AMARS
NO. 1A AUTOMATIC MESSAGE ACCOUNTING RECORDING CENTER
SUPPLEMENTARY PROCESSOR INTERFACE CABINET
UNIT EXPANSION TO EXISTING SYSTEMS

CONTENTS

1. GENERAL INFORMATION

1.01 This handbook section is used for unit expansion within an existing Supplementary Processor Interface Cabinet on a live billing No. 1A AMARC. If installing a Second Supplementary Processor Interface Cabinet to a live billing No. 1A AMARC, use Handbook 59, Section 204I. On a live billing No. 1A AMARC, if installing a new J1P040V-1, List 2 cabinet and a new unit in the J1P040V-1, List 1 cabinet, execute the steps in Handbook 59, Section 204I for the J1P040V-1, List 2 cabinet, then execute the steps in this section for the new unit in the J1P040V-1, List 1 cabinet.

1.02 This procedure should be done during low traffic periods since simplex operation of the system is required.

1.03 Should troubles be encountered on the active system while performing this procedure, immediately stop any further testing and proceed as follows. If ASYN Unit Diagnostic tests were being performed, return the system to TELCO for their normal system restoral procedures. If 1ACU Unit Diagnostic tests were being performed, execute the steps in the paragraph entitled "End of ACU Loop-Around Tests" before returning the system to TELCO for their normal system restoral procedures.

1.04 The new DEC equipment associated with the new unit(s) in the J1P040V-1 cabinet(s) must be installed and tested by DEC or maintenance personnel prior to the start of this handbook section.

1.05 The TELCO should arrange to have their craft personnel available for performing various system operations during this handbook section procedure.

1.06 The TELCO should arrange to have the DEC or maintenance personnel available for making cable connection in the DEC equipment or authorize Western Electric to perform the cable connections.

1.07 If installing a 1ACU unit, do not route or connect any cables associated with the 1ACU unit and DN11 until instructed to later in this handbook section.

1.08 Cable dress information is located in ED5P285-12.

1.09 Alarms and or printouts may occur when removing or restoring power when making cable changes and changing system states. Billing should not be affected.

2. RECORDS AND REQUIREMENTS

2.1 The Test Trouble Record forms (SD-97-1313 and SD-97-1315) should be used to record all troubles which are encountered when running the tests in this handbook section.

3. TEST EQUIPMENT

3.1 One ITE-5632 Digital Multimeter (or equivalent).

3.2 One ITE-8900 Data Set, Flexport and ACU interface loop-around cable kit.

3.3 SPP-832 Spare Packs Package.

3.4 W. E. Co. Diagnostics on disk (supplied by the TELCO).

4. PRELIMINARY UNIT SET-UP

4.1 Into each position of each new unit being equipped, insert, but do not engage into the backplane, all TN102 circuit packs.

5. CABLING

5.1 Preliminary

5.11 Request that the TELCO craft personnel remove the STANDBY processor to the out-of-service state, place into the PROCESSOR ISOLATE state, HALT the out-of-service processor; then, turn power off to the out-of-service processor by turning its ON/OFF switch on its programmer's console to the 'OFF' position.

5.12 At the J1P040V-1 cabinet(s) that is having a new unit installed, remove power on the PWR SUPP power supply associated with the OOS CPU only.

5.2 Cable Connections on OOS CPU

NOTE: In connecting the ED-5P284-31 cables to the male connector on a DEC circuit board, the triangle on the cable connector (female) should be inserted to mate with the "A" designation on the circuit board. When connecting to the isolation backplane, the triangle must always be on the bottom.

5.21 Route and connect the following cables, only associated with the new unit. If CPU0 is the OOS CPU, connect the appropriate cables as listed in TABLE 1. If CPU1 is the OOS CPU, connect the appropriate cables as listed in TABLE 2.

NOTE 1: DEC or maintenance personnel should make all cable connections in the DEC equipment.

NOTE 2: If installing a 1ACU unit, do not route cable ends to the DN11 equipment at this time (leave in the area of the J1P040V-1, List 2 cabinet).

