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SLC® Series 5 Carrier System

Central Office Terminal

Acceptance and Turnup

Task Oriented Practice (TOP)

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CAUTION

With the introduction of additional features for the Series 5 system, it becomes imperative that personnel turning up a COT bank assembly use care when making settings on CPs (circuit packs) being installed and ensure that the correct codes of CPs are installed into the proper slots in the COT bank assembly. Failure to observe these cautions may result in immediate or future loss of service or may introduce errors into the digital bitstream. Accurate facility records should be used to determine correct CP code, bank slot position, and to make all CP option switch settings. There are

several indications that the craft may use to determine whether an error has been made during COT bank turnup:

- *When a CP is installed, the CP's FAIL indicator (LED) should be observed to insure that it comes on momentarily, then goes off. The absence of this JPU (just powered up) indication should cause the craft to check for proper CP type, option settings, and location.*

- *A misplaced or mis-set CP should always cause the associated digroup indicator (on the BCU) to light.*

- *If the FAIL LED stays on following the installation of a common unit, the CP is probably failed or in the wrong position. This indication does not always occur due to system design.*

- *The following procedure may be used when a problem is indicated (as above) following installation of a CP. A simple verification of craft error may be made as follows: While observing the FAIL LED on the CP just installed, depress the ADU LAMP TEST switch. With the exception of an ADU CP, if option switches on the CP just installed are set incorrectly, the FAIL LED on the CP will not light.*

A block diagram of the various feature package arrangements available for the SLC Series 5 carrier system is shown in FIG. 1.

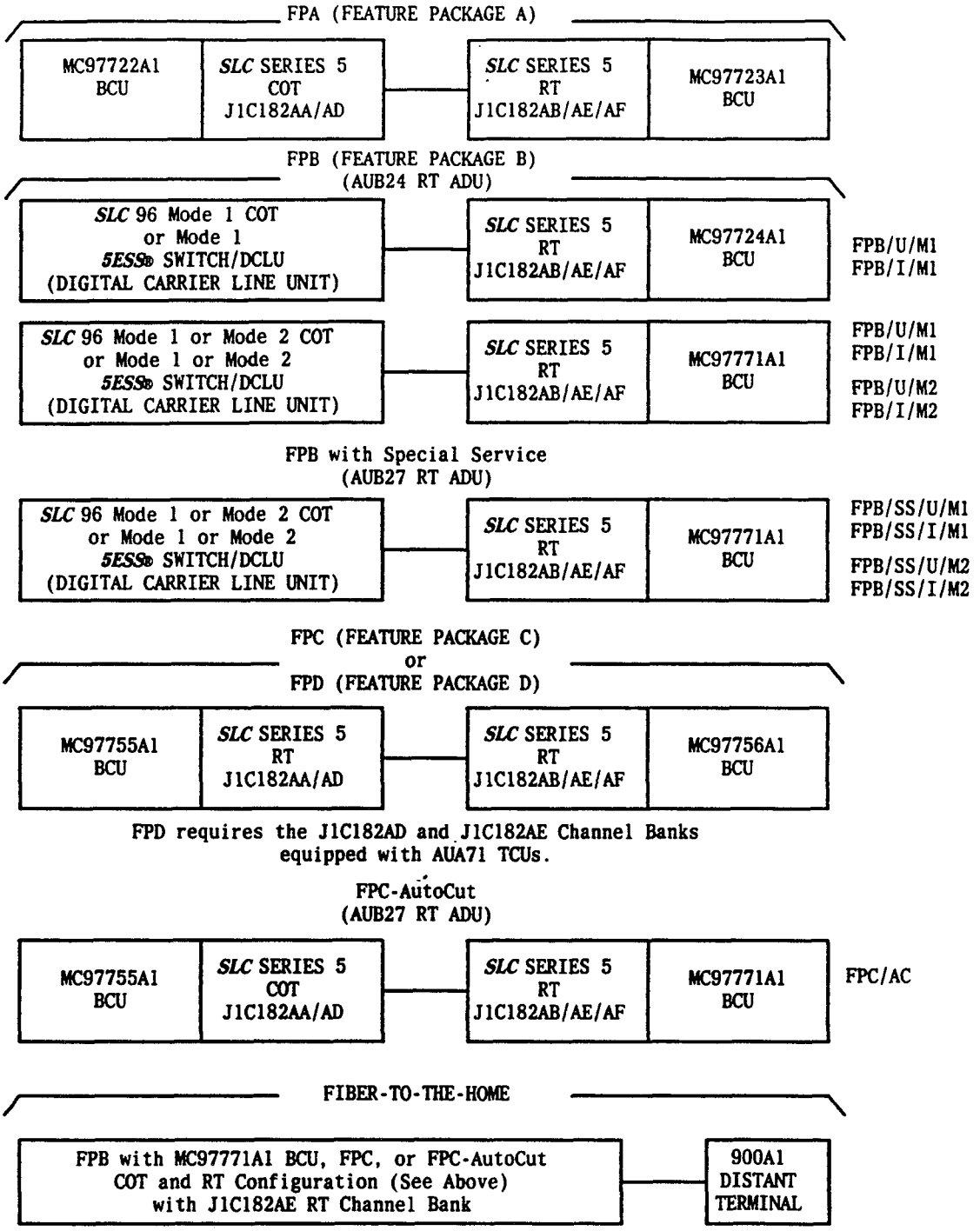


Figure 1—Feature Package Arrangements

ACCEPTANCE

GENERAL

Acceptance tests are performed on the COT (central office terminal) and bay to ensure proper installation procedures have been performed and to test factory wired power circuits. These acceptance tests verify:

- That the proper power wiring has been provided to the bay
- That fault locate and order wire are properly wired (if required)
- That equipment shelves are free of defects or damage
- That factory wired power circuits are properly connected.

The acceptance tests generally assume:

- That accurate and concise system designations and office records are available to properly identify system and equipment
- That any trouble found and not corrected during testing is referred to the responsible installation group
- That the test equipment used is available, properly tested, and working properly.

The procedure for performing acceptance tests is listed in NTP-003.

ACCEPT CENTRAL OFFICE TERMINAL AND BAY

DO ITEMS BELOW IN ORDER LISTED . . .	FOR DETAILS, GO TO
1 *Note:* If listed test equipment is not available, it will be necessary to refer to manufacturer's operating manual of available set for testing method. Get support apparatus listed: • DMM (digital multimeter) with an accuracy of 1.0% and an AC/DC input impedance of ≥ 1 megohm.	
2 Perform overall visual inspection of COT.	DLP-501
3 Check incoming supply voltage at circuit breaker.	DLP-502
4 Check incoming ringing supply voltage [COT equipped for FPC (Feature Package C) or FPD capability only].	DLP-528
5 *Note:* External clock wiring will only be present when system is being conditioned for DDS (digital data service) using dataport channel units (COT equipped for FPC or FPD capability only). Verify external clock wiring at COT.	DLP-527

TURN UP SERIES 5 COT EQUIPPED FOR FEATURE PACKAGE A CAPABILITY OR ADD TO EXISTING COT

DO ITEMS BELOW IN ORDER LISTED . . . FOR DETAILS, GO TO

1 *Note:* This procedure assumes the following:

- The frame that houses the COT has been installed.
- The J1C182AA or J1C182AD dual bank assembly has been installed in the frame.
- Powering connections have been made at rear of J1C182AA or J1C182AD assembly.
- The acceptance procedures in this volume have been performed.

This procedure contains instructions concerning the installation of the various units into the COT assembly shelves and for verifying that the units are operating properly.

2 *Note:* This procedure allows equipping and testing of a dual bank assembly during initial installation or when adding to an existing dual bank assembly. During initial installation, the entire dual bank assembly or only a portion of it can be equipped and tested as long as the blue (lower) bank is equipped first. When equipping either the blue or white bank, the AB shelf (lower) must be equipped first. Both banks in a dual bank assembly must also be identically equipped.

Get support apparatus listed:

- DMM (digital multimeter) with an accuracy of 1.0% and an AC/DC input impedance of ≥ 1 megohm.

3 ***Warning: An electrostatic discharge wrist strap, with a minimum resistance of 250K Ohms, should be worn when handling SLC Series 5 circuit packs to prevent possible damage to the circuit packs. Before using the wrist strap, check it for opens, shorts, and minimum resistance value. If the strap does not pass these checks, it should not be used.***

Note: The term "facility shelf" is used throughout this procedure to refer to the middle shelf of the Series 5 COT. The remaining shelves will be referenced according to digroup name (for example, AB shelf contains digroups A and B). White system (bank) refers to the two upper shelves of the Series 5 COT plus the right half of the facility shelf and blue system (bank) refers to the two lower shelves of the Series 5 COT plus the left half of the facility shelf.

If AB shelf in blue (lower) bank is being equipped, proceed to Step **5**.
Otherwise, continue with Step **4**.

DO ITEMS BELOW IN ORDER LISTED . . .	FOR DETAILS, GO TO
4 If CD shelf in blue (lower) or white (upper) bank is being equipped, proceed to Step 21. Otherwise, continue with Step 8.	
5 ***Caution: Removal of heat coils or protector units from in-service lines will cause service interruption.*** ***Note:*** If transmission media is other than T1 digital lines, it will be necessary to open transmission media from COT. Remove digital line heat coils or protector units from MDF (main distributing frame) (if outside cable pairs have been closed through to COT).	
6 ***Caution: Service interruption will occur if circuit breakers to in-service banks are operated.*** Verify that circuit breakers associated with bank(s) being installed are operating properly.	DLP-504
7 ***Note:*** The **ASU** (alarm suppressor unit) is required only when both white and blue banks are not being equipped at the same time. Install **ASU** in white bank.	DLP-524
8 Verify, per work order, that the correct complement of circuit packs is available.	DLP-531
9 ***Note:*** Two **CFUs** (channel fuse units) are required for successful system operation. Install (if not previously installed) and check fuses in two **39E CFUs**.	DLP-505
10 ***Note:*** The **LFU** (line fuse unit) is not required in a COT bank being connected to a multiplexer if the multiplexer is not a DDM-1000 Multiplexer. Install (if not previously installed and if required) and check fuses in **39F LFU** in facility shelf.	DLP-506
11 Install and test **PCU** (power converter unit) in facility shelf (if not previously installed).	DLP-507
12 Install **AIU** (alarm interface unit) (if not previously installed).	DLP-508
13 ***Note:*** One **ADU** (alarm display unit) is required for each channel bank. Install **ADU**.	DLP-509
14 ***Note:*** One **BCU** (bank control unit) is required for each channel bank. Install **BCU**.	DLP-510
15 Install equipped option in **ADU** (for shelf groups being equipped).	DLP-511
16 Install and test **PCUs** in white and blue bank AB shelves (if not previously installed).	DLP-512
17 Install **TRU** (transmit/receive unit) in AB shelf.	

DO ITEMS BELOW IN ORDER LISTED . . .	FOR DETAILS, GO TO
18 *Note:* All DS1 **LIU**s (line interface units) in the same bank should have identical option switch settings. Install **LIU** in **LIU-A** slot in facility shelf after making option, equalizer, and transmit pad settings.	DLP-514
19 *Note:* All **LIU**s in the same bank should have identical option switch settings. Install DS1 **LIU** in **LIU-B** slot in facility shelf after making option, equalizer, and transmit pad settings.	DLP-514
20 If equipping additional shelves in the dual bank assembly, proceed to Step **21**. Otherwise, proceed to Step **27**.	
21 *Note:* The AB shelf in the channel bank being equipped must be equipped before the CD shelf. If adding to an existing bank with A and B digroups already in service, alarms will also be generated at the RT location due to C and D digroup installation activity at the COT. Install equipped option in **ADU** for CD shelf (if not previously installed).	DLP-525
22 Verify, per work order, that minimum complement of circuit packs is available (if not done previously).	DLP-531
23 Install and test **PCU** in CD shelf.	DLP-516
24 Install **TRU** in CD shelf.	DLP-517
25 *Note:* All **LIU**s in the same bank should have identical option switch settings. Install DS1 **LIU** in **LIU-C** slot in facility shelf after making option, equalizer, and transmit pad settings.	DLP-514
26 *Note:* All **LIU**s in the same bank should have identical option switch settings. Install DS1 **LIU** in **LIU-D** slot in facility shelf after making option, equalizer, and transmit pad settings.	DLP-514
27 If protection switching is desired, install associated **LSU** (line switch unit) in facility shelf. Otherwise, continue with Step **29.**	DLP-520
28 *Note:* All **LIU**s in the same bank should have identical option switch settings. Install DS1 **LIU** (if required) in **LIU-P** slot in facility shelf after making option, equalizer, and transmit pad settings.	DLP-514
29 *Note:* The **CTU** (channel test unit) is used with the PGTC (pair gain test controller) to enable repair service bureau testing of channel units and subscriber lines beyond the remote terminal. Install **CTU** (if the PGTC is used for remote testing and **CTU** has not been previously installed).	DLP-522

DO ITEMS BELOW IN ORDER LISTED . . . FOR DETAILS, GO TO

30	Perform COT indicator test.	DLP-526
31	***Note:*** This step can be performed only if COT digital lines are connected to a DSX cross-connect.	
	If COT is connected to DSX cross-connect, perform DSX cross-connect loopback test.	DLP-523
32	If equipping additional shelves in dual bank assembly, proceed to Step **13**. Otherwise, continue with Step **33**.	
33	Update office records.	

TURN UP SERIES 5 COT EQUIPPED FOR FEATURE PACKAGE C OR FEATURE PACKAGE C-AUTOCUT CAPABILITY OR ADD TO EXISTING COT

DO ITEMS BELOW IN ORDER LISTED . . . FOR DETAILS, GO TO

1 *Note:* This procedure assumes the following:

- The frame that houses the COT has been installed.
- The J1C182AA or J1C182AD dual bank assembly has been installed in the frame.
- Powering connections have been made at rear of J1C182AA or J1C182AD assembly.
- The acceptance procedures in this volume have been performed.

This procedure contains instructions concerning the installation of the various units into the COT assembly shelves and for verifying that the units are operating properly.

2 *Note:* This procedure allows equipping and testing of a dual bank assembly during initial installation or when adding to an existing dual bank assembly. During initial installation, the entire dual bank assembly or only a portion of it can be equipped and tested as long as the blue (lower) bank is equipped first. When equipping either the blue or white bank, the AB shelf (lower) must be equipped first. Both banks in a dual bank assembly must also be identically equipped.

Get support apparatus listed:

- DMM (digital multimeter) with an accuracy of 1.0% and an AC/DC input impedance of 1 megohm or more.

3 ***Warning: An electrostatic discharge wrist strap, with a minimum resistance of 250K Ohms, should be worn when handling SLC Series 5 circuit packs to prevent possible damage to the circuit packs. Before using the wrist strap, check it for opens, shorts, and minimum resistance value. If the strap does not pass these checks, it should not be used.***

Note: The term "facility shelf" is used throughout this procedure to refer to the middle shelf of the Series 5 COT. The remaining shelves will be referenced according to digroup name (for example, AB shelf contains digroups A and B). White system (bank) refers to the two upper shelves of the Series 5 COT plus the right half of the facility shelf and blue system (bank) refers to the two lower shelves of the Series 5 COT plus the left half of the facility shelf.

DO ITEMS BELOW IN ORDER LISTED . . . FOR DETAILS, GO TO

	If AB shelf in blue (lower) channel bank is being equipped, proceed to Step 5. Otherwise, continue with Step 4.	
4	If CD shelf in blue (lower) or white (upper) channel bank is being equipped, proceed to Step 21. Otherwise, continue with Step 8.	
5	***Caution: Removal of heat coils or protector units from in-service lines will cause service interruption.***	
	Note: If transmission media is other than T1 digital lines, it will be necessary to open transmission media from COT.	
	Remove digital line heat coils or protector units from MDF (main distributing frame) (if outside cable pairs have been closed through to COT).	
6	***Caution: Service interruption will occur if circuit breakers to in-service banks are operated.***	
	Verify that circuit breakers associated with bank(s) being installed are operating properly.	DLP-504
7	***Note:*** The **ASU** (alarm suppressor unit) is required only when both white and blue banks are not being equipped at the same time.	
	Install **ASU** in white bank.	DLP-524
8	Verify, per work order, that the correct complement of circuit packs is available.	DLP-531
9	***Note:*** Two **CFUs** (channel fuse units) are required for successful system operation.	
	Install (if not previously installed) and check fuses in two **39E CFUs**.	DLP-505
10	***Note:*** The **LFU** (line fuse unit) is not required in a COT bank being connected to a multiplexer if the multiplexer is not a DDM-1000 Multiplexer.	
	Install (if not previously installed and if required) and check fuses in **39F LFU** in facility shelf.	DLP-506
11	Install and test **PCU** (power converter unit) in facility shelf (if not previously installed).	DLP-507
12	Install **AIU** (alarm interface unit) (if not previously installed).	DLP-508
13	***Note:*** One **ADU** (alarm display unit) is required for each channel bank.	
	Install **ADU**.	DLP-509
14	***Note:*** One **BCU** (bank control unit) is required for each channel bank.	
	Install **BCU**.	DLP-510
15	Install equipped option in **ADU** (for shelf groups being equipped).	DLP-511
16	Install and test **PCUs** (power converter units) in white and blue AB shelves (if not previously installed).	DLP-512

DO ITEMS BELOW IN ORDER LISTED . . . FOR DETAILS, GO TO

17	Install **TRU** (transmit/receive unit) in AB shelf.	DLP-513
18	***Note:*** All **LIUs** (line interface units) in the same bank should have identical option switch settings. For FPC-AutoCut all digital lines should go through a DSX-1 cross-connect bay and ORB (office repeater bay) to prepare for when the system is cutover to the *5ESS*® switch DCLU (Digital Carrier Line Unit) equipment. Therefore; AUA61[ ] type LIUs should be used.	
	Install DS1 **LIU** in **LIU-A** slot in facility shelf after making option, equalizer, and transmit pad settings.	DLP-514
19	***Note:*** All **LIUs** in the same bank should have identical option switch settings.	
	Install DS1 **LIU** in **LIU-B** slot in facility shelf after making option, equalizer, and transmit pad settings.	DLP-514
20	If equipping additional shelves in the dual bank assembly, proceed to Step **21**. Otherwise, proceed to Step **27**.	
21	***Note:*** The AB shelf in the channel bank being equipped must be equipped before the CD shelf. If adding to an existing bank with A and B digroups already in service, alarms will also be generated at the RT location due to C and D digroup installation activity at the COT.	
	Install equipped option in **ADU** for CD shelf (if not previously installed).	DLP-525
22	Verify, per work order, that minimum complement of circuit packs is available (if not done previously).	DLP-531
23	Install and test **PCU** in CD shelf.	DLP-516
24	Install **TRU** in CD shelf.	DLP-517
25	***Note:*** All **LIUs** in the same bank should have identical option switch settings.	
	Install DS1 **LIU** in **LIU-C** slot in facility shelf after making option, equalizer, and transmit pad settings.	DLP-514
26	***Note:*** All **LIUs** in the same bank should have identical option switch settings.	
	Install DS1 **LIU** in **LIU-D** slot in facility shelf after making option, equalizer, and transmit pad settings.	DLP-514
27	If protection switching is desired, install associated **LSU** (line switch unit) in facility shelf. Otherwise, continue with Step **29.**	DLP-520
28	***Note:*** All **LIUs** in the same bank should have identical option switch settings.	
	Install DS1 **LIU** (if required) in **LIU-P** slot in facility shelf after making option, equalizer, and transmit pad settings.	

DO ITEMS BELOW IN ORDER LISTED . . .	FOR DETAILS, GO TO
29 *Note:* The **AUB5 CTU** (channel test unit) is used with the XTC (extended test controller) to enable remote testing of channel units and subscriber lines beyond the remote terminal.	
Install **CTU** (if the XTC or PGTC is used for remote testing and **CTU** has not been previously installed).	DLP-522
30 Install **DTU** (digital test unit) in facility shelf (if not previously installed).	DLP-529
31 If an XTC is available for testing the channel bank being equipped, it is recommended that the XTC fan-out unit functional test be performed from the XTC per AT&T 363-205-300.	
32 *Note:* One **OTU** (office timing unit) is required for each bank that is to be equipped with one or more dataport channel units.	
Install **OTU** (if required and not previously installed).	DLP-530
33 Perform COT indicator test.	DLP-526
34 *Note:* This step can be performed only if COT digital lines are connected to a DSX cross-connect.	
If COT is connected to DSX cross-connect, perform DSX cross-connect loopback test.	DLP-523
35 If equipping additional shelves in dual bank assembly, proceed to Step **13**. Otherwise, continue with Step **36**.	
36 Update office records.	

CONVERT SERIES 5 COT FROM FEATURE PACKAGE A CAPABILITY TO FEATURE PACKAGE C CAPABILITY

DO ITEMS BELOW IN ORDER LISTED . . . FOR DETAILS, GO TO

1 ***Note:*** To avoid incompatibility between a *SLC* Series 5 COT bank assembly and the associated RT bank assembly during the conversion of a *SLC* Series 5 Carrier System from FPA (Feature Package A) to FPC (Feature Package C) capability, both the COT and RT bank assemblies must be converted.

2 ***Note:*** If any of the circuit packs listed below have already been installed in the COT bank, it is not necessary to have these circuit packs available.

Verify that the following circuit packs are available:

- **MC97755A1 BCU** (bank control unit)
- **AUB6 ADU** (alarm display unit)
- **AUB5 CTU** (channel test unit, necessary for XTC testing)
- **AUA18 DTU-L** (digital test unit - left)
- **AUA19 DTU-R** (digital test unit - right)
- **AUA3 OTU** (office timing unit).

3 ***Warning: An electrostatic discharge wrist strap, with a minimum resistance of 250K Ohms, should be worn when handling Series 5 circuit packs to prevent possible damage to the circuit packs. Before using the wrist strap, check it for opens, shorts, and minimum resistance value. If the strap does not pass these checks it should not be used.***

Note: Removing the following units will not interrupt service on a working system.

Remove the following circuit packs, in the order listed, from the COT bank being converted and press **ACO** button on **AIU**:

- **ADU** (note option switch settings)
- **BCU**
- **CTU** (if necessary).

4	Install **ADU**.	DLP-533
5	Install **BCU**.	DLP-532
6	Install **CTU** if required.	DLP-522
7	Install **DTU**.	DLP-529

DO ITEMS BELOW IN ORDER LISTED . . . FOR DETAILS, GO TO

8	***Caution: Service interruptions may occur on a working system when the OTU is installed.*** Install **OTU**.	DLP-530
9	Update office records.	

TURN UP SERIES 5 COT EQUIPPED FOR FEATURE PACKAGE D CAPABILITY OR ADD TO EXISTING COT

DO ITEMS BELOW IN ORDER LISTED . . . FOR DETAILS, GO TO

1 *Note:* This procedure assumes the following:

- The frame that houses the COT has been installed.
- The J1C182AD dual bank assembly has been installed in the frame.
- Powering connections have been made at rear of J1C182AD assembly.
- The acceptance procedures in this volume have been performed.

This procedure contains instructions concerning the installation of the various units into the COT assembly shelves and for verifying that the units are operating properly.

2 *Note:* This procedure allows equipping and testing of a dual bank assembly during initial installation or when adding to an existing dual bank assembly. During initial installation, the entire dual bank assembly or only a portion of it can be equipped and tested as long as the blue (lower) bank is equipped first. When equipping either the blue or white bank, the AB shelf (lower) must be equipped first. Both banks in a dual bank assembly must also be identically equipped.

Get support apparatus listed:

- DMM (digital multimeter) with an accuracy of 1.0% and an AC/DC input impedance of ≥ 1 megohm.

3 ***Warning: An electrostatic discharge wrist strap, with a minimum resistance of 250K Ohms, should be worn when handling SLC Series 5 circuit packs to prevent possible damage to the circuit packs. Before using the wrist strap, check it for opens, shorts, and minimum resistance value. If the strap does not pass these checks, it should not be used.***

Note: The term "facility shelf" is used throughout this procedure to refer to the middle shelf of the Series 5 COT. The remaining shelves will be referenced according to digroup name (for example, AB shelf contains digroups A and B). White system (bank) refers to the two upper shelves of the Series 5 COT plus the right half of the facility shelf and blue system (bank) refers to the two lower shelves of the Series 5 COT plus the left half of the facility shelf.

If AB shelf in blue (lower) channel bank is being equipped, proceed to Step 5. Otherwise, continue with Step 4.

DO ITEMS BELOW IN ORDER LISTED . . . FOR DETAILS, GO TO

4	If CD shelf in blue (lower) or white (upper) channel bank is being equipped, proceed to Step 21. Otherwise, continue with Step 8.	
5	***Caution: Removal of heat coils or protector units from in-service lines will cause service interruption.***	
	Note: If transmission media is other than T1 digital lines, it will be necessary to open transmission media from COT.	
	Remove digital line heat coils or protector units from MDF (main distributing frame) (if outside cable pairs have been closed through to COT).	
6	***Caution: Service interruption will occur if circuit breakers to in-service banks are operated.***	
	Verify that circuit breakers associated with bank(s) being installed are operating properly.	DLP-504
7	***Note:*** The **ASU** (alarm suppressor unit) is required only when both white and blue banks are not being equipped at the same time.	
	Install **ASU** in white bank.	DLP-524
8	Verify, per work order, that the correct complement of circuit packs is available.	DLP-531
9	***Note:*** Two **CFUs** (channel fuse units) are required for successful system operation.	
	Install (if not previously installed) and check fuses in two **39E CFUs**.	DLP-505
10	***Note:*** The **LFU** (line fuse unit) is not required in a COT bank being connected to a multiplexer if the multiplexer is not a DDM-1000 Multiplexer.	
	Install (if not previously installed and if required) and check fuses in **39F LFU** in facility shelf.	DLP-506
11	Install and test **PCU** (power converter unit) in facility shelf (if not previously installed).	DLP-507
12	Install **AIU** (alarm interface unit) (if not previously installed).	DLP-508
13	***Note:*** One **ADU** (alarm display unit) is required for each channel bank.	
	Install **ADU**.	DLP-509
14	***Note:*** One **BCU** (bank control unit) is required for each channel bank.	
	Install **BCU**.	DLP-510
15	Install equipped option in **ADU** (for shelf groups being equipped).	DLP-511
16	Install and test **PCUs** (power converter units) in white and blue AB shelves (if not previously installed).	DLP-512
17	Install **TRU** (transmit/receive unit) in AB shelf.	DLP-513
18	Install **TCU** (transcoder unit) in **LIU-B** slot in facility shelf.	DLP-534

DO ITEMS BELOW IN ORDER LISTED . . . FOR DETAILS, GO TO

19	***Note:*** All **LIU**s (line interface units) in the same bank should have identical option switch settings.	
	Install DS1 **LIU** in **LIU-A** slot in facility shelf after making option, equalizer, and transmit pad settings.	DLP-514
20	If equipping additional shelves in the dual bank assembly, continue with Step **21**. Otherwise, proceed to Step **27**.	
21	***Note:*** The AB shelf in the channel bank being equipped must be equipped before the CD shelf. If adding to an existing bank with A and B digroups already in service, alarms will also be generated at the RT location due to C and D digroup installation activity at the COT.	
	Install equipped option in **ADU** for CD shelf (if not previously installed).	DLP-525
22	Verify, per work order, that minimum complement of circuit packs is available (if not done previously).	DLP-531
23	Install and test **PCU** in CD shelf.	DLP-516
24	Install **TRU** in CD shelf.	DLP-517
25	Install **TCU** in **LIU-D** slot in facility shelf.	DLP-535
26	***Note:*** All **LIU**s in the same bank should have identical option switch settings.	
	Install DS1 **LIU** in **LIU-C** slot in facility shelf after making option, equalizer, and transmit pad settings.	DLP-514
27	If protection switching is desired, install associated **LSU** (line switch unit) in facility shelf. Otherwise, continue with Step **29.**	DLP-520
28	***Note:*** All **LIU**s in the same bank should have identical option switch settings.	
	Install DS1 **LIU** (if required) in **LIU-P** slot in facility shelf after making option, equalizer, and transmit pad settings.	DLP-514
29	***Note:*** The **AUB5 CTU** (channel test unit) is used with the XTC (extended test controller) to enable remote testing of channel units and subscriber lines beyond the remote terminal.	
	Install **CTU** (if the XTC or PGTC is used for remote testing and **CTU** has not been previously installed).	DLP-522
30	Install **DTU** (digital test unit) in facility shelf (if not previously installed).	DLP-529
31	If an XTC is available for testing the channel bank being equipped, it is recommended that the XTC fan-out unit functional test be performed from the XTC per AT&T 363-205-300.	
32	***Note:*** One **OTU** is required for each bank that is to be equipped with one or more dataport channel units. The **OTU** is also required when either or both COT or RT banks are to be equipped with **DCU**s (digital connectivity units).	
	Install **OTU** (office timing unit) (if required and not previously installed).	DLP-530

DO ITEMS BELOW IN ORDER LISTED . . . FOR DETAILS, GO TO

33	Perform COT indicator test.	DLP-526
34	***Note:*** This step can be performed only if COT digital lines are connected to a DSX cross-connect.	
	If COT is connected to DSX cross-connect, perform DSX cross-connect loopback test.	DLP-523
35	If equipping additional shelves in dual bank assembly, proceed to Step **13**. Otherwise, continue with Step **36**.	
36	Update office records.	

CONVERT SERIES 5 COT FROM FEATURE PACKAGE A CAPABILITY TO FEATURE PACKAGE D CAPABILITY

DO ITEMS BELOW IN ORDER LISTED . . . FOR DETAILS, GO TO

1 ***Note:*** Although both J1C182AA and J1C182AD COT dual bank assemblies can be equipped with FPA (Feature Package A) capability, only the J1C182AD bank assembly can be converted to operate with FPD (Feature Package D) capability. The J1C182AA bank assembly cannot be converted to operate with FPD capability. To avoid incompatibility between a *SLC* Series 5 COT bank assembly and the associated RT bank assembly during the conversion of a *SLC* Series 5 Carrier System from FPA to FPD capability, both the COT and RT bank assemblies must be converted.

2 ***Note:*** If any of the circuit packs listed below have already been installed in the COT bank, it is not necessary to have these circuit packs available.

Verify that the following circuit packs are available:

- **MC97755A1 BCU** (bank control unit)
- **AUB6 ADU** (alarm display unit)
- **AUB5 CTU** (channel test unit, necessary for XTC testing)
- **AUA18 DTU-L** (digital test unit - left)
- **AUA19 DTU-R** (digital test unit - right)
- **AUA3 OTU** (office timing unit)
- **AUA73 LSU** (line switch unit) (required for protection switching only)
- (3) **AUA6( )B, AUA6( )C,** or **AUA6( )D LIUs** (line interface units) (only 2 LIUs are required if bank is not equipped for protection switching)
- (2) **AUA71 TCUs** (transcoder units).

3 ***Caution: Service interruptions will occur on a working system when the following steps are performed.***

Install preservice option in **ADU** for bank being converted. DLP-537

4 Remove the following circuit packs, in the order listed, from the COT bank being converted and press **ACO** button on **AIU**:

- **ADU** (note option switch settings)
- **BCU**
- **CTU** (if necessary)
- **LIU-A**

DO ITEMS BELOW IN ORDER LISTED . . .	FOR DETAILS, GO TO
• **LIU-B** • **LIU-C** • **LIU-D** • **LIU-P** (if equipped) • **LSU** (if equipped).	
5 Install **ADU**.	DLP-533
6 Install **BCU**.	DLP-532
7 Install **TCU** in **LIU-B** slot in facility shelf.	DLP-534
8 ***Note:*** All **LIUs** in the same bank should have identical option switch settings.	
Install DS1 **LIU** in **LIU-A** slot in facility shelf after making option, equalizer, and transmit pad settings.	DLP-514
9 Install **TCU** in **LIU-D** slot in facility shelf.	DLP-535
10 ***Note:*** All **LIUs** in the same bank should have identical option switch settings.	
Install DS1 **LIU** in **LIU-C** slot in facility shelf after making option, equalizer, and transmit pad settings.	DLP-514
11 If protection switching is desired, install **LSU**. Otherwise, proceed to Step **13.**	DLP-520
12 ***Note:*** All **LIUs** in the same bank should have identical option switch settings.	
Install DS1 **LIU** (if required) in **LIU-P** slot in facility shelf after making option, equalizer, and transmit pad settings.	DLP-514
13 Install **CTU** if required.	DLP-522
14 Install **DTU**.	DLP-529
15 Install **OTU**.	DLP-530
16 After the RT conversion has been completed, install inservice option in **ADU** for bank being converted.	DLP-538
17 Update office records.	

CONVERT SERIES 5 COT FROM FEATURE PACKAGE C CAPABILITY TO FEATURE PACKAGE D CAPABILITY

DO ITEMS BELOW IN ORDER LISTED . . .	FOR DETAILS, GO TO
1 *Note:* Although both J1C182AA and J1C182AD COT dual bank assemblies can be equipped with FPC (Feature Package C) capability, only the J1C182AD bank assembly can be converted to operate with FPD (Feature Package D) capability. The J1C182AA bank assembly cannot be converted to operate with FPD capability.	
2 ***Caution: To avoid incompatibility between a* SLC *Series 5 COT bank assembly and the associated RT bank assembly during the conversion of a* SLC *Series 5 Carrier System from FPC to FPD capability, both the COT and RT bank assemblies must be converted at approximately the same time. However, to avoid destroying all channel unit provisioning information stored in the bank controller, do not have any two of the following circuit packs removed or unseated at the same time: COT BCU, COT ADU, or RT BCU.*** *Note:* If any of the circuit packs listed below have already been installed in the COT bank, it is not necessary to have these circuit packs available. Verify that the following circuit packs are available: • **MC97755A1 BCU** (bank control unit) • **AUA73 LSU** (line switch unit) (required for protection switching only) • (3) **AUA6( )B, AUA6( )C,** or **AUA6( )D LIUs** (line interface units) (only 2 LIUs are required if bank is not equipped for protection switching) • (2) **AUA71 TCUs** (transcoder units).	
3 ***Caution: Before removing the BCU, verify that the BCU at the RT location is not removed or will not be removed until the BCU at this location is installed.*** Remove **BCU** from COT bank being converted and press **ACO** button on **AIU**.	
4 Install replacement **BCU** and allow approximately 10 minutes for the **BCU** memory to be updated before proceeding to the next step.	DLP-532
5 ***Caution: Service interruptions will occur on a working system when the following steps are performed. Before removing the ADU, verify that the BCU at the RT location is not removed or will not be removed until the ADU at this location is installed.*** Install preservice option in **ADU** (alarm display unit) for bank being converted.	DLP-537

DO ITEMS BELOW IN ORDER LISTED . . . FOR DETAILS, GO TO

6	Remove **LIU**s from slots **LIU-A, LIU-B, LIU-C, LIU-D**, and **LIU-P** (if equipped) in COT bank being converted.	
7	Remove **LSU** (if equipped) from COT bank being converted.	
8	Set option switch on **ADU**.	DLP-536
9	Install **TCU** in **LIU-B** slot in facility shelf.	DLP-534
10	***Note:*** All **LIU**s in the same bank should have identical option switch settings. Install DS1 **LIU** in **LIU-A** slot in facility shelf after making option, equalizer, and transmit pad settings.	DLP-514
11	Install **TCU** in **LIU-D** slot in facility shelf.	DLP-535
12	***Note:*** All **LIU**s in the same bank should have identical option switch settings. Install DS1 **LIU** in **LIU-C** slot in facility shelf after making option, equalizer, and transmit pad settings.	DLP-514
13	If protection switching is desired, install **LSU**. Otherwise, proceed to Step **15.**	DLP-520
14	***Note:*** All **LIU**s in the same bank should have identical option switch settings. Install DS1 **LIU** (if required) in **LIU-P** slot in facility shelf after making option, equalizer, and transmit pad settings. Install **LSU**.	DLP-514
15	After the RT conversion has been completed, install inservice option in **ADU** for bank being converted.	DLP-538
16	Update office records.	

