"BELLBOY"
PERSONAL SIGNALING SYSTEM NO. 1A
J1 CONTROL TERMINAL

TIMING AND ALARM FEATURES

CONTENTS

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1. GENERAL INFORMATION

1.1 Description: This section describes a method for testing the timing and alarm features of the J1 Control Terminal for use with Personal Signaling System 1A (Bellboy).

1.2 Application of Test: The tests of this section shall be performed after Section 311 is completed as outlined in Section 310 of this handbook.

2. TIMING TEST SET OPERATIONS

2.1 Preparation of Test Set: Locate ITE-4325 or J24753A Timing Test Set at Bay 0 of CCF.

2.11 Operate MCF key to NORM.

2.12 With BAT key OFF, meter should read zero. If not, set needle to zero with the adjusting screw on meter.

2.13 Connect -48 volt battery and ground to the Timing Test Set using an ITE-9600 cord.

2.14 Operate BAT key to ON and allow test set to warm-up for at least 30 seconds.

2.15 Adjust the meter to read zero by means of the ADJ-O potentiometer.

2.2 Register Check TM1 Timer (FS4-SD-96504-01):

2.21 Operate SEND key to MK, REC switch to OC-GRD and MIL SEC switch to 0-500 positions at Timing Test Set.

2.22 Hold TST key to CAL and adjust CAL potentiometer until meter reads 100. Release TST key.

2.23 Plug ITE-9303 cord into the TST1 jack of Test Set.

2.24 Block nonoperated TM relay in RC-A.

2.25 Connect red lead of ITE-9303 cord to 8 of TM2 relay and white lead to 11 of TM2 relay in RC-A. Connect black lead to ground.

2.26 Operate and hold TST key to OPR position and read meter when needle stops. Meter reading should be between 39 minimum and 98 maximum (194-493 milliseconds).

2.27 Release TST key. Remove block from TM relay and connections to TM2 relay.

2.28 Repeat Paragraphs 2.24 through 2.27 in RC-B.

2.3 Transmitter Control V1 and V2 Timers (FS11 and FS15 - SD-96564-01)

2.301 Locate Timing Test Set at TCF.

2.302 Operate MIL SEC switch to 0-5000 position at Timing Test Set.

2.303 Hold TST key to CAL and adjust CAL potentiometer until meter reads 100. Release TST key.

2.304 Block nonoperated OA relay in TC.

2.305 Connect red lead of ITE-9303 cord to 1L of T relay and white lead to 10M of TO relay in TC. Connect black lead to ground.

2.306 Operate and hold TST key to OPR position and read meter when needle stops. Meter reading should be between 20 minimum and 80 maximum (1-4 seconds).

2.307 Release TST key and move red lead of ITE-9303 cord to 1L of T1 relay and white lead to 10M of T2 relay in TC.

2.308 Operate MIL SEC switch to 0-500 position at Timing Test Set.

2.309 Hold TST key to CAL and adjust CAL potentiometer until meter reads 50. Release TST key.

2.310 Insulate 8B of Z relay in TC.

2.311 Operate and hold TST key to OPR position and read meter when needle stops. Release TST key.

2.312 Meter reading should be between 50 minimum and 60 maximum (500-600 milliseconds). The R40, R41, R42, and R43 resistors of TC should be strapped to provide a meter reading as near 50 (500 milliseconds) as possible.

2.313 Repeat Paragraph 2.311 until requirement of Paragraph 2.312 is met.

2.314 Remove block from OA relay and insulator from 8B of Z relay in TC.

2.315 Remove all connections to Timing Test Set.

2.4 In the following tests, each time interval shall be verified with the R-3314 Stop Watch.

3. INCOMING TRUNK REGISTER CIRCUITS

3.1 TM Timer (FS1 SD-96501-01): In the first ITR under test, block operated the ON relay and observe that TM relay operates within 35 to 64 seconds. RAL and TAL lamps light on CCF lamp panel and ITR, respectively. The minor alarm sounds and associated office alarm lamps light. Verify minor alarm condition at Alarm Sending Circuit, if applicable.

3.2 Remove block from ON relay and manually release RO relay. Operate the AR key on CCF lamp panel. TAL and RAL lamps go out and alarm is silenced.

3.3 Sup Timer (FS3 SD-96501-01): Block operated the SUP relay in first ITR and observe that relay CKB operates within 5 to 9 seconds.

