ALARM SURVEILLANCE AND CONTROL SYSTEM
OVERALL TESTS OF ALARM, STATUS AND COMMAND FUNCTIONS
NO. 5 CROSSBAR OFFICES

1. GENERAL

1.01 This section describes test procedures for end to end tests of alarm, status and control functions of the Alarm Surveillance and Control System used with No. 5 crossbar offices.

1.02 When this section is reissued, the reasons for reissue will be stated in this paragraph. This section does not affect Equipment Test Lists.

1.03 The location statement, - At MTF-, is used to refer to all apparatus located on the four basic bays of the master test frame. The location statement, - At ASC terminal - is used to refer to the portable data terminal at the No. 5 crossbar office under test.

1.04 The tests in this section are grouped in three parts. Part A covers circuits having alarm and status leads accorded treatment A or B. Part B covers circuits having alarm and status leads accorded threshold (T) treatment. Part C covers circuits affected by remote command messages.

The circuits covered are as follows:

PART A

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

2. APPARATUS

2.01 Texas Instrument Silent 700 electronic data terminal or equivalent.

2.02 KS-14510 L3 volt-ohmmeter, equipped with L3 test probes or POLAR PROBE* CMC 5334A (used to verify that ground is present at the interface and control terminal strips). ***Do not*** use test receiver.

2.03 322A (make-busy) plugs as required.

2.04 Blocking and insulating tools as required. Use tools and apply as covered in Section 069-020-801.

2.05 Testing cords as required, 893 cord, 6 feet long, equipped with two 360A tools (IW13B cord), one 419A tool, and one KS-6278 connecting clip (used to connect ground to relay contacts on apparatus side of circuit under test).

2.06 Testing cords as required, 893 cord, 6 feet long, equipped with two 360A tools (IW13B cord), one 607A tool, and one KS-6278 connecting clip (used to connect ground to non-wire-spring relay windings on apparatus side of circuit under test).

3. PREPARATION

3.01 In order to perform overall tests from the remote No. 5 crossbar office through the Alarm Surveillance and Control Center, the following activities must be completed.

1. The Alarm Surveillance and Control Center (hardware and software) must be equipped with a 300 baud DDD (J1P034A, L12) Hewlett Packard terminal interface connected to a 103J data set or equivalent.

2. At the No. 5 crossbar office under test, the E2A telemetry must be operational.

3. All cabling between the source circuits and the interface and control circuit at the No. 5 crossbar office under test must be complete.

4. Local cabling between the interface and control circuit and the E2A telemetry circuit must be complete.

5. The data network serving the No. 5 crossbar office under test must be operational.

6. The data base for the No. 5 crossbar office under test must be entered into the alarm surveillance and control central computer. (Refer to Sections 190-210-302, 303 and 304 Data Base Planning.)

Note: In SPOL file set all alarm and status points for treatment A. If actual working

treatments are to be tested, the treatments assigned to the office under test must be determined and tests performed accordingly.

3.02 Before starting tests, notify alarm surveillance and control center that tests for this office are to be made.

3.03 At the No. 5 crossbar office under test, establish a connection from the portable data terminal, via the DDD network, to the alarm, surveillance and control center. See Fig. 1.

3.04 After all preliminary preparations defined in paragraphs 3.01, 3.02 and 3.03 are completed, the test procedures which follow may be performed. The goals of this procedure are: (1) to determine if the No. 5 crossbar office under test can provide the proper indications and accept controls and (2) to verify that all parts of the Alarm Surveillance and Control system function properly. This procedure requires two TELCO persons at the No. 5 crossbar office. During this activity the portable data terminal is used to provide an alarm surveillance and control full feature position dedicated to the No. 5 crossbar office under test.

3.05 Each status and alarm indication which is provided to the Alarm Surveillance and Control system should be simulated as far into

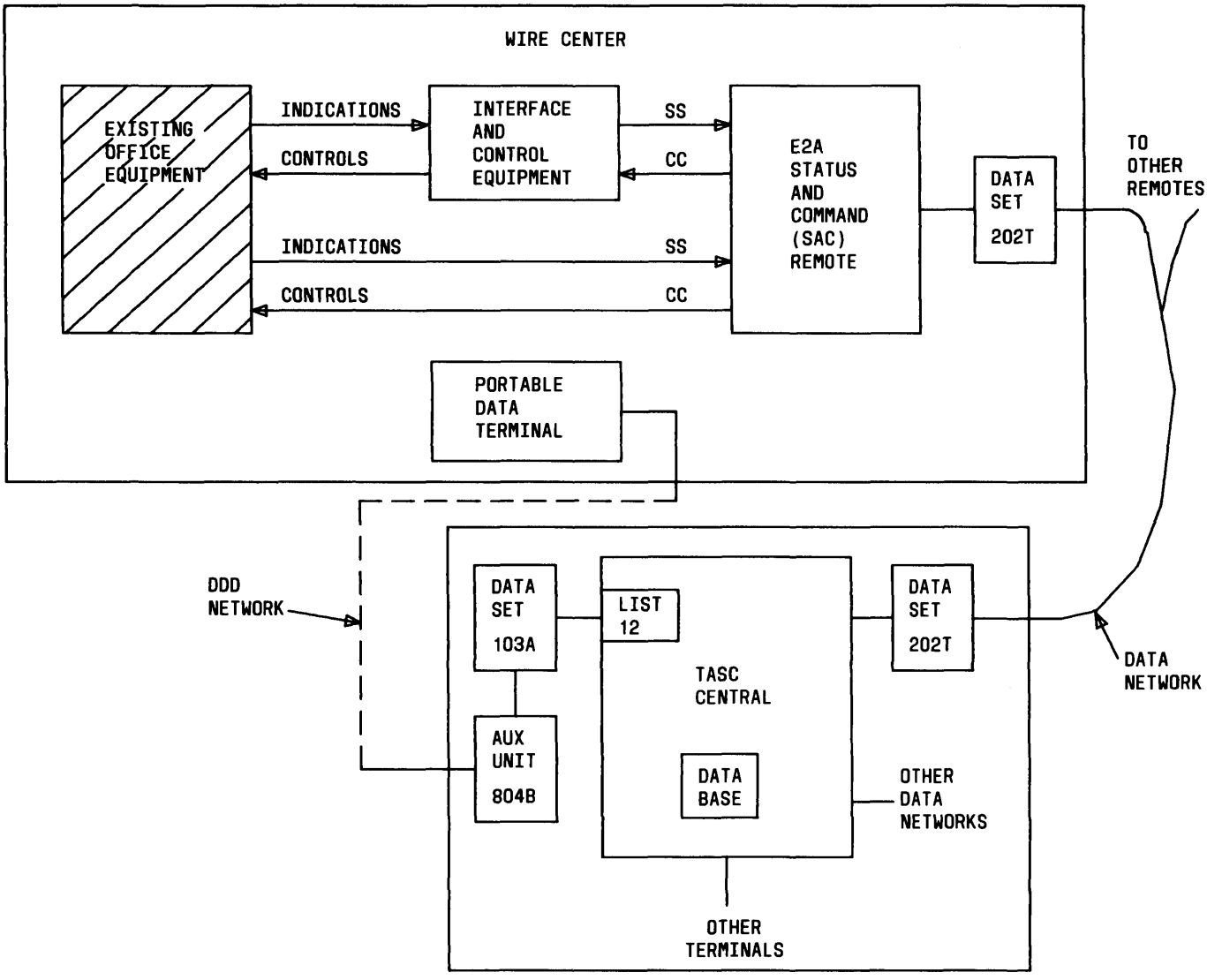


Fig. 1—Equipment Block Diagram

the existing office equipment as possible in order to verify that this information can be recognized and properly forwarded to the alarm surveillance and control center for processing. While each indication is present, it must be verified that the proper new message appears at the portable data terminal and that a cleared message occurs when the condition is removed.

3.06 At the end of each scan cycle, the end of scan (ES) pulse will release all releasable alarms. The master alarm release (MAR) Key may be operated to release any releasable alarm at any interval in the scan cycle.

3.07 Control actions should be initiated at the portable data terminal and the existing office equipment should be observed for the proper responses. Care must be taken to insure that customer service is not adversely effected.

4. METHOD

4.01 The recommended order of testing is as follows:

(a) Interface and control circuit functions

1. Remote and local modes

2. CAL and CTL indications

(b) Local make busy indications

(c) Common equipment alarm and status indications

(d) ASC command functions

(e) Miscellaneous and unique office status and alarm indications.

