
ACCESS SERVICE

7. Special Access Service**7.1 General

Special Access provides a transmission path to connect customer designated premises * for Interstate Telecommunications within the operating territories of the Telephone Company. Special Access provided to a customer may be connected directly to customer facilities, through Telephone Company Hub Wire Centers where bridging or multiplexing functions are performed, and/or may be connected to access facilities of another telephone company or companies in the joint provision of Special Access Service as well as may be connected to Switched Access as set forth in Section 6. Special Access Services may also be connected to a customer's transmission equipment and facilities using a DS1 or DS3 Cross Connect arrangement where the customer is provided Expanded Interconnection Service (EIS) as defined in Section 16.

The provision of Switched Access and Special Access in combination is normally for, but not limited to, the use of WATS or WATS-type Access. When Special Access is connected to Switched Access, the terms, conditions and rates for the facilities between the end user's customer designated premises and the WATS Serving Office are as set forth in this section of the tariff; the terms, conditions and rates for the facilities between the WATS Serving Office and the IC's customer designated premises, as well as the switching functionalities (e.g., end user access codes, screening) are as set forth in Section 6 of this tariff.

Special Access can be provided in either analog or digital format. Analog formats are differentiated by spectrum and bandwidth. Digital formats are differentiated by bit rate. The specific types of Special Access (e.g., Voiceband, Digital Data Service) provided are described in 7.2 following.

Certain Special Access Services listed in this section of the tariff may not be currently offered in all Telephone Company locations but may be provided upon customer request, on an individual case basis, if facilities can be made available with reasonable effort. The Telephone Company will work cooperatively with the Customer to provide the service on a timely basis.

* Telephone Company Centrex CO-like switches are considered to be CDPs for the purpose of this tariff.

** Pursuant to FCC 17-43, released April 28, 2017, Frontier has detariffed (1) TDM channel terminations for wire centers in competitive counties; (2) TDM transport charges; and (3) packet-based services. Terms and Conditions for detariffed services can be found in the Interstate Service Guide and Pricelist.

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7. Special Access Service (Cont'd)7.1 General (Cont'd)7.1.1 Circuit Types

There are six types of circuits used to provide Special Access Services. Each type has its own characteristics. All are subdivided by one or more of the following:

- Transmission specifications,
- Bandwidth,
- Speed (i.e., bit rate),
- Spectrum

Customers can order a basic circuit and select from a list of those available transmission parameters and channel interfaces that they desire in order to meet specific communications requirements.

For purposes of ordering circuits, each has been identified as a type of Special Access Service. However, such identification is not intended to limit a customer's use of the circuit nor to imply that the circuit is limited to a particular use. For example, if a customer's equipment is capable of transmitting voice over a circuit that is identified as Metallic Service in this tariff, there is no restriction against doing so.

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7. Special Access Service (Cont'd)7.1 General (Cont'd)7.1.1 Circuit Types (Cont'd)

Following is a brief description of each type of circuit:

Voice Grade - a circuit for the transmission of analog signals within an approximate bandwidth of 300 to 3000 Hz.

Program Audio - a circuit for the transmission of audio signals. The nominal frequency bandwidths are from 100 to 5000 Hz, from 50 to 8000 Hz, or from 50 to 15000 Hz.

Video - a circuit for the transmission of standard 525 line 60 field monochrome or National Television Systems Committee color video signal and one or two associated 5 or 15 kHz audio signals. The bandwidth is either 30 Hz to 4.5 MHz or 30 Hz to 6.6 MHz.

Digital Data - a circuit for the digital transmission of synchronous serial digital data at rates of 2.4, 4.8, 9.6, 19.2, 56, or 64 kbps.

High Capacity - a circuit for the transmission of synchronous serial digital data at rates of 1.544 Mbps or higher.

Metallic - a circuit for the transmission of low speed varying signals at rates up to 30 baud.

Detailed descriptions of each of the channel types are provided in 7.4 through 7.9 following.

The customer also has the option of ordering Voice Grade and High Capacity facilities to Telephone Company hubs for multiplexing to individual channels of a lower capacity or bandwidth. Descriptions of the types of multiplexing available at the hubs, as well as the number of individual channels which may be derived from each type of facility are set forth in 7.4 and 7.9 following. Additionally, the customer may specify optional features for the individual channels derived from the facility to further tailor the channel to meet specific communications requirements. Descriptions of the optional features and functions available are set forth in 7.4.3 through 7.9.4 following.

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7. Special Access Service (Cont'd)7.1 General (Cont'd)7.1.2 Service Descriptions

For the purposes of ordering, there are six (6) categories of Special Access Service. These are:

Service Designator Codes

Metallic	MT
Voice	VG
Program Audio	AP
Video	TV
Digital Data	DA
High Capacity	HC

Each service consists of a basic channel to which a technical specifications package, (customized or predefined), channel interface(s) and, when desired, optional features and functions are added to construct the service desired by the customer.

