

NO. 3 ESS
NOISE IMMUNITY LINE CIRCUIT

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1. GENERAL INFORMATION

1.1 Description

1.11 The purpose of the noise immunity line circuit is to filter out noise on a line which under certain circumstances can cause false line originations. This circuit is connected between the phone and the network line appearance.

1.2 Purpose

1.21 The purpose of this test is to verify the operation of each of the circuits equipped.

1.3 References

1.31 The following documents will be useful references for the execution of the tests of this section:

<u>Document</u>	<u>Title</u>
SD/CD 3H208-	Noise Immunity Line Circuit
CPS 408	Noise Immunity Line Circuit (Ground start)

Office Records

T-XXXX-XX-140	CDF Assignments
T-XXXX-XX-462	Peripheral Decoder Assignment Chart
T-XXXX-XX-464	Peripheral Pulse Distributor Assignments
IM/OM 3H300	No. 3 ESS Input/Output Message Manual

2. RECORDS AND REQUIREMENTS

2.1 Records: The results of the test of this section shall be recorded on form SD-97-1313 and SD-97-1315. For detailed information on filling out test records, see Handbook 3, Section 6B.

2.2 The tests in this section are based on the No. 3 ESS performance requirements, BSP 820-650-180.

3. TEST EQUIPMENT

3.1 The following is necessary for the performance of these tests:

<u>Amt.</u>	<u>No.</u>	<u>Description</u>
1	1500D	10 Button TT Telephone Set

4. PRELIMINARY INFORMATION

4.1 The input forms (ESS 3107) should first be checked to see if any of the noise immunity line circuits have been assigned to particular lines in translations. It is unusual for any of these circuits to be already assigned since the telephone company usually does not know which lines have excessive noise on them and must wait until the lines are actually connected to the No. 3 ESS to see which lines need the noise immunity circuit. If any circuits are assigned, then permanent cross-connects should be installed between the lines OE and the associated noise immunity line circuit's output T&R.

4.2 Figure 2 gives a picture of how the CDF block for the noise immunity line circuits is laid out. Each FB 408 circuit pack contains two circuits, each unit contains eight circuit packs. The input T&R (T,R) (which is connected to the phone) for the first circuit on each pack (Ckt. 0) are on the first two rows of the CDF block. The input T&R (T,R) for

the second circuit on each pack (Ckt. 1) are on the next two rows of the CDF block. The output T&R (T1,R1) (which is connected to the network OE) is on the same terminals as the input T&R only four rows higher. The sleeve leads (SL,SLR) are also on the same terminals as the input T&R only eight rows higher. Each noise immunity line unit uses 12 rows on the CDF block.

FIGURE 1

ONE UNIT = 12 ROWS

0	1	2	3	4	5	6	7	8	9	10	11
CKT 0		CKT 1		CKT 0		CKT 1		CKT 0		CKT 1	
R	R	R	R	R1	R1	R1	R1	SLR	SLR	SLR	SLR
T 3	1 7	T 3	T 6	T1 3	T1 7	T1 3	T1 7	SL 3	SL 7	SL 3	SL 7
R	R	R	R	R1	R1	R1	R1	SLR	SLR	SLR	SLR
T 2	T 6	T 2	T 6	T1 2	T1 6	T1 2	T1 6	SL 2	SL 6	SL 2	SL 6
R	R	R	R	R1	R1	R1	R1	SLR	SLR	SLR	SLR
T 1	T 5	T 1	T 5	T1 1	T1 5	T1 1	T1 5	SL 1	SL 5	SL 1	SL 5
R	R	R	R	R1	R1	R1	R1	SLR	SLR	SLR	SLR
T 0	T 4	T 0	T 4	T1 0	T1 4	T1 0	T1 4	SL 0	SL 4	SL 0	SL 4

5. TESTING PROCEDURE

5.01 Select test line with a line class code of IFR and TOUCH-TONE.

* 5.02 Using the office records (T-XXXX-XX-462, T-XXXX-XX-464) determine the distributor tripllett address (DTA) for the noise immunity line circuit to be tested.

5.03 Using the office records (T-XXXX-XX-140) determine the location on the CDF of the block containing the noise immunity line circuit to be tested.

* 5.04 Type in the following recent change message substituting TN and OE for the test line selected above (para. 5.01) and the DTA (DPU) as determined in paragraph 5.02:

```
RC:LINE
TYP CHG/
ORD 0000/
TN NXX XXXX/
OE XX XXXX/
DPU X XXX X1
```

* 5.05 The system should respond with an "OK" if the recent change is accepted.

* 5.06 Temporarily connect the output T₁&R₁ of the circuit under test to the test line's OE.

5.07 Connect a test phone to the input T&R of the noise immunity line circuit to be tested.

5.08 Connect a VOM between the SL & SLR leads of the circuit under test and check for an open circuit.

5.09 Pick up the test phone. Apply a ground to the ring lead. Dial tone should be heard. The VOM connected to the SL & SLR leads should show continuity.

5.10 Depress one of the TOUCH-TONE buttons on the test phone. Dial tone should no longer be heard. If dial tone is not broken, check for a tip-ring reversal.

5.11 Hang up the test phone. Remove the ground on the FB428 circuit pack. Check the system TTY to verify that no system troubles were printed out during the test.

5.12 Repeat paragraphs 5.02-5.11 for all the equipped noise immunity line circuits.

* 5.13 Type in the following recent change message for the test line used above:

```
RC:LINE  
TYP CHG/  
ORD 0000/  
TN NNX XXXX/  
OE XX XXXX/  
DPU NO!
```

5.14 Disconnect the test phone and all temporary test leads.

* Ignore this step if the noise immunity line circuit under test is already assigned in translations.