4.02 Input commands may be initiated in either the interactive or non-interactive format as shown below:

TELEMETRY COMMAND RMV

INTERACTIVE FORMAT

#RMV
STA.NO.(1-256) OR NAME ?NNN
SWITCH NO. (1-4096) OR NAME ?XXXX
GROUP OR DISPLAY NO. (OR TYPE & IF NONE)?TT
READOUT DEVICE?DD

NON-INTERACTIVE FORMAT

#RMV,NNN,XXXX,TT,DD

WHERE NNN=STATION NUMBER OR NAME
XXXX = SWITCH NUMBER OR NAME
DD = OUTPUT DEVICE(CO,PR,L##)
TT=GROUP OR DISPLAY NO. OR &. (NO. NOT ALLOWED IF SWITCH NAME DATA BASE HAS A GROUP OR DISPLAY NO. SPECIFIED.)

TELEMETRY COMMAND OPR

INTERACTIVE FORMAT

#OPR
STA.NO.(1-256)CR NAME ?NNN
SWITCH NO. (1-4096) OR NAME ?XXXX
GROUP OR DISPLAY NO. (OR TYPE & IF NONE)?TT
READOUT DEVICE?DD

NON-INTERACTIVE FORMAT

#OPR,NNN,XXXX,TT,DD

WHERE NNN=STATION NUMBER OR NAME
XXXX = SWITCH NUMBER OR NAME
DD = OUTPUT DEVICE (CO,PR,L##)
TT=GROUP OR DISPLAY NO. OR &. (NO. NOT ALLOWED IF SWITCH NAME DATA BASE HAS A GROUP OR DISPLAY NO. SPECIFIED.)

TELEMETRY COMMAND RLS

INTERACTIVE FORMAT

#RLS
STA.NO.(1-256) OR NAME ?NNN
SWITCH NO. (1-4096) OR NAME ?XXXX
GROUP OR DISPLAY NO. (OR TYPE & IF NONE)?TT
READOUT DEVICE?DD

NON-INTERACTIVE FORMAT

#RLS,NNN,XXXX,TT,DD

WHERE NNN=STATION NUMBER OR NAME
DD = OUTPUT DEVICE (CO,PR,L##)
XXXX = SWITCH NUMBER OR NAME
TT=GROUP OR DISPLAY NO. OR &(NO. NOT ALLOWED IF SWITCH NAME DATA BASE HAS A GROUP OR DISPLAY NUMBER SPECIFIED.)

TELEMETRY COMMAND RST

INTERACTIVE FORMAT

#RST
STA.NO.(1-256 OR NAME ?NNN
SWITCH NO. (1-4096) OR NAME ?XXXX
GROUP OR DISPLAY NO. (OR TYPE & IF NONE)?TT
READOUT DEVICE?DD

NON-INTERACTIVE FORMAT

#RST,NNN,XXXX,TT,DD

WHERE NNN=STATION NUMBER OR NAME
DD = OUTPUT DEVICE(CO,PR,L##)
XXXX = SWITCH NUMBER OR NAME
TT=GROUP OR DISPLAY NO. OR &(NO. NOT ALLOWED IF SWITCH NAME DATA BASE HAS A GROUP OR DISPLAY NUMBER SPECIFIED.)

TELEMETRY COMMAND RSW

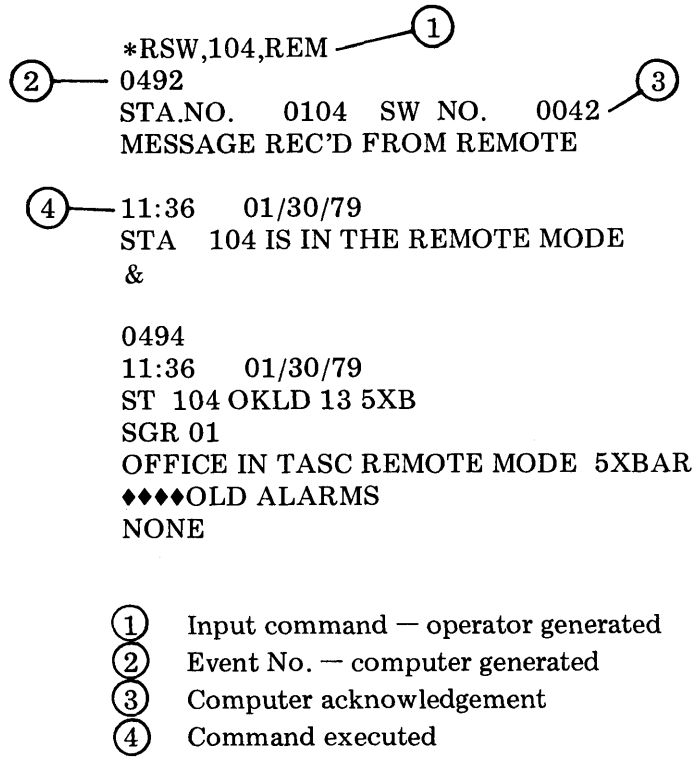
INTERACTIVE FORMAT

#RSW
STA.NO.(1-256) OR NAME ?NNN
SWITCH NO. (1-4096) OR NAME ?XXXX
OR C1 ORDER CODE;XX-XX-XX-XX
GROUP OR DISPLAY NO.(OR TYPE & IF NONE)? TT
READOUT DEVICE?DD

NON-INTERACTIVE FORMAT

#RSW,NNN(XXXX OR XX-XX-XX-XX),TT,DD
NNN = STA # OR NAME DD = OUTPUT DEVICE(CO,PR,L##)
XXXX= REMOTE SWITCH # OR NAME
XX-XX-XX-XX = C1 ORDER CODE
TT = & OR GROUP OR DISPLAY NO. (NO. NOT ALLOWED IF SWITCH NAME DATA BASE HAS A GROUP OR DISPLAY NO. SPECIFIED.)

4.03 An example of an input command and the ASC response is shown below:



① Input command — operator generated
② Event No. — computer generated
③ Computer acknowledgement
④ Command executed

4.04 Perform all tests with No. 5 crossbar office under test in remote mode.

PART A

STEP	ACTION	VERIFICATION
A. Alarm Circuit (SD-25671-01)		
1	Scan lead—ABS Block operated ***FA*** relay.	At local office— ABS lamp lighted. At ASC terminal— ***ALM BAT*** message. After 4 scan cycles— ***MJ OFC*** message.
2	Release ***FA*** relay.	At local office— ABS lamp extinguished. At ASC terminal— ***ALM BAT*** and ***MJ OFC*** message cleared.
3	Scan lead—ASMJ Block operated ***AMJ*** relay.	At ASC terminal— ***MJ AN SYS*** message.
4	Release ***AMJ*** relay.	***MSJ AN SYS*** message cleared.

STEP	ACTION	VERIFICATION
5	Scan lead—ASMN Block operated ***AMN*** relay.	At ASC terminal— ***MN AN SYS*** message.
6	Release ***AMN*** relay.	***MN AN SYS*** message cleared.
7	Scan lead—MJO Block operated ***MJ2*** relay.	At ASC TERM—After 4 scan cycles— ***MJ OFC*** message.
8	Release ***MJ2*** relay.	At ASC terminal— ***MJ OFC*** message cleared.
9	Scan lead—MJP Block operated ***PF*** or ***PFS*** relay.	At local office— Major alarm aisle pilot lamp lighted. At ASC terminal— ***MJ PWR*** message. After 4 scan cycles— ***MJ OFC*** message.
10	Release ***PF*** or ***PFS*** relay.	At local office— Major alarm aisle pilot lamp extinguished. At ASC terminal— ***MJ PWR*** and ***MJ OFC*** message cleared.
11	Scan lead—MNO Block operated ***MN2*** relay.	At local office— Minor alarm aisle pilot lamp lighted. After 4 scan cycles— ***MN OFC*** message.
12	Release ***MN2*** relay.	At local office— Minor alarm aisle pilot lamp extinguished. At ASC terminal— ***MN OFC*** message cleared.
13	Scan lead—MNP Block operated ***A*** or ***AS*** relay.	At local office— Minor alarm aisle pilot lamp lighted. At ASC terminal— ***MN PWR*** message. After 4 scan cycles— ***MN OFC*** message.
14	Release ***A*** or ***AS*** relay.	At local office— Minor alarm aisle pilot lamp extinguished. At ASC terminal— ***MN PWR*** and ***MN OFC*** message cleared.
15	Scan lead—CMJ Block operated ***CMJ*** relay.	At ASC terminal— ***MJ CAR*** message.
16	Release ***CMJ*** relay.	***MJ CAR*** message cleared.
17	Scan lead—CMN Block operated ***CMN*** relay.	At ASC terminal— ***MN CAR*** message.

