wink signal is not received within 16 to 20 seconds, the E911 tandem office puts the trunk on the trunk maintenance list and makes one retry on a different E911 trunk to the PSAP. In this case, trunk hunting and the connection phase begins again.

(c) When the PSAP recognizes the E911 trunk seizure, it will typically return an ANI start pulsing wink signal (250  $\pm$  50 millisecond wink

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signal) to the E911 tandem office in less than 4 seconds. After sending the start pulsing wink signal, if the MF pulses are not received in 4 seconds or garbled pulses are received, the PSAP completes the call as if an ANI failure occurred. That is, the PSAP customer premises equipment immediately signals the attendant(s) and returns audible ringing tone to the calling station via the E911 network. In this case, when the attendant answers, all zeros are displayed on the ANI display. Otherwise, receipt of the start pulsing wink signal typically causes the E911 tandem office to start MF outpulsing.

 The MF outpulsing consists of a stream of MF tone pulses 55 to 65 ms duration separated by silent intervals of 55 to 65 ms. The NPD plus ANI TN digits are preceded by a KP digit of 115 to 125 ms duration and succeeded by an ST digit of 55 to 65 ms duration. The E911 tandem office begins MF outpulsing the ANI information to the PSAP in the form KP-A-NXX-XXX-ST where NXX-XXXX is typically the ANI TN of the calling station and item A is the encoded information digit, indicating the NPD and flash calling line display data as discussed in paragraph 3.34. The encoded information digit is used at the E911 PSAP as follows:

#### Digit Use

- 0 dummy digit (not displayed, ANI TN displayed steady)
- 1 digit 1 plus ANI TN displayed steady
- 2 digit 2 plus ANI TN displayed steady
- 3 digit 3 plus ANI TN displayed steady
- 4 dummy digit (not displayed, but ANI TN flashed)
- 5 digit 1 plus ANI TN displayed flashing
- 6 digit 2 plus ANI TN displayed flashing
- 7 digit 3 plus ANI TN displayed flashing
- 8 for maintenance test call (not displayed).

- (2) If valid ANI is not available at the E911 tandem office, a fictitious NXX-XXXX ANI is sent as follows:
- 0-911-0TTT: This format is sent due to ANI failures, multiparty or QZ billing lines, and possibly a 911 call received via a message trunk. The digits TTT indicate the ESCO number associated with the originating office.
- 0-911-0000: This format is sent when an anonymous call is made to a PSAP. An anonymous call is a 7-digit call (non-911) to the DN of a PSAP.

**Note:** The information digit is not displayed if valid ANI is not available. Also, if an ANI failure occurs between the E911 tandem office and the PSAP, the digits displayed are 000-0000.

- (d) When the PSAP receives the complete MF outpulsed ANI information, the PSAP signals the attendant(s) and returns audible ringing to the calling party. When the call is answered, the PSAP disconnects audible ringing, connects the call to the answering attendant position, causes the appropriate information to be displayed on the adjunct selector console display, and returns an off-hook signal to the E911 tandem office indicating answer.
- (e) After answer is detected, the E911 tandem office supervises the call for disconnect and for a PSAP transfer request (if transfer service is provided).

#### D. Call Disconnect

#### **Disconnect for Tandem E911 Calls From Local Offices**

3.76 For an established E911 tandem call, disconnect supervision is maintained at the E911 tandem office for the incoming and outgoing E911 trunks. Disconnect actions depend on whether disconnect is received from the PSAP or from the local office first.

3.77 When the PSAP attendant disconnects first, the PSAP sends an on-hook (disconnect) signal to the E911 tandem office. The on-hook signal duration must be greater than the flash timing period (1.2 seconds) to be interpreted as a disconnect signal. The E911 tandem office passes the on-hook to the local office and begins 4- to 5-second timing for an on-hook

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signal returned from the local office. Either the local office returns on-hook within the 4- to 5-second period or time-out occurs. When either on-hook is received or when time-out occurs, the E911 tandem office disconnects the tandem E911 call connection, sends on-hook to the PSAP, idles the E911 trunk to the PSAP, and releases the E911 call register. If time-out occurred prior to receiving on-hook from the local office, the incoming dedicated 911 trunk is put on the high and wet list.

**Note:** The 4- to 5-second timing for on-hook is also done for message network trunks from local offices carrying 911 calls.

3.78 The following is an example of how disconnect should occur when the PSAP attendant disconnects first.

(a) When the PSAP attendant disconnects, the PSAP equipment sends an on-hook to the E911 tandem office.

(b) The E911 tandem office begins 1.2-second flash timing, which times out in this case, thus signaling a disconnect.

(c) The E911 tandem office sends an on-hook signal to the local office and begins 4- to 5second timing for receiving an on-hook from the local office. This 4- to 5-second timing is unique for E911 calls to a PSAP and, in fact, is the forced disconnect service for the E911 feature.

(d) If the 911 call is from a local office, when the local office receives disconnect from the E911 tandem office, it immediately disconnects the call and returns on-hook to the E911 tandem office. Thus, the E911 tandem office normally receives on-hook from the local office prior to time-out, disconnects the call, and sends on-hook to the PSAP.

(e) If the on-hook signal is not received from the local office within the 4- to 5-second timing interval, the E911 tandem office disconnects the call, returns on-hook to the PSAP, and puts the dedicated E911 incoming trunk on the high and wet list.

3.79 When the calling party disconnects first, the local office sends an on-hook signal to the E911 tandem office and releases the outgoing trunk if it is a message network trunk. If the outgoing call was via a

dedicated E911 trunk, the trunk is released after onhook signal is received from the E911 tandem office. When the E911 tandem office receives the on-hook signal, the tandem connection is released and an on-hook signal is sent to the local office. The incoming dedicated E911 trunk is released and idled. If the outgoing dedicated E911 trunk to the PSAP is a loop type trunk, the trunk is released and idled. If the outgoing dedicated E911 trunk to the PSAP is an E&M type trunk, the trunk to the PSAP is an E&M type trunk, the trunk to the PSAP is left busy and supervised until disconnect is received. When disconnect is received from the PSAP, the E911 trunk is idled.

# Disconnect for E911 Calls From E911 Tandem Office Customers

3.80 When the PSAP attendant disconnects first, the PSAP sends an on-hook signal (disconnect) to the E911 tandem office. The on-hook signal duration must be greater than 1.2 seconds (time greater than for a flash signal) to be interpreted as a disconnect signal. The E911 tandem office processes the disconnect, returns an on-hook signal to the PSAP, immediately releases and idles the E911 trunk to the PSAP, and restore verifies the line so that the line will receive dial tone if still off-hook. Regular PSPD timing and treatment are provided for the calling line.

3.81 When the calling customer disconnects first, the E911 tandem office disconnects the connection and sends an on-hook signal indicating disconnect to the PSAP. The PSAP does not recognize an on-hook signal with a duration of less than 250 ms to be a disconnect. If the outgoing dedicated E911 trunk to the PSAP is marked as an operator trunk, the E911 tandem office supervises the E911 trunk for an on-hook signal, the E911 tandem office releases and idles the E911 trunk. If the outgoing dedicated E911 trunk to the PSAP is an E&M type trunk, the trunk is left busy and supervised until disconnect is received. When disconnect is received from the PSAP the E911 trunk is idled.

#### E. E911 PSAP Central Office Transfer

3.82 For central office call transfer capability, a dedicated E911 outgoing trunk to a PSAP must be in a centrex tie trunk group having the TDT feature. For information regarding the TDT feature, refer to be a for a contrast to the distribution to the total contrast to the transfer total contrast to the total contrast total contrast to the total contrast total contrast to the total contrast tota

Part 6 A(22). The dedicated E911 outgoing trunk must be marked for flash timing in the TCC expansion table (Fig. 20). Typically, a PSAP is arranged to provide selective or prefixed 2-digit speed calling service using

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the transfer keys on the 10A1-50 selector console. The PSAP equipment can be arranged to automatically generate and send selective transfer codes with the form of \*1X and/or the prefixed 2-digit transfer codes with the form \*2X. The PSAP equipment cannot be arranged to automatically generate and send prefixed 2-digit speed calling codes with the form \*3X or \*4X. However, these speed calling codes can be used and are simply manually dialed.

**Note:** The prefixed access code (\*2X) used for E911 service does not conflict with the standard 2-digit speed calling codes. Since PSAPs are in a centrex group to provide E911 transfer services, the recommended (standard use) 2-digit speed calling codes are not applicable.

**3.83** A request for transfer is recognized when a flash signal ( $500 \pm 50$  ms on-hook signal) is received from the PSAP. For E911 service, there are three types of transfers, selective, fixed, and manual transfer.

(a) With selective transfer the list of secondary PSAP DNs (identified in the ESN translator, Fig. 17) is used to selectively transfer an E911 call according to the ETD (emergency transfer digit) received. Selective transfer has the form of \*1X, where X = 1, 2, 3, 4, 5, or 6. The \*1 yields DTYP5, STYP5, SSTYP3. The call program then collects one more digit, the "X" digit of \*1X, where X equals the ETD. In this way, the secondary PSAP DN to be used is dependent on the initial selective routing to the primary PSAP associated with the particular calling station. Selective transfer is always based on the primary ESN obtained for a particular call regardless of the number of times a call is transferred from one E911 PSAP to another E911 PSAP. The primary ESN is stored in the E911 call register (Fig. 22) as long as the call is connected to an E911 PSAP

(b) With fixed transfer the prefixed 2-digit speed calling code has the form of \*2X. The 2-digit speed calling code yields DTYP5, STYP2, SSTYP0 unless the associated PSAP DNs are part of a cattrex extension range. The PSAP DNs can be part of a centrex extension range either as DTYP2 or DTYP6 entries. If the DNs assigned to PSAPs are nondialable DNs, the number obtained from the speed calling list must be the centrex extension of the desired PSAP. Refer to paragraphs 3.44 and 3.45.

**Note:** The transfer keys on the selector console (paragraph 2.15) can be arranged for selective transfer, fixed transfer (based on 2-digit

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speed calling), or a combination of both. In either case, the E911 PSAP equipment is arranged to automatically generate and send the appropriate transfer code to the E911 tandem office.

(c) With manual dial transfer, the attendant either manually dials the DN or the speed calling code (if speed calling is provided) for the desired destination. Manually dialed speed calling codes for an E911 PSAP have the form \*2X, \*3X, or \*4X. The same data types used for fixed transfer are used for manually dialed speed calling codes.

**Note:** Code \*2X may be used for either fixed or manual dial transfer.

If the routing DN leads to a secondary E911 3.84 PSAP with ANI display, the 8-digit ANI code that was sent to the answering (primary) PSAP is also sent to the add-on (secondary) PSAP. If the secondary PSAP has alternate routing (for night service and/or traffic busy) and the alternating routing loops back to the PSAP that is requesting the transfer, the transfer is blocked and the PSAP attendant receives overflow tone (120 ipm) to indicate the transfer is not allowed. Otherwise, once the transfer is complete, all parties are connected via a 3-port conference circuit at the E911 tandem office until either of the parties disconnects from the call. While all three parties are connected, the primary PSAP can cause the added party (secondary PSAP) to be disconnected (forced off) by sending an on-hook flash signal to the E911 tandem office. The E911 tandem office will reestablish the call as a two-party call between the calling party and the primary PSAP.

> **Note:** If a selective transfer request is made and the request is not valid, interrupted high tone (120 ipm) is returned to the PSAP attendant requesting the transfer. An invalid request occurs upon receipt of a selective transfer code (\*1X) when there is no DN in the ETD slot for ETD X in the ESN auxiliary block.

#### E911 Call Transfer Sequence

3.85 When the PSAP attendant initiates selective or fixed transfer using the transfer keys on the 10A1-50 selector console (Fig. 4), the PSAP automatically generates and sends an on-hook flash signal

(approximately 500 milliseconds duration) to the E911 tandem office. Otherwise, for a manual dial transfer, the PSAP attendant operates the **ADD** key which causes a timed on-hook flash to be generated and sent

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to the E911 tandem office. In either case, when the flash signal is detected, the E911 tandem office attempts to seize a 3-port conference circuit and a touch-tone receiver. One of three events can occur.

(a) If a 3-port conference circuit is not available, the flash signal is ignored.

(b) If a touch-tone receiver is not available within 3- to 4-seconds of receiving the flash signal, the flash is ignored. If a receiver is not immediately available, an attempt is made to queue for a receiver during the 3- to 4-second interval; however, it may not be possible to queue due to a queue overload.

(c) Otherwise, a 3-port conference circuit and receiver are seized. The calling party, receiver, and 911 trunk are connected (with the calling party split) and dial tone is returned to the PSAP.

3.86 For manual dial transfer, after receiving dial tone, the PSAP attendant manually dials the DN or speed calling code (\*2X, \*3X, or \*4X) for the desired destination. The speed calling code \*2X, may be used for either fixed or manual dial transfer. For selective or fixed call transfer, the PSAP equipment generates and sends the transfer code (\*1X or \*2X) to the E911 tandem office. The transfer code is sent no sooner than 500 milliseconds after receiving dial tone. The transfer code contains standard touch-tone digits of minimum duration (50 milliseconds on, 50 milliseconds off). Regular PSPD timing (16- to 24-seconds) is done for receipt of the transfer digits unless the E911 tandem office is in an overload condition. In this case, permanent signal timing is 10 to 15 seconds and partial dial timing is 5 to 10 seconds. After the transfer digits have been received, the calling party is unsplit and the talking connection between the calling party and the PSAP attendant is restored.

3.87 The E911 tandem office collects and interprets the digits dialed (for manual transfer) or the speed calling code (for selective, fixed, or manual transfer) and attempts to add on the destination.

 (a) If a manual dial transfer, standard 3/6-digit and DN translations are performed to route the call.
 If speed calling is used for manual dial transfer, standard centrex translations yield the DN.

(b) If a selective transfer, the selective transfer code (\*1X) yields the ETD (X=ETD=1, 2, 3, 4, 5, or 6) which is used as an index to the ESN auxiliary block (Fig. 17) to obtain the secondary PSAP DN. For selective transfer, the secondary PSAP DN is translated via the 911 DN auxiliary block (Fig. 18) and an attempt is made to complete the transfer call (addon connection) using the RI, TCC, and TGN translations as is done to complete any 911 call to an E911 PSAP DN. Refer to paragraphs 3.72 through 3.75. Note that a secondary PSAP DN, just as the primary PSAP DN, does not have to translate to an E911 PSAP DN. A PSAP may be assigned any valid DN.