CENTRAL OFFICE TERMINAL - ABBREVIATED TURNUP PROCEDURE

DO ITEMS BELOW IN ORDER LISTED . . .	FOR DETAILS, GO TO

1 *Note:* This procedure assumes that:

- Installation personnel are familiar with AT&T 363-205-400 (TOP) COT Acceptance and Turnup procedures
- Required circuit packs are available for banks being turned up.

2 *Note:* Circuit packs with a **FAIL** LED will light briefly and then go out when seated. Check option settings and for proper version, then replace any pack whose **FAIL** LED remains lighted. Disregard all other indicators unless noted otherwise. Press **ACO** button on **AIU** to eliminate any office alarms which may be generated throughout this procedure.

Get support apparatus listed:

- DMM (digital multimeter) with an accuracy of 1.0% and an AC/DC input impedance of ≥ 1 megohm.

3 Install **ASU** in white (upper) bank if not equipping white bank.

4 *Note:* The **LFU** is not required in a COT bank being connected to a multiplexer if the multiplexer is not a DDM-1000 Multiplexer.

Install **CFUs** in blue and white banks, **LFU** (if required), and facility shelf **PCU**.

5 On **AIU**, set function switch as follows:

- **1** - Unused.
- **2** - **ON** (toward number).
- **3** - **ON** (toward number).
- **4** - **OFF** (away from number).
- **5** - **OFF** (away from number).
- **6** - Toward **PMN** (toward number) or **MN** (away from number) for power minor (PMN) or minor alarm, respectively, at CO during AC power and rectifier failures at the RT.
- **7** - Unused.
- **8** - Toward **MN** (toward number) or **PMN** (away from number) for minor alarm or power minor (PMN), respectively, at CO during AC power and rectifier failures at the RT.

6 Install **AIU**.

DO ITEMS BELOW IN ORDER LISTED . . . FOR DETAILS, GO TO

7	Install **BCU** for bank being equipped (**FAIL** LED will not light until **ADU** is installed).
8	On **ADU** set option switches to pre-service and equipped state for shelves being equipped. Set option switches as follows: • **1** - Toward **PL** (away from number) for protection switching or toward **NPL** (toward number) for no protection switching. • **2** - On **AUB1** away from number. On **AUB6** toward **32** if system is FPD. Otherwise, set it toward **64**. • **3** - Toward **ABP** (away from number) if shelf group AB is being equipped. • **4** - Toward **CDP** (away from number). • **5** - Toward **ABE** (toward number). • **6** - Toward **CDE** (toward number) if shelf group CD is being equipped. Otherwise, set it toward **CDU** (away from number). • **S3 - S6** - Per work order.
9	Install **ADU** and verify that **BCU FAIL** and **ADU FAIL, MN, NE** indicators come on and after approximately 20 seconds go out. Disregard any indicators that may be lighted afterwards.
10	Install **PCU**(s) in shelves being equipped and measure DC voltage on all **PCUs** installed: should indicate between –42 and –56 V DC.
11	Install **TRU**(s) for shelves being equipped and verify that associated **BCU DIGROUP** indicators are lighted.
12	If system is FPD, install **TCUs** for shelves being equipped.
13	Set switches on **LIUs** per work order. If **LIU** is B, C, or D series and system is FPD, Set **RATE** switch to **32**; Otherwise to **64**.
14	***Note:*** All **LIUs** in same bank should have identical switch settings. Install digroup or shelf group **LIUs** in sequence for shelves being equipped and verify that **BCU** digroup indicators associated with digroup or shelf group goes out after **LIU** is installed.
15	If protection switching is used, set option switches on **LSU** as follows: • Faceplate switches - Off (right-hand side). • If **LSU** is **AUA73**, set **RATE** to **32** for FPD system. Otherwise, set **RATE** to **64**.
16	Install **LSU** (if required).
17	***Note:*** All **LIUs** in same bank should have identical switch settings. If protection switching is used, install protection **LIU**.
18	Install **CTU, DTU,** and **OTU** if required.

DO ITEMS BELOW IN ORDER LISTED . . . FOR DETAILS, GO TO

19	Press and hold **LED TEST** pushbutton on **ADU**. All indicators on **LIUs**, **TRUs**, **BCU**, and **ADU** and **FAIL** indicators on **LSU**, **CTU**, and **TCU** should be lighted on system being equipped.
20	If there are audible alarms, operate **ACO** pushbutton. If necessary, clear alarms per maintenance procedures.
21	Update office records.

CONVERT FEATURE PACKAGE A COT TO FEATURE PACKAGE C-AUTOCUT

DO ITEMS BELOW IN ORDER LISTED . . . FOR DETAILS, GO TO

SUMMARY: Feature Package C-AutoCut is used to prepare a universal FPC system to be cutover to an integrated FPB Mode 1 system. The integrated FPB system requires ZCS (zero code suppression, sometimes referred to as AMI) digital line coding be used on the digital facility, including multiplexer facilities if used. This procedure will equip a COT channel bank to support FPC-AutoCut with minimum service interruption. All LIUs must be optioned for ZCS line coding (facility equipment must also use ZCS) and the RT channel bank must use AUA6( )C or AUA6( )D version LIUs. If a protection line is not used, service will be interrupted when the LIU is removed. Next, the system must be equipped with FPC-AutoCut ADU and BCU units at both ends. Wait 15 minutes after the system is equipped for FPC-AutoCut. Next the RT must be equipped with AUA105 or AUA109 TRUs. This will interrupt service on digroups AB or CD while the TRU is removed. Next the COT can be equipped with additional common units (such as AUA18 and AUA19 DTU, AUB2 or AUB5 CTU, and AUA3 OTU) if required. This procedure requires a craftsperson at both the COT and RT location and should be done at the same time at both ends. However; one craftsperson can convert both ends *only* if ZCS line coding option is already used. Also when converting an FPA to FPC-AutoCut, the system data link will not communicate end-to-end while the COT and RT are not equipped with the FPC-AutoCut ADU and BCU packs. The digroups will not lose service unless something happens that necessitates data link communication, such as a switch to protection, then a service outage could occur on one or more of the digroups.

1	Establish communication with a craftsperson at RT location.	
2	From office records, determine what LIU digital line coding option (B8ZS option **B** or ZCS option **Z**) is used for the system being converted to FPC-AutoCut. If ZCS coding is used, proceed to Step **4**. Otherwise, continue with Step **3**.	
3	Change line coding option, one digroup at a time, from **B** (B8ZS) to **Z** (ZCS) for each equipped digroup in the system.	DLP-540
4	***Note:*** Removing the following units will not interrupt service on a working system. Remove the Following Circuit Packs, in the Order Listed, From the COT Bank Being Convert and Press **ACO** Button on **AIU**: • **ADU** (Note Option Switch Settings) • **BCU** • **CTU**	

DO ITEMS BELOW IN ORDER LISTED . . . FOR DETAILS, GO TO

5	Install **AUB6 ADU** (Alarm Display Unit).	DLP-533
6	Install **MC97755A1 BCU** (Bank Control Unit).	DLP-532
7	After waiting 15 minutes for the provisioning data to clear (after the RT ADU and BCU have been installed), the RT craftsperson must replace the AB and CD shelf **TRUs**. This will cause service outage (major, far end, and digroups AB or CD alarms) for about 60 seconds while the **TRU** is being replaced.	
8	Install **CTU** (Channel Test Unit).	DLP-522
9	If required, Install **DTU** (Digital Test Unit).	DLP-529
10	***Caution: Service interruption may occur on a working system when the OTU is installed.*** If required, Install **OTU** (Office Timing Unit).	DLP-530
11	Update Office Records.	

CONVERT FEATURE PACKAGE C COT TO FEATURE PACKAGE C-AUTOCUT

DO ITEMS BELOW IN ORDER LISTED . . . FOR DETAILS, GO TO

SUMMARY: Feature Package C-AutoCut is used to prepare a universal FPC system to be cutover to an integrated FPB Mode 1 system. The integrated FPB system requires ZCS (zero code suppression, sometimes referred to as AMI) digital line coding be used on the digital facility, including multiplexer facilities if used. This procedure will equip a COT channel bank to support FPC-AutoCut with minimum service interruption. All LIUs must be optioned for ZCS line coding (facility equipment must also use ZCS) and the RT channel bank must use AUA6( )C or AUA6( )D version LIUs. If a protection line is not used, service will be interrupted when the LIU is removed. Next, the system must be equipped with FPC-AutoCut ADU and BCU units at RT (the COT must use the MC97755A1 BCU, not the MC97725A1 BCU). Wait 15 minutes after the system is equipped for FPC-AutoCut. Next the RT must be equipped with AUA105 or AUA109 TRUs. This will interrupt service on digroups AB or CD while the TRU is removed. This procedure requires a craftsperson at both the COT and RT location if B8ZS line coding is used and should be done at the same time at both ends. One craftsperson can convert the system *only* if ZCS line coding option is already used.

1	Establish communication with a craftsperson at RT location.	
2	From office records, determine what LIU digital line coding option (B8ZS option **B** or ZCS option **Z**) is used for the system being converted to FPC-AutoCut. If ZCS coding is used, proceed to Step **4**. Otherwise, continue with Step **3**.	
3	Change line coding option, one digroup at a time, from **B** (B8ZS) to **Z** (ZCS) for each equipped digroup in the system.	DLP-540
4	At this point all COT conversion requirements have been done. The RT craftsperson must now install the FPC-AutoCut ADU and BCU circuit packs.	
5	After waiting 15 minutes for the provisioning data to clear (after the RT ADU and BCU have been installed), the RT crafts personnel must replace the AB and CD shelf **TRUs**. This will cause service outage (major, far end, and digroups AB or CD alarms) for about 60 seconds while the **TRU** is being replaced.	
6	Update Office Records.	

CONSIDERATIONS NECESSARY FOR INTERCONNECTING A *SLC* SERIES 5 COT ASSEMBLY TO A DDM-1000 MULTIPLEXER

GENERAL

When a Series 5 COT (central office terminal) is being connected to an optical fiber facility via a DDM-1000 Multiplexer, the following information offers considerations that will help assure that the COT assembly and DDM-1000 Multiplexer operate properly together. The information is intended to complement existing data in this document.

DS1 FORMAT AND REMOTE LOOPBACK OPTIONS

The DS1 format option switch settings on the **AUA61( ) LIU** circuit pack in the Series 5 COT assembly and on the Low Speed DS1 Interface **AEK36** or **AEK36B** circuit pack in the DDM-1000 Multiplexer must agree: both option switches set to AMI (ZCS) or both option switches set to B8ZS. It is recommended that both option switches be set for AMI (ZCS) until B8ZS capability is required. The procedure for setting the options on the **AUA61( ) LIU** circuit pack is contained in the turnup procedures in this document. To set the option switch on the **AEK36** or **AEK36B** circuit pack to the B8ZS position, set option switch sections 6 through 9 to open (away from numbers). To set the option switch to the AMI position, set switch sections 6 through 9 to closed (toward numbers).

When the Series 5 COT assembly is equipped with an **AUA61B**, **AUA61C**, or **AUA61D LIU**, the **RLB** (remote loopback) option switch on the **LIU** must be set to enable (**ENB**) the loopback request capability. The procedure for setting the remote loopback option switch is contained in the turnup procedures in this document.

PROTECTION SWITCHING

Most applications of Series 5 COT collocated with a DDM-1000 Multiplexer will not include a DS1 protection line. When a DS1 protection line is not needed, it is necessary to option the COT assembly for no protection by setting the protection/no protection option switch on the **ADU** (alarm display unit) circuit pack to the no protection position.

Removing the **AEK36** or **AEK36B** circuit pack carrying the Series 5 traffic from the DDM-1000 Multiplexer will cause a switch to the protection **AEK36( )** circuit pack but will not cause any alarms at the Series 5 COT assembly. Reinserting the **AEK36( )** circuit pack may cause temporary Series 5 CLF (carrier line failure) indications. Removing or reinserting an **AEK36( )** circuit pack does not drop established calls. However, removing the **AEK36( )** circuit pack during ringing will trip ringing but will not drop established calls. If ringing is tripped (ringing stops) then there is the possibility that the called customer may not pick up the receiver.

EQUIPPING THE DDM-1000 MULTIPLEXER

The high speed muldems, **AKM2( )**, must be equally equipped at both ends of the system. Having an extra muldem at one end will give an ambiguous alarm whether or not the muldem has a signal applied.

The low speed interface cards, **AEK36( )**, do not have to be equally equipped at both ends of the system. This situation will not cause any alarms, but is not recommended because of possible confusion as to which slots are active. All **AEK36** slots not equipped with **AEK36( )** circuit packs should not remain vacant but should be equipped with BP1 cards (**AEK39**). When inserted into **AEK36** slots, the BP1 cards open normally closed contacts to prevent spurious signals or bridged wires from being connected to the protection bus.

LOOPING DS1 SIGNALS AT A SERIES 5 CHANNEL BANK

To test and troubleshoot a Series 5 system using DDM-1000 Multiplexers, the DS1 signals at the Series 5 bank assembly can be looped back toward the DDM-1000 with an **AUA80** card and a short cable having 310 plugs. This card provides access to the Series 5 DS1 pairs at jacks which are recessed behind an opening in the faceplate.

DDM-1000 SELF TESTS

Automatic looped-back test: If Series 5 is connected, the COT will show temporary minor and far end alarms until the test completes.

Automatic cross-connect wiring test: Four **AUA80** extender cards in Series 5 **LIU** slots are required to test one **AEK36**( ) (four DS1s) at a time using the automatic test, or one DS1 at a time can be tested using the TEST-INS+MON command with the ASCII terminal. If 28 **AUA80** cards are available, all seven **AEK36**( )s (28 DS1s) can be tested with one automatic test.

Automatic end-to-end test: If a Series 5 system is connected to DDM-1000 Multiplexers, temporary CLFs (carrier line failures) will occur during the test. At the end of a successful end-to-end test, the alarm LEDs on the far end **AEK36**( ) which have undriven inputs will be flashing and will continue to flash until the MC900 Processor at the far end is reset. (This processor can be reset remotely with the ASCII terminal.)

THE DDM-1000 PROCESSOR

The alarm option switch on the processor should be set to bring far end alarms from the Series 5 RT to the central office by operating section 2 to the closed position (toward the number).

Occasionally, pressing the **RST** pushbutton will not clear all alarms. When removing and reinserting the MC900 processor, wait until the **MJ** LED flashes, then press **RST** pushbutton within 10 seconds. Be careful not to damage the LEDs when swinging the latch into place.

PERFORM OVERALL VISUAL INSPECTION OF COT (CENTRAL OFFICE TERMINAL)

1. Locate five shelves that will house equipment in bay (FIG. 1).

2. At front of COT, perform Steps 3 through 13.

3. Verify that no plug-in units are installed except **ASU** (alarm suppressor unit). Remove any other units that are installed.

4. Verify that shelves are tightly secured and free of defects or damage. Refer any trouble to installation group.

5. Verify that all electrical connectors inside shelves are properly secured and aligned with shelf slots. Refer any trouble to installation group.

6. Verify that there are no broken, bent, or misaligned contacts on front of connectors. Refer any trouble to installation group.

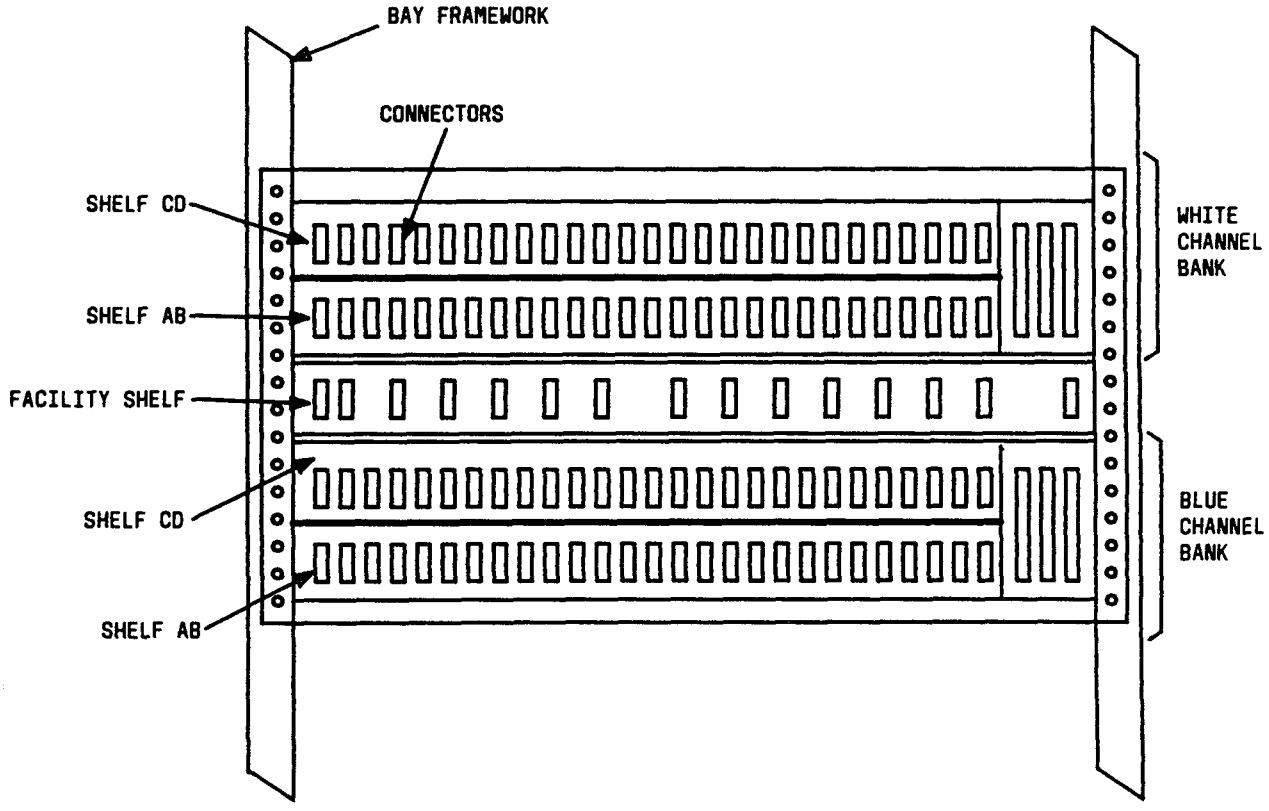


Figure 1—COT Assembly Shelves

7. Is one channel unit plug-in of any type available?

   If **YES,** then continue with Step **8.**
   If **NO,** then proceed to Step **9.**

8. ***Note:*** The plug-in units are not inserted into connectors until all tests and verifications have been completed.

   Try channel unit in slots labeled **1/2, 23/24,** and **47/48** on Shelf AB and slots **49/50, 71/72,** and **95/96** on Shelf CD to check for misalignment or bowed shelves. Remove unit and proceed to Step **10.**

9. Inspect for misaligned, dented, or twisted shelves.

10. Are there any misaligned, dented, or twisted shelves?

    If **YES,** then continue with Step **11.**
    If **NO,** then proceed to Step **12.**

11. Refer any trouble to installation group.

12. Is an ED-3C355-70 pull-out writing shelf provided?

    If **YES,** then continue with Step **13.**
    If **NO,** then proceed to Step **14.**

13. Check operation of writing shelf by pulling shelf out and checking side latch. Return shelf to closed position.

14. At rear of COT perform Steps **15** through **23.**

15. Verify that there is no broken or damaged equipment (connectors, wiring, backplane wiring board, etc.). Refer any trouble to installation group.

16. Verify that there are no bent, broken, or crossed terminals on backplane. Repair or refer any trouble to installation group.

17. Verify that all cabling and wiring is terminated and tied into forms. Refer any trouble to installation group.

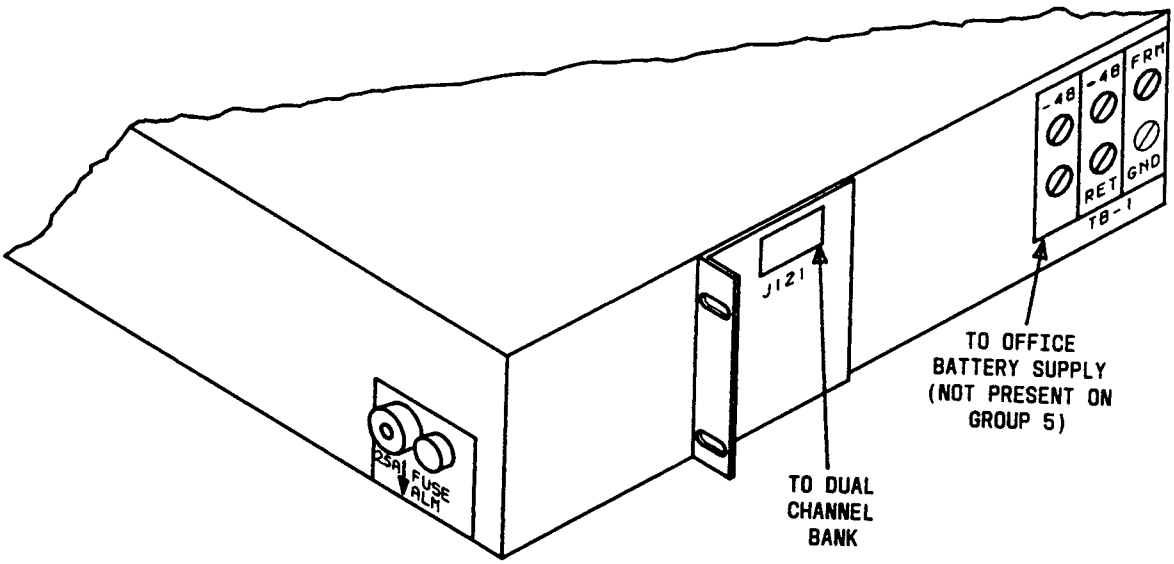
18. Verify that plastic cover is placed behind dual bank assembly.

19. Verify that dual bank connector(s) P121 or P125 is connected to heat baffle bank connector(s) **J121-( )** or **J125-( ),** respectively (FIG. 2 and FIG. 3). Refer any trouble to installation group.

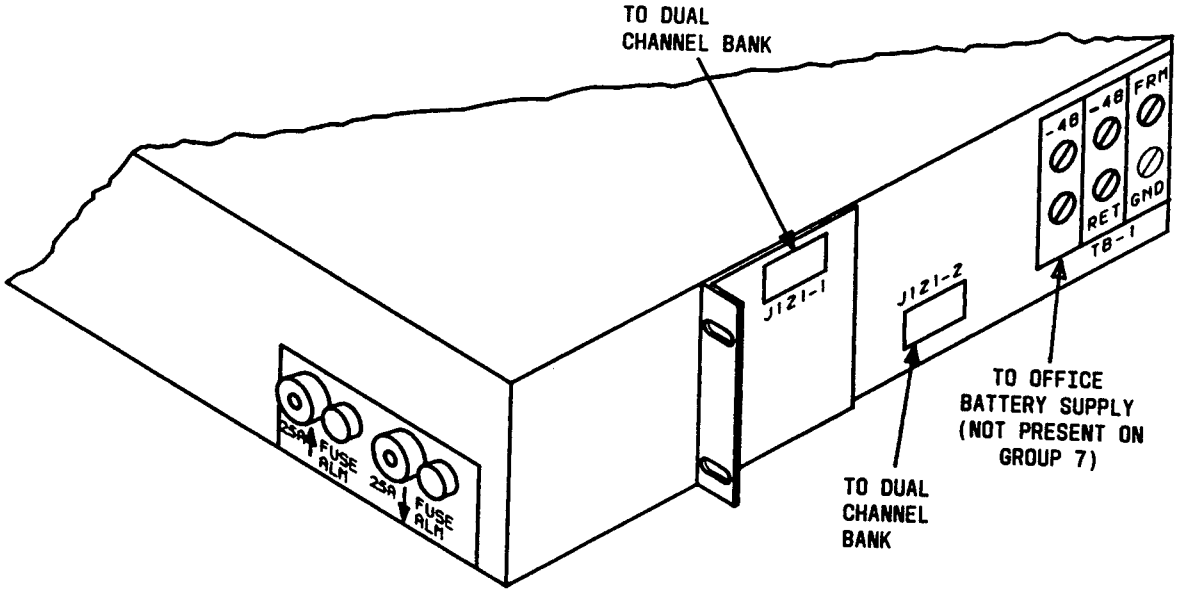
20. Is heat baffle an ED-7C603-30, Group 1, 2, 3, or 4?

    If **YES,** then continue with Step **21.**
    If **NO,** then proceed to Step **22.**

21. Verify that wiring from central office battery supply is connected to terminal strip **TB-1** on heat baffle (FIG. 2 and 3). Refer any trouble to installation group.



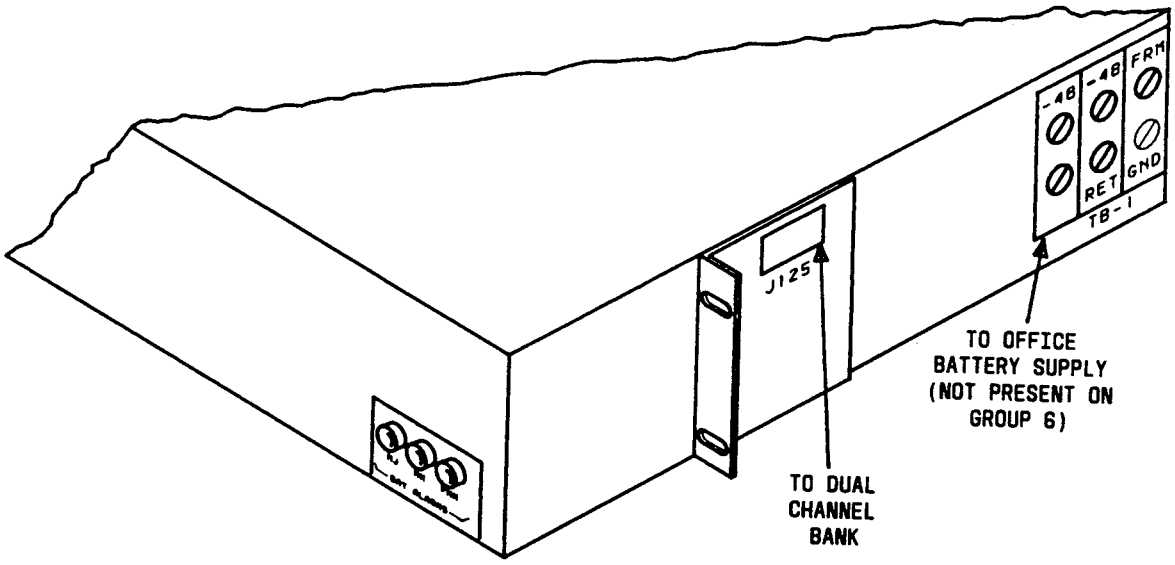
ED-7C603-30 GROUP 1 AND GROUP 5



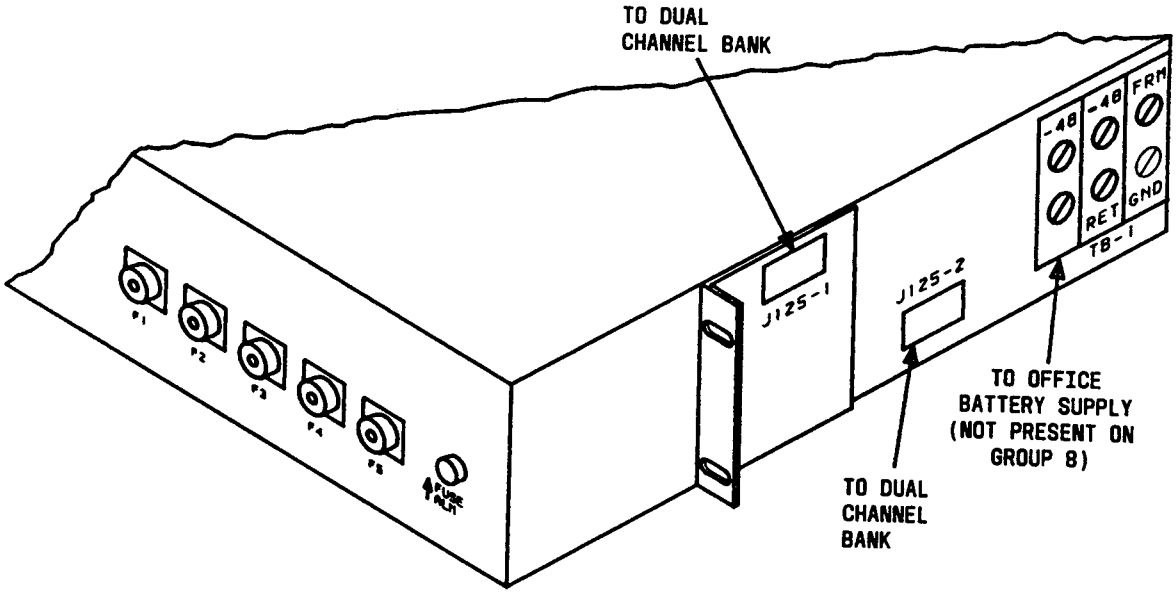
ED-7C603-30 GROUP 3 AND GROUP 7

Figure 2—Heat Baffle Bank Connectors

22. Verify that heat baffle bank fuse(s) is present (FIG. 4). Refer any trouble to installation group.



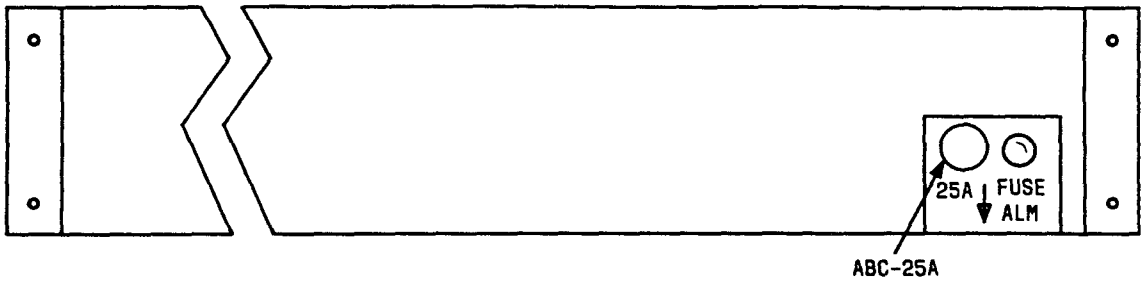
ED-7C603-30 GROUP 2 AND GROUP 6



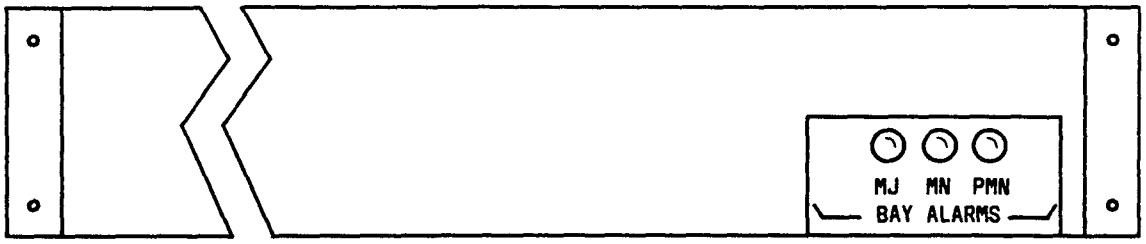
ED-7C603-30 GROUP 4 AND GROUP 8

Figure 3—Heat Baffle Bank Connectors

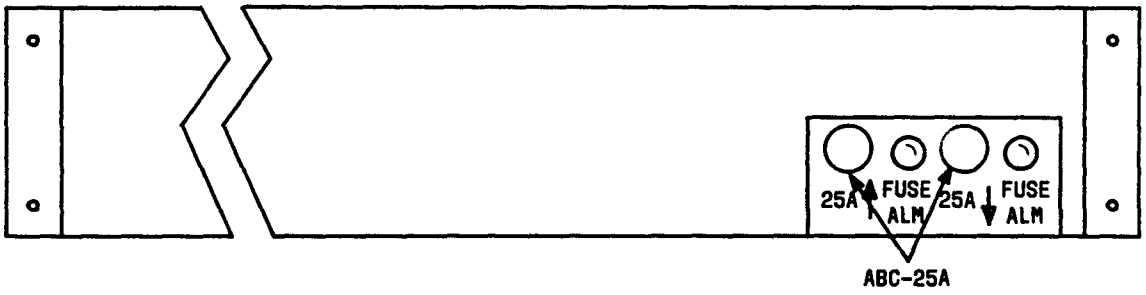
23. Verify that dual bank connector P122 is connected to office alarm wiring connector J122-( ). Refer any trouble to installation group.