STEP	ACTION	VERIFICATION
18	Release ***CMN*** relay.	***MN CAR*** message cleared.
B.	**Master Test Frame—Jack, Lamp, and Key Circuit (SD-25762-01)**	
1	Scan lead—T2 Block operated ***T2*** relay.	At local office— Major alarm aisle pilot lamp lighted. At ASC terminal— Depending on equipment provided one of the following messages: ***AMA MTMR*** ***AMA MTR both REC/TMR/BDT both ENC*** ***LAMA-C PROC MJ.***
2	Release ***T2*** relay.	At ASC terminal— Message cleared.
3	At MTF JLK circuit— Momentarily operate MAR key.	At local office— Major alarm aisle pilot lamp extinguished.
4	Scan lead—T3 Block operated ***T-3*** relay.	At local office— Major alarm aisle pilot lamp lighted. At ASC terminal— Depending on equipment provided one of the following messages: ***AMA RCDR w/o Xfer*** ***AMA MTR REC/CONT MJ/BDT one ENC*** ***LAMA-C DAS MJ*** After 4 scan cycles ***MJ-OFC*** message.
5	Release ***T3*** relay.	At ASC terminal— Message cleared.
6	At local office— Momentarily operate AR keys and/or ACO keys.	Major alarm aisle pilot lamp extinguished.
7	Scan lead—CLI Block operated ***CLI*** relay.	At local office— Major alarm aisle pilot lamp lighted. At ASC terminal— ***CALL LINE TBL REC*** message.
8	Release ***CLI*** relay.	At ASC terminal— ***CALL LINE TBL REC*** message cleared.
9	At local office MTF JLK circuit— Momentarily operate MAR key.	At local office— Major alarm aisle pilot lamp extinguished.
10	Scan lead—DOC Block operated ***RTX*** relay.	At local office— Major alarm aisle pilot lamp lighted.

STEP	ACTION	VERIFICATION
		At ASC terminal— ***DOC MJ*** message. After 4 scans cycles— ***MJ OFC*** message.
11	Release ***RTX*** relay.	At ASC terminal— ***DOC MJ*** and ***MJ OFC*** message cleared.
12	At MTF JLK circuit— Momentarily operate MAR key.	Major alarm aisle pilot lamp extinguished.
13	Scan lead—PU Block operated ***PU2*** relay.	At ASC terminal— ***PUA*** message.
14	Release ***PU2*** relay.	***PUA*** message cleared.
C. Trouble Recorder Control Circuit (SD-25572-01)		
1	Scan lead—TRMJ Connect ground 5B ***MCO*** relay.	At ASC terminal— ***TBL MB*** messsge. ***TBL RCDR MJ*** and ***MJ OFC*** message.
2	Remove ground placed in Step 1.	At ASC terminal— ***TBL RCDR MJ*** and ***MJ OFC*** message cleared.
3	At MTF JLK circuit— Momentarily operate AR and MCOR keys.	
4	Scan lead—TRMN Block operated ***WAR*** relay. ***Note:*** Program sequence to make trouble recorder busy initiated.	At ASC terminal— ***TBL RCDR MN*** message. After 4 scan cycles— ***MN OFC*** message. At local office— Minor alarm aisle pilot lamp lighted.
5	Release ***WAR*** relay.	At ASC terminal— ***TBL RCDR MN*** and ***MJ OFC*** message cleared.
6	At MTF JLK circuit— Momentarily operate MAR key.	At local office— Minor alarm aisle pilot lamp extinguished.
D. Coin Supervisory Circuit (SD-25736-01)		
1	Scan lead—CS Block operated ***AL*** relay.	At ASC terminal— ***COIN SUPV MJ*** and ***MJ OFC*** message. At local office— Major alarm aisle pilot lamp lighted.
2	Release ***AL*** relay. At MTF JLK circuit—	At ASC terminal— ***COIN SUPV MJ*** and ***MJ OFC*** message

STEP	ACTION	VERIFICATION
	Momentarily operate MAR key.	At local office— Major alarm aisle pilot lamp extinguished.
E. Automatic Monitor, Register, Sender Test Circuit (SD-25680-01)		
1	Scan lead—AM Connect ground 7B ***XM*** relay.	At ASC terminal— ***AUTO MON MN*** and ***MN OFC*** message.
2	Disconnect ground placed in Step 1.	At ASC terminal— ***AUTO MON MN*** and ***MN OFC*** message cleared.
F. Line Insulation Test Circuit (SD-25796-01)		
1	Scan lead—LIT Block operated ***TA*** relay.	At ASC terminal— ***LIT MN*** and ***MN OFC*** message.
2	Release ***TA*** relay.	***LIT MN*** and ***MN OFC*** message cleared.
G. Dial Tone Speed Register Circuit (SD-96403-01)		
1	Scan lead—RAL Block operated ***AL*** relay.	At local office— Minor alarm aisle pilot lamp lighted. DT lamp at DTSR unit lighted. At ASC terminal— ***DTSR MN*** message. After 4 scan cycles— ***MN OFC*** message.
2	Release ***AL*** relay.	At ASC terminal— ***DTSR MN*** and ***MN OFC*** message cleared. At local office— Minor alarm aisle pilot lamp extinguished. DT lamp at DTSR unit extinguished.
H. Traffic Usage Recorder Circuit (SD-95738-01)		
1	Scan lead—TURA Block operated ***TBL*** relay.	At local office— Minor alarm aisle pilot lamp lighted. TBL lamp at TUR frame lighted. At ASC terminal— ***TUR MN*** and ***MN OFC*** message.
2	Release ***TBL*** relay.	At ASC terminal— ***TUR MN*** and ***MN OFC*** message cleared.
3	At local office— Operate AR key on TUR frame.	At local office— Minor alarm aisle pilot lamp extinguished. TBL lamp at TUR frame extinguished.

STEP	ACTION	VERIFICATION
I. Maintenance Data Transmitter Circuit (SD-28111-01)		
1	Scan lead—BAT Connect ground 4B ***ACO*** relay.	At ASC terminal— ***MDT MJ*** and ***MJ OFC*** message.
2	Remove ground placed in Step 1.	At ASC terminal— ***MDT MJ*** and ***MJ OFC*** message cleared.
3	At local office— Operate AR key at MDT.	
J. Line Load Control Circuit (SD-96387-01)		
1	Scan lead—LL Connect ground 6B ***AB/AC*** relay.	At ASC terminal— ***LN LD CONT MJ*** message. After 4 scan cycles— ***MJ OFC*** message.
2	Remove ground placed in Step 1.	***LN LD CONT MJ*** and ***MJ OFC*** message cleared.
K. Multifrequency Current Supply Circuit (SD-95391-01)		
1	Scan lead—MFS Block operated ***ALM*** relay.	At ASC terminal— ***MF SUP MJ*** message. After 4 scan cycles— ***MJ OFC*** message. At local office— Major alarm aisle pilot lamp lighted.
2	Release ***ALM*** relay.	At ASC terminal— ***MF SUP MJ*** and ***MJ OFC*** message cleared.
3	At local office— Reset MF current supply circuit.	At local office— Major alarm aisle pilot lamp extinguished.
L. Message Register Power Supply Circuit (SD-25770-01)		
1	Scan lead—MR Connect ground 2B ***RP*** relay.	At ASC terminal— ***MR SUP MJ*** message. After 4 scan cycles— ***MJ OFC*** message.
2	Disconnect ground placed in Step 1.	At ASC terminal— ***MR SUP MJ*** and ***MJ OFC*** message cleared.
M. Line Identifier Power Supply Circuit (SD-27700-01)		
1	Scan lead—LIP Connect ground 2M ***TR*** relay.	At ASC terminal— ***LN ID SUP MJ*** message.

STEP	ACTION	VERIFICATION
2	Disconnect ground placed in Step 2.	At ASC terminal— ***LN ID SUP MJ*** message cleared.
N. Extension Alarm Circuit (SD-95484-01)		
1	Scan lead—PBX MJ/CDO MJ Connect ground 9T ***A1*** relay.	At ASC terminal— If monitoring PBX— ***PBX MJ*** message. If monitoring CDO— ***CDO MJ*** message.
2	Disconnect ground placed in Step 1.	At ASC terminal— ***PBX MJ or CDO MJ*** message cleared.
3	Scan lead—PBX MN/CDO MN Connect ground 7T ***B1*** relay.	At ASC terminal— If monitoring PBX— ***PBX MN*** message. If monitoring CDO— ***CDO MN*** message.
4	Disconnect ground placed in Step 3.	At ASC terminal— ***PBX MN or CDO MN*** message cleared.
5	Scan lead—CPA Connect together 1B/2B ***A*** relay.	At ASC terminal— ***CA PROT MJ*** message.
6	Remove short circuit placed in Step 5.	***CA PROT MJ*** message cleared.
O. PBX Automatically Identified OUT DIAL Circuit (SD-1C006-01/1C236-01)		
1	Scan lead—MJM Block operated ***FA*** relay.	At ASC terminal— ***PBX AIOD MJ*** and ***MJ OFC*** message. At local office— Major alarm aisle pilot lamp lighted. At PBX AIOD circuit— FA lamp lighted.
2	Release ***FA*** relay.	At ASC terminal— ***PBX AIOD MJ*** and ***MJ OFC*** message cleared.
3	At PBX AIOD circuit— Momentarily operate RS key.	At local office— Major alarm aisle pilot lamp and FA lamp extinguished.
4	Scan lead—MNM Block operated ***MNA*** relay.	At ASC terminal— ***PBX AIOD MN*** and ***MN OFC*** message. At local office— Minor alarm aisle pilot lamp lighted. At PBX AIOD circuit— MNA lamp lighted.

