CENTRAL CONTROL UNIT KS-20191

TESTS

TRAFFIC MEASUREMENT SYSTEM NO. 1A

1. GENERAL

1.01 This section provides a method of testing the central control unit (CCU) KS-20191 of the Traffic Measurement System No. 1A.

1.02 This section is reissued to add Tests F and G, to add Fig. 6 through 9, to make minor changes as required. This reissue affects the Equipment Test List.

1.03 The following tests are covered.

E. Trouble Alarms: This test checks that an audible and visual alarm operates under the following conditions.

(a) Failure of the CCU to receive an end-of-scan (EOS) signal from an active channel within 6 seconds ±0.2 seconds after an interrogate signal is initiated.

(b) On receipt of a signal from the program timer to start a data collection cycle while one-cycle scan test data is registered in the memory units, while the MODE switch is operated to TEST, or while a test data collection cycle is in progress.

(c) Failure of the scan counter within the CCU to cycle properly.

(d) When any fuse operates.

1.04 The CCU cannot be tested while in service; therefore, it is necessary to notify the traffic department before any testing is done.

1.05 Test D requires action at a portable RSEU. This action does not have to be done specifically during Test D. If scanner is not in service prior to testing, the action can take place at any time before starting the test.

1.06 When testing has been completed, the CCU should be left in the same condition as it was prior to testing. That is, key setting, time display, and program timer time selector pins should be reset to current time settings.

1.07 Testing and maintenance of the 401J6 data receiver and the KS-14741 program timer are covered in separate sections.

1.08 Maintenance and adjustments of the CCU are covered in the maintenance manual provided with each unit by the manufacturer.

1.09 *Lettered Steps:* A letter a, b, c, etc, added to a step number in Part 4 of this section indicates an action which may or may not be required depending on local conditions. The conditions under which a lettered step or series of steps should be made is given in the ACTION column, and all steps governed by the same condition are designated by the same letter within a test. Where a condition does not apply, all steps designated by that letter should be omitted.

2. APPARATUS

Test B ▸and F◂

2.01 KS-3008 stopwatch or equivalent.

Test D, ▸F and G◂

2.02 Strapping wire as required.

Test E

2.03 Blown 70-type fuse.

2.04 MEC-44 extender board.

3. PREPARATION

STEP	ACTION	VERIFICATION
All Tests		
1	At CCU control panel— Momentarily operate MASTER RESET pushbutton.	Scanning ceases.
2	Operate and release RSU CHANNEL STEP pushbutton to advance to RSU CHANNEL 1.	RSU CHANNEL 1 SELECT lamp lighted.
3	Momentarily operate RSU HANG UP pushbutton.	
4	Operate RSU CHANNEL 1 LOAD/IDLE/NO LOAD switch to IDLE.	
5	Repeat Steps 2 through 4 for RSU CHANNELS 2 through 16.	
6	Set POWER switch to off.	
7	At TTY— Turn power off.	

STEP	ACTION	VERIFICATION
8	At CCU control panel— Operate CLOCK RUN/STOP switch to STOP.	
9	Operate month thumbwheel digiswitches to tens zero and units one.	
10	Inside CCU front cabinet door— Operate MODE switch to RUN.	
11	Operate TEST MODE switch to ZEROS.	
12a	▶If CHANNEL 17 TEST switch is provided— Operate CHANNEL 17 TEST switch to NORMAL.◀	
13	Operate AUDIBLE ALARM INHIBIT switch to INHIBIT.	
14	Operate both MEM switches to A.	
15	At CCU control panel— Operate PROGRAM switch to its center (normal) position.	
16	At program timer— Pull out all program timer tabs and remove day cutout pins.	
17	At data receiver— Operate data receiver to TALK mode.	
18	At CCU control panel— Operate POWER switch to on.	Power indicator lamp lighted.
19	Operate MASTER RESET pushbutton.	
20	Operate ALARM RESET pushbutton.	
21	Operate CLOCK RESET pushbutton.	TIME OF DAY display indicates 00:00:00.
22	At TTY— Operate TTY power to on.	

4. METHOD

STEP	ACTION	VERIFICATION

A. Time-of-Day Control

23	Momentarily operate MINS units pushbutton.	TIME OF DAY display indicates 00:00:01.

STEP	ACTION	VERIFICATION
24	Repeat Step 23 operating MINS units and tens, HOURS units and tens, and DAYS units and tens pushbuttons until TIME OF DAY display advances through all numerical positions.	TIME OF DAY display corresponds to time setting desired.
25	Momentarily operate CLOCK RESET pushbutton.	TIME OF DAY display indicates 00:00:00.
26	Set TIME OF DAY display to 11:22:33.	
27	Operate CLOCK RUN/STOP switch to RUN.	Flashing decimal point indicator flashes 1 second on and 1 second off.
28	Operate clock set pushbuttons one at a time.	Operation of clock set pushbuttons has no affect on TIME OF DAY display.
29	Momentarly operate CLOCK RESET pushbutton.	Operation of CLOCK RESET pushbutton has no affect on TIME OF DAY display.
30	Operate CLOCK RUN/STOP switch to STOP.	Flashing decimal point indicator remains steadily lighted or dark.
31	Operate clock set pushbuttons to 09:23:58.	
32	Operate CLOCK RUN/STOP switch to RUN.	
33	Count clock pulses on decimal indicator, starting when TIME OF DAY display changes to 09:23:59.	On 30th pulse— TIME OF DAY display advances to indicate 10:00:00.
34b	If no further tests are to be performed— Restore CCU to original condition.	

B. Channel Selection

STEP	ACTION	VERIFICATION
23	At CCU control panel— Operate RSU CHANNEL STEP pushbutton to RSU CHANNEL 1.	RSU CHANNEL lamp extinguished.
24	Observe RSU CHANNEL 1 SELECT lamp lighted.	
25	Operate and release RSU CHANNEL STEP pushbutton 16 times.	RSU CHANNEL lamp lighted. RSU CHANNEL SELECT lamps momentarily lighted in sequence ending at SELECT lamp lighted in Step 24. RSU CHANNEL lamp extinguished on return to RSEU channel 1.
26	Using KS-3008 stopwatch— Momentarily operate ONE CYCLE START pushbutton; *start timing.*	ONE CYCLE lamp lighted. RSU CHANNEL SELECT 1 through 16 lamps lighted for 6 seconds in sequence. Cycle completed in 96 seconds, and RSU

STEP	ACTION	VERIFICATION
		CHANNEL SELECT 1 lamp lighted at end of cycle.
27	Operate PROGRAM 30M/60M switch to 30M.	At data receiver— DATA lamp lighted.
28	At CCU control panel— Momentarily operate MASTER RESET pushbutton.	
29	Using KS-3008 stopwatch— Momentarily operate 30M/60M MANUAL START pushbutton; *start timing.*	30M/60M MANUAL lamp lighted. RSU CHANNEL SELECT 1 through 16 lamps lighted for 6 seconds in sequence. RSU CHANNEL SELECT 1 lamp lighted for 10 seconds after first scan. Sequence repeated for 18 cycles (30 minutes). TTY lamp lighted, local TTY motor turned on, and 30M/60M MANUAL lamp extinguished at completion of 18th cycle. TTY printout commences 1 second to 1 minute after TTY lamp lights. ONE CYCLE lamp extinguished. TTY lamp extinguished and local TTY motor turned off at completion of printout.
30b	If no further tests are to be performed— Restore CCU to original condition.	

