

ACCEPTANCE TEST PLAN
DESCRIPTION
3B20D MODEL 2 PROCESSOR

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E. Mandatory Monitor Tests	3	1. GENERAL	
F. Acceptance Tests	3	1.01 This section describes activities that should be performed before accepting a new 3B20D Model 2 processor installation. It is intended as a guide to assist an office in making the acceptance decision with confidence that the equipment was manufactured and installed properly and meets the design intent. Acceptance of the 3B20D Model 2 processor usually will be a part of and included with an application system except when the application system is being upgraded through retrofit.	
G. Additional Procedures	3	1.02 Whenever this section is reissued, the reasons for reissue will be listed in this paragraph.	
H. Heat Test	3	1.03 The activities in this section can be characterized as preacceptance procedures which are conducted by office craft to accomplish the following objectives.	
I. Quality Assurance Audit	3	(a) Assist in making an acceptance decision	
3. RECORDS, DOCUMENTATION, SPARE PARTS, AND TEST EQUIPMENT	7	(b) Integrate the efforts of Western Electric (WE) installation team and office craft to minimize duplication	
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NOTICE

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- (d) Insure that equipment satisfies performance requirements.
- 1.04** In brief, the preacceptance activities performed in an office encompass the following.
- (a) Monitoring of installation tests in installation handbooks as performed by WE installers
 - (b) Reviewing test data and results obtained from installation tests
 - (c) Performing acceptance tests as provided in Bell System Practices (BSPs)
 - (d) Performing any other tests desired to gain experience and confidence in the system subject to the WE installer schedule
 - (e) Requisitioning spare parts, test equipment, and documentation
 - (f) Conducting an office data records check and review with WE installers
 - (g) Performing a quality assurance audit if the office is selected by the WE quality assurance organization.
- 1.05** The following terms are discussed to aid interpretation of this section.
- (a) **Turnover:** Turnover, which occurs after the equipment has been installed, is a transfer of maintenance responsibility from WE to the office craft. The installer may remain on-site after turnover to correct known deficiencies.
 - (b) **Official Completion Date:** The official completion date marks the end of the installation work, removal from site of installer property, departure of the installer, and closing of the installation order.
 - (c) **Acceptance:** Acceptance is a formal acknowledgment that installation is complete. Receipt of the system at turnover is based on the results of acceptance tests listed in this section. Formal acceptance is based on delivery of office records, documents, spare parts, test equipment, and office-dependent data provided by WE.
 - (d) **Cutover:** Cutover occurs when the 3B20D Model 2 processor begins functioning as part of an operational application system.

1.06 A general sequence of installation and testing is illustrated in Fig. 1. The associated handbook (HB) section in HB309 that covers a particular testing operation is referenced. The sections shown with a T suffix indicate trouble clearing.

2. ACCEPTANCE TESTING

A. Schedule Coordination

2.01 The WE installer notifies office management personnel of their testing schedule at least 7 days in advance to allow sufficient time to provide monitors. If the agreed-upon schedule is changed, the WE installer should notify the office 24 hours in advance of the rescheduled test. The office must remain flexible for unforeseen delays and must also take advantage of unexpected schedule changes.

2.02 Should the office fail to monitor a test after having been properly notified, the WE installer is not required to repeat the test solely for the benefit of the monitor. The WE installer is expected to provide test results as required by the handbook section to show that the test passed.

2.03 When maintenance responsibility is transferred to the office craft after turnover but before cutover, the office craft has an opportunity to perform any procedure subject to the following criteria.

- (a) Installation quality and schedule are not jeopardized.
- (b) Tests are run on a noninterference basis.
- (c) System is available.

B. Test Records

2.04 The WE installer will provide test records to office management personnel on standard forms SD-97-1313 and SD-97-1315 as required by HB309. These records should be saved in the office and used for joint review, making acceptance decisions, and future reference.

2.05 If additional records are desired to be retained, an early request should be made to the WE installer. Such records may include TTY printouts, memory dumps, office log entries, trouble reports, etc. Mutually agreed on documents can be

provided; otherwise, nonstandard records are normally discarded.

C. Monitoring

2.06 The purpose of monitoring is to increase the office craft confidence that the equipment operates as designed for the application system. Monitoring means observance by the office craft of the test performance and system responses. The WE installer will normally take the lead in performing a test and recording results. The office craft should observe and follow the actions and system responses to gain additional knowledge and experience. As each test is performed, the response must agree with the associated section of the handbook; otherwise, the equipment is repaired and the test is repeated. The test passes or an exception is noted.

