

ACCESS SERVICE

13. Additional Engineering, Additional Labor and Miscellaneous Services

13.1 addresses Additional Engineering. 13.2 addresses Additional Labor (which is comprised of Overtime Installation, Overtime Repair, Stand by, Testing and Maintenance with Other Telephone Companies, and Other Labor). 13.3 addresses Miscellaneous Services (which are comprised of Testing Services, Maintenance of Service, Telecommunications Service Priority and International Call Blocking Service). 13.4 addresses Presubscription.

In this section, normally scheduled working hours are an employee's scheduled work period in any given calendar day (e.g., 8:00 a.m. to 5:00 p.m.) for the application of rates based on working hours.

A Miscellaneous Service Order charge as described in 5.4.2 preceding may be applicable to services ordered from this section.

13.1 Additional Engineering

Additional Engineering, including engineering reviews as set forth in 5.4.3 preceding, will be undertaken only after the Telephone Company has notified the customer that additional engineering charges apply as set forth in 17.3.2 following, and the customer agrees to such charges.

Additional Engineering will be provided by the Telephone Company at the request of the customer only when:

- (A) A customer requests additional technical information after the Telephone Company has already provided the technical information normally included on the Design Layout Report (DLR) as set forth in 6.1.5 and 7.1.6 preceding.
- (B) Additional engineering time is incurred by the Telephone Company to engineer a customer's request for a customized service as set forth in 7.1.2 preceding.

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13. Additional Engineering, Additional Labor and Miscellaneous Services (Cont'd)13.1 Additional Engineering (Cont'd)

- (C) A customer requested Design Change requires the expenditure of additional engineering time. Such additional engineering time is incurred by the Telephone Company for the engineering review as set forth in 5.4.3 preceding. The charge for additional engineering time relating to the engineering review, which is undertaken to determine if a design change is indeed required, will apply whether or not the customer authorizes the Telephone Company to proceed with the Design Change. In this case the Design Change charge, as set forth in 17.3.1(C) following, does not apply unless the customer authorizes the Telephone Company to proceed with the Design Change.

(D)

(D)

13.2 Additional Labor

Additional Labor is that labor requested by the customer on a given service and agreed to by the Telephone Company as set forth in 13.2.1 through 13.2.5 following. The Telephone Company will notify the customer that additional labor charges as set forth in 17.3.3 following will apply before any additional labor is undertaken. When provisioning or restoring Telecommunications Service Priority services, the Telephone Company will, when possible, notify the customer of the applicability of these additional labor charges.

13.2.1 Overtime Installation

Overtime installation is that Telephone Company installation effort outside of normally scheduled working hours.

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13. Additional Engineering, Additional Labor and Miscellaneous Services (Cont'd)13.2 Additional Labor (Cont'd)13.2.2 Overtime Repair

Overtime repair is that Telephone Company effort performed outside of normally scheduled working hours.

13.2.3 Stand by

Stand by includes all time in excess of one-half (1/2) hour during which Telephone Company personnel stand by to make installation acceptance tests or cooperative tests with a customer to verify facility repair on a given service.

13.2.4 Testing and Maintenance with Other Telephone Companies

Additional testing, maintenance or repair of facilities which connect other telephone companies is that which is in addition to the normal effort required to test, maintain or repair facilities provided solely by the Telephone Company.

13.2.5 Other Labor

Other labor is that additional labor not included in 13.2.1 through 13.2.4 preceding and labor incurred to accommodate a specific customer request that involves only labor which is not covered by any other section of this tariff.

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13. Additional Engineering, Additional Labor and Miscellaneous Services (Cont'd)13.3 Miscellaneous Services13.3.1 Testing Services

Testing Services offered under this section of the tariff are optional and subject to rates and charges as set forth in 17.3.4 following. Other testing services, as described in 6.2.4 and 7.1.7 preceding, are provided by the Telephone Company in association with Access Services and are furnished at no additional charge.

Testing services are normally provided by Telephone Company personnel at Telephone Company locations. However, provisions are made in (B)(2) following for a customer to request Telephone Company personnel to perform testing services at the customer designated premises.

The offering of Testing Services under this section of the tariff is made subject to the availability of the necessary qualified personnel and test equipment at the various test locations mentioned in (A) and (B) following.

(A) Switched Access Services

Testing Services for Switched Access are comprised of (a) tests which are performed during the installation of a Switched Access Service, i.e., Acceptance Tests, (b) tests which are performed after customer acceptance of such access services and which are without charge i.e., routine testing and (c) additional tests which are performed during or after customer acceptance of such access services and for which additional charges apply, i.e., Additional Cooperative Acceptance Tests and in-service tests.

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13. Additional Engineering, Additional Labor and Miscellaneous Services (Cont'd)13.3 Miscellaneous Services (Cont'd)13.3.1 Testing Services (Cont'd)(A) Switched Access Services (Cont'd)

Routine tests are those tests performed by the Telephone Company on a regular basis, as set forth in 6.2.4 preceding which are required to maintain Switched Access Service. Additional in-service tests may be done on an automatic basis (no Telephone Company or customer technicians involved), on a manual basis [Telephone Company technician(s) involved at Telephone Company office(s) and Telephone Company or customer technician(s) involved at the customer designated premises].

Testing services are ordered to the Dial Tone Office for FGA, to the access tandem or end office for FGB (wherever the FGB service is ordered) and to the end office for FGs C and D. Testing Services for Directory Assistance Service not routed through an access tandem is ordered to a Directory Assistance Location for each NPA.

(1) Additional Cooperative Acceptance Testing

Additional Cooperative Acceptance Testing of Switched Access Service involves the Telephone Company provision of a technician at its office(s) and the

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customer provision of a technician at its premises, with suitable test equipment to perform the required tests. Additional Cooperative Acceptance Tests may, for example, consist of the following tests:

- Impulse Noise
- Phase Jitter
- Signal to C-Notched Noise Ratio
- Intermodulation (nonlinear) Distortion
- Frequency Shift (Offset)
- Envelope Delay Distortion
- Dial Pulse Percent Break

(2) Additional Automatic Testing

Additional Automatic Testing (AAT) of Switched Access Services (Feature Groups B, C and D), is a service where the customer provides remote office test lines and 105 test lines with associated responders or their functional equivalent. The customer may order, at additional charges, gain-slope and C-notched noise testing and may order the routine tests (1004 Hz loss, C-Message Noise and Balance) on an as needed or more than routine schedule.

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The Telephone Company will provide an AAT report that lists the test results for each trunk tested. Trunk test failures requiring customer participation for trouble resolution will be provided to the customer on an as-occurs basis.

The Additional Tests, (i.e., gain slope, C-notched noise, 1004 Hz loss, C-message noise and balance) may be ordered by the customer at additional charges, 60 days prior to the start of the customer prescribed schedule. The rates for Additional Automatic Tests are as set forth in 17.3.4(B) following.

(3) Additional Manual Testing

Additional Manual Testing (AMT) of Switched Access Services (Feature Groups A, B, C, and D and Directory Access Service not routed through an access tandem), is a service where the Telephone Company provides a technician at its office(s) and the Telephone Company or customer provides a technician at the customer designated premises, with suitable test equipment to perform the required tests. Such additional tests will normally consist of gain-slope and C-notched noise testing. However, the Telephone Company will conduct any additional tests which the IC may request.

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13. Additional Engineering, Additional Labor and Miscellaneous Services (Cont'd)13.3 Miscellaneous Services (Cont'd)13.3.1 Testing Services (Cont'd)(A) Switched Access Services (Cont'd)(3) Additional Manual Testing (Cont'd)

The Telephone Company will provide an AMT report listing the test results for each trunk tested. Trunk test failures requiring customer participation for trouble resolution will be provided to the customer on a per occurrence basis.

The Additional Manual Tests may be ordered by the customer at additional charges, 60 days prior to the start of the testing schedule as mutually agreed to by the customer and the Telephone Company.

The rates for Additional Manual Testing are as set forth in 17.3.4(C) following.

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13. Additional Engineering, Additional Labor and Miscellaneous Services (Cont'd)13.3 Miscellaneous Services (Cont'd)13.3.1 Testing Services (Cont'd)(A) Switched Access Service (Cont'd)(4) Obligations of the Customer

- (a) The customer shall provide the Remote Office Test Line priming data to the Telephone Company, as appropriate, to support routine testing as set forth in 6.2.4(B) preceding or AAT as set forth in 13.3.1(A)(2) preceding.
- (b) The customer shall make the facilities to be tested available to the Telephone Company at times mutually agreed upon.

(B) Special Access Service

The Telephone Company will provide assistance in performing specific tests requested by the customer.

(1) Additional Cooperative Acceptance Testing

When a customer provides a technician at its premises or at an end user's premises, with suitable test equipment to perform the requested tests, the Telephone Company will provide a technician at its office for the purpose of conducting Additional Cooperative Acceptance Testing on Voice Grade Services. At the customer's request, the Telephone Company will provide a technician at the customer's premises or at the end user premises. These tests may, for example, consist of the following:

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13. Additional Engineering, Additional Labor and Miscellaneous Services (Cont'd)13.3 Miscellaneous Services (Cont'd)13.3.1 Testing Services (Cont'd)(B) Special Access Service (Cont'd)(1) Additional Cooperative Acceptance Testing (Cont'd)

- Attenuation Distortion (i.e., frequency response)
- Intermodulation Distortion (i.e., harmonic distortion)
- Phase Jitter
- Impulse Noise
- Envelope Delay Distortion
- Echo Control
- Frequency Shift

(2) Additional Manual Testing

The Telephone Company will provide a technician at its premises, and the Telephone Company or customer will provide a technician at the customer's designated premises with suitable test equipment to perform the requested tests.

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13. Additional Engineering, Additional Labor and Miscellaneous Services (Cont'd)13.3 Miscellaneous Services (Cont'd)13.3.1 Testing Services (Cont'd)(B) Special Access Service (Cont'd)(3) Obligation of the Customer

When the customer subscribes to Testing Service as set forth in this section, the customer shall make the facilities to be tested available to the Telephone Company at a time mutually agreed upon.

13.3.2 Maintenance of Service

- (A) When a customer reports a trouble to the Telephone Company for clearance and no trouble is found in the Telephone Company's facilities, the customer shall be responsible for payment of a Maintenance of service charge as set forth in 17.3.4(F) following for the period of time from when Telephone Company personnel are dispatched to the customer designated premises to when the work is completed. Failure of Telephone Company personnel to find trouble in Telephone Company facilities will result in no charge if the trouble is actually in those facilities, but not discovered at the time.

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13. Additional Engineering, Additional Labor and Miscellaneous Services (Cont'd)13.3 Miscellaneous Services (Cont'd)13.3.2 Maintenance of Service (Cont'd)

- (B) The customer shall be responsible for payment of a Maintenance of Service charge when the Telephone Company dispatches personnel to the customer designated premises, and the trouble is in equipment or communications systems provided by other than the Telephone Company or in detariffed CPE provided by the Telephone Company.

In either (A) or (B) preceding, no credit allowance will be applicable for the interruption involved if the Maintenance of Service Charge applies.

13.3.3 Telecommunications Service Priority (TSP) System

- (A) Priority installation and/or restoration of National Security Emergency Preparedness (NSEP) telecommunications services shall be provided in accordance with Part 64.401, Appendix A. of the Federal Communications Commission's (FCC's) Rules and Regulations.

In addition, TSP System service shall be provided in accordance with the guidelines set forth in "Telecommunications Service Priority (TSP) System for National Security Emergency Preparedness (NSEP) Service Vendor Handbook" NCS Handbook 3-1-2 dated July 9, 1990, and "Telecommunications Service Priority System for National Security Emergency Preparedness Service User Manual" (NCSM 3-1-1).

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13. Additional Engineering, Additional Labor and Miscellaneous Services (Cont'd)13.3 Miscellaneous Services (Cont'd)13.3.3 Telecommunications Service Priority - TSP (Cont'd)

The TSP System is the regulatory, administrative and operation system authorizing and providing for priority treatment, to provision and restore NSEP telecommunications services. These services include both Switched and Special Access Services. Under the rules of the TSP System, telephone companies are authorized and required to provision and restore services with TSP assignments before services without such assignments.

For Switched Access Service, the TSP System's applicability is limited to those services which the Telephone Company can Discretely identify for priority installation and or restoration.

- (B) The customer for TSP System Service must also be the same customer for the Access Service with which it is associated.

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13. Additional Engineering, Additional Labor and Miscellaneous Services (Cont'd)13.3 Miscellaneous Service (Cont'd)13.3.3 Telecommunications Service Priority - TSP (Cont'd)

- (C) A Telecommunications Service Priority charge applies as set forth in 17.3.4 when a request to provide or change a Telecommunications Service Priority is received subsequent to the issuance of an Access Order to install the service.