C. Data Collection Control and Scan Cycle Control

STEP	ACTION	VERIFICATION
23	Inside CCU front cabinet door— Operate both MEM switches to B.	
24	At CCU control panel— Momentarily operate MASTER RESET pushbutton.	Inside CCU front cabinet door— WRT B status lamp lighted.
25	At CCU control panel— Momentarily operate TTY START pushbutton.	TTY lamp lighted and local TTY motor turned on. TTY prints out contents of memory A storage unit 1 second to 1 minute after TTY lamp lights. TTY lamp extinguished and local TTY motor turned off when printout completed.
26	Inside CCU front cabinet door— Operate both MEM switches to A.	
27	At CCU control panel— Momentarily operate MASTER RESET pushbutton.	Inside CCU front cabinet door— WRT B status lamp extinguished.

STEP	ACTION	VERIFICATION
28	At CCU control panel— Momentarily operate TTY START pushbutton.	TTY lamp lighted and local TTY motor turned on. TTY prints out contents of memory B storage unit 1 second to 1 minute after TTY lamp lights. TTY lamp extinguished and local TTY motor turned off when printout completed.
29	Momentarily operate ONE CYCLE START pushbutton.	ONE CYCLE lamp lighted. RSU CHANNEL SELECT 1 through 16 lamps lighted for 6 seconds in sequence. Test cycle completed in 96 seconds. Channel selector comes to rest on RSU CHANNEL 1, leaving RSU CHANNEL SELECT 1 lamp lighted.
30	While one cycle test is in progress— Momentarily operate TTY START, RSU CHANNEL STEP, and 30M/60M MANUAL START pushbuttons.	Operation of these pushbuttons has no affect on one-cycle scan.
31	When ONE CYCLE START test is completed— Momentarily operate TTY START pushbutton.	TTY lamp lighted and local TTY motor turned on. ONE CYCLE lamp extinguished when TTY starts to print. TTY prints out contents of memory B storage unit 1 second to 1 minute after TTY lamp lights. TTY lamp extinguished and local TTY motor turned off when printout completed.
32	While printout is in progress— Momentarily operate ONE CYCLE START and 30M/60M MANUAL START pushbuttons.	Operation of these pushbuttons has no affect on TTY operation.
33	Operate PROGRAM 30M/60M switch to 30M.	DATA lamp lighted.
34	Operate MASTER RESET pushbutton.	
35	Momentarily operate 30M/60M MANUAL START pushbutton.	30M/60M MANUAL lamp lighted. RSU CHANNEL SELECT 1 through 16 lamps lighted for 6 seconds in sequence. RSU CHANNEL SELECT 1 lamp lighted for 10 seconds after first scan. Sequence continues through 18 cycles (30 minutes). TTY lamp lighted, local TTY motor turned on, and 30M/60M MANUAL lamp extinguished at completion of 18th cycle. TTY printout initiated 1 second to 1 minute after TTY lamp lights.

STEP	ACTION	VERIFICATION
		TTY lamp extinguished and local TTY motor turned off on completion of printout.
36	While 30-minute test is in progress— Momentarily operate TTY START, RSU CHANNEL STEP, and ONE CYCLE START pushbuttons.	Operation of these pushbuttons has no affect on 30-minute scan.
37	Operate PROGRAM 30M/60M switch to 60M.	At data receiver— DATA lamp lighted.
38	At CCU control panel— Momentarily operate MASTER RESET pushbutton.	
39	Momentarily operate 30M/60M MANUAL START pushbutton.	30M/60M MANUAL lamp lighted. RSU CHANNEL SELECT lamps 1 through 16 lighted for 6 seconds in sequence. RSU CHANNEL SELECT lamp 1 lighted for 10 seconds after first scan. Sequence continues through 36 cycles (60 minutes). TTY lamp lighted, local TTY motor turned on, and 30M/60M MANUAL lamp extinguished at completion of 36th cycle. TTY printout initiated on completion of 36th cycle 1 second to 1 minute after TTY lamp lights. TTY lamp extinguished on completion of printout and local TTY motor turned off.
40	While 60-minute test is in progress— Momentarily operate TTY START, RSU CHANNEL STEP, and ONE CYCLE START pushbuttons.	Operation of these pushbuttons has no affect on 60-minute scan.
41	Operate PROGRAM 30M/60M switch to 30M.	
42	Set TIME OF DAY display to indicate 00:10:10.	
43	At program timer— Rotate program timer to activate trip arm switch.	Action not effective. Scan cycle not initiated.
44	At CCU control panel— Set TIME OF DAY display to 00:10:00.	
45	At program timer— Insert any clock tab and rotate clock to activate trip arm switch.	At CCU control panel— RSU CHANNEL SELECT lamps 1 through 16 lighted for 6 seconds in sequence until next ACTION step performed.

STEP	ACTION	VERIFICATION
46	Momentarily operate MASTER RESET pushbutton before completion of 18 scan cycles.	Data collection cycle ceases.
47	Repeat Steps 44 through 46, setting TIME OF DAY display to 00:10:15, 00:10:30, and 00:10:45.	Same as Steps 44 through 46.
48	Momentarily operate MASTER RESET pushbutton.	Inside CCU front cabinet door— WRT B status lamp extinguished.
49	At CCU control panel— Momentarily operate TTY START pushbutton.	TTY lamp lighted and local TTY motor turned on. TTY printout initiated 1 second to 1 minute after TTY lamp lights. TTY lamp extinguished and local TTY motor turned off on completion of printout. Memory unit B cleared of data.
50	Inside CCU front cabinet door— Operate both MEM switches to B.	
51	At CCU control panel— Momentarily operate MASTER RESET pushbutton.	Inside CCU front cabinet door— WRT B status lamp lighted.
52	At CCU control panel— Momentarily operate TTY START pushbutton.	TTY lamp lighted and local TTY motor turned on. TTY printout initiated 1 second to 1 minute after TTY lamp lights. TTY lamp extinguished and local TTY motor turned off on completion of printout. Memory unit A cleared of data.
53b	If no further tests are to be performed— Restore CCU to original condition.	