3.4 Release the SUP relay. CKB relay releases.

3.5 Block operated the UN relay in first ITR.

3.6 Block operated the SUP relay and observe that relay CKB operates within 16 to 29 seconds.

3.7 Release SUP and UN relays. CKB relay releases.

3.8 Repeat Paragraphs 3.1 through 3.7 using each equipped ITR.

3.9 Alarm Chain Features (FS1 SD-96501-01 and FS8 SD-96507-01): The major alarm features of the ITR are arranged on a Trunk Group basis from information provided by the Telephone Company.

3.91 Operate and release the TM1 relays in each ITR, except one, in the first Trunk Group. Observe that the minor alarm sounds and the RAL and associated TAL lamps light on the CCF lamp panel and ITR.

3.92 Operate ACO key on the CCF lamp panel. The MN and GL lamps light on CCF lamp panel and the minor alarm is silenced.

3.93 Restore ACO key to normal. MN and GL lamps go out and minor alarm sounds.

3.94 Operate and release the TM1 relay in the last ITR(with W wiring), of the first Trunk Group. The major alarm sounds, the associated TAL lamp lights, and the associated office alarm lamps light. Verify major and minor alarm condition at Alarm Sending Circuit, if applicable.

3.95 Operate the ACO key. MN, MJ, and GL lamps light. The major and minor alarms are silenced.

3.96 Restore ACO key. MN, MJ, and GL lamps go out. Major and minor alarms sound.

3.97 Operate AR key. TAL and RAL lamps go out. Major and minor alarms are silenced.

NOTE: The ACO key in CCF may be operated for the remainder of the tests in this Section, except as directed. The MJ and MN lamps may be observed to verify major and minor alarm conditions without sounding the office alarms.

3.98 Repeat Paragraphs 3.91, 3.94 and 3.97 for ITR in other Trunk Groups.

4. REGISTER CHECK CIRCUITS

4.1 TM Timer (FS4 SD-96504-01): Block TM relay nonoperated in RC-A.

4.2 Operate RL relay in RC-A. Observe TM3 relay operates within 9.5 to 14.8 seconds.

4.3 Release RL relay. TM3 relay releases.

4.31 Repeat Paragraphs 4.1 through 4.3 using RC-B.

4.4 Alarm Chain Features (FS4 SD-96504-01): Operate and release XRL relay in RC-A. The minor alarm sounds and RCA lamp lights in CCF lamp panel.

4.41 Operate AR key. RCA lamp goes out and alarm is silenced.

4.42 Operate and release XRL relay in RC-B. The minor alarm sounds and RCB lamp lights.

4.43 Operate and release XRL relay in RC-A. The major alarm also sounds and RCA lamp lights.

4.44 Operate AR key. RCA and RCB lamps go out and major and minor alarms are silenced.

4.5 Number Check Translator Alarm (FS4) and FS6 SD-96504-01): Connect ground to contact 10 of D4 relay in RC-A. Block relay CTA and CKB operated in RC-A. Observe RCA and RC-TA lamps light and minor alarm sounds.

4.6 Release relays CTA and CKB. Disconnect ground from contact 10 of D4 relay. RCA and RC-TA lamps go out and alarm is silenced.

4.61 Repeat Paragraphs 4.5 and 4.6 with RC-B and observe RCB and RC-TA lamps light with minor alarm.

4.7 Second Failure Alarm (FS4 SD-96504-01): Block CKF relays operated and RL relays nonoperated in RC-A and RC-B. Operate and release RO relay in RC-A. Observe that SFA lamp lights and major alarm sounds.

4.71 Operate AR key. SFA lamp goes out and alarm is silenced.

4.72 Operate and release RO relay in RC-B. Observe SFA lamp lights and major alarm sounds.

4.73 Operate AR key. SFA lamp goes out and alarm is silenced. Remove blocks from CKF and RL relays.

5. STORAGE CONTROL CIRCUITS

5.1 TM Timer (FS4 SD-96507-01): (Release ACO key in CCF, if operated, for tests of Paragraphs 5.11 through 5.16.) Connect ground to contact 12 of RW relay in SC-C.

5.11 Block operated ST relay in SC-A. Observe that TM relay operates within 29.5 to 30.5 seconds. The TM potentiometer may be adjusted counterclockwise to increase the operate time of the TM relay, or clockwise to decrease the operate time, as necessary.