Additionally, a Miscellaneous Service Order Charge as set forth in 17.3.1. will apply to Telecommunications Service Priority requests that are ordered subsequent to the initial installation of the associated access service.

A Telecommunications Service Priority charge does not apply when a Telecommunications Service Priority is discontinued or when ordered coincident with an Access Order to install or change service.

In addition, Additional Labor rates as set forth in 17.3.3 may be applicable when provisioning or restoring Switched or Special Access Services with Telecommunications Service Priority.

When the customer requests an audit or a reconciliation of the Telephone Company's Telecommunications Service Priority records, a Miscellaneous Service Order Charge as set forth in 17.3.1 and Additional Labor rates as set forth in 17.4.3 are applicable.

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13. Additional Engineering, Additional Labor and Miscellaneous Services (Cont'd)13.3 Miscellaneous Services (Cont'd)13.3.3 Telecommunications Service Priority - TSP (Cont'd)

- (D) Under certain conditions, it may be necessary to preempt one or more customer services with a lower or no priority assignment in order to install or restore NSEP telecommunications service(s) of a higher priority. If such preemption is necessary, and if circumstances permit, the Telephone Company will make reasonable effort to notify the preempted service customer of the action to be taken. Credit allowance for such service preemption shall be made in accordance with the provisions set forth in 2.4.4(E) preceding, concerning Temporary Surrender of a Service.
- (E) The customer, in obtaining TSP System service, acknowledges and consents to the provision of certain customer service record information by the Telephone Company to the Federal Government in order for the Government to maintain and administer its overall TSP System. This customer service record information will include only customer name, TSP Authorization Code, Telephone Company Circuit/Service ID, customer telephone number and customer mailing address.
- (F) When Priority Restoration Maintenance and Administration is discontinued and the associated Access Service is continued in service, no charge applies for such a discontinuance.
- (G) Credit allowance for service interruption for Priority Restoration Maintenance and Administration shall be the same as for the Access Service with which it is associated as set forth in 2.4.4 preceding.

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13. Additional Engineering, Additional Labor and Miscellaneous Services (Cont'd)13.3 Miscellaneous Services (Cont'd)13.3.4 Miscellaneous Equipment(A) Controller Arrangement

This arrangement enables the customer to control up to 48 transfer functions at a Telephone Company central office via a remote keyboard terminal capable of either 300 or 1200 bps operation. Included as part of the Controller Arrangement is a dial-up data station located at the Telephone Company Central Office to provide access to the Controller Arrangement. This dial-up data station consists of a 212A DATAPHONE data set and an appropriate Telephone Company provided channel.

The Controller Arrangement must be located in the same Telephone Company central office as the transfer functions which it controls.

Charges for the Controller Arrangement are set forth in 17.3.4(H) following.

13.3.5 International Blocking Service

International Blocking Service (IBS) is an optional end user feature that will block customers from direct dialing international calls via the preselected or presubscribed interexchange carrier (011+) on designated telephones, where technically feasible. IBS will also block customers from over-riding the preselected interexchange carrier when dialing direct-dialed international calls (10XXX 011+) from designated telephones, where technically feasible.

IBS is a nonchargeable service. For service order activity associated with installing or removing IBS, a Miscellaneous Service Order Charge as set forth in 17.3.4(J) will apply.

This service is filed pursuant to the Federal Communications Commission's Order, In the Matter of Policies and Rules Concerning Operator Service Access and Pay Telephone Compensation, CC Docket NO. 91-35, released July 10, 1992.

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13. Additional Engineering, Additional Labor and Miscellaneous Services (Cont'd)13.3 Miscellaneous Services (Cont'd)13.3.6 Information Services Call Blocking (ISCB)

Information Services Call Blocking (ISCB) is a Central Office call blocking service. ISCB allows the Telephone Company's single-party residential and business customers the option to block directly dialed, Telephone Company operator-assisted and Telephone Company operator entered billing calls originating from their telephones to Pacific Bell California 976 and Pacific Bell California 900 numbers within California and to 900 Interexchange Carrier Service numbers (900 IEC).

The Telephone Company shall, upon request from the customer, provide blocking pursuant to the regulations set below and rates as shown in 17.3.4(K) following.

- (A) ISCB will be disconnected only if the customer makes a written request to the business office to cancel the service or if the customer disconnects their telephone service. The customer will be charged the applicable rates as shown in 17.3.4 (K) following.

If a customer with ISCB dials a Pacific Bell California 976, Pacific Bell California 900 or 900 IEC number, they will receive a recorded announcement that advises the customer that their call cannot be completed as dialed. The customer will be able to dial all other numbers.

- (B) The Telephone Company shall make a one-time adjustment for Pacific Bell California 976, Pacific Bell California 900 or 900 IEC charges per customer account if it is established that: 1) the calls were made by the customer's minor children without minor parental consent, 2) the calls were not authorized by the customer, or 3) the customer was not aware that associated service charges applied.

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13. Additional Engineering, Additional Labor and Miscellaneous Services (Cont'd)13.3 Miscellaneous Services (Cont'd)13.3.6 Information Services Call Blocking (ISCB) (Cont'd)

- (C) A customer must request an adjustment within 60 days of the bill date on the bill in question. The customer will be informed of the availability of ISCB at the time of the adjustment. If the customer elects to have ISCB installed, contested Pacific Bell California 976, Pacific Bell California 900 or 900 IEC charges will be adjusted to the date blocking is placed on the customer's line. (N)
- (D) The Telephone Company may block access to Pacific Bell California 976, Pacific Bell California 900 and 900 IEC services for customers who fail or refuse to pay for associated charges, except charges for which an adjustment has been granted.
- (E) The Telephone Company will not disconnect local service for non-payment of Pacific Bell California 976, Pacific Bell California 900 and 900 IEC charges. The Telephone Company will inform the customer, by mail, or financial responsibility for Information that if they are not paid, the Telephone Company will equip the customer's line(s) with Information Services Call Blocking.
- (F) The Telephone Company will temporarily block access to Pacific Bell California 976, Pacific Bell California 900 and 900 IEC calls if the customer exceeds \$150.00 in 900 call charges and the Telephone Company is unable to contact the customer. Once the Telephone Company has contacted the customer, the blocking will be removed at the customer's request at no additional charge.

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13. Additional Engineering, Additional Labor and Miscellaneous Services (Cont'd)

13.3 Miscellaneous Services (Cont'd)

13.3.6 Information Services Call Blocking (ISCB) (Cont'd)

- (G) Blocking access to Pacific Bell California 976, Pacific Bell California 900 and 900 IEC is offered to all customers at no charge at the time telephone service is established at a new number and for sixty days thereafter.

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13. Additional Engineering, Additional Labor and Miscellaneous Services (Cont'd)13.4 Presubscription

Pursuant to the Federal Communications Commission's Memorandum Opinion and Order, CC Docket No. 83-1145, Phase I, adopted May 31, 1985, and released June 12, 1985, the Allocation Plan, outlined in the Appendix B of this Order, will be available for inspection in the Public Reference Room of the Tariff Division at the Federal Communications Commission's Washington, D.C., location or may be obtained from the Commission's commercial contractor.

- (A) Presubscription is the process by which end user customers may select and designate to the Telephone Company an IC to access, without an access code, for interLATA, interstate calls. This IC is referred to as the end user's predesignated IC.
- (B) On the effective date of this tariff, all existing end users have access to interstate MTS/WATS. No later than 85 days prior to conversion to Feature Group D in a serving end office, the Telephone Company will notify end users of the availability of equal access in their particular area. The notification will include the names of all ICs wishing to participate in the presubscription process. This notification will be sent via U.S. Mail to each end user of record served by the end office to be converted.
- (C) End users may select one of the following options at no charge:
- indicate a primary IC for all of its lines,
 - indicate a different IC for each of its lines.

Only one IC may be selected for each line or lines terminating in the same hunt group.

End users may designate that they do not want to presubscribe to any IC. The end user must arrange this designation by directly notifying the Telephone Company's business office. This choice will require the end user to dial an access code (10XXX) for all interstate calls.

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13. Additional Engineering, Additional Labor and Miscellaneous Services (Cont'd)13.4 Presubscription (Cont'd)

(C) (Cont'd)

After the end user's initial selection of a predesignated IC or the designation that they do not want to presubscribe to any IC, for any change in selection after conversion to Equal Access in the serving end office, a nonrecurring charge, as set forth in 17.3.4(I) following applies.

- (D) End users not responding to the initial notification will be sent a second notification for the selection of a predesignated IC no earlier than 40 days prior to or no later than 90 days after the conversion to Equal Access in a serving end office. This second notification will indicate the primary IC that has been assigned to them if they fail to respond to the second notification.

After the allocation process has been completed, end users assigned to an IC via the allocation process may change their IC one time within six months after conversion to Equal Access in the serving end office at no charge.

Following the six month period after conversion to Equal Access for any change in selection, a nonrecurring charge as set forth in 17.3.4(I) following, applies.

- (E) When an end user indicates more than one IC selection on the return notification or returns an illegible return notification, the Telephone Company will contact the end user for clarification. If the end user indicates an IC selection on the return notification that does not match with information provided by an IC and both notifications indicate the same authorization date, the end user's notification takes precedence and the Telephone Company will process the end user's selection. In the event that two or more ICs provide to the Telephone Company notifications with the same authorization date and neither notification has been processed, the Telephone Company will contact the end user for clarification. A list of these customers in conflict must be sent to the affected IC by the Telephone Company.

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13. Additional Engineering, Additional Labor and Miscellaneous Services (Cont'd)13.4 Presubscription (Cont'd)

(E) (Cont'd)

In the event that two or more ICs have provided to the Telephone Company notifications with the same authorization date(s), and one IC notification has already been processed by the Telephone Company, those IC notifications not yet processed would be returned to the ICs.

(F) New end users who are served by end offices equipped with Feature Group D will be asked to presubscribe to an IC at the time they place an order with the Telephone Company for Telephone Exchange Service. They may select either of the following options. There will be no charge for this initial selection.

- designate a primary IC for all of its lines,
- designate a different IC for each of its lines.

Only one IC may be selected for each individual line, or lines terminating in the same hunt group. Subsequent to the installation of Telephone Exchange Service and after the end user's initial selection of a predesignated IC, for any change in selection, a nonrecurring charge, as set forth in 17.3.4(I) following, applies.

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13. Additional Engineering, Additional Labor and Miscellaneous Services (Cont'd)13.4 Presubscription (Cont'd)

- (G) If the new end user fails to designate an IC as its predesignated IC prior to the date of installation of Telephone Exchange Service, the Telephone Company will (1) allocate the end user to an IC based upon current IC presubscription ratios, (2) require the end user to dial an access code (10XXX) for all interstate calls, or (3) block the end user from interstate calling. The end user will be notified which option will be applied if they fail to presubscribe to an IC. An allocated or blocked end user may designate another, or initial, IC as its predesignated IC one time at no charge if it is requested within six months after the installation of Telephone Exchange Service.

For any change in selection after 6 months from the installation of Telephone Exchange Service, a nonrecurring charge, as set forth in 17.3.4(I) following applies.

- (H) If an IC elects to discontinue its Feature Group D Service offering prior to or within 2 years of the conversion, the IC will notify the Telephone Company of the cancellation. The IC will also notify all end users which selected them that they are canceling their service and they should contact the Telephone Company to select a new primary IC. The IC will also inform the end user that it will pay the presubscription change charge. The canceling IC will then be billed by the Telephone Company the appropriate charge for each end user for a period of two years from the discontinuance of Feature Group D service.
- (I) If an IC requests a PIC change on behalf of an end user, the end user subsequently denies requesting the change, and the IC is unable to substantiate the change with a letter of agency signed by the end user then;
- The end user will be changed back to the previously selected IC at no charge to the end user,
 - Both the Miscellaneous Service Order charge as set forth in 17.3.1(D) and the Presubscription Change charge as set forth in 17.3.4(I) will be billed to the IC that requested the unauthorized PIC change.

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13. Additional Engineering, Additional Labor and Miscellaneous Services (Cont'd)13.5 Billing Name and Address Information

Telecommunications Service Providers may request Billing Name and Address information of the Telephone Company for a specifically stated Billed Telephone Number (BTN). This information is to be used only for purposes authorized in FCC Orders 93-254 and 93-535, CC Docket 91-115 and as defined below.

The Telephone Company shall not disclose billing name and address information to any party other than a telecommunications service provider or an authorized billing and collection agent of a telecommunications service provider.

No telecommunications service provider or authorized billing and collection agent of a telecommunications service provider shall use billing name and address information for any purpose other than billing customers for using telecommunications services of that service provider and collecting amounts due.