C.1   Memory Storage Verification—Test Mode

STEP	ACTION	VERIFICATION
23	Momentarily operate TTY START pushbutton.	TTY lamp lighted and local TTY motor turned on. TTY prints out contents of memory B storage unit 1 second to 1 minute after TTY lamp lights. TTY lamp extinguished and local TTY motor turned off when printout completed.
24	Inside CCU front cabinet door— Set both MEM switches to B.	
25	At CCU control panel— Momentarily operate MASTER RESET pushbutton.	Inside CCU front cabinet door— WRT B status lamp lighted.

STEP	ACTION	VERIFICATION
26	At CCU control panel— Momentarily operate TTY START pushbutton.	TTY lamp lighted and local TTY motor turned on. TTY prints out contents of memory A storage unit 1 second to 1 minute after TTY lamp lights. TTY lamp extinguished and local TTY motor turned off when printout completed.
27	Inside CCU front cabinet door— Set MODE switch to TEST.	
28	At CCU control panel— Set TIME OF DAY display to 11:22:33.	
29	Operate ONE CYCLE START pushbutton.	ONE CYCLE lamp lighted. RSU CHANNEL SELECT 1 through 16 lamps lighted in sequence.
30	When RSU CHANNEL SELECT 1 lamp relights— Operate TTY START pushbutton.	ONE CYCLE lamp extinguished. TTY lamp lighted. TTY printout as shown in Fig. 1. TTY lamp extinguished when printout completed.
31	Inside CCU front cabinet door— Operate TEST MODE switch to ONES.	
32	At CCU control panel— Operate ONE CYCLE START pushbutton.	ONE CYCLE lamp lighted. RSU CHANNEL SELECT lamps 1 through 16 lighted in sequence.
33	When RSU CHANNEL SELECT 1 lamp relights— Operate TTY START pushbutton.	ONE CYCLE lamp extinguished. TTY lamp lighted. TTY printout as shown in Fig. 2. TTY lamp extinguished when printout completed.
34	Inside CCU front cabinet door— Operate both MEM switches to A.	
35	At CCU control panel— Momentarily operate MASTER RESET pushbutton.	Inside CCU front cabinet door— WRT B status lamp extinguished.
36	At CCU control panel— Momentarily operate ONE CYCLE START pushbutton.	ONE CYCLE lamp lighted. RSU CHANNEL SELECT lamps 1 through 16 lighted in sequence.
37	When RSU CHANNEL SELECT 1 lamp relights— Operate TTY START pushbutton.	ONE CYCLE lamp extinguished. TTY lamp lighted. TTY printout as shown in Fig. 2. TTY lamp extinguished when printout completed.

STEP	ACTION	VERIFICATION
38	Inside CCU front cabinet door— Operate TEST MODE switch to ZEROS.	
39	At CCU control panel— Operate ONE CYCLE START pushbutton.	ONE CYCLE lamp lighted. RSU CHANNEL SELECT lamps 1 through 16 lighted in sequence.
40	When RSU CHANNEL SELECT 1 lamp relights— Operate TTY START pushbutton.	ONE CYCLE lamp extinguished. TTY lamp lighted. TTY printout as shown in Fig. 1. TTY lamp extinguished when printout completed.
41	Inside CCU front cabinet door— Operate MODE switch to RUN.	
42b	If no further tests are to be performed— Restore CCU to original condition.	

D. Memory Storage Verification—Run Mode

STEP	ACTION	VERIFICATION
23	Determine from traffic or office records RSEU location connected for testing.	
24	At RSEU location— Connect ground to P1 through 4 jacks as shown in Fig. 3.	
25	Insert shorting pins in GROUP CONTROL matrix switch as shown in Fig. 4.	
26	Connect BGC cord to frame BG jack.	
27	Set DET SEL switch to B or C.	
28b	▶If working lines have not been installed per application schematic (SD-3B203-01) to all channels— Connect a working line to channel 1.◀	
29	At CCU control panel— Operate and release RSU CHANNEL STEP pushbutton to select RSU CHANNEL 1.	RSU CHANNEL 1 SELECT lamp lighted.
30	Set RSU CHANNEL 1 LOAD/IDLE/NO LOAD switch to LOAD.	ACTIVE/ALARM lamp 1 dimly lighted.
31	At data receiver— Dial RSEU location and listen for answer-back tone.	Answer-back tone received.

STEP	ACTION	VERIFICATION
32	At CCU control panel— Set RSU CHANNEL 2 through 16 load/IDLE/NO LOAD switches to NO LOAD.	ACTIVE/ALARM lamps 2 through 16 dimly lighted.
33	Operate PROGRAM 30M/60M switch to 30M.	At data receiver— DATA lamp lighted.
34	▶Replace handset on-hook.◀	
35	Inside CCU front cabinet door— Set both MEM switches to B.	
36	At CCU control panel— Momentarily operate MASTER RESET pushbutton.	Inside CCU front cabinet door— WRT B status lamp lighted.
37	At CCU control panel— Momentarily operate TTY START pushbutton.	TTY lamp lighted and local TTY motor turned on. TTY printout initiated 1 second to 1 minute after TTY lamp lighted. TTY lamp extinguished and local TTY motor turned off on completion of printout. Memory unit A cleared.
38	Inside CCU front cabinet door— Set both MEM switches to A.	
39	At CCU control panel— Momentarily operate MASTER RESET pushbutton.	Inside CCU front cabinet door— WRT B status lamp extinguished.
40	At CCU control panel— Momentarily operate TTY START pushbutton.	TTY lamp lighted and local TTY motor turned on. TTY printout initiated 1 second to 1 minute after TTY lamp lighted. TTY lamp extinguished and local TTY motor turned off on completion of printout. Memory unit B cleared.
41	Momentarily operate ONE CYCLE START pushbutton.	ONE CYCLE lamp lighted. RSU CHANNEL SELECT lamps 1 through 16 lighted for 6 seconds in sequence. RSU CHANNEL SELECT lamp 1 lighted when sequence completed.
42	Momentarily operate TTY START pushbutton.	TTY lamp lighted and local TTY motor turned on. TTY printout from memory unit A starts 1 second to 1 minute after TTY lamp lighted. ONE CYCLE lamp extinguished. Printout as shown in Fig. 5.