- (c) If a fixed transfer, the prefixed speed calling code (\*2X) typically is the code representing the centrex extension of an E911 PSAP. Secondary PSAP DNs can be part of the centrex extension range either as DTYP2 or DTYP6 entries. Refer to paragraph 3.45. Standard centrex translations yield the DN associated with the particular speed calling code. The DN may lead to another E911 PSAP or some other facility. Standard DN translations are used to route the transfer call and add on the predesignated destination.
- If the transfer attempt fails, the E911 tandem 3.88 office restores the 911 call connection to the original two-party call configuration. If the destination (E911 PSAP) is traffic busy and has the optional CFBL service, an attempt is made to route the transfer call to the CFBL DN obtained from the 911 DN auxiliary block. Otherwise, if the destination is busy and does not have CFBL service, if there is no answer, or if the destination is no longer desired, the PSAP attendant controlling the 911 call can release the destination by operating the CANCEL key on the 10A1-50 selector console. Operation of this key causes the PSAP equipment to generate and send a timed on-hook flash signal to the E911 tandem office, which interprets the flash signal as a request to disconnect the added destination. The E911 tandem office releases the destination and 3-port conference circuit and restores the initial two-party 911 call connection.

3.89 Otherwise, after the destination answers, the 3-way talking connection is established at the E911 tandem office via the 3-port conference circuit. The 3-way call is supervised for disconnect by either party and for a request from the controlling PSAP attendant to release the added party. If the added destination is an E911 PSAP, then:

(a) If the added PSAP disconnects, the initial twoparty 911 connection is restored and the PSAP attendant can initiate another transfer request.

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(b) If the controlling PSAP disconnects, a twoparty connection is established between the calling party and the added PSAP. If the added PSAP also has transfer service, the added PSAP can also initiate a transfer for the 911 call.

#### **Disconnect Supervision for Three-Party Connection**

3.90 Controlling PSAP Disconnects First: Upon receipt of an on-hook signal from the controlling PSAP, the E911 tandem office begins flash timing (approximately 1.2 seconds). One of two events can occur.

- (a) If the controlling PSAP returns off-hook before flash timing ends, then the signal is actually a flash signal indicating a request to release the added party. The E911 tandem office releases the added party and the 3-port conference circuit and restores the 911 call to a two-party connection between the calling party and the controlling PSAP. Supervision is maintained for disconnect and for another transfer request.
- (b) If the controlling PSAP remains on-hook (beyond the flash timing period), the on-hook signal is a disconnect signal. The 3-port conference circuit and 911 trunk to the controlling PSAP are retained for the duration of the call between the added PSAP and the calling party. The call is supervised for disconnect and a transfer request (if transfer is provided) as is done for any established 911 call. The second PSAP can also transfer the 911 call to another E911 PSAP or DN.
  - (1) Selective transfer to other secondary PSAPs associated with the primary ESN for the calling station continues to work because the primary ESN initially obtained for the call is saved in the E911 call register (Fig. 22).
  - (2) A fixed transfer from the controlling secondary PSAP to another E911 PSAP or some other DN depends on the fixed transfer assignm rs for the controlling PSAP.
  - (3) For any type of transfer which terminates to another E911 PSAP with ANI display, the original ANI information (retained in the E911 call register) is sent to that PSAP destination for the transfer call. No matter how many transfers occur and no matter in what order PSAP attendants disconnect, as long as transfer is from one E911 PSAP to another E911 PSAP, the original

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ANI will be passed to the added E911 PSAPs having ANI display.

- 3.91 Added Party Disconnects First: Upon detection of an on-hook (disconnect) signal from the added party, the E911 tandem office begins 10- to 11-second timing. If the added party is an E911 PSAP, then after 10- to 11-second timing is done, the connection to the added party is disconnected. If an off-hook signal is received before the end of timing, the three-party connection is held. If the added party is other than an E911 PSAP, upon receipt of an on-hook signal, the E911 tandem office begins 10- to 11-second timing. One of four events can occur.
  - (a) If the added party returns off-hook before timeout occurs, timing is terminated and the added party remains on the three-party connection.
  - (b) If the controlling PSAP sends a timed on-hook flash before time-out occurs, timing is terminated and the connection to the added party and the 3-port conference circuit are released and idled. The call is reestablished as a two-party call between the calling party and the controlling PSAP.
  - (c) If time-out occurs, the connection for the added party and the 3-port conference circuit is released and idled. The call is reestablished as a two-party call between the calling party and the controlling PSAP.
  - (d) If either the calling party or the controlling PSAP disconnects before time-out occurs, the disconnecting party is immediately released. Timing continues until either time-out occurs (all connections are released and idled), or the added party goes off-hook. In this case, the call is established as a two-party call between the remaining party and the added party.
- 3.92 Calling Party Disconnects First: Upon detection of calling party disconnect, the calling party connection is released; however, the 3-port conference circuit is not released. The controlling PSAP remains connected via the 3-port conference circuit to the added party until either the added party disconnects, the controlling PSAP releases the added party, or the controlling PSAP disconnects.

#### F. Trunk Maintenance Test Calls

3.93 Test calls may be made to verify the dedicated E911 incoming trunks from local offices to the

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E911 tandem office and to verify the dedicated E911 outgoing trunks from the E911 tandem office to E911 PSAPs. Test calls for the dedicated E911 incoming trunks are originated from the local offices. Test calls for the dedicated E911 outgoing trunks to E911 PSAPs are originated from the E911 tandem office.

Test Calls for Dedicated E911 Tandem Office Incoming Trunks

3.94 In addition to receiving 911 traffic on dedicated E911 incoming trunks, it is very desirable to be

able to receive test codes. The test codes are interpreted by the E911 tandem office to connect the incoming trunk to a test appearance (e.g., milliwatt test, permanent busy, quiet termination, etc). Test codes are discussed in paragraph 3.15. The method used to detect the test code depends on the type of digit stream that is expected for the particular trunk. The two basic types of digit streams are (1) digits plus ANI, and (2) direct seizure plus ANI. Item ETST in the supplementary TGN auxiliary block (Fig. 11) specifies the type of trunk test code expected.

Assigned 3-digit test codes are used if item 3.95 ETST = 1 or 2 in the trunk group option Q word (Fig. 11). Refer to paragraph 3.15. When digits plus ANI or digits only are received for a particular E911 trunk group, the call is recognized as a test call based on the received digits. The test codes are always 3-digit codes regardless of the number of digits expected for the 911 calls. Test codes are interpreted as 3-digit codes which are distinct from the digits received for 911 calls. For example, if a dedicated E911 incoming trunk group is arranged such that KP - 11 - ST is received for 911 calls, then any 3-digit code other than 11X may be used as a test code. The test code may or may not be followed by ANI, depending on the type of local office originating the call. For example, No. 5 crossbar offices always send ANI on ANI trunks even when the trunks are accessed for test calls and ANI is not required (ANI is ignored). ESS switch local offices do not send ANI when an ANI trunk is accessed for test calls. Examples of local office test call originations are as follows:

(a) For a SXS office trunk group which normally sends digits + ANI, a standard plug-in handset is plugged into the trunk test jack at the SXS office and the maintenance person dials the appropriate 3-digit test code. In this case, no ANI is sent.

(b) For No. 5 crossbar offices, tests are performed manually from the test panel. The trunk to be

tested is seized from the test panel and the appropriate test code is dialed by a maintenance person. The No. 5 crossbar office automatically appends ANI following the dialed 3-digit test code.

(c) For 1/1A ESS switch local offices, trunk testing may be performed automatically via standard trunk progression testing if the dedicated E911 outgoing trunks use the SD-1A165 trunk circuits (which are loop trunks) at the local office end. For this type trunk, the 3-digit test codes may be placed in an automatic trunk test table referenced by the test table number (item TTN) in the TGN auxiliary block for the outgoing trunk group number. If the dedicated E911 outgoing trunks use the SD-1A203 or the SD-1A252 (E&M type) trunk circuits, automatic trunk progression testing is not available. These trunks are manually tested from the test panel of the local office. In either case, ANI is not sent following the 3-digit test code.

**3.96** For dedicated E911 incoming trunk groups arranged for direct seizure followed by ANI, the ANI information in conjunction with the selective routing translation is used to recognize and complete test calls. For such trunk group o, item ETST = 0 and item ECD = 4 in the trunk group option Q word (Fig. 11), which also contains the ESCO for the particular trunk group. The ANI contains the encoded test code since no digits are received. The ANI and the ESCO are used to obtain the assigned ESN (as for a selectively routed 911 call) which leads to a test line rather than a PSAP. An example of a test call from a No. 1 crossbar office using encoded ANI is given as follows:

(a) An office coil in the No. 1 crossbar office is assigned either an NNX, NXX, or XXX code not used as an office code in the E911 area.

(b) Fictitious TNs may be assigned for the office coil. Each TN assigned for that coil would correspond to an ESN in the E911 tandem office. The recommended way for assigning TNs is to assign different number group digits for the No. 1 crossbar TNs so that selective routing for test calls at the E911 tandem office can be done at the number group level. For example if an office coil is assigned for test calls such that NXX = 777, then the number group digits can be assigned for different tests as indicated in Table H. Thus, there is a simple correlation between the No. 1 crossbar TN assigned and the ESN and TN assigned at the E911 tandem office for a particular test facility.

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- For a test call from a No. 1 crossbar office, the test panel is used to manually seize the dedicated E911 outgoing trunk. Based on Table H, assume a milliwatt test is to be done. The maintenance person sets up the test panel for the desired test (milliwatt test = 777-3XXX). After the outgoing trunk is seized, the No. 1 crossbar ANI equipment identifies 777-3XXX as the ANI to be outpulsed to the E911 tandem office for that test call.
- (2) The E911 tandem office receives the ANI TN (777-3XXX) and accesses the selective routing data base using the ANI TN and the ESCO. In this case, the selective routing data base yields the ESN (ESN "C") at the number group level. The ESN translator yields the TN assigned in this example for milliwatt test lines, rather than a PSAP.

**Note:** It is not mandatory to use a separate XXX "office" coil (which would be an under utilized office coil) at the No. 1 crossbar office. Any equivalent ANI TN to test facility TN association may be used.

3.97 For direct seizure + ANI trunks from SXS and panel offices, a portable MF transmitter is plugged into the outgoing trunk test jack and the appropriate assigned test TN must be manually keyed.

# Test Calls for Dedicated E911 Outgoing Trunks to E911 PSAPs

3.98 For an E911 PSAP equipped with customer premises equipment for ANI display, test calls are made from the E911 tandem office using encoded ANI. The E911 PSAP customer premises equipment decodes the special ANI as a test call and connects the trunk under test to a test termination facility in the E911 PSAP customer premises equipment. Specifically, when KP - 8 - ST is outpulsed to the E911 PSAP, the E911 trunk under test is connected to a permanent busy circuit in the E911 PSAP customer premises equipment. This allows the E911 tandem office to verify the integrity of the trunk circuit using the trunk diagnostic program. The test call sequence is as follows:

(a) After seizing the selected idle trunk and receiving the wink start signal prior to time-out, the E911 tandem office outpulses KP - 8 - ST to the PSAP.

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- (b) The PSAP interprets the digit 8 as a maintenance test call and connects the incoming E911 trunk to permanent busy tone (continuous 60-ipm tone). Tone is returned to the E911 tandem office within 20 seconds after receipt of the wink start pulse; otherwise, the E911 tandem office considers the trunk test a failure.
- (c) Approximately 5 seconds after receiving the 60-ipm tone, the E911 tandem office disconnects and idles the trunk under test. It is not necessary for the PSAP to do any timing for a maintenance call, but merely react to the seizure and disconnect from the E911 tandem office.
- 3.99 One trunk test table may be assigned in the E911 tandem office for all E911 PSAP trunk groups such that the trunk test table only contains an

entry for the permanent busy test (single digit 8). This is recommended for the E911 PSAP trunk groups that are automatically tested as part of the standard 1/1A ESS switch trunk progression test.

#### FEATURE ASSIGNMENT

3.100 E911 service is provided on a per system basis. In an E911 service area, one 1/1A ESS switch office is designated as an E911 tandem office for all 911 calls. The E911 tandem office serves all PSAPs in the E911 service area and can provide selective routing for incoming 911 calls from other offices.

3.101 Dedicated E911 trunks are equipped in the E911 tandem office for each PSAP served.

Dedicated 911 trunks are used for incoming 911 calls to the E911 tandem office from other offices. An exception for providing dedicated 911 trunks would be a local office about to be replaced as discussed in paragraph 3.03. Effectively, an E911 network is established for an E911 service area.

#### 4. IMPLEMENTATION

#### DATA ASSIGNMENTS AND RECORDS

#### A. Installation/Addition/Deletion

- 4.01 Set cards applicable to the E911 feature are as follows:
  - 9FE911 for optional feature package 9FE911.
  - NE911 specifies the number of E911 call registers.
  - 9FPIU for optional feature package 9FPIU if a PDSP is used with a 1 ESS switch for selective routing.

# How to Remove 1MR Lines in the DMS Switch

# AT&T Job Aid

## **Overview**

This job aid will describe how to remove translations for lines in the DMS switch. This includes *complete disconnect* of UL, DS0 and DS1 services with a Line Class Code (LCC) of 1MR and lines with Directory Number Hunt (DNH), Multiline Hunt (MLH), and Series Completion Hunt (SCMP) hunting features.

## Section 1

**Disconnecting 1MR Lines** 

### Step 1.

Scrub disconnect order.

### Action

Verify the following information on the order:

- Customer may have multiple T1s. Be sure that the circuit ID matches the Prime Product (Prime Path).
- Are there multiple T1s not shown on the order? Will these circuits stay in service or be disconnected as well?
- Do the number of telephone numbers to be disconnected shown on the order match the number of telephone numbers in the switch? Do they also need to be disconnected?
- Are there additional telephone numbers in the switch that are not listed on the disconnect order?

If there are any discrepancies between what appears on the order and what appears in the switch, reject the order.

## Step 2.

Query the telephone numbers and print the results.

## Action

Open the *TMTS Remote Systems* application and login. Select proper switch port by CLLI. Login to port with **your** switch login and password.

Refer to disconnect order and query each Directory Number (DN) on the list. If the order lists *only* the Billing Telephone Number (BTN) and states that the entire circuit is to be disconnected, start with the BTN.

Print out the following step:

>QDN NPANXXXXX

Repeat the above command for each DN listed on the disconnect order and print the result.

If the disconnect order lists the BTN of the circuit only, start by querying that DN. Example from Providence, RI:

\_\_\_\_\_ >QDN 4012946366 LEN: SA02 32 0 01 02 (1) TYPE: SINGLE PARTY LINE SNPA: 401 (2) SNPA: 401 DIRECTORY NUMBER: 2946366 (2) (PORTED-IN) LINE CLASS CODE: 1MR (3) IBN TYPE: STATION CUSTGRP: RESNKNG SUBGRP: 0 NCOS: 0 SIGNALLING TYPE: DIGITONE LINE TREATMENT GROUP: 207 LINE ATTRIBUTE INDEX: 207 CARDCODE: RDTICB GND: Y PADGRP: STDLN BNV: NL MNO: N PM NODE NUMBER : 184 PM TERMINAL NUMBER : 2 OPTIONS: COD DGT GND PIC 0288 Y LPIC 0288 Y RES OPTIONS: NONE OFFICE OPTIONS: AIN TIID > \_\_\_\_\_

From the above result note the LEN (1), the DN (2) and the Line Class Code (3).