The Telephone Company shall not disclose billing name and address information on a bulk basis. This does not preclude the Telephone Company from providing to an interexchange carrier the billing name and address information for all customers presubscribed to that interexchange carrier.

The Telephone Company shall obtain from subscribers with unlisted or unpublished telephone numbers or LEC joint use cards who also have unlisted or unpublished telephone numbers written consent for non-disclosure of the billing name and address information. Any unlisted or unpublished subscriber requesting non-disclosure of BNA will be programmed in LIDB to issue "deny" responses to third number, collect and credit card calls.

BNA will be provided for collect, third party and LEC calling card calls only. The Telephone Company will provide Billing Name and Address information on a per request per BTN basis, using rates specified in 17.3.4(K). This information will be provided in writing.

Requests for Billing Name and Address must be submitted in writing. The request must be accompanied by: 1) Carrier identification code, 2) Specific BTN's for which Billing Name and Address is requested, 3) Contact name and number for verification; 4) name and address where information is to be mailed; and 5) purpose for Billing Name and Address request.

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ACCESS TARIFF

13. Additional Engineering, Additional Labor and Miscellaneous Services (Cont'd)13.6 Originating Line Screening (OLS) Service

The Telephone Company will provide OLS Service to aggregators and other customers who obtain local exchange service from the Telephone Company under its general or local exchange tariff. OLS service enables customers to determine whether there are billing restrictions on exchange service lines from which a call originates. OLS service delivers codes on operator assisted calls made from aggregator locations to identify calls originating from privately owned payphones, inmate locations, and hotels/motels, etc.

OLS Service is provided at no charge when ordered with the installation of new local exchange service. However, when an OLS code is added to an existing exchange service line, a charge is applied as set forth in 17.3.4(M). This charge is applied for each exchange service line to which an OLS code is assigned. The customer must specify the number of exchange service lines and each individual telephone number equipped.

A Miscellaneous Service Order Charge as set forth in 17.3.1(D) will apply to orders adding OLS codes that are placed subsequent to the initial installation of the associated exchange service line. This charge does not apply when OLS codes are removed from an exchange service line at the same time that the exchange service line is disconnected.

OLS codes may be delivered using Line Information database (LIDB) or Flexible automatic Number Identification (Flex ANI) technology. Those telephone companies delivering OLS codes using LIDB are identified in NATIONAL EXCHANGE CARRIER ASSOCIATION, INC. TARIFF F.C.C. no. 4, as are those companies delivering OLS codes using Flex ANI.

13.7 Non-chargeable Confirmation Services13.7.1 Billed Number Screening (BNS)

At the request of the customer, the Telephone Company business office will confirm BNS codes associated with a line to which a call is to be billed.

13.7.2 Originating Line Screening (OLS)

At the request of the customer, the Telephone Company business office will confirm OLS codes associated with an exchange service line from which a call originates.

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13.8 Public Access Line (PAL) Features

13.8.1 Reserved

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13. Additional Engineering, Additional Labor and Miscellaneous Services (Cont'd)

13.8 Public Access Line (PAL) Features (Cont'd)

13.8.2 Reserved

(T)

(D)

(D)

13.8.3 Payphone Specific Coding

Payphone Specific Coding is provided through Flex ANI to the Interexchange carrier for the purpose of identifying calls from payphones so that the Interexchange carrier can pay compensation for customer toll free access and access code calls.

A monthly charge will be applied to each payphone as set forth in Section 17.3.4(N)(3) for a period of five years from the effective date.

13.9 Local Number Portability

13.9.1 General Description

Local Number Portability is a service which allows the subscriber to retain their existing telephone number(s) when switching from one telecommunications carrier to another within the same serving area. The FCC has authorized an end user surcharge to recover the costs of implementing this capability. This surcharge will be in effect until December 19, 2004, and will be applied to all end user access lines. PBX trunks will be assessed the surcharge for nine (9) access lines and PRI's will be assessed the surcharge for five (5) access lines.

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ACCESS SERVICE

14. Exceptions to Access Service Offerings

The services offered under the provisions of this tariff are subject to availability as set forth in 2.1.4 preceding. In addition, the following exceptions apply:

(Paragraphs 14.1 through 14.5 following are reserved for future listings as a result of a subsequent survey. In the meantime, in planning an end-to-end service, the customer should contact the Telephone Company in each customer designated premises city to assure itself that all of the service or service components required for a given customer service are currently available.)

14.1 The following service(s) is (are) not offered in the operating territory of listed Issuing Carriers.

(Reserved for future use.)

14.2 The following offering(s) is (are) limited to existing locations. No inside moves, rearrangements or additions will be permitted.

(Reserved for future use.)

14.3 The following offering(s) is (are) limited to existing locations. Inside moves or rearrangements may be undertaken. However, no additions will be permitted.

(Reserved for future use.)

ACCESS TARIFF

14. Exceptions to Access Service Offerings (Cont'd)

14.4 The following offering(s) is (are) limited to existing locations where additional units may be added for growth. Inside moves or rearrangements may be undertaken.

(Reserved for future use.)

14.5 The following offering(s) is (are) limited to existing locations where additional units may be added for growth. However, inside moves or rearrangements will not be permitted.

(Reserved for future use.)

ACCESS SERVICE

15. Access Service Interfaces and Transmission Specifications

15.1 contains Switched Access Service Options (which are comprised of Interface Groups, Supervisory Signaling, Entry Switch Receive Level and Local Transport Termination) and Transmission Specifications. 15.2 describes Special Access Service Network Channel (NC) codes and network Channel Interface (NCI) codes. 15.3 contains Interface Group, Premises Interface Code and Standard Transmission Specifications applicable to Directory Access Service.

15.1 Switched Access Service

Ten Interface Groups are provided for terminating the Local Transport Entrance Facility at the customer's designated premises. Each Interface Group provides a specified premises interface (e.g., two-wire, four-wire, DS1, etc.). Where transmission facilities permit, the Entrance Facility may, at the option of the customer, be provided with optional features as set forth in 15.1.1 following.

As a result of the customer's access order and the type of Telephone Company transport facilities serving the customer designated premises, the need for signaling conversions or two-wire to four-wire conversions, or the need to terminate digital or high frequency facilities in channel bank equipment may require that Telephone Company equipment be placed at the customer designated premises. For example, if a voice frequency interface is ordered by the customer and the Telephone Company facilities serving the customer designated premises are digital, then Telephone Company channel bank equipment must be placed at the customer designated premises in order to provide the voice frequency interface ordered by the customer.

ACCESS SERVICE

15. Access Service Interfaces and Transmission Specifications (Cont'd)15.1 Switched Access Service (Cont'd)15.1.1 Local Transport Interface Groups

Interface Groups are combinations of technical parameters which describe the Telephone Company handoff at the point of termination at the customer designated premises. The technical specifications concerning the available interface groups are set forth in (A) through (D) following.

Interface Group 1 is provided with Type C Transmission Specifications, as set forth in 15.1.2(C) following, and Interface Groups 2 through 10 are provided with Type A or B Transmission Specifications, as set forth respectively in 15.1.2(E) and (F) following, depending on the Feature Group and whether the Access Service is routed directly or through an access tandem. All Interface Groups are provided with Data Transmission Parameters.

Only certain premises interfaces are available at the customer designated premises. The premises interfaces associated with the Interface Groups may vary among Feature Groups.

(A) Interface Group 1

Interface Group 1, except as set forth in the following, provides two-wire voice frequency transmission at the point of termination at the customer designated premises. The interface is capable of transmission of voice and associated telephone signals within the frequency bandwidth of approximately 300 to 3000 Hz.

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15. Access Service Interfaces and Transmission Specifications (Cont'd)15.1 Switched Access Service (Cont'd)15.1.1 Local Transport Interface Groups (Cont'd)(A) Interface Group 1 (Cont'd)

Interface Group 1 is not provided in association with FGC and FGD when the first point of switching is an access tandem. In addition, Interface Group 1 is not provided in association with FGB, FGC or FGD when the first point of switching provides only four-wire terminations.

The transmission path between the point of termination at the customer designated premises and the customer's serving wire center, may be comprised of any form or configuration of plant capable of and typically used in the telecommunications industry for the transmission of voice and associated telephone signals within the frequency bandwidth of 300 to 3000 Hz.

The interface is provided with loop supervisory signaling. When the interface is associated with FGA, such signaling will be loop start or ground start signaling. When the interface is associated with FGB, FGC or FGD, such signaling except for two-way calling which is E&M signaling, will be reverse battery signaling.

(B) Interface Group 2

Interface Group 2 provides four-wire voice frequency transmission at the point of termination at the customer designated premises. The interface is capable of transmission of voice and associated telephone signals within the frequency bandwidth of approximately 300 to 3000 Hz.

ACCESS SERVICE

15. Access Service Interfaces and Transmission Specifications (Cont'd)15.1 Switched Access Service (Cont'd)15.1.1 Local Transport Interface Groups (Cont'd)(B) Interface Group 2 (Cont'd)

The transmission path between the point of termination at the customer designated premises and the customer's serving wire center may be comprised of any form or configuration of plant capable of and typically used in the telecommunications industry for the transmission of voice and associated telephone signals within the frequency bandwidth of approximately 300 to 3000 Hz.

The interface is provided with loop supervisory signaling. When the interface is associated with FGA, such signaling will be loop start or ground start signaling. When the interface is associated with FGB, FGC or FGD, such signaling, except for two-way calling which is E&M signaling, will be reverse battery signaling.

(C) Interface Groups 3 through 5

Interface Groups 3 through 5 provide analog transmission at the point of termination at the customer designated premises. The various interfaces are capable of transmitting electrical signals at the frequencies illustrated following, with the capability to channelize voice frequency transmission paths. Certain frequencies within the bandwidth of the Interface Groups are reserved for Telephone Company use, e.g., pilot and carrier group alarm tones. Before the first point of switching, the Telephone Company will provide multiplex equipment to derive the transmission paths of frequency bandwidth of approximately 300 to 3000 Hz.

ACCESS SERVICE

15. Access Service Interfaces and Transmission Specifications (Cont'd)15.1 Switched Access Service (Cont'd)15.1.1 Local Transport Interface Groups (Cont'd)(C) Interface Groups 3 through 5 (Cont'd)

The interfaces are provided with individual transmission path SF supervisory signaling.

Interface Group Identification <u>No.</u>	Transmission Frequency <u>Bandwidth</u>	Analog Hierarchy <u>Level</u>	Maximum No. of Channelized Voice Freq. <u>Trans. Paths</u>
3	60-108 kHz	Group	12
4	312-552 kHz	Supergroup	60
5	564-3084 kHz	Mastergroup	600

(D) Interface Groups 6 through 10

Interface Groups 6 through 10 provide digital transmission at the point of termination at the customer designated premises. The various interfaces are capable of transmitting electrical signals at the nominal bit rates illustrated following, with the capability to channelize voice frequency transmission paths. Before the first point of switching, when analog switching utilizing analog terminations is provided, the Telephone Company will provide multiplex and channel bank equipment to derive transmission paths of a frequency bandwidth of approximately 300 to 3000 Hz. When digital switching or analog switching with digital carrier terminations is provided, the Telephone Company will provide a DS1 signal(s) in D3/D4 format.

ACCESS SERVICE

15. Access Service Interfaces and Transmission Specifications15.1 Switched Access Service (Cont'd)15.1.1 Local Transport Interface Groups (Cont'd)(D) Interface Groups 6 through 10 (Cont'd)

The interfaces are provided with individual transmission path bit stream supervisory signaling.

<u>Interface Group Identification No.</u>	<u>Nominal Bit Rate (Mbps)</u>	<u>Digital Hierarchy Level</u>	<u>Maximum No. of Channelized Voice Freq. Trans. Paths</u>
6	1.544	DS1	24
7	3.152	DS1C	48
8	6.312	DS2	96
9	44.736	DS3	672
10	274.176	DS4	4032

ACCESS SERVICE

15. Access Service Interfaces and Transmission Specifications (Cont'd)15.1 Switched Access Service (Cont'd)15.1.1 Local Transport Interface Groups (Cont'd)(E) Local Transport Optional Features

Where transmission facilities permit, the Telephone Company will, at the option of the customer, provide the following features in association with Local Transport. An access order Charge as specified in 17.3.1(A) following is applicable on a per order basis when nonchargeable optional features are added subsequent to the installation of service.

- Customer Specified Entry Switch Receive Level

Customer Specified Entry Switch Receive Level allows the customer to specify the receive transmission level at the first point of switching. The range of transmission levels which may be specified is described in Technical Reference TR-NPL-000334. This feature is available with Interface Groups 2 through 10 for Feature Groups A and B.