D. Recommended Monitor Tests

2.07 The recommended monitor tests are listed in Table A. These tests, which should be monitored to increase knowledge and confidence to a reasonable level, are performed in the sequence determined by HB21, HB309, and the WE installer. If the office elects not to monitor these recommended monitor tests, a request should be made to the WE installer to save printouts, records, and supporting documentation for review.

2.08 The list of recommended monitor tests is not intended to limit the office craft from monitoring any test. Monitoring additional tests can be useful; however, the tests listed in Table A are considered sufficient to make an acceptance decision.

E. Mandatory Monitor Tests

2.09 Mandatory monitor tests are listed in Table B and must be monitored as a minimum basis for accepting the system at turnover. Handbook sections with a T suffix may be performed if trouble clearing is required.

F. Acceptance Tests

2.10 The acceptance tests listed in Task Oriented Practice 254-302-808 provide a comprehensive test of a newly installed office. Office craft should perform these tests after turnover usually when installation activity is minimal. Any troubles encountered during performance of these procedures are referred to the WE installers for resolution.

G. Additional Procedures

2.11 Office craft should be familiar with several additional procedures which provide general background information. The titles of these procedures are listed below and may be found through the task index list in 254-302-811.

- Change Terminal Input Mode
- Check Cooling Unit
- Clean Printer
- Clean Tape Transport
- Configure Port Switch Unit
- Inspect Tape Unit
- Install 300-MB Moving Head Disk Disk Pack
- Install Printer Paper
- Install Printer Ribbon
- Mount Tape
- Reinitialize Terminal
- Remove 300-MB Moving Head Disk Disk Pack
- Remove Tape
- Replace Fan Tray Filter.

H. Heat Test

2.12 A heat test may be performed during the installation and testing interval primarily for purposes of testing the application system. The heat test demonstrates the ability of the system to operate satisfactorily at the high temperature design limit of 120 degrees F or 50 degrees C. Units that fail the heat test would likely fail if the air conditioning system was lost.

I. Quality Assurance Audit

2.13 Installation of new equipment may involve an audit by the WE quality assurance (QA) organization. The purpose of the audit is to measure the