STEP	ACTION	VERIFICATION
5	Release ***MNA*** relay.	At ASC terminal— ***PBX AIOD MN*** and ***MN OFC*** message cleared.
6	At PBX AIOD circuit— Momentarily operate RS key.	At local office— Minor alarm aisle pilot lamp and MNA lamp extinguished.

P. 1A Line Concentrator Control Circuit (SD-96536-01)

1	Scan lead—1AL Block operated ***CAL*** relay.	At ASC terminal— ***LC 1A LOC MJ*** and ***MJ OFC*** message. At local office— Major alarm aisle pilot lamp lighted. At control unit— AL lamp lighted.
2	Release ***CAL*** relay.	At ASC terminal— ***LC 1A UOC MJ*** and ***MJ OFC*** message cleared.
3	At control unit— Momentarily operate AR key.	At local office— Major alarm aisle pilot lamp and AL lamp extinguished.
4	Scan lead—1AR Block operated ***RAL*** relay.	At ASC terminal— ***LC 1A REM MJ*** and ***MJ OFC*** message. At local office— Major alarm aisle pilot lamp lighted. At control unit— AL lamp lighted.
5	Release ***RAL*** relay.	At ASC terminal— ***LC 1A REM MJ*** and ***MJ OFC*** message cleared.
6	At control unit— Momentarily operate AR key.	At local office— Major alarm aisle pilot and AL lamp extinguished.

Q. 2A Line Concentrator Control Circuit (SD-94815-01)

1	Scan lead—2AL Block operated ***FA*** relay.	At ASC terminal— ***LC 2A LOC MJ*** and ***MJ OFC*** message. At local office— Major alarm aisle pilot lamp lighted. At control unit— TRT and FA lamp lighted.
2	Release ***FA*** relay.	At ASC terminal— ***LC 2A LOC MJ*** and ***MJ OFC*** message cleared.

STEP	ACTION	VERIFICATION
3	At control unit— Momentarily operate AR key.	At local office— Major alarm aisle pilot lamp, TRT and FA lamp extinguished.
4	Scan lead—2AR Block operated ***AL*** relay.	At ASC terminal— ***LC 2A REM MJ*** and ***MJ OFC*** message. At local office— Major alarm aisle pilot lamp lighted. At control unit— AL lamp lighted.
5	Release ***AL*** relay.	At ASC terminal— ***LC 2A REM MJ*** and ***MJ OFC*** message cleared.
6	At control unit— Momentarily operate AR key.	At local office— Major alarm aisle pilot lamp and AL lamp extinguished.

R. ETS 3A Processor Circuit (SD-28118-01)

1	Scan lead—CRT/T2 Connect ground 1M ***CRT*** relay.	At ASC terminal— ***ETS CRITICAL*** message. After 4 scan cycles— ***MJ OFC*** message.
2	Remove ground placed in Step 1.	At ASC terminal— ***ETS CRITICAL*** and ***MJ OFC*** message cleared.
3	Scan lead-MJ1/T3 Connect ground 1M ***MJ*** relay.	At ASC terminal— ***ETS MJ*** message. After 4 scan cycles— ***MJ OFC*** message.
4	Disconnect ground placed in Step 3.	At ASC terminal— ***ETS MJ*** and ***MJ OFC*** message cleared.

S. ETS Power and Data Interface Circuit (SD-28114-01)

1	Scan lead—WDT Connect ground 8B ***OSC-0*** relay.	At ASC terminal— ***DAS GP 0 WD TMB*** and ***ETS MJ*** message. After 4 scan cycles— ***MJ OFC*** message.
2	Disconnect ground placed in Step 1.	At ASC terminal— ***DAS GP 0 WD TMR, ETS MJ,*** and ***MJ OFC*** message cleared.
3	Repeat Steps 1 and 2 for each DAS group (OSC 1-11 relay).	***DAS GP (1-11) WD TMR*** message.

STEP	ACTION	VERIFICATION
4	Scan lead—AIOD (0,1) Connect ground 5M ***BMJ0*** relay.	At ASC terminal— ***ETS AIOD 0 STUCK*** and ***MJ OFC*** message.
5	Disconnect ground placed in Step 4.	At ASC terminal— ***ETS AIOD 0 STUCK*** and ***MJ OFC*** message cleared.
6	Repeat Steps 4 and 5 using ***BMJ1*** relay.	***ETS AIOD 1 STUCK*** message.

T. Program Controlled Transverter Circuit (SD-28085-01)

1	Scan lead—PCTV/CPCTV (0,1) Block operated ***TMR 1*** relay in circuit 0.	At ASC terminal— ***ANI/CAMA PCTV 0 STUCK*** and ***MJ OFC*** message. At local office— Major alarm aisle pilot lamp lighted. At circuit under test— ALM lamp lighted.
2	At circuit under test— Momentarily operate AR key.	At ASC terminal— ***ANI/CAMA PCTV 0 STUCK*** and ***MJ OFC*** message cleared. At local office— Major alarm aisle pilot lamp and ALM lamp extinguished.
3	Block operated ***TMR 1*** relay in circuit 1.	At ASC terminal— ***ANI/CAMA PCTV 1 STUCK*** and ***MJ OFC*** message. At local office— Major alarm aisle pilot lamp lighted. At circuit under test— ALM lamp lighted.
4	At circuit under test— Momentarily operate AR key.	At ASC terminal— ***ANI/CAMA PCTV 1 STUCK*** and ***MJ OFC*** message cleared. At local office— Major alarm aisle pilot lamp and ALM lamp extinguished.

U. Permanent Signal Alarm Circuit (SD-26135-01/ SD-25815-01)

1	Scan lead—PS Block operated ***A*** or ***C*** relay.	At ASC terminal— After 4 scan cycles— ***PERM SIG*** message. At local office— PSA lamp lighted at MTF JLK circuit.

STEP	ACTION	VERIFICATION
2	Release ***A*** or ***C*** relay.	At ASC terminal— ***PERM SIG*** message cleared. At local office— PSA lamp extinguished.

V. Interface and Control Circuit (SD-28075-01)

1	Scan lead—TNS At MTF JLK circuit— Operate REM key.	At ASC terminal— ***ALM XFERRED*** message. At MTF JLK circuit— REM lamp lighted.
2	At MTF JLK circuit— Operate LOC key.	At ASC terminal— ***ALM XFERRED*** message cleared. At MTF JLK circuit— REM lamp extinguished.
3	Scan lead—CCLG At MTF JLK circuit— Operate CCT, CLPT, and CGT keys.	At ASC terminal— ***MKR GLC TST OFF*** message. At MTF JLK circuit— CCT, CLPT, and CGT lamps lighted.
4	At MTF JLK circuit— Release CCT, CLPT, and CGT keys.	At ASC terminal— ***MKR GLC TST OFF*** message cleared. At MTF JLK circuit CCT, CLPT, CGT lamps extinguished.

W. Alarm Sending Circuit (SD-95417-01)

1	Scan lead—SP At MTF JLK circuit— Operate transfer key to transfer position.	At ASC terminal— ***ALM SDG ON*** message.
2	At MTF JLK circuit— Restore transfer key to local position.	
3	At MTF JLK circuit— Momentarily operate RS key.	At ASC terminal— ***ALM SDG ON*** message cleared.

X. Recorder Transfer Circuit (SD-28076-01)

1	Scan lead—RC Block operated ***T 00*** relay.	At ASC terminal— ***AMA RCDR W/T*** message. After 4 scan cycles— ***MJ OFC*** message.
2	Release ***T 00*** relay.	At ASC terminal— ***AMA RCDR W/T*** and ***MJ OFC*** message cleared.

STEP	ACTION	VERIFICATION
3	Scan lead—ERC At emergency recorder— Block operated ***NPA*** relay.	At ASC terminal— ***AMA EM RCDR MJ*** message.
4	Release ***NPA*** relay.	At ASC terminal— ***AMA EM RCDR MJ*** message cleared.
5	Scan lead—TR Block operated ***TR*** relay.	At ASC terminal— ***AMA RCDR XFERRED*** message.
6	Release ***TR*** relay.	At ASC terminal— ***AMA RCDR XFERRED*** message cleared.