5.12 Release ST relay. TM relay releases. Repeat Paragraph 5.11 as necessary, to adjust TM relay operate time.

5.13 Operate TMT key on CCF lamp panel. GL lamp lights. Operate ST relay in SC-A. Observe that TM relay operates within 15 to 19.7 seconds.

5.14 Release ST relay and remove ground from 12 (RW) and connect to contact 8 of RW relay in SC-C. Restore TMT key. GL lamp goes out.

5.15 Repeat Paragraphs 5.11 through 5.14 in SC-B.

5.16 Release ST relay in SC-B and remove ground from 8 (RW) in SC-C.

5.2 CT Timer (FS5 SD-96507-01): Connect ground to contact 14 of AON relay in SC-C.

5.21 Operate CT1 relay in SC-A. Observe that CT relay operates within 14.5 to 15.5 seconds. The CT potentiometer may be adjusted to change the operate time of the CT relay, as necessary.

5.22 Release CT1 relay. CT1 relay releases. Repeat Paragraph 5.21 as necessary, to adjust operate time of CT1 relay.

5.23 Remove ground from 14 (AON) and connect to contact 14 of BON relay in SC-C.

5.24 Repeat Paragraphs 5.21 and 5.22 in SC-B.

5.25 Remove ground from 14 (BON) in SC-C.

5.3 TT Timer (FS7 SD-96507-01): Insulate 8B of TCK relays in SC-A and SC-B.

5.31 Block operated SBA relay in SC-A. Observe TT relay operates within 14 to 22 seconds.

5.32 Release SBA relay and observe that TT relay releases.

5.33 Block operated MTF relay in TC. SCCB lamp lights in CCF lamp panel.

5.34 Block operated SBA relay in SC-A. Observe that TT relay does not operate during 30 second interval after operation of SBA relay.

5.35 Release SBA relay. Release MTF relay in TC. SCCB lamp goes out.

5.36 Repeat Paragraphs 5.31 through 5.35 in SC-B.

5.37 Remove insulators from 8B (TCK) in SC-A and SC-B.

5.4 RT Timer (FS7 SD-96507-01): Operate S3B relay in SC-A. Observe that RTA relay operates within 7.2 to 9.8 seconds. SCA and SCRA lamps light in CCF lamp panel and minor alarm sounds.

5.41 Observe that RT relay is released. Release S3B relay.

5.42 Operate AR key. SCA and SCRA lamps go out and minor alarm is silenced.

5.43 Operate S3B relay in SC-B. Observe that RTA relay operates within 7.2 to 9.8 seconds. SCB and SCRB lamps light and minor alarm sounds.

5.44 Observe that RT relay is released. Release S3B relay.

5.45 Operate AR key. SCB and SCRB lamps go out and minor alarm is silenced.

5.5 Alarm Chain Feature (FS7-8 SD-96507-01): Manually operate and release TRL relay in SC-A. SCA lamp lights and minor alarm sounds.

5.51 Manually operate and release TRL relay in SC-B. SCB lamp lights and major alarm sounds.

5.52 Operate AR key. SCA and SCB lamps go out and both alarms are silenced.

5.6 False Ground Check Alarm (FS6 SD-96507-01): Operate and release ST relay in TC. Observe SCCK lamp lights on CCF lamp panel and major alarm sounds.

5.61 Operate AR key. SCCK lamp goes out and major alarm is silenced. Observe that CK1 relay is released.

5.7 Channel Busy Timing (FS5 SD-96507-01): Block operated MTF relay in TC. SCCB lamp lights on CCF lamp panel.

5.701 Verify that W1 and Z1 relays in SC-C are not operated. If W1 and Z1 relays are operated, manually release the W1 relay.