- Customer Specification of Local Transport Termination

Customer Specification of Local Transport Termination allows the customer to specify, for Feature Group B routed directly to an end office or access tandem, a four-wire termination of the Local Transport at the first point of switching in lieu of a Telephone Company selected two-wire termination. This option is available only when the Feature Group B arrangement is provided with Type B Transmission Specifications.

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15. Access Service Interfaces and Transmission Specifications (Cont'd)15.1 Switched Access Service (Cont'd)15.1.1 Local Transport Interface Groups (Cont'd)(E) Local Transport Optional Features (Cont'd)- Supervisory Signaling

Supervisory Signaling allows the customer to order an optional supervisory signaling arrangement for each transmission path provided where the transmission parameters permit, and where signaling conversion is required by the customer to meet its signaling capability.

The Interface Groups, as described in (A) through (D) preceding, represent industry standard arrangements. Where transmission parameters permit, the customer may select the following optional signaling arrangements in place of the signaling arrangements standardly associated with the Interface Groups.

- For Interface Groups 1 and 2 associated with FGBor FGD DX Supervisory Signaling, E&M Type I Supervisory Signaling,

ACCESS SERVICE

15. Access Service Interfaces and Transmission Specifications (Cont'd)15.1 Switched Access Service (Cont'd)15.1.1 Local Transport Interface Groups (Cont'd)(E) Local Transport Optional Features (Cont'd)

E&M Type II Supervisory Signaling, or E&M Type III Supervisory Signaling

- For Interface Group 2 associated with FGB or FGD and in addition to the preceding

SF Supervisory Signaling, or Tandem Supervisory Signaling

- For Interface Groups 3 through 5

Optional Supervisory Signaling Not Available

- For Interface Groups 6 through 10

These Interface Groups may, at the option of the customer, be provided with individual transmission path SF supervisory signaling where such signaling is available in Telephone Company central offices. Generally such signaling is available only where the first point of switching provides an analog (i.e., non digital) interface to the transport termination.

Additionally, in (F) following, there is a matrix of available Premises Interface Codes as a function of Interface Group, Telephone Company Switch Supervisory Signaling and Feature Group.

ACCESS SERVICE

15. Access Service Interfaces and Transmission Specifications (Cont'd)15.1 Switched Access Service (Cont'd)15.1.1 Local Transport Interface Groups (Cont'd)(F) Available Premises Interface Codes

Following is a matrix showing premises interface codes which are available for each Interface Group. Their availability is a function of the Telephone Company switch supervisory signaling and Feature Group. For explanations of these codes, see the Parameter Codes and Options as set forth in 15.2.2(A) following.

Interface Group	Telephone Company Switch Supervisory Signaling	Premises Interface Code	Feature Group		
			A	B	D
1	LO	2LS2	X		
	LO	2LS3	X		
	GO	2GS2	X		
	GO9	2GS3	X		
	LO, GO	2DX3	X		
	LO, GO	4EA3-E	X		
	LO, GO	4EA3-M	X		
	LO, GO	6EB3-E	X		
	LO, GO	6EB3-M	X		
	RV, EA, EB, EC	2DX3		X	X
	RV, EA, EB, EC	4EA3-E		X	X

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15. Access Service Interfaces and Transmission Specifications (Cont'd)15.1 Switched Access Service (Cont'd)15.1.1 Local Transport Interface Groups (Cont'd)(F) Available Premises Interface Codes (Cont'd)

Interface Group	Telephone Company Switch Supervisory Signaling	Premises Interface Code	Feature Group		
			A	B	D
1 (Cont't)	RV, EA, EB, EC	4EA3-M	X		X
	RV. EA, EB, EC	6EB3-E	X		X
	RV. EA, EB, EC	6EB3-M	X		X
	EA, EB, EC	6EC3			X
	RV	2RV3-0		X	X
	RV	2RV3-T		X	X
2	LO, GO	4SF2	X		
	LO GO	4SF3	X		
	LO	4LS2	X		
	LO	4LS3	X		
	LO	6LS2	X		
	GO	4GS2	X		
	GO	4GS3	X		
	GO	6GS2	X		
	LO, GO	4DX2	X		
	LO, GO	4DX3	X		
	LO, GO	6EA2-E	X		
	LO, GO	6EA2-M	X		
	LO, GO	8EB2-E	X		
	LO, GO	8EB2-M	X		
	LO, GO	6EX2-B	X		
	RV, EA, EB, EC	4SF2		X	X
	RV. EA, EB, EC	4SF3		X	
	RV, EA, EB, EC	4DX2		X	X
	RV. EA, EB, EC	4DX3		X	

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15. Access Service Interfaces and Transmission Specifications (Cont'd)15.1 Switched Access Service (Cont'd)15.1.1 Local Transport Interface Groups (Cont'd)(F) Available Premises Interface Codes (Cont'd)

Interface Group	Telephone Company Switch Supervisory Signaling	Premises Interface Code	Feature Group		
			A	B	D
2(Cont't)	RV, EA, EB, EC	6EA2-E	X		X
	RV. EA, EB, EC	6EA2-M	X		X
	RV. EA, EB, EC	8EB2-E	X		X
	RV. EA, EB, EC	8EB2-M	X		X
	EA, EB, EC	8EC2-M			X
	RV	4RV2-0	X		X
	RV	4RV2-T	X		X
	RV	4RV3-0	X		
	RV	4RV3-T	X		
3	LO, GO	4AH5-B	X		
	RV. EA, EB, EC	4AH5-B		X	X
4	LO, GO	4AH6-C	X		
	RV. EA, EB, EC	4AH6-C		X	X
5	LO, GO	4AH6 D	X		
	RV. EA, EB, EC	4AH6-D		X	X
6	LO, GO	4DS9-15	X		
	LO, GO	4DS9-15L	X		
	RV. EA, EB, EC	4DS9-15		X	X
	RV. EA, EB, EC	4DS9-15L		X	X
7	LO, GO	4DS9-31	X		
	LO, GO	4DS9-31L	X		
	RV. EA, EB, EC	4DS9-31		X	X
	RV. EA, EB, EC	4DS9-31L		X	X

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15. Access Service Interfaces and Transmission Specifications (Cont'd)15.1 Switched Access Service (Cont'd)15.1.1 Local Transport Interface Groups (Cont'd)(F) Available Premises Interface Codes (Cont'd)

Interface Group	Telephone Company Switch Supervisory Signaling	Premises Interface Code	Feature Group		
			A	B	D
8	LO, GO	4DS0-63	X		
	LO, GO	4DS0-63L	X		
	RV. EA, EB, EC	4DS0-63		X	X
	RV. EA, EB, EC	4DS0-63L		X	X
9	LO, GO	4DS6-44	X		
	LO, GO	4DS6-44L	X		
	RV. EA, EB, EC	4DS6-44		X	X
	RV. EA, EB, EC	4DS6-44L		X	X
10	LO, GO	4DS6-27	X		
	LO, GO	4DS6-27L	X		
	RV. EA, EB, EC	4DS6-27		X	X
	RV. EA, EB, EC	4DS6-27L		X	X

15.1.2 Standard Transmission Specifications

Descriptions of the transmission specifications available with each Feature Group as a function of the Interface Group selected by the customer, are set forth in (A) through (D) following. Descriptions of each of these Standard Transmission Specifications and the two Data Transmission Parameters mentioned are set forth respectively in (E) through (G) and 15.1.3(A) and (B) following:

ACCESS SERVICE

15. Access Service Interfaces and Transmission Specifications (Cont'd)15.1 Switched Access Service (Cont'd)15.1.2 Standard Transmission Specifications (Cont'd)(A) Feature Group A

FGA is provided with either Type B or Type C Transmission Specifications. The specifications for the associated parameters are guaranteed to the first point of switching. Type C Transmission Specifications are provided with Interface Group 1 and Type B is provided with Interface Groups 2 through 10. Type DB Data Transmission Parameters are provided with FGA to the first point of switching.

(B) Feature Group B

FGB is provided with either Type B or Type C Transmission Specifications. The specifications for the associated parameters are guaranteed to the end office when routed directly or to the first point of switching when routed via an access tandem. Type C Transmission Specifications are provided with Interface Group 1 and type B is provided with Interface Groups 2 through 10. Type DB Data Transmission Parameters are provided with FGB to the first point of switching.

ACCESS SERVICE

15. Access Service Interfaces and Transmission Specifications (Cont'd)

15.1 Switched Access Service (Cont'd)

15.1.2 Standard Transmission Specifications (Cont'd)

(D) Feature Group D

FGD is provided with either Type A, Type B or Type C Transmission Specifications as follows:

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15. Access Service Interfaces and Transmission Specifications (Cont'd)15.1 Switched Access Service (Cont'd)15.1.2 Standard Transmission Specifications (Cont'd)(D) Feature Group D (Cont'd)

- When routed to the end office either Type B or C is provided.
- When routed to an access tandem only Type A is provided.
- Type A is provided on the transmission path from the access tandem to the end office.

Type C Transmission Specifications are provided with Interface Group 1. Type A and Type B Transmission Specifications are provided with Interface Groups 2 through 10.

Type DB Data Transmission Parameters are provided with FGD for the transmission path between the customer designated premises and the end office when directly routed to the end office. Type DA Data Transmission Parameters are provided for the transmission path between the customer designated premises and the access tandem and between the access tandem and the end office when routed via an access tandem.

(E) Type A Transmission Specifications

Type A Transmission Specifications is provided with the following parameters:

ACCESS SERVICE

15. Access Service Interfaces and Transmission Specifications (Cont'd)15.1 Switched Access Service (Cont'd)15.1.2 Standard Transmission Specifications (Cont'd)(E) Type A Transmission Specifications (Cont'd)(1) Loss Deviation

The maximum Loss Deviation of the 1004 Hz loss relative to the Expected Measured Loss (EML) is + 2.0 dB.

(2) Attenuation Distortion

The maximum Attenuation Distortion in the 404 to 2804 Hz frequency band relative to the loss at 1004 Hz is -1.0 dB to +3.0 dB.

(3) C-Message Noise

The maximum C-Message Noise for the transmission path at the route miles listed is less than or equal to:

<u>Route Miles</u>	<u>C-Message Noise</u>
less than 50	32 dBrnCO
51 to 100	34 dBrnCO
101 to 200	37 dBrnCO
201 to 400	40 dBrnCO
401 to 1000	42 dBrnCO

ACCESS SERVICE

15. Access Service Interfaces and Transmission Specifications (Cont'd)15.1 Switched Access Service (Cont'd)15.1.2 Standard Transmission Specifications (Cont'd)(E) Type A Transmission Specifications (Cont'd)(4) C-Notch Noise

The maximum C-Notch Noise, utilizing a -16 dBmO holding tone, is less than or equal to 45 dBmCO.

(5) Echo Control

Echo Control, identified as Equal Level Echo Path Loss, and expressed as Echo Return Loss and Singing Return Loss, is dependent on the routing i.e., whether the service is routed directly from the customer's point of termination (POT) to the end office or via an access tandem. It is equal to or greater than the following:

	<u>Echo Return Loss</u>	<u>Singing Return Loss</u>
POT to Access Tandem	21 dB	14 dB
POT to End Office		
- Direct	N/A	N/A
- Via Access Tandem	16 dB	11 dB

ACCESS SERVICE

15. Access Service Interfaces and Transmission Specifications (Cont'd)15.1 Switched Access Service (Cont'd)15.1.2 Standard Transmission Specifications (Cont'd)(E) Type A Transmission Specifications (Cont'd)(6) Standard Return Loss

Standard Return Loss expressed as Echo Return Loss and Singing Return Loss on two-wire ports of a four-wire point of termination shall be equal to or greater than:

Echo Return Loss Singing Return Loss

5 dB

2.5 dB

(F) Type B Transmission Specifications

Type B Transmission Specifications are provided with the following parameters:

(1) Loss Deviation

The maximum Loss Deviation of the 1004 Hz loss relative to the Expected Measured Loss (EML) is + 2.5 dB.

(2) Attenuation Distortion

The maximum Attenuation Distortion in the 404 to 2804 Hz frequency band relative to loss at 1004 Hz is -2.0 dB to +4.0 dB.

* For Feature Groups C and D only Type B2 will be provided. For Feature Groups A and B, Type B1 or B2 will be provided as set forth in Technical Reference TR-NPL-000334.