Y. Electronic Dial Tone Speed Register Circuit (SD-3B504-01)

1	Scan lead—RTAL Connect ground 5B ***ALM CTF*** relay.	At ASC terminal— ***EDTSR MN*** message. After 4 scan cycles— ***MN OFC*** message.
2	Disconnect ground placed in Step 1.	At ASC terminal— ***EDTSR MN*** and ***MN OFC*** message cleared.

Z. Translator Connector Circuit (SD-99320-01)

1	Scan lead—MNM Block operated ***OTR*** relay.	At ASC terminal— After 4 scan cycles— ***PBX AIOD CONN MN*** and ***MN OFC*** message. At local office— Minor alarm aisle pilot lamp lighted.
2	Release ***OTR*** relay.	At ASC terminal— ***PBX AIOD CONN MN*** and ***MN OFC*** message cleared.
3	At connector under test— Momentarily operate AR key.	Minor alarm aisle pilot lamp extinguished.

AA. Line Concentrator Identifier Circuit (SD-95964-01)

1	Scan lead—C Block operated ***FA*** relay.	At ASC terminal— ***LC IDENT TO*** message. After 4 scan cycles— ***MJ OFC*** message. At local office— Major alarm aisle pilot lamp lighted.
2	Release ***FA*** relay.	At ASC terminal— ***LC IDENT TO*** and ***MJ OFC*** message cleared.

STEP	ACTION	VERIFICATION
		At local office— Major alarm aisle pilot lamp extinguished.
AB.	**No. 1 Trunk Concentrator Circuit (SD-97595-01)**	
1	Scan lead—MJ Block operated ***MJO*** relay.	At ASC terminal— ***No. 1 TRK CONC MJ*** and ***MJ OFC*** message. At local office— Major alarm aisle pilot lamp lighted.
2	Release ***MJ0*** relay.	At ASC terminal— ***No. 1 TRK CONC MJ*** and ***MJ OFC*** message cleared. At local office— Major alarm aisle pilot lamp extinguished.
3	Scan lead—MN Block operated ***MNI*** relay.	At ASC terminal— ***No. 1 TRK CONC MN*** and ***MN OFC*** message. At local office— Minor alarm aisle pilot lamp lighted.
4	Release ***MNI*** relay.	At ASC terminal— ***No. 1 TRK CONC MN*** and ***MN OFC*** message cleared. At local office— Minor alarm aisle pilot lamp extinguished.
5	Scan lead—PS Block operated ***PS*** relay.	At ASC terminal— ***No. 1 TRK CONC PS*** and ***MN OFC*** message. At local office— Minor alarm aisle pilot lamp lighted.
6	Release ***PS*** relay.	At ASC terminal— ***No. 1 TRK CONC PS*** and ***MN OFC*** message cleared. At local office— Minor alarm aisle pilot lamp extinguished.
PART B		
A.	**Combined/Completing Marker Circuit (SD-25550-01/SD-26002-01)**	
1	Scan lead—1TR (0-11) Connect ground 3T ***TR2C*** relay (FS) 10 ***TR2C*** relay (WS).	At ASC terminal— After approximately 1 1/2 minutes— ***CM MKR (0-11) 1TR*** message.
2	Disconnect ground placed in Step 1.	At ASC terminal— ***CM MKR (0-11) 1TR*** message cleared.

STEP	ACTION	VERIFICATION
3	Repeat Steps 1 and 2 for each combined/completing marker in marker group under test.	
4	Scan lead—2TR Connect (20) 1 second ground pulses to 1T ***TR2C*** relay (FS), 10 ***GT5*** relay (WS) combined or completing marker 0.	At ASC terminal— ***CM MKR 2TR*** message.
5	At combined/completing marker 1— Connect a 1 second ground pulse to 1T ***TR2C*** relay (FS), 10 ***GT5*** relay (WS).	At interface and control— 2TR counter for CM marker advances one registration.
6	Repeat Step 5 for remaining combined/completing markers.	At interface and control— 2TR counter for CM markers advances one registration.
B. Dial Tone Marker Circuit (SD-25550-01, SD-26001-01)		
1	Scan lead—1TR Connect ground 5T ***TR2F*** relay (FS), 10 ***TR2B*** relay (WS).	At ASC terminal— After approximately 1 1/2 minutes— ***DT MKR (0-5) 1TR*** message.
2	Disconnect ground placed in Step 1.	At ASC terminal— ***DT MKR (0-5) 1TR*** message cleared.
3	Repeat Steps 1 and 2 for each dial tone marker in marker group.	
4	Scan lead—2TR At dial tone marker 0 circuit— Connect (20) 1 second ground pulses to 3T ***TR2F*** relay (FS)/10 ***TR2B*** relay (WS).	At ASC terminal— ***DT MKR 2TR*** message.
5	At dial tone marker 1 circuit— Connect 1 second ground pulse to 3T ***TR2F*** relay (FS), 10 ***TR2B*** relay (WS).	At interface and control circuit— 2TR counter for dial tone markers advances one registration.
6	Repeat Step 5 for remaining dial tone markers in marker group.	At interface and control circuit— 2TR counter for dial tone markers advances one registration.
C. LAMA Transverter Circuit (SD-25591-01/SD-27809-01)		
1	Scan lead—1TR Connect ground 10T ***2TR*** relay/9B ***2TR relay.***	At ASC terminal— After approximately 1 1/2 minutes— ***TV (0-9) 1TR*** message.
2	Disconnect ground placed in Step 1.	At ASC terminal— ***TV (0-9) 1TR*** message cleared.
3	Repeat Steps 1 and 2 for each LAMA transverter circuit.	

STEP	ACTION	VERIFICATION
4	Scan lead—2TR At LAMA transverter circuit 0— Connect (20) 1 second ground pulses to 10T ***2TR*** relay/9B ***2TR*** relay.	At ASC terminal— ***TV 2TR*** message.
5	At LAMA transverter circuit 1— Connect 1 second ground pulse to 10T ***2TR*** relay/9B ***2TR*** relay.	At interface and control circuit— 2TR counter for LAMA transverter circuits advances one registration.
6	Repeat Step 5 for remaining LAMA transverter circuits.	At interface and control circuit— 2TR counter for LAMA transverter circuits advances one registration.
D. CAMA Transverter Circuit (SD-26010-01)		
1	Scan lead—1TR At CAMA transverter circuit 0— Connect ground to 8B ***2TR*** relay.	At ASC terminal— After approximately 1 1/2 minutes— ***TV (0) 1TR message.***
2	Disconnect ground placed in Step 1.	At ASC terminal— ***TV (0) 1TR*** message cleared.
3	Repeat Steps 1 and 2 for each CAMA transverter circuit.	
4	Scan lead—2TR At CAMA transverter circuit (0)— Connect (20) 1 second ground pulses to 8M ***2TR*** relay.	At ASC terminal— ***CTV 2TR*** message.
5	At CAMA transverter circuit 1— Connect 1 second ground pulse to 8M ***2TR*** relay.	At interface and control circuit— 2TR counter for CAMA transverter circuits advances one registration.
6	Repeat Step 5 for remaining CAMA transverter circuit.	At interface and control circuit— 2TR counter for CAMA transverter circuits advances one registration.
E. ANI Transverter Circuit (SD-26161-01)		
1	Scan lead—1TR At ANI transverter circuit (0)— Connect ground to 6B ***2TR*** relay.	At ASC terminal— After approximately 1 1/2 minutes— ***TV (0) 1TR message.***
2	Disconnect ground placed in Step 1.	At ASC terminal— ***TV (0) 1TR*** message cleared.
3	Repeat Steps 1 and 2 for remaining ANI transverter circuit.	
4	Scan lead—2TR At ANI transverter circuit (0)—	At ASC terminal— ***ATV 2TR*** message.