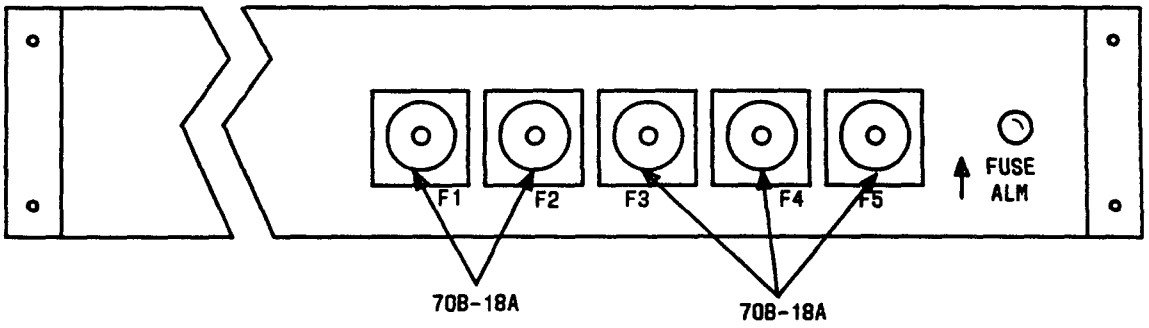
ED-7C603-30 GROUP 1 AND GROUP 5



ED-7C603-30 GROUP 2 AND GROUP 6



ED-7C603-30 GROUP 3 AND GROUP 7



ED-7C603-30 GROUP 4 AND GROUP 8

Figure 4—Heat Baffle Bank Fuses

24. Verify that all dual bank engineered connections to equipment outside of the COT bay have been made. Refer any trouble to installation group.

STOP. YOU HAVE COMPLETED THIS PROCEDURE

CHECK INCOMING SUPPLY VOLTAGE AT CIRCUIT BREAKER

1. Get DMM (digital multimeter) and condition to measure DC volts.

2. At CO (central office) circuit breaker panel, locate circuit breakers providing supply voltage to COT being accepted.

3. At circuit breaker panel or COT bay, connect DMM test leads to the circuit breaker output terminal and to a good frame ground.

4. Does DMM indicate between –43.5 and –53.5 V DC?

   If **YES,** then continue with Step **5.**
   If **NO,** then **refer trouble to installation group.**

5. Has voltage at each circuit breaker of accepted COT been checked?

   If **YES,** then **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**
   If **NO,** then continue with Step **6.**

6. Go to next circuit breaker and repeat from Step **3.**

VERIFY PROPER OPERATION OF COT CIRCUIT BREAKERS

1. *Note:* This test is only valid for COTs equipped with ED-7C603 group 1-4 heat baffles (with TB-1 test points). This test does not apply to ED-7C603 group 5-8 heat baffles (without TB-1 terminal strip).

   Get DMM (digital multimeter) and condition to measure DC volts.

2. At CO (central office) circuit breaker panel locate circuit breakers providing supply voltage to COT being accepted.

3. At terminal strip **TB-1** on side of heat baffle, connect DMM test leads to **(-48** and **RET** terminals.

4. Operate circuit breaker to **OFF** position.

5. Does DMM indicate 0 V DC?

   If **YES,** then continue with Step **6.**
   If **NO,** then refer trouble to installation group.

6. Operate circuit breaker to **ON** position.

7. Does DMM indicate between -43.5 and -53.5 V DC?

   If **YES,** then continue with Step **8.**
   If **NO,** then refer trouble to installation group.

8. Have all COT circuit breakers been checked?

   If **YES,** then **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**
   If **NO,** then continue with Step **9.**

9. Go to next circuit breaker and repeat from Step **3.**

INSTALL 39E CFU (CHANNEL FUSE UNIT)

1. Get two **39E CFUs** (FIG. 1) and inspect for possible damage.

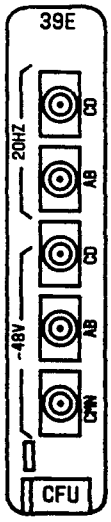


Figure 1—Channel Fuse Unit

2. ***Note:*** If fuse holder does not contain a fuse or contains incorrect value fuse, install fuse of correct value.

   Verify that fuse holders on faceplate of each **CFU** contain correct value fuses and that fuses are not blown (TABLE A).

TABLE A
CFU FUSES

FUSE DESIGNATION	BEAD COLOR	SIZE	CODE
20 HZ - A/B	RED	½A	80B
20 HZ - C/D	RED	½A	80B
-48V - A/B	BLUE	3A	80C
-48V - C/D	BLUE	3A	80C
-48V - CMN	BLUE	3A	80C

3. Install one **CFU** into vacant **CFU** slot in upper or lower bank.

4. Does any fuse(s) in **CFU** blow?

   If **YES,** then proceed to Step **6.**
   If **NO,** then continue with Step **5.**

5. Have both **CFUs** been installed?

   If **YES,** then **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**
   If **NO,** then return to Step **3.**

6. Check wiring on dual bank assembly using SD-7C115-01 or SD-7C115-02.

7. Is wiring correct?

   If **YES,** then get another **CFU** and return to Step **2.**
   If **NO,** then continue with Step **8.**

8. Repair wiring and replace blown fuses in **CFU** and repeat from Step **5.**

INSTALL 39F LFU (LINE FUSE UNIT) IN COT FACILITY SHELF

1. Get one **39F LFU** (FIG. 1) and inspect for possible damage.

2. Verify that each fuse holder contains an 80C (3.0A) fuse (blue bead) and that the fuse is not blown.

3. Install **LFU** into **LFU** slot in facility (middle) shelf.

4. Does any fuse(s) blow?

   If **YES,** then continue with Step **5.**
   If **NO,** then **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**

5. Check COT bank wiring using SD-7C115-01 or SD-7C115-02.

6. Is trouble found in bank wiring?

   If **YES,** then proceed to Step **8.**
   If **NO,** then continue with Step **7.**

7. Replace **LFU** and repeat from Step **1.**

8. Repair wiring and replace blown fuse(s) in **LFU.**

   STOP. YOU HAVE COMPLETED THIS PROCEDURE

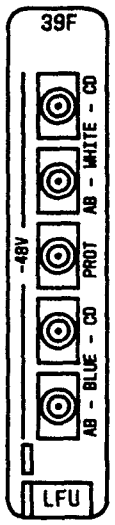


Figure 1—Line Fuse Unit

INSTALL AND TEST PCU (POWER CONVERTER UNIT) IN FACILITY SHELF

SUMMARY: Install **PCU** in facility shelf and verify that **FAIL** indicator goes off and remains off. Measure –42 to –56 V DC at **PCU** faceplate.

1. Get one **PCU** (**AUA11**, **AUA11B**, or **AUA11C**) and inspect for possible damage.

2. While observing **FAIL** indicator on **PCU** faceplate, insert **PCU** into **PCU** slot in facility (middle) shelf.

3. ***Note:*** The **FAIL** indicator on the **PCU** may light momentarily when inserted.

   Does **FAIL** indicator on **PCU** go off and remain off?

   If **YES**, then proceed to Step **8.**
   If **NO**, then continue with Step **4.**

4. Replace **PCU** while observing **FAIL** indicator on **PCU** faceplate.

5. ***Note:*** The **FAIL** indicator on the **PCU** may light momentarily when inserted.

   Does **FAIL** indicator on **PCU** go off and remain off?

   If **YES**, then proceed to Step **8.**
   If **NO**, then continue with Step **6.**

6. Replace **PCU** with the **PCU** removed previously while observing **FAIL** indicator on **PCU** faceplate.

7. Use SD-7C115-01 or SD-7C115-02 to check wiring. Repeat procedure from Step 3 after locating and correcting trouble.

8. Condition DMM to measure volts DC.

9. On **PCU**, connect DMM test leads to **GND** jack and **–48** jack.

10. Does DMM indicate between –42 and –56 volts?

    If **YES**, then proceed to Step **20.**
    If **NO**, then continue with Step **11.**

11. Verify that power wiring to **PCU** in facility shelf is present and connected properly.

12. Is wiring present and connected properly?

    If **YES**, then proceed to Step **14.**
    If **NO**, then continue with Step **13.**

13. Resolve problem through local procedures. Repeat procedure from Step **3** after locating and correcting trouble.

14. Replace **PCU** in facility shelf while observing **FAIL** indicator on **PCU** faceplate.

15. Is **FAIL** indicator on **PCU** off?

    If **YES,** then continue with Step **16.**
    If **NO,** then return to Step **3.**

16. On **PCU,** connect DMM test leads to **GND** jack and **-48** jack.

17. Does DMM indicate between -42 and -56 volts?

    If **YES,** then proceed to Step **20.**
    If **NO,** then continue with Step **18.**

18. Replace **PCU** with **PCU** removed previously while observing **FAIL** indicator on **PCU** faceplate.

19. Check wiring using SD-7C115-01 or SD-7C115-02. Repeat the procedure from Step **3** after locating and correcting the trouble.

20. Disconnect DMM test leads.

STOP. YOU HAVE COMPLETED THIS PROCEDURE

INSTALL AIU (ALARM INTERFACE UNIT)

1. Get one **AIU** (**AUB3**) and inspect for possible damage.

2. On **AIU** option switch **S2** (FIG. 1 or 2), use an orange stick (KS-6320, L1) or equivalent, and set switches 1 - 5 as follows:

   - **1** - Unused.
   - **2** - **ON** or closed (toward number)
   - **3** - **ON** or closed (toward number)
   - **4** - **OFF** or open (away from number)
   - **5** - **OFF** or open (away from number)

3. Insert **AIU** into **AIU** slot in white (upper) channel bank.

4. Is CO MN (minor) alarm activated?

   If **YES,** then proceed to Step **9.**
   If **NO,** then continue with Step **5.**

5. ***Note:*** On **AIU** circuit packs equipped with a locking link located directly above the latch, the locking link must be moved to the side before the latch can be operated to remove **AIU.**

   Replace **AIU.**

6. Is CO MN alarm activated?

   If **YES,** then proceed to Step **9.**
   If **NO,** then continue with Step **7.**

7. ***Note:*** On **AIU** circuit packs equipped with a locking link located directly above the latch, the locking link must be moved to the side before the latch can be operated to remove **AIU.**

   Replace **AIU** with **AIU** removed previously.

8. Use SD-7C115-01 or SD-7C115-02 to check wiring. Repeat procedure from Step **4** after locating and correcting problem.

9. Press **ACO** button on faceplate of **AIU.**

10. Does CO MN alarm clear?

    If **YES,** then proceed to Step **15.**
    If **NO,** then continue with Step **11.**

SWITCH SUMMARY		
CLOSED	S2	OPEN
(UNUSED)	1	–
ALWAYS CLOSED	2	–
ALWAYS CLOSED	3	–
–	4	ALWAYS OPEN
–	5	ALWAYS OPEN
CO PMN FOR RT PMN	6*	CO MN FOR RT PMN
(UNUSED)	7	–
CO MN FOR RT PMN	8*	CO PMN FOR RT PMN

* Switches 6 and 8 should not be set to the same position.

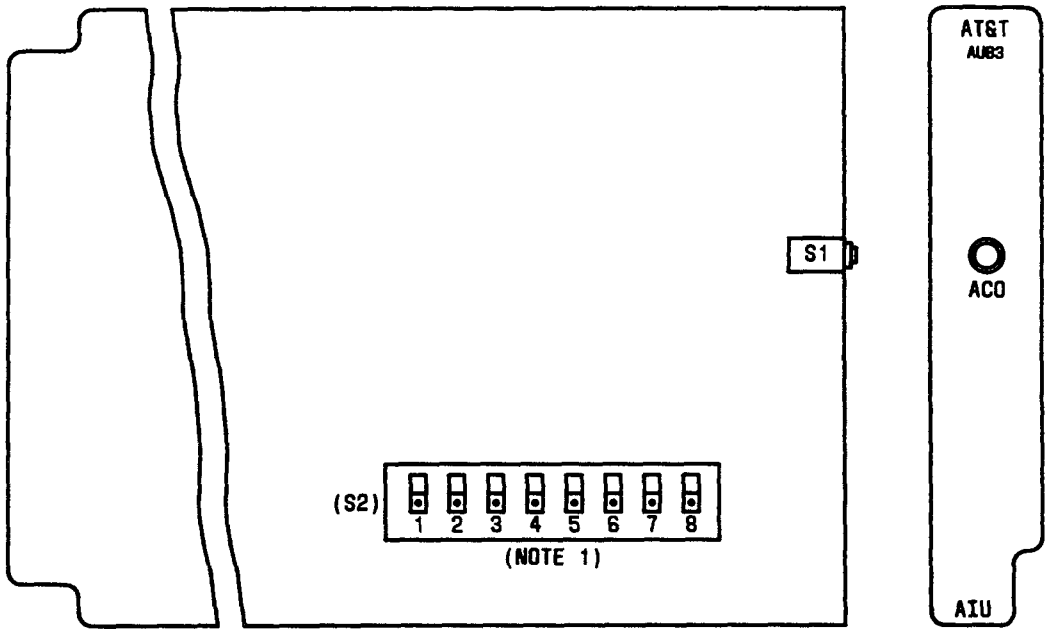


Figure 1—AIU Option Switch (Old Version)

11. ***Note:*** On **AIU** circuit packs equipped with a locking link located directly above the latch, the locking link must be moved to the side before the latch can be operated to remove **AIU**.

    Replace **AIU** and press **ACO** button on faceplate.

12. Does CO MN alarm clear?

    If **YES**, then proceed to Step 15.
    If **NO**, then continue with Step 13.

SWITCH SETTINGS		
ON	SWITCH POSITION	OFF
NOT USED	1	NOT USED
ALWAYS ON	2	NOT USED
ALWAYS ON	3	NOT USED
NOT USED	4	ALWAYS OFF
NOT USED	5	ALWAYS OFF
CO PMN FOR RT PMN	6*	CO MN FOR RT PMN
NOT USED	7	NOT USED
CO MN FOR RT PMN	8*	CO PMN FOR RT PM

* Do not set switch positions 6 and 8 to the same position.

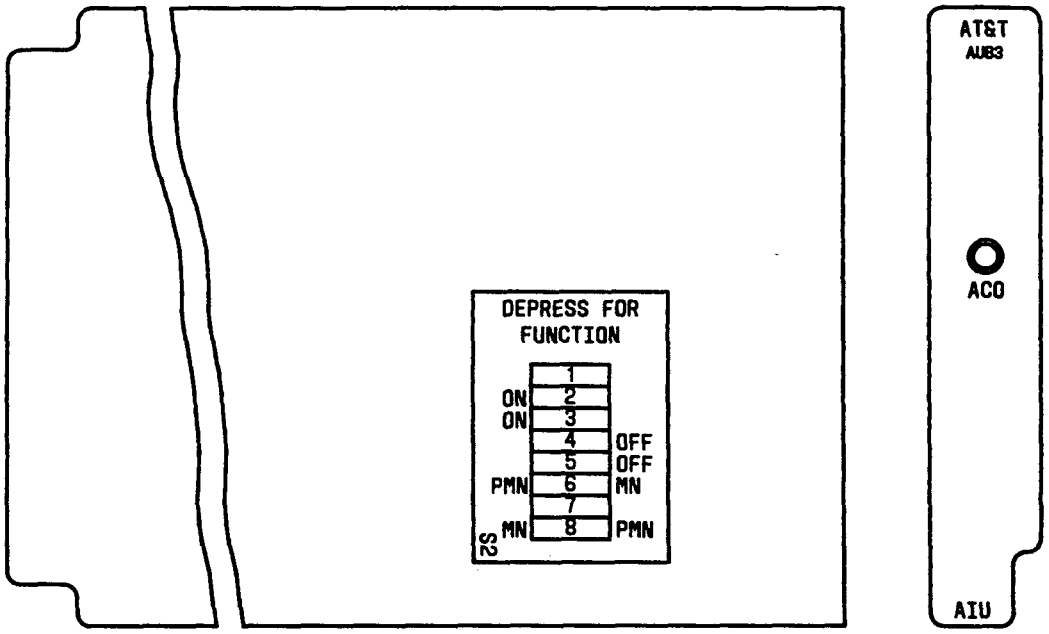


Figure 2—AIU Option Switch (New Version)

13. ***Note:*** On **AIU** circuit packs equipped with a locking link located directly above the latch, the locking link must be moved to the side before the latch can be operated to remove **AIU**.

    Replace **AIU** with **AIU** removed previously.

14. Use SD-7C115-01 or SD-7C115-02 to check wiring. Repeat procedure from Step **4** after locating and correcting problem.

15. ***Note:*** On **AIU** circuit packs equipped with a locking link located directly above the latch, the locking link must be moved to the side before the latch can be operated to remove **AIU**.

    Remove **AIU** from bank.

16. ***Note:*** If option switch **6** is set to **OFF** (open position), option switch **8** must be set to **ON** (closed position) or vice versa.

    Set **AIU** switches **6** and **8** on option switch **S2** according to engineering records (FIG. 1 or 2). Set switch **6** to **ON** (closed position) and switch **8** to **OFF** (open position) to cause CO PMN alarm whenever RT has PMN alarm. Set switch **6** to **OFF** (open position) and switch **8** to **ON** (closed position) to cause CO MN alarm whenever RT has PMN alarm.

17. Reinstall **AIU** into **AIU** slot and press **ACO** switch on **AIU**.

STOP. YOU HAVE COMPLETED THIS PROCEDURE

INSTALL ADU (ALARM DISPLAY UNIT)

1. Get one **AUB1** (FPA) or **AUB6** (FPC or FPD) **ADU** and inspect for possible damage.

2. On **ADU** option switch **S1** (FIG. 1) or **S2** (FIG. 2), use an orange stick (KS-6320, L1) or equivalent and set switches as follows:

   - **1** - Toward **PL** (away from number) for protection switching or toward **NPL** (toward number) for no protection switching.
   - **2** - On **AUB1** away from number. On **AUB6** toward **32** if system is FPD (low bit rate voice). Otherwise, set it toward **64**.
   - **3** - Toward **ABP** (away from number) if shelf group AB is being equipped.
   - **4** - Toward **CDP** (away from number).
   - **5** - Toward **ABU** (away from number).
   - **6** - Toward **CDU** (away from number).

3. Is **ADU** an **AUB6**?

   If **YES,** then continue with Step **4.**
   If **NO,** then proceed to Step **5.**

4. Set ID (system identification) switches **S3, S4, S5,** and **S6** on **ADU** per work order (for example, for system number 0123 or 123, set **S3** to **0, S4** to **1, S5** to **2,** and **S6** to **3**).

5. Is White bank being equipped at this time?

   If **YES,** then continue with Step **6.**
   If **NO,** then proceed to Step **7.**

6. ***Note:*** Before removing **ASU** (alarm suppressor unit), notify personnel in alarm monitoring areas that alarms associated with bank being equipped will be activated.

   Remove **ASU** (if present) from **ADU** slot.

7. ***Caution: Incorrectly set ADU option switches may result in immediate or future loss of service or may introduce errors into the digital bitstream.***

   Insert **ADU** into lower **ADU** slot if equipping blue bank or upper **ADU** slot if equipping white bank.

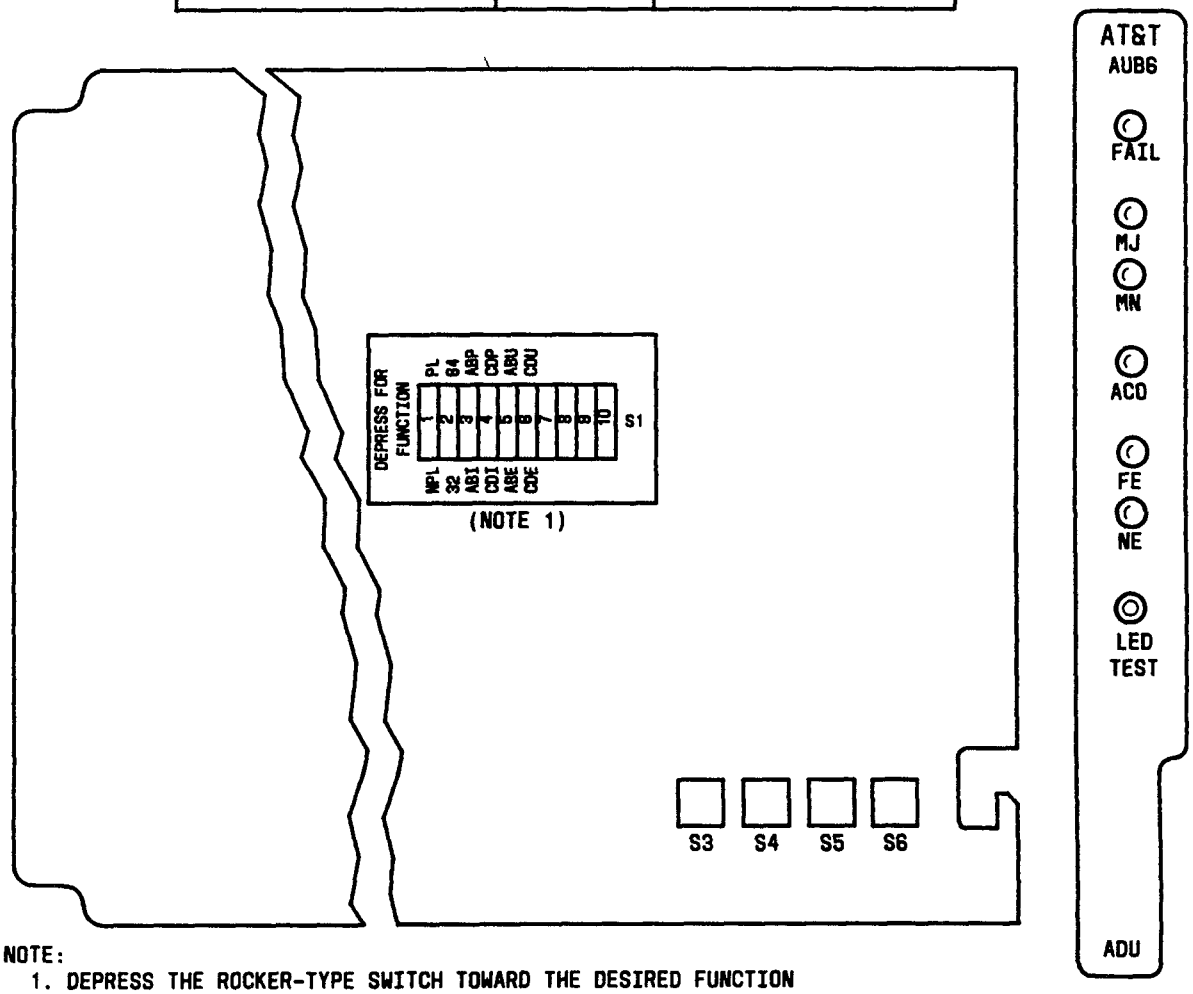
   Response: Disregard all indicators that may be lighted.

8. If any alarms are activated, press **ACO** button on **AIU**.

   Response: Central office alarms will be cleared.

STOP. YOU HAVE COMPLETED THIS PROCEDURE.

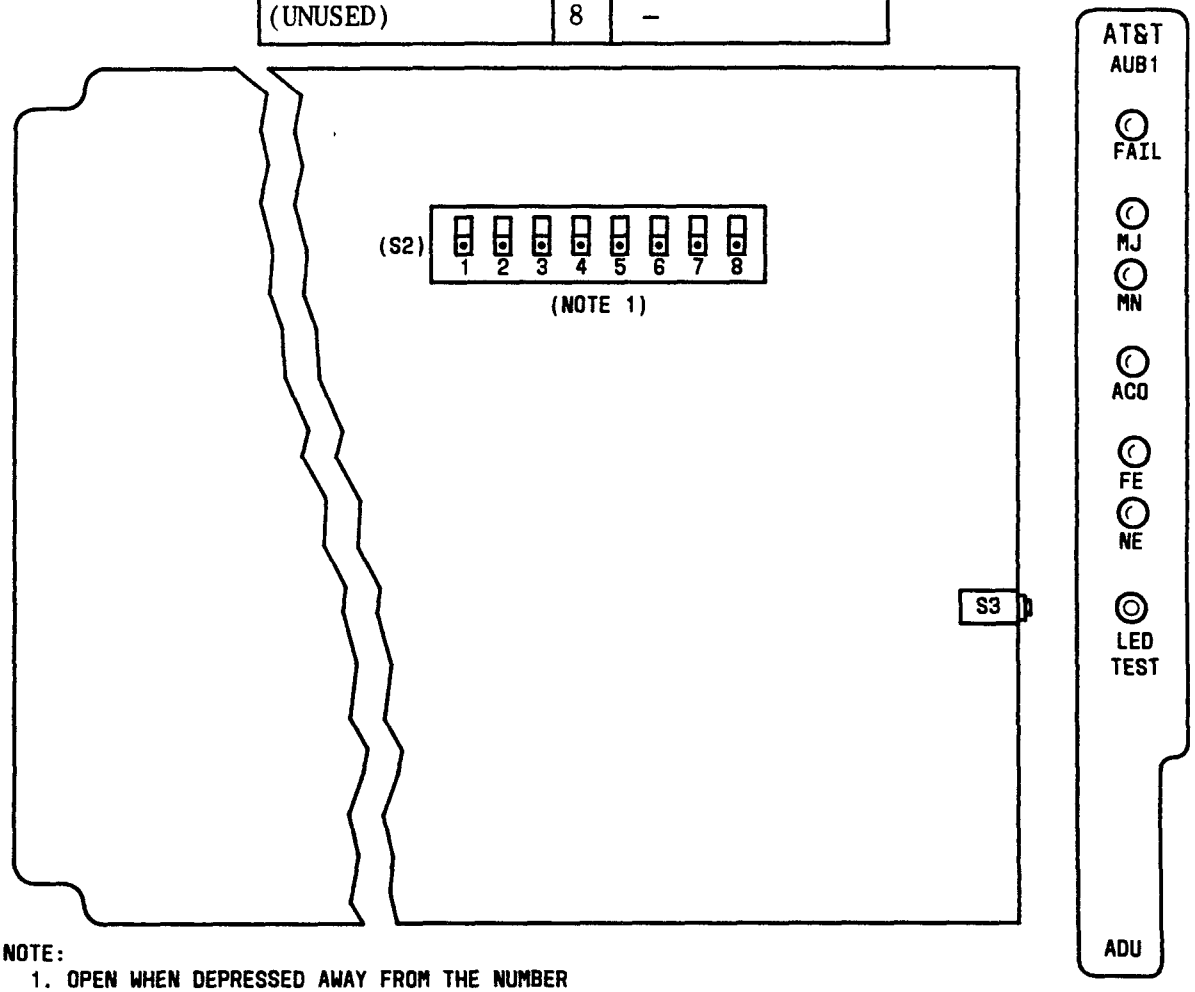
DEPRESS FOR FUNCTION	S1 POSITION	DEPRESS FOR FUNCTION
No Protection Line	1	Protection Line
32 Kb/s (LBRV)	2	64 Kb/s
AB In-Service	3	AB Pre-Service
CD In-Service	4	CD Pre-Service
AB Equipped	5	AB Unequipped
CD Equipped	6	CD Unequipped
(Unused)	7	–
(Unused)	8	–
(Unused)	9	–
(Unused)	10	–



NOTE:
1. DEPRESS THE ROCKER-TYPE SWITCH TOWARD THE DESIRED FUNCTION

Figure 1—COT AUB6 ADU Option Switches

SWITCH SETTINGS		
CLOSED	S2	OPEN
NO PROTECTION LINE	1	PROTECTION LINE
–	2	DS1
AB IN-SERVICE	3	AB PRE-SERVICE
CD IN-SERVICE	4	CD PRE-SERVICE
AB EQUIPPED	5	AB UNEQUIPPED
CD EQUIPPED	6	CD UNEQUIPPED
(UNUSED)	7	–
(UNUSED)	8	–



NOTE:
1. OPEN WHEN DEPRESSED AWAY FROM THE NUMBER
   CLOSED WHEN DEPRESSED TOWARDS THE NUMBER

Figure 2—COT AUB1 ADU Options

INSTALL BCU (BANK CONTROL UNIT)

1. Get one **MC97722A1** (FPA) (rated discontinued availability) or **MC97755A1** (FPC and FPD) **BCU** (FIG. 1) and inspect for possible damage.

2. Insert **BCU** into lower **BCU** slot if equipping Blue bank or upper **BCU** slot if equipping White bank.

3. Does **FAIL** indicators on **BCU** and **ADU** go off after approximately 20 seconds?

   If **YES**, then **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**
   If **NO**, then continue with Step **4.**

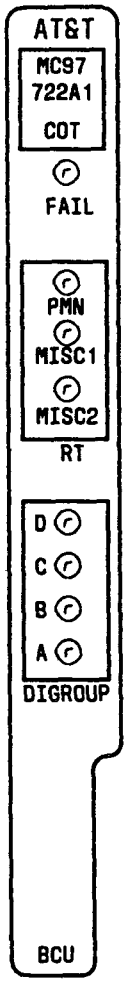


Figure 1—Bank Control Unit Faceplate

4. Is **BCU FAIL** indicator off?

   If **YES**, then continue with Step **5**.
   If **NO**, then proceed to Step **9**.

5. ***Caution: Incorrectly set ADU option switches may result in immediate or future loss of service or may introduce errors into the digital bitstream.***

   Replace **ADU**.

   Reference: **DLP-509**

6. Does **FAIL** indicators on **BCU** and **ADU** go off after approximately 20 seconds?

   If **YES**, then **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**
   If **NO**, then continue with Step **7**.

7. ***Caution: Incorrectly set ADU option switches may result in immediate or future loss of service or may introduce errors into the digital bitstream.***

   Replace **ADU** with **ADU** removed previously.

8. Check wiring using SD-7C115-01 or SD-7C115-02. Repeat procedure from Step **3** after locating and correcting problem.

9. Replace **BCU**.

10. Does **FAIL** indicators on **BCU** and **ADU** go off after approximately 20 seconds?

    If **YES**, then **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**
    If **NO**, then continue with Step **11**.

11. Replace **BCU** with **BCU** removed previously.

12. Has **ADU** been replaced?

    If **YES**, then continue with Step **13**.
    If **NO**, then proceed to Step **14**.

13. Check wiring using SD-7C115-01 or SD-7C115-02. Repeat procedure from Step **3** after locating and correcting problem.

14. ***Caution: Incorrectly set ADU option switches may result in immediate or future loss of service or may introduce errors into the digital bitstream.***

    Replace **ADU**.

    Reference: **DLP-509**

15. Does **FAIL** indicators on **BCU** and **ADU** go off after approximately 20 seconds?

    If **YES**, then **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**
    If **NO**, then continue with Step **16**.

16. ***Caution: Incorrectly set ADU option switches may result in immediate or future loss of service or may introduce errors into the digital bitstream.***

    Replace **ADU** with **ADU** removed previously.

17. Check wiring using SD-7C115-01 or SD-7C115-02. Repeat procedure from Step 3 after locating and correcting problem.

INSTALL EQUIPPED OPTION IN ADU (ALARM DISPLAY UNIT)

1. ***Note:*** Pressing the **ACO** button on the **AIU** will not cut off system alarms at this point in the procedure.

   Remove **ADU** (**AUB1** or **AUB6**) and press **ACO** button on **AIU**.

2. Are both AB and CD shelf groups being equipped?

   If **YES,** then continue with Step **3.**
   If **NO,** then proceed to Step **6.**

3. Is the **ADU** an **AUB1**?

   If **YES,** then continue with Step **4.**
   If **NO,** then proceed to Step **5.**

4. ***Note:*** Switch positions **1** and **2** on **ADU** option switch should not be moved during this procedure.

   On **ADU** (**AUB1**) option switch **S2** (FIG. 1), set switch positions **5** and **6** to closed position (depress rockers toward numbers) and proceed to Step **13.**

5. ***Note:*** Switch positions **1** and **2** on **ADU** option switch should not be moved during this procedure.

   On **ADU** (**AUB6**) option switch **S1** (FIG. 2) depress switch position **5** toward **ABE** and switch position **6** toward **CDE** and proceed to Step **13.**

6. Are AB shelf groups being equipped?

   If **YES,** then continue with Step **7.**
   If **NO,** then proceed to Step **10.**

7. Is the **ADU** an **AUB1**?

   If **YES,** then continue with Step **8.**
   If **NO,** then proceed to Step **9.**

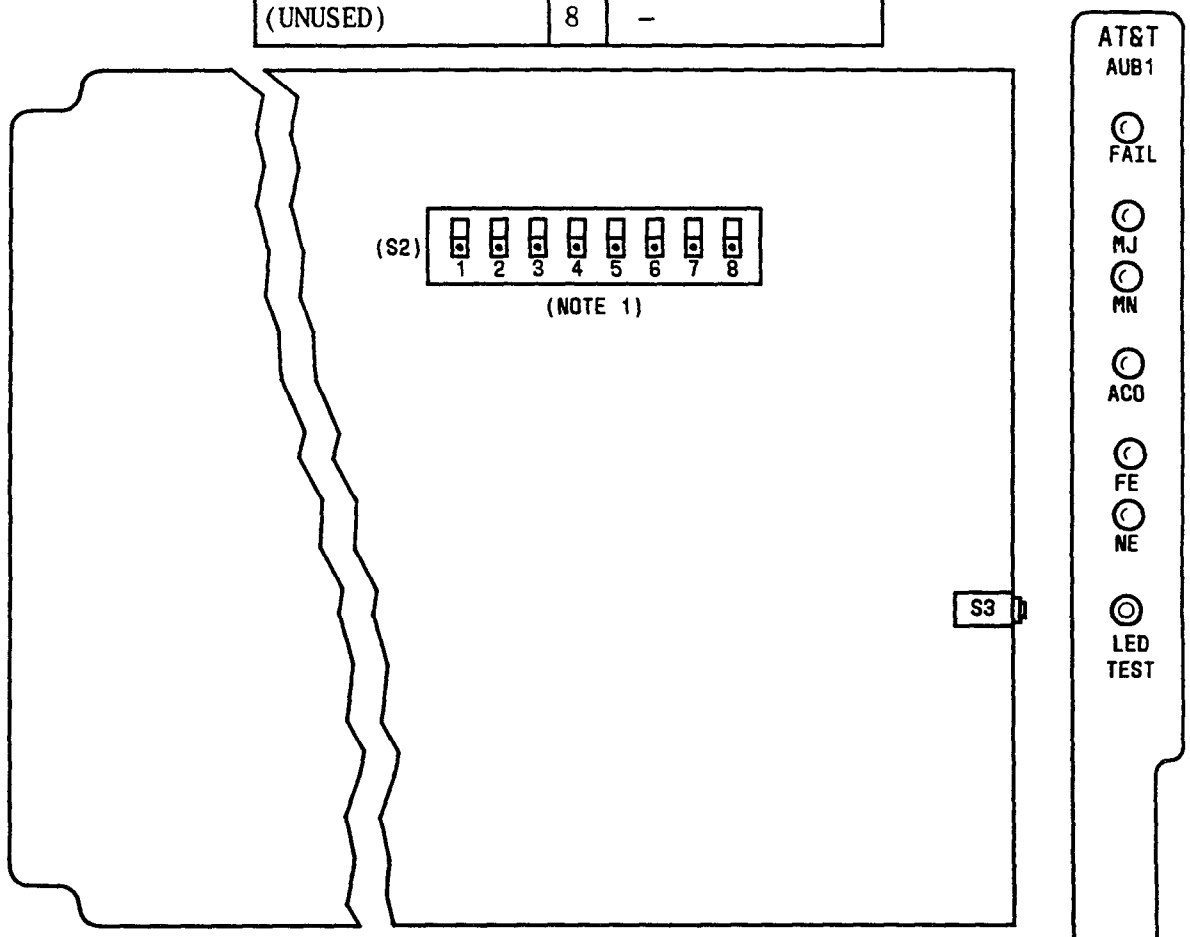
8. ***Note:*** Switch positions **1** and **2** on **ADU** option switch should not be moved during this procedure.