Using the LEN of the number, query each LEN on the T1.

Print out the following step:

```
>1->xx
>Repeat 24(QLEN SA02 32 0 01 XX;XX+1->XX)
<ENTER>
```

The macro will start at the first LEN and query each sequential LEN until it has repeated 24 times, and will display the DNs on each of the 24 channels of the T1.

\_\_\_\_\_

Only proceed if the DN returns a result of "1MR" for the LCC.

If no hunting features are associated with the queried lines go to *Step 6.* For lines with a DNH hunt group, go to *Step 3.* For lines with a MLH hunt group, go to *Step 4.* For lines in a SCMP hunt group, go to *Step 5.*  If the query of the BTN returns a result *other than* a 1MR line, such as a Virtual Directory Number, IBN, M5216 or ISDNKSET, **STOP**. This DN is not a part of the Prime Path service disconnect. Reject order for correct CCNA.

### Step 3.

Remove lines in a Directory Number Hunt (DNH) group.

### Action

All members of the DNH hunt group must be removed before removing the pilot number

**Note:** Print all translations before removing. There may be no other record except what you print out.

\_\_\_\_\_

\_\_\_\_\_

Example DNH hunt group:

```
>QDN 4017398700
```

DN: 7398700 (PORTED-IN) TYPE: PILOT OF DNH HUNT GROUP SNPA: 401 SIG: DT LNATTIDX: 285 HUNT GROUP: 16 HUNT MEMBER: 0 LINE EQUIPMENT NUMBER: SA03 31 0 01 01 IBN TYPE: STATION CUSTGRP: RESWARW SUBGRP: 0 NCOS: 0 LINE TREATMENT GROUP: 285 CARDCODE: RDTICB GND: N PADGRP: STDLN BNV: NL MNO: N PM NODE NUMBER : 191 PM TERMINAL NUMBER : 1 OPTIONS: COD DGT PIC 0288 Y RES OPTIONS: NONE GROUP OPTIONS: CIR TFO RCVD MEMBER INFO: 1 4017398702 2 4017398709 3 4017398748 4 4017398749 \_\_\_\_\_

Remove the DNH members first.

>SERVORD
SO:
>DEL
SONUMBER: NOW 2 2 2 20 PM
>
GROUPTYPE:
>DNH
MEM\_DN:
>4017398702
MEM\_DN:
>4017398709
MEM\_DN:
>4017398748
MEM\_DN:

>4017398749 MEM DN: >\$ INTERCEPT\_NAME: >BLDN COMMAND AS ENTERED: DEL NOW 2 2 20 PM DNH (4017398702) (4017398709) (4017398748) (4017398749) \$ BLDN ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT  $> \mathbf{Y}$ 401-739-8702 1MR : 0 401-739-8709 1MR : 0 401-739-8748 1MR : 0 401-739-8749 1MR : 0 ATTEMPT TO SEIZE THE LINE FAILED LEN : SA29 39 0 01 03 \*\*\* CHECK LINE STATUS \*\*\* ATTEMPT TO SEIZE THE LINE FAILED LEN : SA29 39 0 01 02 \*\*\* CHECK LINE STATUS \*\*\* ATTEMPT TO SEIZE THE LINE FAILED LEN : SA29 39 0 01 03 \*\*\* CHECK LINE STATUS \*\*\* ATTEMPT TO SEIZE THE LINE FAILED LEN : SA29 39 0 01 02 \*\*\* CHECK LINE STATUS \*\*\* 2002/02/20 20:56:25.473 WED. JOURNAL FILE RECORD ID 3019 >QUIT

Remove the pilot DN after all the members have been removed using the SERVORD OUT command. You will need the LEN as well as the DN.

```
>SERVORD
SO:
>OUT
SONUMBER: NOW 2 2 20 PM
>
DN:
>4017398700
LEN_OR_LTID:
>SA03 31 0 01 01
INTERCEPT_NAME:
>BLDN
COMMAND AS ENTERED:
OUT NOW 2 2 20 PM 8605090052 SA29 39 0 01 01 BLDN
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT
>Y
860-509-0052 1MR : 0
ATTEMPT TO SEIZE THE LINE FAILED
LEN : SA29 39 0 01 01 *** CHECK LINE STATUS ***
LAST MEMBER OF HUNT GROUP HAS BEEN REMOVED,
DATAFILL HAS BEEN DELETED FROM HUNTGRP TABLE
2002/02/20 21:02:44.912 WED. JOURNAL FILE RECORD ID 3022
>OUIT
```

### Step 4.

Removing lines in a Multiline Hunt group (MLH).

### Action

This type of hunt group has the characteristic of having only one telephone number, but multiple LENs.

**NOTE:** Print all translations before removing. There may be no other record except what you print out.

Example MLH hunt group:

\_\_\_\_\_ >ODN 4017398700 DN: 7398700 (NON-UNIQUE) TYPE: PILOT OF MLH HUNT GROUP SNPA: 401 SIG: DT LNATTIDX: 103 HUNT GROUP: 50 HUNT MEMBER: 0 LINE EQUIPMENT NUMBER: SA29 39 0 01 03 LINE CLASS CODE: 1MR IBN TYPE: STATION CUSTGRP: RESSANA SUBGRP: 0 NCOS: 0 LINE TREATMENT GROUP: 103 CARDCODE: RDTLSG GND: N PADGRP: STDLN BNV: NL MNO: N PM NODE NUMBER : 131 PM TERMINAL NUMBER : 7 OPTIONS: DGT PIC 0288 Y RES OPTIONS: NONE GROUP OPTIONS: RCVD MEMBER INFO: 1 SA29 39 0 01 04 2 SA29 39 0 01 05 3 SA29 39 0 01 06 \_\_\_\_\_

The members of the MLH group must be removed *first*, then the pilot.

\_\_\_\_\_ >SERVORD SO: >DEL SONUMBER: NOW 2 2 25 PM GROUPTYPE: >MLH MEM\_LEN: >SA29 39 0 01 04 MEM\_LEN: >SA29 39 0 01 05 MEM LEN: >SA29 39 0 01 06 MEM\_LEN: >\$ COMMAND AS ENTERED: DEL NOW 2 2 25 PM MLH (SA29 39 0 01 04) (SA29 39 0 01 05) (SA29 39 0 01 06) \$ ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT  $> \mathbf{Y}$ 401-739-8700 1MR : 0 401-739-8700 1MR : 0 401-739-8700 1MR : 0 ATTEMPT TO SEIZE THE LINE FAILED LEN : SA29 39 0 01 04 \*\*\* CHECK LINE STATUS \*\*\* LEN : SA29 39 0 01 04 RDT line provisioning request submitted ATTEMPT TO SEIZE THE LINE FAILED LEN : SA29 39 0 01 05 \*\*\* CHECK LINE STATUS \*\*\* LEN : SA29 39 0 01 05 RDT line provisioning request submitted ATTEMPT TO SEIZE THE LINE FAILED LEN : SA29 39 0 01 06 \*\*\* CHECK LINE STATUS \*\*\* LEN : SA29 39 0 01 06 RDT line provisioning request submitted

Remove the pilot DN after all the members have been removed using the SERVORD OUT command. You will need the LEN as well as the DN.

```
>SERVORD
SO:
>OUT
SONUMBER: NOW 2 2 25 PM
DN:
>4017398700
LEN_OR_LTID:
>SA29 39 0 01 03
INTERCEPT_NAME:
>BLDN
COMMAND AS ENTERED:
OUT NOW 2 2 25 PM 2105073400 ATT1 00 0 01 07 BLDN
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT
>Y
401-739-8700 1MR : 0
ATTEMPT TO SEIZE THE LINE FAILED
LEN : SA29 39 0 01 03 *** CHECK LINE STATUS ***
LAST MEMBER OF HUNT GROUP HAS BEEN REMOVED,
DATAFILL HAS BEEN DELETED FROM HUNTGRP TABLE
LEN : SA29 39 0 01 03 RDT line provisioning request submitted
2002/02/25 21:19:04.262 MON. JOURNAL FILE RECORD ID 27225
>QUIT
```

### Step 5.

Removing lines in a Series Completion Hunt (SCMP).

### Action

This type of hunt group *will not be identified* as a hunt group in a query. The Series Completion Hunt is an option added to the line that redirects calls from a busy DN to a designated DN in the same office. The option SCMP will appear in the "OPTION" line.

Example SCMP hunt:

```
>QDN 4012480040
DN: 2480040
TYPE: SINGLE PARTY LINE
SNPA: 401 SIG: DT LNATTIDX: 102
LINE EQUIPMENT NUMBER: PRV1 00 0 01 40
LINE CLASS CODE: 1MR
IBN TYPE: STATION
CUSTGRP: RESPROV SUBGRP: 0 NCOS: 0
LINE TREATMENT GROUP: 102
CARDCODE: RDTLSG GND: N PADGRP: STDLN BNV: NL MNO: N
PM NODE NUMBER : 135
PM TERMINAL NUMBER : 141
OPTIONS:
COD DGT PORT SCMP 4012480041
```

RES OPTIONS: NONE OFFICE OPTIONS: AIN TIID

**Note:** Print all translations before removing. There may be no other record except what you print out.

Series Completion Hunt (SCMP) can be queried to find all the members.

Example query:

```
>QSCMP 4012480040
The following DNs series complete to (401) 248-0040:
None. (If there is a number that hunts to the DN queried, it will appear here.)
```

The series completion list which begins at DN (401) 248–0040 is as follows:

- ◆ (401) 248–0041
  ◆ (401) 248–0042
  ◆ (401) 248–0042
- ♦ (401) 248–0043

Series completion list is fully displayed.

Query the rest of the numbers in hunt for the Office Equipment (OE) information. You will need the LEN assignment to 'out' the number.

>QDN 4012480041 >QDN 4012480042 >QDN 4012480043

Lines with the SCMP option assigned, must be removed one at a time in the correct sequence starting with the first number in the hunt. You may not remove a line if another number has the series completion option hunting *to* it. Identify the starting number using the QSCMP query and start removing the numbers from that point.

**Note:** Print all translations before removing. There may be no other record except what you print out.

Remove the series in SERVORD using the OUT command. Start with the *first* number in the series.

```
>SERVORD
SO:
>OUT
SONUMBER: NOW 2 2 20 PM
>
DN:
>4012480040
LEN_OR_LTID:
>PRV1 00 0 01 40
INTERCEPT_NAME:
>BLDN
```

```
COMMAND AS ENTERED:

OUT NOW 2 2 20 PM 8605090053 SA29 39 0 01 02 BLDN

ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT

>Y

860-509-0053 1MR : 0

ATTEMPT TO SEIZE THE LINE FAILED

LEN : SA29 39 0 01 02 *** CHECK LINE STATUS ***

2002/02/20 21:32:31.793 WED. JOURNAL FILE RECORD ID 3043

>QUIT
```

Repeat this step for all lines with the SCMP option assigned to them.

### Step 6.

Remove a single party line from switch. (No hunting)

### Action

**Note:** Print all translations before removing. There may be no other record except what you print out.

Using the DN and it corresponding LEN, OUT the DN in SERVORD referring to the print out of *all* lines.

\_\_\_\_\_ >SERVORD SO:  $> \mathbf{OUT}$ SONUMBER: > DN: >4012480043 LEN\_OR\_LTID: >PRV1 0 0 1 43 INTERCEPT\_NAME: >BLDN COMMAND AS ENTERED: OUT NOW 1 12 20 PM 4012480043 PRV1 00 0 01 43 BLDN ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT >Y 401-248-0043 1MR : 0 2001/12/20 14:47:26.185 THU. JOURNAL FILE RECORD ID 32231 >QUIT \_\_\_\_\_

### Query each DN to verify they are out.

>**QDN 4012480040** DN: 4012480040 TYPE: UNASSIGNED

### Section 1A

If this is a <u>complete disconnect</u> of a T1 associated with a SMA2 link, link must be return to an equipped and available state. Otherwise, skip to *Step 10.* 

## Step 7.

Remove LENs in table LNINV (Line Circuit Inventory).

### Action

### Step 8.

Remove entry from table RDTINV (Remote Digital Terminal Inventory).

### Action

Whenever a circuit is disconnected, the tuple must be removed to free up the link for the next application.

The key into this table is the first part of the LEN. Example from Providence, RI:

```
LEN = SA29 39 0 01 01

The key into table RDTINV would be : SA29 39 0

>TABLE RDTINV

>POS SA29 39 0

>DEL

TUPLE TO BE DELETED:

SA29 39 0 412 SMA2 29 305 PRVP0100848 $ $ ICB 1 NA $ N (1 39) $ N STDLN N $ $

ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT.

>Y
```

### Step 9.

Contact city operations / switch room.

### Action

Contact city operations / switch room personnel and alert them that translations have been removed from the OE(s). At this time, the OE must be "offlined." If the OE is kept "in-service" without translations, it will cause alarms.

# Step 10.

Remove ALI or NISE assignments.

# Action

Open ALI to correct city and remove line assignments. If this is a complete T1 disconnect also delete the Remote Terminal (RT) to return OE to "SPARE" status. See AT&T Job Aid #25471: *Using ALI to Assign SWOE for DMS and 5E.* 

If this is a NISE supported city, remove channel assignments. See AT&T Job Aid #27710: *Complete Disconnects Orders in NISE/SWF.* 

## Step 11.

Complete dates.

## Action

Close all dates and update order log. Keep printed translations in folder should the disconnect need to be reversed.

# Nortel DMS-100 Line Assignment Table (LENLINES)

### Table Name

Line Assignment Table.

### **Functional Description of Table LENLINES**

Table LENLINES contains the following data for each datafilled line:

- The site name assigned to the remote location (if the line is remote).
- The Line Equipment Number (LEN).
- The party to which the Directory Number (DN) is assigned.
- The ring code assigned to the directory lines.
- The director number.
- The signal type.
- The index into table LINEATTR (Line Attribute).

\_\_\_\_\_

- Options assigned to the line.
- The Serving Numbering Plan Area (SNPA) of the director number associated with the line.

Party types are assignable as shown in the following table:

Party Types and Associated Information				
Party Type	Abbreviation	Assignable To		
SINGLE	S	Single-party lines		
RING1	R1	Two-, four-, eight-, and ten-party lines		
RING2	R2	Four-, eight-, and ten-party lines		
RING3	R3	Eight- and ten-party lines		
RING4	R4	Eight- and ten-party lines		
RING5	R5	Ten-party lines		
TIP1	T1	Two-, four-, eight-, and ten-party lines		
TIP2	Т2	Four-, eight-, and ten-party lines		
TIP3	ТЗ	Eight- and ten-party lines		
TIP4	Т4	Eight- and ten-party lines		
TIP5	T5	Ten-party lines		

\_\_\_\_\_

-End-

The following table shows the correspondence between ring codes and ringing types. For international switches, the ring code is 0 (zero) for regular ringing cadence. The cadences for the other values are not currently defined.