STEP	ACTION	VERIFICATION
		TTY lamp extinguished and local TTY motor turned off on completion of printout.
43	Inside CCU front cabinet door— Set both MEM switches to B.	
44	At CCU control panel— Momentarily operate MASTER RESET pushbutton.	Inside CCU front cabinet door— WRT B status lamp lighted.
45	At CCU control panel— Momentarily operate ONE CYCLE START pushbutton.	ONE CYCLE lamp lighted. RSU CHANNEL SELECT lamps 1 through 16 lighted for 6 seconds in sequence. RSU CHANNEL SELECT lamp 1 lighted when sequence completed.
46	Momentarily operate TTY START pushbutton.	TTY lamp lighted and local TTY motor turned on. TTY printout from memory unit B starts 1 second to 1 minute after TTY lamp lights. ONE CYCLE lamp extinguished. Printout as shown in Fig. 5. TTY lamp extinguished and local TTY motor turned off on completion of printout.
47	Momentarily operate RSU HANG UP pushbutton.	
48	Operate RSU CHANNEL 1 through 16 LOAD/IDLE/NO LOAD switches to IDLE.	ACTIVE/ALARM lamps 1 through 16 extinguished.
49	At RSEU location— Remove ground connected in Step 24.	
50	Remove shorting pins placed in Step 25.	
51	Disconnect BGC cord placed in Step 26.	
52c	If no further tests are to be performed— Restore CCU ▶and working lines◀ to original condition.	

E. Trouble Alarms

STEP	ACTION	VERIFICATION
23	At CCU control panel— Operate all RSU CHANNEL LOAD/IDLE/NO LOAD switches to LOAD.	ACTIVE/ALARM lamps 1 through 16 dimly lighted.
24	Operate CLOCK RUN/STOP switch to RUN.	
25	Inside CCU front cabinet door— Operate AUDIBLE ALARM INHIBIT switch to AUDIBLE.	

STEP	ACTION	VERIFICATION
26	At CCU control panel— Momentarily operate ONE ·CYCLE START pushbutton.	ONE CYCLE lamp lighted. RSU CHANNEL SELECT lamps 1 through 16 momentarily lighted in sequence. ACTIVE/ALARM lamps 1 through 16 brightly lighted in sequence. ALARM lamp lighted. Audible alarm sounded.
27	Momentarily operate ALARM RESET pushbutton.	ALARM lamp extinguished. Audible alarm silenced. ACTIVE/ALARM lamps 1 through 16 dimly lighted.
28	Operate all RSU CHANNEL LOAD/IDLE/NO LOAD switches to IDLE.	ACTIVE/ALARM lamps 1 through 16 extinguished.
29	Momentarily operate TTY START pushbutton.	TTY lamp lighted. TTY starts to print out. ONE CYCLE START lamp extinguished.
30	When TTY starts to print out— Momentarily operate MASTER RESET pushbutton.	TTY stops printing. TTY lamp extinguished.
31	Operate PROGRAM 30M/60M switch to 30M.	At data receiver— DATA lamp lighted.
32	At CCU control panel— Momentarily operate 30M/60M MANUAL START pushbutton.	RSU CHANNEL SELECT lamps 1 through 16 momentarily lighted in sequence.
33	While 30-minute scan is in progress— Operate CLOCK RUN/STOP switch to STOP.	
34	Momentarily operate CLOCK RESET pushbutton.	TIME OF DAY display set to 00:00:00.
35	At program timer— Insert a program timer tab.	
36	At CCU control panel— Set CLOCK RUN/STOP switch to RUN.	
37	At program timer— Rotate timer to operate and release trip arm switch.	At CCU control panel— ALARM lamp lighted. Audible alarm sounded.
38	Momentarily operate ALARM RESET pushbutton.	Audible alarm silenced. ALARM lamp extinguished.
39	Restore program timer tab inserted in Step 35.	

STEP	ACTION	VERIFICATION
40	Operate MASTER RESET pushbutton.	Scanning ceased. 30M/60M MANUAL lamp extinguished.
41	Momentarily operate ONE CYCLE START pushbutton.	RSU CHANNEL SELECT lamps 1 through 16 momentarily lighted in sequence.
42	While one-cycle scan is in progress— Operate CLOCK RUN/STOP switch to STOP.	
43	Momentarily operate CLOCK RESET pushbutton.	TIME OF DAY display indicates 00:00:00.
44	At program timer— Insert a program timer tab.	
45	At CCU control panel— Operate CLOCK RUN/STOP switch to RUN.	
46	At program timer— Rotate timer to operate and release trip arm. *Note:* Clock must be set to 00:00:00.	At CCU control panel— ALARM lamp lighted. Audible alarm sounded.
47	Momentarily operate ALARM RESET pushbutton.	Audible alarm silenced. ALARM lamp extinguished.
48	At program timer— Restore program timer tab inserted in Step 44.	
49	At CCU control panel— Momentarily operate TTY START pushbutton.	TTY lamp lighted. TTY starts to printout.
50	When ONE CYCLE lamp extinguishes— Operate MASTER RESET pushbutton.	TTY stops printing.
51	Inside CCU front cabinet door— Operate MODE switch to TEST.	
52	At CCU control panel— Operate CLOCK RUN/STOP switch to STOP.	
53	Operate CLOCK RESET pushbutton.	TIME OF DAY display indicates 00:00:00.
54	At program timer— Insert a program timer tab.	
55	At CCU control panel— Operate CLOCK RUN/STOP switch to RUN.	
56	At program timer— Rotate timer to operate and release trip arm.	At CCU control panel— ALARM lamp lighted. Audible alarm sounded.

STEP	ACTION	VERIFICATION
	Note: Clock must be set to 00:00:00.	
57	Momentarily operate ALARM RESET pushbutton.	Audible alarm silenced. ALARM lamp extinguished.
58	At program timer— Restore program timer tab inserted in Step 54.	
59	Inside CCU front cabinet door— Operate MODE switch to RUN.	
60	At TTY— Turn off power.	
61	At CCU control panel— Turn off CCU power.	POWER lamp extinguished.
62	Inside CCU front cabinet door— Remove MPC-2B card at file location A14.	
63	Place MPC-2B card on MEC-44 extender board.	
64	Insert extender board in file location A14.	
65	At CCU control panel— Turn on CCU power.	POWER lamp lighted. Audible alarm sounded and ALARM lamp lighted. ACTIVE/ALARM lamps lighted. Numerical display incorrect.
66	Operate MASTER RESET pushbutton.	Audible alarm silenced. ACTIVE/ALARM lamps extinguished.
67	Operate ALARM RESET pushbutton.	ALARM lamp extinguished.
68	Operate CLOCK RUN/STOP switch to STOP.	Decimal point fails to flash on numerical indicator display.
69	Operate CLOCK RESET pushbutton.	Numerical indicator display indicates 00:00:00.
70	Operate CLOCK RUN/STOP switch to RUN.	Decimal point flashes on numerical indicator display.
71	Operate ONE CYCLE START pushbutton.	ONE CYCLE lamp lighted. *Note:* Confirm that no alarms are activated during 96-second scan cycle.
72	At MEC-44 extender board— Remove lead 5.	