STEP	ACTION	VERIFICATION
	Connect (20) 1 second ground pulses to 6M ***2TR*** relay.	
5	At ANI transverter circuit (1)— Connect 1 second ground pulse to 6M ***2TR*** relay.	At interface and control circuit— 2TR counter for ANI transverter circuits advances one registration.
F. Program Controlled ANI Transverter Circuit (SD-28085-01)		
1	Scan lead—1TR— At ANI programmed controlled transverter circuit (0)— Connect ground to 5B ***TVTS*** relay.	At ASC terminal— After approximately 1 1/2 minutes ***PCTV (0) 1TR*** message.
2	Disconnect ground placed in Step 1.	At ASC terminal— ***PCTV (0) 1TR*** message cleared.
3	Repeat Steps 1 and 2 for remaining ANI programmed controlled transverter circuit.	
4	Scan lead—2TR At ANI programmed controlled transverter circuit (0)— Connect (20) 1 second ground pulses to 4B ***TVTS*** relay.	At ASC terminal— ***PCTV 2TR*** message.
5	At ANI programmed controlled transverter circuit (1)— Connect 1 second ground pulse to 4B ***TVTS*** relay.	At interface and control circuit— 2TR counter for ANI PCTV circuits advances one registration.
G. Program Controlled CAMA Transverter Circuit (SD-28085-01)		
1	Scan lead—1TR At CAMA programmed controlled transverter circuit (0)— Connect ground to 5B ***TVTS*** relay.	At ASC terminal— After approximately 1 1/2 minutes— ***CPCTV (0) 1TR messsge.***
2	Disconnect ground placed in Step 1.	At ASC terminal— ***CPCTV (0) 1TR*** message cleared.
3	Repeat Steps 1 and 2 for remaining CAMA programmed controlled transverter circuit.	
4	Scan lead—2TR At CAMA programmed controlled transverter circuit (0)— Connect (20) 1 second ground pulses to 4B ***TVTS*** relay.	At ASC terminal— ***CPCTV 2TR*** message.

STEP	ACTION	VERIFICATION
5	At CAMA programmed controlled transverter circuit (1)— Connect 1 second ground pulse to 4B ***TVTS*** relay.	At interface and control circuit— 2TR counter for CAMA PCTV circuits advances one registration.

H. Regular Pretranslator Circuit (SD-25568-01)

1	Scan lead—1TR At pretranslator circuit (0)— Connect ground to 5B ***TR2*** relay.	At ASC terminal— After approximately 1 1/2 minutes—
2	Disconnect ground placed in Step 1.	At ASC terminal— ***PRT (0) 1TR*** message cleared.
3	Repeat Steps 1 and 2 for remaining pretranslator circuits.	
4	Scan lead—2TR At pretranslator circuit (0)— Connect (20) 1 second ground pulses to 3M ***TR2*** relay.	At ASC terminal— ***PRT 2TR*** message.
5	At pretranslator circuit (1)— Connect 1 second ground pulse to 3M ***TR2*** relay.	At interface and control circuit— 2TR counter for PRT circuits advances one registration.
6	Repeat Step 5 for remaining pretranslator circuit.	At interface and control circuit— 2 TR counter for pretranslator circuits advances one registration.

I. Incoming Register Pretranslator Circuit (SD-27969-01)

1	Scan lead—1TR At pretranslator circuit (0)— Connect ground 8B ***TR2*** relay.	At ASC terminal— After approximately 1 1/2 minutes— ***IR PRT (0) 1TR*** message.
2	Disconnect ground placed in Step 1.	At ASC terminal— ***IR PRT (0) 1TR*** message cleared.
3	Repeat Steps 1 and 2 for remaining IR pretranslator.	
4	Scan lead—2TR At IR pretranslator circuit (0)— Connect (20) 1 second ground pulses to 8M ***TR*** relay.	At ASC terminal— ***IR PRT 2TR*** message.
5	At IR pretranslator circuit (1)— Connect 1 second ground pulse to 8M ***TR2*** relay.	At interface and control circuit— 2TR counter for IR pretranslator advances one registration.

STEP	ACTION	VERIFICATION
6	Repeat Step 5 for remaining IR pretranslator circuits.	At interface and control circuit— 2TR counter for IR pretranslator advances one registration.
J. International Direct Distance Dialing Pretranslator Circuit (SD-27849-01)		
1	Scan lead—1TR At pretranslator circuit (0)— Connect ground 8B ***TR2*** relay.	At ASC terminal— After approximately 1 1/2 minutes— ***IDDD PRT (0) 1TR*** message.
2	Disconnect ground placed in Step 1.	At ASC terminal— ***IDDD PRT (0) 1TR*** message cleared.
3	Repeat Steps 1 and 2 for remaining IDDD pretranslator circuit.	
4	Scan lead—2TR At IDDD pretranslator circuit (0)— Connect (20) 1 second ground pulses to 8M ***TR2*** relay.	At ASC terminal— ***IDDD PRT 2TR*** message.
5	At IDDD pretranslator circuit (1)— Connect 1 second ground pulse to 8M ***TR2*** relay.	At interface and control circuit— 2TR counter for IDDD pretranslator advances one registration.
K. Combined/Completing Marker Circuit (SD-25550-01/26002-01)		
1	Scan lead—LR At combined/completing marker circuit 0— Connect ground to 11T ***LR*** relay/U ***LR*** relay (WS marker).	At ASC terminal— After approximately 1 1/2 minutes— ***IR LK REL*** message.
2	Disconnect ground placed in Step 1.	At ASC terminal— ***IR LK REL*** message cleared.
3	Repeat Steps 1 and 2 for remaining combined/completing marker circuits.	
L. Completing Marker Circuit (SD-26002-01)		
1	Scan lead—LRI At completing marker circuit (0)— Connect ground U LRI relay.	At ASC terminal— After approximately 1 1/2 minutes— ***TR LK REL*** message.
2	Disconnect ground placed in Step 1.	At ASC terminal— ***TR LK REL*** message cleared.
3	Repeat Steps 1 and 2 for remaining completing marker circuits.	

STEP	ACTION	VERIFICATION
M. All Markers/Transverters Busy Circuit (SD-25695-01)		
1	Scan lead—DMB At dial tone all markers busy circuit— Connect ground 5B ***B2*** relay.	At ASC terminal— After approximately 1 1/2 minutes— ***DTM LK ALM*** message.
2	Disconnect ground placed in Step 1.	At ASC terminal— ***DTM LD ALM*** message cleared.
3	Scan lead—CMB At completing marker all markers busy circuit— Connect ground 5B ***B2*** relay.	At ASC terminal— After approximately 1 1/2 minutes— ***CM LD ALM*** message.
4	Disconnect ground placed in Step 3.	At ASC terminal— ***CM LD ALM*** message cleared.
5	Scan lead—TVB (CAMA) At CAMA or CAMA programmed controlled transverter all transverter busy circuit— Connect ground 5B ***B2*** relay.	At ASC terminal— After approximately 1 1/2 minutes— ***CTV/CPCTV LD ALM*** message.
6	Disconnect ground placed in Step 5.	At ASC terminal— ***CTV/CPCTV LD ALM*** message cleared.
7	Scan lead—TVB (LAMA) At LAMA transverter busy circuit— Connect ground 5B ***B2*** relay.	At ASC terminal— After approximately 1 1/2 minutes— ***TV LD ALM*** message.
8	Disconnect ground placed in Step 7.	At ASC terminal— ***TV LD ALM*** message cleared.
9	Scan lead—TVB (ANI) At ANI or ANI programmed controlled transverter all busy circuit— Connect ground 5B ***B2*** relay.	At ASC terminal— After approximately 1 1/2 minutes— ***ATV/PCTV LD ALM*** message.
10	Disconnect ground placed in Step 9.	At ASC terminal— ***ATV/PCTV LD ALM*** message cleared.
N. Traffic Register Circuit (SD-25890-01/SD-25892-01)		
1	Scan lead—ORB At traffic register circuit— Block operated ***BY/B*** relay.	At MTF JLK circuit— ORB lamp lighted. At ASC terminal— After approximately 1 1/2 minutes— ***OR LD ALM*** message.
2	Remove blocking tool placed in Step 1.	

STEP	ACTION	VERIFICATION
3	At MTF JLK circuit— Momentarily operate MAR key.	At MTF JLK circuit— ORB lamp extinguished. At ASC terminal— ***OR LD ALM*** message cleared.
4	Scan lead—IRB At traffic register circuit— Block operated ***E/A*** relay.	At MTF JLK circuit— IRB lamp lighted. At ASC terminal— After approximately 1 1/2 minutes— ***IR LD ALM*** message.
5	Remove blocking tool placed in Step 4.	
6	At MTF JLK circuit— Momentarily operate MAR key.	At MTF JLK circuit— IRB lamp extinguished. At ASC terminal— ***IR LD ALM*** message cleared.
7	Scan lead—CSB At traffic register circuit— Block operated ***CB 1*** relay.	At MTF JLK circuit— CSGB lamp lighted. At ASC terminal— After approximately 1 1/2 minutes— ***CS LD ALM*** message.
8	Remove blocking tool placed in Step 7.	
9	At MTF JLK circuit— Momentarily operate MAR key.	At MTF JLK circuit— CSGB lamp extinguished. At ASC terminal— ***CS LD ALM*** message cleared.