\_\_\_\_\_

#### Ring Codes and Ringing Types

Ring Code	Coded Ring Code	Superimposed Ring Code	Frequency Selective Ring Code
0	_	_	Primary
1	1	1-	1
2	2	1+	2
3	3	2-	3
4	4	2+	4
5	5	_	5

-End-
The following table shows the correspondence between line class codes, line card type, and ring code:

\_\_\_\_\_

Line Class Code, Line Card Type, and Ring Code									
		Coded		<u>Superimpos</u>	ed	Frequency Selective			
Line Class Code	Ringers	Line Card	Ring Code	Line Card	Ring Code	Line Card	Ring Code		
1FR	Bridged	A	0 (note 1)	A	0 (note 1)	A	0 (note 1)		
1FR	Divided	_	_	_	_	В	1-5		
2FR	Divided	A	0 (note 1)	A	0 (note 1)	В	1-5		
2FR	Bridged	-	-	_	-	A or B (note 2)	1-5		
4FR	Divided	_	_	В	1-4	В	1-5		
4FR	Bridged	-	-	_	-	A or B (note 2)	1-5		
8FR	Divided	В	1-5	В	1-4	В	1-5		
10FR	Divided	В	1-4	-	-	_	_		
Note 1: If a ring code of 0 (zero) is entered by table editor or service order, a Type A line card must be associated with the service concerned.									
Note 2: A Type A line card is recommended for these applications.									

-End-

If the ringing type is frequency selective, the ringing and frequencies are defined in table LMRNG (Line Module Ring Code). The following table indicates the available frequencies and access ring code for each type of frequency ringing. Each line module can handle four of the five frequencies.

\_\_\_\_\_

```
Access Ring Codes and Associated Frequencies
```

Ring code	Decimonic	Harmonic	Synchronic 16	Synchronic 20
0	Primary	Primary	Primary	Primary
1	20	16-2 3(17)	16	20
2	30	25	30	30
3	40	33-1 3(34)	42	42
4	50	50	54	54
5	60	66-2 3(67)	66	66

-End-

#### Features With Input Data Specified in Table LENFEAT

The input data associated with the following features is specified in table LENFEAT (Line Feature):

ADL	-	Abbreviated Dialing	AIN	-	Advanced Intelligent Networ
AIOD	_	Auto-identified Outward Dialing	AUL	-	Automatic Line

CLID	- Bulk Calling Line Identification	DA - Call Diversion to Ann	nouncement
CDB	- Call Diversion on Busy	DF - Call Diversion Fixed	
CDO	- Call Diversion to Operator	DS - Call Diversion to Sub	oscriber
CLI	- Calling Line Identification	SDDS - Circuit Switched Dig	ital Data Service
CTD	- Carrier Toll Denied	SG - Emergency Service Gro	oups*
ESL	- Emergency Service (911)	WAL - Enhanced WATS Access	Line
	on Ringdown Trunk	RS - Sleeve Lead Control :	for Public Fire
		Reporting System	
FRO	- Sleeve Lead Control		
HTL	- Hot Line	DND - International Do Not	Disturb*
ILR	- International Line Restrictions	NDC - International No Doub	ole Connect
LPIC	- Local Primary Inter-LATA Carrier	BK – Make Busy Key	
MPB	- Multiparty Bridge	UTWT - OUTWATS	
PIC	- Primary Inter-LATA Carrier	MB – Random Make Busy	
RMP	- Remote Meter (register) Pulsing	MS – Remote Register, SD H	Point
RSUS	- Requested Suspension	CMP - Series Completion	
SC1	- Speed Calling Short	C2 - Speed Calling Long	
SDN	- Secondary Directory Number	DY – Line Studies	
SHU	- Stop Hunt	LU - Subscribers Line Usag	je
SPB	- Special Billing Number	BO - Terminating Billing (	Option
WLN	- Warm Line*	ML – Warm Line	

\* = international loads only

#### **General Notes & Restrictions**

The assignment of lines to hunt groups is specified in tables HUNTGRP (Hunt Group) and HUNTMEM (Hunt Group Member).

When a tuple is added to table LENLINES for a new hunt group member, add a corresponding tuple to table HUNTMEM.

The input data for options, ground start, loss, balanced network value, and manual override are recorded in table LNINV (Line Circuit Inventory).

Lines with special services card codes NAILUP, NT3A13AB/AC, SSM4WV, SSM4WD, and SSM2WV cannot be datafilled in this table.

A Remote Digital Terminal (RDT) related tuple can only be added to this table if field CARDCODE in table LNINV is RDTLS, RDTLSG, or RDTCON. Field LNATTIDX in table LENLINES needs to correspond to a LCC of either Coin First service (CCF), Coin Dial Tone First service (CDF), or Coin Semi–Postpay service (CSP) (datafilled in table LINEATTR) if the card code of the RDT line is RDTCON. When datafilling a RDT–related entry in a table, the end user is prompted for the RDT LEN format.

The restriction of features CFBL (Call Forward Busy Line) and CFB (Call Forward Busy) being assigned to POTS lines only is no longer valid. The CFBL and CFB features can be added to Integrated Business Network (IBN) and Residential Enhanced Services (RES) lines.

The restriction of features MBK (Make Busy Key), ILB (Inhibit Line Busy), and IMB (Inhibit Make Busy) being only usable by non-hunt group members is no longer valid. The MBK, ILB, and IMB features modify the CFB and CFBL features. The CFBL and CFB features, which can be assigned to IBN and RES lines, enable the use of the MBK, ILB, and IMB features on IBN and RES lines (which can be members of hunt groups).

#### **Available Options for Table LENLINES**

The following is a list of available options that can be selected during the datafill of table LENLINES. These options are listed alphabetically by option abbreviation.

**Note 1:** For international loads the only available options are APS, CWT, DOR, DTBI, DTM, ELN, FDN, FNO, FNT, GLTC, HOT, ICR, ICT, LRA, LRS, MCT, NHT, ONI, PLP, PMC, PR1, PR2, RAG, SCR, SPM, SUS, WUC, 3WC, and 6WC.

**Note 2:** Options APS, DTBI, FDN, ICR, ICT, LRA, LRS, MCT, PMC, PR1, PR2, RAG, WUC, SCR, SPM, and 6WC are not available in loads other than international.

# AMATEST – AMA Test Line

This option enables the operating company to designate an originating or terminating line as an Automatic Message Accounting (AMA) test call line. The line option AMATEST works on Integrated Business Network (IBN) and POTS lines. Option AMATEST does not force the generation of a billing record by any call to or from a line that has the option enabled. If a billing record was not produced by such a call before this option was available, it is not produced with option AMATEST enabled. A call to or from a line with option AMATEST enabled produces a billing record, and that record is marked by a 1 in the fourth character position of the study indicator field. The regional accounting office is responsible for recognizing these types of records as test calls. An AMAB200 log is optional and controlled by the entry in field LOGTEST in table AMAOPTS.

#### AMSG – Access to Messaging

This option provides the feature to the user when assigned to a line

For more information, refer to the "Access to Messaging" feature in the RES translations section of the *Translations Guide*.

# **AMSGDENY – Access to Messaging Deny**

This option prevents the access to messaging service from being offered on the line when assigned to a line if either of the following occurs:

- If customer group option AMSG is assigned to a customer group option of which the line is a member.
- If AMSG is offered office-wide using universal mode.

For more information, refer to the "Access to Messaging" feature in the RES translations section of the *Translations Guide*.

Note: Options AMSG and AMSGDENY cannot be assigned to the same line.

# **APS – Attended Pay Station**

International loads only.

This option must be assigned to each line in a service hall. A service hall is a public site where telephone calls can be placed. Each site is supervised by an attendant who assigns telephones to end users and collects payment for their telephone charges.

# ATC – Automatic Time and Charges

This option applies to lines with a Time and Charges (TCC) services. With this option the Number Exchange Identification (NXID) prints the call details at a printer for all 1+ calls, and a clerk calculates the charges and phones back the subscriber with this information.

# CAT1-CAT9 - CIS Subscriber Categories

These options specify the Commonwealth of Independent States (CIS) subscriber category for a line. Options given to a line must be compatible with the line class of the line and other line options. Refer to tables LCCOPT and OPTOPT for compatibility information.

#### **CCW – Cancel Call Waiting**

This option determines if cancel call waiting is permitted. The Call Waiting (CWT) line option must be assigned to the line in order to assign option CCW. In addition, office parameter CCW\_ACTIVE must be set to Y to use option CCW.

#### CD0-CD9 - Circle Digit

These options can be assigned to party lines that have more than four parties and require circle digit operation. The number in the option name represents the circle digit (for example, CD4 is for circle digit 4). Two parties on the same line cannot have the same circle digit. Either all or none of the parties on the line have circle digit operation.

If a line has the circle digit option, the parties are required to dial the circle digit on all direct dial (1+) calls. In the standard pretranslator, the circle digit must be included in the number of prefix digits for all lines with the circle digit operation.

# CLF – Calling Line Identification with Flash

A called party with this option can hold the connection within the DMS–100 switch by flashing the switch hook and staying off–hook. An alarm is generated in the switch (see table SFWALARM). If both the calling and called parties are terminated in the switch, the entire connection is held until the called party goes on–hook. If the call is on an incoming trunk and terminates within the switching unit, the connection is held back to the incoming trunk.

**Note:** The Calling Line Identification with Flash (CLF) feature is incompatible with call-originating Integrated Services Digital Network (ISDN) telephone sets. When calling from an ISDN phone set to an Integrated Business Network (IBN) line that has CLF assigned, the IBN set flashes the hookswitch and dials the CLF access code (for example, 11#) but the ISDN set does not remain held by the CLF feature. When the IBN set tries to apply the CLF, a FTR138 log is generated, showing treatment as FNAL (FEATURE\_NOT\_ALLOWED).

# **COD – Cutoff on Disconnect**

This option is required for lines that need a line cutoff relay to operate on disconnect.

# **CPH – Called Party Hold**

A called party with this option can hold a connection originated within the same switch by remaining

off-hook. The call is not taken down unless the called party goes on-hook (for local lines only).

# **CWT – Call Waiting**

This option alerts the subscriber who is active on a call that another call is ringing on the line.

Option CWT affects the value of the following office parameters in tables OFCENG:

- NO\_OF\_SMALL\_FTR\_DATA\_BLKS (Number Of Small Feature Data Blocks)
- NO\_OF\_MEDIUM\_FTR\_DATA\_BLKS (Number Of Medium Feature Data Blocks)
- NO\_OF\_LARGE\_FTR\_DATA\_BLKS (Number Of Large Feature Data Blocks)
- NO\_OF\_FTR\_CONTROL\_BLKS (Number of Feature Control Blocks)

#### DENYSRA – Deny Universal Suppressed Ringing Access

Operation company personnel can assign DENYSRA to a line in order to deny suppressed ringing access to that line when SRA is deployed on an office–wide basis.

#### DENYU3WC – Deny Three–Way Calling – Usage Sensitive

This option can be assigned to a RES line or a POTS line when the end-user does not want access to U3WC. When this option is added to a line, the flash privilege remains as long as there are other flashable options. If, however, there are no other flashable options on the line, then the flash privilege is removed. When this option is deleted from a line, the flash privilege must be given to lines which are U3WC compatible.

# **DOR – Denied Origination Service**

This option can be assigned to any line on which the subscriber receives calls, but does not originate them. If a line with option DOR attempts to originate a call, the line is routed to Originating Service Supervision (ORSS) treatment in subtable TMTCNTL.TREAT(LNT). This option is provided with software package NTX002AA02.

# DTBI – Denied Toll Break–In

International loads only.

This option can be assigned to any line to prevent the operator from breaking into a call, thereby ensuring greater privacy. The option can be assigned by the operating company using service orders. Assignment charges are incurred on the feature meter as datafilled.

# **DTM – Denied Termination Service**

This option can be assigned to any line on which the subscriber can originate calls, but cannot receive them. If translation attempts to terminate to a coin line with denied termination service, translation is routed to Coin Denied Termination (CNDT) treatment in subtable TMTCNTL.TREAT(LNT). If the line is other than coin, translation is routed to Denied Terminating (DNTR) treatment in subtable TMTCNTL.TREAT(LNT).

# **ELN – Essential Line Service**

This option applies to lines that are allowed to originate calls when the switch has Line Load Control (LLC) active. To activate line load control, see Command Interpreter (CI) command LLC ON.

# FDN – International Subscriber Features Denied

This option can temporarily deny a subscriber the use of current features without deleting the features from the data tables. If FDN has been assigned, no other options are functional to the subscriber. The operating company is still able to change or delete the feature data through service orders or table control. Adding new line options is not permitted, with the exception of Malicious Call Trace (MCT).

When option FDN is removed, all line options are returned to the state they were in prior to the activation of FDN.

FDN is only available to the operating company through service orders or table control. It is not a subscriber–chargeable option.

# FGA – Billing Record for Feature Group A (FGA) Call

This option, which can be assigned to terminating FGA lines, provides a billing record for terminating FGA calls.

FGA provides line–side access to end–office switches with an associated seven–digit telephone number. A subscriber to FGA service dials the number, receives dial tone from the carrier, and dials the desired long distance number. The carrier then originates a call to complete the subscriber s long distance call.

An Automatic Message Accounting (AMA) record with call code 132 is generated when a terminating FGA call is answered by the called party.

# FIG – Flash Ignore

If a flash signal must be ignored on a specific line, the FIG option is assigned to that line.

# **FNO – Free Number Origination**

This option applies to R2 toll calls, and affects ICR call records of the line–originated calls as a free call indication. Calls with the FNO line option are metered but not charged. The FNO line option affects feature charging. The FNO line option is not compatible with line options Selective Charge Recording (SCR), Attended Pay Station (APS), Subscriber Premise Meter (SPM), and line attribute hotel (HOT). This line option is applicable to the line class code standard (STD).

#### **FNT – Free Number Terminating**

This option, which only applies to local or extended area service calls, can be assigned if a charge condition must not be returned on a terminating call. With this option, the deposit of a coin is required in order to make a call on a coin dial tone first line. The coin is returned upon completion of the call.

# **GLTC – Ground Loop Test Cancel**

This option can be assigned to individual lines to override a Y (yes) setting of office parameter PER\_CALL\_GND\_LOOP\_TEST in table OFCVAR, thereby preventing the ground loop test from being performed. If office parameter PER\_CALL\_GND\_LOOP\_TEST is set to N (no) in table OFCVAR, the GLTC option has no effect since the ground loop tests are turned off on a global

office basis.

The setting of parameter PER\_CALL\_GND\_LOOP\_TEST determines whether a ground loop test is performed before terminating to a ground start line. If set to a Y in table OFCVAR and option GLTC is not assigned, then a ground loop test is performed on all terminations to all ground start lines. The parameter PER\_CALL\_GND\_LOOP\_TEST setting controls the ground loop test on a global office basis. The parameter PER\_CALL\_GND\_LOOP\_TEST setting controls the ground loop test on a global office basis.