ACCESS SERVICE

15. Access Service Interfaces and Transmission Specifications (Cont'd)15.1 Switched Access Service (Cont'd)15.1.2 Standard Transmission Specifications (Cont'd)(F) Type B Transmission Specifications (Cont'd)(3) C-Message Noise

The maximum C-Message Noise for the transmission path at the route miles listed is less than or equal to:

Route Miles	<u>C-Message Noise*</u>	
	<u>Type B1</u>	<u>Type B2</u>
less than 50	32 dBrnCO	35dBrnCO
51 to 100	33 dBrnCO	37dBrnCO
101 to 200	35 dBrnCO	40dBrnCO
201 to 400	37 dBrnCO	43dBrnCO
401 to 1000	39 dBrnCO	45dBrnCO

(4) C-Notch Noise

The maximum C-Notch Noise, utilizing a -16 dBmO holding tone is less than or equal to 47 dBrnCO.

(5) Echo Control

Echo Control, identified as Impedance Balance for FGA and FGB and Equal Level Echo Path Loss for FGD, and expressed as Echo Return Loss (ERL) and Singing Return Loss (SRL), is dependent on the routing, i.e., whether the service is routed directly from the customer's point of termination (POT) to the end office or via an access tandem. The ERL and SRL also differ by Feature Group, type of termination, and type of transmission path. They are greater than or equal to the following:

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15. Access Service Interfaces and Transmission Specifications (Cont'd)15.1 Switched Access Service (Cont'd)15.1.2 Standard Transmission Specifications (Cont'd)(F) Type B Transmission Specifications (Cont'd)(5) Echo Control (Cont'd)

	<u>Echo Return Loss</u>	<u>Singing Return Loss</u>
POT to Access Tandem		
- Terminated in		
4-Wire trunk	21 dB	14 dB
- Terminated in		
2-Wire trunk	16 dB	11 dB

	<u>Echo Return Loss</u>	<u>Singing Return Loss</u>
POT to End Office		
- Direct	16 dB	11 dB

ACCESS SERVICE

15. Access Service Interfaces and Transmission Specifications (Cont'd)15.1 Switched Access Service (Cont'd)15.1.2 Standard Transmission Specifications (Cont'd)(F) Type B Transmission Specifications (Cont'd)(5) Echo Control (Cont'd)

	<u>Echo Return Loss</u>	<u>Singing Return Loss</u>
- Via Access Tandem		
? For FGB access	8 dB	4 dB

(6) Standard Return Loss

Standard Return Loss, expressed as Echo Return Loss and Singing Return Loss, on two-wire ports of a four-wire point of termination shall be equal to or greater than:

<u>Echo Return Loss</u>	<u>Singing Return Loss</u>
5 dB	2.5 dB

ACCESS SERVICE

15. Access Service Interfaces and Transmission Specifications (Cont'd)15.1 Switched Access Service (Cont'd)15.1.2 Standard Transmission Specifications (Cont'd)(G) Type C Transmission Specifications

Type C Transmission Specifications are provided with the following parameters:

(1) Loss Deviation

The maximum Loss Deviation of the 1004 Hz loss relative to the Expected Measured Loss (EML) is + 3.0 dB.

(2) Attenuation Distortion

The maximum Attenuation Distortion in the 404 to 2804 Hz frequency band relative to loss at 1004 Hz is -2.0 dB to +5.5 dB.

(3) C-Message Noise

The maximum C-Message Noise for the transmission path at the route miles listed is less than or equal to:

<u>Route Miles</u>	<u>C-Message Noise*</u>	
	<u>Type C 1</u>	<u>Type C 2</u>
less than 50	32 dBrnCO	38 dBrnCO
51 to 100	33 dBrnCO	39 dBrnCO
101 to 200	35 dBrnCO	41 dBrnCO
201 to 400	37 dBrnCO	43 dBrnCO
401 to 1000	39 dBrnCO	45 dBrnCO

ACCESS SERVICE

15. Access Service Interfaces and Transmission Specifications (Cont'd)15.1 Switched Access Service (Cont'd)15.1.2 Standard Transmission Specifications (Cont'd)(G) Type C Transmission Specifications (Cont'd)(4) C-Notch Noise

The maximum C-Notch Noise, utilizing a -16 dBmO holding tone is less than or equal to 47 dBmCO.

(5) Echo Control

Echo Control, identified as Return Loss and expressed as Echo Return Loss and Singing Return Loss is dependent on the routing, i.e., whether the service is routed directly from the customer's point of termination (POT) to the end office or via an access tandem. It is equal to or greater than the following:

	<u>Echo Return Loss</u>	<u>Singing Return Loss</u>
POT to Access Tandem	13 dB	6 dB
POT to End Office		
- Direct	13 dB	6 dB
- Via Access Tandem (for FGB only)	8 dB	4 dB

ACCESS SERVICE

15. Access Service Interfaces and Transmission Specifications (Cont'd)15.1 Switched Access Service (Cont'd)15.1.3 Data Transmission Parameters

Two types of Data Transmission Parameters, i.e., Type DA and Type DB, are provided for the Feature Group arrangements. Type DB is provided with Feature Groups A and B and also with Feature Group D when Feature Group D is directly routed to the end office. Type DA is only provided with Feature Group D and only when routed via an access tandem. Following are descriptions of each.

(A) Data Transmission Parameters Type DA(1) Signal to C-Notched Noise Ratio

The Signal to C-Notched Noise Ratio is equal to or greater than 33 Db.

(2) Envelope Delay Distortion

The maximum Envelope Delay Distortion for the frequency bands and route miles specified is:

604 to 2804 Hz

less than 50 route miles	500 microseconds
equal to or greater than 50 route miles	900 microseconds

1004 to 2404 Hz

less than 50 route miles	200 microseconds
equal to or greater than 50 route miles	400 microseconds

ACCESS SERVICE

15. Access Service Interfaces and Transmission Specifications (Cont'd)15.1 Switched Access Service (Cont'd)15.1.3 Data Transmission Parameters (Cont'd)(A) Data Transmission Parameters Type DA (Cont'd)(3) Impulse Noise Counts

The Impulse Noise Counts exceeding a 65 dBmCO threshold in 15 minutes is no more than 15 counts.

(4) Intermodulation Distortion

The Second Order (R2) and Third Order (R3) Intermodulation Distortion products are equal to or greater than:

Second Order (R2)	33 dB
Third Order (R3)	37 dB

(5) Phase Jitter

The Phase Jitter over the 4-300 Hz frequency band is less than or equal to 5° peak-to-peak.

(6) Frequency Shift

The maximum Frequency Shift does not exceed -2 to +2 Hz.

(B) Data Transmission Parameters Type DB(1) Signal to C-Notched Noise Ratio

The signal to C-Notched Noise Ratio is equal to or greater than 30 dB.

ACCESS SERVICE

15. Access Service Interfaces and Transmission Specifications (Cont'd)15.1 Switched Access Service (Cont'd)15.1.3 Data Transmission Parameters (Cont'd)(B) Data Transmission Parameters Type DB (Cont'd)(2) Envelope Delay Distortion

The maximum Envelope Delay Distortion for the frequency bands and route miles specified is:

604 to 2804 Hz

less than 50 route miles	800 microseconds
equal to or greater than 50 route miles	1000 microseconds

1004 to 2404 Hz

less than 50 route miles	320 microseconds
equal to or greater than 50 route miles	500 microseconds

(3) Impulse Noise Counts

The Impulse Noise Counts exceeding a 67 dBmCO threshold in 15 minutes is no more than 15 counts.

(4) Intermodulation Distortion

The Second Order (R2) and Third Order (R3) Intermodulation Distortion products are equal to or greater than:

Second Order (R2)	31 dB
Third Order (R3)	34 dB

ACCESS SERVICE

15. Access Service Interfaces and Transmission Specifications15.1 Switched Access Service (Cont'd)15.1.3 Data Transmission Parameters (Cont'd)(B) Data Transmission Parameters Type DB (Cont'd)(5) Phase Jitter

The Phase Jitter over the 4-300 Hz frequency band is less than or equal to 7° peak-to-peak.

(6) Frequency Shift

The maximum Frequency Shift does not exceed -2 to +2 Hz.

15.2 Special Access Service

This section explains and lists the codes that the customer must specify when ordering Special Access Service, Switched Access Entrance Facilities, and Voice Grade and High Capacity Direct Trunked Transport. These codes provide a standardized means to relate the services being ordered to Special Access Service offerings contained in Section 7. preceding.

When ordering, the type of Special Access Service or Switched Access Entrance Facility or Direct Trunked Transport is described by two code sets, the Network Channel (NC) code and the Network Channel Interface (NCI) codes.

The Network Channel (NC) code consists of two elements. Element one is a Channel Service Code (character positions 1 and 2) that describes the channel service type in an abbreviated form. Element two is an Optional Feature Code (character positions 3 and 4) that identifies option codes available for each channel service code, such as C-conditioning or Improved Return Loss.

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15. Access Service Interfaces and Transmission Specifications (Cont'd)15.2 Special Access Service (Cont'd)

The Network Channel Interface (NCI) is used to identify interface specifications associated with a particular channel. This code describes the total wires, protocol, impedance, protocol options and transmission level point(s) reflecting physical and electrical characteristics between the Telephone Company and the customer.

On the following 3 pages are examples which explain the specific characters of the codes and which reference matrices and charts used in developing the codes. Included in the matrices are Service Designator (SD) codes which are used to identify variations of service within service types (e.g., TG1 = Telegraph). The SD and NC codes are displayed as components of the matrices designated as Technical Specifications packages in (A) through (G) following. Through the use of these matrices, SD codes may be converted to NC codes for service ordering purposes.

A chart is also provided in 15.2.2(A) following which contains information necessary to develop NCI codes.

Comprehensive lists of allowed Network Channel (NC) and Network Channel Interface (NCI) codes are contained in Special Report SR-ISD-000307. However, not all services contained in this Special Report may be offered by the Telephone Company at this time.

Lastly, 15.2.2(C) following provides a list of compatible Network Channel Interfaces inasmuch as the Network Channel Interfaces associated with a given service need not always be the same, but all must be compatible.

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15. Access Service Interfaces and Transmission Specifications (Cont'd)15.2 Special Access Service (Cont'd)

Example No. 1: If the customer wishes to order a 4-wire voice grade circuit with 600 Ohms impedance, capable of data transmission, and with improved return loss, the customer might specify the following:

<u>NC</u>	<u>NCI</u>	<u>SECNCI</u>
LG-R	04DB2	04DA2-S

NC Code:

LG = Voice Grade Channel Service, VG6
-R = Improved Return Loss

NCI Code:

04 = Number of physical wires at CDP
DB = Data stream in VF frequency band at IC terminal
2 = location
600 Ohms impedance

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15. Access Service Interfaces and Transmission Specifications (Cont'd)15.2 Special Access Service (Cont'd)

SECNCI (Secondary NCI Code):

- 04 = Number of physical wires at CDP
- DA = Data stream in VG frequency at end-user premises
- 2 = 600 Ohms impedance
- S = Sealing current option for 4-wire transmission

Example No. 2: If the customer wishes to order a FX circuit to a station, with 600 Ohms impedance, loop start signaling, which is 4-wire at the CDP and 2-wire at the end-user, the customer might specify:

<u>NC</u>	<u>NCI</u>	<u>SECNCI</u>
LC--	04LO2	02LS2

NC Code:

- LC = Voice Grade Channel Service, VG2
- = No Optional Features

NCI Code:

- 04 = Number of physical wires at CDP
- LO = Loop start, loop signaling - open end
- 2 = 600 Ohms impedance

SECNCI (Secondary NCI Code):

- 02 = Number of physical wires at CDP
- LS = Loop start signaling - closed end
- 2 = 600 Ohms impedance

Example No. 3: If the customer wishes to order a 1.544 Mbps Hi-cap facility with no channel options such as CO multiplexing, the customer might specify the following:

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15. Access Service Interfaces and Transmission Specifications (Cont'd)15.2 Special Access Service (Cont'd)

<u>NC</u>	<u>NCI</u>	<u>SECNCI</u>
HC--	04DS9-15	04DS9-15

NC Code:

HC = High Capacity Channel Service, HC1
-- = No Optional Features

NCI, SECNCI Code:

04 = Number of physical wires at CDP
DS = Digital hierarchy interface
9 = 100 Ohms impedance
15 = 1.544 Mbps (DS1) format

The preceding three examples use information contained in Special Report SR-ISD-000307.

15.2.1 Network Channel (NC) Codes

In order to determine the NC code appropriate for the service to be ordered, the type of Special Access Service the customer wishes must be identified. This identification is accomplished by a Service Designator (SD) code. The broad categories of Service Designator codes (e.g., VG, MT, TG, etc.) are set forth in Section 7. preceding. Variations within service type (e.g., VG1, MTC, TG2, etc.) are described in the various Technical Publications cited in (A) through (G) following.