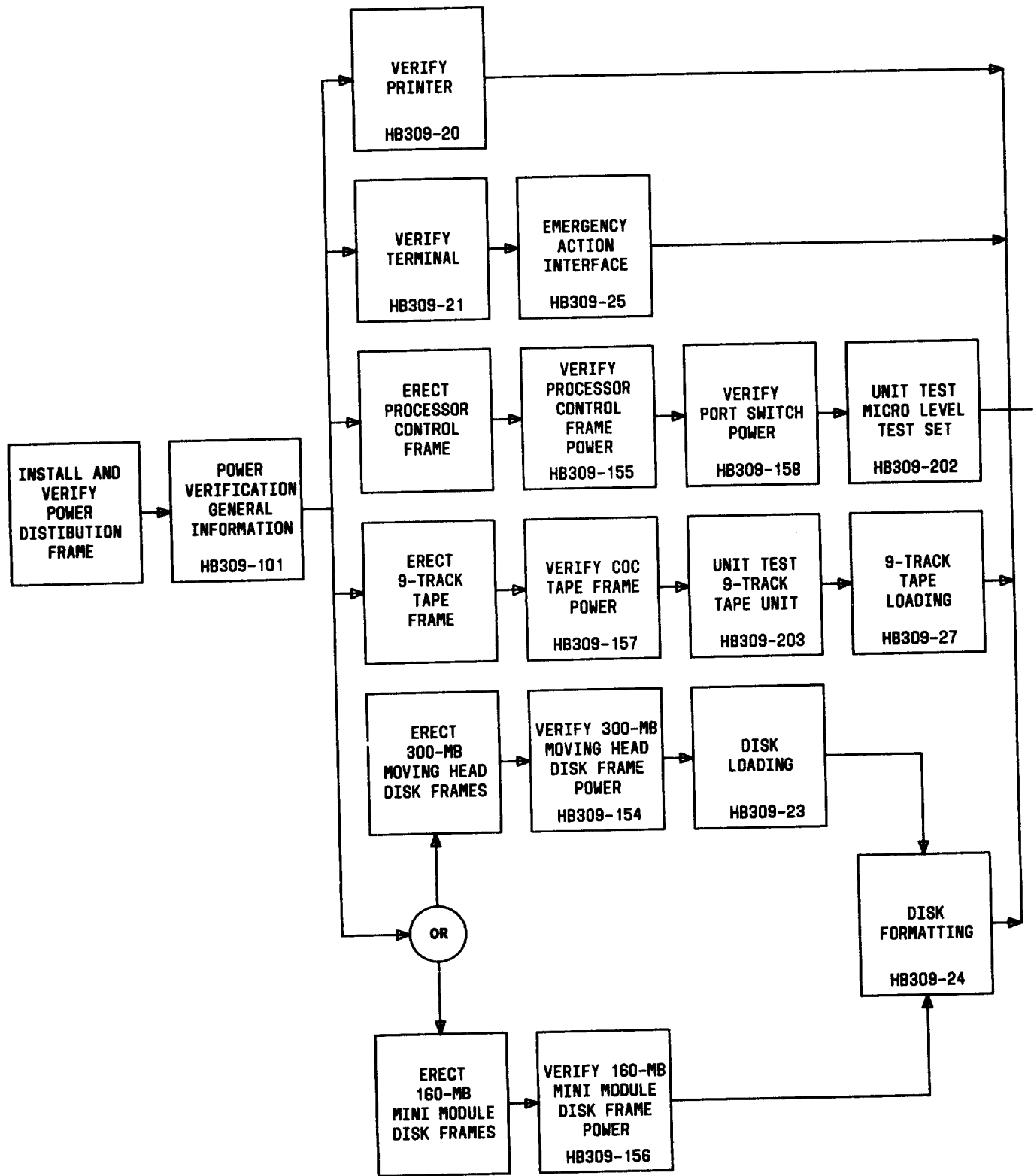


Fig. 1—Installation Tests Sequence (Sheet 1 of 2)

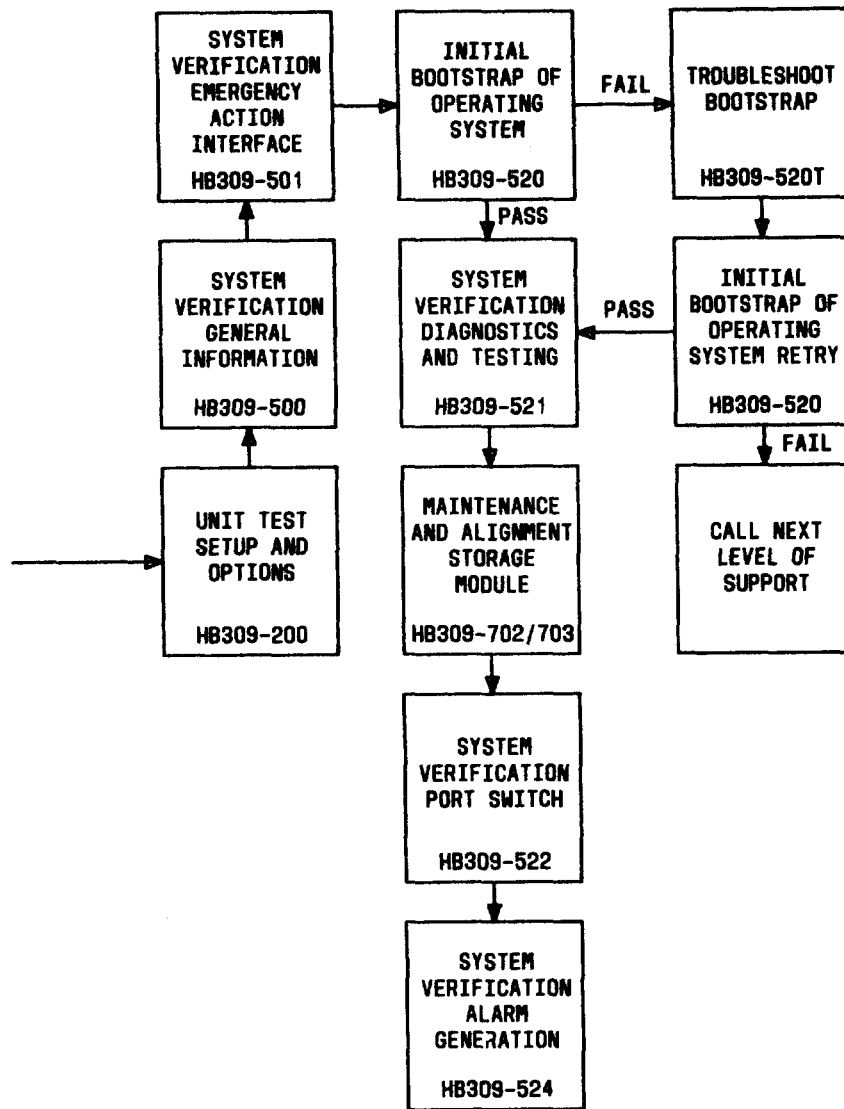


Fig. 1—Installation Tests Sequence (Sheet 2 of 2)