STEP	ACTION	VERIFICATION
73	At CCU control panel— Operate ONE CYCLE START pushbutton.	CCU begins one-cycle scan. Audible alarm sounded and ALARM lamp lighted at end of channel 2 scan time.
74	When channel 3 is selected— Operate ALARM RESET pushbutton.	Audible alarm silenced and ALARM lamp extinguished. ACTIVE/ALARM received at end of channel 3 scan time.
75	When channel 4 is selected— Operate ALARM RESET pushbutton.	Audible alarm silenced and ALARM lamp extinguished. ACTIVE/ALARM received at end of channel 4 scan time.
76	Repeat Steps 74 and 75 for remaining channels.	
77	Turn off CCU power.	POWER lamp extinguished.
78	Inside CCU front cabinet door— Remove MEC-44 extender board from file location A14.	
79	At MEC-44 extender board— Remove MPC-2B card.	
80	Inside CCU front cabinet door— Replace MPC-2B card in file location A14.	
81	At CCU control panel— Turn on CCU power.	POWER lamp lighted. Audible alarm sounded and ALARM lamp lighted. ACTIVE/ALARM lamps lighted. Numerical display incorrect.
82	Operate MASTER RESET pushbutton.	ACTIVE/ALARM lamps extinguished. Audible alarm silenced.
83	Operate ALARM RESET pushbutton.	ALARM lamp extinguished.
84	Operate CLOCK RUN/STOP switch to STOP.	Decimal point fails to flash on numerical indicator display.
85	Operate CLOCK RESET pushbutton.	TIME OF DAY display indicates 00:00:00.
86	Operate CLOCK RUN/STOP switch to RUN.	Decimal point flashes on numerical indicator display.
87	Remove AC FUSE from holder.	ALARM lamp dimly lighted. Audible alarm sounded.
88	Momentarily operate ALARM RESET pushbutton.	Audible alarm silenced.

STEP	ACTION	VERIFICATION
89	Replace AC FUSE in holder.	ACTIVE/ALARM lamps lighted. Audible alarm sounded. ALARM lamp lighted. Numerical indicator display incorrect.
90	Operate MASTER RESET pushbutton.	ACTIVE/ALARM lamps extinguished and audible alarm silenced.
91	Operate ALARM RESET pushbutton.	ALARM lamp extinguished.
92	Operate CLOCK RUN/STOP switch to STOP.	Decimal point fails to flash on numerical indicator display.
93	Operate CLOCK RESET pushbutton.	TIME OF DAY display indicates 00:00:00.
94	Operate CLOCK RUN/STOP switch to RUN.	Decimal point flashes on numerical indicator display.
95	Inside CCU front cabinet door— Remove 70-type fuse (F2) and replace with blown 70-type fuse.	At CCU control panel— Audible alarm sounded. ALARM lamp lighted. Numerical indicator display incorrect.
96	Momentarily operate ALARM RESET pushbutton.	Audible alarm silenced.
97	Inside CCU front cabinet door— Remove blown 70-type fuse (F2) and replace with undamaged 70-type fuse.	At CCU control panel— Audible alarm sounded. ACTIVE/ALARM lamps lighted.
98	Momentarily operate MASTER RESET pushbutton.	Audible alarm silenced. ACTIVE/ALARM lamps extinguished.
99	Momentarily operate ALARM RESET pushbutton.	ALARM lamp extinguished.
100	Operate CLOCK RUN/STOP switch to STOP.	Decimal point fails to flash on numerical indicator display.
101	Momentarily operate CLOCK RESET pushbutton.	TIME OF DAY display indicates 00:00:00.
102	Operate CLOCK RUN/STOP switch to RUN.	Decimal point flashes on numerical indicator display.
103	Inside CCU front cabinet door— Remove 70-type fuse (F3) and replace with blown 70-type fuse.	At CCU control panel— Audible alarm sounded. ALARM lamp lighted.
104	Momentarily operate ALARM RESET pushbutton.	Audible alarm silenced.
105	Inside CCU front cabinet door— Remove blown 70-type fuse (F3) and replace with undamaged 70-type fuse.	At CCU control panel— ALARM lamp extinguished.

STEP	ACTION	VERIFICATION
106	Inside CCU front cabinet door— Remove 70-type fuse (F4) and replace with blown 70-type fuse.	At CCU control panel— Audible alarm sounded. ALARM lamp lighted.
107	Momentarily operate ALARM RESET pushbutton.	Audible alarm silenced.
108	Inside CCU front cabinet door— Remove blown 70-type fuse (F4) and replace with undamaged 70-type fuse.	At CCU control panel— ALARM lamp extinguished.
109	Inside CCU front cabinet door— Remove 70-type fuse (F5) and replace with blown 70-type fuse.	At CCU control panel— Audible alarm sounded. ALARM lamp lighted.
110	Momentarily operate ALARM RESET pushbutton.	Audible alarm silenced.
111	Inside CCU front cabinet door— Remove blown 70-type fuse (F5) and replace with undamaged 70-type fuse.	
112	At CCU control panel— Momentarily operate MASTER RESET pushbutton.	
113	Momentarily operate ALARM RESET pushbutton.	ALARM lamp extinguished.
114	Inside CCU front cabinet door— Remove 70-type fuse (F6) and replace with blown 70-type fuse.	At CCU control panel— Audible alarm sounded. ALARM lamp lighted.
115	Momentarily operate ALARM RESET pushbutton.	Audible alarm silenced.
116	Inside CCU front cabinet door— Remove blown 70-type fuse (F6) and replace with undamaged 70-type fuse.	
117	At CCU control panel— Momentarily operate MASTER RESET pushbutton.	
118	Momentarily operate ALARM RESET pushbutton.	ALARM lamp extinguished.
119	At TTY— Turn power on.	
120b	If no further tests are to be performed— Restore CCU to original condition.	

F. ▶Channel 17

| 23 | Determine from traffic or office records RSEU location connected for testing. | |

STEP	ACTION	VERIFICATION
24	At RSEU location— Connect ground to P1 through 4 jacks as shown in Fig. 3.	
25	Insrt shorting pins in GROUP CONTROL matrix switch as shown in Fig. 4.	
26	Connect BGC cord to frame BG jack.	
27	Set DET SEL switch to B or C.	
28b	If working lines have not been installed per application schematic (SD-3B203-01) to all channels— Connect a working line to channel 1.	
29	At CCU control panel— Operate and release RSU CHANNEL STEP pushbutton to select RSU CHANNEL 1.	RSU CHANNEL 1 SELECT lamp lighted.
30	Set RSU CHANNEL 1 LOAD/IDLE/NO LOAD switch to LOAD.	ACTIVE/ALARM lamp 1 dimly lighted.
31	At data receiver— Dial RSEU location and listen for answer-back tone.	Answer-back tone received.
32	At CCU control panel— Set RSU CHANNEL 2 through 16 LOAD/IDLE/NO LOAD switches to NO LOAD.	ACTIVE/ALARM lamps 2 through 16 dimly lighted.
33	Operate PROGRAM 30M/60M switch to 30M.	At data receiver— DATA lamp lighted.
34	Replace handset on-hook.	
35	Inside CCU front cabinet door— Set both MEM switches to B.	
36	At CCU control panel— Momentarily operate MASTER RESET pushbutton.	Inside CCU front cabinet door— WRT B status lamp lighted.
37	At CCU control panel— Momentarily operate TTY START pushbutton.	TTY lamp lighted and local TTY motor turned on. TTY printout initiated 1 second to 1 minute after TTY lamp lighted. TTY lamp extinguished and local TTY motor turned off on completion of printout. Memory unit A cleared.

