

*Copy to 4 mem pls*March 28, 1989
File: SSO 6.2

1. No readings are becoming more important
2. Balance -

Mr. Doerr	Mr. Sherman (T)	Mr. Janas	3, 430 Ω load -
Mr. Mogden	Mr. Dresen	Ms. McDonald	
Mr. Sherman (S)	Mr. Hanratty	Mr. Schultz	

Two meetings have been held to clarify the parameters involved with IIN testing. The last meeting was held February 8th. In attendance were:

J. Bannow	-	Special Services
D. Broughton	-	Transmission Engineering
R. Darkow	-	Transmission Engineering
J. Hoida	-	Special Services
D. Kaemmerer	-	Transmission Engineering
R. Prouty	-	Distribution Services
K. Scherer	-	Distribution Services
L. Verette	-	Special Services

As a result of the meetings, the following recommendations should be followed for the provisioning and maintenance of IIN service provided by Special Services.

INSIDE WIRE ISSUES

In older existing buildings the harmful effects of bridge-tap on Electronic Business Set services may require the pre-sale qualification of the customers inside wire. Special Services (DATRAN, TIER II) has agreed to perform the necessary tests with a Time Domain Reflectometer radar test set. These tests will be performed on a "request only" basis from our Marketing department. The customers inside wire should not contain any bridge tap. The presence of bridge tap renders the inside wire unsuitable for Electronic Business Set service. If this condition is present (Bridge-Tap), the installation of new inside wire may be required.

TEST LOCATIONS

When Wisconsin Bell provides the inside wire associated with the stations, these tests will be conducted from the RJ11C jack (or equivalent). This is the point where the actual station set will be located and is inclusive of the inside wire used to supply the service. This rule will apply regardless if we are installing an electronic business set or a single line IIN set.

If the customer or their vendor is providing the inside wiring, an attempt should be made to test these services with the customers wire interpositioned in the facility. If any of the tests fail, the tests should then be done from the network interface to isolate the problem area. In the event the inside wire is not yet installed or the customer is not sure of the location, the proper tests should be performed at the network interface.

CONSTRUCTION REQUIREMENTS

Construction personnel should perform the proper Conformance tests on all pairs designated to serve an IIN customer. These tests include removing all load coils and bridge tap when required. (See Attachment one)

RECOMMENDED IIN TESTS

The tests listed in this letter should be performed whenever IIN service is installed. The proper test descriptions are listed in the following manner.

A. TEST DESCRIPTION: ELECTRONIC BUSINESS SET

B. TEST DESCRIPTION: SINGLE LINE SET

C. TEST DESCRIPTION: IIN CONSOLES

RECOMMENDED TEST SETS

Volt Meters: Triplet Model 3, or a KS14510 L-11, analog volt meter

Transmission Measurement Set: Hewlett Packard 4935 or equivalent test set

A. TEST DESCRIPTIONS: ELECTRONIC BUSINESS SET

When installing an Electronic Business Set the following tests should be conducted on the facility. The tests should be conducted jointly with our Switching Central Office technicians and the I & M personnel located in the field. It will be the I & M technicians responsibility to measure the facility and record the results of the tests. The test results should then be reported to the proper location. (Special Service I & M technicians should report the test results to the Major Account Center for entry into CIMAP.)

The tests described below should be Co-Ordinated and scheduled with the Switching Control Center (S.C.C.) that is responsible for the area you are working in. For Special Service applications, the Major Account Center personnel will contact the respective S.C.C. to schedule the tests on facilities to be used with Electronic Business Sets.

1. Conductor Loop Resistance

The resistance of the loop shall not exceed 1230 ohms (Reference: Northern Telcom practice 297-2011-180, Iss. 86-04-03, DP 1001, pg.1) Use recommended or equivalent Volt/Ohm meter.

2. Insertion Loss

The maximum loss should not exceed 24 DB @ 8 KHZ. The test sets used should be optioned for a 900 OHM termination. (Reference: Northern Telcom practice 297-2011-180, Iss. 86-04-03, DP 1004, pg.1) The meter to be used for this test should be a Hewlett Packard 4935 or equivalent transmission measurement set.

3. DC VOLTAGE

The facility being tested should have a short and ground applied at the central office MDF. Measure tip to ring, tip to ground, and ring to ground. The requirement is the voltage should be equal to or less than one volt DC. (Reference: Northern Telcom practice 297-2011-180, Iss. 86-04-03, Dp 1003, pg. 1) Use recommended or equivalent Volt/Ohm meter.

4. AC VOLTAGE

The facility being tested should have a short and ground applied at the central office MDF. Measure tip to ring, tip to ground, and ring to ground. The requirement is the voltage should be less than 25 volts AC. Use recommended or equivalent Volt/ohm meter.