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15. Access Service Interfaces and Transmission Specifications (Cont'd)15.2 Special Access Service (Cont'd)15.2.1 Network Channel (NC) Codes (Cont'd)

Having determined the specific service type to be ordered and its SD code, and having used the appropriate Technical Publication, the customer should match the SD code to the NC code using the following matrices. Once the NC code has been determined the Network Channel Interface (NCI) code may be developed using the information set forth in 15.2.2 following and the guidelines concerning specific parameters available for each service type as set forth in the specified Technical Publication.

(A) Technical Specifications Packages Metallic Service

	Package			
SD Code	<u>MTC*</u>	<u>MT1</u>	<u>MT2</u>	<u>MT3</u>
NC Code	<u>MQ</u>	<u>NT</u>	<u>NU</u>	<u>NV</u>
<u>Parameter</u>				
DC Resistance				
Between Conductors	X	X	X	
Loop Resistance	X			X
Shunt Capacitance	X			X
<u>Optional Features and Functions</u>				
Three Premises Bridging	X	X		X
Series Bridging	X		X	

The technical specifications are described in Technical Reference TR-NPL-000336.

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15. Access Service Interfaces and Transmission Specifications (Cont'd)15.2 Special Access Service (Cont'd)15.2.1 Network Channel (NC) Codes (Cont'd)(B) Technical Specifications Packages Telegraph Grade Service

	Package		
SD Code	<u>TGC*</u>	<u>TG1</u>	<u>TG2</u>
NC Code	<u>NQ</u>	<u>NW</u>	<u>NY</u>
<u>Parameter</u>			
Telegraph Distortion	X	X	X
<u>Optional Features and Functions</u>			
Telegraph Bridging	X	X	X

The technical specifications are described in Technical Reference TR-NPL-000336.

* All parameters are available within ranges selected by the customer where technically feasible.

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15. Access Service Interfaces and Transmission Specifications (Cont'd)15.2 Special Access Service (Cont'd)15.2.1 Network Channel (NC) Codes (Cont'd)(C) Technical Specifications Packages Voice Grade Service

SD Code NC Code	Package VG-													
	<u>C*</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>	<u>11</u>	<u>12</u>	<u>W</u>
	<u>LQ</u>	<u>LB</u>	<u>LC</u>	<u>LD</u>	<u>LE</u>	<u>LF</u>	<u>LG</u>	<u>LH</u>	<u>LJ</u>	<u>LK</u>	<u>LN</u>	<u>LP</u>	<u>LR</u>	<u>SE</u>
<u>Parameter</u>														
Attenuation														
Distortion	X	X	X	X	X	X	X	X	X	X	X	X	X	X
C-Message Noise	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Echo Control	X	X	X	X		X		X	X			X	X	X
Envelope Delay														
Distortion	X						X	X	X	X	X	X	X	X
Frequency Shift	X						X	X	X	X	X	X	X	X
Impulse Noise	X					X	X	X	X	X	X	X	X	X
Intermodulation														
Distortion	X						X	X	X	X	X	X	X	X
Loss Deviation	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Phase Hits, Gain														
Hits, and														
Dropouts	X													
Phase Jitter	X						X	X	X	X	X	X		X
Signal-to-C														
Message Noise					X									
Signal-to-C														
Notch Noise	X					X	X	X	X	X	X	X	X	X

The technical specifications for these parameters (except for dropouts, phase hits, and gain hits) are described in Technical References TR-NPL-000334 and TR-NPL-000335. The technical specifications for dropouts, phase hits, and gain hits are described in Technical Reference PUB 41004, Table 4.

* The desired parameters are selected by the customer from the list of available parameters.

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15. Access Service Interfaces and Transmission Specifications (Cont'd)15.2 Special Access Service (Cont'd)15.2.1 Network Channel (NC) Codes (Cont'd)(C) Technical Specifications Packages Voice Grade Service (Cont'd)

SD Code NC Code	Package VG-														
	<u>C*</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>	<u>11</u>	<u>12</u>	<u>W</u>	
	<u>LQ</u>	<u>LB</u>	<u>LC</u>	<u>LD</u>	<u>LE</u>	<u>LF</u>	<u>LG</u>	<u>LH</u>	<u>LJ</u>	<u>LK</u>	<u>LN</u>	<u>LP</u>	<u>LR</u>	<u>SE</u>	
<u>Optional Features and Functions</u>															
Central Office															
Bridging															
Capability	X		X			X	X				X	X	X		
Central Office															
Multiplexing	X						X								
Conditioning:															
? C-Type	X					X	X	X	X	X	X				
? Improved															
Attenuation															
Distortion	X					X	X	X	X	X	X				
? Improved Envelope															
Delay Distortion	X					X	X	X	X	X	X				
? Sealing Current	X						X								
? Data Capability	X						X	X			X				
? Telephoto															
Capability	X												X		
Customer Specified															
Premises Receive															
Level	X		X	X				X	X	X					
Improved Return															
Loss for Effective															
Four-Wire															
Transmission	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
For Effective															
Two-Wire															
Transmission	X		X	X				X							

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15. Access Service Interfaces and Transmission Specifications (Cont'd)15.2 Special Access Service (Cont'd)15.2.1 Network Channel (NC) Codes (Cont'd)(C) Technical Specifications Packages Voice Grade Service (Cont'd)

SD Code	Package VG-												W	
	C*	1	2	3	4	5	6	7	8	9	10	11		12
NC Code	LQ	LB	LC	LD	LE	LF	LG	LH	LJ	LK	LN	LP	LR	SE

Optional Features
and FunctionsImproved Two-Wire
Voice Transmission
PPSN Interface

Arrangement	X									X				
Selective Signaling														
Arrangement	X		X			X	X				X	X	X	
Signaling Capability	X	X	X	X				X	X	X				
Transfer Arrangement	X	X	X	X	X	X	X	X	X	X	X	X	X	X

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15. Access Service Interfaces and Transmission Specifications (Cont'd)15.2 Special Access Service (Cont'd)15.2.1 Network Channel (NC) Codes (Cont'd)(D) Technical Specifications Packages Program Audio Service

SD Code NC Code	Package				
	<u>APC*</u>	<u>AP1</u>	<u>AP2</u>	<u>AP3</u>	<u>AP4</u>
	<u>PQ</u>	<u>PE</u>	<u>PF</u>	<u>PJ</u>	<u>PK</u>
<u>Parameter</u>					
Actual Measured Loss	X	X	X	X	X
Amplitude Tracking	X				
Crosstalk	X	X	X	X	X
Distortion Tracking	X				
Gain/Frequency Distortion	X	X	X	X	X
Group Delay	X				
Noise	X	X	X	X	X
Phrase Tracking	X				
Short-Term Gain Stability	X				
Short-Term Loss	X				
Total Distortion	X	X	X	X	X
<u>Optional Features and Functions</u>					
Central Office Bridging					
Capability	X	X	X	X	X
Gain Conditioning	X	X	X	X	X
Stereo	X				X

The technical specifications are described in Technical Reference PUB 62503 and associated Addendum.

* The desired parameters are selected by the customer from the list of available parameters.

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15. Access Service Interfaces and Transmission Specifications (Cont'd)15.2 Special Access Service (Cont'd)15.2.1 Network Channel (NC) Codes (Cont'd)(E) Technical Specifications Packages Video Service

	SD Code NC Code	Package		
		<u>TCV*</u>	<u>TV1</u>	<u>TV2</u>
<u>Video Parameters</u>				
Insertion Gain		X	X	X
Field-Time Distortion		X	X	X
Line-Time Distortion		X	X	X
Short-Time Distortion		X	X	X
Chrominance-Luminance Gain Inequality		X	X	X
Chrominance-Luminance Delay Inequality		X	X	X
Amplitude/Frequency Characteristic		X	X	X
Luminance Non-Linear Distortion		X	X	X
Chrominance Non-Linear Gain Distortion		X	X	X
Chrominance Non-Linear Phase Distortion		X	X	X
Transient Synchronizing Signal				
Non-Linearty		X	X	X
Dynamic Gain Distortion				
- Picture Signal		X	X	X
- Synchronizing Signal		X	X	X
Differential Gain		X	X	X
Differential Phase		X	X	X
Chrominance-Luminance Intermodulation		X	X	X

* The desired parameters are selected by the customer from the list of available parameters.

ACCESS SERVICE

15. Access Service Interfaces and Transmission Specifications (Cont'd)15.2 Special Access Service (Cont'd)15.2.1 Network Channel (NC) Codes (Cont'd)(E) Technical Specifications Packages Video Service (Cont'd)

	SD Code	Package		
		<u>TCV*</u>	<u>TV1</u>	<u>TV2</u>
	NC Code	<u>TQ</u>	<u>TV</u>	<u>TW</u>
<u>Audio Channel Parameters</u>				
<u>Associated with Video Service</u>				
Insertion Gain		X	X	X
Amplitude/Frequency Characteristic		X	X	X
Total Harmonic Distortion & Noise		X	X	X
Maximum Steady-State Test Levels		X	X	X
Gain Differential Between Channels		X	X	
Phase Differential Between Channels		X	X	
Crosstalk		X	X	X
Audio-To-Video Time Differential		X	X	X

The technical specifications are described in Technical Reference TR-NPL-000338.

* The desired parameters are selected by the customer from the list of available parameters.

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15. Access Service Interfaces and Transmission Specifications (Cont'd)15.2 Special Access Service (Cont'd)15.2.1 Network Channel (NC) Codes (Cont'd)(F) Technical Specifications Packages Digital Data Service

<u>Parameter</u>	SD Code NC Code	Package			
		<u>D1</u> <u>XA</u>	<u>D2</u> <u>XB</u>	<u>D3</u> <u>XG</u>	<u>D4</u> <u>XH</u>
Error-Free Seconds		X	X	X	X
<u>Optional Features</u> <u>and Functions</u>					
Central Office Bridging Capability		X	X	X	X
PPSN Interface Transfer Arrangement		X	X	X	X
Transfer Arrangement		X	X	X	X

The Telephone Company will provide a channel capable of meeting a monthly average performance equal to or greater than 99.875% error-free seconds (if provided through a Digital Data hub) while the channel is in service, if it is measured through a CSU equivalent which is designed, manufactured, and maintained to conform with the specifications contained in Technical Reference PUB 62310.

Voltages which are compatible with Digital Data Service are delineated in Technical Reference PUB 62507.

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15. Access Service Interfaces and Transmission Specifications (Cont'd)15.2 Special Access Service (Cont'd)15.2.1 Network Channel (NC) Codes (Cont'd)(G) Technical Specifications Packages High Capacity Service

SC Code	Package					
	<u>HCO</u>	<u>HC1</u>	<u>HC1</u> <u>C</u>	<u>HC2</u>	<u>HC3</u>	<u>HC4</u>
NC Code	<u>HS</u>	<u>HC</u>	<u>HD</u>	<u>HE</u>	<u>HF</u>	<u>HG</u>
<u>Parameters</u>						
Error-Free Seconds		X				
<u>Optional Features and Functions</u>						
Automatic Loop Transfer		X				
Central Office Multiplexing:						
DS4 to DS1						X
DS3 to DS1					X	
DS2 to DS1				X		
DS1C to DS1			X			
DS1 to Voice		X				
DS1 to DSO		X				
DSO to Subrate*	X					
Transfer Arrangement						

A channel with technical specifications package HC1 will be capable of an error-free second performance of 98.75% over a continuous 24 hour period as measured at the 1.544 Mbps rate through a CSU equivalent which is designed, manufactured, and Maintained to conform with the specifications contained in Technical Reference PUB 62411.

* Available only on a channel of 1.544 Mbps facility to a telephone Company Hub.

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15. Access Service Interfaces and Transmission Specifications (Cont'd)15.2 Special Access Service (Cont'd)15.2.1 Network Channel (NC) Codes (Cont'd)15.2.2 Network Channel Interface (NCI) Codes

The electrical interface with the Telephone Company for Special Access Services, is defined by an interface code. There are interface codes for both the customer designated premises and the point of termination. Three examples of NCI codes are found in 15.2 preceding.

