

TYPE N2 CARRIER TELEPHONE SYSTEM TERMINAL EQUIPMENT INITIAL LINE-UP AND MAINTENANCE TESTS

1. GENERAL

1.01 This section covers the operating instructions for initial and maintenance tests on the terminal equipment of the N2 carrier telephone system.

1.02 The information in this section is intended to be used after the terminal and repeater equipment has been installed and the equipment and line facilities are ready for the tests and adjustments preparatory to placing the carrier system in service. The information also applies to the operation and maintenance of the system while it is in service.

1.03 The increasing sensitivity of present day traffic emphasizes the necessity for closely following operating procedures which reduce to a minimum the number of circuit interruptions and irregularities which affect the operation of the signaling equipment. The necessity of applying test and operating procedures without omitting any steps is important in order to avoid irregularities which are likely to result from the use of abbreviated or unauthorized procedures.

1.04 All trunks and special service circuits assigned to carrier channels should be made busy or patched out before working on the carrier channel or systems when interruptions may occur. Where the carrier group alarm circuit is used, this automatically makes the circuits busy during a failure. Since this interrupts service on all channels, care must be taken to avoid false operation of the carrier group alarm circuit.

Caution: All work operations should be performed carefully to avoid kits or interruptions on the carrier channels and systems. Any trunks or special service circuit may be carrying DATA-PHONE, SAGE, voice-frequency telegraph, or other data service.

1.05 Testing and switching apparatus should be calibrated and maintained in accordance with standard instructions as outlined in Bell System Practices. The calibration of testing apparatus is important since failure to meet test requirements may be due to errors caused by testing apparatus. Testing apparatus should be calibrated at such intervals as is necessary to insure accuracy of measurement.

1.06 **Caution:** When installing plug-in units in the terminal mounting, the power supply unit should be inserted last to avoid damage to plug-in units due to above nominal voltage caused by insufficient load on the power supply. If, for any reason, the power supply unit is inserted before the other plug-in units, the fuse on the front of the power supply unit must be removed.

2. INITIAL TESTS

2.01 The tests indicated in sections listed in Table A must be performed on both terminals in the order shown before a system is placed in service.

3. MAINTENANCE TESTS

3.01 The tests listed in Table B are made on a periodic basis with order shown, where practicable, to detect apparatus which has developed trouble or has aged to the point where, if it remained in service, it might cause impairment to service, as well as to indicate variations in the high-frequency line which need corrective measures.

3.02 The tests listed in Table C should be made in the order shown when various plug-in units are replaced.

TABLE A	
TEST	SECTION REFERENCE
Check of Local Cabling, Span Pads, and Slope Equalizers	362-804-501
Power Supply Tests and Adjustments	362-802-501
Adjustment of Power Supply and Sealing Current Over Cable	362-804-502
General Check of Line Current	362-804-503
Alarm and Control Unit — Electrical Tests and Adjustments	362-803-501
Check of Alarm Operation	362-803-502
Transistor Emitter Current Test	362-805-505
Modem — Transmitting Carrier Power Tests	362-806-501
Total Carrier Power Output — Transmitting	362-805-501
Individual Carrier Output — Transmitting	362-805-502
Total Carrier Power Output — Receiving	362-805-503
Individual Carrier Output — Receiving	362-805-504
Modem — Receiving Carrier Power Tests	362-806-501
Modem — Voice-frequency Input and Output Tests	362-806-502
Channel Net Loss Measurement	362-800-505
Channel Noise Measurement	362-800-506

TABLE B			
UNIT	TEST	TEST PERIOD	SECTION REFERENCE
Group	Emitter Current	3M	362-805-505
	Total Carrier Power — Transmitting (Bridged)	3M	362-805-501
	Total Carrier Power — Receiving (Bridged)	3M	362-805-503
Modem	Transmitting Carrier Power	6M*	362-806-501
	Receiving Carrier Power	3M	362-806-501
Compondor	Channel Net Loss	6M*	362-800-505
	Channel Noise	6M*	362-800-506
Test Equipment	N2 Switching Set Bridging Amplifier Gain	3M	362-825-500

* Or local requirement.

SECTION 362-801-300

TABLE C		
UNIT REPLACED	TEST TO BE MADE	SECTION REFERENCE
Compondor	Modem — Voice-frequency Input	362-806-502
	Channel Net Loss*	362-800-505
	Channel Noise Measurement*	362-800-506
Modem*	Transmitting and Receiving Channel Carrier	362-806-501
	Voice-Frequency Input and Output	362-806-502
	Channel Net Loss	362-800-505
	Channel Noise Measurements	362-800-506
Group Transmitter	Check of Slope Equalizers†	362-804-501
	Transistor Emitter Current	362-805-505
	Total Carrier Power — Transmitting (Bridged)	362-805-501
	Received Carrier Power — Modem (Far End)	362-806-501
Group Receiver	Check of Slope Equalizers†	362-804-501
	Transistor Emitter Current	362-805-505
	Total Carrier Power — Receiving (Bridged)	362-805-503
	Received Carrier Power — Modem (Replacing End)	362-806-501
Line Terminating	Check of Span Pads†	362-804-501
	Adjustment of Power Supply and Sealing Current Over Cable	362-804-502
	Check of Line Current	362-804-503
Alarm	Electrical Tests and Adjustments	362-803-501
	Check of Alarm Operations‡	362-803-502
Power Supply	Power Supply Tests and Adjustments	362-802-501

* Test should be performed at both terminals.

† These checks shall be made before the unit is inserted in the terminal mounting.

‡ If system is in service, avoid tests which involve forced carrier failure.