5. INSULATION RESISTANCE

The facility being tested should be open at the central office MDF for this test. Measure tip to ring, tip to ground, and ring to ground. The requirement is the resistance should be greater than 120K ohms. (Reference: Northern Telcom practice 297-2011-180 Iss 86-04-03, DP 1007, pg 1) Use recommended or equivalent Volt/OHM meter.

6. "C" MESSAGE NOISE

The facility being tested should have the test sets optioned for 900 Ohms at both ends for this test. Perform normal "C" message tests. The requirement is the noise should be less than 20 dBrnc. (Reference: Northern Telcom practice 297-2011-180, Iss. 86-04-03, DP 1007, pg 1) The meter to be used for this test should be a Hewlett Packard 4935 or equivalent transmission measurement set.

7. Power Influence

The facility being tested should have a 900 ohm termination at the central office MDF for this test. This test consist of measuring the facility with a transmission measuring set. The set should be in the noise to ground mode with the C message weighting option selected. Requirement for this test is less than 80 dBrnc. The meter to be used for this test should be a Hewlitt Packard 4935 or equivalent transmission measurement test set.

8. ADDITIONAL TESTS

The following test should be conducted only if the customer is experiencing problems and the tests listed above do not identify the trouble.

Impulse noise - The facility should be terminated in 900 ohms at both ends. The test set should be optioned for 15 Khz flat weighting, the impulse counter should be timed and the low threshold should be set at 60 dbrn. This test should be run for 15 minutes. The measured impulse noise count must be less than 300 counts over the 15 minute timed test. (Reference Northern Telcom practice 297-2011-180, Iss. 86-04-03, DP1006, pg. 1) The meter to be used for this test should be a Hewlitt Packard 4935 or equivalent transmission measurement set.

Note: The Northern Telcom practice mentioned in this letter is located in the Major Account Procedure book in section 8.

B. TEST DESCRIPTION : SINGLE LINE SET

When installing a SINGLE LINE IIN STATION the following test should be conducted.

1. INSERTION LOSS

The maximum loss should not exceed 8.5 DB @ 1 KHZ.

2. CIRCUIT NOISE (C-Message)

The parameters for this test are 20 dBrn or less.

3. LOOP CURRENT

The loop current should be 20 milliamperes or more. (Note: This measurement should be performed with a 430 ohm load.)

4. POWER INFLUENCE

Power influence parameters are 80 dBrnc or less.

5. CIRCUIT BALANCE

Circuit balance should be 60 db or more.

C. TEST DESCRIPTION: IIN CONSOLES

The requirements for IIN consoles were discussed at this meeting. Numerous requirements have been obtained from several sources and the actual requirements are in question. The following requirements are currently under review and we are waiting for clarification from Northern Telcom.

Maximum loop length - 16,000 ft. of 26 gauge cable

Maximum loop resistance - 1300 ohms

Maximum loop loss - 12 db. @ 1000 Hz.

Slope requirement - +/- 3db - 400 to 2800 Hz.
(relative to 1000 Hz.)

External power requirement - source within 600 ft.
(8.2 Ohms)

The actual requirements(upon verification) will be distributed as they become available.

Refer any questions on this subject to me at 414-678-2023, or to Lyle Verette at 414-678-2135



Dennis J. Sweda
Manager - Special Services Staff

cc:
Mr. Neyhart
Mr. Hoida
✓ Mr. Merkowitz
Mr. Olson
All Attendees

IIN Conformance Testing

April 3, 1989
File: NMR-ST 18.01

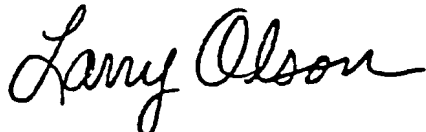
Mr. Anauo
Mr. Davis
Mr. Halbur
Mr. Kerber
Mr. Manna
Ms. Oas
Mr. Rothmann

The Major Accounts Center (MAC) now has responsibility for IIN facility conformance testing for the customers they serve. Testing methods and test equipment requirements have been developed and are attached for your review.

These tests are to be completed by the Special Services I & M technicians with the help of our Frame Attendants or Central Office Technicians. Page 3 of the test recommendations procedures instructs the MAC center to schedule this testing through the Switching Control Center (SCC). Please ensure that your central office personnel are available to assist with the testing, and that they have the needed equipment.

Currently the major account center customers are served by the Broadway Central Office but additional IIN customers will be handled by the Major Account Center in the future. This is basically the same procedure that is in place with the Distribution Services Installation and Maintenance people for other IIN customers.

Any questions can be directed to Larry Horbinski at 414-678-2555.



Larry D. Olson
Staff Manager - Network Switched Services

LH:lmb

Attachments

cc:
Mr. Breckenridge
Ms. Grasianni
Mr. Lang
Ms. Reinhold
Mr. Riedl
Mr. Sokop
Mr. Hoida ✓