STEP	ACTION	VERIFICATION
38	Inside CCU front cabinet door— Set both MEM switches to A.	
39	At CCU control panel— Momentarily operate MASTER RESET pushbutton.	Inside CCU front cabinet door— WRT B status lamp extinguished.
40	At CCU control panel— Momentarily operate TTY START pushbutton.	TTY lamp lighted and local TTY motor turned on. TTY printout initiated 1 second to 1 minute after TTY lamp lighted. TTY lamp extinguished and local TTY motor turned off on completion of printout. Memory unit B cleared.
41	Operate CHANNEL 17 TEST switch to TEST.	
42	Operate MASTER RESET pushbutton.	
43	Operate CLOCK RUN/STOP switch to RUN.	
44	Using KS-3008 stopwatch momentarily operate 30M/60M MANUAL START pushbutton; *start timing.*	30M/60M MANUAL lamp lighted. RSU CHANNEL SELECT 1 through 16 lamps lighted for 6 seconds in sequence. When RSU CHANNEL SELECT indicator 16 extinguished, TTY lamp lighted and local TTY motor turned on. TTY printout commences 1 second to 1 minute after TTY lamp lighted. Data previously stored for channel 16 will be printed. Printout will appear as that shown in Fig. 6. At completion of printout— TTY lamp extinguished and local TTY motor turned off. Printouts and verifications will continue for a total of 17 cycles, with minutes advancing. When CCU has completed the 18th data collection cycle— 30M/60M MANUAL lamp extinguished. TTY lamp lighted and local TTY motor turned on. At completion of printout— TTY lamp extinguished. Printout will appear as that shown in Fig. 7.
45	At CCU control panel— Operate CLOCK RUN/STOP switch to STOP.	Flashing decimal point indicator remains steadily lighted or dark.
46	Operate CLOCK RESET pushbutton.	TIME OF DAY display indicates 00:00:00.
47	Operate PROGRAM 30M/60M switch to 30M.	

STEP	ACTION	VERIFICATION
48	At program timer— Insert program clock tabs for time 00: 00: 00 and 00: 00: 30.	
49	At CCU control panel— Operate CLOCK RUN/STOP switch to RUN.	
50	At program timer— Rotate clock to activate trip arm switch.	RSU CHANNEL SELECT 1 through 16 lamps lighted for 6 seconds in sequence. When RSU CHANNEL SELECT indicator 16 extinguished— TTY lamp lighted and local TTY motor turned on. TTY printout commences 1 second to 1 minute after TTY lamp lighted. Data previously stored for channel 16 will be printed. Printout will appear as that shown in Fig. 6. At completion of printout— TTY lamp extinguished and local TTY motor turned off. Printouts and verifications will continue for a total of 17 cycles, with minutes advancing. When CCU has completed the 18th data collection cycle— TTY lamp lighted and local TTY motor turned on. At completion of printout— TTY lamp extinguished. Printout will appear as that shown in Fig. 7. CCU will automatically begin another data collection interval of 18 cycles (30 minutes). First channel 17 test printout will appear as that of Fig. 8. Channel 17 test printouts will continue for 14 additional cycles. Printouts will appear as that shown in Fig. 6, but with minutes advancing. Printouts and verifications will continue for a total of 18 cycles (30 minutes). When CCU has completed the 18th data collection cycle— TTY lamp lighted and local TTY motor turned on. At completion of printout— TTY lamp extinguished. Printout will appear as that of Fig. 7, but hour, minutes reading will be "01 00."
51c	If no further tests are to be performed— Restore CCU and working lines to original condition.	

STEP	ACTION	VERIFICATION

G. Zero Print Suppression

STEP	ACTION	VERIFICATION
23	Determine from traffic or office records RSEU location connected for testing.	
24	At RSEU location— Connect ground to P1 through 4 jacks as shown in Fig. 3.	
25	Insert shorting pins in GROUP CONTROL matrix switch as shown in Fig. 4.	
26	Connect BGC cord to frame BG jack.	
27	Set DET SEL switch to B or C.	
28b	If working lines have not been installed per application schematic (SD-3B203-01) to all channels— Connect a working line to channel 1.	
29	At CCU control panel— Operate and release RSU CHANNEL STEP pushbutton to select RSU CHANNEL 1.	RSU CHANNEL 1 SELECT lamp lighted.
30	Set RSU CHANNEL 1 LOAD/IDLE/NO LOAD switch to LOAD.	ACTIVE/ALARM lamp 1 dimly lighted.
31	At data receiver— Dial RSEU location and listen for answer-back tone.	Answer-back tone received.
32	Operate PROGRAM 30M/60M switch to 30M.	At data receiver— DATA lamp lighted.
33	Replace handset on-hook.	
34	Inside CCU front cabinet door— Set both MEM switches to B.	
35	At CCU control panel— Momentarily operate MASTER RESET pushbutton.	Inside CCU front cabinet door— WRT B status lamp lighted.
36	At CCU control panel— Momentarily operate TTY START pushbutton.	TTY lamp lighted and local TTY motor turned on. TTY printout initiated 1 second to 1 minute after TTY lamp lighted. TTY lamp extinguished and local TTY motor turned off on completion of printout. Memory unit A cleared.

