

SWITCHED SERVICES NETWORKS
USING CENTRAL OFFICE SWITCHING MACHINES
GENERAL PROCEDURES AND RESPONSIBILITIES
TROUBLE REPORTS — CLASSIFICATIONS AND CODES

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1. GENERAL

1.01 Since certain trouble report data on Switched Services is required at a centralized location (NCO) for trouble analysis, codes have been developed for convenient transmission by TWX. These uniform codes are required to analyze by data processing equipment and to aid in keeping records for current analysis at SSBs and SSRCS. Basically, the following information is reduced to code groups:

- (a) Who originated the report.
- (b) What was reported.
- (c) How was the report disposed of.

This section describes these classifications and codes.

2. ORIGIN OF REPORT

2.01 The following codes are used to show where the various reports originated in an attempt to determine the network performance. These codes are to be used in block number 12 under TYPE REPT on Form E-5120 described in Section 310-200-002 and under TYPE REPT on Forms E-5122 and E-5123 described in Section 310-200-004.

2.02 Code 1 — *ATT (Attendant Initiated)* —

A trouble report from a PBX attendant involving a difficulty experienced on a network call. The difficulty may have been encountered by the attendant or referred to the attendant by a station user. This could also be a relayed report by an employee who received it from an attendant.

2.03 Code 2 — *CUST (Customer Initiated)* —

A trouble report directly from a station user involving a difficulty experienced on a 4-wire subscriber line. This covers trouble reports where the station user has no access to a PBX attendant. This could also be a relayed report by an employee who received it from a customer.

2.04 Code 3 — *NCO (Network Control Office)* —

A request for the investigation of suspected network troubles as the result of pattern analysis procedures employed at the Network Control Office.

2.05 Code 4 — *CSBR (Central Office #5 XBar Machine)* —

A trouble report referred to a Switched Services Bureau from the maintenance forces of the central office #5 XBar switching machine. This report may be detected as a result of trouble recorder cards, APTT results, etc.

2.06 Code 5 — *SO (Service Observing)* —

Service comments or trouble picked up by service observing personnel.

2.07 Code 6 — *C-4 (Employee Report)* —

A trouble report made by a Company employee, other than those covered by Codes 3 and 4, and which was not initiated by an attendant or customer. Typical of such reports are those made as a result of investigation of alarms or other trouble indications.

2.08 Code 7 — RN (Referred In Report) — A referred in report is a trouble case initiated by an attendant or customer which is received by an SSB or SSRC from another SSB or SSRC for further trouble clearing action.

3. TYPES OF REPORTS

3.01 These codes are used to indicate the trouble that was reported for analysis purposes. They are to be used in blocks number 13 and 14 under **TYPE REPT** on Form E-5120 described in Section 310-200-002 and under **TYPE REPT** on Forms E-5122 and E-5123 described in Section 310-200-004.

3.02 Code 1. CC — NDT (Can't Call — No Dial Tone) Originating Call

11. **CC-NDT (Can't Call — No Dial Tone) —** The attendant or customer does not hear network dial tone.
12. **NREG (No Register) —** A ready lamp is not received. This applies only to PBXs and consoles where a ready lamp is received instead of network dial tone.
13. **SDT (Slow Dial Tone) —** Due to the lack of equipment or an overload in the SSN office, the customer or attendant experiences delay in receiving network dial tone when making a network call.

3.03 Code 2. CC — OTH (Can't Call—Other) Originating Call

21. **CBDT (Can't Break Dial Tone) —** The customer or attendant hears dial tone from the SSN office on a network call, but dialing does not break dial tone.
22. **DTAD (Dial Tone After Dialing) —** The customer or attendant hears dial tone after completing dialing.
23. **NRNA (No Ring No Answer) —** The customer or attendant dials a network call and hears no ring and gets no answer.
24. **GWN (Gets Wrong Number) —** A network call has been dialed and the wrong number is reached.
25. **AALB (All Access Lines Busy) —** Network calls cannot be completed due to all Access Lines being busy. This may be due to lack of Access Lines, false busies, or

too many lines out of service for routines or troubles.

26. **DA (Don't Answer) —** A network call has been dialed and ringing is heard but the calling party gets no answer or rings once or twice and then trips and no answer.

27. **RECKT (Recording On Circuit) —** The calling party dials and gets a recording on the call. This may also include reports when a calling party reaches intercept.