5.702 Block operated P1 relays in SC-A and SC-B. Observe ST relays operate to start TM timers.

5.703 Verify that AS, BS, AC, and BC selectors in SC-C are at Terminal 1 as indicated on index wheel.

5.704 Block operated RWA relay in SC-C.

5.705 The channel busy timing interval is dependent on the (ATOR to AT-) and BTOR to BT-) cross connections in SC-C. This period, controlled by advance of AC or BC selectors, shall be timed with the R-3314 Stop Watch from the operation of the AON (or BON) relay until operation of the TOR relay in the test of Paragraph 5.706. The limits for the channel busy interval shall be determined from the following table:

ATOR and BTOR Connected to:	Channel Busy Interval in Minutes:	
AT- and BT-:	Minimum	Maximum
0	4.5	5.5
1	5.5	6.5
2	6.5	7.5
3	7.5	8.5
4	8.25	9.5
5	9.25	10.5

5.706 Block operated RW relay in SC-C. Observe AON relay operates and AS selector advances to terminal 44 as indicated on index wheel. AC selector advances at 15 second intervals as controlled by CT timer in SC-A. At end of the channel busy interval, TOR relay operates and releases in SC-A.

5.707 Approximately 7.2 to 9.8 seconds (controlled by RT Timer in SC-A) after TOR relay operation, the AON relay releases and the BON relay operates. SCA and SCRA lamps light and minor alarm sounds. The BS selector advances to terminal 44.

5.708 Remove blocks from RW and RWA relays in SC-C. Manually operate and release the TO relay in SC-C. The AS, BS, AC, BC selectors return to Terminal 1.

5.709 Operate the AR key. The SCA and SCRA lamps go out and alarm is silenced.

5.710 Verify that W1 and Z1 relays are operated in SC-C.

5.711 Repeat Paragraphs 5.704 through 5.709 for SC-B. Channel Busy interval is from operation of BON relay until operation of TOR relay in SC-B controlled by advance of BC selector. Observe SCB and SCRB lamps.

5.712 Verify W1 and Z1 relays are released in SC-C.

5.713 Release MTF relay in TC. SCCB lamp goes out.

5.8 Channel Idle Timing (FS5 SD-96507-01): Block operated RWA relay in SC-C.

5.81 The channel idle timing interval is dependent on the (ATRL to ATL-) and BTRL to BTL-) cross connections in SC-C. This period, controlled by advance of BC or AC selectors, shall be timed with the R-3314 Stop Watch from the operation of the AON (or BON) relay until the operation of the AON (or BON) relay until operation of the TRL relay in the test of Paragraph 5.82 and 5.83. The limits for the channel idle interval shall be determined from the following table:

ATRL and BTRL Connected to:	Channel Idle Interval in Minutes:	
ATL- and BTL-:	Minimum	Maximum
0	0.75	1.25
1	1.75	2.25
2	2.75	3.25
3	3.5	4.25
4	4.5	5.25
5	5.5	6.5
6	6.5	7.5
7	7.25	8.5
8	8.25	9.5
9	9.25	10.5

5.82 Block operated RW relay in SC-C. Observe AON relay operates and AS selector advances to Terminal 44. BC selector advances at 15 second intervals as controlled by CT timer in SC-A.

5.83 Remove blocks from RW and RWA relays. At end of channel idle interval, TRL relay operates. AS, BS, AC, and BC selectors return to Terminal 1. SCA lamp lights and minor alarm sounds. RW and RWA relays are released.

5.84 Operate AR key. SCA lamp goes out and alarm is silenced.

5.85 Verify W1 and Z1 relays are operated in SC-C.

5.86 Block operated RWA relay in SC-C.

5.87 Repeat Paragraphs 5.81 through 5.82 for SC-B. Channel Idle interval is from operation of BON relay until operation of TRL relay in SC-B controlled by Advance of AC selector. Observe SCB lamp.

5.88 Verify W1 and Z1 relays are not operated.

5.89 Remove blocks from P1 relays in SC-A and SC-B.

6. STORAGE CIRCUITS

6.1 Alarm Chain and Make Busy Features (FS3 SD-96505-01: The TBL relays are arranged to provide a major alarm when all S are made busy or in trouble.

6.101 Manually operate the TBL relay in the first S. TBL relay locks operated. Observe that the SAL lamp lights on CCF lamp panel, the associated TAL lamp lights on the S unit, and the minor alarm sounds.

6.102 Operate AR key on CCF lamp panel. Observe that the SAL and TAL lamps go out and minor alarm is silenced.

6.103 (Release ACO key in CCF, if operated, for tests of Paragraphs 6.104 and 6.105). Operate MB key for the first S on S unit. Observe TAL lamp lights, minor alarm does not sound, SAL lamp does not light and GL lamp lights on CCF lamp panel.