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15. Access Service Interfaces and Transmission Specifications (Cont'd)15.2 Special Access Service (Cont'd)15.2.2 Network Channel Interface (NCI) Codes (Cont'd)(A) Parameter Codes and OptionsParameter

Code	Option	Definition
AB	-	accepts 20 Hz ringing signal at customer's point of termination
AC	-	accepts 20 Hz ringing signal at customer's end user's point of termination
AH	-	analog high capacity interface
	- B	60 kHz to 108 kHz (12 channels)
	- C	312 kHz to 552 kHz (60 channels)
	- D	564 kHz to 3084 kHz (600 channels)
CT	-	Centrex Tie Trunk Termination
DA	-	data stream in VF frequency band at customer's end user's point of termination
DB	-	data stream in VF frequency band at customer's point of termination
	- 10	VF for TG1 and TG2
	- 43	VF for 43 Telegraph Carrier type signals, TG1 and TG2
DC	-	direct current or voltage
	- 1	monitoring interface with series RC combination (McCulloh format)
	- 2	Telephone Company energized alarm channel
	- 3	Metallic facilities (DC continuity) for direct current/low frequency control signals or slow speed data (30 baud)
DD	-	DATAPHONE Select-A-Station (and TABS) interface at customer's point of termination
DE	-	DATAPHONE Select-A-Station (and TABS) interface at the customer's end user's point of termination

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15. Access Service Interfaces and Transmission Specifications (Cont'd)15.2 Special Access Service (Cont'd)15.2.2 Network Channel Interface (NCI) Codes (Cont'd)(A) Parameter Codes and Options (Cont'd)Parameter (Cont'd)

Code	Option	Definition
DS	-	digital hierarchy interface
	- 15	1.544 Mbps (DS1) format per PUB 41451 plus D4
	- 15E	8-bit PCM encoded in one 64 kbps of the DS1 signal
	- 15F	8-bit PCM encoded in two 64 kbps of the DS1 signal
	- 15G	8-bit PCM encoded in three 64 kbps of the DS1 signal
	- 15H	14/11-bit PCM encoded in six 64 kbps of the DS1 signal
	- 15J	1.544 Mbps format per PUB 41451
	- 15K	.544 Mbps format per PUB 41451 plus extended framing format
	- 15L	1.544 Mbps (DS1) with SF signaling
	- 27	274.176 Mbps (DS4)
	- 27L	274.176 Mbps (DS4) with SF signaling
	- 31	3.152 Mbps (DS1C)
	- 31L	3.152 Mbps (DS1C) with SF signaling
	- 44	44.736 Mbps (DS3)
	- 44L	44.736 Mbps (DS3) with SF signaling
	- 63	6.312 Mbps (DS2)
	- 63L	6.312 Mbps (DS2) with SF signaling
DU	-	digital access interface
	- 24	2.4 kbps
	- 48	4.8 kbps
	- 56	56.0 kbps
	- 96	9.6 kbps
	- A	1.544 Mbps format per PUB 41451

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15. Access Service Interfaces and Transmission Specifications (Cont'd)15.2 Special Access Service (Cont'd)15.2.2 Network Channel Interface (NCI) Codes (Cont'd)(A) Parameter Codes and Options (Cont'd)Parameter (Cont'd)

Code	Option	Definition
	- B	1.544 Mbps format per PUB 41451 plus D4
	- C	1.544 Mbps format per PUB 41451 plus extended framing format
DX	-	duplex signaling interface at customer's point of termination
DY	-	duplex signaling interface at customer's end user's point of termination
EA	- E	Type I E&M Lead Signaling. Customer at POT or customer's end user at POT originates on E Lead.
EA	- M	Type I E&M Lead Signaling. Customer at POT or customer's end user at POT originates on M Lead.
EB	- E	Type II E&M Lead Signaling. Customer at POT or customer's end user at POT originates on E Lead.
EB	- M	Type II E&M Lead Signaling. Customer at POT or customer's end user at POT originates on M Lead
EC	-	Type III E&M signaling at customer POT
EX	- A	tandem channel unit signaling for loop start or ground start and customer supplies open end (dial tone, etc.) functions
EX	- B	tandem channel unit signaling for loop start or ground start and customer supplies closed end (dial pulsing, etc.) functions.

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15. Access Service Interfaces and Transmission Specifications (Cont'd)15.2 Special Access Service (Cont'd)15.2.2 Network Channel Interface (NCI) Codes (Cont'd)(A) Parameter Codes and Options (Cont'd)Parameter (Cont'd)

Code	Option	Definition
GO	-	ground start loop signaling - open end function by customer or customer's end user
GS	-	ground start loop signaling - closed end function by customer or customer's end user
IZ	-	E.I.A. (25 pin RS-232)
LA	-	end user loop start loop signaling - Type A OPS registered port open end
LB	-	end user loop start loop signaling - Type B OPS registered port open end
LC	-	end user loop start loop signaling - Type C OPS registered port open end
LO	-	loop start loop signaling - open end function by customer or customer's end user
LR	-	20 Hz automatic ringdown interface at customer with Telephone Company provided PLAR
LS	-	loop start loop signaling - closed end function by customer or customer's
NO	-	no signaling interface, transmission only
PG	-	program transmission - no dc signaling
	- 1	nominal frequency from 50 to 15000 Hz
	- 3	nominal frequency from 200 to 3500 Hz
	- 5	nominal frequency from 100 to 5000 Hz

ACCESS SERVICE

15. Access Service Interfaces and Transmission Specifications (Cont'd)15.2 Special Access Service (Cont'd)15.2.2 Network Channel Interface (NCI) Codes (Cont'd)(A) Parameter Codes and Options (Cont'd)Parameter (Cont'd)

Code	Option	Definition
	- 8	nominal frequency from 50 to 8000 Hz
PR	-	protective relaying*
RV	- 0	reverse battery signaling, one way operation, originate by customer
	- T	reverse battery signaling, one way operation, terminate function by customer or customer's end user
SF	-	single frequency signaling with VF band at either customer POT or customer's end user POT
TF	-	telephotograph interface
TT	-	telegraph/teletypewriter interface at either customer POT or customer's end user POT
	- 2	20.0 milliamperes
	- 3	3.0 milliamperes
	- 6	62.5 milliamperes
TV	-	television interface
	- 1	combined (diplexed) video and one audio signal
	- 2	combined (diplexed) video and two audio signals
	- 5	video plus one (or two) audio 5 kHz signal(s) or one (or two) two wire
	- 15	video plus one (or two) audio 15 kHz signal(s)

* Available only for the transmission of audio tone protective relaying signals used in the protection of electric power systems during fault conditions.

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15. Access Service Interfaces and Transmission Specifications (Cont'd)15.2 Special Access Service (Cont'd)15.2.2 Network Channel Interface (NCI) Codes (Cont'd)(B) Impedance

The nominal reference impedance with which the channel will be terminated for the purpose of evaluating transmission performance:

<u>Value (ohms)</u>	<u>Code(s)</u>
110	0
150	1
600	2
900	3+
135	5
75	6
124	7
Variable	8
100	9

+ For those interface codes with a 4-wire transmission path at the customer designated POT, rather than a standard 900 ohm impedance the code (3) denotes a customer provided transmission equipment termination. Such terminations were provided to customers in accordance with the F.C.C. Docket No. 20099 Settlement Agreement.

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15. Access Service Interfaces and Transmission Specifications (Cont'd)15.2 Special Access Service (Cont'd)15.2.2 Network Channel Interface (NCI) Codes (Cont'd)(C) Compatible Network Channel Interfaces

The following tables show the Network Channel Interface codes (NCIs) which are compatible:

(1) MetallicCompatible CIs

2DC8-1 2DC8-2

2DC8-3 2DC8-3

4DS8- 2DC8-1

4DS8- 2DC8-2

(2) Telegraph GradeCompatible CIs2DB2-10 10IA8
 2TT2-2
 4TT2-22DB2-43* 10IA8
 2TT2-2
 2TT2-6
 4TT2-2

2TT2-2 2TT2-2

2TT2-3 2TT2-2

Compatible CIs4DB2-10 10IA8
 2TT2-2
 4TT2-24DB2-43* 10IA8
 2TT2-6
 2TT2-24DS8- 10IA8
 2TT2-2
 2TT2-6

4TT2-2

* Supplemental Channel Assignment information required.

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15. Access Service Interfaces and Transmission Specifications (Cont'd)15.2 Special Access Service (Cont'd)15.2.2 Network Channel Interface (NCI) Codes (Cont'd)(C) Compatible Network Channel Interfaces (Cont'd)(2) Telegraph Grade (Cont'd)

<u>Compatible CIs</u>		<u>Compatible CIs</u>	
2TT2-3	2TT2-2	4TT2-2	
	4TT2-2	4TT2-6	
2TT2-6	2TT2-6	4TT2-2	4TT2-2
	4TT2-6		
		4TT2-6	2TT2-6

(3) Voice Grade

<u>Compatible CIs</u>		<u>Compatible CIs</u>		<u>Compatible CIs</u>	
2AB2	2AC2	2DB2	2DA2	2LR2	2LR2
2AB3	2AC2	2DB3	2DA2	2LR3	2LR2
2CT3	2DY2	2DX3	2LA2	2LS	2GS
	4DS8		2LB2		2LS
	4DX2		2LC2		4GS
	4DX3		2LO3		4LS
	4DY2		2LS2		
	4EA2-E		2LS3	2LS2	2LA2
	4EA2-M				2LB2
	4SF2	2GO2	2GS2		2LC2
	4SF3		2GS3		
	6DX2			2LS3	2LA2
	6DY2	2G03	2GS2		2LB2
	6DY3		2GS3		2LC2
	6EA2-E				

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15. Access Service Interfaces and Transmission Specifications (Cont'd)15.2 Special Access Service (Cont'd)15.2.2 Network Channel Interface (NCI) Codes (Cont'd)(C) Compatible Network Channel Interfaces (Cont'd)(3) Voice Grade (Cont'd)

	<u>Compatible CIs</u>		<u>Compatible CIs</u>		<u>Compatible CIs</u>
	6EA2-M	2GS	2GS	2NO2	2DA2
	6EB2-E		2LS		2NO2
	6EB2-M		4GS		
	6EB3-E		4LS	2NO3	2NO2
	8EB2-E				2PR2
	8EB2-M	2LO2	2LS2		
	8EC2		2LS3	2TF3	2TF2
	9DY2				
	9DY3	2LO3	2LS2		
	9EA2		2LS3		
	9EA3				
4AB2	2AC2				
	4AB2				
	4AC2				
	4SF2				
4AB3	2AC2				
	4AC2				
	4SF2				
4AC2	2AC2				
	4AC2				
		4DS8-	2AC2	4DS8-	4DG2
			2DA2		4LR2
			2DY2		4LS2
			2GO2		4NO2

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15. Access Service Interfaces and Transmission Specifications (Cont'd)15.2 Special Access Service (Cont'd)15.2.2 Network Channel Interface (NCI) Codes (Cont'd)(C) Compatible Network Channel Interfaces (Cont'd)(3) Voice Grade (Cont'd)

<u>Compatible CIs</u>		<u>Compatible CIs</u>	<u>Compatible CIs</u>
4DA2	4DA2	2GO3	4PR2
		2GS2	4RV2-T
4DB2	2DA2	2GS3	4SF2
	2NO2	2LA2	4SF3
	2PR2	2LB2	4TF2
	4DA2	2LC2	6DA2
	4DB2	2LO2	6DY2
	4NO2	2LO3	6DY3
	4PR2	2LR2	6EA2-E
	6DA2	2LS2	6EA2-M
		2LS3	6EB2-E
4DD3	2DE2	2NO2	6EB2-M
	4DE2	2PR2	6GS2
		2RV2-T	6LS2
		2TF2	8EB2-E
		4AC2	8EB2-M
		4DA2	9DY2
		4DE2	9DY3
		4DX2	9EA2
		4DX3	9EA3
		4DY2	
		4EA2-E	
		4EA2-M	

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15. Access Service Interfaces and Transmission Specifications (Cont'd)15.2 Special Access Service (Cont'd)15.2.2 Network Channel Interface (NCI) Codes (Cont'd)(C) Compatible Network Channel Interfaces (Cont'd)(3) Voice Grade (Cont'd)

<u>Compatible CIs</u>		<u>Compatible CIs</u>		<u>Compatible CIs</u>	
4DX2	2DY2	4DX2	8EB2-E	4DX3	6DY2
	2LA2		8EB2-M		6DY3
	2LB2		9DY2		6EA2-E
	2LC2		9DY3		6EA2-M
	2LO3		9EA2		6EB2-E
	2LS2		9EA3		6EB2-M
	2LS3				6LS2
	2RV2-T	4DX3	2DY2		8EB2-E
	4DX2		2LA2		8EB2-M
	4DY2		2LB2		9DY2
	4EA2-E		2LC2		9DY3
	4EA2-M		2LO3		9EA2
	4LS2		2LS2		9EA3
	4RV2-T		2LS3		
	4SF2		2RV2-T	4DY2	2DY2
	4SF3		4DX2		4DY2
	6DY2		4DX3		
	6DY3		4DY2		
	6EA2-E		4EA2-E		
	6EA2-M		4EA2-M		
	6EB2-E		4LS2		
	6EB2-M		4RV2-T		
	6LS2		4SF2		
			4SF3		

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15. Access Service Interfaces and Transmission Specifications (Cont'd)15.2 Special Access Service (Cont'd)15.2.2 Network Channel Interface (NCI) Codes (Cont'd)(C) Compatible Network Channel Interfaces (Cont'd)(3) Voice Grade (Cont'd)