3.04 Code 3. Trans-Noise (Transmission Noise)

31. **CH (Can't Hear) —** The calling party is unable to hear the called party on network calls.
32. **CBH (Can't Be Heard) —** The calling party cannot be heard by the called party on network calls.
33. **NSY (Noisy) —** The customer or attendant encounters noise on a network call. This includes such troubles as noisy, hum, clicks, static, hits, howl, echo, sing, whistle, heterodyne, etc.
34. **FT (Foreign Tone) —** This includes reports such as tone, 1000 cycles, SF Tone, etc.
35. **CRSTLK (Crosstalk) —** This includes such reports as crosstalk, cross ring, code on circuit, hear other voices, etc.
36. **CO (Cut off — Cut out) —** This includes customer and attendant reports on network calls that have encountered cut offs or cut outs, connection falls off, clipping, etc.
37. **TTY (Teletypewriter) —** This includes all transmission difficulties encountered on teletypewriter services such as open, garbling, wrong characters, overlining, piling up, unable to raise, don't get answer back, not receiving messages, mis-directed messages, no tape pick up, etc.
38. **CTRD (Can't Transmit or Receive Data) —** This covers all transmission difficulties encountered in transmitting and receiving data. This includes such reports as parity errors, envelope delay problems, impulse noise problems, improper level, etc.

3.05 Code 4. CBC (Can't Be Called) Terminating Call

41. **DGC (Doesn't Get Call)** — This includes any report where a customer or attendant has trouble receiving network calls.
42. **CTR (Can't Trip Ringing)**—This includes reports where the attendant or customer answers a network call and the audible ring doesn't stop.
43. **FR (False Ring)** — This includes reports where the customer or attendant receives a ring or signal on an Access Line or 4-wire subscriber line and no one was on the line.
44. **BDR (Bell Doesn't Ring)** — This includes reports where the customer on a 4-wire subscriber line receives a visual indication, but bell does not ring.

3.06 Code 5. MISC (Miscellaneous)

51. **RO (Reorder)** — This includes reports from an attendant or customer when a network call has gone to reorder. This category also includes troubles detected as a result of the reorder trap study.
52. **PS (Permanent or False Line or Drop Seizure)** — This includes permanent signals detected as a result of routine checks by the 17E or 19A testboard or SSN office personnel.
53. **SUPVN (Improper or No Supervision)** — This includes supervision troubles reported by the attendant on network calls or detected by test frames.
54. **SS (Stuck Senders)** — This includes troubles indicated by a stuck sender lamp at the crossbar machine.
55. **RTF (Routine Test Failure)** — This includes troubles that are detected as a result of overall routine maintenance tests on trunks and Access Lines.
56. **TI (Trouble Indication)** — This includes troubles detected as a result of an alarm, lamp display, trouble recorder, carrier failure indications, etc.

57. **OTH (Other)** — Applies to all other troubles that cannot be included in any of the other groups. Also includes troubles that should have been referred to PSC.

58. **RELEASE** — Applies, as required by Network Control Office, to report releases on trunks or Access Lines. Examples of use: Maintenance routining, circuit order activity, etc.

4. DISPOSITION

4.01 Trouble reports are classified and coded to disposition codes when the trouble causing condition is corrected or when there is insufficient information available to determine a course of action. These codes are to be used in blocks numbered 46 and 47 under DISP on Form E-5120, described in Section 310-200-002, and under DISP on Forms E-5122 and E-5123, described in Section 310-200-004.

4.02 CODE 1. STATION, PBX AND OTHER LOC FAC — Applies to troubles on all local plant, including the local plant portion of Access Lines and Tie Trunks.

10. **Station Equipment** — Applies to troubles located in station equipment instruments at the customers' premises.

11. **PBX** — Applies to troubles located in PBX equipment such as dials, jacks, switches, etc.

12. **DATA-PHONE Subset** — Applies to troubles located in Telephone Company furnished equipment such as DATA-PHONE subsets at customers' premises.

13. **Reptr & Associated Equipment** — Applies to troubles associated with telephone repeaters and associated equipment on customers' premises.

14. **Carr Term at Sta** — Applies to troubles associated with carrier terminals located at the customers' premises.