6.104 Slowly release MB key. TAL and GL lamps go out.

6.105 Manually operate ST relay of first S and it locks operated.

6.106 Operate MB key of the first S. GL lamp lights. Observe that TAL lamp does not light.

6.107 Release MB key. GL lamp goes out.

6.108 Repeat Paragraphs 6.101 through 6.107 in all other equipped S. Observe that as last ST relay is operated, the RCSB lamp lights on CCF lamp panel.

6.109 Manually release ST relay of first S. RCSB lamp goes out. Release ST relays of all other S.

6.110 Operate MB keys for all S. GL lamp and associated TAL lamps light. Observe that as the last MB key is operated, the RCSB lamp lights on CCF lamp panel and the major alarm is sounded.

6.111 Slowly release all MB keys. TAL, GL, and RCSB lamps go out and alarms are silenced.

7. TRANSLATOR CIRCUITS

7.1 Alarm Chain Features (FS1 SD-96506-01): Manually operate the TF relay in T-A. Observe that TA lamp lights on CCF lamp panel and minor alarm sounds. TF relay is locked operated.

7.2 Operate AR key. TA lamp goes out and alarm is silenced.

7.3 Repeat Paragraph 7.1 in T-B.

7.4 Operate TF relay in T-A. TA lamp lights with TB lamp and major alarm sounds.

7.5 Operate AR key. TA and TB lamps go out and alarms are silenced.

8. ANNOUNCEMENT CONTROL CIRCUITS (FS5 SD-96504-01)

8.1 No Voltage Alarms:

8.11 Verify that WT and ZT relays are not operated in RC-C. If WT and ZT relays are operated, manually release the WT relay.

8.12 Remove power cord for AC-A from the 110 volt receptacle on ANF. Observe that the minor alarm sounds and the ACA lamp lights on CCF lamp panel. Observe WT and ZT relays are operated.

8.13 Remove power cord for AC-B from receptacle on ANF. AFA lamp lights and major alarm sounds. Observe that WT and ZT relays are released.

8.14 Replace power cord for AC-A at receptacle. AFA lamp goes out.

8.15 Replace power cord for AC-B at receptacle. Operate AR key. ACA lamp goes out and alarms are silenced.

8.16 Remove power cord for AC-TBL from receptacle on ANF. Observe that the minor alarm sounds. ACA and AFA lamps light.

8.17 Replace power cord for AC-TBL. Operate AR key. ACA and AFA lamps go out and the alarms are silenced.

8.2 Voice Alarm Chain:

8.21 Block ALM relay operated in VA on ANF. Observe that minor alarm sounds and ACA lamp lights.

8.22 Release ALM relay. Observe that slow release VA relay in RC-C restores to normal.

8.23 Block ALM relay operated. The major alarm sounds.

8.24 Repeat Paragraph 8.22.

8.25 Operate AR key. The ACA lamp goes out and alarms are silenced.

8.3 Trouble Announcement Control: (Release ACO key in CCF, if operated, for test of this Paragraph.)

8.31 Operate TAM key on CCF lamp panel. Observe that GL lamp lights.

8.32 Operate IMB key in TCF. GL lamp lights in TCF. Observe TAMA relay operates in RC-C and SOS lamp lights on CCF lamp panel. Observe that CHB relay in SC-C does not operate.

8.33 Block TST relay operated in RC-C. Observe TAMA relay releases.

8.34 Release TST relay. TAMA relay operates.

8.35 Restore TAM key to normal. GL lamp goes out in CCF. TAMA relay releases.

8.36 Restore IMB key in TCF. SOS lamp and GL lamp in TCF go out.

9. TONE SUPPLY CIRCUITS (SD-96563-01)

9.1 Alarm and Transfer Circuits

9.101 Remove 36A Oscillator from Group A position 1. Minor alarm sounds. ALM A lamp lights on TCF lamp panel. Verify T1, T2, and T3 relays in TS-TG are operated.

9.102 Operate OT key to A position on TCF lamp panel. GL lamp lights. Minor alarm is silenced. Major alarm sounds. Verify that T1. T2, and T3 relays are released.