# HOT – Hotel / Motel

This option sends an identification (ID) digit to the Traffic Operator Position System (TOPS) or Traffic Service Position System (TSPS) operator to identify that the call is from a hotel or motel.

# ICR – International Toll Call Recording

International loads only.

This option can be assigned to lines in international switching units if toll call recording of completed calls is required. If a call is a local call, the call is not recorded. If the call failed or a restart occurred, as much information as possible is recorded.

# ICT – International Call Transfer

International loads only.

This option can be assigned to lines in international switching units to enable a subscriber to transfer a call to another subscriber by flashing the switch hook and dialing the other party. The two other subscribers are connected together and the initiator is released from the call.

# ILB – Inhibit Line Busy

This option inhibits the Call Forward Busy (CFB) feature whenever a line is actually busy. Incoming calls cannot be forwarded to a busy line.

# IMB – Inhibit Make Busy

This option is used in conjunction with the Make Busy Key (MBK) service. When MBK is activated on a line with the IMB option, an incoming call cannot be forwarded and a busy tone or user-defined treatment occurs.

# **INT – Intercom**

This option can be assigned to lines that have subscribers intercom. This option can only be assigned to lines in switching units that have office parameter INTERCOM in table OFCOPT set to Y.

# IRR – Inhibit Ring Reminder

This option turns off the ring reminder for a line with the call forwarding feature. Lines with the IRR option still forward calls, but do not have a ring reminder.

#### ITD – Inter–LATA Toll Denied

The territory of AT&T is divided into Local Access Transport Areas (LATA). This option applies to lines that are denied originating inter–LATA toll calls.

# LCDR – Local Call Detail Recording

If the office is set up for Local Automatic Message Accounting (LAMA), this option can be assigned to lines for which details of all local calls originated by the line must be recorded on the AMA tape. This option can be assigned to an Inward Wide Area Telephone Service (INWATS) line if a count of calls to the INWATS line is required.

Note: Option SDSDENY is assigned to a line using the SERVORD utility.

# LDSA – Long Distance Signal Activate

This option allows temporary activation/deactivation of Long Distance Alerting (LDA) functionality on a per–line basis by one of the following methods:

- The subscriber dials the LDSA feature activation code (\*49 or 1149). The code acts as a toggle: if option LDSA is provisioned on the subscriber's line, \*49 removes the option; otherwise, \*49 activates the option.
- The operating company activates or deactivates option LDSA using SERVORD or table editor.

LDSA can be added to a line only if the line has one of the following line options:

- Long Distance Signal Option (LDSO)
- Long Distance Signal Tone (LDST)
- Long Distance Signal Ring (LDSR)

LDA automatically provisions options LDSA and LDSO on all lines in the same line group if option Long Distance Signal Valid (LDSV) is assigned against the line group (in table LINEATTR) and if office parameter LDS\_AUTO\_PROV\_ENABLED is set to Y.

Options LDSA and LDSO, LDST, or LDSR are removed if option LDSV is not provisioned against the line group. Automatic provisioning and removal of provisioning occur at the next call termination or the \*49 invocation.

Long Distance Alert (LDA) is also known as Long Distance Signal (LDS), Toll Alert, and Outside Calling Area Alerting (OCCA).

# LDSO – Long Distance Signal Option

This option indicates that LDA is allowed on a line. Option LDSO is assigned on a per–line basis using SERVORD or table editor.

**Note:** Option LDSO is one of a group of LDA distinctive alerting options, consisting of LDSR, LDST, and LDSO. Only one of these options can be assigned to a given line. The distinctive alerting option cannot be removed from a line unless option LDSA has been removed or is being deleted at the same time.

LDA automatically provisions options LDSA and LDSO on all lines in the same line group if option LDSV is assigned against the line group (in table LINEATTR) and if office parameter LDS\_AUTO\_PROV\_ENABLED is set to Y.

Options LDSA and LDSO, LDST, or LDSR are removed if option LDSV is not provisioned against the line group. Automatic provisioning and removal of provisioning occur at the next call termination or the \*49 invocation.

# LDSR – Long Distance Signal Ring

This option indicates that LDA is allowed on an idle line. Option LDSR is assigned on a per–line basis using SERVORD or table editor.

**Note:** Option LDSR is one of a group of LDA distinctive alerting options, consisting of LDSR, LDST, and LDSO. Only one of these options can be assigned to a given line. The distinctive alerting option cannot be removed from a line unless option LDSA has been removed or is being deleted at the same time.

Option LDSR is not automatically provisioned. Option LDSO is automatically provisioned if LDSR or LDST is not already present on the line.

Options LDSA and LDSO, LDST, or LDSR are removed if option LDSV is not provisioned against the line group. Automatic provisioning and removal of provisioning occur at the next call termination or the \*49 invocation.

#### LDST – Long Distance Signal Tone

This option indicates that LDA is allowed on a busy line. Option LDST is assigned on a per–line basis using SERVORD or table editor.

**Note:** Option LDST is one of a group of LDA distinctive alerting options, consisting of LDSR, LDST, and LDSO. Only one of these options can be assigned to a given line. The distinctive alerting option cannot be removed from a line unless option LDSA has been removed or is being deleted at the same time.

Option LDST is not automatically provisioned. Option LDSO is automatically provisioned if LDSR or LDST is not already present on the line.

Options LDSA and LDSO, LDST, or LDSR are removed if option LDSV is not provisioned against the line group. Automatic provisioning and removal of provisioning occur at the next call termination or the \*49 invocation.

#### LRA – Line Reversal on Answer

International loads only.

On calls originating from a Private Branch Exchange (PBX) line, the call is routed and connected through the DMS–100 switch as a regular call. When the called subscriber answers, the answer is received by the DMS–100 switch. If the line has the LRA line option datafilled, reversal is applied to the PBX line on answer. If the line also has the Subscriber Premises Meter (SPM) option datafilled, a delay of 500 to 600 ms is introduced before SPM pulses are sent in order to allow the PBX line to settle down. This option can only be applied to standard (STD) lines.

#### LRS – Line Reversal on Seizure

International loads only.

On calls outgoing from the DMS–100 switch and terminating on a PBX line, if the DMS–100 line has line option LRS datafilled, reversal is applied on seizure, followed by ringing. This reversal is maintained until answer. This option can only be applied to STD lines.

# MAN – Manual Service

This option can be assigned to lines that are set up for originating manual service.

# MCT – Malicious Call Trace

International loads only.

This option is assignable to any line in an international switch to enable the operating company to trace and identify a malicious call originator, with the assistance of a signal from the called subscriber.

# **MIGRATE – Migrate**

The MIGRATE option identifies lines that are in the process of migrating from a collapsing office into a Call Server Complex (CS2000). The lines will be pre-datafilled on the new office but will be blocked from operation by the existence of the MIGRATE option until the migration is complete. Terminations to the DN will be routed to the collapsing office where the DN is still in service.

This will be accomplished during the routing stage of call processing by using the conditional routing selector (CND MIGRATE) in table FNPACONT, as well as tables HNPACONT:RTESET, OFRn and IBNRn.

# NDC – No Double Connection

This option can be assigned to a line to ensure that no connections are made to a verification or test circuit when the line is busy.

# NHT – No Line Hazard Test

This option prevents feature NC0105 (Line Card Monitor) from testing the line for a line hazard condition (for example, low resistance, high voltage or a ring-to-ground fault on the subscriber's loop). Option NHT is valid for the following line cards only:

NT2X17
NT2X18
NT6X17
NT6X17AC
NT6X17BA
NT6X18A
NT6X18AA and AB
NT6X18BA
NT6X19

# NLT – No Line Insulation Testing

This option can be assigned to lines to ensure that they are skipped by the Automatic Line Insulation Test (ALIT).

# NOH – No Receiver Off–Hook Tone

Receiver off-hook tone is not transmitted to lines with this option if the lines have a permanent signal or partial dial condition.

# NPGD – Negate Partial Ground Start Diagnostics

This option allows a smaller subset of the long diagnostics to run on select lines that are connected to ground start equipment programmed to answer on tip current.

**Note:** When option NPGD is set in table LENLINES, the full ground start diagnostics are not performed on the line card. Loop detector, reversal relay, and ground start relay tests are skipped.

# **PDO – Prevent Deletion Option**

This option prevents the removal of a line from service. If you try to remove a line from service that has the PDO assigned, an error message displays and the command fails.

#### **ONI – Operator Number Identification**

This option can be assigned to lines that require operator number identification. Lines that are not assigned this option are assigned as Automatic Number Identification (ANI) lines.

# PLP – Plug Up

This option can be assigned to lines that are in the plug-up state.

# **PMC – Printer Meter Check**

International loads only.

This option allows the DMS–100 switch to generate a detailed hard copy report of all answered outgoing calls on a line with option PMC. The DMS–100 switch is able to support up to 64 lines that have option PMC. A log report is output for every outgoing answered call on a line with option PMC.

# PR1 – Priority 1 / PR2 – Priority 2

International loads only.

These options define the subscriber's priority. The Chinese C1 signaling system is a variant of the CCITT signaling system (R2). C1 signaling uses a group of forward and backward signals to pass information through the network. The first group of signals (group 1 forward signals) are the KA signals that provide information on the subscriber's priority (ordinary, priority1, or priority2), charging category, and communication service class.

# RAG – Ring Again

International loads only.

This option notifies the calling party, who has encountered a busy line on an intraoffice call, that the

called line has become idle. It enables the call to be initiated again without redialing of the number. Office parameter RAG\_RECALL\_TIMEOUT in table OFCVAR defines the length of time the calling party has to pick up the RAG recall. Option RAG can only be assigned to a line by the operating company.

# **RCD – Reverse Coin Disposal**

This option can be assigned to Coin First Service (CCF) and Coin Dial Tone First service (CDF) coin lines that are wired for reverse coin–collect and coin–return signals. The option causes the coin control voltages that are sent to these lines to have a reversed polarity (opposite from normal) for proper pay station functioning.

# **RMR – Remote Message Register**

Local calls.

This option can be assigned to lines to provide tip and ring reversal on answer for local calls. The reversal can be used to increment a remote hardware register or for other purposes required by the operating company. Option RMR is allowed with option TDV (toll diversion) only if the toll diversion signal is a wink.

#### **RMT – Remote Message Register**

Nonlocal calls.

This option can be assigned to lines to provide tip and ring reversal on answer for calls other than local (for example toll, operator, or DDD). The reversal can be used to increment a remote hardware register or for other purposes required by the operating company. Option RMT is allowed with option TDV (toll diversion) only if the toll diversion signal is a wink.

#### **RSP – Restricted Sent Paid**

This option can be assigned to lines that have Zero Minus Deied (ZMD) or Zero Minus Zero Plus allowed (ZMZPA) line class codes (see table LINEATTR). It causes outpulsing of the ANI information digit 7 (or digit 2, in the case of ANI fail) plus the calling party's DN. Option RSP supercedes the action caused by the setting of field HOT (hotel) in table LINEATTR, and can only be used if the coinless pay station feature has been purchased. Option RSP is compatible with and can be assigned to a 1FR line.

# SCR – Selective Charge Recording

International loads only.

Subscribers whose lines have this option can have the charge for calls quoted back to them when each call is completed. Subscribers invoke this option for each call by keying in a service code before dialing the target number. When the SCR call is completed, a log is printed that contains the call details used by the operating company staff when they ring back the subscriber to provide a quotation of the call charges. Assignment and usage charges are incurred on the feature meter as datafilled.

#### **SDS – Special Delivery Service**

The SDS option assigns the Enhanced Busy Call Return (EBCR) service to a line. For more information on the service, consult the Enhanced Busy Call Return (EBCR) feature, RES00076. Option SDS and option SDSDENY cannot be assigned to the same line.

#### SDSDENY – Special Delivery Service Deny

When assigned to a line, option SDSDENY prevents the Enhanced Busy Call Return (EBCR) service from being offered on that line, even if customer group option SDS is assigned to a customer group of which the line is a member, or if the specified service(s) is offered office wide using Universal mode. For more information on the EBCR service, consult the Enhanced Busy Call Return (EBCR) feature, RES00076. Option SDSDENY and option SDS cannot be assigned to the same line.

#### **SPM – Subscriber Premises Meter**

International loads only.

This option can be assigned to lines that require a subscriber premise meter. This option converts the assignment of a subscriber premise meter to a line option instead of being determined by metering tables datafill.

#### **SRA – Suppressed Ringing Access**

Operating company personnel can assign the SRA line option to a line in order to allow suppressed ringing access to that line.

#### STRD – Short Timed Release Disconnect

This option provides a means to cancel Long Timed Release Disconnect (LTRD). Option LTRD is used to keep a call connection up across the network for a specified amount of time after the called party has gone on-hook. The DMS-100 switch determines the calls to which option LTRD is applied. When option STRD is applied to a line, option LTRD is disabled if it applies to that call. Option STRD affects line-to-trunk calls on the trunk group types ATC, IT, SC, TOPS, T2, and TO. However, STRD does not affect PRA trunks because PRA trunks are built on the IBN platform, which does not support TRD.

Option STRD is controlled by office parameter SHORT\_TIMED\_RELEASE\_DISC\_TIME in tables OFCENG and OFCSTD.

#### SUS – Suspended Service

This option can be assigned to lines that have originating and terminating service suspended.

# **TDN – Toll Denied**

This option applies to lines that are denied originating toll calls.

#### **TDV – Toll Diversion**

This option applies to PBX lines on which toll calls require diversion to the PBX attendant. The type

of toll diversion signal, either reversal or wink, is controlled by the office parameter TOLL\_DIVERSION\_SIGNAL in table OFCVAR.

# **TES – Toll Essential Service**

This option applies to lines that are allowed access to the toll network when all other lines are denied access to it through the activation of toll network protection. All lines with option TES must have option ELN.

#### (U3WC) – Three–Way Calling – Usage Sensitive

This feature is Three–Way Calling (3WC) with the following changes: an optional access code (\*71 or 1171) is entered for U3WC activation; a billing record is generated each time the U3WC feature is activated; and a separate U3WC register group is created for Operational Measurement (OM) data. U3WC is designed to support RES and POTS lines.

U3WC feature operates in the same manner as the 3WC feature. The subscriber must be in a stable two-party call to activate the U3WC feature.

The first switch-hook flash is used to invoke the U3WC feature, then the subscriber receives a special dial tone, and an access code is entered, if required. Next, the directory number of the add-on party is dialed, and the second switch-hook flash establishes the three-way call.

#### WUC – Wake Up Call

International loads only.

This option enables a subscriber to set a time for the phone to ring. When office parameter CASUAL\_FEATURES\_OFF in table OFCOPT is set to Y (yes), WUC becomes a line option. When the office parameter is set to N (no) WUC becomes a casual feature. Option WUC can only be added to or deleted from table LENLINES if office parameter CASUAL\_FEATURES\_OFF is set to Y. When the operating company assigns WUC to a line, an assignment charge is applied. No assignment changes are applied if WUC is a casual feature.