TABLE 1

			CONNECTED FROM			
DESIG.	GROUP	STAMPED	LOC.	UNIT	CONNECTED TO	STAMPED
CB70-0	68	0ASYN 06-017	06-017	0ASYN	00DZ11B	CPU0 00DZ11B
CB71-0	68	0ASYN 06-049	06-049	0ASYN	01DZ11B	CPU0 01DZ11B
CB72-0	68	0ASYN 06-085	06-085	0ASYN	02DZ11B	CPU0 02DZ11B
CB73-0	68	0ASYN 06-117	06-117	0ASYN	03DZ11B	CPU0 03DZ11B
CB74-0	69	1ASYN 06-017	06-017	1ASYN	04DZ11B	CPU0 04DZ11B
CB75-0	69	1ASYN 06-049	06-049	1ASYN	05DZ11B	CPU0 05DZ11B
CB76-0	69	1ASYN 06-085	06-085	1ASYN	06DZ11B	CPU0 06DZ11B
CB77-0	69	1ASYN 06-117	06-117	1ASYN	07DZ11B	CPU0 07DZ11B
CB78-0	69	2ASYN 06-017	06-017	2ASYN	10DZ11B	CPU0 10DZ11B
CB79-0	69	2ASYN 06-049	06-049	2ASYN	11DZ11B	CPU0 11DZ11B
CB80-0	69	2ASYN 06-085	06-085	2ASYN	12DZ11B	CPU0 12DZ11B
CB81-0	69	2ASYN 06-117	06-117	2ASYN	13DZ11B	CPU0 13DZ11B
CB48-0	73	1ACU 06-017	06-017	1ACU	NOTE 1	CPU0 10DN11DA
CB49-0	73	1ACU 10-017	10-017	1ACU	NOTE 1	CPU0 11DN11DA
CB50-0	73	1ACU 06-049	06-049	1ACU	NOTE 1	CPU0 12DN11DA
CB51-0	73	1ACU 10-049	10-049	1ACU	NOTE 1	CPU0 13DN11DA
CB52-0	73	1ACU 06-085	06-085	1ACU	NOTE 1	CPU0 14DN11DA
CB53-0	73	1ACU 10-085	10-085	1ACU	NOTE 1	CPU0 15DN11DA
CB54-0	73	1ACU 06-117	06-117	1ACU	NOTE 1	CPU0 16DN11DA
CB55-0	73	1ACU 10-117	10-117	1ACU	NOTE 1	CPU0 17DN11DA

NOTE 1: Do not route this end of the cable to the DEC equipment at this time. Leave these cable ends in the vicinity of the J1P040V-1, List 2 cabinet for testing purposes.

TABLE 2

DESIG.	GROUP	STAMPED	CONNECTED FROM LOC.	CONNECTED FROM UNIT	CONNECTED TO	STAMPED
CB70-1	70	0ASYN 10-033	10-033	0ASYN	00DZ11B	CPU1 00DZ11B
CB71-1	70	0ASYN 10-065	10-065	0ASYN	01DZ11B	CPU1 01DZ11B
CB72-1	70	0ASYN 10-101	10-101	0ASYN	02DZ11B	CPU1 02DZ11B
CB73-1	70	0ASYN 10-133	10-133	0ASYN	03DZ11B	CPU1 03DZ11B
CB74-1	71	1ASYN 10-033	10-033	1ASYN	04DZ11B	CPU1 04DZ11B
CB75-1	71	1ASYN 10-065	10-065	1ASYN	05DZ11B	CPU1 05DZ11B
CB76-1	71	1ASYN 10-101	10-101	1ASYN	06DZ11B	CPU1 06DZ11B
CB77-1	71	1ASYN 10-133	10-133	1ASYN	07DZ11B	CPU1 07DZ11B
CB78-1	70	2ASYN 10-033	10-033	2ASYN	10DZ11B	CPU1 10DZ11B
CB79-1	70	2ASYN 10-065	10-065	2ASYN	11DZ11B	CPU1 11DZ11B
CB80-1	70	2ASYN 10-101	10-101	2ASYN	12DZ11B	CPU1 12DZ11B
CB81-1	70	2ASYN 10-133	10-133	2ASYN	13DZ11B	CPU1 13DZ11B
CB48-1	72	1ACU 06-033	06-033	1ACU	NOTE 1	CPU1 10DN11DA
CB49-1	72	1ACU 10-033	10-033	1ACU	NOTE 1	CPU1 11DN11DA
CB50-1	72	1ACU 06-065	06-065	1ACU	NOTE 1	CPU1 12DN11DA
CB51-1	72	1ACU 10-065	10-065	1ACU	NOTE 1	CPU1 13DN11DA
CB52-1	72	1ACU 06-101	06-101	1ACU	NOTE 1	CPU1 14DN11DA
CB53-1	72	1ACU 10-101	10-101	1ACU	NOTE 1	CPU1 15DN11DA
CB54-1	72	1ACU 06-133	06-133	1ACU	NOTE 1	CPU1 16DN11DA
CB55-1	72	1ACU 10-133	10-133	1ACU	NOTE 1	CPU1 17DN11DA