15. **Signaling Equipment** — Applies to troubles located in all types of signaling equipment at the customers' premises, including the 2W Dial Repeating Tie Trunk, SD65718 or equivalent.

16. **Local Facilities** — Applies to troubles locating on the physical conductors from the last toll office to the last cable terminal at the customers' premises, which may include local distributing frames. Also includes troubles caused by employee activity.
17. **Sta Eqpt (ICO)** — Applies to trouble located in station equipment that is owned by Independent Company.
18. **PBX (ICO)** — Applies to troubles located in PBX equipment such as dials, jacks and switches that is Independent Company owned.
19. **Other** — Applies to troubles that locate in or are associated with drop and inside wire and any other troubles that cannot be charged specifically to Codes 11-18.
- 4.03 CODE 2. NETWORK TRUNK**—Applies to all troubles found on network trunk facilities.
21. **Reptr & Echo Supp** — Applies to troubles associated with telephone repeaters and echo suppressors.
22. **Signaling Eqpt** — Applies to troubles occurring in various types of ringers such as the 20-, 135-, and 1000-cycle types; all types of single frequency signaling units and signaling units such as composite (CX), pulse link, etc.
23. **Carr Chan** — Applies to troubles in carrier systems working on cable, open wire, coaxial and radio to which the systems are assigned. Examples are troubles in carrier terminals, amplifiers, regulators, radio terminals, and the transmission medium involved.
24. **Voice Condr**—Applies to troubles located in voice toll cable and open-wire conductors including signaling and supervisory paths.
25. **Employee Activities** — Applies to troubles caused by improper employee operation (for example, a patching error, etc).
28. **Network Trunk Release** — Applies only when Report Code 58 is used on Network Trunk release.
29. **Other** — Applies to troubles found that cannot be specifically associated with any of the previous Codes 21-25.
- 4.04 CODE 3. TIE TRUNKS (TOLL FAC)**— Applies to all troubles on the toll portion of Tie Trunks. Troubles on the local portion of Tie Trunks are covered in Paragraph 4.02.
31. **Reptr & Echo Supp** — Applies to troubles associated with telephone repeater and echo suppressor.
32. **Signaling Eqpt** — Applies to troubles occurring in various types of ringers such as the 20-, 135-, and 1000-cycle types; all types of single frequency signaling units and signaling units such as composite (CX), pulse link, etc.
33. **Carr Chan** — Applies to troubles in carrier systems working on cable, open wire, coaxial and radio to which the systems are assigned. Examples are troubles in carrier terminals, amplifiers, regulators, radio terminals and the transmission medium involved.
34. **Voice Condr** — Applies to troubles located in voice toll cable and open-wire conductors including signaling and supervisory paths.
35. **Employee Activities**—Applies to troubles caused by improper employee operation (for example, a patching error, etc).
38. **Tie Trunk Release** — Applies only when Report Code 58 is used on Tie Trunk release.
39. **Other** — Applies to troubles found that cannot be specifically associated with any of the previous Codes 31-35.
- 4.05 CODE 4. ACCESS LINE** — Applies to all troubles found on the toll portions of Access Lines. Troubles on the local portions of Access Lines are covered in Paragraph 4.02.
41. **Reptr & Echo Supp** — Applies to troubles associated with telephone repeaters and echo suppressors.
42. **Signaling Eqpt** — Applies to troubles occurring in various types of ringers such as the 20-, 135-, and 1000-cycle types; all types of single frequency signaling units and signaling units such as composite (CX), pulse link repeaters, etc.