STEP	ACTION	VERIFICATION
37	Inside CCU front cabinet door— Set both MEM switches to A.	
38	At CCU control panel— Momentarily operate MASTER RESET pushbutton.	Inside CCU front cabinet door— WRT B status lamp extinguished.
39	At CCU control panel— Momentarily operate TTY START pushbutton.	TTY lamp lighted and local TTY motor turned on. TTY printout initiated 1 second to 1 minute after TTY lamp lighted. TTY lamp extinguished and local TTY motor turned off on completion of printout. Memory unit B cleared.
40	At program timer— Insert program clock tab for time 00: 00: 00	
41	At CCU control panel— Operate CLOCK RUN/STOP switch to RUN.	Flashing decimal point indicator flashes 1 second on and 1 second off.
42	Rotate clock to activate trip arm switch.	CCU begins to gather 18 cycles (30 minutes) of data. When CCU has completed the 18th data collection cycle— TTY lamp lighted and local TTY motor turned on. At completion of printout— TTY lamp extinguished. Printout will appear as that shown in Fig. 9.
43c	If no further tests are to be performed— Restore CCU and working lines to original condition.◀	

```
<<<
000330 01 11 22 33
336
001001
```

0000	0005	0000	0005	0000	0005	0000	0005	0000	0005
0000	0005	0000	0005	0000	0005	0000	0005	0000	0005

```
002001
```

0000	0005	0000	0005	0000	0005	0000	0005	0000	0005
0000	0005	0000	0005	0000	0005	0000	0005	0000	0005

```
003001
```

0000	0005	0000	0005	0000	0005	0000	0005	0000	0005
0000	0005	0000	0005	0000	0005	0000	0005	0000	0005

```
004001
```

0000	0005	0000	0005	0000	0005	0000	0005	0000	0005
0000	0005	0000	0005	0000	0005	0000	0005	0000	0005

```
005001
```

0000	0005	0000	0005	0000	0005	0000	0005	0000	0005
0000	0005	0000	0005	0000	0005	0000	0005	0000	0005

```
006001
```

0000	0005	0000	0005	0000	0005	0000	0005	0000	0005
0000	0005	0000	0005	0000	0005	0000	0005	0000	0005

```
007001
```

0000	0005	0000	0005	0000	0005	0000	0005	0000	0005
0000	0005	0000	0005	0000	0005	0000	0005	0000	0005

```
008001
```

0000	0005	0000	0005	0000	0005	0000	0005	0000	0005
0000	0005	0000	0005	0000	0005	0000	0005	0000	0005

```
009001
```

0000	0005	0000	0005	0000	0005	0000	0005	0000	0005
0000	0005	0000	0005	0000	0005	0000	0005	0000	0005

```
010001
```

0000	0005	0000	0005	0000	0005	0000	0005	0000	0005
0000	0005	0000	0005	0000	0005	0000	0005	0000	0005

```
011001
```

0000	0005	0000	0005	0000	0005	0000	0005	0000	0005
0000	0005	0000	0005	0000	0005	0000	0005	0000	0005

```
012001
```

0000	0005	0000	0005	0000	0005	0000	0005	0000	0005
0000	0005	0000	0005	0000	0005	0000	0005	0000	0005

```
013001
```

0000	0005	0000	0005	0000	0005	0000	0005	0000	0005
0000	0005	0000	0005	0000	0005	0000	0005	0000	0005

```
014001
```

0000	0005	0000	0005	0000	0005	0000	0005	0000	0005
0000	0005	0000	0005	0000	0005	0000	0005	0000	0005

```
015001
```

0000	0005	0000	0005	0000	0005	0000	0005	0000	0005
0000	0005	0000	0005	0000	0005	0000	0005	0000	0005

```
016001
```

0000	0005	0000	0005	0000	0005	0000	0005	0000	0005
0000	0005	0000	0005	0000	0005	0000	0005	0000	0005

```
>>>
```

Fig. 1—Test Mode—Zeros Test

```
<<<
000330 01 11 22 33
336
001001
    0005      0000     0005     0000     0005     0000     0005     0000     0005     0000
    0005      0000     0005     0000     0005     0000     0005     0000     0005     0000
002001
    0005      0000     0005     0000     0005     0000     0005     0000     0005     0000
    0005      0000     0005     0000     0005     0000     0005     0000     0005     0000
003001
    0005      0000     0005     0000     0005     0000     0005     0000     0005     0000
    0005      0000     0005     0000     0005     0000     0005     0000     0005     0000
004001
    0005      0000     0005     0000     0005     0000     0005     0000     0005     0000
    0005      0000     0005     0000     0005     0000     0005     0000     0005     0000
005001
    0005      0000     0005     0000     0005     0000     0005     0000     0005     0000
    0005      0000     0005     0000     0005     0000     0005     0000     0005     0000
006001
    0005      0000     0005     0000     0005     0000     0005     0000     0005     0000
    0005      0000     0005     0000     0005     0000     0005     0000     0005     0000
007001
    0005      0000     0005     0000     0005     0000     0005     0000     0005     0000
    0005      0000     0005     0000     0005     0000     0005     0000     0005     0000
008001
    0005      0000     0005     0000     0005     0000     0005     0000     0005     0000
    0005      0000     0005     0000     0005     0000     0005     0000     0005     0000
009001
    0005      0000     0005     0000     0005     0000     0005     0000     0005     0000
    0005      0000     0005     0000     0005     0000     0005     0000     0005     0000
010001
    0005      0000     0005     0000     0005     0000     0005     0000     0005     0000
    0005      0000     0005     0000     0005     0000     0005     0000     0005     0000
011001
    0005      0000     0005     0000     0005     0000     0005     0000     0005     0000
    0005      0000     0005     0000     0005     0000     0005     0000     0005     0000
012001
    0005      0000     0005     0000     0005     0000     0005     0000     0005     0000
    0005      0000     0005     0000     0005     0000     0005     0000     0005     0000
013001
    0005      0000     0005     0000     0005     0000     0005     0000     0005     0000
    0005      0000     0005     0000     0005     0000     0005     0000     0005     0000
014001
    0005      0000     0005     0000     0005     0000     0005     0000     0005     0000
    0005      0000     0005     0000     0005     0000     0005     0000     0005     0000
015001
    0005      0000     0005     0000     0005     0000     0005     0000     0005     0000
    0005      0000     0005     0000     0005     0000     0005     0000     0005     0000
016001
    0005      0000     0005     0000     0005     0000     0005     0000     0005     0000
    0005      0000     0005     0000     0005     0000     0005     0000     0005     0000
>>>
```

Fig. 2—Test Mode—Ones Test

USAGE INPUTS

P2 AND P3					PI AND P4				
50	40	30	20	10	50	40	30	20	10
49	39	29	19	9	49	39	29	19	9
48	38	28	18	8	48	38	28	18	8
47	37	27	17	7	47	37	27	17	7
46	36	26	16	6	46	36	26	16	6
45	35	25	15	5	45	35	25	15	5
44	34	24	14	4	44	34	24	14	4
43	33	23	13	3	43	33	23	13	3
42	32	22	12	2	42	32	22	12	2
41	31	21	11	1	41	31	21	11	1

NOTE:
APPLY GROUND TO TERMINALS
SHOWN WITH SHADED AREA.