NOTE 1: Do not route this end of the cable to the DEC equipment at this time. Leave these cable ends in the vicinity of the J1P040V-1, List 2 cabinet for testing purposes.

5.3 Cable Connections on the Other CPU

5.31 Preliminary

5.311 At the unit(s) being installed, engage all TN102 circuit packs associated with the present OOS CPU only.

5.312 At the J1P040V-1 cabinet(s) that are having a new unit installed, restore power on the PWR SUPP power supply associated with the present OOS CPU.

5.313 Request that the TELCO restore power to the out-of-service processor using the ON/OFF switch at the programmer's console and then, with the HALT key still depressed, operate the START key once.

5.314 Pulse the circuit packs associated with the OOS CPU in the new units by requesting that the TELCO again place the OOS CPU into the PROCESSOR ISOLATE state without restoring from the PROCESSOR ISOLATE state first. Verify that the "ISOLATED" red LED's on all TN102 circuit packs associated with the OOS CPU in the new units are illuminated.

5.315 Request that the TELCO restore the OOS CPU to the STANDBY state using their normal procedures. Verify that the "STANDBY" amber LED's on all TN102 circuit packs associated with the new STANDBY CPU in the new units are illuminated.

5.316 Request that the TELCO do a system switch using their normal procedures. Verify that the "NORMAL" green LED's on all TN102 circuit packs associated with the new ACTIVE CPU in the new units are illuminated.

5.317 Request that the TELCO remove the new STANDBY processor to the out-of-service state, place into the PROCESSOR ISOLATE state, HALT the out-of-service processor; then, turn the power off to the out-of-service processor by turning its ON/OFF switch on its programmer's console to the "OFF" position.

5.318 At the J1P040V-1 cabinet(s) that are having a new unit installed, remove power on the PWR SUPP power supply associated with the OOS CPU only.

5.32 Cable Connections on New OOS CPU

5.321 Route and connect the following cables, only associated with the new unit(s). If CPU0 is the new OOS CPU, connect the appropriate cables as listed in TABLE 1 (see notes below for exceptions). If CPU1 is the new OOS CPU, connect the appropriate cables as listed in TABLE 2 (see notes below for exceptions).

NOTE 1: If installing a 1ACU unit, do not route cable ends to the DN11 equipment at this time (leave in the vicinity of the J1P040V-1, List 2 cabinet).

NOTE 2: DEC or maintenance personnel should make all cable connections in the DEC equipment.

6. DIAGNOSTIC SET-UP

6.1 Swap and engage all TN102 circuit packs associated with the OOS CPU and the ACTIVE CPU in each new unit being equipped.

6.2 At the J1P040V-1 cabinet(s) that are having a new unit installed, restore power on the PWR SUPP power supply associated with the OOS CPU.