   On **ADU** (**AUB1**) option switch **S2** (FIG. 1), set switch position **5** to closed position (depress rocker toward number) and proceed to Step **13.**

9. ***Note:*** Switch positions **1** and **2** on **ADU** option switch should not be moved during this procedure.

   On **ADU** (**AUB6**) option switch **S1** (FIG. 2), depress switch position **5** toward **ABE** and proceed to Step **13.**

SWITCH SETTINGS		
CLOSED	S2	OPEN
NO PROTECTION LINE	1	PROTECTION LINE
–	2	DS1
AB IN-SERVICE	3	AB PRE-SERVICE
CD IN-SERVICE	4	CD PRE-SERVICE
AB EQUIPPED	5	AB UNEQUIPPED
CD EQUIPPED	6	CD UNEQUIPPED
(UNUSED)	7	–
(UNUSED)	8	–



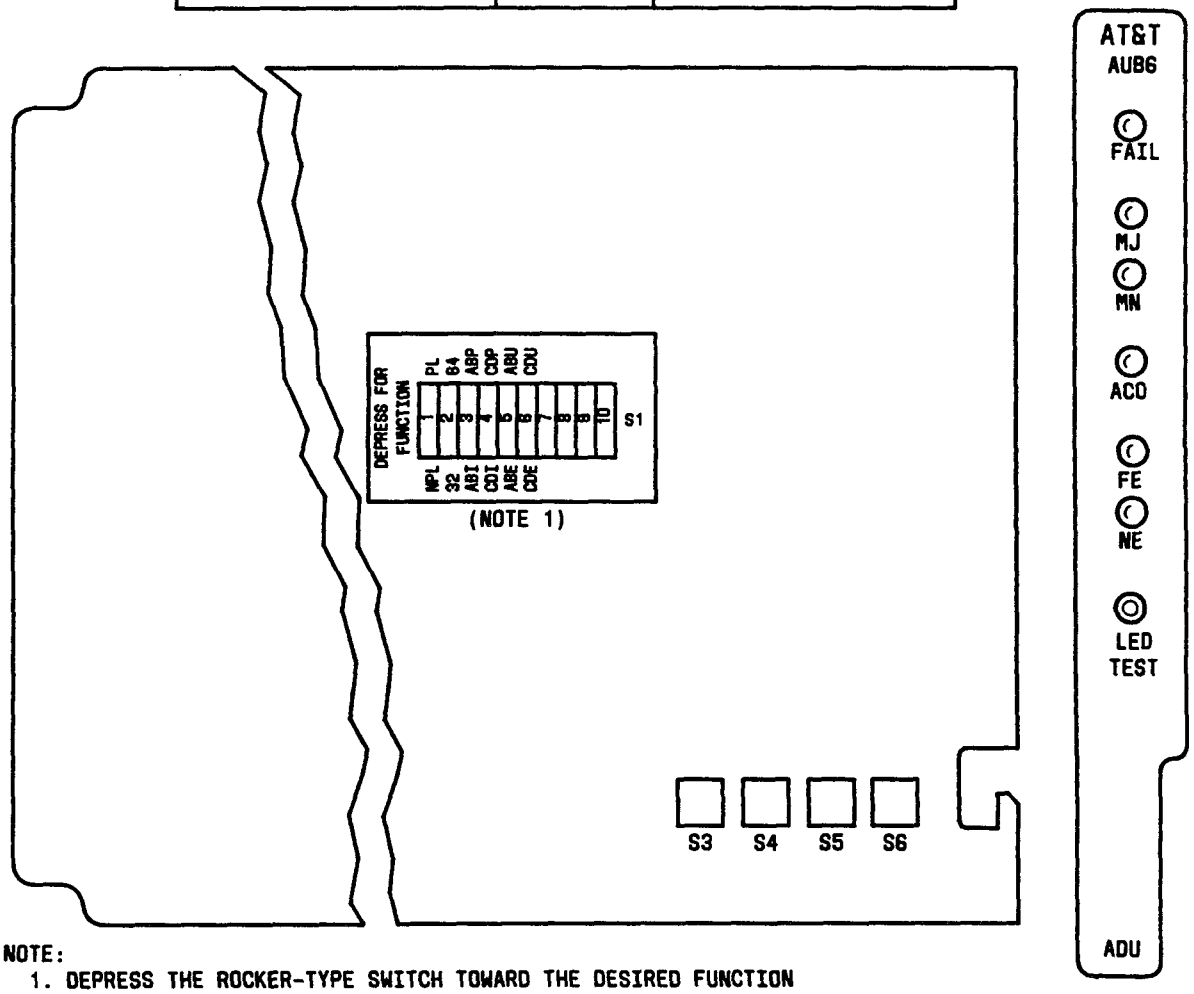
NOTE:
1. OPEN WHEN DEPRESSED AWAY FROM THE NUMBER
   CLOSED WHEN DEPRESSED TOWARDS THE NUMBER

Figure 1—COT AUB1 ADU Options

10. Is the **ADU** an **AUB1**?

    If **YES**, then continue with Step **11**.
    If **NO**, then proceed to Step **12**.

DEPRESS FOR FUNCTION	S1 POSITION	DEPRESS FOR FUNCTION
No Protection Line	1	Protection Line
32 Kb/s (LBRV)	2	64 Kb/s
AB In-Service	3	AB Pre-Service
CD In-Service	4	CD Pre-Service
AB Equipped	5	AB Unequipped
CD Equipped	6	CD Unequipped
(Unused)	7	–
(Unused)	8	–
(Unused)	9	–
(Unused)	10	–



NOTE:
1. DEPRESS THE ROCKER-TYPE SWITCH TOWARD THE DESIRED FUNCTION

Figure 2—COT AUB6 ADU Options

11. ***Note:*** Switch positions **1** and **2** on **ADU** option switch should not be moved during this procedure.

    On **ADU** (**AUB1**) option switch **S2** (FIG. 1) set switch position **6** to closed position (depress rocker toward number) and proceed to Step **13.**

12. ***Note:*** Switch positions **1** and **2** on **ADU** option switch should not be moved during this procedure.

    On **ADU** (**AUB6**) option switch **S1** (FIG. 2), depress switch position **6** toward **CDE.**

13. Has a **CTU** and/or a **DTU** already been installed in the dual bank assembly?

    If **YES,** then continue with Step **14.**
    If **NO,** then proceed to Step **24.**

14. ***Caution: Incorrectly set ADU option switches may result in immediate or future loss of service or may introduce errors into the digital bitstream.***

    Reinstall **ADU** into **ADU** slot.

15. After approximately 15 seconds, are **ADU MJ** and **NE** and **BCU A, B DIGROUP** indicators lighted (**BCU C, D DIGROUP** indicators will also be lighted if CD digroups are in the preservice and equipped state)?

    If **YES,** then **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**
    If **NO,** then continue with Step **16.**

16. Replace **BCU.**

17. After approximately 15 seconds, are **ADU MJ** and **NE** and **BCU A, B DIGROUP** indicators lighted (**BCU C, D DIGROUP** indicators will also be lighted if CD digroups are in the preservice and equipped state)?

    If **YES,** then **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**
    If **NO,** then continue with Step **18.**

18. Replace **BCU** with **BCU** removed previously.

19. Remove **ADU** and check settings of switches per work order.

20. Are switch settings correct?

    If **YES,** then continue with Step **21.**
    If **NO,** then proceed to Step **23.**

21. Get another **ADU** and set option switches to agree with option switch settings on **ADU** being removed.

22. ***Caution: Incorrectly set ADU option switches may result in immediate or future loss of service or may introduce errors into the digital bitstream.***

    Insert **ADU** into **ADU** slot in bank being equipped.

Response: After approximately 15 seconds **ADU MJ** and **NE** and **BCU A, B DIGROUP** indicators lighted. **BCU C, D DIGROUP** indicators will also be lighted if CD digroups are in the preservice and equipped state.

STOP. YOU HAVE COMPLETED THIS PROCEDURE.

23. Set switches on option switch to correct position and repeat from Step **22.**

24. ***Caution: Incorrectly set ADU option switches may result in immediate or future loss of service or may introduce errors into the digital bitstream.***

    Reinstall **ADU** into **ADU** slot.

25. After approximately 15 seconds, are **FAIL, MN,** and **NE** indicators on **ADU** lighted and MN (minor) alarm activated?

    If **YES,** then **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**
    If **NO,** then continue with Step **26.**

26. Replace **BCU.**

27. After approximately 15 seconds, are **FAIL, MN,** and **NE** indicators on **ADU** lighted and MN alarm activated?

    If **YES,** then **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**
    If **NO,** then continue with Step **28.**

28. Replace **BCU** with **BCU** removed previously.

29. Remove **ADU** and check settings of switches per work order.

30. Are switch settings correct?

    If **YES,** then continue with Step **31.**
    If **NO,** then proceed to Step **33.**

31. Get another **ADU** and set option switches to agree with option switch settings on **ADU** being removed.

32. ***Caution: Incorrectly set ADU option switches may result in immediate or future loss of service or may introduce errors into the digital bitstream.***

    Insert **ADU** into **ADU** slot in bank being equipped.

    Response: After approximately 15 seconds, **FAIL, MN,** and **NE** indicators on **ADU** are lighted and MN alarm is activated.

    STOP. YOU HAVE COMPLETED THIS PROCEDURE.

33. Set switches on option switch to correct position and repeat from Step **32.**

INSTALL AND TEST POWER CONVERTER UNITS IN BLUE AND/OR WHITE AB SHELVES

SUMMARY: Install **PCU** (power converter unit) in both Blue and White AB shelves and verify that **FAIL** indicators go off and remain off. Measure –42 to –56 V DC at each **PCU** faceplate.

1. Get one **PCU** (**AUA11**, **AUA11B**, or **AUA11C**) and inspect for possible damage.

2. Insert **PCU** into AB (lower) shelf **PCU** slot of Blue or White channel bank.

   Response: **MN**, **NE**, and **FAIL** indicators on respective **ADU** are lighted. **PCU FAIL** indicator is off.

3. Is **PCU FAIL** indicator off?

   If **YES**, then proceed to Step **10.**
   If **NO**, then continue with Step **4.**

4. Remove **PCU.**

5. Obtain a replacement **PCU.**

6. Insert replacement **PCU** into lower shelf **PCU** slot.

7. Does **FAIL** indicator on **PCU** go off and remain off?

   If **YES**, then proceed to Step **10.**
   If **NO**, then continue with Step **8.**

8. Replace **PCU** with **PCU** removed previously.

9. Check wiring using SD-7C115-01 or SD-7C115-02. Repeat procedure from Step **3** after locating and correcting problem.

10. Condition DMM to measure volts DC.

11. On **PCU** faceplate, connect DMM test leads to **GND** jack and **–48** jack.

12. Does DMM indicate between –42 and –56 volts?

    If **YES**, then proceed to Step **22.**
    If **NO**, then continue with Step **13.**

13. Verify that wiring from power shelf to **PCU** in AB shelf is present and connected properly.

14. Is wiring present and connected properly?

    If **YES**, then proceed to Step **16.**
    If **NO**, then continue with Step **15.**

15. Resolve problems through local procedures. Repeat procedure from Step 6 after locating and correcting trouble.

16. Replace **PCU**.

17. Does **FAIL** indicator on **PCU** go off and remain off?

    If **YES,** then continue with Step **18.**
    If **NO,** then return to Step **4.**

18. On **PCU** faceplate, connect DMM test leads to **GND** jack and **-48** jack.

19. Does DMM indicate between –42 and –56 volts?

    If **YES,** then proceed to Step **22.**
    If **NO,** then continue with Step **20.**

20. Replace **PCU** with **PCU** removed previously.

21. Check wiring using SD-7C115-01 or SD-7C115-02. Repeat procedure from Step 3 after locating and correcting problem.

22. Disconnect DMM test leads.

23. Is **PCU** to be installed in remaining White or Blue AB (lower) shelf of channel bank?

    If **YES,** then return to Step **1.**
    If **NO,** then **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**

INSTALL TRU (TRANSMIT/RECEIVE UNIT) IN AB SHELF

1. Get one **TRU** (**AUA1**) and inspect for possible damage.

2. While observing indicators on **TRU** faceplate, insert **TRU** into **TRU** slot located in AB (lower) shelf of channel bank.

   Response: **TRU FAIL** indicator lights momentarily, **ADU MJ** and **NE** indicators lighted and **DIGROUP A, B** indicators on **BCU** lighted. **DIGROUP C, D** indicators on **BCU** will also be lighted if CD digroups are in pre-service/equipped state.

3. Press **ACO** button on **AIU**.

   Response: MJ alarm is cleared. **ACO, MJ,** and **NE** indicators on **ADU** and **DIGROUP A, B** indicators on **BCU** are lighted (**DIGROUP C, D** indicators on **BCU** will also be lighted if CD digroups are in pre-service/equipped state).

4. Did **FAIL** indicator on **TRU** go off and remain off?

   If **YES,** then proceed to Step **17.**
   If **NO,** then continue with Step **5.**

5. Replace **TRU** in AB shelf.

6. While observing indicators on **TRU** faceplate, insert **TRU** into **TRU** slot located in AB (lower) shelf of channel bank.

   Response: **TRU FAIL** indicator lights momentarily, **ADU MJ** and **NE** indicators are lighted and **DIGROUP A, B** indicators on **BCU** lighted. **DIGROUP C, D** indicators on **BCU** will also be lighted if CD digroups are in pre-service/equipped state.

7. Press **ACO** button on **AIU**.

   Response: MJ alarm is cleared and **ACO** indicator on **ADU** is lighted.

8. Does **FAIL** indicator on **TRU** go off and remain off?

   If **YES,** then proceed to Step **17.**
   If **NO,** then continue with Step **9.**

9. Remove **ADU** and check option switch **S2** for correct settings.

   Reference: **DLP-511**

10. Are option switch settings on **ADU** correct?

    If **YES,** then proceed to Step **13.**
    If **NO,** then continue with Step **11.**

11. Change **ADU** option switch(es) to correct position and reinsert **ADU** into **ADU** slot.

12. Replace **TRU** with **TRU** removed previously while observing indicators on **TRU** faceplate and repeat from Step **2.**

13. ***Caution: Incorrectly set ADU option switches may result in immediate or future loss of service or may introduce errors into the digital bitstream.***

    Replace **ADU** with a correctly optioned **ADU.**

    Reference: **DLP-511**

14. Replace **TRU** with **TRU** removed previously while observing indicators on **TRU** faceplate.

15. Does **FAIL** indicator on **TRU** go off and remain off?

    If **YES,** then proceed to Step **17.**
    If **NO,** then continue with Step **16.**

16. ***Caution: Incorrectly set ADU option switches may result in immediate or future loss of service or may introduce errors into the digital bitstream.***

    Replace **ADU** with **ADU** removed previously and check wiring using SD-7C115-01 or SD-7C115-02. Repeat procedure from Step **2** after locating and correcting trouble.

17. Did **FAIL** indicator on **TRU** light momentarily?

    If **YES,** then proceed to Step **23.**
    If **NO,** then continue with Step **18.**

18. Replace **TRU** while observing indicators on **TRU** faceplate.

19. Does **FAIL** indicator on **TRU** go off and remain off?

    If **YES,** then continue with Step **20.**
    If **NO,** then return to Step **6.**

20. Did **FAIL** indicator on **TRU** light momentarily?

    If **YES,** then proceed to Step **23.**
    If **NO,** then continue with Step **21.**

21. Replace **TRU** with **TRU** removed previously while observing indicators on **TRU** faceplate.

22. Check wiring between **PCU** and **TRU** using SD-7C115-01 or SD-7C115-02. Repeat procedure from Step **2** after locating and correcting trouble.

23. Is **FAIL** indicator on **BCU** off?

    If **YES,** then **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**
    If **NO,** then continue with Step **24.**

24. Replace **BCU.**

25. After approximately 14 seconds, is **FAIL** indicator on **BCU** off?

    If **YES**, then **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**
    If **NO**, then continue with Step **26.**

26. Replace **BCU** with **BCU** removed previously.

27. Replace **TRU** in AB shelf while observing indicators on **TRU** faceplate and repeat from Step **2.**

INSTALL LIU (LINE INTERFACE UNIT)

SUMMARY: Set option switches located on side of **LIU** circuit board Insert **LIU** into facility shelf in appropriate **LIU** slot. Verify that **FAIL** indicator on **LIU** lights momentarily and then goes off and remains off.

1. ***Warning:*** ***An*** **AUA62, AUA62B, AUA62C** or **AUA62D** (line powering) **LIU** should *not* be installed in any *SLC* Series 5 carrier system dual bank assembly that is used in conjunction with a lightwave multiplexer.

   Caution: Incorrectly set LIU option switches may result in immediate or future loss of service or may introduce errors into the digital bitstream. All LIUs in the same bank should have identical option switch settings.

   Get one **LIU** (FIG. 1, FIG. 2, or FIG. 3) and inspect for possible damage.

2. Is **LIU AUA61, AUA61B, AUA61C** or **AUA61D** being installed in the channel bank?

   If **YES,** then continue with Step **3.**
   If **NO,** then proceed to Step **6.**

3. Using orange stick (KS-6320, L1) or equivalent, set equalizer switches **S400** on **LIU AUA61/AUA61B** or **S2** on **LIU AUA61C** or **AUA61D** per work order (TABLE A).

4. Is **LIU** an **AUA61B, AUA61C** or **AUA61D**?

   If **YES,** then continue with Step **5.**
   If **NO,** then proceed to Step **7.**

5. Set loopback enable/disable switch (**S700** or **S3**) to **ENB** if the channel bank is connected to a DDM-1000 Multiplexer. Otherwise, set it to the **DIS** position and proceed to Step **7.**

6. Using orange stick (KS-6320, L1) or equivalent, set transmit and receive pad switches on **LIU** per work order (TABLE B).

7. ***Note:*** Framing format switches are not present on **AUA61C** or **AUA61D, AUA62C** or **AUA62D,** and **AUA64C** or **AUA64D LIUs.**

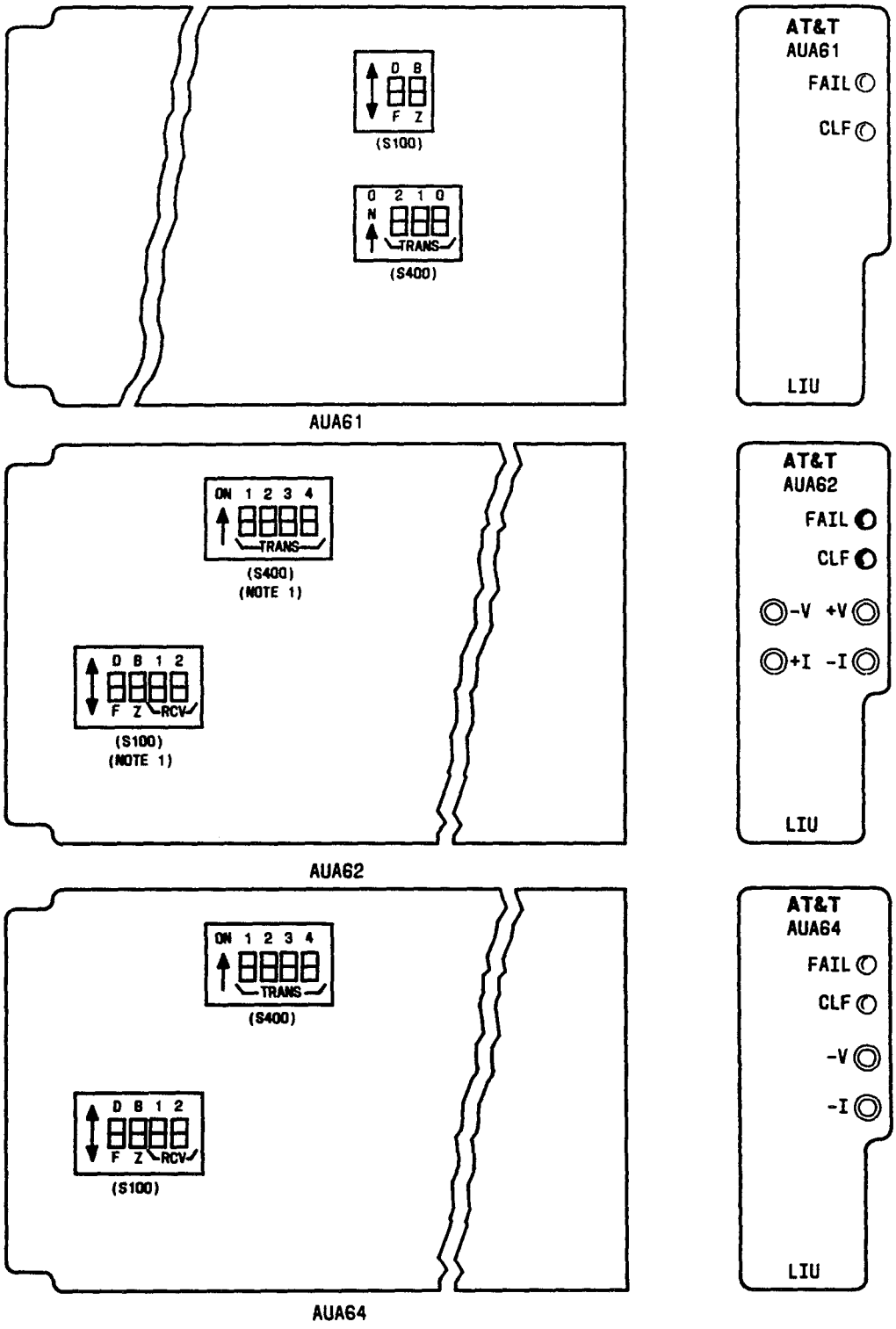
   Using orange stick (KS-6320, L1) or equivalent, set line coding and framing format switches on **LIU** per work order (TABLE C).

8. Is **LIU AUA61B, AUA61C** or **AUA61D, AUA62B, AUA62C** or **AUA62D, AUA64B,** or **AUA64C** or **AUA64D** being installed in the channel bank?

   If **YES,** then continue with Step **9.**
   If **NO,** then proceed to Step **11.**

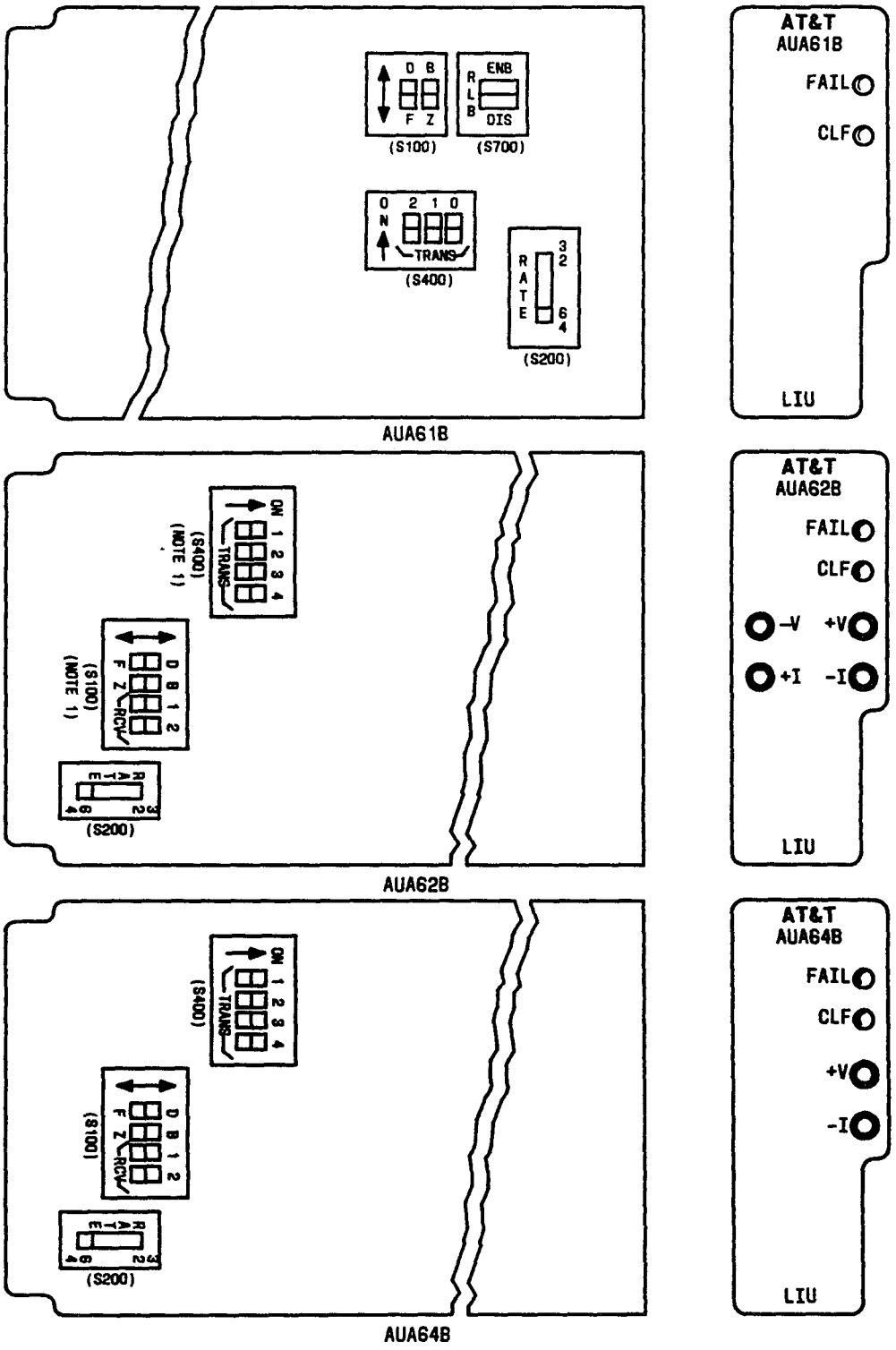
9. Is **LIU** being installed in the channel bank assembly equipped for FPD capability?

   If **YES,** then proceed to Step **11.**
   If **NO,** then continue with Step **10.**



NOTE: 1. AUA62 HAS A DAUGHTER BOARD. HOWEVER, S100 AND S400 ARE ACCESSIBLE THROUGH HOLES IN THE DAUGHTER BOARD.

Figure 1—AUA61, AUA62, and AUA64 LIU Option Switches



NOTE 1: AUA62B HAS A DAUGHTER BOARD. HOWEVER, S100 AND S400 ARE ACCESSIBLE THROUGH HOLES IN THE DAUGHTER BOARD.

Figure 2—AUA61B, AUA62B, and AUA64B LIU Option Switches

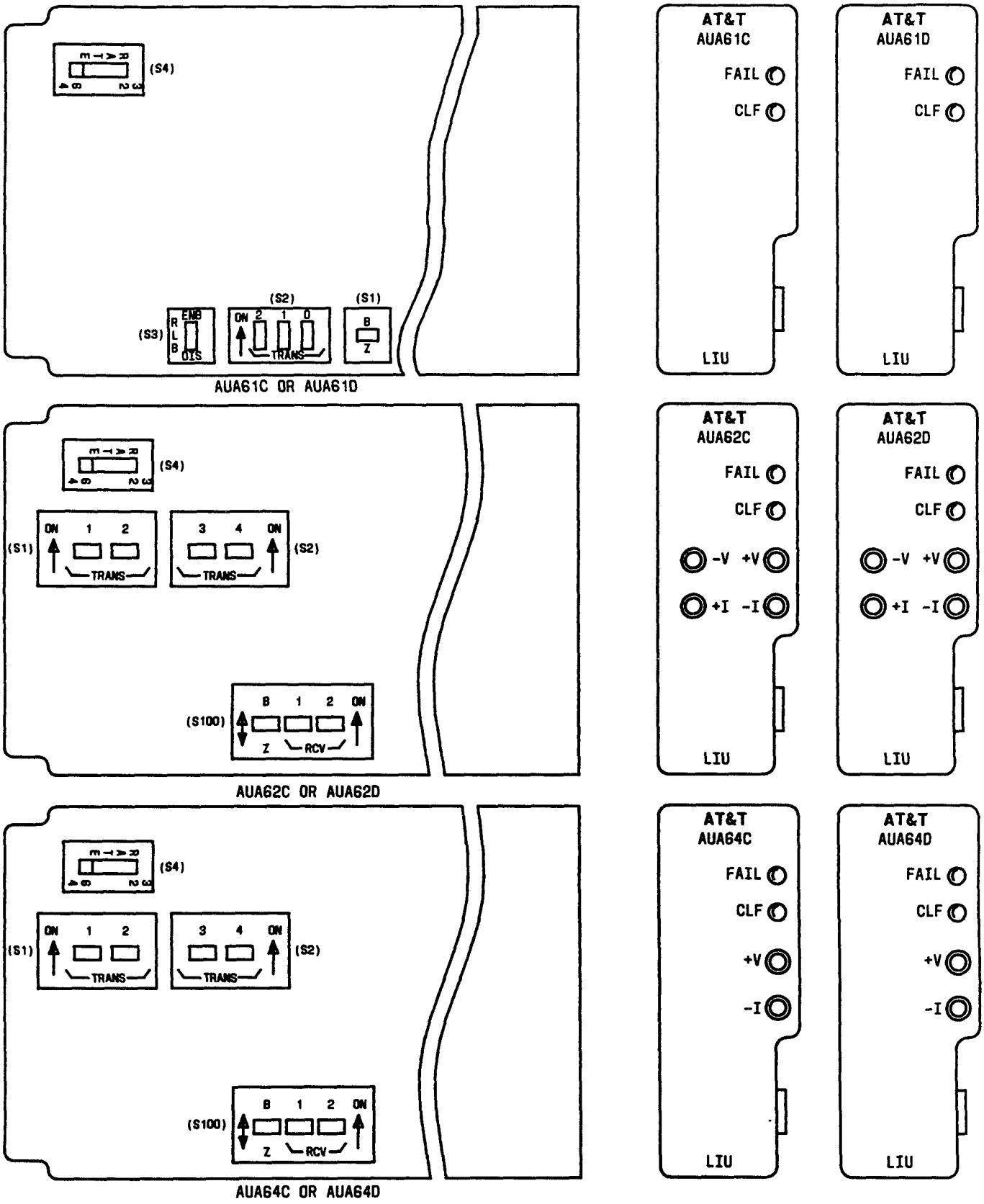


Figure 3—AUA61C or AUA61D, AUA62C or AUA62D, and AUA64C or AUA64D LIU Option Switches

TABLE A

AUA61( )
LIU EQUALIZER SETTINGS

DISTANCE TO DSX-1	EQUALIZER SWITCH (S400/S2) SETTING		
(FEET)	2	1	0
0-132	OFF	OFF	ON
133-265	OFF	ON	OFF
266-398	OFF	ON	ON
399-532	ON	OFF	OFF
533-655	ON	OFF	ON

TABLE B

AUA62( ) AND AUA64( ) LIU TRANSMIT/RECEIVE PAD SETTING

INSERTED LOSS	TRANSMIT PAD (S400/S1, S2) SWITCH SETTINGS				RECEIVE PAD (S100) SWITCH SETTINGS	
(dB)	1	2	3	4	1	2
22.5	OFF	OFF	OFF	ON	—	—
15.0	OFF	OFF	ON	OFF	—	—
7.5	OFF	ON	OFF	OFF	OFF	ON*
0	ON	OFF	OFF	OFF	ON*	OFF

* ON when depress toward the numbers.

10. Set channel PCM-rate switch (**S200** or **S4**) to **64**. Continue with Step **12**.

11. Set channel PCM-rate switch (**S200** or **S4**) to **32**.

TABLE C
LIU LINE CODING AND FRAMING FORMAT SWITCH SETTINGS

OPTION DESCRIPTION	LIU SWITCH (S1/S100) SETTINGS
B8ZS CODING	B
ZCS CODING	Z†
ESF (Fe) FRAMING FORMAT*	F
Fs FRAMING FORMAT*	D‡

* Not present on AUA61C/D, AUA62C/D, or AUA64C/D LIUs.
† Use Z for FPB and FPC-AutoCut applications.
‡ *SLC* Series 5 Mode 96 (FPB) use only.

12. ***Note 1:*** **Read this Step completely before inserting LIU.** TABLEs D and E list alarm indicators that are present after the LIU, for your system configuration (Feature Package with or without protection), has been installed. These alarm indicators are listed on the same row as the LIU to be installed.

    Note 2: After installing **LIU** if the associated **DIGROUP**(s) indicator(s) on **BCU** does not go out, verify that option switch settings on **ADU** and **LIU** are correct.

    Insert **LIU** into appropriate slot in facility shelf (left side for blue bank or right side for white bank) while observing indicators on **LIU** faceplate. See TABLE D or E for alarm indicators that change when the LIU is installed (for your Feature Package configuration).

    Response: **LIU FAIL** indicator lights momentarily then goes off, and the associated **DIGROUP**(s) indicator(s) on **BCU** go off.

    Comment: If the **LIU FAIL** indicator does not go off, press and hold the **ADU LED TEST** button. If the **LIU FAIL** indicator goes off while the button is pressed, the circuit pack is not compatible with the channel bank application. Get the correct code circuit pack and verify **ADU** option switches are correct. The **AUB27 ADU CMP** indicator will light if the ADU is optioned wrong, an incompatible LIU was installed, or a wrong LIU option was set.