Fig. 3—Usage Inputs

40	30	20	10
39	29	19	9
38	28	18	8
37	27	17	7
36	26	16	6
35	25	15	5
34	24	14	4
33	23	13	3
32	22	12	2
31	21	11	1

NOTE:
INSERT PIN INTO N JACK FOR GROUPS
SHOWN WITHOUT SHADED AREA.
INSERT PIN INTO E JACK FOR GROUPS
SHOWN WITH SHADED AREA.

Fig. 4—Group Control Matrix

```
<<<
000330 01 00 00 00
336
001001
```

0001	0001	0001	0001	0001	0002	0002	0002	0002	0002
0002	0004	0006	0008	0010	0002	0004	0006	0008	0025

002001

0001	0001	0001	0001	0001	0002	0002	0002	0002	0002
0002	0004	0006	0008	0010	0002	0004	0006	0008	0025

003001

0001	0001	0001	0001	0001	0002	0002	0002	0002	0002
0002	0004	0006	0008	0010	0002	0004	0006	0008	0025

004001

0001	0001	0001	0001	0001	0002	0002	0002	0002	0002
0002	0004	0006	0008	0010	0002	0004	0006	0008	0025

005001

0001	0001	0001	0001	0001	0002	0002	0002	0002	0002
0002	0004	0006	0008	0010	0002	0004	0006	0008	0025

006001

0001	0001	0001	0001	0001	0002	0002	0002	0002	0002
0002	0004	0006	0008	0010	0002	0004	0006	0008	0025

007001

0001	0001	0001	0001	0001	0002	0002	0002	0002	0002
0002	0004	0006	0008	0010	0002	0004	0006	0008	0025

008001

0001	0001	0001	0001	0001	0002	0002	0002	0002	0002
0002	0004	0006	0008	0010	0002	0004	0006	0008	0025

009001

0001	0001	0001	0001	0001	0002	0002	0002	0002	0002
0002	0004	0006	0008	0010	0002	0004	0006	0008	0025

010001

0001	0001	0001	0001	0001	0002	0002	0002	0002	0002
0002	0004	0006	0008	0010	0002	0004	0006	0008	0025

011001

0001	0001	0001	0001	0001	0002	0002	0002	0002	0002
0002	0004	0006	0008	0010	0002	0004	0006	0008	0025

012001

0001	0001	0001	0001	0001	0002	0002	0002	0002	0002
0002	0004	0006	0008	0010	0002	0004	0006	0008	0025

013001

0001	0001	0001	0001	0001	0002	0002	0002	0002	0002
0002	0004	0006	0008	0010	0002	0004	0006	0008	0025

014001

0001	0001	0001	0001	0001	0002	0002	0002	0002	0002
0002	0004	0006	0008	0010	0002	0004	0006	0008	0025

015001

0001	0001	0001	0001	0001	0002	0002	0002	0002	0002
0002	0004	0006	0008	0010	0002	0004	0006	0008	0025

016001

0001	0001	0001	0001	0001	0002	0002	0002	0002	0002
0002	0004	0006	0008	0010	0002	0004	0006	0008	0025

```
>>>
```

Fig. 5—Typical Single Scan Printout

NOTE: MINUTES ADVANCE
       DURING TEST

<<<
000330 01 00 00 01
336
017001
  0001   0001   0001   0001   0001   0002   0002   0002   0002   0002
  0002   0004   0006   0008   0010   0002   0004   0006   0008   0025
>>>

Fig. 6—→Channel 17 Test Printout◄

```
<<<
000030 01 00 00 30
336
001018
```

0018	0018	0018	0018	0018	0036	0036	0036	0036	0036
0036	0072	0108	0144	0180	0036	0072	0108	0144	0450

```
002018
```

0018	0018	0018	0018	0018	0036	0036	0036	0036	0036
0036	0072	0108	0144	0180	0036	0072	0108	0144	0450

```
003018
```

0018	0018	0018	0018	0018	0036	0036	0036	0036	0036
0036	0072	0108	0144	0180	0036	0072	0108	0144	0450

```
004018
```

0018	0018	0018	0018	0018	0036	0036	0036	0036	0036
0036	0072	0108	0144	0180	0036	0072	0108	0144	0450

```
005018
```

0018	0018	0018	0018	0018	0036	0036	0036	0036	0036
0036	0072	0108	0144	0180	0036	0072	0108	0144	0450

```
006018
```

0018	0018	0018	0018	0018	0036	0036	0036	0036	0036
0036	0072	0108	0144	0180	0036	0072	0108	0144	0450

```
007018
```

0018	0018	0018	0018	0018	0036	0036	0036	0036	0036
0036	0072	0108	0144	0180	0036	0072	0108	0144	0450

```
008018
```

0018	0018	0018	0018	0018	0036	0036	0036	0036	0036
0036	0072	0108	0144	0180	0036	0072	0108	0144	0450

```
009018
```

0018	0018	0018	0018	0018	0036	0036	0036	0036	0036
0036	0072	0108	0144	0180	0036	0072	0108	0144	0450

```
010018
```

0018	0018	0018	0018	0018	0036	0036	0036	0036	0036
0036	0072	0108	0144	0180	0036	0072	0108	0144	0450

```
011018
```

0018	0018	0018	0018	0018	0036	0036	0036	0036	0036
0036	0072	0108	0144	0180	0036	0072	0108	0144	0450

```
012018
```

0018	0018	0018	0018	0018	0036	0036	0036	0036	0036
0036	0072	0108	0144	0180	0036	0072	0108	0144	0450

```
013018
```

0018	0018	0018	0018	0018	0036	0036	0036	0036	0036
0036	0072	0108	0144	0180	0036	0072	0108	0144	0450

```
014018
```

0018	0018	0018	0018	0018	0036	0036	0036	0036	0036
0036	0072	0108	0144	0180	0036	0072	0108	0144	0450

```
015018
```

0018	0018	0018	0018	0018	0036	0036	0036	0036	0036
0036	0072	0108	0144	0180	0036	0072	0108	0144	0450

```
016001
```

0001	0001	0001	0001	0002	0002	0002	0002	0002	0002
0002	0004	0006	0008	0010	0002	0004	0006	0008	0025

```
>>>
```

Fig. 7—▶30-Minute Scan Printout (With Channel 17 Test)◀

```
<<<
000330 01 00 00 35
336
017003
    0003        0003     0003     0003     0003     0006     0006     0006     0006     0006
    0006        0012     0018     0024     0030     0006     0012     0018     0024     0075
>>>
```

Fig. 8——→Channel 17 Test Printout (Following Automatic Printout)◀

```
<<<
000030 01 00 00 30
336
001018
    0018        0018     0018     0018     0018     0036     0036     0036     0036     0036
    0036        0072     0108     0144     0180     0036     0072     0108     0144     0450
>>>
```

Fig. 9——→Zero Print Suppression Printout◀