6.3 Pulse the circuit packs in the new units associated with the ACTIVE CPU to the NORMAL state by requesting that the TELCO place the ACTIVE system first into the ISOLATION OVERRIDE ACTIVATE state then into the ISOLATION OVERRIDE RELEASE state.

6.4 Verify that all TN102 circuit packs in the new units have their NORMAL LED's illuminated.

6.5 If a new 1ACU unit and a new ASYN unit(s) are being installed, disengage all TN102 circuit packs in the new ASYN unit(s) only.

6.6 Request that the TELCO install on the OOS CPU the W.E. Co. diagnostic disk pack, boot the diagnostics and be ready to execute selected diagnostic programs when requested.

7. DIAGNOSTIC GENERAL

7.1 General

7.11 If a new 1ACU unit is being installed, execute the steps in the paragraph entitled, "1ACU Unit Diagnostics." If a new ASYN unit(s) is being installed, execute the steps in the paragraph entitled, "ASYN Unit Diagnostics". If a new 1ACU and ASYN unit(s) are being installed, execute the "1ACU Unit Diagnostics" paragraph steps first, followed by the "ASYN Unit Diagnostics" paragraph for each new ASYN unit.

8. 1ACU Unit Diagnostics

8.1 General and Precautions

8.11 Only execute the steps in this paragraph if installing a new 1ACU unit.

8.12 Should troubles be encountered on the Active system while performing the steps in this paragraph, immediately stop any further testing and proceed to execute the steps in the paragraph entitled, "End of ACU Loop-Around Tests" before returning the system to TELCO for their normal system restoral procedures.

8.13 The "async.dsif" diagnostic will be used to perform the ACU Interfaces Loop-Around tests. This diagnostic will be run in the 'q' mode of operation specifying only multiplexor 10.

8.14 The ACU Interface Loop-Around cables from the ITE-8900 package consists of the following three items:

a) The first item has three connectors, one 50 pin connector and two 40 pin connectors. Cable CB78-X (where X = OOS CPU number) will be plugged into the 50 pin connector in Paragraph 9.15 and remains in place until all ACU loop-around tests have been completed. The cables to be plugged into the 40 pin connectors are listed in TABLE 3 and are dependent on the test number and the CPU side of the 1ACU unit under test.

8.14 (Cont'd)

b) The other two items consist of EIA connectors wired internally to produce a loop-around. The designation on these connectors are "ACU (2N-2)" and "ACU (2N-1)." These connectors are plugged into the appropriate locations listed in Table 3, dependent on the test number.

8.2 1ACU Diagnostic Procedure

8.21 If CPU0 is the OOS CPU, disconnect the cable CB78-0 from the 2ASYN unit location 06-017. If CPU1 is the OOS CPU, disconnect the cable CB78-1 from the 2ASYN unit location 10-033. Connect this cable end, just removed, into the 50 pin connector on the ACU Interface Loop-around from the ITE-8900. Leave this cable connected until all the 1ACU unit positions have been tested.

8.22 Refer to TABLE 3. Connect the appropriate cables into the 40 pin connectors on the ACU interface loop-around for the test number to be executed associated with the CPU0 side of the J1P040V-1, List 2 cabinet. Connect the ACU (2N-2) and ACU (2N-1) connectors to the appropriate connectors for the test number to be executed.

NOTE: Start with test number 1.

8.23 Request the TELCO to execute, on the OOS CPU, the "async.dsif" diagnostic in the "q" mode for multiplexor 10 only. Also select the "d" and "p" options.

IMPORTANT NOTE: The TN102 circuit packs in the 1 ACU unit under test must be in the NORMAL green state. This was done in the "Diagnostic Set-Up paragraph. During the execution of the diagnostic test, a message will be printed indicating that the processor must be in the isolation state. Respond to this message by indicating that the processor is in the isolation state, even though the TN102 circuit packs are in the NORMAL state. DO NOT attempt to place the CPU into the isolation state during any portion of these loop-around tests.