Technical specification packages and optional features and functions are described in 7.4.2 following. Channel interfaces are described in Section 11.1 following.

Customized technical specifications packages will be provided where technically feasible. If the Telephone Company determines that the requested parameter specifications are not compatible, the customer will be advised and given the opportunity to change the order.

When a customized channel is ordered the customer will be notified whether Additional Engineering Charges apply. In such cases, the customer will be advised and given the opportunity to change the order.

The channel descriptions provided in 7.4 through 7.9 following, specify the characteristics of the basic channel and indicate whether the channel is provided between customer designated premises, between a customer designated premises and a Telephone Company hub where bridging or multiplexing functions are performed, between hubs, or between a customer designated premises and a WATS Serving Office.

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7. Special Access Service (Cont'd)7.1 General (Cont'd)7.1.2 Service Descriptions (Cont'd)

- (A) Information pertaining to the technical specifications packages indicates the transmission parameters that are available with each package. This information is displayed in matrices set forth in Section 11.2 following.
- (B) Channel interfaces at each Point of Termination on a two-point service may be symmetrical or asymmetrical. On a multipoint service they may also be symmetrical or asymmetrical, but communications can only be provided between compatible channel interfaces. Only certain channel interfaces are compatible. These are set forth in Section 11.3 following, in a combination format.
- (C) Only certain channel interface combinations are available with the predefined technical specifications packages. These are delineated in the Technical References set forth in (E) following. When a customized channel is requested, all channel interface combinations available with the specified type of service are available with the customized channel.
- (D) The Telephone Company will maintain existing transmission specifications on services installed prior to the effective date of this tariff, except that existing services with performance specifications exceeding the standards listed in the provision will be maintained at the performance levels specified in this tariff.
- (E) The optional features and functions available with each type of Special Access Service are described in this section. The optional features and functions information also indicates with which technical specifications packages they are available. Such information is displayed in matrices set forth in 7.4.2 following with the optional feature or function listed down the left side and the technical specifications package listed across the top.

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7. Special Access Service (Cont'd)7.1 General (Cont'd)7.1.2 Service Descriptions (Cont'd)

- (F) All services installed after the effective date of this tariff will conform to the transmission specification standards contained in this tariff or in the following Technical References for each category of service:

Metallic	PUB TR-NPL-000336
Voice Grade	PUB TR-NPL-000335 PUB TR-TSY-000335 PUB 41004, Table 4
Program Audio	TR-NPL-000337 and associated Addendum
Video	TR-NPL-000338
Digital Data	TR-NPL-000341 and associated Addendum PUB 62310
High Capacity	TR-INS-000342 PUB TR-NPL-000342 PUB 62411 PUB TR-NPL-000054

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7. Special Access Service (Cont'd)

7.1 General (Cont'd)

7.1.3 Service Configurations

There are two (2) types of service configurations over which Special Access Services are provided: two-point service and multipoint service.

(A) Two-Point Service

A two-point service connects two customer designated premises, either on a directly connected basis or through a hub where multiplexing functions are performed, or a customer designated premises and a WATS Serving Office (WSO).

All Special Access offerings may be provided as a two-point configuration.

With the exception of Temporary Videoband Service, applicable rate elements are:

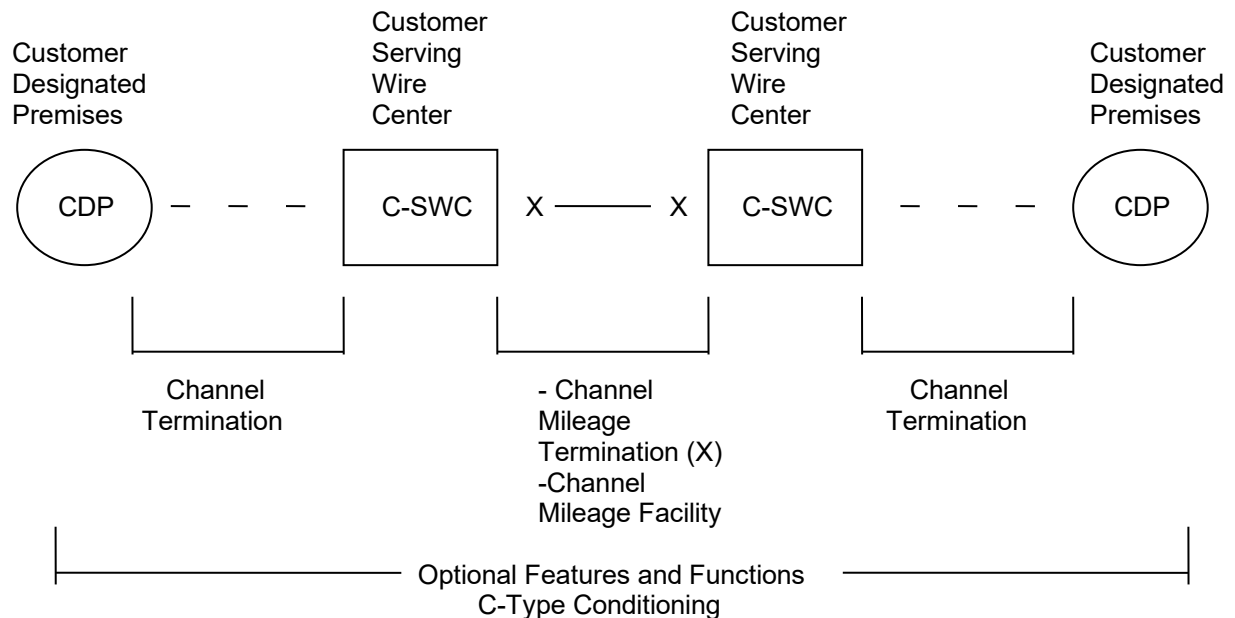
- Channel Terminations
- Channel Mileage (as applicable)
- Optional Features and Functions (when applicable)