13. Did **FAIL** indicator on **LIU** light momentarily?

    If **YES,** then proceed to Step **26.**
    If **NO,** then continue with Step **14.**

14. Replace **LIU** with correctly optioned **LIU** while observing **FAIL** indicator on **LIU** faceplate.

15. Did **FAIL** indicator on **LIU** light momentarily?

    If **YES,** then proceed to Step **26.**
    If **NO,** then continue with Step **16.**

TABLE D
STATUS INDICATORS FOR DIGROUPS AB

System Configuration		LIU to be installed	ADU indicators			BCU indicators			
Digroups AB to be equipped									
Protection	Feature Package ( )		MJ	MN	NE	A	B	C	D
With Protection	A, B Mode 1, or C	LIU-A	on		on	off	on		
		LIU-B	off	on	on		off		
		LIU-P		off	off				
	B Mode 2 or D	LIU-A	off	on	on	off	off		
		LIU-P		off	off				
Without Protection	A, B Mode 1, or C	LIU-A	on		on	off	on		
		LIU-B	off		off		off		
	B Mode 2 or D	LIU-A	off		off	off	off		
Digroups AB and CD to be equipped			MJ	MN	NE	A	B	C	D
With or Without Protection	A, B Mode 1, or C	LIU-A	on		on	off	on	on	on
		LIU-B	on		on		off	on	on
	B Mode 2 or D	LIU-A	on		on	off	off	on	on

TABLE E
STATUS INDICATORS FOR DIGROUPS CD

System Configuration		LIU to be installed	ADU indicators			BCU indicators	
Digroups CD to be equipped							
Protection	Feature Package ( )		MJ	MN	NE	C	D
When Adding Protection	A, B Mode 1, or C	LIU-C	on		on	off	on
		LIU-D	off	on	on		off
		LIU-P		off	off		
	B Mode 2 or D	LIU-C	off	on	on	off	off
		LIU-P		off	off		
When Not Adding Protection	A, B Mode 1, or C	LIU-C	on		on	off	on
		LIU-D	off		off		off
	B Mode 2 or D	LIU-C	off		off	off	off

16. Replace **TRU** associated with LIU. (TRU in AB shelf for LIUs A, B, or P. TRU in CD shelf for LIU C or D.)

17. Replace **LIU** with **LIU** removed previously while observing **FAIL** indicator on **LIU** faceplate.

18. Did **FAIL** indicator on **LIU** light momentarily?

    If **YES,** then proceed to Step **26.**
    If **NO,** then continue with Step **19.**

19. Unseat **LIU.**

20. Replace **TRU** with **TRU** removed previously.

21. ***Caution: Incorrectly set ADU option switches may result in immediate or future loss of service or may introduce errors into the digital bitstream.***

    Replace **ADU** with a correctly optioned **ADU.**

    References: **DLP-524, DLP-526**

22. Reseat **LIU** while observing **FAIL** indicator on **LIU** faceplate.

23. After approximately 20 seconds, did **FAIL** indicator on **LIU** light momentarily?

    If **YES,** then proceed to Step **26.**
    If **NO,** then continue with Step **24.**

24. ***Caution: Incorrectly set ADU option switches may result in immediate or future loss of service or may introduce errors into the digital bitstream.***

    Replace **ADU** with **ADU** removed previously.

25. Check wiring between **PCU** in AB shelf and **LIU** using SD-7C117-01 or SD-7C117-02. Repeat procedure from Step **14** after locating and correcting trouble.

26. Did **FAIL** indicator on **LIU** go off and remain off?

    If **YES,** then **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**
    If **NO,** then continue with Step **27.**

27. Remove and reinsert **ADU.**

28. Did **FAIL** indicator on **LIU** go off and remain off?

    If **YES,** then **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**
    If **NO,** then continue with Step **29.**

29. Replace **LIU** with correctly optioned **LIU** while observing **FAIL** indicator on **LIU** faceplate.

30. Did **FAIL** indicator on **LIU** go off and remain off?

    If **YES,** then **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**
    If **NO,** then continue with Step **31.**

31. Replace **LIU** with **LIU** removed previously.

32. Check wiring using SD-7C117-01 or SD-7C117-02. Repeat procedure from Step **14** after locating and correcting trouble.

INSTALL AND TEST PCU (POWER CONVERTER UNIT) IN CD SHELF

SUMMARY: Install **PCU** in CD shelf and verify that **FAIL** indicator goes off and remains off. Measure –42 to –56 V DC at **PCU** faceplate.

1. Get one **PCU** (**AUA11**, **AUA11B**, or **AUA11C**) and inspect for possible damage.

2. Are digroups A and B presently in service?

   If **YES,** then continue with Step **3.**
   If **NO,** then proceed to Step **4.**

3. Insert **PCU** into **PCU** slot in CD (upper) shelf of channel bank.

   Response: **FAIL, ACO, MJ,** and **NE** indicators on **ADU** and **DIGROUP C** and **D** indicators on **BCU** are lighted. **FAIL** indicator on **PCU** should be off.

   Proceed to Step **5.**

4. Insert **PCU** into **PCU** slot in CD (upper) shelf of channel bank.

   Response: **ACO, MJ,** and **NE** indicators on **ADU** and **DIGROUP C, D** indicators on **BCU** are lighted. **FAIL** indicator on **PCU** should be off.

5. Does **FAIL** indicator on **PCU** go off and remain off?

   If **YES,** then proceed to Step **10.**
   If **NO,** then continue with Step **6.**

6. Replace **PCU.**

7. Does **FAIL** indicator on **PCU** go off and remain off?

   If **YES,** then proceed to Step **10.**
   If **NO,** then continue with Step **8.**

8. Replace **PCU** with **PCU** removed previously.

9. Use SD-7C115-01 or SD-7C115-02 to check wiring. Repeat procedure from Step **2** after locating and correcting trouble.

10. Condition DMM to measure volts DC.

11. On **PCU** faceplate, connect DMM test leads to **GND** jack and **48** jack.

12. Does DMM indicate between –42 and –56 volts?

    If **YES,** then proceed to Step **22.**
    If **NO,** then continue with Step **13.**

13. Verify that wiring from power shelf to **PCU** in facility shelf is present and connected properly.

14. Is wiring present and properly connected?

    If **YES,** then proceed to Step **16.**
    If **NO,** then continue with Step **15.**

15. Resolve problem through local procedures. Repeat procedure from Step **2** after trouble is located and corrected.

16. Replace **PCU.**

17. Does **FAIL** indicator on **PCU** go off and remain off?

    If **YES,** then continue with Step **18.**
    If **NO,** then proceed to Step **4.**

18. On **PCU** faceplate, connect DMM test leads to **GND** jack and **48** jack.

19. Does DMM indicate between –42 and –56 volts?

    If **YES,** then proceed to Step **22.**
    If **NO,** then continue with Step **20.**

20. Replace **PCU** with **PCU** removed previously.

21. Check wiring using SD-7C115-01 or SD-7C115-02. Repeat procedure from Step **2** after locating and correcting trouble.

22. Disconnect DMM test leads.

STOP. YOU HAVE COMPLETED THIS PROCEDURE

INSTALL TRU (TRANSMIT/RECEIVE UNIT) IN CD SHELF

1. Get one **TRU** (**AUA1**) and inspect for possible damage.

2. Have A and B digroups already been placed into service?

   If **YES**, then proceed to Step **4.**
   If **NO**, then continue with Step **3.**

3. While observing indicators on **TRU** faceplate, insert **TRU** into **TRU** slot located in CD (upper) shelf of channel bank.

   Response: **TRU FAIL** indicator lights momentarily; **ACO**, **MJ**, and **NE** indicators on **ADU** and **DIGROUP C, D** indicators on **BCU** are lighted.

   Proceed to Step **5.**

4. While observing indicators on **TRU** faceplate, insert **TRU** into **TRU** slot located in CD (upper) shelf of channel bank.

   Response: **TRU FAIL** indicator lights momentarily; **FAIL**, **ACO**, **MJ**, and **NE** indicators on **ADU** and **DIGROUP C** and **D** indicators on **BCU** are lighted.

5. Does **FAIL** indicator on **TRU** go off?

   If **YES**, then proceed to Step **19.**
   If **NO**, then continue with Step **6.**

6. Remove and then reinsert **ADU.**

7. Does the **FAIL** indicator on **TRU** go off after approximately 15 seconds?

   If **YES**, then proceed to Step **19.**
   If **NO**, then continue with Step **8.**

8. Replace **TRU** in CD shelf while observing indicators on **TRU** faceplate.

9. Does **FAIL** indicator on **TRU** go off and remain off?

   If **YES**, then proceed to Step **19.**
   If **NO**, then continue with Step **10.**

10. Remove **ADU** and verify that option switches are set correctly.

    Reference: **DLP-511**

11. Are option switches on **ADU** set correctly?

    If **YES**, then proceed to Step **14.**
    If **NO**, then continue with Step **12.**

12. Change option switches on **ADU** to correct settings.

13. Wait 20 seconds then replace **TRU** with **TRU** removed previously and repeat from Step **2.**

14. Replace **TRU** with **TRU** removed previously while observing indicators on **TRU** faceplate.

15. ***Caution: Incorrectly set ADU option switches may result in immediate or future loss of service or may introduce errors into the digital bitstream.***

    Replace **ADU** with a correctly optioned **ADU.**

16. Does **FAIL** indicator on **TRU** go off and remain off?

    If **YES,** then proceed to Step **19.**
    If **NO,** then continue with Step **17.**

17. ***Caution: Incorrectly set ADU option switches may result in immediate or future loss of service or may introduce errors into the digital bitstream.***

    Replace **ADU** with **ADU** removed previously.

18. Check wiring using SD-7C115-01 or SD-7C115-02. Repeat procedure from Step **2** after locating and correcting trouble.

19. Did **FAIL** indicator on **TRU** light momentarily?

    If **YES,** then **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**
    If **NO,** then continue with Step **20.**

20. Replace **TRU** in CD shelf while observing indicators on **TRU** faceplate.

21. Did **FAIL** indicator on **TRU** go off and remain off?

    If **YES,** then continue with Step **22.**
    If **NO,** then proceed to Step **6.**

22. Did **FAIL** indicator on **TRU** light momentarily?

    If **YES,** then **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**
    If **NO,** then continue with Step **23.**

23. Replace **TRU** with **TRU** removed previously while observing indicators on **TRU** faceplate.

24. Check wiring between **PCU** and **TRU** on CD shelf using SD-7C115-01 or SD-7C115-02. Repeat procedure from Step **2** after locating and correcting trouble.

INSTALL LSU (LINE SWITCH UNIT) IN FACILITY SHELF

1. *Note:* An **AUA13 LSU** cannot be used in a COT channel bank assembly equipped for FPD operation.

   Get one **LSU** (**AUA13** or **AUA73**) and inspect for possible damage.

2. Is the **LSU** an **AUA13**?

   If **YES,** then proceed to Step **6.**
   If **NO,** then continue with Step **3.**

3. Is **LSU** being installed in COT channel bank assembly equipped for FPD capability?

   If **YES,** then continue with Step **4.**
   If **NO,** then proceed to Step **5.**

4. Set switch **S2** located on the side of the **LSU** circuit pack (FIG. 1) to position **32** and proceed to Step **6.**

5. Set switch **S2** located on the side of the **LSU** circuit pack (FIG. 1) to position **64.**

6. Set all eight **f** (force)/**d** (deny) switches on **LSU** faceplate to off (right-hand side) position (FIG. 2).

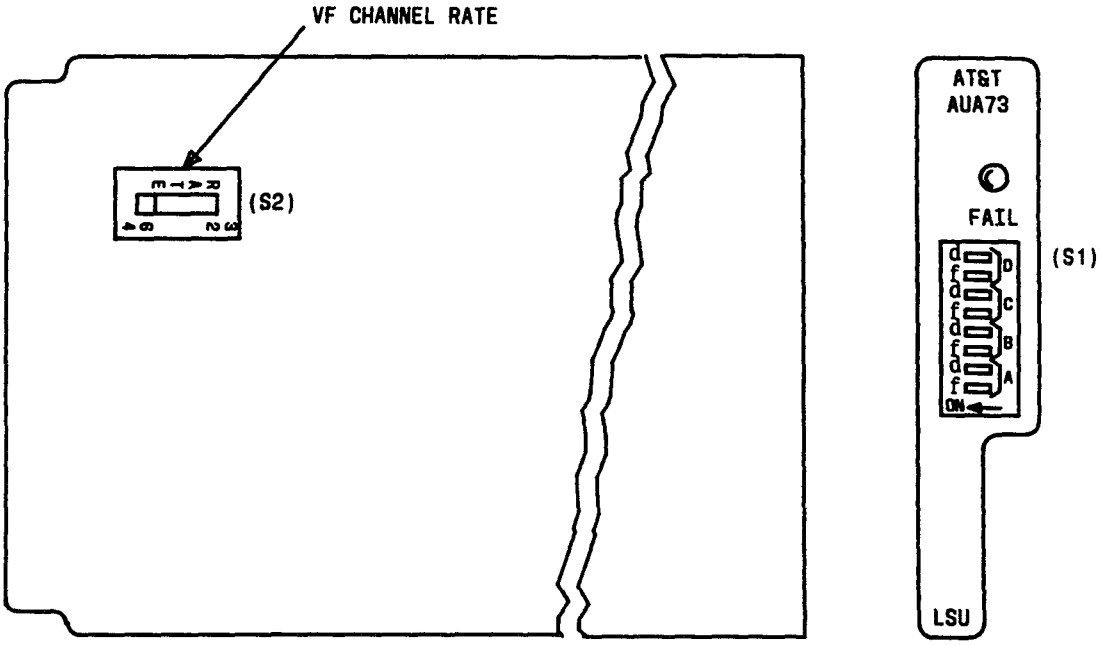


Figure 1—AUA73 LSU Option and Faceplate Switches

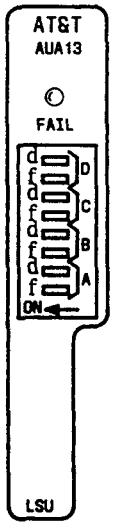


Figure 2—AUA13 Line Switch Unit Faceplate

7. Are digroups A and B presently in service?

   If **YES,** then continue with Step **8.**
   If **NO,** then proceed to Step **9.**

8. ***Caution: Incorrectly set LSU option switches may result in immediate or future loss of service or may introduce errors into the digital bitstream.***

   While observing **FAIL** indicator on **LSU** faceplate, insert **LSU** into **LSU** slot in middle (for the Blue bank) or right side (for White bank) of facility shelf.

   Response: **LSU FAIL** indicator lights momentarily. **ADU FAIL, MN, ACO,** and **NE** indicators are lighted.

   Proceed to Step **10.**

9. ***Caution: Incorrectly set LSU option switches may result in immediate or future loss of service or may introduce errors into the digital bitstream.***

   While observing **FAIL** indicator on **LSU** faceplate, insert **LSU** into **LSU** slot in middle (for the Blue bank) or right side (for White bank) of facility shelf.

   Response: **LSU FAIL** indicator lights momentarily. **ADU MN, ACO,** and **NE** indicators are lighted.

10. Does **LSU FAIL** indicator go off and remain off?

    If **YES,** then proceed to Step **19.**
    If **NO,** then continue with Step **11.**

11. Remove **LSU.**

12. Get a replacement **LSU** and set option switches according to Steps 2 through 6.

13. Are digroups A and B presently in service?

    If **YES,** then continue with Step **14.**
    If **NO,** then proceed to Step **15.**

14. ***Caution: Incorrectly set LSU option switches may result in immediate or future loss of service or may introduce errors into the digital bitstream.***

    While observing **FAIL** indicator on **LSU** faceplate, insert **LSU** into **LSU** slot in facility shelf.

    Response: **LSU FAIL** indicator lights momentarily. **ADU FAIL, MN, ACO,** and **NE** indicators are lighted.

    Proceed to Step **16.**

15. ***Caution: Incorrectly set LSU option switches may result in immediate or future loss of service or may introduce errors into the digital bitstream.***

    While observing **FAIL** indicator on **LSU** faceplate, insert **LSU** into **LSU** slot in facility shelf.

    Response: **LSU FAIL** indicator lights momentarily. **ADU ACO, MN,** and **NE** indicators are lighted.

16. Does **LSU FAIL** indicator go off and remain off?

    If **YES,** then proceed to Step **19.**
    If **NO,** then continue with Step **17.**

17. ***Caution: Incorrectly set LSU option switches may result in immediate or future loss of service or may introduce errors into the digital bitstream.***

    Replace **LSU** with **LSU** removed previously while observing **FAIL** indicator on **LSU** faceplate.

18. Check wiring using SD-7C115-01 or SD-7C115-02. Repeat procedure from Step 7 after locating and correcting trouble.

19. Did **FAIL** indicator on **LSU** light momentarily?

    If **YES,** then **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**
    If **NO,** then continue with Step **20.**

20. Remove **LSU.**

21. Get a replacement **LSU** and set option switches according to Steps 2 through 6.

22. Are digroups A and B presently in service?

    If **YES,** then continue with Step **23.**
    If **NO,** then proceed to Step **24.**

23. ***Caution: Incorrectly set LSU option switches may result in immediate or future loss of service or may introduce errors into the digital bitstream.***

    While observing **FAIL** indicator on **LSU** faceplate, insert **LSU** into **LSU** slot in facility shelf.

    Response: **LSU FAIL** indicator lights momentarily. **ADU FAIL, MN, ACO,** and **NE** indicators are lighted.

    Proceed to Step **25.**

24. ***Caution: Incorrectly set LSU option switches may result in immediate or future loss of service or may introduce errors into the digital bitstream.***

    While observing **FAIL** indicator on **LSU** faceplate, insert **LSU** into **LSU** slot in facility shelf.

    Response: **LSU FAIL** indicator lights momentarily. **ADU ACO, MN,** and **NE** indicators are lighted.

25. Did **FAIL** indicator on **LSU** light momentarily?

    If **YES,** then **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**
    If **NO,** then continue with Step **26.**

26. Remove **ADU** and check for proper option settings.

    Reference: **DLP-511**

27. Are option switches on **ADU** set correctly?

    If **YES,** then proceed to Step **30.**
    If **NO,** then continue with Step **28.**

28. ***Caution: Incorrectly set ADU option switches may result in immediate or future loss of service or may introduce errors into the digital bitstream.***

    Set option switches on **ADU** to correct positions and reinsert **ADU** into **ADU** slot.

29. Wait 20 seconds and then replace **LSU** with **LSU** removed previously and repeat from Step **7.**

30. ***Caution: Incorrectly set ADU option switches may result in immediate or future loss of service or may introduce errors into the digital bitstream.***

    Replace **ADU** with another correctly optioned **ADU.**

    Reference: **DLP-511**

31. Wait 20 seconds and then replace **LSU** with the **LSU** removed previously while observing **FAIL** indicator on **LSU** faceplate.

32. Did **FAIL** indicator on **LSU** light momentarily?

    If **YES,** then **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**
    If **NO,** then continue with Step **33.**

33. ***Caution: Incorrectly set ADU option switches may result in immediate or future loss of service or may introduce errors into the digital bitstream.***

    Replace **ADU** with **ADU** removed previously.

34. Check wiring between facility shelf **PCU** and **LSU** using SD-7C115-01 or SD-7C115-02. Repeat procedure from Step **7** after locating and correcting trouble.

INSTALL CTU (CHANNEL TEST UNIT)

1. Get one **AUB2** or **AUB2B** (for PGTC) or **AUB5** (for XTC) **CTU** and inspect for possible damage.

2. While observing **FAIL** indicator on **CTU** faceplate, insert **CTU** into **CTU** slot in blue (lower) channel bank.

   Response: **CTU FAIL** indicator lights momentarily. All bank indicators are off and no office alarms are active.

3. Does **FAIL** indicator on **CTU** go off and remain off?

   If **YES,** then proceed to Step **9.**
   If **NO,** then continue with Step **4.**

4. Replace **CTU.**

5. While observing **FAIL** indicator on **CTU** faceplate, insert **CTU** into **CTU** slot in blue (lower) channel bank shelf.

   Response: **CTU FAIL** indicator lights momentarily.

6. Does **FAIL** indicator on **CTU** go off and remain off?

   If **YES,** then proceed to Step **9.**
   If **NO,** then continue with Step **7.**

7. Replace **CTU** with **CTU** removed previously while observing **FAIL** indicator on **CTU** faceplate.

8. Check wiring using SD-7C115-01 or SD-7C115-02. Repeat procedure from Step 3 after locating and correcting trouble.

9. Did **FAIL** indicator on **CTU** light momentarily?

   If **YES,** then **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**
   If **NO,** then continue with Step **10.**

10. Replace **CTU** while observing **FAIL** indicator on **CTU** faceplate.

11. Did **FAIL** indicator on **CTU** light momentarily?

    If **YES,** then **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**
    If **NO,** then continue with Step **12.**

12. ***Caution: Incorrectly set ADU option switches may result in immediate or future loss of service or may introduce errors into the digital bitstream.***

    Replace **ADU** with another correctly optioned **ADU.**

13. Wait 20 seconds then replace **CTU** with **CTU** removed previously while observing **FAIL** indicator on **CTU** faceplate.

14. Did **FAIL** indicator on **CTU** light momentarily?

    If **YES**, then **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**
    If **NO**, then continue with Step **15.**

15. ***Caution: Incorrectly set ADU option switches may result in immediate or future loss of service or may introduce errors into the digital bitstream.***

    Replace **ADU** with **ADU** removed previously.

16. Are any fuses on **CFU** in blue (lower) bank blown?

    If **YES**, then continue with Step **17.**
    If **NO**, then proceed to Step **20.**

17. Replace blown fuse(s) on **CFU**.

18. Unseat then reseat **CTU** while observing **FAIL** indicator on **CTU** faceplate.

19. Does **FAIL** indicator on **CTU** light momentarily?

    If **YES**, then **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**
    If **NO**, then continue with Step **20.**

20. Replace **CFU** in blue bank.

21. Unseat then reseat **CTU** while observing **FAIL** indicator on **CTU** faceplate.

22. Does **FAIL** indicator on **CTU** light momentarily?

    If **YES**, then **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**
    If **NO**, then continue with Step **23.**

23. Check wiring between **PCU** in facility shelf and **CFU** in blue bank and between **CFU** and **CTU** using SD-7C115-01 or SD-7C115-02. Repeat procedure from Step **6** after locating and correcting trouble.

DSX CROSS-CONNECT LOOP-BACK TEST

1. ***Note:*** The loop-back test is performed only on those digital lines that are equipped with an **LIU** at COT.

   At DSX cross-connect, locate **IN** and **OUT** jacks associated with digital lines from COT digroups being equipped.

2. Insert jumper plugs between **IN** and **OUT** jacks on digital lines being equipped only.

3. Remove **ADU**(s) from bank(s) being equipped and press **ACO** button on **AIU**.

4. Is CD shelf equipped?

   If **YES,** then continue with Step **5.**
   If **NO,** then proceed to Step **8.**

5. Is **ADU**(s) an **AUB1**?

   If **YES,** then continue with Step **6.**
   If **NO,** then proceed to Step **7.**

6. On **AUB1 ADU**(s) option switch **S2** set switch positions **3, 4, 5,** and **6** to closed position (depress rockers toward numbers) (FIG. 1) and proceed to Step **11.**

7. On **AUB6 ADU**(s) option switch **S1,** depress switch position **3** toward **ABI,** switch position **4** toward **CDI,** switch position **5** toward **ABE,** and switch position **6** toward **CDE** (FIG. 2) and proceed to Step **11.**

8. Is **ADU** an **AUB1**?

   If **YES,** then continue with Step **9.**
   If **NO,** then proceed to Step **10.**

9. On **AUB1 ADU** option switch **S2,** set switch positions **3** and **5** to closed position (depress rockers toward numbers) and switch positions **4** and **6** to open (depress rockers away from numbers) (FIG. 1) and proceed to Step **11.**

10. On **AUB6 ADU** option switch **S1,** depress switch position **3** toward **ABI,** switch position **4** toward **CDP,** switch position **5** toward **ABE,** and switch position **6** toward **CDU** (FIG. 2).

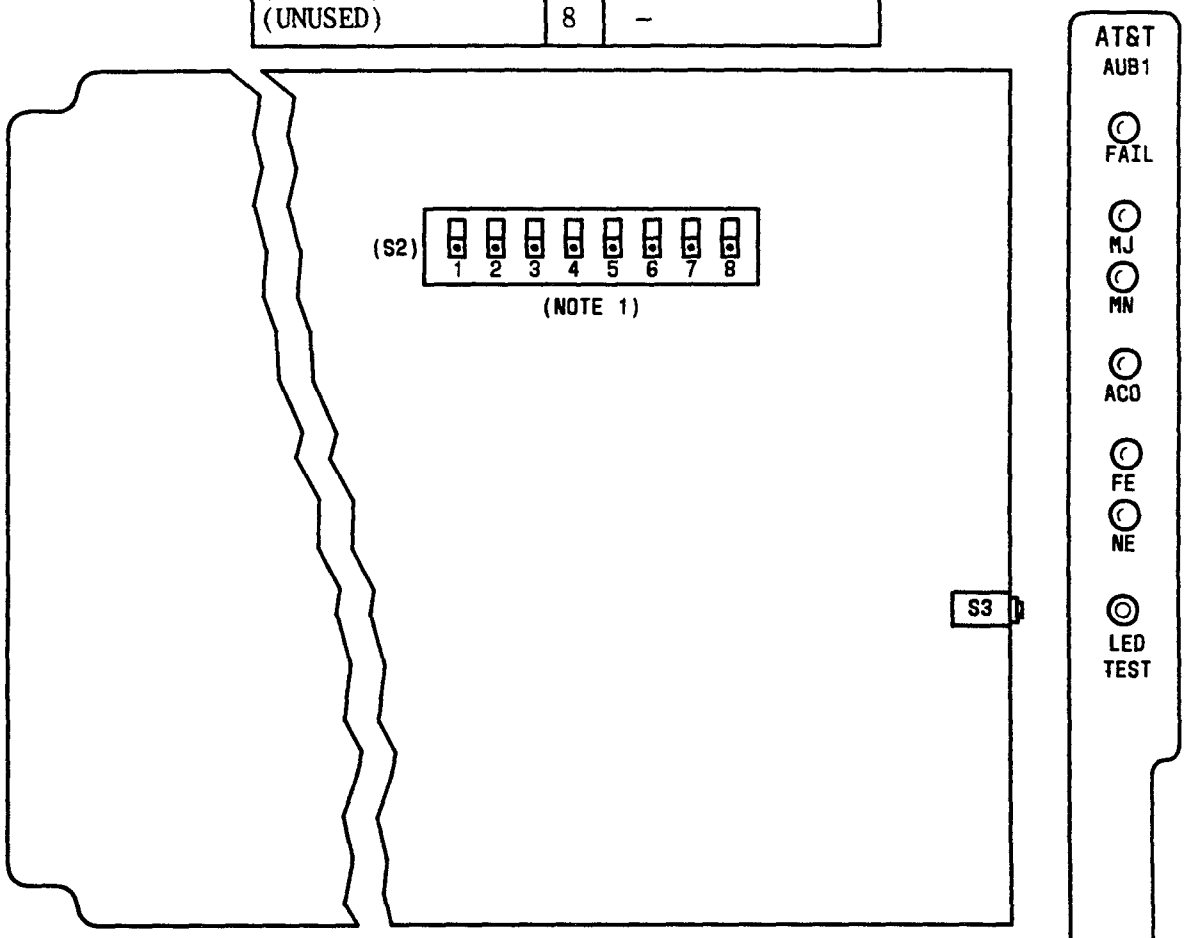
11. Are digroups A and B presently in service?

    If **YES,** then proceed to Step **15.**
    If **NO,** then continue with Step **12.**

12. ***Caution: Incorrectly set ADU option switches may result in immediate or future loss of service or may introduce errors into the digital bitstream.***

    Reinsert **ADU**(s) into **ADU** slot(s).

SWITCH SETTINGS		
CLOSED	S2	OPEN
NO PROTECTION LINE	1	PROTECTION LINE
–	2	DS1
AB IN-SERVICE	3	AB PRE-SERVICE
CD IN-SERVICE	4	CD PRE-SERVICE
AB EQUIPPED	5	AB UNEQUIPPED
CD EQUIPPED	6	CD UNEQUIPPED
(UNUSED)	7	–
(UNUSED)	8	–



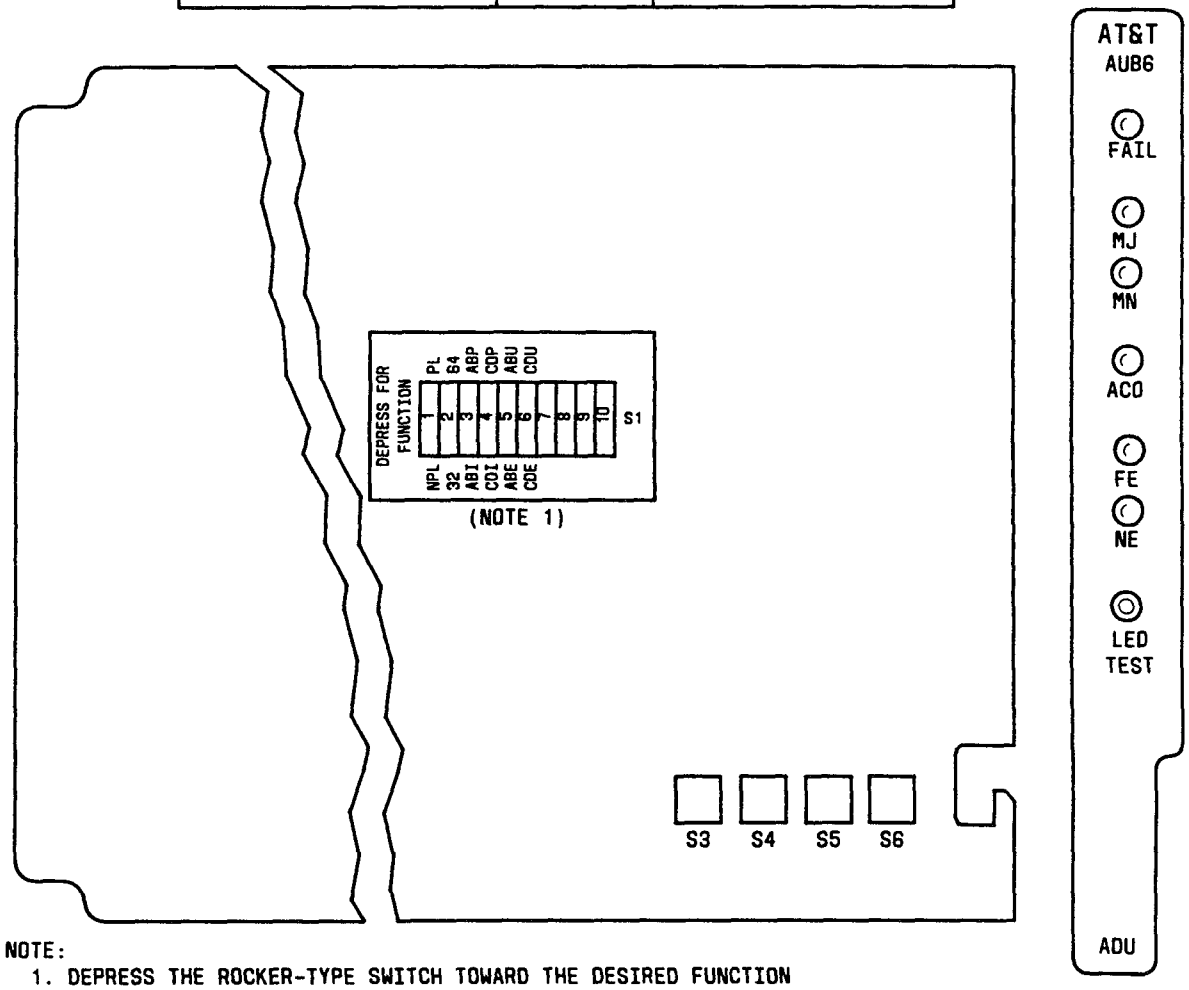
NOTE:
1. OPEN WHEN DEPRESSED AWAY FROM THE NUMBER
CLOSED WHEN DEPRESSED TOWARDS THE NUMBER

Figure 1—COT AUB1 ADU Options

13. Is **FAIL**, **MN**, and **NE** indicators on **ADU**(s) and **FAIL** indicator on **BCU**(s) lighted and, after approximately 25 seconds, are **MN** and **FE** indicators on **ADU**(s) lighted and **MN** (minor) office alarm activated.

If **YES**, then continue with Step **14.**
If **NO**, then press **ACO** button on faceplate of **AIU** and proceed to Step **18.**

DEPRESS FOR FUNCTION	S1 POSITION	DEPRESS FOR FUNCTION
No Protection Line	1	Protection Line
32 Kb/s (LBRV)	2	64 Kb/s
AB In-Service	3	AB Pre-Service
CD In-Service	4	CD Pre-Service
AB Equipped	5	AB Unequipped
CD Equipped	6	CD Unequipped
(Unused)	7	–
(Unused)	8	–
(Unused)	9	–
(Unused)	10	–



NOTE:
1. DEPRESS THE ROCKER-TYPE SWITCH TOWARD THE DESIRED FUNCTION

Figure 2—COT AUB6 ADU Options

14. Press **ACO** button on faceplate of **AIU**.

    Response: **ACO**, **MN**, and **FE** indicators on **ADU**(s) are lighted and MN office alarm is silenced.

    Proceed to Step **18.**

15. ***Caution: Incorrectly set ADU option switches may result in immediate or future loss of service or may introduce errors into the digital bitstream.***

    Reinsert **ADU**(s) into **ADU** slot(s).

16. Is **FAIL**, **MN**, and **NE** indicators on **ADU**(s) and **FAIL** indicator on **BCU**(s) lighted and, after approximately 25 seconds, are **FAIL**, **MN**, and **NE** indicators on **ADU**(s) lighted and MN (minor) office alarm activated.

    If **YES,** then continue with Step **17.**
    If **NO,** then press **ACO** button on faceplate of **AIU** and proceed to Step **18.**

17. Press **ACO** button on faceplate of **AIU**.

    Response: **ACO**, **FAIL**, **MN**, and **NE** indicators on **ADU**(s) are lighted and MN office alarm is silenced.

18. Is **CLF** indicator(s) on any **LIU**(s) lighted?

    If **YES,** then continue with Step **19.**
    If **NO,** then proceed to Step **21.**

19. Check wiring between **LIU**(s) with lighted **CLF** indicator and DSX cross-connect. After locating and correcting trouble, go to Step **20**.