8.24 The diagnostic program will now be executing. Examine the printout. If the diagnostic test failed, refer to the DZ11 manual for detailed trouble analysis and re-execute the diagnostic test using the same cable arrangement.

8.25 If the diagnostic tests pass: Disconnect the cables from the 40 pin connectors on the ACU interface loop-around. Refer to TABLE 3. Connect the appropriate cables into the 40 pin connectors on the ACU Interface Loop-Around for the same test number as in Paragraph 8.22 but associated with the CPU1 side of the 1ACU unit. (NOTE: no need to change connectors ACU (2N-2) and ACU (2N-1) until the next test number). Request the TELCO to re-execute the same diagnostic program (re-execute Paragraph 8.23 and 8.24).

TABLE 3

ACU INTERFACE LOOP-AROUND

TEST NO. (N) (OCTAL)	CABLE DESIG. TO BE PLUGGED INTO ITE ACU INTERFACE LOOP-AROUND (SEE NOTE 1) CONN 1.	CONN. 2	ITE ACU INTERFACE LOOP-AROUND PLUG. PLUG INTO: ACU (2N-2) UNIT	LOC.	ACU (2N-1) UNIT	LOC.	ACU CHANNELS UNDER TEST (OCTAL)	TN 102 UNDER TEST UNIT	LOC. IF CPU0	LOC. IF CPU1
1	CB48-X	CB49-X	1ACU	02-016	1ACU	02-032	10 & 11	1ACU	08-022	08-038
2	CB50-X	CB51-X	1ACU	02-048	1ACU	02-064	12 & 13	1ACU	08-054	08-070
3	CB52-X	CB53-X	1ACU	02-080	1ACU	02-096	14 & 15	1ACU	08-010	08-106
4	CB54-X	CB55-X	1ACU	02-112	1ACU	02-128	16 & 17	1ACU	08-122	08-138

NOTE 1: The X represents a '0' or '1' depending on which CPU side of the 1ACU Unit is under test.

8.26 If the diagnostic tests pass, repeat the procedure listed in Paragraphs 8.22 through 8.26 until all test numbers and both CPU sides of the 1ACU unit have been tested.

8.27 End of ACU Loop-Around Test

8.271 Remove the DN11 cables from the 40 pin connectors on the ACU Interface Loop-Around. Remove the ACU (2N-2) and ACU (2N-1) connectors. These cables and connectors were left in place from the last test.

8.272 Remove cable CB78-X (where X = OOS CPU number) from the 50 pin connector on the ACU Interface Loop-Around and connect as follows: If testing was being done from CPU0, connect cable CB78-0 to the 2ASYN unit location 06-017. If testing was being done from CPU1, connect cable CB78-1 to the 2ASYN unit location 10-033.

8.273 Request the TELCO to execute, on the OOS CPU, the "async.dsif" diagnostic for multiplexor 10. This time place the system into the ISOLATION state when requested. This step is used to verify the proper reconnection of cable CB78-X (where X = OOS CPU number), in case a system restoral is requested by the TELCO.

8.3 Install DN11 Cables on the OOS CPU

8.31 Request the TELCO to perform the following steps on the OOS CPU: HALT, place in the PROCESSOR ISOLATE state and remove its power by turning its power switch to the 'OFF' position.

8.32 Turn the power switch associated with OOS CPU on the 2 PWR SUPP power supply to the 'OFF' position.

8.33 Route the DN11 cables associated with the OOS CPU to the associated DEC equipment cabinet. Refer to TABLE 1 or TABLE 2 depending on which processor is OOS.

8.34 Request that the DEC or maintenance personnel connect the DN11 cables to the approrpiate DN11 as indicated on the cable stamping in the OOS CPU only.

8.35 Turn the power switch associated with the OOS CPU on the 2 PWR SUPP power supply to the 'ON' position.

8.36 Request the TELCO to restore power to the OOS CPU.

8.4 Install DN11 Cables on New OOS CPU

8.401 If installing a new ASYN unit(s) in addition to the 1ACU unit, proceed to the paragraph entitled, "ASYN Unit Diagnostics." Continue with the following paragraphs only if not installing a new ASYN unit.

