EADAS TRAFFIC DATA CONVERTER (ETDC) SD-3B213-01

ASSOCIATED WITH TRAFFIC USAGE RECORDER (TUR) SD-95738-01

EQUIPPED WITH INDIVIDUAL CIRCUIT USAGE RECORDER (ICUR)

THROUGH TESTS FROM EADAS CENTRAL CONTROL UNIT (CCU)

ENGINEERING AND ADMINISTRATIVE DATA ACQUISITION SYSTEM (EADAS)

1. GENERAL

1.01 This section describes a method for the diagnosis and correction of TUR scanning troubles which can be detected by the ICUR program in the EADAS central control unit (CCU).

1.02 Whenever this section is reissued, the reason for reissue will be listed in this paragraph. This issue affects the Equipment Test List.

1.03 The test covered is:

   A. *Off-Line CCU-ETDC-TUR Through Test:* This test places the TUR in the detector test mode and allows the CCU, via ICUR software, to isolate scan problems. The scan problems can then be processed through patterning technique for eventual trouble clearing.

1.04 The EADAS Users Guide supplements information contained in this section. The Users Guide will describe how to perform the following necessary functions:

   ● Entering and changing schedules **(EM:SC)**

   ● Turning the magnetic tape output program on or off **(ON:MT or OF:MT)**

   ● Turning TUR off **(OF:TU)**.

1.05 Since the usage data received during the test period is distorted, the channel being tested should have the tape writing functions disabled. This can be done either by the assignment of null ICAN, LB, and TDAS schedules or by the **OF:MT:a!** command. If the testing occurred during an ICAN recording interval, the magnetic tape schedule should not be enabled before the end of the interval.

1.06 The use of the Scan Abort Log (Fig. 1) and the patterning techniques (Table A) can also be applied during normal operating conditions to isolate and clear recurring scan sequence problems.

1.07 *Lettered Steps:* A letter a, b, or c, etc, added to a step number in Part 3 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 lettered steps should be made are given in the ACTION column, and all steps governed by the same conditions 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

2.01 No additional apparatus is required other than CCU, ETDC, and 4A TURs.

3. METHOD

STEP	ACTION	VERIFICATION

A. Off-Line CCU-ETDC-TUR Through Test

1   At EADAS CCU—
Request office, where ETDC to be tested is located, to place TUR to be tested in detector test mode per Steps 2 through 9.

2   At ETDC—
Set A0 through A3 switches in unused function per Table B.

3   Set LT1 then LT2 switches to LCL position.

4   Set A0 through A3 switches in clear usage function per Table B.

5   Momentarily operate TST switch.

6   Set A0 through A3 switches in TUR detector function per Table B.

7   Momentarily operate TST switch.

8   Set A0 through A3 switches in unused function per Table B.

9   Set LT2 then LT1 switches to RMT position.

10   At EADAS CCU—
When ETDC office has completed setting TUR in detector test mode—
Determine turn-on schedule for TUR to be tested.

11a   If TUR turn-on schedule is compatible with testing schedule—
Disable tape writing during test period.

12b   If TUR turn-on schedule is not compatible with testing schedule—
Revise TUR turn-on schedule and disable tape writing during test period.

13c   If EADAS CCU power ON/OFF/LOCK switch is in ON position—
Verify that console data switch 5 is in down (0) position.

14d   If, during system period, any trouble occurs that affects the flow of data—

STEP	ACTION	VERIFICATION
	When trouble is cleared, restart test from Step 1.	
15e	If, during system period, any detector failure messages are received (see Fig. 2)— Notify ETDC test office of the detector failure and have the trouble cleared immediately.	
16	After one system swap period— Record all scan abort messages on Scan Abort Log (Fig. 1 and 3).	
17	Review Scan Abort Log for error patterns per Table A.	
18	When testing period is completed— At EADAS CCU— Turn TUR off using **OF:TU:a** command.	
19a	If TUR turn-on schedule is compatible with testing schedule— Enable tape writing for next scheduled collection time.	
20b	If TUR turn-on schedule is not compatible with testing schedule— Revise TUR turn-on and tape writing schedules for desired collection times.	
	Note: If the test period is during an ICAN recording interval, the magnetic tape should not be enabled before the end of the interval.	