20. Did all **CLF** indicator(s) clear and are **MN** and **FE** indicators on **ADU**(s) lighted?

    If **YES,** then continue with Step **21.**
    If **NO,** then return to Step **11.**

21. Remove **ADU**(s) from bank(s) and press **ACO** button on **AIU**.

22. Is CD shelf equipped?

    If **YES,** then continue with Step **23.**
    If **NO,** then proceed to Step **30.**

23. Are digroups A and B presently in service?

    If **YES,** then continue with Step **24.**
    If **NO,** then proceed to Step **27.**

24. Is **ADU** an **AUB1**?

    If **YES,** then continue with Step **25.**
    If **NO,** then proceed to Step **26.**

25. On **AUB1 ADU** option switch **S2**, set switch position **4** to open (depress rockers away from numbers) (FIG. 1) and proceed to Step **36.**

26. On **AUB6 ADU**, option switch **S1**, depress switch position **4** toward **CDP** and switch position **6** toward **CDE** and proceed to Step **36.**

27. Is **ADU** an **AUB1**?

    If **YES,** then continue with Step **28.**
    If **NO,** then proceed to Step **29.**

28. On **AUB1 ADU** option switch **S2**, set switch positions **3** and **4** to open (depress rockers away from numbers) and switch positions **5** and **6** to closed position (depress rockers toward numbers) (FIG. 1) and proceed to Step **33.**

29. On **AUB6 ADU** option switch **S1**, depress switch position **3** toward **ABP**, switch position **4** toward **CDP**, switch position **5** toward **ABE**, and switch position **6** toward **CDE** (FIG. 2) and proceed to Step **33.**

30. Is **ADU** an **AUB1**?

    If **YES,** then continue with Step **31.**
    If **NO,** then proceed to Step **32.**

31. On **AUB1 ADU** option switch **S2**, set switch positions **3, 4,** and **6** to open (depress rockers away from numbers) and switch position **5** to closed position (depress rockers toward numbers) (FIG. 1) and proceed to Step **33.**

32. On **AUB6 ADU** option switch **S1**, depress switch position **3** toward **ABP**, switch position **4** toward **CDP**, switch position **5** toward **ABE**, and switch position **6** toward **CDU** (FIG. 2).

33. ***Caution: Incorrectly set ADU option switches may result in immediate or future loss of service or may introduce errors into the digital bitstream.***

    Reinsert **ADU**(s) into **ADU** slot(s).

34. Remove all patch cords at DSX cross connect.

    Response: All alarms and indicators are out.

35. Did all alarms and indicators clear?

    If **YES,** then **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**
    If **NO,** then check **ADU** option switch settings and proceed to Step **21.**

36. ***Caution: Incorrectly set ADU option switches may result in immediate or future loss of service or may introduce errors into the digital bitstream.***

    Reinsert **ADU**(s) into **ADU** slot(s).

37. Remove all patch cords at DSX cross connect.

    Response: **FAIL**, **MN**, and **NE** indicators on **ADU**(s) are lighted.

    Note: Due to mismatched switch settings on the **ADU**(s), the **CLF** indicator on **LIU-P** may be lighted and should be ignored.

38. Are **FAIL**, **MN**, and **NE** indicators on **ADU**(s) lighted?

    If **YES**, then **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**
    If **NO**, then check **ADU** option switch settings and return to Step **21.**

INSTALL ASU (ALARM SUPPRESSOR UNIT)

1. Are both lower (blue) and upper (white) banks being equipped at this time?

   If **YES,** then continue with Step **2.**
   If **NO,** then proceed to Step **3.**

2. The **ASU** is not required.

   STOP. YOU HAVE COMPLETED THIS PROCEDURE

3. Is **ASU** installed in **ADU** slot in white (upper) channel bank?

   If **YES,** then **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**
   If **NO,** then continue with Step **4.**

4. Get one **ASU (AUB4)** and inspect for possible damage.

5. Install **ASU** into **ADU** slot in white (upper) channel bank.

   STOP. YOU HAVE COMPLETED THIS PROCEDURE

INSTALL EQUIPPED OPTION IN ADU (ALARM DISPLAY UNIT) FOR CD SHELF

1. ***Caution: Incorrect ADU option switch settings can cause service interruptions.***

   Remove **ADU** (**AUB1** or **AUB6**) and press **ACO** pushbutton on **AIU**.

2. Is **ADU** an **AUB1**?

   If **YES,** then continue with Step **3.**
   If **NO,** then proceed to Step **4.**

3. On **ADU** (**AUB1**) option switch **S2**, set switch position **6** to closed position (depress rocker toward number) and if protection switching is required at this time, set switch position **1** to open position (depress rocker away from number) (FIG. 1) and proceed to Step **5.**

4. On **ADU** (**AUB6**) option switch **S1** (FIG. 2) depress switch position **6** toward **CDE** and if protection switching is required at this time, set switch position **1** toward **PL**.

5. ***Caution: Incorrectly set ADU option switches may result in immediate or future loss of service or may introduce errors into the digital bitstream.***

   Reinstall **ADU** into **ADU** slot.

   Response: **ADU FAIL, MN, NE** and **BCU FAIL** indicators are lighted. Within 30 seconds, the **ADU FAIL, MN,** and **NE** and **BCU FAIL** indicators go out. **CTU** and **DTU FAIL** indicators light momentarily (if units are installed). Then **ADU FAIL, MJ, NE,** and **BCU DIGROUP C** and **D** indicators are lighted. Office major and bay major alarms are activated. (If **ADU** is an **AUB1**, the **FAIL** indicator may take approximately 60 seconds to come on.)

6. On **AIU** circuit pack, press **ACO** pushbutton.

   Response: **ADU ACO** indicator is also lighted and office major and bay major alarms are cleared.

7. Are **FAIL, ACO, MJ,** and **NE** indicators on **ADU** and **DIGROUP C** and **D** indicators on **BCU** lighted?

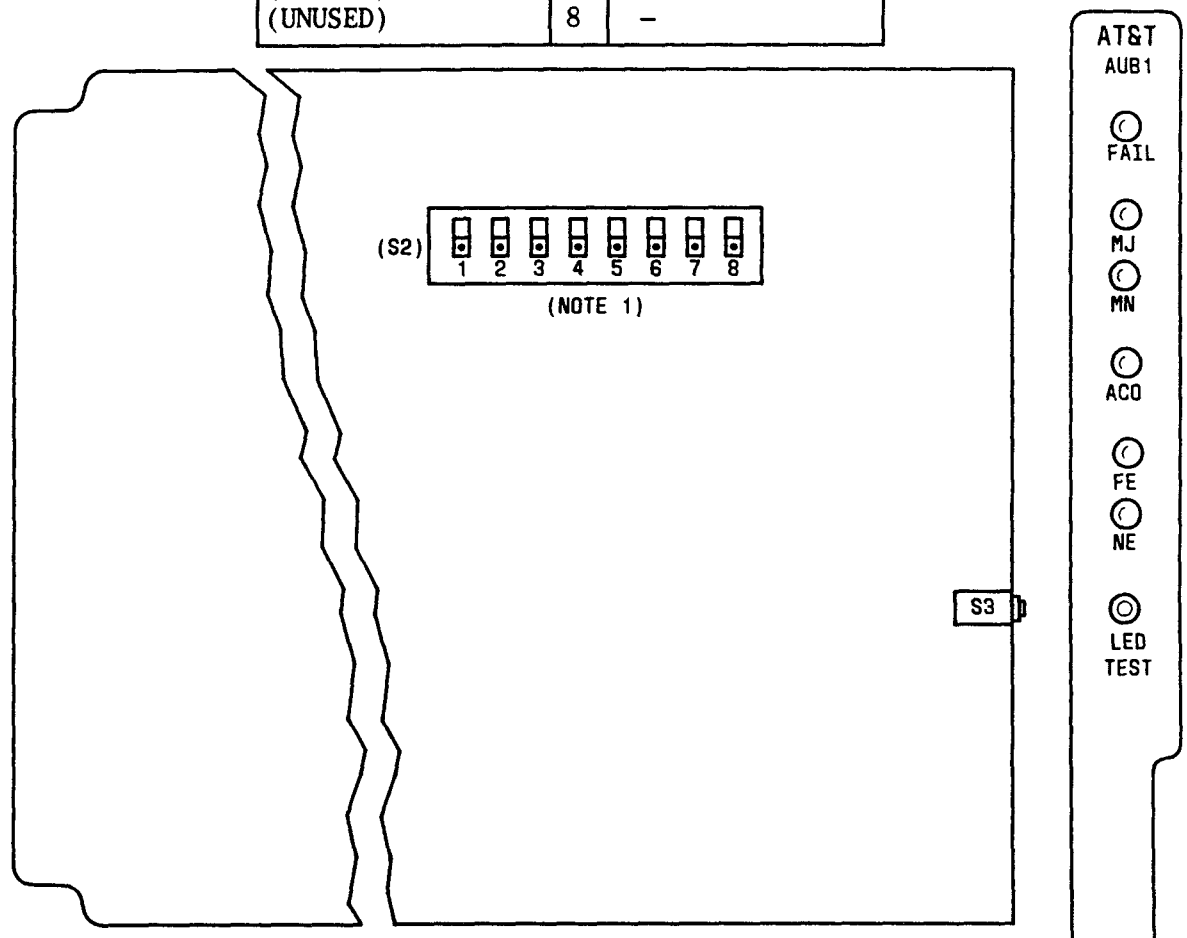
   If **YES, then STOP. YOU HAVE COMPLETED THIS PROCEDURE.**
   If **NO,** then continue with Step **8.**

8. Replace **BCU.**

9. After approximately 30 seconds, are **FAIL, ACO, MJ,** and **NE** indicators on **ADU** and **DIGROUP C** indicator on **BCU** lighted?

   If **YES,** then **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**
   If **NO,** then continue with Step **10.**

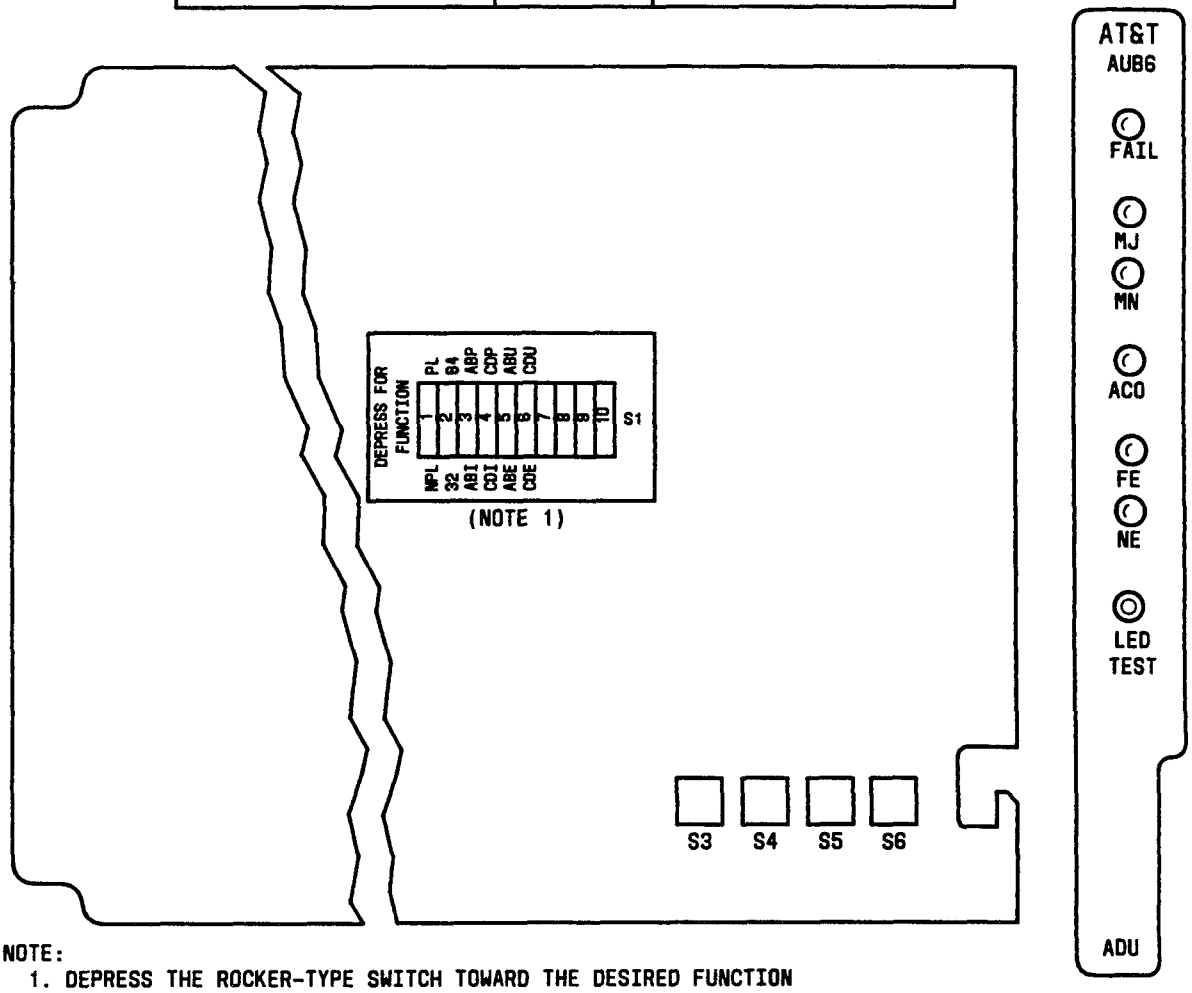
SWITCH SETTINGS		
CLOSED	S2	OPEN
NO PROTECTION LINE	1	PROTECTION LINE
–	2	DS1
AB IN-SERVICE	3	AB PRE-SERVICE
CD IN-SERVICE	4	CD PRE-SERVICE
AB EQUIPPED	5	AB UNEQUIPPED
CD EQUIPPED	6	CD UNEQUIPPED
(UNUSED)	7	–
(UNUSED)	8	–



NOTE:
1. OPEN WHEN DEPRESSED AWAY FROM THE NUMBER
   CLOSED WHEN DEPRESSED TOWARDS THE NUMBER

Figure 1—COT AUB1 ADU Options

DEPRESS FOR FUNCTION	S1 POSITION	DEPRESS FOR FUNCTION
No Protection Line	1	Protection Line
32 Kb/s (LBRV)	2	64 Kb/s
AB In-Service	3	AB Pre-Service
CD In-Service	4	CD Pre-Service
AB Equipped	5	AB Unequipped
CD Equipped	6	CD Unequipped
(Unused)	7	–
(Unused)	8	–
(Unused)	9	–
(Unused)	10	–



NOTE:
1. DEPRESS THE ROCKER-TYPE SWITCH TOWARD THE DESIRED FUNCTION

Figure 2—COT AUB6 ADU Options

10. Replace **BCU** with **BCU** removed previously.

11. Remove **ADU** and check settings of switches on **S1** (**AUB6**) or **S2** (**AUB1**) per work order.

12. Are option switch settings correct?

    If **YES,** then continue with Step **13.**
    If **NO,** then proceed to Step **14.**

13. ***Caution: Incorrectly set ADU option switches may result in immediate or future loss of service or may introduce errors into the digital bitstream.***

    Replace **ADU** with another correctly optioned **ADU** and repeat from Step 7.

14. Set option switches on **ADU** per Step **3** (**AUB1**) or Step **4** (**AUB6**) and repeat from Step 5.

PERFORM COT INDICATOR TEST

1. Press and hold **LED TEST** pushbutton on **ADU**.

2. Are all indicators listed in TABLE A lighted?

   If **YES**, then **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**
   If **NO**, then continue with Step **3.**

3. Are any indicators lighted?

   If **YES**, then continue with Step **4.**
   If **NO**, then proceed to Step **5.**

4. ***Caution: When replacing circuit packs in COT assembly that contain option switches, verify that option switch settings on replacement unit agree with facility or engineering records. Incorrectly set ADU, LSU, or LIU option switches may result in immediate or future loss of service or may introduce errors into the digital bitstream.***

   Replace unit(s) that contain indicators that do not light and repeat from Step **1.**

5. Replace **BCU**.

6. Press and hold **LED TEST** pushbutton on **ADU**.

7. Are all indicators listed in TABLE A lighted?

   If **YES**, then **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**
   If **NO**, then continue with Step **8.**

TABLE A

UNIT	INDICATOR LIGHTED
LIU	ALL INDICATORS
TRU	ALL INDICATORS
BCU	ALL INDICATORS
ADU	ALL INDICATORS
CTU	FAIL
LSU	FAIL
TCU	FAIL

8. Are any indicators lighted?

   If **YES,** then return to Step **4.**
   If **NO,** then continue with Step **9.**

9. Replace **BCU** with **BCU** removed previously.

10. ***Caution: When replacing circuit packs in COT assembly that contain option switches, verify that option switch settings on replacement unit agree with facility or engineering records. Incorrectly set ADU, LSU, or LIU option switches may result in immediate or future loss of service or may introduce errors into the digital bitstream.***

    Replace **ADU.**

11. Press and hold **LED TEST** pushbutton on **ADU.**

12. Are all indicators listed in TABLE A lighted?

    If **YES,** then **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**
    If **NO,** then continue with Step **13.**

13. Are any indicators lighted?

    If **YES,** then return to Step **4.**
    If **NO,** then continue with Step **14.**

14. ***Caution: When replacing circuit packs in COT assembly that contain option switches, verify that option switch settings on replacement unit agree with facility or engineering records. Incorrectly set ADU, LSU, or LIU option switches may result in immediate or future loss of service or may introduce errors into the digital bitstream.***

    Replace **ADU** with **ADU** removed previously.

15. Refer to SD-7C115-01 or SD-7C115-02. Repeat procedure from Step 1 after locating and correcting trouble.

CHECK INCOMING CLOCK SUPPLY

1. At rear of dual bank assembly, verify that connector J122 is connected to connector P122.

2. Is P122 connected to J122?

   If **YES**, then proceed to Step **4**.
   If **NO**, then continue with Step **3**.

3. Resolve problem through local procedure.

4. ***Note:*** The meter used to make measurements in this procedure must be capable of measuring voltages at a frequency of at least 64 kHz or incorrect results will be obtained.

   Get DMM and condition to measure AC volts.

5. ***Note:*** The incoming clock supply has two appearances on terminal strip **TS1**. One clock supply is connected to terminals **5** and **6** and the second is connected to terminals **8** and **9**.

   Locate terminal strip **TS1** at top rear of COT bay (FIG. 1).

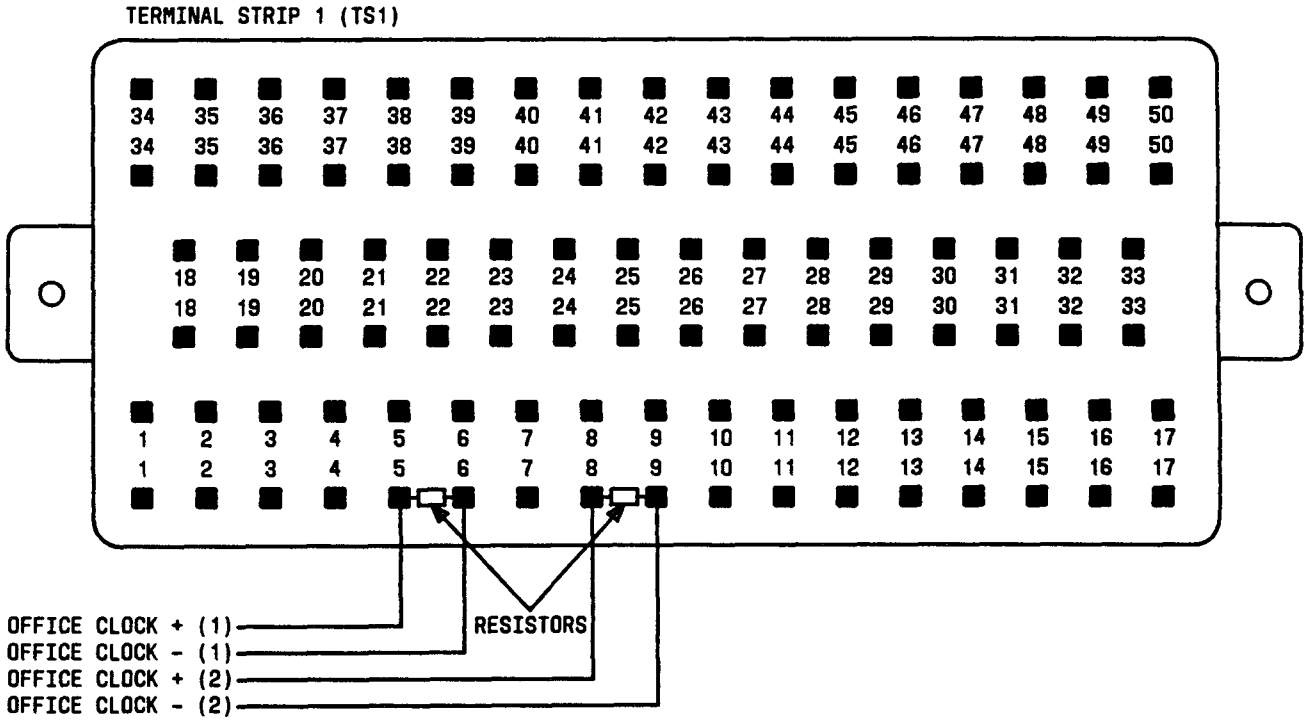


Figure 1—COT Office Clock Wiring Connections

6. Are resistors of 133 ohms connected between terminals 5 and 6 and terminals 8 and 9?

   If **YES,** then continue with Step **7.**
   If **NO,** then refer trouble to installation group.

7. ***Note:*** Each terminal on terminal strip **TS1** has two appearances. DMM connection should be made to the lower terminal appearance.

   On **TS1,** connect DMM test leads to terminals **5** and **6.**

8. Does DMM indicate between 1.8 and 2.9 volts?

   If **YES,** then continue with Step **9.**
   If **NO,** then refer trouble to installation group.

9. On **TS1,** connect DMM test leads to terminals **8** and **9.**

10. Does DMM indicate between 1.8 and 2.9 volts?

    If **YES,** then **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**
    If **NO,** then refer trouble to installation group.

CHECK INCOMING RINGING SUPPLY VOLTAGE

1. At rear of dual bank assembly, verify that connector J122-( ) is connected to connector P122.

2. Is P122 connected to J122-( )?

   If **YES,** then proceed to Step **4.**
   If **NO,** then continue with Step **3.**

3. Resolve problem through local procedure.

4. Get DMM and condition to measure AC volts.

5. ***Note:*** The ringing supply has three appearances on terminal strip **TS1**. The ringing supply for dual banks 1/2, 3/4, and 5/6 appear on terminals 11/12, 13/14, and 15/16, respectively. In each case, the ringing return path is connected to the higher number terminal and to frame ground (terminal 10). Frame ground terminal 10 is connected to the framework ground.

   Locate terminal strip **TS1** at top rear of COT bay (FIG. 1).

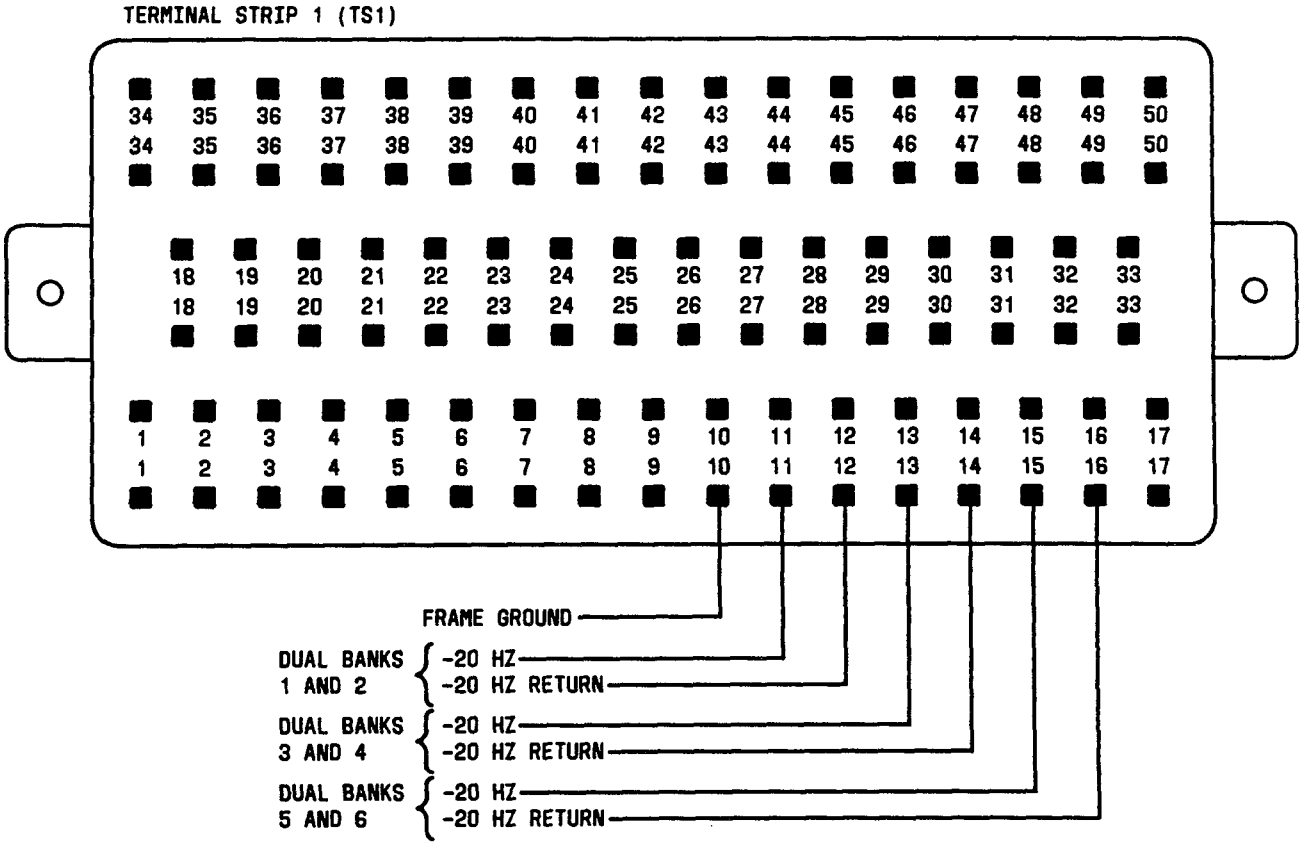


Figure 1—COT Ringing Supply Voltage Connections

6. ***Note:*** Each terminal on terminal strip **TS1** has two appearances. DMM connection should be made to the lower terminal appearance.

   On **TS1**, connect DMM test leads to the appropriate –20 Hz terminal and the corresponding –20 Hz return terminal.

7. Does DMM indicate approximately 86 volts AC?

   If **YES,** then **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**
   If **NO,** then refer trouble to installation group.

INSTALL DTU (DIGITAL TEST UNIT) IN FACILITY SHELF

1. ***Note:*** The DTU consists of two units designated **DTU-L** (DTU-left) and **DTU-R** (DTU-right).

   Get one **DTU-L** (**AUA18**) and one **DTU-R** (**AUA19**) and inspect for possible physical damage.

2. Insert **DTU-L** into the left **DTU** slot in the facility shelf.

   Response: All bank indicators are off and no office alarms are active.

3. Insert **DTU-R** into right-hand side of **DTU** slot in facility shelf.

   Response: **DTU-R FAIL** indicator lights momentarily. All bank indicators are off and no office alarms are active.

4. Does **FAIL** indicator on **DTU-R** go off and remain off?

   If **YES**, then proceed to Step **9.**
   If **NO**, then continue with Step **5.**

5. Replace both **DTU-L** and **DTU-R**.

   Response: **DTU-R FAIL** indicator lights momentarily.

6. Does **FAIL** indicator on **DTU-R** go off and remain off?

   If **YES**, then proceed to Step **9.**
   If **NO**, then continue with Step **7.**

7. Replace **DTU-L** and **DTU-R** with units removed previously.

8. Check wiring using SD-7C115-01 or SD-7C115-02. Repeat procedure from Step **4** after locating and correcting trouble.

9. Did **DTU-R FAIL** indicator light momentarily?

   If **YES**, then proceed to Step **24.**
   If **NO**, then continue with Step **10.**

10. Replace both **DTU-L** and **DTU-R**.

    Response: **DTU-R FAIL** indicator lights momentarily.

11. Did **DTU-R FAIL** indicator light momentarily?

    If **YES**, then proceed to Step **24.**
    If **NO**, then continue with Step **12.**

12. ***Caution: Incorrectly set ADU option switches may result in immediate or future loss of service or may introduce errors into the digital bitstream.***

    Replace **ADU** with another correctly optioned **ADU**.

13. Wait 20 seconds then replace **DTU-L** and **DTU-R** with units removed previously.

14. Did **FAIL** indicator on **DTU-R** light momentarily?

    If **YES,** then proceed to Step **24.**
    If **NO,** then continue with Step **15.**

15. ***Caution: Incorrectly set ADU option switches may result in immediate or future loss of service or may introduce errors into the digital bitstream.***

    Replace **ADU** with **ADU** removed previously.

16. Are any fuses on **CFU** in Blue (lower) bank blown?

    If **YES,** then continue with Step **17.**
    If **NO,** then proceed to Step **20.**

17. Replace blown fuse(s) on **CFU**.

18. Unseat then reseat **DTU-R**.

19. Does **FAIL** indicator on **DTU-R** light momentarily?

    If **YES,** then proceed to Step **24.**
    If **NO,** then continue with Step **20.**

20. Replace **CFU** in Blue bank.

21. Unseat then reseat **DTU-R**.

22. Does **FAIL** indicator on **DTU-R** light momentarily?

    If **YES,** then proceed to Step **24.**
    If **NO,** then continue with Step **23.**

23. Check wiring between **PCU** in facility shelf and **CFU** in Blue bank and between **CFU** and **DTU-R/DTU-L** using SD-7C115-01 or SD-7C115-02. Repeat procedure from Step **9** after locating and correcting trouble.

24. Is **BUSY** indicator on **DTU-R** lighted?

    If **YES,** then continue with Step **25.**
    If **NO,** then **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**

25. Replace both **DTU-L** and **DTU-R**.

26. Is **BUSY** indicator on **DTU-R** lighted?

    If **YES**, then continue with Step **27**.
    If **NO**, then **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**

27. ***Caution: Incorrectly set ADU option switches may result in immediate or future loss of service or may introduce errors into the digital bitstream.***

    Replace **ADU** with another correctly optioned **ADU**.

28. Wait 20 seconds then replace **DTU-L** and **DTU-R** with units removed previously.

29. Is **BUSY** indicator on **DTU-R** lighted?

    If **YES**, then continue with Step **30**.
    If **NO**, then **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**

30. ***Caution: Incorrectly set ADU option switches may result in immediate or future loss of service or may introduce errors into the digital bitstream.***

    Replace **ADU** with **ADU** removed previously.

31. Check wiring using SD-7C115-01 or SD-7C115-02. Repeat procedure from Step **4** after locating and correcting trouble.

INSTALL OTU (OFFICE TIMING UNIT)

1. Get one **AUA3 OTU** and inspect for possible physical damage.

2. Insert **OTU** into **OTU** slot in CD shelf.

   Response: All indicators on **OTU** are off.

3. Is **OTU OFFICE CLOCK** indicator lighted?

   If **YES,** then continue with Step **4.**
   If **NO,** then proceed to Step **10.**

4. Check external clock wiring.

   Reference: **DLP-527**

5. Is external clock wiring correct?

   If **YES,** then continue with Step **6.**
   If **NO,** then **refer trouble to installation group.**

6. Replace **OTU.**

   Response: All indicators on **OTU** are off.

7. Is **OTU OFFICE CLOCK** indicator lighted?

   If **YES,** then continue with Step **8.**
   If **NO,** then proceed to Step **10.**

8. Replace **OTU** with **OTU** removed previously.

9. Check wiring using SD-7C115-01 or SD-7C115-02. Repeat procedure from Step 3 after locating and correcting problem.

10. Is **OTU FAIL** indicator lighted?

    If **YES,** then continue with Step **11.**
    If **NO,** then **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**

11. Replace **OTU.**

    Response: All indicators on **OTU** are off.

12. Is **OTU FAIL** indicator lighted?

    If **YES,** then continue with Step **13.**
    If **NO,** then **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**

13. Replace **OTU** with **OTU** removed previously and repeat from Step **10.**

VERIFY THAT CORRECT COMPLEMENT OF CIRCUIT PACKS IS AVAILABLE

1. Refer to TABLE A to determine the required number of circuit packs required for the shelves or banks to be equipped.

2. Are all required circuit packs available?

   If **YES**, then **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**
   If **NO**, then continue with Step **3.**

3. Obtain missing circuit packs through appropriate channels.

TABLE A

***SLC* SERIES 5 CARRIER SYSTEM COT CIRCUIT PACKS**

CIRCUIT PACKS		QUANTITY FOR SHELF BEING EQUIPPED				FEATURE PACKAGE CAPABILITY
		ALL SHELVES	A-B BLUE	C-D BLUE OR WHITE	A-B WHITE	
PCU	(AUA11,AUA11B,AUA11C)	5	3	1	—	A, C, AND D
LIU	(AUA61,AUA61B,AUA61C,AUA61D, AUA62,AUA62B,AUA62C,AUA62D, AUA64,AUA64B,AUA64C[1],AUA64D)	10	3	2	3	
AIU	(AUB3)	1	1	—	—	
ASU	(AUB4)[2]	—	1	—	—	
CFU	(39E)[3]	2	2	—	—	
LFU	(39F)[4]	1	1	—	—	
TRU	(AUA1)	4	1	1	1	A
ADU	(AUB1)	2	1	—	1	
CTU	(AUB2,AUB2B)	1	1	—	—	
BCU	(MC97722A1[5] MC97755A1)[6]	2	1	—	1	
LSU	(AUA13,AUA73)[7]	2	1	—	1	
TRU	(AUA1)	4	1	1	1	C
OTU	(AUA3)[8]	2	1	—	1	
DTU	(AUA18,AUA19)[9]	1	1	—	—	
CTU	(AUB5)[10]	1	1	—	—	
ADU	(AUB6)	2	1	—	1	
BCU	(MC97755A1)	2	1	—	1	
LSU	(AUA13,AUA73)[7]	2	1	—	1	
TRU	(AUA1)	4	1	1	1	D
OTU	(AUA3)[8]	2	1	—	1	
DTU	(AUA18,AUA19)[9]	1	1	—	—	
CTU	(AUB5)[10]	1	1	—	—	
ADU	(AUB6)	2	1	—	1	
BCU	(MC97755A1)	2	1	—	1	
TCU	(AUA71)	4	1	1	1	
LSU	(AUA73)[7]	2	1	—	1	

[1] The quantity of LIUs includes those needed for T1 protection lines. If protection lines are not utilized, this number can be reduced by one for each bank. In addition, this number can also be reduced by one for each shelf when LIUs are installed in a bank equipped for FPD capability. The AUA61, AUA62, and AUA64 LIUs are rated discontinued availability.