TABLE A
RECOMMENDED MONITOR TESTS

TITLE	REFERENCE	DESCRIPTION
Battery Distribution Circuit	HB21	Verifies installation of power distribution frame and wiring and charging of filter circuits; verifies alarms
DATASPEED® 40 Information	HB309-20	Verifies signal and power connections and sets options
Video Terminal VT100	HB309-21	Verifies terminal set-up and sets options
Power Verification — General Information	HB309-100	Verifies AC and DC power and grounding
Power Verification — Control Frame	HB309-155	Verifies proper voltages and polarity for each unit. Checks power feeders and tests fans
Power Verification — 160-MB Disk Frame	HB309-156	Verifies power and operational tests of 1200VA inverter
Power Disk Inverter — 300-MB Disk Frame	HB309-154	Verifies power and operational tests of 2000VA inverter
Power Verification — CPI Tape Frame	HB309-157	Verifies power and operational tests of 300VA inverter
Unit Test Set-Up and Options	HB309-200	Provides procedures for setting options for booting and running
Unit Test 9-Track CDC Tape Unit	HB309-203	Tests on-board diagnostics
System Verification General Information	HB309-500	Provides general information on handbook procedures
System Verification — Emergency Action Interface	HB309-501	Verifies emergency action interface page commands
System Verification — Port Switch	HB309-522	Tests port switch unit

TABLE B
MANDATORY MONITOR TESTS

TITLE	REFERENCE	DESCRIPTION
Micro Level Test Set Interface	HB309-202	Provides procedures for testing micro level test set
System Verification — Initial Bootstrap	HB309-520	Provides procedures for initial booting of operating system
Troubleshooting Bootstrap of Operating System	HB309-520T	Provides procedures to use information to determine reason system fails to boot
System Verification — Diagnostic and Testing Procedure	HB309-521	Provides sequence for diagnostic testing
System Verification — Alarm Generation	HB309-524	Verifies system alarms and responses to simulated faults
Troubleshooting Input/Output Processor	HB309-533T	Provides troubleshooting information
Maintenance and Alignment Procedures — CDC Storage Model Drive (KS-22072, L2)	HB309-702	Provides disk drive head alignment procedures and verification tests
Maintenance and Alignment Procedures — CDC Storage Model Drive (KS-22072, L1)	HB309-703	Provides disk drive head alignment procedures and verification tests

ability of the equipment to meet performance requirements. The installer is expected to notify the QA organization 1 week before cutover that the installation work is complete and that equipment is ready for audit. The QA organization selects sample offices and, if an office is selected, performs an audit during the week before cutover. If an office is not selected, cutover may occur early. Although QA selection and results are not acceptance conditions, the office has an interest in having the equipment made available for audit. It is a QA objective to include all newly installed central office equipment as possible candidates for auditing. Should frames be withheld or waived from auditing, confidence in audit-result accuracy decreases. The ratio of frames available for audit to total frame universe is an indication of audit validity. As the number of functional units not made available increases, validity of the audit correspondingly decreases.

3. RECORDS, DOCUMENTATION, SPARE PARTS, AND TEST EQUIPMENT

3.01 A check of office records, documentation, spare parts, test equipment, and office-dependent data on hand must be made before acceptance can take place. This activity will not affect the installation or testing activity and may be started at any time. The checks on these items should be a continuous activity using a system of checklists to maintain status of various items.

A. Records

3.02 During the installation and testing interval, the generic program, application software, and unique office data are loaded onto disk and ultimately into memory. Changes to these software programs are necessary to correct software trouble

reports, to enhance utilization, and to add features. These changes are provided through broadcast warning messages which consist of two parts: a message file printed out on a local printer and a binary data package that is loaded directly to a separate disk partition. The message file contains the broadcast warning message number and procedures to activate change. These message files along with any notations must be retained as office records as a history of software changes. Broadcast warning messages will be received for the office and will be activated in the system after cutover on a continuing basis. The WE installers will receive and activate the initial broadcast warning messages and should provide the message file for office records.

3.03 Records should be maintained on known troubles in the system and on the diagnostic status of each unit. Record forms SD-97-1313 and SD-97-1315, required by HB309, are sufficient for this purpose.