#### 3WC – Three–Way Calling

This option enables the customer on the assigned line to place an existing call on hold and set up an inquiry call to another subscriber. The subscriber initiating the 3WC has the ability to:

- Switch speech paths between held party and talking party.
- Connect all parties into a three-port conference.
- Remove the conference and reconnect to a single party.

Option 3WC affects the value of the following office parameters in table OFCENG:

- NO\_OF\_SMALL\_FTR\_DATA\_BLKS (Number Of Small Feature Data Blocks)
- NO\_OF\_MEDIUM\_FTR\_DATA\_BLKS (Number Of Medium Feature Data Blocks)
- NO\_OF\_LARGE\_FTR\_DATA\_BLKS (Number Of Large Feature Data Blocks)
- NO\_OF\_FTR\_CONTROL\_BLKS (Number of Feature Control Blocks)
- NO\_OF\_FTR\_XLA\_BLKS (Number of Feature Translation Blocks)
- NUMPERMEXT (Number of Permanent Extension Blocks)
- NMULTIBLKS (Number of Multiblocks)

# 6WC – Six–Way Calling

International loads only.

This option enables the customer on the assigned line to place an existing call on hold and set up an inquiry call to another subscriber. The subscriber initiating the 6WC has the ability to:

- Switch speech paths between the inquiry call and the parties in the conference.
- Connect the inquiry call into a six-port conference and add up to five parties into the conference.
- Remove the inquiry or conference and remain connected to remaining parties.

Option 6WC affects the value of the following office parameters in table OFCENG:

- NO\_OF\_SMALL\_FTR\_DATA\_BLKS (Number Of Small Feature Data Blocks)
- NO\_OF\_MEDIUM\_FTR\_DATA\_BLKS (Number Of Medium Feature Data Blocks)
- NO\_OF\_LARGE\_FTR\_DATA\_BLKS (Number Of Large Feature Data Blocks)
- NO\_OF\_FTR\_CONTROL\_BLKS (Number of Feature Control Blocks)
- NO\_OF\_FTR\_XLA\_BLKS (Number of Feature Translation Blocks)

#### **Datafill Sequence and Implications**

The following tables must be datafilled before table LENLINES:

- HUNTGRP (Hunt Group Table)
- LINEATTR (Line Attribute Table)
- LNINV (Line Circuit Inventory Table)
- OPTCTL (Option Control Table)

#### Table Size

Memory is dynamically allocated for this table. The maximum number of tuples depends on the number and type of line Peripheral Modules (PM) configured for the office.

# <u>Datafill</u>

The following table lists datafill for table LENLINES:

Field Descriptions

Field	Subfield	Entry	Explanation and Action
LEN		See subfields	Line Equipment Number. This field defines the physical location of the equipment that is connected to a specific telephone line.
			Because field LEN is common to more than 60 tables, it is documented in a single section to avoid unnecessary duplication.
			Field LEN consists of subfields SITE, FRAME, UNIT, DRAWER or LSG, SHELF, SLOT, and CIRCUIT.

-End-

#### Field Descriptions Field Subfield Entry Explanation and Action \_\_\_\_\_ R1 to R5 Party and Ringing Combination. T1 to T5 or S If the line is assigned to a two-, four-, PTY eight-, or ten-party line, enter the party, R1 to R5 or T1 to T5, of the Directory Number (DN) assigned to the line. If the line is assigned to an individual line, enter S for single party. RINGCODE Numeric (0 to 5) Ring Code. Enter a numeric value for the ring code assigned to the line. For international switching units, the entry in this field must be 0 (zero) for regular ringing cadence. \_\_\_\_\_ Vector of up to Directory Number. DN 15 digits (0 to 9) Enter the DN assigned to the line. This number can be up to 15 digits in length. \_\_\_\_\_ SIGTYPE DP or DT Signal Type. Enter the type of pulsing expected. Enter DP for pulse or DT for Digitone. \_\_\_\_\_ Values contained Single Numbering Plan Area Name. SNPA The SNPA of the DN associated with the POTS in SNPANAME line described by this tuple. The SNPA no longer corresponds to the STS contained in the table LINEATTR tuple associated with this line. Feature AF7145 separates STS and SNPA. \_\_\_\_\_ Alphanumeric Line Attribute Index. LNATTIDX (1 to 16 Enter the index into table LINEATTR. characters) \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ AMATEST, AMSG,Option List.Enter a list of up to 20 basicAMSGDENY,options that apply to the DN.Each optionAPS, ATC,must be separated by a single space. OPTLIST CAT1, CAT2, CAT1, CAT2, CAT3, CAT4, CAT3, CAT4, CAT5, CAT6, CAT5, CAT6, CAT7, CAT8, CAT9, CCW, CD0, CD1, CD2, CD3, CD4, CD5, CD5, CAT9, CAT9, CAT4, CAT5, CAT9, CCW, CD5, CAT7, CAT8, CAT9, CWT, DOR, DTBI, DTM, ELN, FDN, FNT, FNO, GLTC, HOT, ICR, ICT, LRA, LRS, MCT, NHT, ONI, CD6, CD7, CD8 PLD, PMC, PP1, PP2, PAC, SCP, SDM CD6, CD7, CD8, PLP, PMC, PR1, PR2, RAG, SCR, SPM, CD9, CLF, COD, SUS, 3WC, and 6WC. CPH, CWT, DENYU3WC, DOR, DTBI, DTM,Options APS, DTBI, FDN, ICR, ICT, LRA,ELN, FDN, FGA,LRS, MCT, PMC, PR1, PR2, RAG, SCR,FIG, FNO, FNT,SPM, and 6WC are not available for loads GLTC, HOT, ICR, other than international. ICT, ILB, IMB, INT, IRR, ITD, Refer to tables LCCOPT and OPTOPT for LCDR, LDSA, LDSO, compatibility information. LDSR, LDST, LRA, LRS, MAN, MCT, Option STRD supports the use of T2 type MIGRATE, NDC, NHT, trunks during a line-to-trunk call. NLT, NOH, NPGD,

#### For all peripheral module types, datafill the additional fields listed below:

\_\_\_\_\_

ONI, PDO, PLP,	Option CLF is not compatible with originating
PMC, PR1, PR2,	ISDN calls. See note under CLF at "Available
RAG, RCD, RMR,	options for table LENLINES" in this data
RMT, RSP, SCR,	schema description.
SDS, SDSDENY, SPM,	
STRD, SUS, TDN,	Option MIGRATE is supported only by the
TDV, TES, U3WC,	North American DN system and dialplan.
WUC, 3WC, 6WC	
	For a description of each option, see
	"Available options for table LENLINES" in this
	data schema description.

-End-

#### **Datafill Example**

An example of datafill for table LENLINES, along with a line–by–line description of the table entries for this example, is provided below:

- Entry line (A) is for an OUTWATS line with the option Denied Terminating Service (DTM). For OUTWATS treatment and bands associated with this line, see table LENFEAT.
- Entry line (B) is for an INWATS line with the option Denied Origination Service (DOR).
- Entry lines (C) are for PBX lines from hunt groups 0 and 1 with the options No Receiver Off–Hook Tone (NOH), Toll Diversion (TDV) and Flash Ignore (FIG). For hunt group and member list data for these lines, see tables HUNTGRP and HUNTMEM. The ground start option for lines with DN 725–2865 is listed in table LNINV.
- Entry line (D) is for an individual line that transmits data and is protected from double connection with the No Double Connection (NDC) option. For the Automatic Line feature data for this line, see table LENFEAT.
- Entry lines (E) are for individual DN hunt lines with options Operator Number Identification (ONI) and Free Number (FNT). For DN hunt group and member list data for these lines, see tables HUNTGRP and HUNTMEM.
- Entry line (F) is for an individual line with the Manual Service (MAN) option.
- Entry line (G) is for an individual line with options Essential Line (ELN) and Toll Essential Service (TES).
- Entry line (H) is for a tip 2 party of an eight-party line that is assigned to ring code 2 and has no options.
- Entry line (J) is for an individual line with frequency selective ringing that is assigned to ring code 3 and has No Line Insulation Test (NLT).
- Entry line (K) is for a PBX line with the Remote Message Register (RMR) option.
- Entry line (L) is for a flat-rate party with Automatic Time and Charges (ATC) option.
- Entry line (M) is for a flat-rate line with the Call Waiting (CWT) option.
- Entry line (N) is for a flat-rate line with the Local Call Detail Recording (LCDR) option.
- Entry line (P) is for a flat-rate line with the Malicious Call Hold (MCH) option.
- Entry line (Q) is for a flat-rate line with the Three-Way Calling (3WC) option.
- Entry line (R) is for a flat-rate line with no options. The line is located at the Merivale remote location which has a site name of MERV.
- Entry line (S) is for a multiparty (more than four parties) line with circle digit operation. The DN of the party line is 725–1620 and is assigned Circle Digit 2 (CD2). The circle digit of a multiparty line is defined by an option in table LENLINES, as opposed to example (T), which defines the circle digit for a single-, two-, or four-party line by an office parameter.
- Entry line (t) is for a single party line with circle digit operation. The office parameter SPDD\_DIGIT in table OFCENG defines the circle digit for single-, two-, and four-party lines as 3. The DN of the single-party line is 725–1593.
- Entry line (U) is for a ZMD line (see table LINEATTR) with option Restricted Sent Paid (RSP), identifying it as a coinless pay station to TSPS by ANI information digit 7.
- Entry line (V) is for a station with the Cutoff on Disconnect (COD) option.
- Entry line (W) is for a CDF coin line with the Reverse Coin Disposal (RCD) option.
- Entry line (X) is for a station with the Cancel Call Waiting (CCW) option.
- Entry line (Y) is for an individual line with the No Line Hazard Test (NHT) option.
- Entry line (Z) is for an individual line with the Ground Loop Test Cancel (GLTC) option.
- Entry line (AA) is for an individual line with the Free Number Origination (FNO) option.
- Entry line (AB) is for an individual line assigned to the Negate Partial Ground Start diagnostics (NPGD) option.
- Entry line (AC) is for an individual line assigned to the Long Distance Signal Activate (LDSA) option and to the Long Distance Signal Option (LDSO).
- Entry line (AD) is for a POTS line with options Access to Messaging (AMSG) and (AMSGDENY)

#### Datafill Example for Table LENLINES

Example of a MAP display:

LEN					PTY	RINGCODI	e dn	SIGTYPE	LNATTIDX	OPTLIST	
HOST	01	1	04	06	S	0	7251688	DP	6	(DTM) \$	(A)
HOST	01	0	04	08	S	0	7251789	DP	7	(DOR) \$	(B)
HOST	01	0	04	07	S	0	7252865	DP	1	(FIG) (NOH) (TDV) \$	(C)
HOST	00	0	05	07	S	0	7252865	DP	1	(FIG) (NOH) (TDV) \$	
HOST	00	1	05	07	S	0	7252865	DP	1	(FIG) (NOH) (TDV) \$	
HOST	01	0	03	04	S	0	7252870	DT	1	(TDV) (NOH) (FIG) \$	
HOST	01	1	04	07	S	0	7252870	DT	1	(TDV) (NOH) (FIG) \$	
HOST	01	1	02	08	S	0	7252870	DT	1	(TDV) (NOH) (FIG) \$	
HOST	00	1	04	05	S	0	7251671	DP	0	(NDC) \$	(D)
HOST	00	1	05	04	S	0	7252855	DT	0	(FNT) (ONI) \$	(E)
HOST	00	0	05	04	S	0	7252856	DT	0	(FNT) (ONI) \$	
HOST	00	1	06	05	S	0	7252857	DT	0	(FNT) (ONI) \$	
HOST	01	1	05	07	S	0	7251990	DP	0	(MAN) \$	(F)
HOST	01	0	07	04	S	0	7251995	DT	0	(TES) (ELN) \$	(G)
HOST	01	1	07	04	Τ2	2	7251998	DP	5	\$	(H)
HOST	01	1	03	04	S	3	7251758	DT	0	(NLT) \$	(J)
HOST	01	0	05	07	S	0	7251787	DP	1	(RMR) \$	(K)
HOST	01	0	03	05	S	0	7251588	DP	0	(ATC) \$	(L)
HOST	01	0	07	05	S	0	7251589	DT	0	(CWT) \$	(M)
HOST	01	0	04	06	S	0	7251990	DT	0	(LCDR) \$	(N)
HOST	00	0	05	08	S	0	7251591	DP	0	(CLF) (MCH) \$	(P)
HOST	00	1	05	05	S	0	7251592	DT	0	(3WC) \$	(Q)
MERV	01	1	06	07	S	0	8282931	DP	0	\$	(R)
HOST	00	0	04	09	Τ1	2	7251620	DP	5	(CD2) \$	(S)
HOST	00	0	04	10	S	0	7251593	DP	0	\$	(T)
HOST	00	1	06	06	S	0	7259100	DT	10	(RSP) \$	(U)
HOST	00	1	06	08	S	0	7252859	DP	10	(COD) \$	(V)
HOST	01	1	02	08	S	0	4817123	DT	1	(RCD) \$	(W)
HOST	00	0	00	01	S	0	6211233	DP	6	(CWT) (CCW) \$	(X)
HOST	01	0	07	03	S	0	7251999	DT	0	(NHT) \$	(Y)
HOST	01	0	07	07	S	0	7252000	DT	0	(GLTC) \$	(Z)
HOST	01	0	07	04	S	0	7252021	DT	7	(FNO) \$	(AA)
HOST	02	1	19	11	S	0	6216000	DP	0	(NPGD) \$	(AB)
HOST	01	0	07	07	S	0	5551212	DT	501	(LDSA) (LDSO) \$	(AC)
HOST	00	0	03	03	S	0	619 6212416	DT	0	(AMSG) \$	(AD)
HOST	00	0	00	01	S	0	619 5209001	DT	0	619_P520_0 L619_LAT (MIGRATE) \$	A_0

\_\_\_\_\_

\_\_\_\_\_

#### Error Messages

The following error message appears if an attempt is made to datafill this table using the table editor:

Protected table, use SERVORD to change.

This error message was added for the release of NA005 in accordance with feature AN1653 (Enforcement of SERVORD).

All additions, deletions and changes must be entered using the Service Order System (SERVORD). For more information, refer to the *SERVORD Reference Manual*.



# **Overview**

A silent drill is a device for quietly drilling holes into walls, doors, floors, etc. for the insertion of a technical surveillance device. For instance, say a *\$2600* meeting was taking place in a hotel room. To protect your family and their privacy, you may wish to monitor this meeting. First, you'd arrange to rent the hotel room next to the room where the meeting is taking place. Then you would silently drill a hole through the wall in your room, and just before reaching the outside wall into the meeting room, you'd reduce the size of the drill bit so the final hole going into the meeting room is only the size of a pin-hole. You could then place a microphone or even a video camera into the hole and capture any activity coming from the meeting room.