O. Sender Group Busy Alarm Circuit—
(SD-25501-01/SD-27638-01, & SD-25890-01)

1	Scan lead—SGB At sender group busy alarm circuit— Block operated ***A/ND*** or ***E*** relay.	At MTF JLK circuit— SGB lamp lighted. At ASC terminal— After approximately 1 1/2 minutes— ***OS LD ALM*** message.
2	Remove blocking tool placed in Step 1.	
3	At MTF JLK circuit— Momentarily operate MAR key.	At MTF JLK circuit— SGB lamp extinguished. At ASC terminal— ***OS LD ALM*** message cleared.
4	Scan lead—DP At sender group busy alarm circuit— *Connect ground to 7 B ***H-*** relay. From office records determine ***H-*** relay assigned	At ASC terminal— ***DP SDR GP BUSY*** message.

STEP	ACTION	VERIFICATION
	to DP sender group, MF sender group PCI, RP, and IMG sender groups.	
5	Disconnect ground placed in Step 4.	At ASC terminal— ***DP SDR GP BUSY*** message cleared.
6	Repeat Steps 4 and 5 for each sender group provided.	At ASC terminal— ***MF SDR GP BUSY*** or ***RP SDR GP BUSY*** or ***PCI SDR GP BUSY*** or ***IMG SDR GP BUSY*** message.

P. 101 ESS Maintenance Circuit (SD-1H052-01)

1	Scan lead—MAA 1 At 101 ESS maintenance circuit— Block operated ***MJ*** relay.	At 101 ESS control panel— Major alarm lamp lighted. At ASC terminal— ***101 ESS MJ*** message.
2	Remove blocking tool placed in Step 1.	
3	At 101 ESS maintenance center— Momentarily operate major alarm reset key.	At 101 ESS control panel— Major alarm lamp extinguished. At ASC terminal— ***101 ESS MJ*** message cleared.
4	Scan lead—MIA 1 At 101 ESS maintenance circuit— Block operated ***MN*** relay.	At 101 ESS control panel— Minor alarm lamp lighted. At ASC terminal— ***101 ESS MN*** message.
5	Remove blocking tool placed in Step 4.	
6	At 101 ESS maintenance center— Momentarily operate minor alarm reset key.	At 101 ESS control panel— Minor alarm lamp extinguished. At ASC terminal— ***101 ESS MN*** message cleared.

Q. Combined/Completing Marker Circuit (SD-25550-01/SD-26002-01)

1	Scan lead—PC At combined/completing marker circuit 0— Momentarily operate ***CKG 8/CKG 7*** relay.	At interface and control circuit— PC counter for combined/completing marker 0 advances one registration.
2	Repeat Step 1 for each combined/completing marker.	At interface and control circuit— PC counter for combined/completing marker under test advances one registration.

STEP	ACTION	VERIFICATION
R. Dial Tone Marker Circuit (SD-25550-01/SD-26001-01)		
1	Scan lead—PC At dial tone marker circuit 0— Momentarily operate ***HGR/CKG 1*** relay.	At interface and control circuit— PC counter for dial tone marker 0 advances one registration.
2	Repeat Step 1 for each dial tone marker circuit.	At interface and control circuit— PC counter for dial tone marker under test advances one registration.
PART C		
A. Interface and Control Circuit SD-28075-01		
1	Scan lead—REM At MTF JLK circuit— Momentarily operate LOC key.	At remote office under test— Visual and audible alarms under local control.
2	At MTF JLK circuit— Momentarily operate REM key.	At MTF JLK circuit REM lamp lighted. Visual and audible alarms transferred. At ASC terminal— ***ALM XFERRED*** message.
3	At MTF JLK circuit— Momentarily operate LOC key.	At MTF JLK circuit— REM lamp extinguished. Visual and audible alarms under local control. At ASC terminal— ***ALM XFERRED*** message cleared.
4	At ASC terminal— Input command—# RSW, STA NO, REM.	At MTF JLK circuit— REM lamp lighted. Visual and audible alarms transferred. At ASC terminal— ***ALM XFERRED*** message.
5	Scan lead—CAL At ASC terminal— Input command—# OPR, STA NO, CALL.	At MTF JLK circuit— CAL lamp lighted. At ASC terminal— ***CALL CENTRAL*** message.
6	At ASC terminal— Input command—# RLS, STA NO, CALL.	At MTF, JLK circuit— CAL lamp extinguished. At ASC terminal— ***CALL CENTRAL*** message cleared.
7	Scan lead—CCLG At MTF JLK circuit— Operate the CCT, CLPT and CET keys to cancel ground, loop, and continuity tests.	At ASC terminal— ***MKR GLC TST OFF*** message.
8	At MTF JLK circuit— Release CCT, CLPT, and CGT keys.	At ASC terminal— ***MKR GLC TST OFF*** message cleared.

STEP	ACTION	VERIFICATION
9	Scan lead—BGLC At ASC terminal— Input command—# RMV, STA NO, GLC. Input command—# OPR, STA NO, CTL.	At ASC terminal— ***MB GLC TST*** and ***MKR GLC TST OFF*** message. Also ***CTL ACT BY CENTRAL*** message.
10	At ASC terminal— Input command—# RST, STA NO, GLC. Input command—# RLS, STA NO, CTL.	At ASC terminal— ***MB GLC TST, MKR GLC TST OFF*** and ***CTL ACT CENTRAL*** messages cleared.
B. Master Test Frame Jack, Lamp and Key Circuit		
1	Scan lead—CLR At MTF JLK circuit— Operate CLRR key.	At ASC terminal— ***LK REL TBL CD CAN*** message. At MTF JLK circuit— CLRR lamp lighted.
2	At MTF JLK circuit— Release CLRR key.	At ASC terminal— ***LK REL TBL CD CAN*** message cleared. At MTF JLK circuit— CLRR lamp extinguished.
3	At ASC terminal— Input command—# OPR, STA NO, CLR.	At ASC terminal— ***LK REL TBL CD CAN*** message.
4	At ASC terminal— Input command—# RLS, STA NO, CLR.	At ASC terminal— ***LK REL TBL CD CAN*** message cleared.
5	Scan lead—RF— At MTF JLK circuit— Insert make-busy plug into RT-0 jack.	At ASC terminal— ***RT TFR (0) ACT*** message.
6	Remove make-busy plug placed in Step 5.	At ASC terminal— ***RT TFR (0) ACT*** message cleared.
7	Repeat Steps 5 and 6 for each route transfer (RT) equipped.	
8	At ASC terminal— Input command—# OPR, STA NO, RT0.	At ASC terminal— ***RT TFR (0) ACT*** message.
9	At ASC terminal— Input command—# RLS, STA NO, RT0.	At ASC terminal— ***RT TFR (0) ACT*** message cleared.
10	Repeat Steps 8 and 9 for each route transfer (RT) equipped.	
C. Recorder Transfer Circuit		
1	Scan lead—RC At recorder transfer circuit— Block operated ***TB-00*** relay.	At ASC terminal— ***AMA RCDR W/T*** message. After 4 scan cycles— ***MJ OFC*** message.

STEP	ACTION	VERIFICATION
2	Scan lead—CT&TR At ASC terminal— Input command—# OPR, STA NO, AMA RCDR.	At ASC terminal— ***AMA RCDR TFR*** message. At recorder transfer circuit— Circuit functions to transfer AMA recorder 00 to EM recorder. At ASC terminal— ***AMA RCDR XFERRED*** message. AMA RCDR W/T, AMA RCDR TFR, and ***MJ OFC*** messages cleared.
3	At recorder transfer circuit— Remove blocking tool placed in Step 1.	
4	At ASC terminal— Input command—# RLS, STA NO, AMA RCDR.	At ASC terminal— ***AMA RCDR XFERRED*** messages cleared. At recorder transfer circuit— Circuit functions to transfer EM recorder to AMA recorder 00.
5	Scan lead—TR At MTF JLK circuit— Insert shorting plug in TN jack associated with AMA recorder 00.	At ASC terminal— ***AMA RCDR XFERRED*** message. AMA recorder 00 transfers to emergency recorder.
6	Remove shorting plug placed in Step 5.	At ASC terminal— ***AMA RCDR XFERRED*** message cleared. Emergency recorder transfers to AMA recorder 00.

D. Interface and Control Circuit (SD-28075-01)

1	Scan lead—SSH At ASC terminal— Input command—# OPR, STA NO., SSH.	At ASC terminal— ***SSH ACT*** message. One or more of the following messages may be present. ***MF SDR GRP BUSY*** ***DP SDR GRP BUSY*** ***RP SDR GRP BUSY*** ***PCT SDR GRP BUSY*** ***IMG SDR GRP BUSY.***
2	At ASC terminal— Input command—# RLS, STA NO, SSH.	At ASC terminal— ***SSH ACT, and SDR GRP BUSY*** messages cleared.

E. Line Concentrator Identifier Circuit (SD-95964-01)

1	Scan lead—CIAR At line concentrator identifier circuit— Momentarily operate ***TAD*** relay.	TAD relay locks operated. At ASC terminal— ***LC IDENT TO*** message.