9.103 Operate OACO key on TCF lamp panel. Major alarm is silenced.

9.104 Restore OT key to normal. Verify that T1, T2, and T3 relays are operated.

9.105 Remove Crystal Unit from 36A Oscillator of Group A position 1.

9.106 Replace 36A Oscillator in Group A position 1 Verify that ALM A lamp remains lit on TCF lamp panel.

9.107 Remove 36A Oscillator from Group A position 1 and replace Crystal Unit.

9.108 Release OACO key GL lamp goes out and minor alarm sounds.

9.109 Replace 36A Oscillator in Group A position 1. ALM A lamp goes out. Minor alarm is silenced. Verify that T1. T2, and T3 relays are released.

9.110 Repeat Paragraphs 9.101 through 9.109 using 36A Oscillator of Group A position 18.

9.111 Remove 36A Oscillator from Group B position 1. Minor alarm sounds. ALM B lamp lights on TCF lamp panel. Verify T1, T2, and T3 relays are released.

9.112 Operate OT key to B position on TCF lamp panel. GL lamp lights Minor alarm is silenced Major alarm sounds. Verify that T1. T2. and T3 relays are operated.

9.113 Operate OACO key on TCF lamp panel. Major alarm is silenced.

9.114 Restore OT key to normal. Verify T1, T2, and T3 relays are released.

9.115 Remove Crystal Unit from 36A Oscillator of Group B position 1.

9.116 Replace 36A Oscillator in Group B position 1. Verify that ALM B lamp remains lit on TCF lamp panel.

9.117 Remove 36A Oscillator from Group B position 1 and replace Crystal Unit.

9.118 Release OACO key GL lamp goes out. Minor alarm sounds.

9.119 Replace 36A Oscillator in Group B position 1. ALM B lamp goes out. Minor alarm is silenced. Verify that T1, T2, and T3 relays are released.

9.120 Repeat Paragraphs 9.111 through 9.119 using 36A Oscillator of Group B position 1B.

9.121 Operate OACO key. GL lamp lights.

9.122 Remove "A" fuse for Group A TS-TG from TCF fuse panel. Verify ALM A lamp lights.

9.123 Replace "A" fuse. Verify ALM A lamp goes out.

9.124 Repeat Paragraphs 9.122 and 9.123 using "B", "C", and "D" fuses of Group A.

9.125 Repeat Paragraphs 9.122 through 9.124 for Group B Verify ALM B lamp conditions.

9.126 Restore OACO key. GL lamp goes out.

10. TRANSMITTER CONTROL CIRCUIT

10.1 Transmitter Trunk Alarms (FS19-SD-96564-01)

10.101 Transmitter False Operate Alarm: Block TO relay non-operated. Block operated C relay in first TTO. Major alarm sounds. TON and TFO lamps light on first TTO. TFOA lamp lights on TCF lamp panel.

10.102 Remove block from C relay. TON lamp goes out.

10.103 Operate ACO key on TCF lamp panel. GL lamp lights. Major alarm is silenced.

10.104 Release ACO key. GL lamp goes out. Major alarm sounds.

10.105 Operate AR key on TCF lamp panel. Major alarm is silenced. TFO and TFOA lamps go out.

10.106 (ACO key on TCF lamp panel may be operated to silence audible alarms during other tests of this section.) Repeat Paragraphs 10.101. 10.102. and 10.105 in each other TTO.

10.107 Transmitter Failure Alarm: Block operated ST relay in TC.

10.108 Operate TCO key on all TTO except first TTO. MTG lamp lights on TTO as TCO keys are operated.

10.109 Block operated ST2 relay in TC. Major alarm sounds. TF lamp lights on first TTO. TFA lamp lights on TCF lamp panel.

10.110 Release ST2 relay. Observe AL5 relay in TC is operated.

10.111 Operate AR key on TCF lamp panel. TFA and TF lamp goes out. Major alarm is silenced.

10.112 Operate TCO key on first TTO. TG lamp lights.

10.113 Release TCO key on second TTO. TG lamp goes out.

10.114 Repeat Paragraphs 10.109 through 10.112 for second TTO.

10.115 Repeat Paragraphs 10.113 and 10.114 for each other TTO.

10.116 Release all TCO keys. MTG and all TG lamps go out.

10.2 Radio Trouble Alarm (FS15-16-SD-95664-01):

10.21 Remove block from TO relay in TC. Major alarm sounds. Observe RTA lamp lights on TCF lamp panel after V1 Timer interval (1-4 seconds). Observe SOS lamp lights on CCF lamp panel and that MB relay is operated in SC on CCF.