#### **Stories & Background Information**

#### Excerpt from Peter Wright's Spycatcher

... It actually began some months before I joined MI5, when Hugh Winterborn mounted an operation to bug the Russian Consulate on the Bayswater Road. The opportunity arose when the building next door was refurbished in preparation for new occupants. MI5 went in under cover as decorators and Winterborn fitted a new device called the probe microphone, which had been developed by John Taylor in the Dollis Hill Laboratory.

The probe microphone was a large, high–sensitivity microphone, which was used to gain covert access through a party wall. The device was lodged inside the wall about eighteen inches from the target side. The eighteen inches between the probe microphone and the target room were drilled out by hand at a quarter–inch diameter in steps of half an inch. Half an inch from the target side the quater–inch–diameter hole ended and a small pin–hole was drilled, again by hand, using a No. 60 size bit, so that the intrusion into the target side was almost invisible to the naked eye. The eighteen–inch bore hole was then lined with a smooth perspex tube which was acoustically matched into the microphone. The microphone fed out into the street and back along telephone wires to Leconfield House, where amplifiers boosted the captured sound into intelligible speech.

•••

The No. 60 drill bit had a special stop on it ensuring the bit turned so slowly that a flake of plaster or paint could not be pushed into the target room ...



Interview with Lee Tracey, British Foreign Intelligence 1944–1969. A modern French made silent drill is in the foreground.



Close up picture of the silent drill. Note the vibration absorbing foam and the hole for the flexible shaft.



Side view. The aerosol can may be some type of lubricant.



Flexible shaft drill head and chuck. Note the speed control. Part of the plastic vacuum chamber is on the right.



Integrated vacuum (I think) for removing debris.



Flexible drill shaft leaving the drill motor section.



Beginning the drilling process. A clear plastic cup covers the hole. This will contain any debris which will come from drilling the holes. It also will contain any water or lubrication used to aid the drilling process.



Operating the drill.



Long, flexible drill shaft.



Business end. Looks like an inch or so diameter hole saw. The red plastic tube above the drill is for applying lubrication. A vacuum connects to the bottom to remove debris.



Drilling in operation.



The large hole is complete. Hand drilling the final pin-hole. Professionals use a device called a "back-scatter guage" which uses gamma radiation to measure the thickness of the wall. This tells them when to stop drilling and switch to the smaller drill bit.



Close up of drilling the final pin-hole.



Pin-hole inside the target room.



Inserting a microphone into the freshly drilled hole. You'd plaster and paint over this for permanent installations. Use a circuit board trace repair pen to "draw" the leads going to the microphone onto the wall, then paint over it.



What not to do.

# KGB Drill Kit from H. Keith Melton's Ultimate Spy

This KGB kit (codenamed Karn) was used for drilling pinhole openings in a wall for the installation of a hidden microphone. The technician drilled into the wall from another room, using progressively smaller bits.



# **Clandestine Audio Operations**

Clandestine audio operations circa 1960 involved the skills of telephone tapping and techniques of electronic surveillance, or "bugging."

The easiest and most reliable method of telephone tapping was a formal request of the local telephone company, made through the intelligence service liaison of the friendly "host" country. If this was not possible, techniques were taught that allowed the target's telephone to be tapped along the line between his phone and the exchange. This tap might be either a direct-wire connection to the line, or an inductive coupling that required no connection. The CIA Technical Services Division (TSD) also built small radio frequency transmitters that could be attached at any point to the telephone wires, and transmitted to a listening post (LP) nearby.

Telephones and telephone lines were used for the audio penetration of rooms in which they were located. So-called "hot mikes" allowed the telephone to remain on the receiver, but permitted normal conversation in the room to be transmitted along the line to an LP.

The basic form of "bugging" is the simple "mike-and-wire" installation. A microphone is concealed within the target room, and two wires are run to the LP, where an amplifier and tape recorder are located. While this type of equipment requires more extensive access to the site for installation, it is secure from counterinelligence "audio-sweeps" since it transmits plong the wires and not on a radio frequency. The weakness is in the difficulty of hiding the wires as hey run to the LP. "Mike-and-wire" operations were favored in locations in which permanent udio operations were required, and which alowed frequent access for installation, such as safe houses" or rooms in "friendly" hotels used eqularly by foreign visitors.

To avoid the problems with running wires to he LP, it was possible to connect the "mike-andwire" to a low-powered radio transmitter for eception at the LP. The transmitters could be owered by regular house current, or batteries. emotely controlled on/off switches for the ansmitters were necessary to avoid detection by audio-sweep teams using wideband receivers to search for illicit transmissions. The Soviets, and their satellite countries, frequently rotated counterintelligence technical teams through their embassies and consulates around the world in an effort to ferret out "bugs."

Battery power for transmitters located within a hostile target was a continuing problem. Newly developed (in 1960) transistorized components required less power than earlier vacuum tubes, but the life expectancy of an audio installation was limited unless batteries could be replaced. Replacement usually entailed either a dangerous reentry into the target area, or the cooperation of a person (such as a friendly foreign national who had been co-opted into service) with access to the area.

Many of the drawbacks of both systems were solved by using a technique called carriercurrent transmitters. These installations were similar to regular transmitters, except that the power was drawn from household current and the audio signal was transmitted along the line and not into the air. This allowed for on/off switching, unlimited power supply, and safety from audio-sweep teams. The major drawback was that the signal transmitted along the line would not pass through a power transformer. As



Different types of microphones used by TSD to monitor conversations through a wall.

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a result, installations were limited to those areas in which an LP could be situated between the installation and the first power transformer.

The installation of microphones in a target room was an area of specialty for TSD. An impressive array of drills and accessories were developed to aid in the installation of unseen microphones. A hole was drilled into the floor, wall, or ceiling of sufficient size to hold the microphone, but not going all the way through. A successful installation required only a final opening of pinhole size in the target room through which sound could travel. A variety of microphones of different types and design allowed the installer to select the optimum equipment for each installation. After the microphone was in place, a special camouflage kit was provided that aided in patching and painting the wall to hide any visible signs of the installation. Similar techniques were used to hide the presence of the wires as they were run from the microphone to the transmitter, or directly to the LP.

Within the LP were usually a reel-to-reel tape recorder (Revere was popular in the early 1960s, and later replaced by Ampex) and an actuator that turned on the recorder when the telephone set was in use or when there were voices near an active transmitter. The signal



The passive cavity transmitter requires no internal power. It is energized by a high-frequency radio beam aimed at the device.

reached the LP either by wires, or if transmitted, via a multipurpose radio receiver, such as the SRR-4.

The research and development program of the TSD Audio Branch worked continuously for:

- development of smaller and more sensitive microphones;
- more effective ways to turn remote switch transmitters on and off;
- flat long-life batteries (called "poker chips");
- innovative ways to conceal microphones and transmitters in everyday-appearing items such as electrical plugs, wall outlets, and pieces of furniture, etc.;
- advanced concepts (for 1960) that bounced infrared beams off target windows and modulated the reflection from the window pane as it vibrated from voices within the room; and
- 6) new techniques in passive cavity transmitters that were based on the design of the Soviet microphone found hidden in the Great Seal of the United States hanging above the Ambassador's desk in Moscow. This design required no internal power, and was activated by a radio signal.



Passive cavity transmitter found in the American Embassy, Moscow, was a "gift" from the Soviets. The CIA was startled to discover the advanced technology being used by the Soviets for eavesdropping in this 1952 discovery. The device transmitted on a frequency of 330 MHz.

#### **GBPPR Silent Drill Construction**



Overview on some of the pieces used in the GBPPR Silent Drill. Various drill bits are shown on the left. Get a good selection of *sharp* bits and extensions. Large wood boring bits are also very useful. Note the cork plug. This is useful for plugging the hole after drilling. The flexible drill shaft is along the top. It's a Disston 40-inch long, 1/4-inch shaft. The drill is an old cordless Makita. Look for cordless drills at thrift stores and rummage sales. The battery packs will be dead, but the drills will still work.

The new silent drill will be powered from an external +12 volt rechargable lead-acid battery pack.

You may wish to experiment with various types of sound absorbing materials to wrap the drill with. The drill is fairly quiet as is, but there is alot of room for improvement. Chopped up sponges work, but are not quite that dense for attenuating those low frequencies. Also try using alot of those rubber "bouncy balls". It may be worth a shot...

Pillows work well "in-the-field."



Close up view of the drill's power/speed trigger switch. This will need to be modified slightly to allow the controls to be mounted externally.



Alternate view. When the trigger switch is fully pulled, the speed control is bypassed and the full battery pack voltage is applied to the drill's motor.



Internal view of the drill. The main components are the battery pack, power/speed trigger switch, reverse switch, motor, reduction gears, and the chuck.



Close up view of the motor and reduction gears. A professional model would most likely have plastic or composite gears to reduce noise.



Alternate view of the reduction gears.



Testing setup. To control the drill's motor speed, the trigger switch slides along a 2.2 kohm potentiometer. You'll need to remove the slide potentiometer on the speed control and mount a new one externally.



Close up view of the cleaned gears.



Freshly greased gears. The motor's power leads should be bypassed with a 0.1  $\mu$ F ceramic capacitor and ferrite beads should be placed over both the positive and negative wires. This will help reduce any Electromagnetic Interference (EMI) which may give away the operation of the drill (buzzing sounds on an A.M. radio). Also, the plastic case of the drill should be painted with an EMI absorbing ferrite or metal flake paint.



Completed drill section. The handle has been cutoff to reduce the size and prevent it from resonating any sound. Any left over holes were filled with silicon caulk.



I don't know what to do from here. A shock mount system is made from a block of wood, some nuts and bolts, sponges, and felt liners.



The drill is mounted to the wood block via three large zip ties. A large sponge is wedged between the drill and the wood block. The zip ties are epoxied into place.



Alternate view.



The mounting hardware is protected from vibrations with large rubber feet.



The drill and flexible shaft are mounted inside an old plastic tool box.



Alternate view. The drill's mounting block doesn't touch the tool box except via the rubber feet. The flex shaft leaves the tool box via a large rubber grommet.



The mounting bolts are isolated from the tool box with rubber grommets. The large red things are rubber hose washers.



Motor speed control with the connections to an external panel-mounted 2.2 kohm potentiometer (wires going out the bottom).


Test setup. Speed potentiometer resting on top of the drill, the large reverse relay is on the right. Speed control and power distribution bus is on the bottom.



Close up of the reverse relay. It is a large DPDT relay capable of handling at least 20 Amps. This relay allows the voltage polarity going to the motor to be reversed, allowing the drill's motor to turn in both directions. The drill includes a reverse polarity switch, but it's not rugged. Be sure the motor is powered down before activating the reverse polarity relay.



Close up of the trigger speed control. The "on/off" section of the trigger is bypassed. Keep the pass transistor on its heatsink.



Completed drill internal view. Any component which may cause vibration or sound is isolated from the tool box's walls via stand-offs. Ideally, the tool box would next be filled with dense, sound absorbing foam (not shown). Coating the inside of the plastic tool box with an EMI absorbing ferrite or metal flake paint would be very helpful. Avoid heavy metal shielding or anything which could "rattle."



Behind the front panel. +12 VDC input from the battery and the main on/off switch are on the lower left. The panel-mounted speed potentiometer is above that. A 10 Amp resettable fuse and a switch to active the reverse polarity relay are on the right.



Alternate view. A large 1,000  $\mu$ F capacitor smooths the DC voltage going to the drill's motor.



Front panel view. Flexible shaft is on the left side. The ammo box contains a large +12 VDC rechargable lead-acid battery. The main power switch has one of those "missle launch" protective covers to prevent the drill from accidently being turned on.

# **Operational Block Diagram**





### From <u>The American Legion</u>, May 2005



A cross to honor failen World War I veterans is covered up in the Mojave National Preserve after legal pressure from the ACLU.

# The Law Against Values

Attorney Rees Lloyd argues the ACLU should not collect profits from taxpayer-funded fees.

In a remote area of the Mojave Desert, atop a rock outcrop, stands a lone cross, Just two pipes tied together, it was erected by a private citizen in 1934 to honor the

service of World War I veterans. But when President Clinton issued an order incorporating the site into the Mojave National Preserve, the American Civil Liberties Union saw a golden opportunity. In 2000, the organization filed a federal suit on behalf of retired Forest Service employee Frank Buono of

Oregon, who claims to suffer a civilrights violation every time he drives back to California and sees the cross. A district court ruled for the ACLU and ordered the cross removed.

So far, due to Civil Rights Act, 42 U.S. Code Section 1988, the ACLU has made \$63,000 in attorney fees off the case. Although Rep. Jerry Lewis, R-Calif., succeeded in passing legislation swapping land with a private owner and placing the cross on private land, to be cared for by veterans, the ACLU is back in court trying to nullify the deal as a First Amendment violation.

Longtime civil-rights attorney Rees Lloyd believes Congress never intended

such abuse of the law. A past commander of San Gorgonio Post 428 in Banning, Calif., he authored American Legion Resolution 326, which calls on Congress to amend 42 U.S.C. Section 1988 and end judges' authority to award attorney fees in cases brought to remove or destroy religious symbols. In a recent interview, Lloyd explained the

purpose of the law and how the ACLU exploits it to impose a secular agenda.

The American Legion Magazine: What is 42 U.S.C. Section 1988, and how does the ACLU profit from it?

Rees Lloyd: The Civil Rights Attorney Fee Act was intended to provide an incentive to attorneys to take on representation of victims of civil-rights violations who could not afford legal counsel and thereby to fulfill the promise of the Civil Rights Act and

Rees Lloyd

certain specified federal statutes. Instead, its good intentions have been exploited by the ACLU to reap enormous profits through what I believe is manifestly in terrorem - terrorizing litigation to enforce its secular political, cultural and social will on elected officials and the American people by lawsuits attacking Boy Scouts and every symbol of America's religious history and heritage in the public square.

While the language of 42 U.S.C. Section 1988 is simple, it has been used and abused by the ACLU, as construed by other unelected lawyers, i.e., judges, who hand out enormous hourly attorney fees to the ACLU in such a way as to defeat the intent of elected representatives of the American people, Congress, and to terrorize elected officials at local levels to cower and surrender.

O. How much has the ACLU received through taxpayer-funded attorney's fees? A: The ACLU, posturing to the public that it acts on principle and pro bono, in the public interest and without fee, in fact has raked in enormous profits in lawsuits brought under the "establishment clause."

These lawsuits are nationwide, coast to coast, and run literally into millions of dollars in the pockets of the ACLU in "attorney fee awards" - although in fact neither the ACLU nor its mascot plaintiffs have incurred any actual attorney fees.

As a onetime ACLU staff attorney, I know that the ACLU recruits attorneys to take on its cases without fee, and

that the ACLU does not charge attorney fees to the persons it uses as plaintiffs.