3.04 Records should be maintained on spare parts. The status of requisitions, quantities, series or version numbers for microcoded circuit packs, location (on-site or repair facility), and date checked in system should be recorded.

3.05 A maintenance log should be started to indicate when routine maintenance procedures required by equipment test lists are due and complete.

3.06 A backup tape and disk log must be maintained to indicate which broadcast warning messages were activated when that backup disk or tape was made. Should the backup disk or tape be required to bootstrap the system, all broadcast warning messages activated after the backup disk or tape was made must be reentered in the system.

B. Documentation

3.07 Hardware, software, and procedural documents must be present on-site at cutover. The issue number of each must be correct for the office. Missing or incorrect documentation will be noted on an exception report, and orders will be placed for the correct document. The following lists are presented as a minimum for acceptance. Additional documentation may be desirable.

- Division 254 sections for the 3B20D Model 2 processor

- Schematic drawings (SDs) as required by the 099 specification
- Circuit descriptions corresponding to SDs
- Program listings (PRs)
- Test access documents (PKs)
- Raw data documents (PKs)
- Application input manual or IM-4C000-01
- Application output manual or OM-4C000-01
- Craft Interface User's Guide PA-4C001-01
- Diagnostics User's Guide PA-4C002-01
- Field Update User's Guide PA-4C003-01
- Error Message User's Guide PA-4C004-01
- 3B20D/DMERT Configuration Guide PA-4C005-01
- System Audit Guide PA-4C006-01
- Processor Recovery Messages Guide PA-4C007-01
- System Maintenance Manual PA-4C009-01
- Recent Change and Verify Manual PA-4C010-01.

C. Spare Parts

3.08 Spare parts must be on hand at cutover, must be the correct series or version, and must be tested in the system. There are approximately 50 unique circuit packs of various quantities. Each circuit pack should be verified, upon arrival on-site, that it has the correct series or issue number. For microcoded circuit packs, the microcode version must agree with the microcode required for that application. Spares required, in addition to circuit packs, include power units, fan units, 300-MB spare disk packs (if appropriate), cooling unit and disk drive filters, and terminal. Follow-up action should be taken regularly on spare part requests to insure that adequate spares are available for cutover.

3.09 Spare circuit packs and other units should be swapped into the system for a soak period to determine that they are good spares. Swapping units into the system during the installation and testing interval must be coordinated with WE installers to prevent interruptions should any spare prove faulty. Arrangements may require that swapping spares take place at beginning of a shift when installation activity is reduced. The spare unit should be left in the system for 2 or 3 days. During this soak period, diagnostics should be performed and log files should be monitored for random errors that could be attributed to the circuit pack. Wholesale swapping of circuit packs should not be permitted; however, several unassociated units can be monitored in the same time period. Administrative record keeping is necessary to maintain the status of spare parts.

3.10 Arrangements should be made to replace spare parts loaned to the WE installer. The WE installer should order replacements as used or at least on a weekly basis. Administrative record keeping should include spare parts on loan and status of replacement requisitions.

D. Test Equipment

3.11 Test equipment and accessories needed for an office should be requisitioned to arrive on-site prior to turnover. Some common items may already exist in company inventories.

4. ACCEPTANCE DECISION

A. Successful Acceptance

4.01 A successful acceptance of the 3B20D Model 2 processor is based on the successful completion of the following items.

- (a) Recommended monitor tests (Table A)
- (b) Mandatory monitor tests (Table B)
- (c) Acceptance tests (254-302-808)
- (d) Established records for:
 - (1) Monitor test results (SD-97-1313 and SD-97-1315)
 - (2) Initial broadcast warning message application

- (3) Status of spare parts inventory
- (4) Status of test equipment
- (5) Equipment test list
- (6) Status of documentation
- (e) A joint review of all items with installation participants.

4.02 Passing the criteria established above is considerable evidence that the equipment has been manufactured and installed properly.

B. Conditional Acceptance

4.03 If the acceptance items are not successfully completed, a conditional acceptance is considered a reasonable alternative. The office may elect the conditional acceptance if the impact of nonacceptance on scheduled service is significant. A conditional acceptance should provide that exceptions are mutually agreed on and documented. Acceptance is made subject to the satisfactory resolution of all excepted items.

5. ABBREVIATIONS AND ACRONYMS

5.01 The following abbreviations and acronyms appear in this document.

ABBREVIATIONS	WORDS
BSP	Bell System Practices
HB	Handbook
QA	Quality Assurance
WE	Western Electric