10.22 Remove block from ST relay.

10.23 Operate AR key on TCF lamp panel. Observe RTA and SOS lamps go out. MB relay in SC is release.

10.24 Remove block from CKF1 relay of SC-C.

10.3 3-Out-of-32 Check Failure Alarm (FS16-SD-96564-01):

10.31 Operate and release TIF relay in SC-C. CKF lamp lights on TCF lamp panel. Major alarm sounds.

10.32 Operate AR key on TCF lamp panel. Major alarm is silenced. CKF lamp goes out.

10.4 Voice Alarm (FS8 and FS20 - SD-96564-01 and SD-95959-01):

10.41 Block operated E relay in AC-SI on TCF. Verify that in 5 to 9 seconds, VA lamp lights on TCF lamp panel and major alarm sounds.

10.42 Release E relay of AC-SI.

10.43 Operate AR key on TCF lamp panel. Major alarm is silenced. VA lamp goes out.

10.5 Station Identification Delay Timer (FS8-SD-96564-01):

10.51 Verify 110 volt power cord of 30 MIN timer on TCF is connected to properly fused receptacle as indicated in job records.

10.52 Block operated TFR relay in TC.

10.53 Operate and release RWA relay in SC-C. Observe ADS relay operates in TC. Begin timing 30 minute Station Identification delay interval.

10.531 Any of the tests of Paragraphs 3, 4, or 5 in Section 314 of this handbook may be performed during the delay interval timing.

10.54 The ATR relay in TC operates at the end of the delay interval. The time from operation of RWA relay until operation of ATR relay shall be 28.5 to 31.5 minutes.

10.541 The operate time of the 30 MIN timer may be changed by adjusting the hex-head screw on rear of timer unit if necessary.

10.55 (Release ACO key in TCF if operated.) Operate SMB key on TCF lamp panel. GL lamp lights ATR relay in TC is released.

10.56 Release SMB key. GL lamp goes out. ATR relay operates.

10.57 Insulate contact 3M of ATR relay.

10.6 Station Identification Sequence Timer and Alarm (FS17-18 SD-96564-01):

10.61 Remove block from TFR relay in TC. Major alarm sounds and STA lamp lights within 13 to 20 seconds (J option) or 32 to 45 seconds (K option). ATR relay is released.

10.62 Operate AR key on TCF lamp panel. Major alarm is silenced. STA lamp goes out. ATR relay operates.

10.63 Operate and release ADR relay in TC. 30 MIN timer resets. ADS and ATR relays are released.

10.64 Remove insulator from 3M (ATR).

10.7 Personal Signaling Broadcast Interval (FS9-SD-96564-01):

10.71 Block nonoperated RF relay in TC.

10.72 Block operated T3 relay in TC. T4 relay shall operate within Personal Signaling Broadcast interval of 2 to 40 seconds.

10.73 Remove block from T3 relay. T4 relay releases.

10.74 Determine number of Storage and Storage Connector Circuits (SD-96564-01) equipped in CCF, 1SF and 2SF. PTA potentiometer in TC shall be adjusted to provide Broadcast interval of 1 second times number of Storage Circuits equipped. For example: If there are 20 Storage Circuits equipped, the Broadcast interval shall be 20 seconds.

10.75 Adjust PTA potentiometer clockwise to increase Broadcast interval or counter - clockwise to decrease interval. Repeat Paragraphs 10.72 and 10.73 until requirement of Paragraph 10.74 is met.

10.76 Remove block from RF relay.

10.8 Station Identification Broadcast Interval (FS11-SD-96564-01):

10.81 Block operated ATF and ST2 relays in TC.

10.82 Operate TCO key on first TTO.

10.83 Verify that the W relay in TC operates within 9 to 11 seconds (J option) or 30 to 32 seconds (K option).

10.84 Remove block from ATF relay and release TCO key of first TTO within 5 seconds after W relay operates.

10.85 Verify that Z relay releases. Remove block from ST2 relay.

10.86 If time limits of Paragraph 10.83 are not met, adjust SIA potentiometer clockwise to increase interval or counterclockwise to decrease interval. Repeat Paragraphs 10.81 through 10.85 until requirement of Paragraph 10.83 is met.

➔ Arrows indicate new or changed information.

Manager, Panel and Step-by-Step Engineering

Reason for Reissue:
To make minor corrections.