[2] The ASU is required only if none of the shelves in the white bank are being equipped.

[3] Two CFUs must be installed at all times.

[4] The LFU is not required when the COT is used with a multiplexer. It is required when a DDM-1000 multiplexer is used and the far end loopback capability is desired.

[5] The MC97722A1 BCU is rated discontinued availability.

[6] The MC97755A1 BCU can be used only if an MC97756A1 or MC97771A1 BCU is used at the RT.

[7] The LSU is required only if protection switching is desired.

[8] Required only when digital data service is being provided.

[9] Required for digital test access of special services CUs when the CIU is connected at the COT for testing and circuit alignment and when the XTC is used for enhanced testing capabilities.

[10] The AUB2/2B CTU can also be used to allow PGTC testing or PGTC type testing from an XTC. The AUB5 CTU is required for enhanced testing capabilities of an XTC.

INSTALL BANK CONTROL UNIT (BCU) FOR FPC OR FPD CONVERSION

1. Get one **MC97755A1 BCU** and inspect for possible damage.

2. Have **LIUs** been removed from channel bank being converted?

   If **YES,** then continue with Step **3.**
   If **NO,** then proceed to Step **4.**

3. Insert **BCU** into **BCU** slot in channel bank being converted.

   Response: **BCU** and **ADU FAIL** indicators light, then after approximately 20 seconds, both **FAIL** indicators go out. **ADU MJ, NE,** and **BCU DIGROUP A, B, C, and D** indicators are lighted. Press **ACO** pushbutton on **AIU.**

   Proceed to Step **5.**

4. Insert **BCU** into **BCU** slot in channel bank being converted.

   Response: **BCU** and **ADU FAIL** indicators are lighted. After approximately 20 seconds, **BCU** and **ADU FAIL** indicators go off. Press **ACO** button **AIU.**

5. Does **FAIL** indicator on **BCU** and **ADU** go off after approximately 20 seconds?

   If **YES,** then **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**
   If **NO,** then continue with Step **6.**

6. Replace **BCU.**

7. Does **FAIL** indicator on **BCU** and **ADU** go off after approximately 20 seconds?

   If **YES,** then **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**
   If **NO,** then continue with Step **8.**

8. Replace **BCU** with **BCU** removed previously.

9. Check wiring using SD-7C115-01 or SD-7C115-02. Repeat procedure from Step **5** after locating and correcting problem.

INSTALL ADU (ALARM DISPLAY UNIT) FOR FPC OR FPD CONVERSION

1. Get one **AUB6 ADU** and inspect for possible damage.

2. On **ADU** option switch **S1** (FIG. 1), set switch positions to agree with the settings of the switch positions on switch S2 (FIG. 2) of the **ADU** removed previously. If **ADU** is being installed in COT channel bank assembly equipped for FPD capability, depress switch position **2** toward **32** (left side of switch); otherwise, depress it toward **64** (right side of switch).

3. Set system switches **S3, S4, S5,** and **S6** on **ADU** per work order (for example, for system number 0123 or 123; set **S3** to **0, S4** to **1, S5** to **2,** and **S6** to **3**).

4. Insert **ADU** into **ADU** slot.

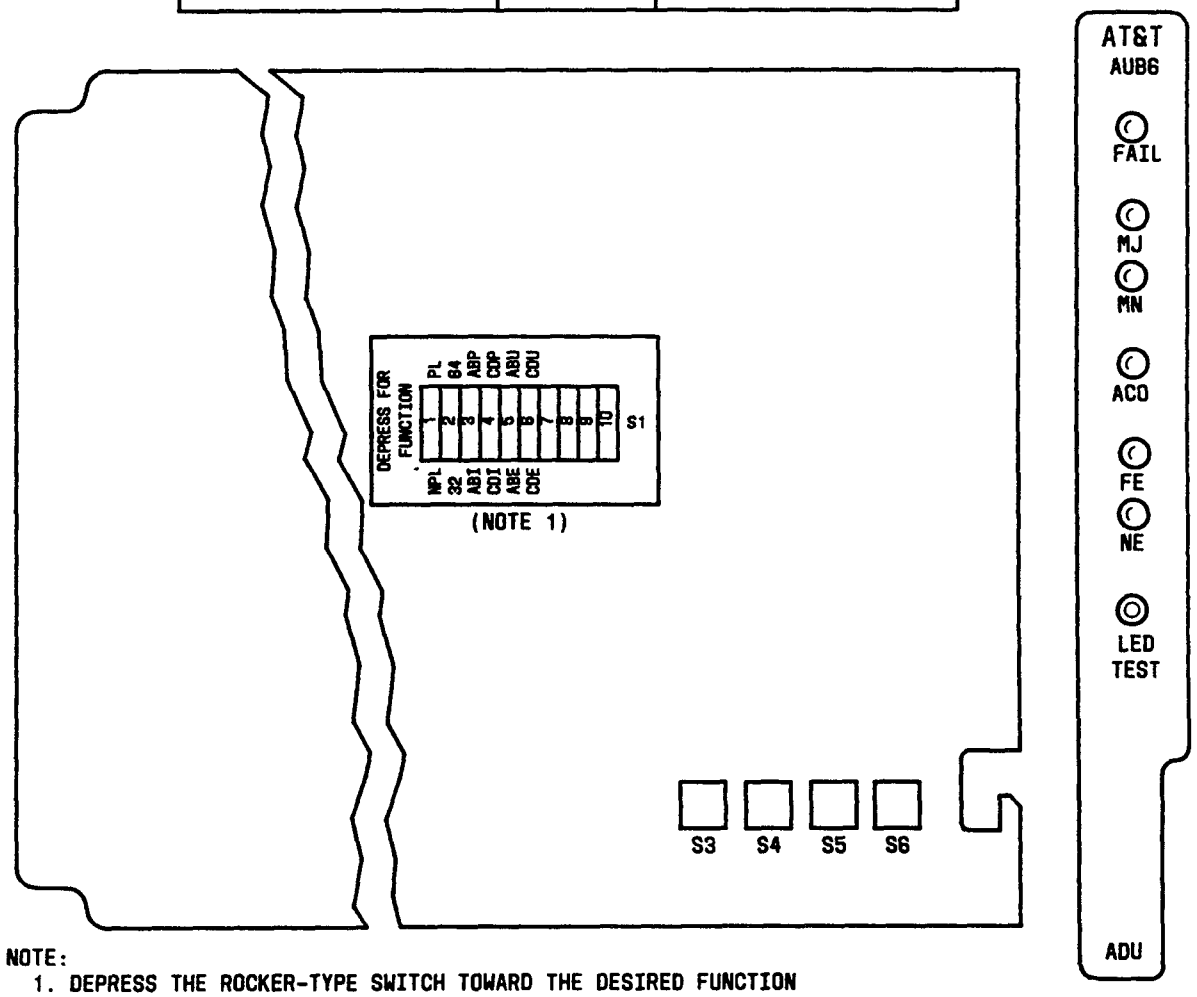
   Response: Disregard all indicators that may be lighted.

5. If any alarms are activated, press **ACO** button on **AIU**.

   Response: Central office alarms will be cleared.

STOP. YOU HAVE COMPLETED THIS PROCEDURE.

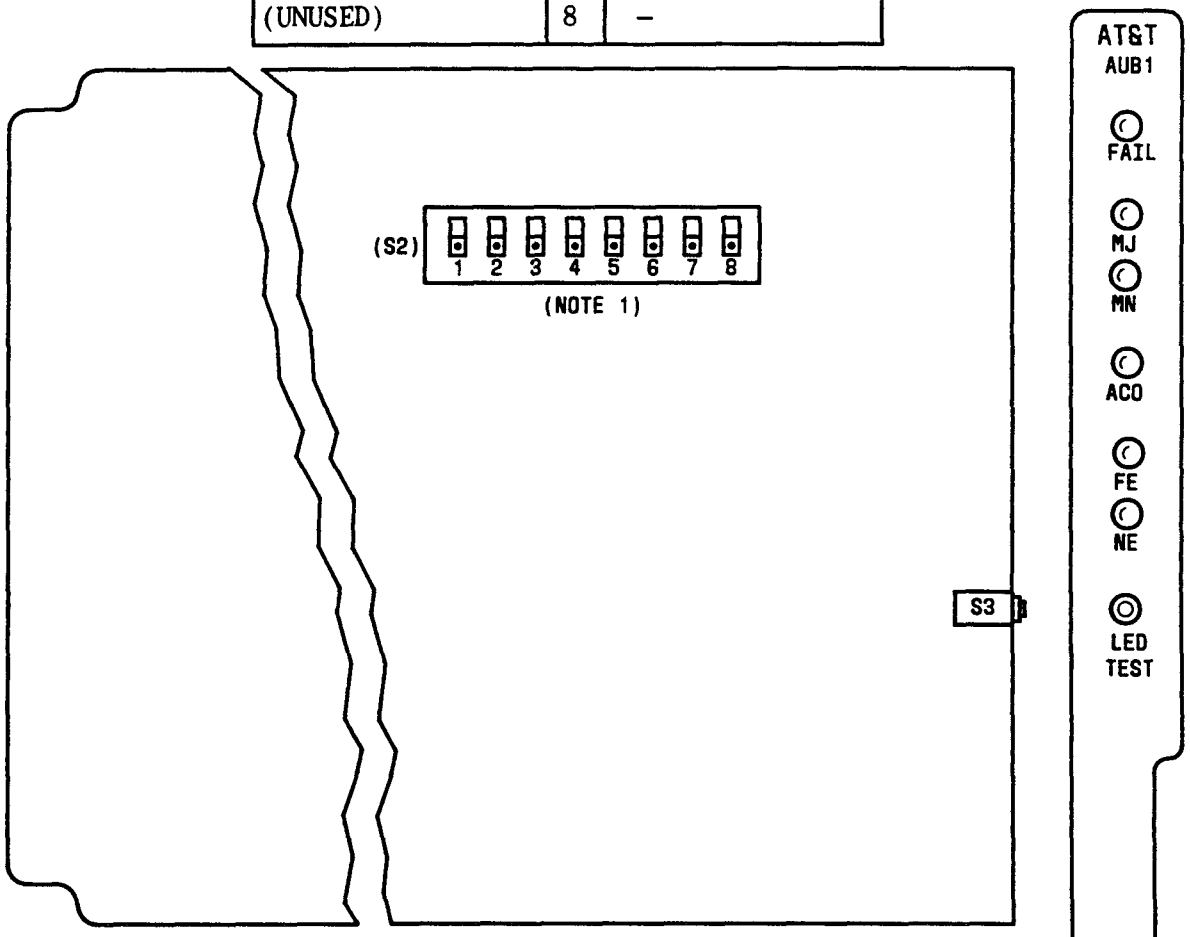
DEPRESS FOR FUNCTION	S1 POSITION	DEPRESS FOR FUNCTION
No Protection Line	1	Protection Line
32 Kb/s (LBRV)	2	64 Kb/s
AB In-Service	3	AB Pre-Service
CD In-Service	4	CD Pre-Service
AB Equipped	5	AB Unequipped
CD Equipped	6	CD Unequipped
(Unused)	7	–
(Unused)	8	–
(Unused)	9	–
(Unused)	10	–



NOTE:
1. DEPRESS THE ROCKER-TYPE SWITCH TOWARD THE DESIRED FUNCTION

Figure 1—COT AUB6 ADU Options

SWITCH SETTINGS		
CLOSED	S2	OPEN
NO PROTECTION LINE	1	PROTECTION LINE
–	2	DS1
AB IN-SERVICE	3	AB PRE-SERVICE
CD IN-SERVICE	4	CD PRE-SERVICE
AB EQUIPPED	5	AB UNEQUIPPED
CD EQUIPPED	6	CD UNEQUIPPED
(UNUSED)	7	–
(UNUSED)	8	–



NOTE:
1. OPEN WHEN DEPRESSED AWAY FROM THE NUMBER
   CLOSED WHEN DEPRESSED TOWARDS THE NUMBER

Figure 2—COT AUB1 ADU Options

INSTALL TCU (TRANSCODER UNIT) FOR DIGROUPS AB

1. Get one TCU (**AUA71**) and inspect for possible damage.

2. Insert **TCU** into appropriate **LIU-B** slot (left side for Blue bank or right side for White bank) in facility shelf while observing **FAIL** indicator on **TCU** faceplate.

   Response: **TCU FAIL** indicator lights momentarily. **ACO, MJ,** and **NE** indicators on **ADU** and **DIGROUP A, B** indicators on **BCU** are lighted. (**DIGROUP C, D** indicators on **BCU** will also be lighted if CD digroups are in pre-service/equipped state.)

3. Did **FAIL** indicator on **TCU** light momentarily?

   If **YES,** then proceed to Step **16.**
   If **NO,** then continue with Step **4.**

4. Replace **TCU** while observing **FAIL** indicator on **TCU** faceplate.

5. Did **FAIL** indicator on **TCU** light momentarily?

   If **YES,** then proceed to Step **16.**
   If **NO,** then continue with Step **6.**

6. Replace **TRU** in AB shelf.

7. Replace **TCU** with **TCU** removed previously while observing **FAIL** indicator on **TCU** faceplate.

8. Did **FAIL** indicator on **TCU** light momentarily?

   If **YES,** then proceed to Step **16.**
   If **NO,** then continue with Step **9.**

9. Unseat **TCU.**

10. Replace **TRU** in AB shelf with **TRU** removed previously.

11. ***Caution: Incorrectly set ADU option switches may result in immediate or future loss of service or may introduce errors into the digital bitstream.***

    Replace **ADU** with a correctly optioned **ADU.**

    Reference: **DLP-511**

12. Wait 20 seconds and then reseat **TCU** while observing **FAIL** indicator on **TCU** faceplate.

13. Did **FAIL** indicator on **TCU** light momentarily?

    If **YES,** then proceed to Step **16.**
    If **NO,** then continue with Step **14.**

14. ***Caution: Incorrectly set ADU option switches may result in immediate or future loss of service or may introduce errors into the digital bitstream.***

    Replace **ADU** with **ADU** removed previously.

15. Check wiring between **PCU** in AB shelf and **TCU** using SD-7C115-02. Repeat procedure from Step **3** after locating and correcting trouble.

16. Did **FAIL** indicator on **TCU** go off and remain off?

    If **YES**, then **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**
    If **NO**, then continue with Step **17.**

17. Replace **TCU** while observing **FAIL** indicator on **TCU** faceplate.

18. Did **FAIL** indicator on **TCU** go off and remain off?

    If **YES**, then **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**
    If **NO**, then continue with Step **19.**

19. Replace **TCU** with **TCU** removed previously.

20. Check wiring using SD-7C115-02. Repeat procedure from Step **2** after locating and correcting trouble.

INSTALL TCU (TRANSCODER UNIT) FOR DIGROUPS CD

1. Get one **TCU (AUA71)** and inspect for possible damage.

2. Have A and B digroups already been placed into service?

   If **YES,** then continue with Step **3.**
   If **NO,** then proceed to Step **4.**

3. Insert **TCU** into appropriate **LIU** slot (left side for Blue Bank or right side for White Bank) in facility shelf while observing **FAIL** indicator on **TCU** faceplate.

   Response: **TCU FAIL** indicator lights momentarily. **FAIL, ACO, MJ,** and **NE** indicators on **ADU** and **DIGROUP C** and **D** indicators on **BCU** are lighted.

   Proceed to Step **5.**

4. Insert **TCU** into appropriate **LIU-D** slot (left side for Blue bank or right side for White bank) in facility shelf while observing **FAIL** indicator on **TCU** faceplate.

   Response: **TCU FAIL** indicator lights momentarily. **ACO, MJ,** and **NE** indicators on **ADU** and **DIGROUP C** and **D** indicators on **BCU** are lighted.

5. Did **FAIL** indicator on **TCU** light momentarily?

   If **YES,** then proceed to Step **18.**
   If **NO,** then continue with Step **6.**

6. Replace **TCU** while observing **FAIL** indicator on **TCU** faceplate.

7. Did **FAIL** indicator on **TCU** light momentarily?

   If **YES,** then proceed to Step **18.**
   If **NO,** then continue with Step **8.**

8. Replace **TRU** in CD shelf.

9. Replace **TCU** with **TCU** removed previously while observing **FAIL** indicator on **TCU** faceplate.

10. Did **FAIL** indicator on **TCU** light momentarily?

    If **YES,** then proceed to Step **18.**
    If **NO,** then continue with Step **11.**

11. Unseat **TCU.**

12. Replace **TRU** in CD shelf with **TRU** removed previously.

13. ***Caution: Incorrectly set ADU option switches may result in immediate or future loss of service or may introduce errors into the digital bitstream.***

    Replace **ADU** with a correctly optioned **ADU**.

    Reference: **DLP-511**

14. Wait 20 seconds and then reseat **TCU** while observing **FAIL** indicator on **TCU** faceplate.

15. Did **FAIL** indicator on **TCU** light momentarily?

    If **YES,** then proceed to Step **18.**
    If **NO,** then continue with Step **16.**

16. ***Caution: Incorrectly set ADU option switches may result in immediate or future loss of service or may introduce errors into the digital bitstream.***

    Replace **ADU** with **ADU** removed previously.

17. Check wiring between **PCU** in CD shelf and **TCU** using SD-7C115-02. Repeat procedure from Step **2** after locating and correcting trouble.

18. Did **FAIL** indicator on **TCU** go off and remain off?

    If **YES,** then **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**
    If **NO,** then continue with Step **19.**

19. Replace **TCU** while observing **FAIL** indicator on **TCU** faceplate.

20. Did **FAIL** indicator on **TCU** go off and remain off?

    If **YES,** then **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**
    If **NO,** then continue with Step **21.**

21. Replace **TCU** with **TCU** removed previously.

22. Check wiring using SD-7C115-02. Repeat procedure from Step **2** after locating and correcting trouble.

SET ADU OPTION SWITCH FOR FPD CAPABILITY

1. Remove **ADU (AUB6)** from COT channel bank shelf.

2. On **ADU** option switch **S1** (FIG. 1) depress switch position **2** toward **32** (left side of switch).

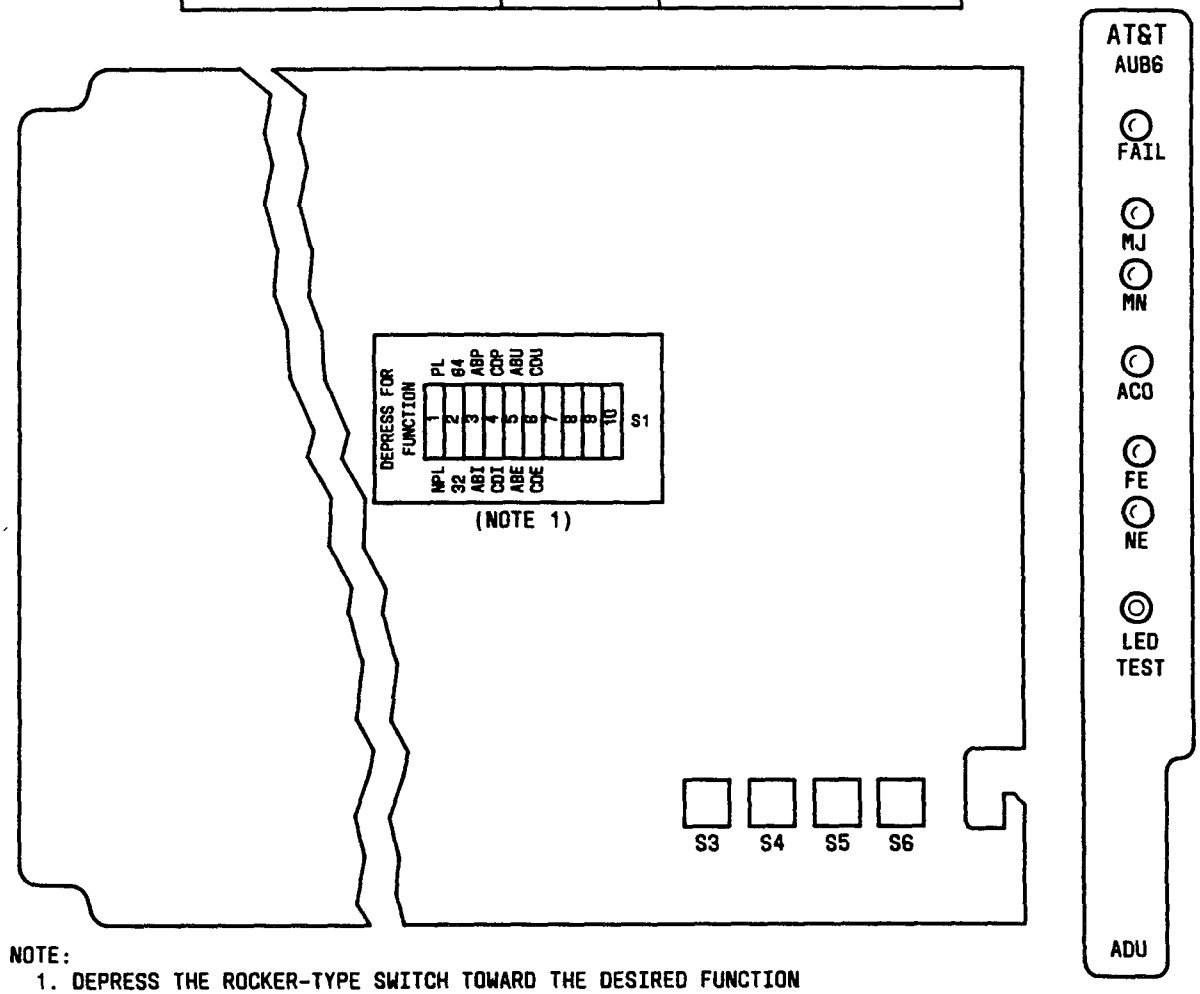
3. ***Caution: Incorrectly set ADU option switches may result in immediate or future loss of service or may introduce errors into the digital bitstream.***

   Reinstall **ADU** into **ADU** slot.

   Response: Disregard all indicators that may be lighted.

STOP. YOU HAVE COMPLETED THIS PROCEDURE.

DEPRESS FOR FUNCTION	S1 POSITION	DEPRESS FOR FUNCTION
No Protection Line	1	Protection Line
32 Kb/s (LBRV)	2	64 Kb/s
AB In-Service	3	AB Pre-Service
CD In-Service	4	CD Pre-Service
AB Equipped	5	AB Unequipped
CD Equipped	6	CD Unequipped
(Unused)	7	–
(Unused)	8	–
(Unused)	9	–
(Unused)	10	–



NOTE:
1. DEPRESS THE ROCKER-TYPE SWITCH TOWARD THE DESIRED FUNCTION

Figure 1—COT AUB6 ADU Options

INSTALL PRESERVICE OPTION IN ADU

1. Remove **ADU** (**AUB1** or **AUB6**).

2. Is **ADU** an **AUB1**?

   If **YES,** then continue with Step **3.**
   If **NO,** then proceed to Step **4.**

3. On **ADU** (**AUB1**) option switch **S2** set switch positions **3** and **4** to open position (depress rocker away from number) (FIG. 1) and proceed to Step **5.**

4. On **ADU** (**AUB6**) option switch **S1** (FIG. 2) depress switch position 3 toward **ABP** and switch position **4** toward **CDP**.

5. ***Caution: Incorrectly set ADU option switches may result in immediate or future loss of service or may introduce errors into the digital bitstream.***

   Reinstall **ADU** into **ADU** slot.

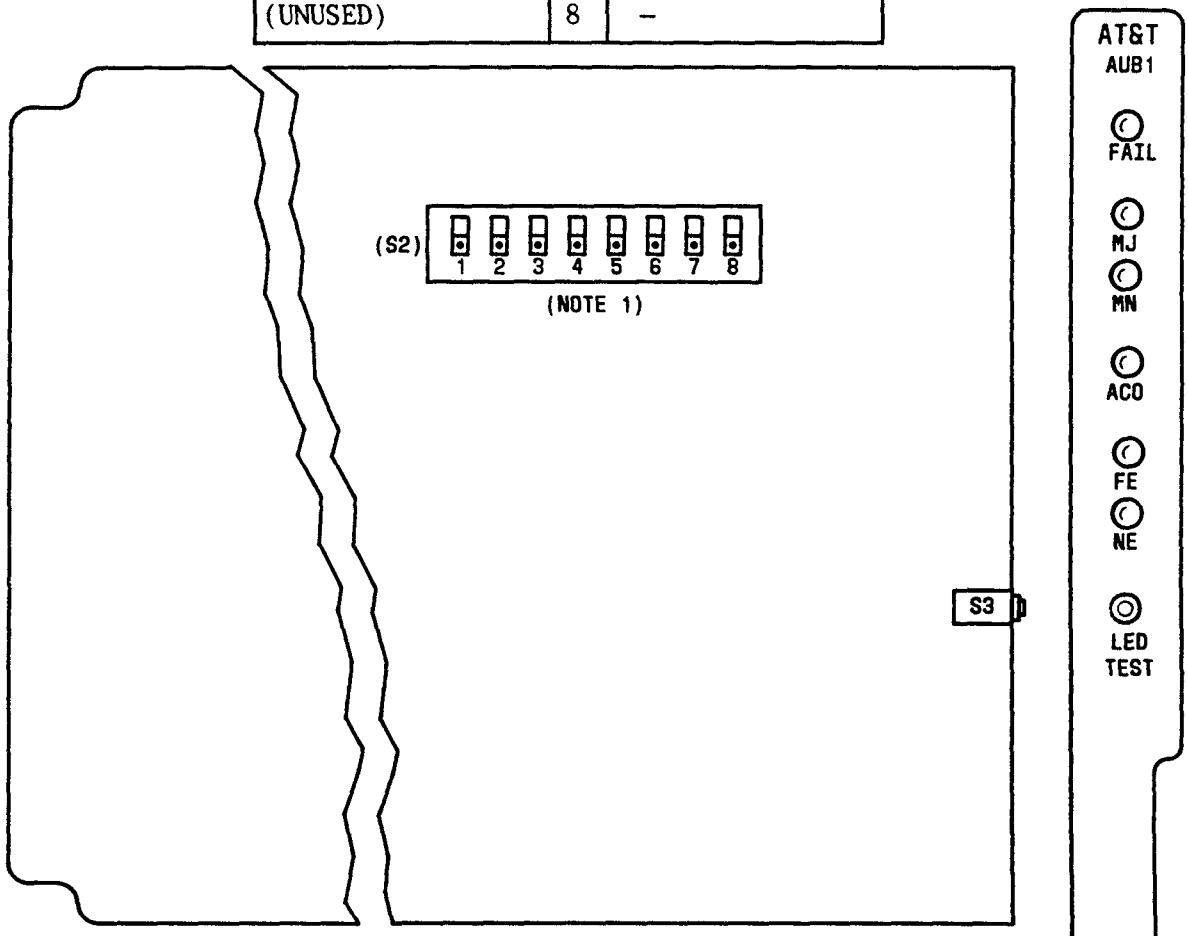
   Response: Disregard all indicators that may be lighted.

6. If any alarms are activated, press **ACO** button on **AIU**.

   Response: Central office alarms will be cleared.

STOP. YOU HAVE COMPLETED THIS PROCEDURE.

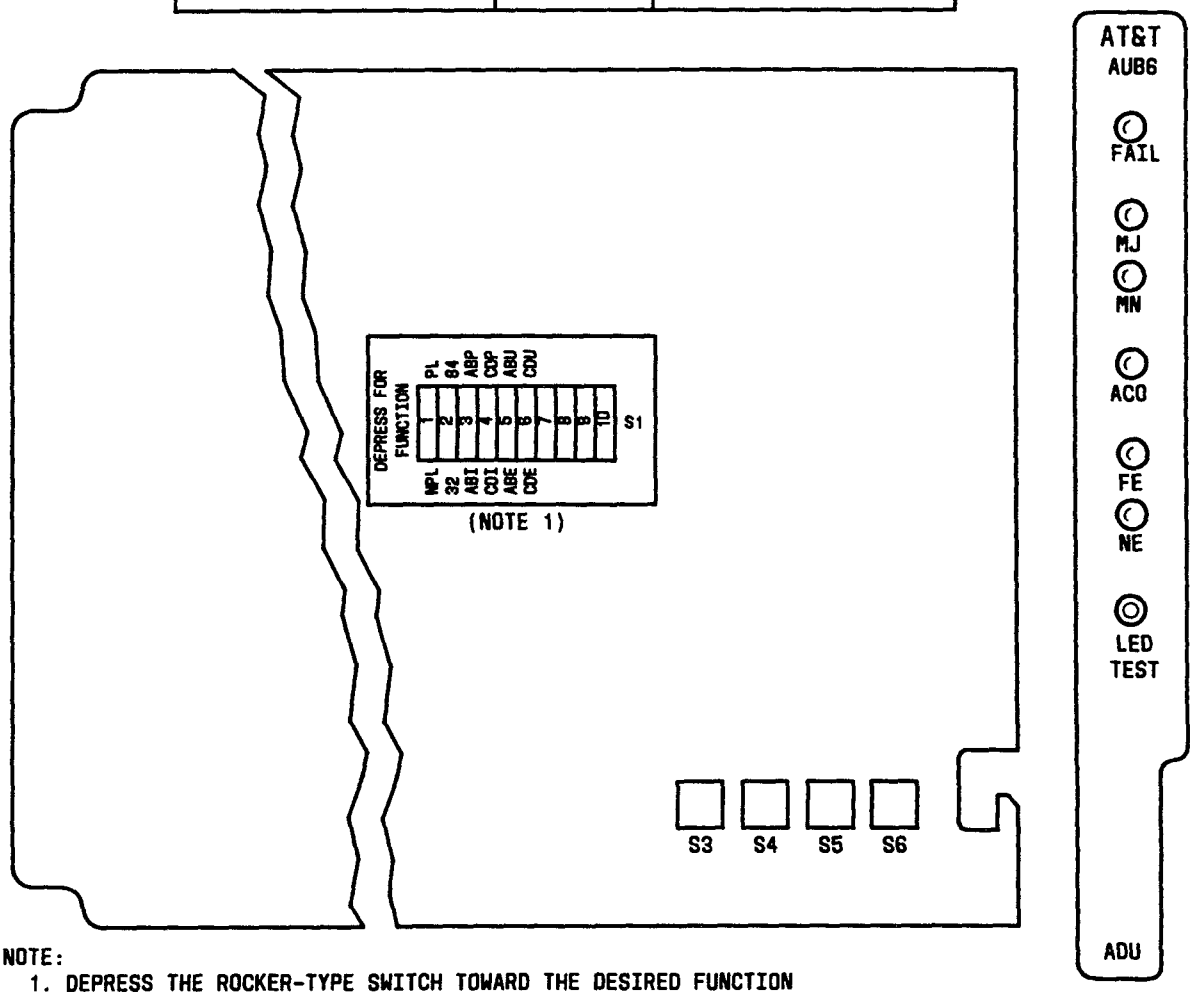
SWITCH SETTINGS		
CLOSED	S2	OPEN
NO PROTECTION LINE	1	PROTECTION LINE
–	2	DS1
AB IN-SERVICE	3	AB PRE-SERVICE
CD IN-SERVICE	4	CD PRE-SERVICE
AB EQUIPPED	5	AB UNEQUIPPED
CD EQUIPPED	6	CD UNEQUIPPED
(UNUSED)	7	–
(UNUSED)	8	–



NOTE:
1. OPEN WHEN DEPRESSED AWAY FROM THE NUMBER
   CLOSED WHEN DEPRESSED TOWARDS THE NUMBER

Figure 1—COT AUB1 ADU Options

DEPRESS FOR FUNCTION	S1 POSITION	DEPRESS FOR FUNCTION
No Protection Line	1	Protection Line
32 Kb/s (LBRV)	2	64 Kb/s
AB In-Service	3	AB Pre-Service
CD In-Service	4	CD Pre-Service
AB Equipped	5	AB Unequipped
CD Equipped	6	CD Unequipped
(Unused)	7	–
(Unused)	8	–
(Unused)	9	–
(Unused)	10	–



NOTE:
1. DEPRESS THE ROCKER-TYPE SWITCH TOWARD THE DESIRED FUNCTION

Figure 2—COT AUB6 ADU Options

INSTALL INSERVICE OPTION IN ADU

1. Remove **ADU** (**AUB6**) and press **ACO** button on **AIU**.

2. On **ADU** option switch **S1** (FIG. 1), depress switch position **3** toward **ABI** and switch position **4** toward **CDI**.

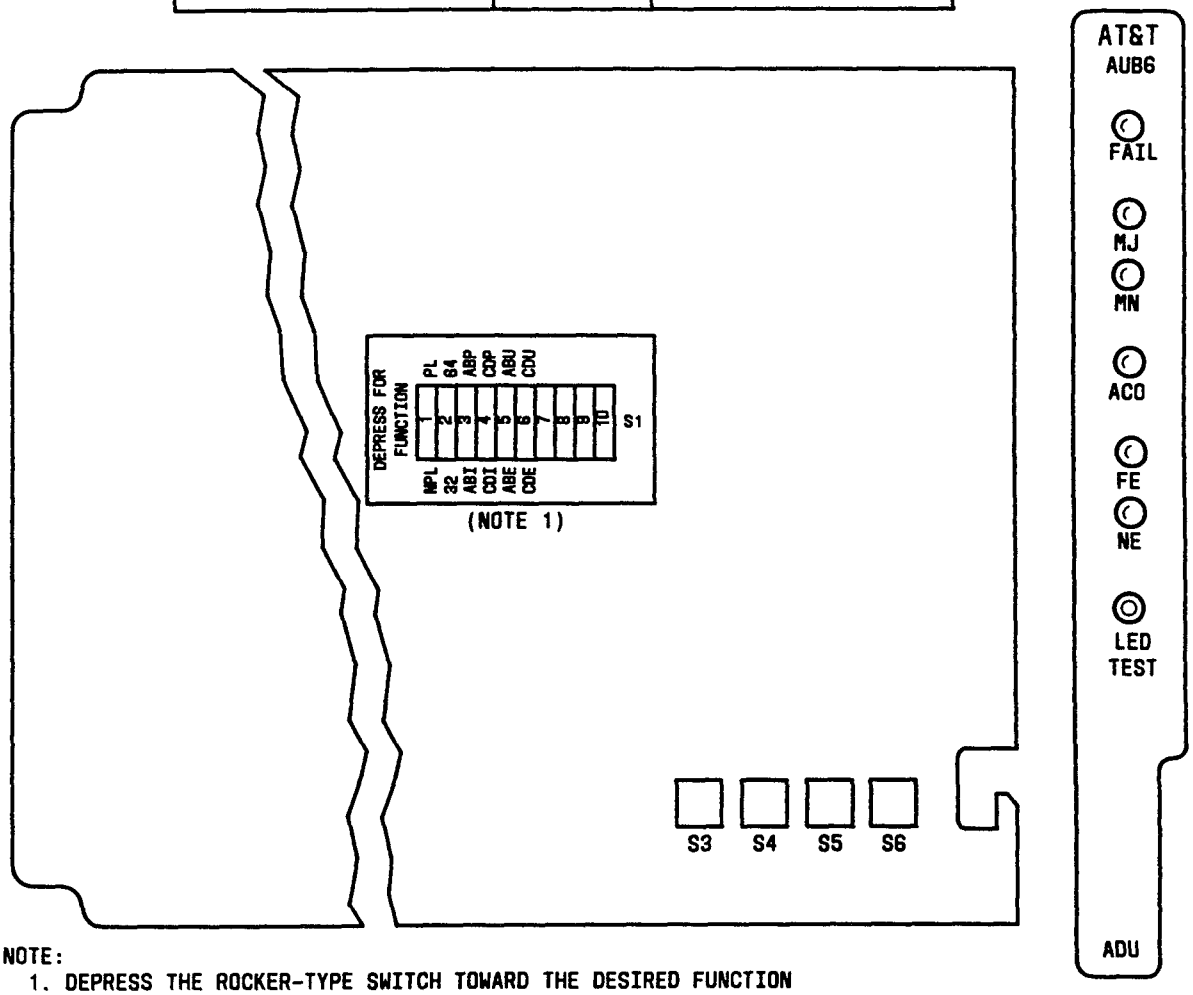
3. ***Caution: Incorrectly set ADU option switches may result in immediate or future loss of service or may introduce errors into the digital bitstream.***

   Reinstall **ADU** into **ADU** slot.