STEP	ACTION	VERIFICATION
2	At ASC terminal— Input command—# RSW, STA NO, LCIAR.	At line concentrator identifier— AR1 relay operates, TAD relay releases. At ASC terminal— ***LC IDENT TO*** message cleared.
3	At line concentrator identifier circuit— Block operated ***TAD*** relay.	At ASC terminal— ***LC IDENT TO*** message.
4	At ASC terminal— Input command—# OPR, STA NO, LCIAR.	At ASC terminal— ***LCIAR LATCHED*** message.
5	At ASC terminal— Input command—# RLS, STA NO, LCIAR.	At ASC terminal— ***LCIAR LATCHED*** message cleared.
6	Remove blocking tool from ***TAD*** relay.	
7	At line concentrator identifier circuit— Momentarily operate AR key.	At ASC terminal— ***LC IDENT TO*** message cleared.
F.	**Dial Tone Marker Circuit SD-25550-01/SD-26001-01**	
1	Scan lead—MB At MTF JLK circuit— Insert make-busy plug into DT—0 MB jack.	At ASC terminal— ***DT MKR (0) MB*** message.
2	Remove make-busy plug placed in Step 1.	At ASC terminal— ***DT MKR (0) MB*** message cleared.
3	At ASC terminal— Input command—# RMV, STA NO, DT (0).	At ASC terminal— ***DT MKR (0) MB*** message.
4	At ASC terminal— Input command—# RST, STA NO, DT (0).	At ASC terminal— ***DT MKR (0) MB*** message cleared.
5	Repeat Steps 1 thru 4 for each dial tone marker circuit in marker group.	
G.	**Combined/Completing Marker Circuit SD-25550-01/SD-26002-01**	
1	Scan lead—MB At MTF JLK circuit— Insert make-busy plug into CM-0 MB jack.	At ASC terminal— ***CM MKR (0) MB*** message.
2	Remove make-busy plug placed in Step 1.	At ASC terminal— ***CM MKR (0) MB*** message cleared.
3	At ASC terminal— Input command—# RMV, STA NO, CM (0).	At ASC terminal— ***CM MKR (0) MB*** message.
4	At ASC terminal— Input command—# RST, STA NO, CM (0).	At ASC terminal— ***CM MKR (0) MB*** message cleared.

STEP	ACTION	VERIFICATION
5	Repeat Steps 1 thru 4 for each combined/completing marker group.	
H. Transverter Circuit SD-25591-01/SD-26010-01 SD-26161-01/SD-27809-01		
1	Scan lead—MB At MTF JLK circuit— Insert make-busy plug into TV (0) MB jack.	At ASC terminal— ***TV (0) MB*** message.
2a	If office equipped with ANI programmed controlled transverter circuit (PCTV)— At MTF JLK circuit— Insert make-busy plug into PCTV (0) MB jack.	At ASC terminal— ***PCTV (0) MB*** message.
3b	If office equipped with CAMA programmed controlled transverter circuit (CPCTV)— At MTF JLK circuit— Insert make-busy plug into CPCTV (0) MB jack.	At ASC terminal— ***CPCTV (0) MB*** message.
4	Remove make-busy plug placed in Step 1, Step 2a or Step 3b.	At ASC terminal— ***TV (0) MB, PCTV (0) MB, or CPCTV MB*** message cleared.
5	Repeat Steps 1 thru 4 for each transverter circuit in marker group.	
6	At ASC terminal— Input command—# RMV, STA NO, TV (0).	At ASC terminal— ***TV (0) MB*** message.
7a	If office equipped with ANI programmed controlled transverter circuit— At ASC terminal— Input command—# RMV, STA NO, PCTV (0).	At ASC terminal— ***PCTV (0) MB*** message.
8b	If office equipped with CAMA programmed controlled transverter circuit— At ASC terminal— Input command—# RMV, STA NO, CPCTV (0).	At ASC terminal— ***CPCTV (0) MB*** message.
9	At ASC terminal— Input command—# RST, STA NO, TV (0).	At ASC terminal— ***TV (0) MB*** message cleared.
10a	If office equipped with ANI programmed controlled transverter circuit— At ASC terminal— Input command—# RST, STA NO, PCTV (0).	At ASC terminal— ***PCTV (0) MB*** message cleared.
11b	If office equipped with CAMA programmed controlled transverter circuit—	At ASC terminal— ***CPCTV (0) MB*** message cleared.

STEP	ACTION	VERIFICATION
	At ASC terminal— Input command—# RST, STA NO, CPCTV (0).	
12	Repeat Steps 6 thru 11b for each transverter circuit in marker group.	
I.	**Pretranslator Circuit—SD-25568-01/SD-27969-01/SD-27849-01**	
1	Scan lead-MB At MTF JLK circuit— Insert make-busy plug into PRT (0) MB jack.	At ASC terminal— ***PRT (0) MB*** message.
2	Remove make-busy plug placed in Step 1.	At ASC terminal— ***PRT (0) MB*** message cleared.
3	Repeat Step 1 and 2 for each regular pretranslator circuit in marker group.	
4	At MTF JLK circuit— Insert make-busy plug into IR PRT (0) MB jack.	At ASC terminal— ***IR PRT (0) MB*** message.
5	Remove make-busy plug placed in Step 4.	At ASC terminal— ***IR PRT (0) MB*** message cleared.
6	Repeat Steps 4 and 5 for each IR pretranslator circuit in marker group.	
7	At MTF JLK circuit— Insert make-busy plug into IDD PRT (0) MB jack.	At ASC terminal— ***IDD PRT (0) MB*** message.
8	Remove make-busy plug placed in Step 7.	At ASC terminal— ***IDD PRT (0) MB*** message cleared.
9	Repeat Steps 7 and 8 for each IDD pretranslator circuit in marker group.	
10	At ASC terminal— Input command—# RMV, STA NO, PRT (0).	At ASC terminal— ***PRT (0) MB*** message.
11	At ASC terminal— Input command—# RST, STA NO, PRT (0).	At ASC terminal— ***PRT (0) MB*** message cleared.
12	Repeat Steps 10 and 11 for each regular pretranslator circuit in marker group.	
13	At ASC terminal— Input command—# RMV, STA NO, IRP (0).	At ASC terminal— ***IR PRT (0) MB*** message.

STEP	ACTION	VERIFICATION
14	At ASC terminal— Input command—# RST, STA NO, IRP (0).	At ASC terminal— ***IR PRT (0) MB*** message cleared.
15	Repeat Steps 13 and 14 for each incoming register pretranslator circuit in marker group.	
16	At ASC terminal— Input command—# RMV, STA NO, IDDD (0).	At ASC terminal— ***IDDD PRT (0) MB*** message.
17	At ASC terminal— Input command—# RST, STA NO, IDDD (0).	At ASC terminal— ***IDDD PRT (0) MB*** message cleared.
18	Repeat Steps 16 and 17 for each international direct distance dialed pretranslator circuit in marker group.	

J. Trouble Recorder Control Circuit (SD-25572-01)

1	Scan lead—MB At trouble recorder control circuit— Insert make-busy plug into IRMB jack.	At ASC terminal— ***TBL RCDR MB*** message.
2	Remove make-busy plug placed in Step 1.	At ASC terminal— ***TBL RCDR MB*** message cleared.
3	At local office test trouble recorder frame— Remove sufficient unused trouble cards to force WAR alarm.	At ASC terminal— ***TBL RCDR MN*** message. After 4 successive scans— ***MN OFC*** message.
4	At ASC terminal— Input command—# RSW, STA NO, TRMB.	At ASC terminal— ***TBL RCDR MB*** message.
5	At local office under test— Fill unused card bin and retire WAR alarm.	
6	At ASC terminal— Input command—# RST, STA NO, TRMB.	At ASC terminal— ***TBL RCDR MB*** message cleared.

K. Line Insulation Test Circuit (SD-25796-01)

1	Scan lead—RS At local office under test— Start line insulation test frame.	
2	At ASC terminal— Input command—# RMV, STA NO, LIT.	At ASC terminal— ***LIT TS*** message. At local office under test— Line insulation test frame stops. TS lamp lighted.

STEP	ACTION	VERIFICATION
3	At ASC terminal— Input command—# RST, STA NO, LIT.	At ASC terminal— ***LIT TS*** message cleared. At local office under test— Line insulation test frame restarts. TS lamp extinguished.

L. Traffic Usage Recorder Circuit (SD-95738-01)

1	Scan lead—AR At local office under test— At TUR circuit— Momentarily operate ***TBL*** relay.	At ASC terminal— ***TUR MN*** and ***MN OFC*** message. At local office— TBL lamp lighted at TUR.
2	At ASC terminal— Input command—# RSW, STA NO, TURAR.	At ASC terminal— ***TUR MN*** and ***MN OFC*** message cleared. At local office— TBL lamp extinguished.