43. **Carr Chan**—Applies to troubles in carrier systems working on cable, open wire, coaxial and radio to which the systems are assigned. Examples are troubles in carrier terminals, amplifiers, regulators, radio terminals and the transmission medium involved.
44. **Voice Condr**—Applies to troubles located in voice toll cable and open-wire conductors including signaling and supervisory paths.
45. **Employee Activities**—Applies to troubles caused by improper employee operation (for example, a patching error, etc).
46. **ICO Facilities**—For Independent Company owned facilities, applies to troubles locating on the physical conductors from the last toll office to the last cable terminal at the customers' premises, which may include Distributing Frame. Also includes troubles caused by their employee activity.
48. **Access Line Release**—Applies only when Report Code 58 is used on Access Line release.
49. **Other**—Applies to troubles found that cannot be specifically associated with any of the previous Codes 41-46.
- 4.06 CODE 5. CENTRAL OFFICE**
51. **Frames**—Any troubles on distributing frames and where cross-connections permanently associated with Access Lines and network trunks are terminated. This includes the cross-connections on the Number Group Frame and the Translator Frame.
52. **Line Circuit**—All equipment and wiring (except frame) permanently associated with Access Lines and 4-wire subscriber lines including LUNK, LLP.
53. **Common Eqpt**—All equipment and wiring such as switching equipment, power supply, etc, not permanently associated with Access Lines, 4-wire subscriber lines or network trunks.
54. **Trunk Circuit**—All trunk circuits and wiring, such as 2-way toll, etc.
55. **Calling Party Hold and Equipment Off-Normal**—When calling party fails to disconnect, equipment off-normal or lock-up condition, which results in a line being held out of service.
56. **Plant and Traffic Operations**—Incorrect operations or use of central office common equipment by Plant or Traffic employees.
59. **Other**—Troubles in central office not covered in Codes 51-56.
- 4.07 CODE 6. CUSTOMER ACTION**—Due to customer's improper operation of equipment and troubles found in customer maintained equipment.
61. **ROH**—Receiver Off-Hook.
62. **Misoperation**—Wrong key operated, equipment left in operated condition, etc.
63. **Other**—Applies to all other customer misoperation not covered by Codes 61 and 62.
64. **Sta Eqpt (COAM)**—Applies to trouble located in station equipment that is customer owned and maintained.
65. **PBX (COAM)**—Applies to trouble located in PBX equipment such as dials, jacks, switches, etc, that is customer owned and maintained.
66. **Other (COAM)**—Applies to all other troubles that cannot be classified to Codes 64 and 65 that is customer owned and maintained.
- 4.08 CODE 7. TEST OK**
71. **TOK**—Trouble reports are closed as Test OK when the trouble-causing condition cannot be determined and the report is not referred to anyone. This includes reports where tests are not made due to insufficient information.
- Trouble reports due to central office or concentrator overload conditions (other than those caused by equipment failures, equipment made busy, or outside plant conditions) and including reports due to use of Line Load Control, shall be closed as Test OK.

Customer reports resulting from change in the tone or volume of dial tone supply (emergency ringing machines, new dial tone, etc.) shall be counted as customer reports closed as Test OK.

4.09 CODE 8. FOUND OK — IN

81. **FOK SSN Office — Switching Equipment** — Applies to trouble tested or analyzed to switching equipment, but no trouble was found.

4.10 CODE 9. CAME CLEAR/FOUND OK — OUT

91. **Found OK—Local Facilities** — Applies to all troubles referred to Plant Service Center (or equivalent) or directly to local repair forces, on which no trouble was found. If the trouble is sectionalized to one of the other Codes 10-16, 19, it should be given that code, even though the exact cause of trouble is not found.

92. **Came Clear — Network Trunk** — Applies to troubles sectionalized to network trunks that clear out before any of the other Codes 21-29 can be applied.

93. **Came Clear — Tie Trunk** — Applies to troubles sectionalized to Tie Trunks that clear out before any of the other Codes 31-39 can be applied.

94. **Came Clear — Access Lines** — Applies to troubles sectionalized to Access Lines that clear out before any of the other Codes 21-29 can be applied.

95. **Came Clear or Found OK — ICO** — Applies to troubles sectionalized to Independent Company facilities or equipment that clear out or no trouble was found before Codes 17, 18 or 46 can be applied.

96. **Came Clear or Found OK—COAM** — Applies to troubles sectionalized in Customer Owned and Maintained equipment or facilities that clear out or no trouble was found before Codes 64-66 can be applied.

4.11 CODE 0. REFERRED OUT

01. Referred out to an SSB or SSRC.

5. CLASSIFICATION AND CODES — FORM E-5121

5.01 An illustration of Form E-5121 is shown in Fig. 1 and Fig. 2. This form is printed on a 5" by 8" card with the ORIGIN OF REPORT and TYPE OF REPORT on the front of the card and the DISPOSITION on the back. Form E-5121 is colored light green for ease of identification.