<u>Compatible CIs</u>		<u>Compatible CIs</u>		<u>Compatible CIs</u>	
4EA2-E	2DY2	4EA3-E	2DY2	4GO2	2GO2
	4DY2		4DY2		2GO3
	4EA2-E		4EA2-E		2GS2
	4EA2-M		4EA2-M		2GS3
	4SF2		4SF2		4GS2
	6DY2		6DY2		4SF2
	6DY3		6DY3		6GS2
	6EB2-E		6EA2-E		
	6EB2-M		6EA2-M	4GO3	2GO2
	8EB2-E		6EB2-E		2GS2
	8EB2-M		6EB2-M		2GS3
	9DY2		8EB2-E		4GS2
	9DY3		8EB2-M		4SF2
			9DY2		6GS2
4EA2-M	2DY2		9DY3		
	2DY2		9EA2		
	4EA2-M		9EA3	4GS	2GS
	4SF2				2LS
	6DY2				4GS
	6DY3				4LS
	6EB2-E				
	6EB2-M				
	8EB2-E				
	8EB2-M				
	9DY2				
	9DY3				

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15. Access Service Interfaces and Transmission Specifications (Cont'd)15.2 Special Access Service (Cont'd)15.2.2 Network Channel Interface (NCI) Codes (Cont'd)(C) Compatible Network Channel Interfaces (Cont'd)(3) Voice Grade (Cont'd)

<u>Compatible CIs</u>		<u>Compatible CIs</u>		<u>Compatible CIs</u>	
4LO2	2LS2	4LS3	2LA2	4SF2	2LO3
	2LS3		2LB2		2LR2
	4LS2		2LC2		2LS2
	4SF2		2LO2		2LS3
	6LS2		2LO3		2RV2-T
			4SF2		4AC2
4LO3	2LS2				4DY2
	2LS3	4NO2	2DA2		4LS2
	4LS2		2DE2		4RV2-T
	4SF2		2NO2		4SF2
	6LS2		4DA2		6DY2
			4DE2		6DY3
4LR2	2LR2		4NO2		6GS2
	4LR2		6DA2		9DY2
	4SF2				9DY3
		4RV2-0	2RV2-T		
4LR3	2LR2		4RV2-T	4SF3	2DY2
	4LR2		4SF2		2GO3
	4SF2				2GS2
					2GS3
4LS	2GS	4SF2	2AC2		2LA2
	2LS		2DY2		2LB2
	4GS		2GS2		2LC2
	4LS		4GS3		2LO3
			2LA2		2LR2
4LS2	2LA2		2LB2		
	2LB2		2LC2		

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15. Access Service Interfaces and Transmission Specifications (Cont'd)15.2 Special Access Service (Cont'd)15.2.2 Network Channel Interface (NCI) Codes (Cont'd)(C) Compatible Network Channel Interfaces (Cont'd)(3) Voice Grade (Cont'd)

	<u>Compatible CIs</u>		<u>Compatible CIs</u>		<u>Compatible CIs</u>
	2LC2				
	2LO2				
	2LO3				
4SF3	2LS2	6DA	4DA2	6DY3	2DY2
	2LS3		6DA2		4DY2
	2RV2-T				6DY2
	4DY2	6DX2	2DY2		6DY3
	4EA2-E		4DY2		
	4EA2-M		4EA2-E	6EA2-E	2AC2
	4GS2				
	4LR2		4EA2-M		2DY2
	4LS2		4SF2		2LA2
	4RV2-T		6DY2		2LB2
	4SF2		6DY3		2LC2
	4SF3		6EA2-E		2LO3
	6DY2		6EA2-M		2LS2
	6DY3		6EB2-E		2LS3
	6EB2-E		6EB2-M		2RV2-T
	6EB2-M		8EB2-E		4AC2
	6GS2		8EB2-M		4DY2
	6LS2		9DY2		4EA2-E
	9DY2		9DY3		4EA2-M
	9DY3		9EA2		4LS2
	9EA2		9EA3		4RV2-T
	9EA3				4SF2
		6DY2	2DY2		4SF3

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15. Access Service Interfaces and Transmission Specifications (Cont'd)15.2 Special Access Service (Cont'd)15.2.2 Network Channel Interface (NCI) Codes (Cont'd)(C) Compatible Network Channel Interfaces (Cont'd)(3) Voice Grade (Cont'd)

<u>Compatible CIs</u>		<u>Compatible CIs</u>		<u>Compatible CIs</u>	
4TF2	2TF2		4DY2		6DY2
	4TF2		6DY2		6DY3
					6EA2-E
					6EA2-M
6EA2-E	6EB2-E	6EA2-M	6DY2	6EB3-E	2DY2
	6EB2-M		6DY3		4DY2
	6LS2		6EA2-M		4EA2-E
	8EB2-E		6EB2-E		4EA2-M
	8EB2-M		6EB2-M		4SF2
	9DY2		6LS2		6DY2
	9DY3		8EB2-E		6DY3
			8EB2-M		6EA2-E
6EA2-M	2AC2		9DY2		6EA2-M
	2DY2		9DY3		8EB2-E
	2LA2				8EB2-M
	2LB2	6EB2-E	2DY2		9DY2
	2LC2		4DY2		9DY3
	2LO3		4SF2		9EA2
	2LS2		6DY2		9EA3
	2LS3		6DY3		
	2RV2-T		6EB2E	6EX2-A	2SG2
	4AC2		6EB2-M		2GS3
	4DY2		9DY2		2LS2
	4EA2-E		9DY3		2LS3
	4EA2-M				4GS2
	4LS2	6EB2-M	2DY2		4LS2
	4RV2-T		4DY2		4SF2

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15. Access Service Interfaces and Transmission Specifications (Cont'd)15.2 Special Access Service (Cont'd)15.2.2 Network Channel Interface (NCI) Codes (Cont'd)(C) Compatible Network Channel Interfaces (Cont'd)(3) Voice Grade (Cont'd)

<u>Compatible CIs</u>		<u>Compatible CIs</u>		<u>Compatible CIs</u>	
	4SF2		4SF2		6GS2
	4SF3		6DY2		6LS2
			6DY3		
			6EB2-M		
			9DY2		
			9DY3		
6EX2-B	2GO3	8EB2-E	2AC2	8EB2-M	2AC2
	2LA2		2DY2		2DY2
	2LB2		2LA2		2LA2
	2LC2		2LB2		2LB2
	2LO2		2LC2		2LC2
	2LO3		2LO3		2LO3
	2LR2		2LS2		2LS2
	4LR2		2LS3		2LS3
	4SF2		2RV2-T		2RV2-T
			4AC2		4AC2
6GO2	2GO2		4DY2		4DY2
	2GS2		4LS2		4LS2
	2GS3		4RV2-T		4RV2-T
	4GS2		4SF2		4SF2
	4SF2		4SF3		4SF3
	6GS2		6DY2		6DY2
			6DY3		6DY3
6LO2	2LS2		6EB2-E		6EB2-E
	2LS3		6EB2-M		6EB2-M
	4LS2		6LS2		6LS2
	4SF2		8EB2-E		8EB2-M
	6LS2		8EB2-M		9DY2

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15. Access Service Interfaces and Transmission Specifications (Cont'd)15.2 Special Access Service (Cont'd)15.2.2 Network Channel Interface (NCI) Codes (Cont'd)(C) Compatible Network Channel Interfaces (Cont'd)(3) Voice Grade (Cont'd)

<u>Compatible CIs</u>		<u>Compatible CIs</u>		<u>Compatible CIs</u>	
			9DY2		9DY3
6LS2	2LA2		9DY3		
	2LB2				
	2LC2				
	2LO2				
	2LO3				
	4SF2				
8EC2	2DY2	9DY2	2DY2	9EA3	2DY2
	4DY2		4DY2		4DY2
	4EA2-E		6DY2		4EA2-E
	4EA2-M		6DY3		4EA2-M
	4SF2		9DY2		6DY2
	6DY2				6DY3
	6DY3	9DY3	2EDY2		6EA2-E
	6EA2-E		4DY2		6EA2-M
	6EA2-M		6DY2		6EB2-E
	6EB2-E		6DY3		6EB2-M
	6EB2-M		9DY2		8EB2-E
	8EB2-E		9DY3		8EB2-M
	8EB2-E				9DY2
	9DY2	9EA2	2DY2		9DY3
	9DY3		4DY2		9EA3
	9EA2		4EA2-E		
	9EA3		4EA2-M		
			6DY2		

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15. Access Service Interfaces and Transmission Specifications (Cont'd)15.2 Special Access Service (Cont'd)15.2.2 Network Channel Interface (NCI) Codes (Cont'd)(C) Compatible Network Channel Interfaces (Cont'd)(3) Voice Grade (Cont'd)Compatible CIsCompatible CIsCompatible CIs

6DY3

6EA2-E

6EA2-M

6EB2-E

6EB2-M

8EB2-E

8EB2-M

9DY2

9DY3

9EA2

9EA3

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15. Access Service Interfaces and Transmission Specifications (Cont'd)15.2 Special Access Service (Cont'd)15.2.2 Network Channel Interface (NCI) Codes (Cont'd)(C) Compatible Network Channel Interfaces (Cont'd)(4) Program Audio

<u>Compatible CIs</u>		<u>Compatible CIs</u>	
2PG2-1	2PG1-1 2PG2-1	4DS8-15E	2PG1-3 2PG2-3
2PG2-3	2PG1-3 2PG2-3	4DS8-15F	2PG1-5 2PG2-5
2PG2-5	2PG1-5 2PG2-5	4DS8-15G	2PG1-8 2PG2-8
2PG2-8	2PG1-8 2PG2-8	4DA8-15H	2PG1-1 2PG2-1

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15. Access Service Interfaces and Transmission Specifications (Cont'd)15.2 Special Access Service (Cont'd)15.2.2 Network Channel Interface (NCI) Codes (Cont'd)(C) Compatible Network Channel Interfaces (Cont'd)(5) Video

	<u>Compatible CIs</u>		<u>Compatible CIs</u>	
2TV6-1	4TV6-15 4TV7-15	4TV7-5	4TV6-5 4TV7-5	
2TV6-2	6TV6-15 6TV7-15	4TV7-15	4TV6-15 4TV7-15	
2TV7-1	4TV6-15 4TV7-15	6TV6-5	6TV6-5 6TV7-5	
2TV7-2	6TV6-15 6TV7-15	6TV6-15	6TV6-15 6TV7-15	
4TV6-5	4TV6-5 4TV7-5	6TV6-5	6TV6-5 6TV7-5	
4TV6-15	4TV6-15 4TV7-15	6TV7-15	6TV6-15 6TV7-15	

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15. Access Service Interfaces and Transmission Specifications (Cont'd)15.2 Special Access Service (Cont'd)15.2.2 Network Channel Interface (NCI) Codes (Cont'd)(C) Compatible Network Channel Interfaces (Cont'd)(6) Digital Data

<u>Compatible CIs</u>		<u>Compatible CIs</u>		<u>Compatible CIs</u>	
4DS8-15	4DS8-15+	4DU5-24	4DU5-24	6DU5-24	6DU5-24
	4DU5-24				
	4DU5-48	4DU5-48	4DU5-48	6DU5-48	6DU5-48
	4DU5-56				
	4DU5-96	4DU5-96	4DU5-96	6DU5-56	6DU5-56
	6DU5-24				
	6DU5-48	4DU8-56	4DU5-56	6DU5-96	6DU5-96
	6DU5-96				

+ Available only as a cross connect of two digital channels at appropriate digital speeds at a Telephone Company hub.

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15. Access Service Interfaces and Transmission Specifications (Cont'd)15.2 Special Access Service (Cont'd)15.2.2 Network Channel Interface (NCI) Codes (Cont'd)(C) Compatible Network Channel Interfaces (Cont'd)(7) High Capacity

<u>Compatible CIs</u>		<u>Compatible CIs</u>	
4DS0-63	4DSO-63 4DU8-A,B or C 6DU8-A,B or C	4DS8-15J	4DU8-A 6DU8-A
4DS6-27	4DS6-27 4DU8-A,B or C 6DU8-A,B or C	4DS8-15K	4DU8-B 4DU8-C 6DU8-B 6DU8-C
4DS6-44	4DS6-44 4DU8-A,B or C 6DU8-A,B or C	4DS8-31	4DS8-31 4DU8-A,B or C 6DU8-A,B or C
4DS8-15	4DS8-15+ 4DU8-B 6DU8-8	4DU8-A,B or C	4DU8-A,B or C

+ Available only as a cross connect of two individual channels of 1.544 Mbps facilities at a Telephone Company hub.

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15. Access Service Interfaces and Transmission Specifications (Cont'd)

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