   Response: **ADU FAIL, MN,** and **NE** indicators and **BCU FAIL** indicator are lighted.
   Within 15 seconds, the **ADU FAIL, MN,** and **NE** and **BCU FAIL** indicators go out. **CTU** and **DTU FAIL** indicators light momentarily.
   If the **ADU** in the associated RT dual bank assembly being converted does not have the inservice option installed, then COT **ADU FAIL, MN,** and **NE** and RT **ADU MN** and **FE** indicators are lighted. Depress **ACO** pushbutton on **AIU** circuit pack to clear office minor and bay minor alarms.

STOP. YOU HAVE COMPLETED THIS PROCEDURE.

DEPRESS FOR FUNCTION	S1 POSITION	DEPRESS FOR FUNCTION
No Protection Line	1	Protection Line
32 Kb/s (LBRV)	2	64 Kb/s
AB In-Service	3	AB Pre-Service
CD In-Service	4	CD Pre-Service
AB Equipped	5	AB Unequipped
CD Equipped	6	CD Unequipped
(Unused)	7	–
(Unused)	8	–
(Unused)	9	–
(Unused)	10	–



NOTE:
1. DEPRESS THE ROCKER-TYPE SWITCH TOWARD THE DESIRED FUNCTION

Figure 1—COT AUB6 ADU Options

INSTALL ED7C700 CABLE ASSEMBLY ON COT BACKPLANE

1. Remove COT backplane cover from back of dual bank assembly.

2. Obtain ED7C700 cable assembly (one cable assembly is required for each channel unit digroup).

3. ***Note 1:*** The twelve 4-pin connectors on the ED7C700 cable assembly are to be connected to the pins on the channel unit sockets only. The connectors should not be attached to any of the other units on the shelf.

   Note 2: Each 4-pin cable assembly connector is marked with a white spot that identifies the location of pin number 1. Pin number 1 on each channel unit socket is the lower left pin (when viewed from the rear of the dual bank assembly).

   Starting with the lowest numbered channel unit slot in the digroup, attach the 4-pin connector labeled **J1** to pins 3, 4, 5, and 6 on the channel unit socket with connector pin 1 mating with channel unit socket pin 3 (FIG. 1).

4. Working from right to left, attach the next 4-pin connector, in numerical sequence, to the next channel unit socket.

5. Repeat Step **4** as required until all connectors on the cable assembly have been attached.

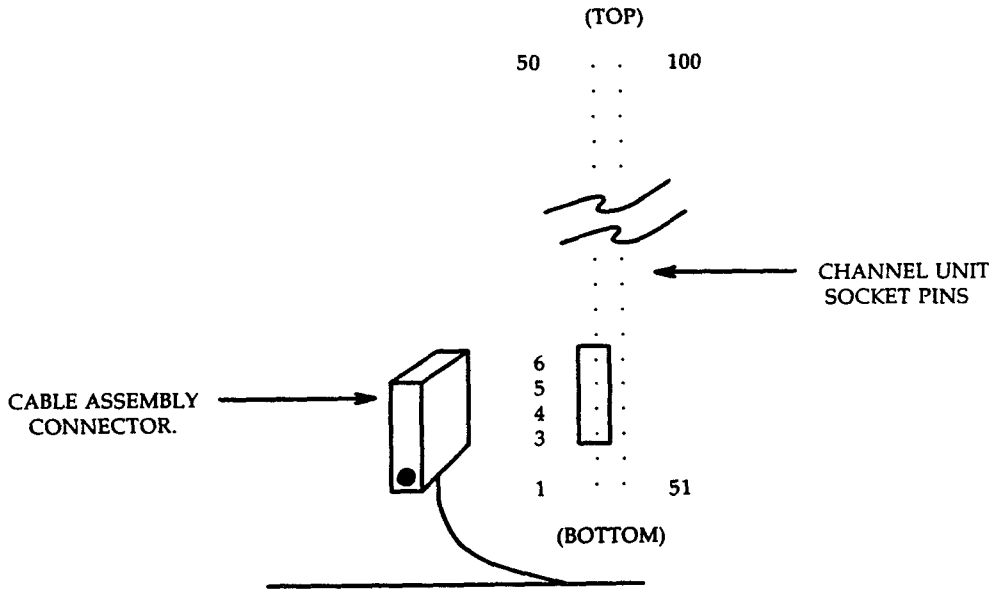


Figure 1—Channel Unit Socket and Cable Assembly Connector

6. Have all cable assemblies been installed?

   If **YES,** then proceed to Step **8.**
   If **NO,** then continue with Step **7.**

7. Repeat procedure from Step **2.**

8. Dress the cable assembly wiring along the open wiring path directly beneath the backplane pins to the right side of the frame (as viewed from the rear).

9. Verify that all 4-pin connectors on the cable assemblies are fully seated and will not interfere with the installation of the backplane cover.

10. Reinstall the backplane cover on the rear of the dual bank assembly.

STOP. YOU HAVE COMPLETED THIS PROCEDURE.

SET ZCS LIU LINE CODING OPTION FOR FEATURE PACKAGE C-AUTOCUT CONVERSION

1. Establish communication with crafts personnel at RT. If a multiplexer facility is used, get appropriate documentation for the type of multiplexer facility used. If AT&T DDM-1000 multiplexer is used, see AT&T 363-206-100 and use the **set-dsx-code:** command to select *AMI* line coding at both ends of the system.

2. ***Caution: If protection line is not available service will be interrupted while the LIU is removed.***

   If you have protection force A to protection (set switch A toward **f on LSU**). Remove **LIU A** and set **B/Z** option (**S100** FIG. 1 and FIG. 2 or **S1** FIG. 3) toward **Z**.

3. Have RT (and multiplexer facility if used) set ZSC line coding option for digroup A.

4. Install LIU A.

   Response: The **LIU FAIL** indicators light momentarily.

   Response: After RT (and multiplexer facility) has installed the LIU, all alarms clear.

5. ***Note:*** If digroup A is on protection, ADU MN will be lighted.

   After RT installs LIU A (and multiplexer facility has selected ZCS line coding), do all alarms clear (**CLF** on **LIU A** off)?

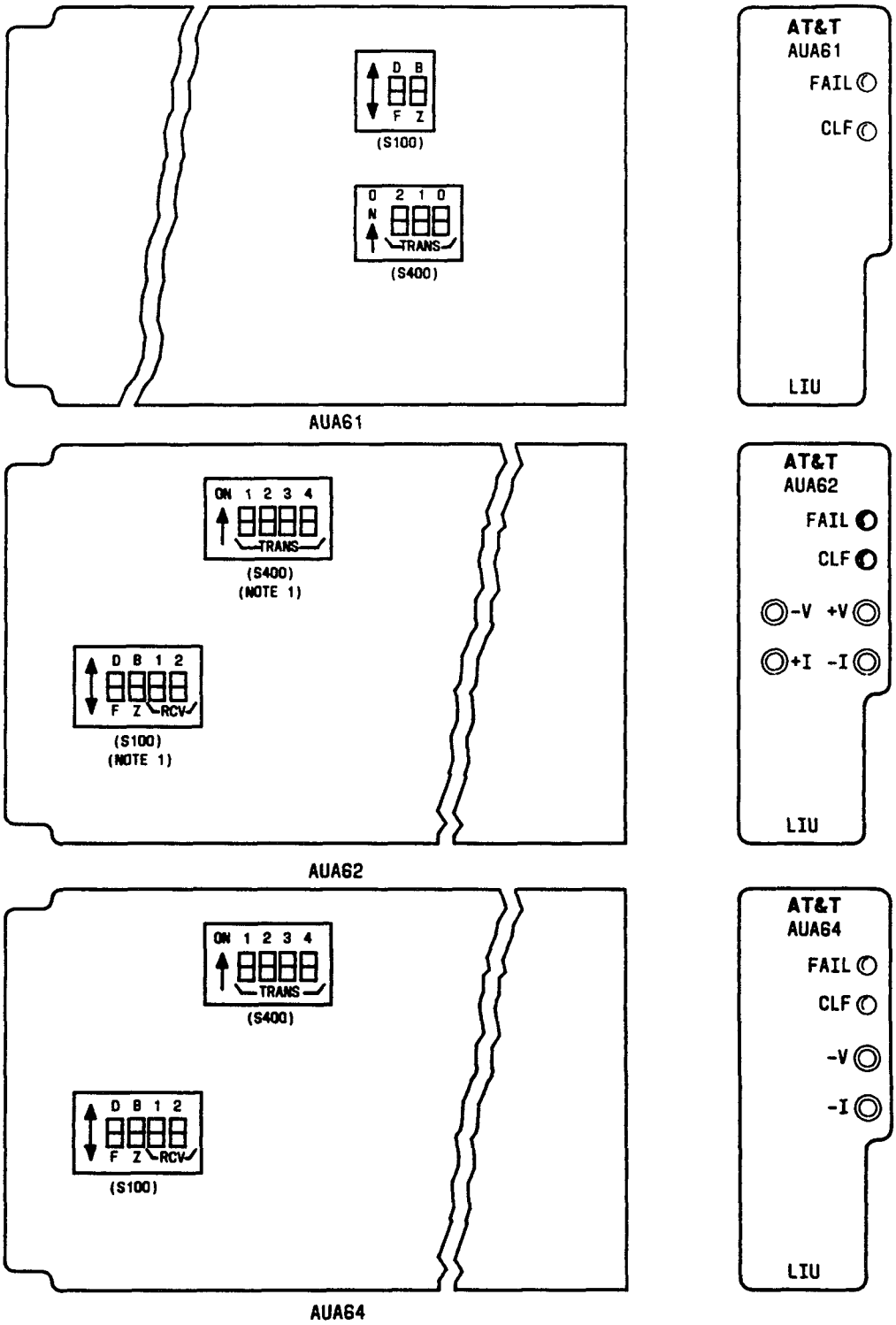
   If **NO**, then continue with Step **6**.
   If **YES, then proceed to Step 8**.

6. Verify that LIU options at both COT and RT have been set correctly. If **LIU FAIL** does not go off, replace LIU with correctly set options.

7. Replace the following circuit packs, one at a time, until trouble clears.

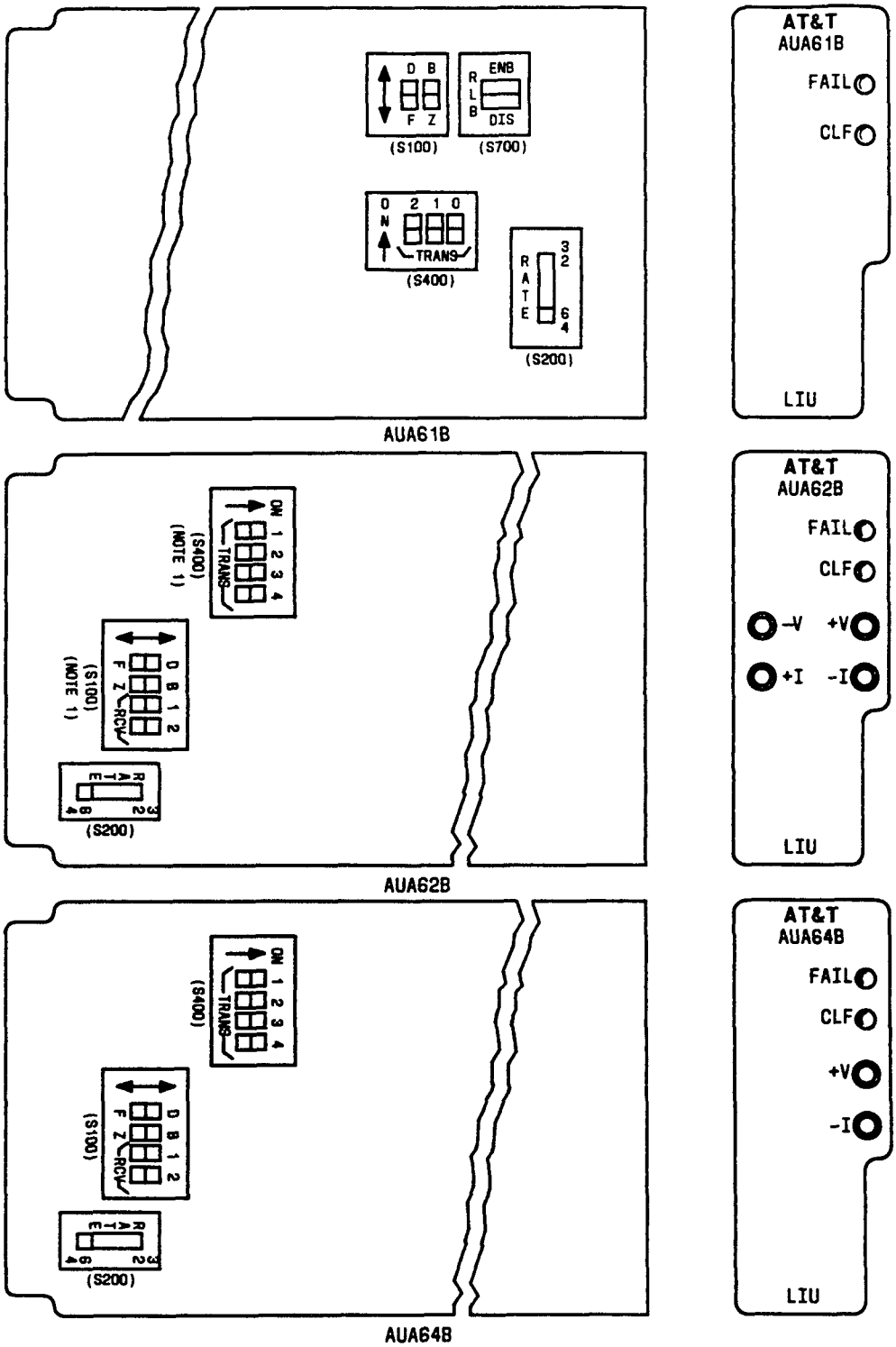
   - RT LIU.
   - COT LIU
   - Multiplexer low speed interface circuit packs, if used.

8. If digroup A was forced to protection, release digroups A from protection (set switch A away from **f on LSU**). Repeat Steps **2** through **8** for each equipped digroup (LIU B,C,D, and P).



NOTE: 1. AUA62 HAS A DAUGHTER BOARD. HOWEVER, S100 AND S400 ARE ACCESSIBLE THROUGH HOLES IN THE DAUGHTER BOARD.

Figure 1—AUA61, AUA62, and AUA64 LIU Option Switches



NOTE 1: AUA62B HAS A DAUGHTER BOARD. HOWEVER, S100 AND S400 ARE ACCESSIBLE THROUGH HOLES IN THE DAUGHTER BOARD.

Figure 2—AUA61B, AUA62B, and AUA64B LIU Option Switches

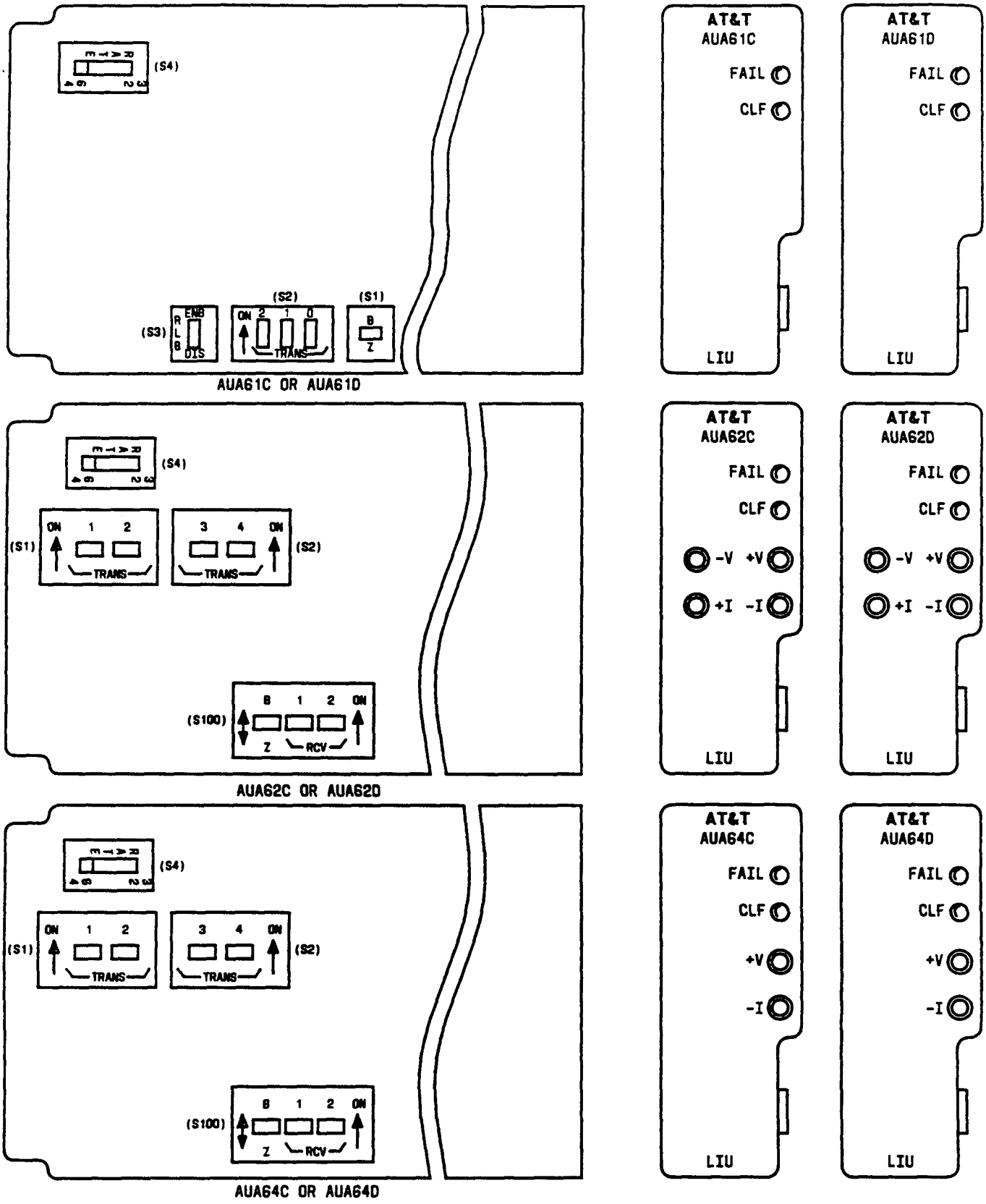


Figure 3—AUA61C/D, AUA62C/D, and AUA64C/D LIU Option Switches

CHECKLIST

ITEM	ISSUE	ITEM	ISSUE	ITEM	ISSUE	ITEM	ISSUE
• IXL-001		DLP-527					
• NTP-002		DLP-528					
• NTP-003		DLP-529					
• NTP-004		DLP-530					
• NTP-005		• DLP-531					
• NTP-006		• DLP-532					
• NTP-007		• DLP-533					
• NTP-008		DLP-534					
• NTP-009		DLP-535					
☐ NTP-010		DLP-536					
• NTP-011		DLP-537					
• NTP-012		DLP-538					
• NTP-013		• DLP-539					
• TAD-100		• DLP-540					
• DLP-501		• CKL-891					
• DLP-502		TNG-893					
☐ DLP-503		DPL-895					
• DLP-504							
DLP-505							
DLP-506							
• DLP-507							
• DLP-508							
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DLP-520							
☐ DLP-521							
DLP-522							
• DLP-523							
DLP-524							
DLP-525							
DLP-526							

• Revised or added item
☐ Canceled item

HOW TO USE TOP

This book is a Task Oriented Practice which is called a "TOP". It gives you all the step-by-step instructions you need to do your job (task). These instructions are given in the order that they ***must*** be done. Failure to follow the instructions in the order given may cause service interruptions.

Regardless of your work experience, TOP can be a useful tool in doing your job. If you have done a particular job many times, or if you do it frequently, TOP gives you "memory joggers" for those instructions you cannot recall. If you have never done a particular job, or if you do it infrequently, TOP gives you the detailed step-by-step instructions you need to do the job.

The work that you do can be divided into two broad job functions – work to clear troubles and work other than to clear troubles.

Work to Clear Troubles: This is the work you do to fix troubles in the equipment. You may be doing this work in response to a customer's complaint, an office alarm, a trouble report, an abnormal printout, or any other equipment fault indication.

Work Other Than to Clear Troubles: This is the work you do to install equipment, to test equipment after it is installed, to place equipment in service, to operate and maintain equipment, or anything else required to establish, to change, or to discontinue service to the customer.

Now, look at the front cover of this book. In the upper right corner is the 9-digit volume number. Near the center is the title, which tells you something about the contents such as the name of the equipment and maybe what types of jobs are included. Below the title is a flow diagram which uses logic symbols to direct you either to 893 or to 001 depending on your understanding of how to use TOP. Do you wonder what those numbers mean? Okay, a TOP is divided into parts called procedures. Each procedure is given a 3-digit number. These numbers range from 001 through 899. Procedures are arranged in this book in numerical order beginning with 001.

AT&T 123-456-789
Issue 2

IXL-001
Page 1 of 2

TASK INDEX LIST

FIND YOUR JOB IN THE LIST BELOW . . . . . THEN GO TO

Fig. 1 – Typical List of Jobs You May Have to Do

Now, look at Fig. 1. It is a typical 001 procedure and is always called a "Task Index List." It is an alphabetical listing of the jobs that you may have to do. To use a 001, just find the job you need to do in the "FIND YOUR JOB IN THE LIST BELOW" column. Next, follow the dotted line to the procedure number for that job in the "THEN GO TO" column. Then turn to that procedure number and begin the task.

For example, suppose you are given the job of doing a system test. On the 001 as shown in Fig. 1, find your job. Note that it is listed in the "FIND YOUR JOB IN THE LIST BELOW " column as "System Test-Perform." Now find the procedure number for that job. Note that it is listed in the "THEN GO TO" column as "NTP-016." It could have been any other 3-digit number. Now what does this procedure give you? Turn to next page.

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Issue 2

NTP-016
Page 1 of 2

PERFORM SYSTEM TEST

DO ITEMS BELOW IN ORDER LISTED . .	FOR DETAILS, GO TO
1 Test Local Maintenance Terminal	DLP-531
2 Place SEC/SEB in Off-Line Mode	
A. If in On-Line Mode, Change System From On-Line to Off-Line	DLP-509
B. If Powered Down, Condition System for Off-Line Operation as Follows	
1. Power up Minicomputer	DLP-503
2. Power up Line Printer	DLP-528
3. Power up Maintenance Terminal	DLP-510
7 Run Computer Display Terminal Test For All Positions	DLP-513
8 Mount Tape	DLP-500
9 Test Computer Display	DLP-522

Fig. 2 – Typical List of Specific Instructions for Doing a Job

Look at Fig. 2. It consists of numbered items (or steps) listed in the order that you must do them to complete your job. To use this procedure, you must start with item 1 in the "DO ITEMS BELOW IN THE ORDER LISTED" column and continue until all items have been done. When you get to an item that you do not know how to do, look for the procedure number for that item under the "FOR DETAILS, GO TO" column. This is the number of the procedure that will give you detailed step-by-step instructions to do that item. Note that item 2 in Fig. 2 uses lettered (A, B) entries. This means that there are alternate ways of doing item 2 depending on equipment options or equipment conditions. You do only the one that fits your equipment options or equipment conditions.

For example, suppose you are doing a system test. The 001 as shown in Fig. 1 has directed you to 016 as shown in Fig. 2 and you are on item 8 "Mount Tape" in the "DO ITEMS BELOW IN ORDER LISTED" column. If you know how to mount the tape, do it. If you do not know how to mount the tape, go to the procedure number listed in the "FOR DETAILS, GO TO" column for the detailed step-by-step instructions. In this case, it happens to be 500. In either case, you must continue with the next item listed in 016 until you complete the job.

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Issue 2

DLP-500
Page 1 of 2

MOUNT TAPE

SUMMARY: Install tape with or without write enable ring, as required. Thread tape and position tape at beginning of tape (BOT) marker.

1. Get file reel and empty take-up reel.
2. Set ***START/STOP*** switch to ***STOP***.
3. Set ***ON LINE/OFF LINE*** switch to ***OFF LINE***.
4. Set ***LOAD/BR REL*** switch to center position.
5. Is data to be written on tape?

   If **YES**, then install write enable ring on file reel and go to Step **7**.
   If **NO**, then do Step **6**.
6. Ensure that write enable ring is not installed on file reel

   Reference: **DLP-563**
7. Open tape transport door.

Fig. 3 – Typical List of Detailed Instructions for Doing a Job

Now, lets look at 500 as shown in Fig. 3. It is a typical page of a procedure that gives numbered step-by-step instructions. To use this procedure, you must start with Step 1 and proceed as directed by the instructions until you complete this procedure. Note that Step 1 of this procedure is preceded by a statement called a "SUMMARY." A summary is used as a "memory jogger," and briefly tells you how to do the procedure and what measurements or results you can observe. If you can do the procedure after reading the "SUMMARY", go ahead and do it without reading any further. Not all procedures have a "SUMMARY" statement.

Now, look at Step 6 of the 500 as shown in Fig. 3. Note that following the action statement there is the word "Reference" followed by "DLP-563" (Detailed Level Procedure). When you see a reference like this, it means that additional step-by-step instructions for doing just that step are given in the referenced procedure. In this case, 563 gives you the details on how to "Ensure that the write-enable ring is not installed on the file reel." If you, in this case, can do Step 6 without going to 563, go ahead and do it. If you do not know how to do Step 6, then go to 563. In either case, you must continue with Step 7 until you have completed the procedure. In some cases, you may be directed to a procedure where the procedure number is preceded by the letters "TAP" (Trouble Analysis Procedure), for example, TAP-109. This means that you have trouble in the equipment and in this case TAP-109 will give you step-by-step instructions to fix the trouble. After you have fixed the trouble, you must return to Step 1 of the procedure that sent you to TAP-109.

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Issue 2

IXL-001
Page 1 of 2

TASK INDEX LIST

FIND YOUR JOB IN THE LIST BELOW . .	. . THEN GO TO
Alert; External – Horn, Ringer, Etc. – Remove	. . . . . NTP-028
Alarm – Major – Clear	. . . . . TAP-109

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Issue 2

TAP-109
Page 1 of 2

CLEAR MAJOR ALARM AT TERMINAL

1. The following ISD is available for support

   Reference: ISD-108

2. Is PWR ALM alarm lamp lighted on power regulator in terminal?

   If YES, then do Step 3
   If NO, then do Step 4

ISD-108
Page 1 of 1

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Issue 2

MAJOR ALARM STR

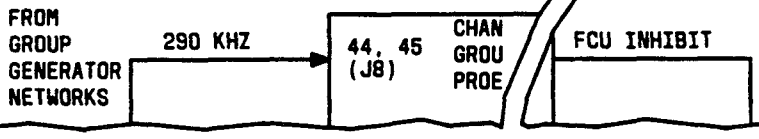

Fig. 4 – Typical Data Accessing for Trouble-Clearing Work

However, if you came directly from 001 to 109 as shown in Fig. 4, then your job is completed when you have fixed the trouble.

Note that Step 1 in TAP-109 as shown in Fig. 4 gives you a reference to "ISD-108." This is a block diagram of the trouble area and gives you support information for the 109 procedure.

Safety: Always do your job safely. Three safety notices are used in TOP as follows:

> ***DANGER: This means there is a possibility of personal injury.***

Caution: This means there is a possibility of service interruption.

Warning: This means there is a possibility of equipment damage.

Important Items: Look at Table A. It lists the more important items used in TOP.

Reporting TOP Errors: If, while using TOP you find errors, call the "TOP HOTLINE" number located on the front cover in the lower right corner. You can also report errors by using comment form E-3973. Details on how to fill out this form are in AT&T 000-010-015. Your comments are needed to provide useful and accurate TOP coverage.

TABLE A

IMPORTANT TOP ITEMS AND DEFINITIONS

ITEM	DEFINITION
Acceptance (NTP-002)	Provides information and identifies jobs to be done to accept equipment after it is installed.
Maintenance Philosophy (TAD-100)	The maintenance philosophy, when provided, gives an overview of the considerations designed into the trouble-clearing procedures.
Checklist (CKL-891)	The checklist reflects the content (inventory) at any given time.
Documentation Plan (DPL-895)	The documentation plan gives a bird's-eye view of all the TOP books covering a system. This plan can help you to quickly determine the correct books to use.
DLP (Detailed Level Procedure)	Detailed step-by-step instructions.
ISD (Isolation Diagram)	A functional block diagram defining the trouble universe
TAD (Trouble Analysis Data)	A trouble-clearing aid other than instructions. It may be a functional schematic, text, trouble-locating chart, etc.
TAP (Trouble Analysis Procedure)	Step-by-step trouble-clearing instructions to locate and/or fix troubles.
NTP (Non Trouble-Clearing Procedure)	A list of items to perform normal work other than trouble-clearing.

DOCUMENTATION PLAN

GENERAL

The Documentation plan for Series 5 systems is shown in FIG. 1.

SLC SERIES 5 CARRIER SYSTEM
TOP DOCUMENTATION PLAN

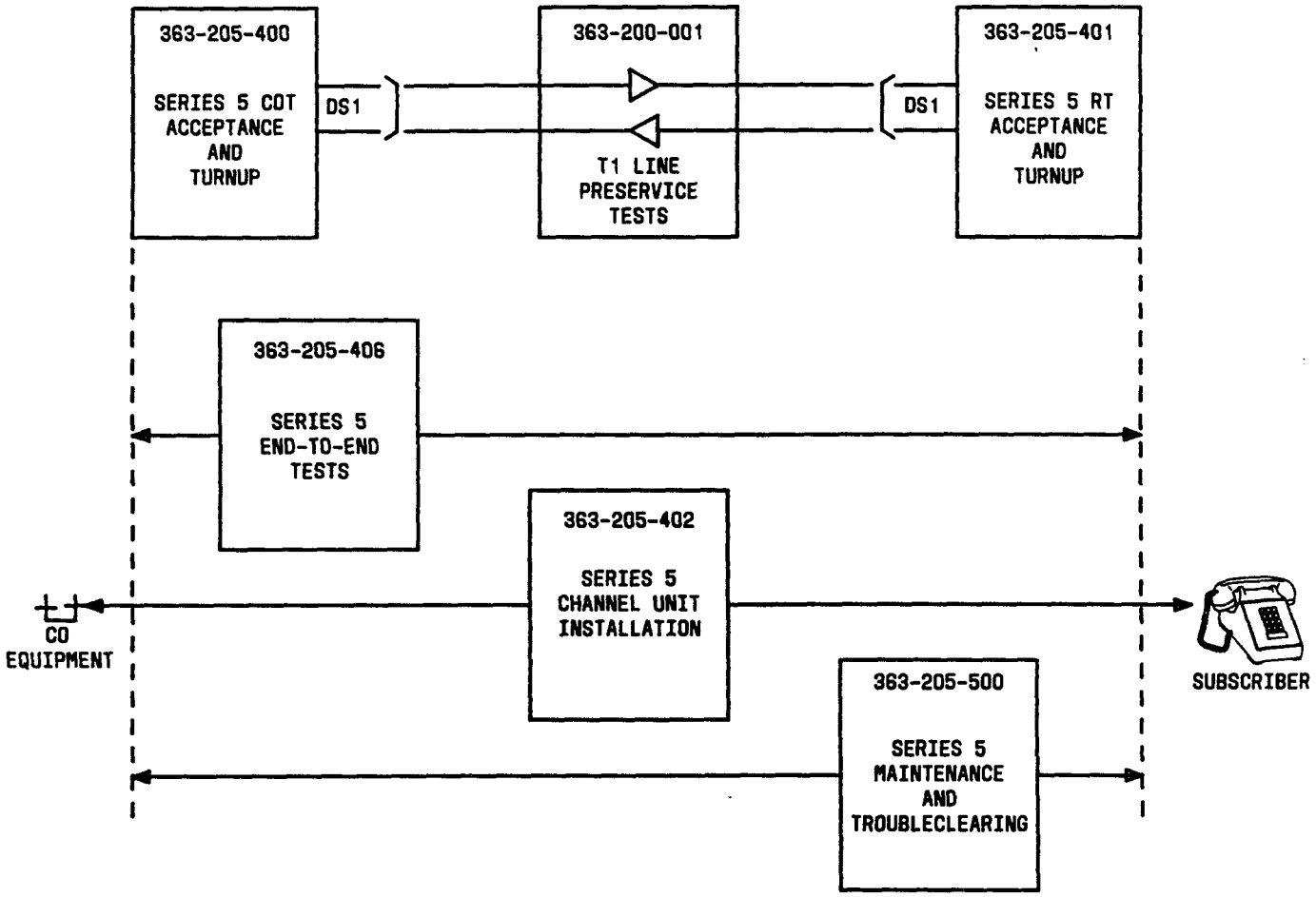

FIG. 1