SCAN ABORT LOG

EADAS SITE _____

CHANNEL NO. _____

TUR NO. _____

STUDY WEEK _____

DATE	TIME	B FIELD	C FIELD	COMMENTS

Fig. 1—Scan Abort Log

A IU φ1 aaaab cc

EXPLANATION OF MESSAGE:

aaaa = Channel number (Decimal)
bb = TUR number (0—3)
cc = Detector number in trouble

CC	DETECTOR	CONDITION
00	0 or 1	Bad
01	2	Bad
02	3	Bad
05	4	Bad
12	5	Bad
77		Crossed Detector

Fig. 2—Detector Failure Messages

A IU 02 aaaab ccddee ffgghh

EXPLANATION OF MESSAGE:

a = Channel number (decimal)
b = TUR number (0-3)
c = Error condition

02	>600XP
04	SCHV SEQ
06	02 and 04
10	HORIZONTAL SKIP
12	10 and 04
14	10 and 04
16	10, 04 and 02

d = Expected vertical (octal 00-11)

OCTAL	VERTICAL
00	0
:	:
07	7
10	8
11	9

e = Expected switch-horizontal (octal 00-74)
(See Table C)
f = Number of troubles (octal 00-17) is decima
g = Received vertical (octal 00-11)

OCTAL	VERTICAL
00	0
:	:
07	7
10	8
11	9

h = Received switch-horizontal (octal 00-73)
(See Table C)

Fig. 3—Scan Abort Messages

TABLE A

SCAN ABORT MESSAGE ERROR PATTERNS

SCAN ABORT MESSAGE	PROBABLE CAUSE	SUGGESTIVE CORRECTIVE PROCEDURE
B field larger than C field	TUR scanning too slowly.	Adjust PG relay (6.8 to 7.2 pps).
B field larger than C field by exactly 100	Vertical skip	TUR vertical off normal, contacts require adjustment.
B field less than C field exactly by one	Horizontal skip	TUR horizontal control relays (SS_) require cleaning and adjustment.
B field less than C field exactly by 100		TUR vertical control relays (HS_) require cleaning and adjustment.
B field less than C field by exactly 10		TUR switch control relays (SWS_) require cleaning and adjustment.
B field greater than ccdd74 B or C fields both equal cc0000 and ff0000	Trouble cannot be determined by this message. Clear all trouble associated with previously recorded scan abort messages and rerun test procedure until zero scan abort errors occur.	If this condition occurs frequently, verify 4A-TUR to ETDC interface per Section 190-510-217.

TABLE B

ETDC SWITCH SETTINGS

SWITCH SETTINGS				FUNCTION
A0	A1	A2	A3	
0	0	0	0	Unused
1	0	0	0	TUR On
0	1	0	0	TUR Scan
1	1	0	0	TUR Detector
0	0	1	0	Spare
1	0	1	0	Clear Usage
0	1	1	0	Busy (Home TDC)
1	1	1	0	Inhibit
0	0	0	1	Restore
1	0	0	1	Busy (Remote TDC)
0	1	0	1	Test Scan (Home TDC)
1	1	0	1	Test Scan (Remote 1)
0	0	1	1	Test Scan (Remote 2)
1	0	1	1	Test Scan (Remote 3)
0	1	1	1	Test Scan (Remote 4)
1	1	1	1	Test Scan (Remote 5)

TABLE C

SWITCH-HORIZONTAL TRANSLATION TABLE

OCTAL	SWITCH — HORIZONTAL	OCTAL	SWITCH — HORIZONTAL
00	00	50	40
01	01	51	41
02	02	52	42
03	03	53	43
04	04	54	44
05	05	55	45
06	06	56	46
07	07	57	47
10	08	60	48
11	09	61	49
12	10	62	50
13	11	63	51
14	12	64	52
15	13	65	53
16	14	66	54
17	15	67	55
20	16	70	56
21	17	71	57
22	18	72	58
23	19	73	59
24	20		
25	21	74	Mtce. Test/601 XP
26	22		
27	23		
30	24	75	Out Of Range
31	25		
32	26		
33	27		
34	28		
35	29		
36	30	Or Greater	
37	31		
40	32		
41	33		
42	34		
43	35		
44	36		
45	37		
46	38		
47	39		