Large firms often provide attorneys from their pro bono units at no cost to the ACLU; the mascot plaintiffs of the ACLU in fact pay no attorney fees; lawsuits to destroy religious symbols, particularly the Christian cross, are as easy as shooting ducks in a barrel as judges follow precedent, in "judge-made law" pertaining to the meaning of the "establishment clause"; and the ACLU achieves its secular political aims, laughing all the way to the bank.

As to the total amount reaped by the ACLU, I do not know of any definitive study that has gathered up all the attorney-fee awards granted to the ACLU across the nation. It is, however, in the millions.

### Q: Why won't judges deny these fees to the ACLU?

A: Congress did not require judges to award attorney fees under 42 U.S.C. Section 1988. Congress made attorneyfee awards purely discretionary. Judges have interpreted that to mean that a prevailing party is to receive "reasonable" attorney fees, even if there are in fact no actual attorney fees. "Market rate" is used. In large cities, that can be a starting point of about \$350 an hour.

So, in practice, what is a "reasonable" attorney fee? Whatever one lawyer, i.e., a judge, wants to give to another lawyer, taxpayers be damned.

As far as is known, not one single judge has ever simply dared to say "no" to the ACLU. Why should they? They are

> of Education v. Barnette, the U.S. Supreme Court declares the board's resolution ordering students and teachers to salute the flag as unconstitutional.

1954 - The ACLU files an amicus brief in Brown v. Board of Education, In which

the Court rules that school segregation denies equal protection of the law to black students and is unconstitutional.

1963 - In Abington School District v. Schempp, the Court rules that the "establishment clause" forbids

### **Eighty-five years of the ACLU**

1920 - Socialist Roger Baldwin (right) founds the American **Civil Liberties** Union as a nonpartisan organization devoted to

the defense of civil liberties guaranteed in the U.S. Constitution.

1925 - The ACLU represents plaintiff John T. Scopes in a trial challenging a Tennessee law

prohibiting teachers from giving lessons on evolution in state-supported

nist affiliations, the organization is criticized as a communist front. It bars from leadership positions anyone supporting totalitarianism. 1943 - In West Virginia State Board

1940 - Because so

many ACLU mem-

bers have commu-

"In any action or proceeding to enforce a provision of sections 1981,

**The Civil Rights** 

42 U.S.C. 1988

Attorney Fee Act,

1981ª, 1982, 1983, 1985, and 1986 of this title ... [other statutes omitted] the court, in its discretion, may allow the prevailing party, other than the United States, a reasonable attorney's fee as part of the costs."

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"The ACLU is the advance guard of secular totalitarianism in America. I am thankful that The American Legion is finally exposing the ACLU. Their hordes of lawyers have bullied everyday, hardworking Americans far too long."

- Retired U.S. Army Maj. Gen. Patrick Brady, recipient of the Medal of Honor and board chairman of the Citizens Flag Alliance, Inc. lawyers handing taxpayer funds to other lawyers; the fox is in the chicken coop. Congress should take back the

authority it gave to award such fees and forbid them in cases under the "establishment clause." If such cases must be brought by the ACLU, it should have at least the decency to pay its own way.

Q: Hasn't the ACLU done some good in the past? When did it cross the line? A: I am not an inveterate ACLU-hater. I believe that the ACLU, in the past, did much good, and still can, in defending freedom of speech, which I believe was its primary mission. Many of the early free-speech cases, especially in the area of labor when unions were forming, were won by ordinary working people defended by the ACLU. That I respect and admire.

While I respect that early work of the ACLU, I believe whatever good it did in the past has been vitiated by the harm it has done in the present by its fanatical secularism and apparent abandonment of common sense.

I was admitted to the bar in November 1979 and worked at the ACLU for approximately two years. At that time, there was not a "church-state project" and if there was a focus of "separation of church and state," I was not aware of it, perhaps because of my concentration on rights in the workplace.

But then Hollywood money came in to fund church-state litigation at the ACLU of Southern California. Norman Lear and other millionaires poured money into the ACLU. That influx of Hollywood money, I believe, marked what I now perceive as a crossing of the line into fanatical secular attacks on every symbol of America's religious history and heritage in the public square.

Q: Many charge the ACLU with being "anti-Christian." Is this true?

A: The ACLU is much too politically correct to ever be expressly or rhetorically anti-Christian. It would react with horror to the suggestion that it is impure. But it is objectively anti-Christian. It is indicted by what it does, not by what it says.

The ACLU is quintessentially secular. I totally disassociate myself from attacks on the ACLU that say it is a Jewish organization with an anti-Christian bias. The ACLU's faith is not in Judaism, it is in secularism.

It has to be recognized that the ACLU's mission is political. It is an organization of elitists convinced of their sincerity, goodness, intelligence and right to social-engineer American culture and government without ever having to be elected by the people they would govern, and to accomplish their purpose through people like themselves: equally elitist lawyers sitting as judges over mere mortals.

What common sense would dictate a lawsuit against that lone cross in the Mojave Desert honoring World War I veterans? And persecuting the Boy Scouts? The philosopher George Santyana once said, "Fanaticism is the doubling of passion, while halving reason." There you have modern ACLU fanaticism.

state-mandated reading of the Bible or recitation of prayer in public schools.

1966 – In Miranda v. Arizona, the ACLU argues that suspects in custody have a right to a lawyer and the right not to incriminate themselves.

1973 - The ACLU



ment. The ad invites readers to join, and more than 25,000 new members sign up. 1978 – In *Village of* 

Skokle v. National



be prohibited from marching peacefully simply because of the content of its message.

1983 – In City of Akron v. Akron Center for Reproductive Health, the ACLU's Reproductive Freedom Project challenges a state ordinance restricting access to abortions.

1985 – Alabama's statute allowing time for "voluntary prayer" is ruled an unconstitutional endorsement of religion by a state.

**1987** – In Edwards v. Aguillard, the ACLU challenges a Louisiana law allowing the teaching of "creation science." The Court declares the law unconstitutional, holding that the law's original purpose was

#### Res. 326 (National Convention, 2004)

Urges Congress to amend 42 U.S.C. Section 1988, to expressly preclude the courts from awarding attorney fees under that statute, in lawsuits brought to remove or destroy religious symbols. our American religious history and heritage in the public square are not threats to our American freedom. Those symbols which the ACLU now so fanatically attacks are but reminders of our American roots, our American heritage, the foundation from which this magnificent edifice of American freedom arose. Q: Can 42 U.S. Code 1988 be changed? A: Congress must take the lead to clarify 42 U.S.C. 1988 to exclude law-

The Boy Scouts are not the enemy of

America. Veterans and memorials that

mark their service to the nation are not

the enemies of America. Symbols of

suits related to acknowledgement of God. Besides The American Legion, many organizations desire to see the statute modified, such as CourtZero.org, Alliance Defense Fund, Thomas More Law Center, American Center for Law and Justice, The Rutherford Institute and Stop the ACLU Coalition.

In the 108th Congress, on Nov. 21, 2003, U.S. Rep. John Hostettler, R-Ind., introduced a bill, H.R. 3609, titled "Public Expression of Religion Act of 2003" that would restrict remedies under 42 U.S.C. 1988 in establishment clause litigation to injunctive relief. The congressman intends to reintroduce the bill in the 109th Congress.

Q: American Legion Res. 326 calls for Congress to reform 42 U.S. Code 1988. What can Legionnaires do to help? A: American Legion Resolution 326, Preservation of the Mojave Desert World War I Memorial, is a concrete measure with which we can stand up to the ACLU and not merely complain. It calls on Congress to amend 42 U.S.C. 1988 to rescind the authority to award attorney fees it gave to judges in cases under the "establishment clause" to "remove or destroy religious symbols."

All Legionnaires, all veterans, all Americans, should unite behind this simple measure, across party and ideological lines, to demand reform and to end this abuse by which the ACLU has waged war against the Boy Scouts, all symbols of our American religious heritage, and now even veterans memorials.

No one should doubt the threat that the ACLU's lawsuit against the Mojave Desert veterans memorial represents: it is the first time in history that private parties have been allowed to sue a veterans memorial to remove a religious symbol. The same legal principles the court followed under the "establishment clause" to order that solitary cross in the desert removed are applicable to all the crosses and Stars of David in our national cemeteries, and the 9,000 at Normandy Beach.

Communicate with your post, district, area, department and National Commander Thomas P. Cadmus. Communicate your support to amend this law to your elected officials. Demand to know where they stand on the issue. ()

### Interview: Matt Grills

Article design: Doug Rollison

"clearly to advance the religious viewpoint."

1989 – In Texas v. Johnson, the Court rules that burning the U.S. Flag is protected by the First Amendment. In Allegheny

symbolic speech

County v. Greater Pittsburgh ACLU, the Court rules that



nativity scenes alone cannot be displayed on courthouse steps. **1992** – In *Lee v. Weisman*, the Court rules that clergy-led prayer as part of an official publicschool graduation ceremony violates the "establishment clause." **1996** – In *United*  States v. Virginia, the Court rules that Virginia Military Institute's exclusion of women denies equal protection under the law. **1999** – In just 20 years, the ACLU's income grows from \$3.9 million to a record \$45 million. Its endowment fund grows from \$780,000 to \$41 million.

2000 – In Santa Fe Independent School District v. Doe, the Court rules that student-Initiated prayer on state-run school ground at football games violates the "establishment clause."

Sources Lectilescom, ACLUPTOCOLOG, others

# End of Issue #18



# Any Questions?

# **Editorial and Rants**

Imagine if Hitler gave this much warning. Oh wait... he did.

August 24, 2005 - From: http://www.theage.com.au

# Al-Qaeda Chiefs Reveal World Domination Design

By Allan Hall

THE al-Qaeda master plan to take over the world and turn it into an Islamic state has been revealed for the first time.

For a new book, Jordanian journalist Fouad Hussein interviewed top lieutenants of the terrorist network, including the mastermind of many atrocities in Iraq, Abu Musab al–Zarqawi.

Al–Zarqawi –– al–Qaeda's Second Generation is published only in Arabic, but could be translated into English.

Hussein says al-Qaeda views its struggle as a long-term war with seven distinct phases.

Phase one is the "awakening" in the consciousness of Muslims worldwide following the September 11, 2001, suicide attacks. The aim of the attacks was to provoke the US into declaring war on the Islamic world and thereby mobilising the radicals.

Phase two is "Opening Eyes", the period we are now in and which should last until 2006. Hussein says the terrorists hope to make the "Western conspiracy" aware of the "Islamic community" as al-Qaeda continues to mould its secret battalions ready for battle.

Phase three, "Arising and Standing Up", should last from 2007 to 2010, with increasingly frequent attacks against secular Turkey and arch-enemy Israel.

Phase four, between 2010 and 2013, will see the downfall of hated Arab regimes, including Saudi Arabia and Jordan. Oil suppliers will be attacked and the US economy will be targeted using cyber terrorism.

Phase five will be the point at which an Islamic state, or caliphate, can be declared -- between 2013 and 2016.

Phase six, from 2016 on, will be a period of "total confrontation". As soon as the caliphate has been declared, the "Islamic army" will instigate the "fight between the believers and the non-believers" that has so often been predicted by al-Qaeda's leader, Osama bin Laden.

Phase seven, the final stage, is described as "definitive victory".

Hussein writes that in the terrorists' eyes, because the rest of the world will be so beaten down by the "One–and–a–half billion Muslims", the caliphate will undoubtedly succeed. This phase should be completed by 2020, although the war should not last longer than two years.

I hope San Fran doesn't ever need any tax payer money to build a levy!

September 2, 2005 – From: http://sfgate.com

### \$27 Million Jury Award in Girl's Killing

Charlie Goodyear, Chronicle Staff Writer

A San Francisco jury awarded \$27 million Thursday to the family of 4-year-old girl killed in 2003 when she was struck by a Muni truck.

After 3 1/2 weeks of trial, jurors deliberated almost five days before deciding for the family of Elizabeth Dominguez.

"I just want to thank God that justice has been done," said her father, Humberto Dominguez, at a press conference in front of City Hall. "My daughter, who is in heaven, is happy."

The jury found that the driver, Sebastian Garcia, had been negligent when he drove into the intersection of Potrero Avenue and 24th Street on Feb. 11, 2003. Elizabeth was walking on the sidewalk with her mother when Garcia's truck hit her, pinning her against a restaurant. The girl died at the scene.

Authorities investigated whether Garcia had run a red light, but the San Francisco district attorney wound up charging him with misdemeanor vehicular manslaughter, rather than a more serious felony. The girl's family said Garcia deserved more severe prosecution, but a spokesperson for then–District Attorney Terence Hallinan said at the time that conflicting witness accounts dictated what charges could be filed.

Garcia, who is still employed at Muni, is scheduled to stand trial in January.

"We would like to thank the jury," said Brian Panish, the attorney who represented the Dominguez family in the civil lawsuit against the city that was decided Thursday. "It's been a long fight for this

family, and they just want to move on with their lives."

If the verdict stands, it would be the largest personal injury award ever made by a jury against the city and county of San Francisco, according to Matt Dorsey, spokesman for City Attorney Dennis Herrera.

"We asked first for a written apology from the mayor," said Panish, when asked about attempts to settle the matter, which began with a claim filed against the city for \$25 million. "We tried to settle the case, and they refused to do that."

Dorsey said a settlement hadn't been reached before trial because "the plaintiff's attorneys weren't willing to engage in reasonable settlement negotiations" and because, given "the number of facts in dispute in the case, there's no way to say that any outcome was preordained."

In their lawsuit, the Dominguez family argued the city should have improved safety at the busy intersection before the accident occurred.

"We continue to believe that the evidence does not support an award of \$27 million," Dorsey said, adding that city attorneys were reviewing all post- trial options, including an appeal to a higher court.

"We all acknowledge this was a horrific human tragedy, and our hearts go out to the family of Elizabeth Dominguez as well as to the driver whose life has been forever altered by this terrible accident," he said.

Muni spokeswoman Maggie Lynch declined to comment.

### Sept. 6, 2005 – From http://www.praguemonitor.com

### President's Spokesman Warns EU to Keep Off His Property

(PDM staff with CTK) 6 September – The spokesman of President Vaclav Klaus has mounted a signpost on the edge of his private estate welcoming passers–by to the Czech Republic and informing them that the EU does not extend beyond the perimeter of his private property.

The sign, written in Czech and English, is furnished with the Czech coat of arms and a distinctly crossed–out EU flag.

"Some people write 'no trespassing' on their signs and I simply put this there instead", explains Petr Hajek, the spokesman of an EU–member's head of state.

Though he concedes the sign is in part a playful exaggeration, he points out it does reflect his opinion.

Hajek is known for his irritation with EU symbols. When asked why an EU flag was not hoisted beside the Czech flag on Prague Castle during last year's elections to the European Parliament, Hajek responded: "We did not even consider doing so, it never crossed our minds. The mere thought is chilling to me, I just recollect those Soviet banners".