5.02 Form E-5121 is prepared in card size for use at test positions in preparing Switched Services Report Form E-5120.

Classifications and Codes FOR THE Handling of Trouble Reports			E-5121 12-63
ORIGIN OF REPORT			
1	ATT	(Attendant Initiated)	
2	CUST	(Customer Initiated)	
3	NCO	(Network Control Office)	
4	CSBR	(Central Office #5 X-Bar Machine)	
5	SO	(Service Observing)	
6	C4	(Employee Report)	
7	RN	(Referred in Report)	
TYPES OF REPORTS			
	GROUP	SUB GRP	TROUBLE REPORT
ORIG. CALL	1 CC - NDT CAN'T CALL NO DIAL TONE	11 12 13	NDT (No Dial Tone) NREG (No Register) SDT (Slow Dial Tone)
ORIG. CALL	2 CC - OTH CAN'T CALL OTHER	21 22 23 24 25 26 27	CBDT (Can't Break Dial Tone) DTAD (Dial Tone After Dialing) NRNA (No Ring No Answer) GWN (Get Wrong Number) AALB (All Access Lines Busy) DA (Don't Answer) REC CKT (Recording on Circuit)
ORIG. OR TERM. CALL	3 TRANS - NOISE TRANSMISSION NOISE	31 32 33 34 35 36 37 38	CH (Can't Hear) CBH (Can't Be Heard) NSY (Noisy) FT (Foreign Tone) CRS TLK (Cross Talk) CO (Cut Off - Cut Out) TTY (Teletypewriter) CTRD (Can't Transmit/Rec. Data)
TERM. CALL	4 CBC CAN'T BE CALLED	41 42 43 44	DGC (Doesn't Get Call) CTR (Can't Trip Ringing) FR (False Ring) BDR (Bell Doesn't Ring)
	5 MISC. MISCELLANEOUS	51 52 53 54 55 56 57 58	RO (Reorder) PS (Permanent or False Drop/Line Seizure) SUPVN (Improper or No Supervision) SS (Stuck Sender) RTF (Routine Test Failure) TI (Trouble Indication) OTH (Other) Release

Fig. 1 - Form E - 5121 (Front)

Disposition

CODE 1 – STATION, PBX AND OTHER LOC FAC

- 10 Sta Eqpt
- 11 PBX
- 12 DATA-PHONE Subset
- 13 Rept & Assoc. Eqpt
- 14 Carr Term.
- 15 Sig Eqpt
- 16 Local Fac
- 17 Sta Eqpt (ICO)
- 18 PBX (ICO)
- 19 Other

CODE 2 – NETWORK TRUNK

- 21 Rept & Echo Supp
- 22 Sig Eqpt
- 23 Carr Chan
- 24 Voice Condr
- 25 Employee Activities
- 26
- 27
- 28 Network Trunk Release
- 29 Other

CODE 3 – TIE TRUNK (TOLL FAC)

- 31 Rept & Echo Supp
- 32 Sig Eqpt
- 33 Carr Chan
- 34 Voice Condr
- 35 Employee Activities
- 36
- 37
- 38 Tie Trunk Release
- 39 Other

CODE 4 – ACCESS LINE

- 41 Rept & Echo Supp
- 42 Sig Eqpt
- 43 Carr Chan
- 44 Voice Condr
- 45 Employee Activities
- 46 ICO (Fac)
- 47
- 48 Access Line Release
- 49 Other

CODE 5 – CENTRAL OFFICE

- 51 Frames
- 52 Line Ckt
- 53 Comm Eqpt
- 54 Trunk Circuit
- 55 Calling Party Hold and
Equipment Off Normal
- 56 Plant & Traffic Opr
- 57
- 58
- 59 Other

CODE 6 – CUSTOMER ACTION

- 61 Receiver Off-Hook
- 62 Misoperation
- 63 Other
- 64 Sta Eqpt (COAM)
- 65 PBX (COAM)
- 66 Other (COAM)

CODE 7 – TEST OK

- 71 TOK

CODE 8 – FOUND OK – IN

- 81 FOK SSN Ofc –
Switching Eqpt

CODE 9 – CAME CLEAR/FOUND OK – OUT

- 91 FOK – Local Fac
- 92 CC Network Trunk
- 93 CC Tie Trunk
- 94 CC Access Line
- 95 CC – FOK (ICO)
- 96 CC – FOK (COAM)

CODE 0 – REFERRED OUT

- 01 RO

Fig. 2 – Form E — 5121 (Back)