8.402 Request the TELCO to remove the W.E. Co. diagnostic disk pack on the OOS CPU and install their AMA billing disk.

NOTE: Both sides of the 1ACU unit have been tested. No additional testing will be needed using the W.E. Co. designation disk pack.

8.403 Verify that all TN102 circuit packs in the 1ACU unit associated with the OOS CPU indicate an ISOLATED red LED indication and those associated with the ACTIVE CPU indicate a NORMAL green LED indication.

8.404 Request the TELCO to restore the OOS CPU to the STANDBY state using their normal procedure. Verify that all TN102 circuit packs in the J1P040V-1, List 2 cabinet associated with the standby CPU have their amber 'STANDBY' LED's illuminated.

8.405 Request the TELCO to do a system switch. Verify that all TN102 circuit packs in the J1P040V-1, List 2 cabinet associated with the new ACTIVE side have their green 'NORMAL' LED's illuminated and those associated with the new STANDBY side have their amber 'STANDBY' LED's illuminated.

8.406 Request the TELCO to remove the new Standby CPU to the OOS state, place the OOS CPU into the PROCESSOR ISOLATE state, HALT and remove its power by turning its power switch on the programmer's console to the 'OFF' position.

8.407 Verify that all TN102 circuit packs in the J1P040V-1, List 2 cabinet associated with the OOS CPU have their red ISOLATED LED's illuminated and those associated with the ACTIVE CPU have their green NORMAL LED's illuminated.

8.408 Turn the power switch associated with the OOS CPU on the 2 PWR SUPP power supply to the 'OFF' position.

8.409 Route the DN11 cables associated with the OOS CPU to the associated DEC equipment cabinet. Refer to TABLE 1 or TABLE 2 depending on which processor is OOS.

8.410 Request that the DEC or maintenance personnel connect the DN11 cables to the appropriate DN11 as indicated on the cable stamping in the OOS CPU only.

8.411 Turn the power switch associated with the OOS CPU on the 2 PWR SUPP power supply to the ON position.

8.412 Request the TELCO to restore power to the OOS CPU.

8.413 Proceed to the paragraph entitled, "Final Cabling."

9. ASYN UNIT DIAGNOSTICS

9.1 General

9.11 Only execute the steps in this paragraph if installing a new ASYN unit(s).

9.12 The data set loop-around tests will utilize the data set loop-around cables contained in the ITE-8900 package.

NOTE: The LED in each connector should illuminate as the connector is inserted.

9.13 The "async.dsif" diagnostic program will be executed with all associated TN102 circuit packs, in the new ASYN(s) unit associated with the OOS CPU, in the NORMAL state. DO NOT attempt to place the CPU in the isolation state during any portion of the Data Set Loop-around tests.

9.14 One multiplexor will be tested at a time. Only the side of the new ASYN(s) unit associated with the OOS CPU will be tested.

9.2 Data Set Loop-Around Tests

9.21 If a new 1ACU unit had just been installed earlier in this handbook section, engage all TN102 circuit packs associated with the OOS CPU in the new ASYN unit(s).

9.22 Install the data set loop-around cables contained in the ITE-8900 package as listed in Table 4 for the first multiplexor in one of the new ASYN units.

9.23 Request the TELCO to execute, on the OOS CPU, the "async.dsif" diagnostic in the "q" mode of for the multiplexor under test. Also select the "d" and "p" options.

IMPORTANT NOTE: The TN102 circuit packs in the ASYN unit associated with the OOS CPU must be in the NORMAL green state. This was done in an earlier paragraph. During the execution of the diagnostic test, a message will be printed indicating that the processor must be in the isolation state. Respond to this message by indicating that the processor is in the isolation state, even though the TN102 circuit packs are in the NORMAL state. Do not attempt to place the CPU into the isolation state during any portion of the Data Set Loop-Around tests.

9.24 If the multiplexor tests fail, refer to the detailed printouts and the DZ11 manuals. Also refer to the SD for cable and circuit pack information.

9.25 After the multiplexor tests pass, remove the ITE-8900 cables.

9.26 Refer to TABLE 4. Reconnect the ITE-8900 cables for the next multiplexor to be tested in the new ASYN unit under test.

9.27 Repeat the steps in Paragraph 9.23 through Paragraph 9.26 until all multiplexors in the ASYN unit under test have been tested.

9.28 Repeat the steps in Paragraphs 9.23 through 9.27 for each remaining new ASYN unit, if applicable.

9.3 Multiplexor Tests in the Isolation State

9.31 Request the TELCO to execute, on the OOS CPU, the "async.dsif" diagnostic in the "q" mode of operation for all equipped multiplexors in one of the new ASYN units.

9.31 (Cont'd)

IMPORTANT NOTE: This time, when the diagnostic requests that the system be placed in the isolation state, DO isolate the processor. When the processor is isolated, all TN102 circuit packs in the new units associated with the OOS side must have their red "ISOLATED" LED's illuminated.

9.32 Examine the printout for errors. Re-execute any failing diagnostic test. Refer to the DZ11 manual and SD's for detailed trouble shooting.

9.33 Repeat the steps in Paragraph 9.31 through Paragraph 9.32 for each remaining new ASYN unit, if applicable.

9.34 Request that the TELCO terminate the diagnostic program. The TELCO can now remove the diagnostic disk pack and replace it with the AMA disk pack.

NOTE: The diagnostic disk pack will be used again later in this handbook section.

9.35 Request the TELCO to release the OOS CPU from the PROCESSOR ISOLATE state or INTERFACE ISOLATE state, if necessary.

9.4 ASYN Unit Diagnostics - Other CPU

9.41 Request the TELCO to restore the OOS CPU to the Standby state using their normal proceudres. Verify that all TN102 circuit packs in the new ASYN unit(s) and new 1ACU unit, if applicable, associated with the Standby CPU, have their amber STANDBY LED's illuminated.

9.42 Request the TELCO to do a system switch. Verify that all TN102 circuit packs in the new ASYN unit(s) and new 1ACU unit, if applicable, associated with the new Active CPU, have their green NORMAL LED's illuminated.

9.43 Request the TELCO to remove the Standby CPU to the OOS state.

9.44 Request that the TELCO install, on the OOS CPU, the W.E. Co. diagnostic disk pack, boot the diagnostics and be ready to execute selected diagnostics when requested.

9.5 Data Set Loop-Around Tests - Other CPU

9.51 Repeat the tests in Paragraph 9.2 through Paragraph 9.34.

TABLE 4

DATA SET LOOP-AROUND
ITE-8900 CABLE CONNECTIONS

FOR MUX #	CONNECTOR END MARKED							
	CHL--0	CHL--1	CHL--2	CHL--3	CHL--4	CHL--5	CHL--6	CHL--7
	CONNECT IN V0 CABINET (0 ASYN) TO EQUIPMENT LOCATION							
00	02-016	14-016	02-024	14-024	02-032	14-032	02-040	14-040
01	02-048	14-048	02-056	14-056	02-064	14-064	02-072	14-072
02	02-080	14-080	02-088	14-088	02-096	14-096	02-104	14-104
03	02-112	14-112	02-120	14-120	02-128	14-128	02-136	14-136
	CONNECT IN V0 CABINET (1 ASYN) TO EQUIPMENT LOCATION							
04	02-016	14-016	02-024	14-024	02-032	14-032	02-040	14-040
05	02-048	14-048	02-056	14-056	02-064	14-064	02-072	14-072
06	02-080	14-080	02-088	14-088	02-096	14-096	02-104	14-104
07	02-112	14-112	02-120	14-120	02-128	14-128	02-136	14-136
	CONNECT IN V1 CABINET (2 ASYN) TO EQUIPMENT LOCATION							
10	02-016	14-016	02-024	14-024	02-032	14-032	02-040	14-040
11	02-048	14-048	02-056	14-056	02-064	14-064	02-072	14-072
12	02-080	14-080	02-088	14-088	02-096	14-096	02-104	14-104
13	02-112	14-112	02-120	14-120	02-128	14-128	02-136	14-136

9.6 Connect DN11 Cables in New OOS CPU

9.61 Procedure

9.611 Only execute these steps if a new 1ACU unit had been installed earlier in the handbook section.

9.612 Request the TELCO to remove power from the OOS CPU.

9.613 Connect the DN11 cables for the new 1ACU unit by repeating the steps in Paragraph 8.408 through Paragraph 8.412 on the new OOS CPU.

10. FINAL CABLING

10.1 Request TELCO to verify or place, if necessary, the OOS CPU into the PROCESSOR ISOLATED state. Verify that all TN102 circuit packs associated with the OOS CPU in the new ASYN unit(s) and 1ACU unit, if applicable, have their red "ISOLATED" LED's illuminated. Also, verify that all TN102 circuit packs associated with the ACTIVE CPU are in the green NORMAL state.

10.2 Request the TELCO to place the ACTIVE CPU into the ISOLATION OVERRIDE state.

NOTE: This may produce error printouts and/or alarms on the active side at regular intervals. Billing should not be affected. Retire alarms, if necessary.

10.3 Refer to ED5P285-12 TABLE E (variable cable connecting information). Carefully, connect the associated cables, as listed in the ED drawing, to reflect the new equipment configuration in the affected cabinets.

NOTE: This may produce error printouts and/or alarms on the active side at regular intervals. Billing should not be affected. Retire alarms if necessary.

10.4 Request the TELCO to place the ACTIVE CPU into the ISOLATION OVERRIDE RELEASE state. Verify that the NORMAL LED on the Main Alarm Control and Display Panel associated with the ACTIVE CPU is illuminated. Do not proceed until this condition is met.

NOTE: Retire alarms if necessary.

10.5 Request the TELCO to remove the OOS CPU from the PROCESSOR ISOLATE state. Verify that the NORMAL LED on the Main Alarm Control and Display Panel associated with the OOS CPU is illuminated. Do not proceed until this condition is met.

NOTE: Retire alarms if necessary.

11. FINAL SYSTEM TESTS

11.1 General Procedure Instructions

1.11 Read all parts of the General Procedure Instructions before starting testing.

11.12 Disregard the alarms generated when disengaging and reengaging TN102 circuit packs for testing purposes. Billing should not be affected.

11.13 Without removing power, disengage the TN102 circuit pack at location 08-122 in one of the new expansion units. Verify that the green NORMAL LED associated with CPU0 on the Main Alarm Control and Display Panel extinguishes.

11.14 Without removing power, reengage the TN102 circuit pack. Verify that the green NORMAL LED associated with CPU0 on the Main Alarm Control and Display Panel illuminates.

11.15 Without removing power disengage the TN102 circuit pack at location 08-138 in one of the new expansion units. Verify that the green NORMAL LED associated with CPU1 on the Main Alarm Control and Display Panel extinguishes.

11.16 Without removing power, reengage the TN102 circuit pack. Verify that the green NORMAL LED associated with CPU1 on the Main Alarm Control and Display Panel illuminates.

11.17 Repeat the steps in Paragraph 11.12 through Paragraph 11.16 for each remaining new expansion unit, if applicable.

11.2 Procedure

11.21 With the system in its present configuration, perform the steps in the General Procedure Instructions.

11.22 Request the TELCo to perform the following system functions, then perform the steps in the General Procedure Instructions after entering each new system configuration.

11.221 Restore the OOS CPU to STANDBY.

11.222 Perform a system switch.

11.223 Remove the new STANDBY CPU to OOS.

11.3 Conclusion

11.31 This marks to end of testing in this handbook section. The TELCo can now restore the OOS CPU to STANDBY, if desired.

Manager, Product Engineering
Control Center

Reason for Reissue:
To add configuration hardware to check cables and paths through TN102 circuit packs.