A Special Access Surcharge, as set forth in 7.3 following, may be applicable.

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7. Special Access Service (Cont'd)7.1 General (Cont'd)7.1.3 Service Configurations(A) Two-Point Service (Cont'd)

The following diagram depicts a two-point Voice Grade service connecting two (2) Customer Designated Premises (CDP). The service is provided with C-Type conditioning.



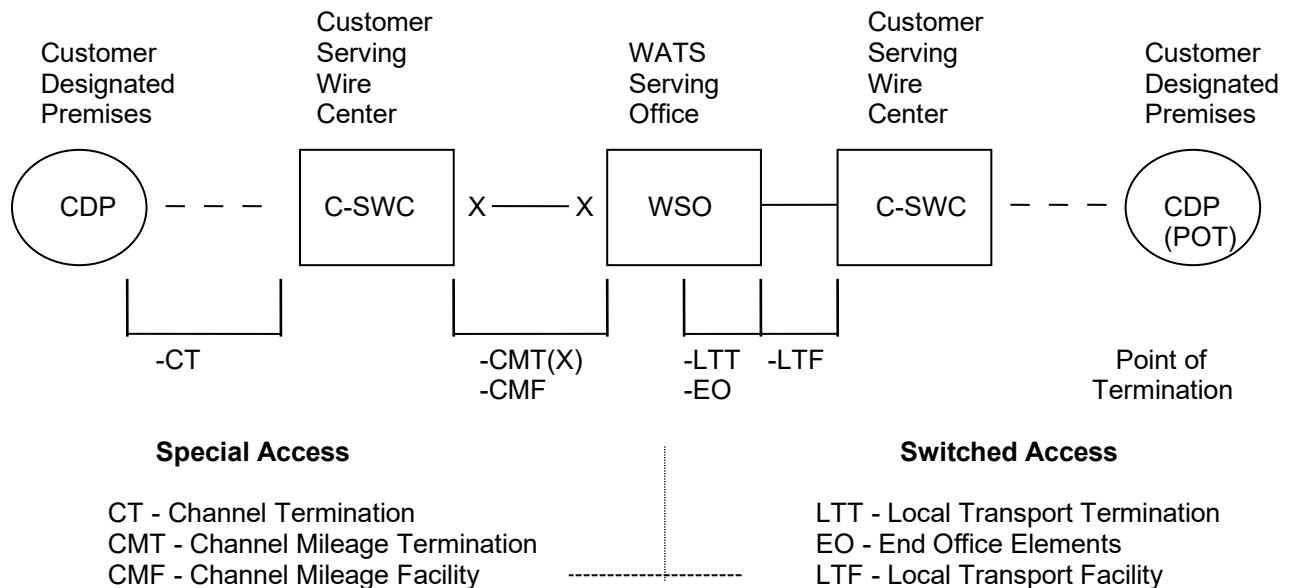
Applicable rate elements are:

- Channel Terminations (applicable one (1) per CDP)
- Channel Mileage
 - 2 Channel Mileage Termination plus
 - 1 section, Channel Mileage Facility per mile
- C-Type Conditioning Optional-Feature

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7. Special Access Service (Cont'd)7.1 General (Cont'd)7.1.3 Service Configurations(A) Two-Point Service (Cont'd)

The following diagram depicts a two-point Voice Grade service connecting a customer designated premises to a WATS serving office.



Applicable rate elements for Special Access are:

- Channel Terminations (applicable one (1) per CDP)
- Channel Mileage
 - 2 Channel Mileage Termination plus
 - 1 section, Channel Mileage Facility per mile
- C-Type Conditioning Optional-Feature
- Special Access Surcharge*

*May not apply if exemption certification is provided.

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7. Special Access Service (Cont'd)7.1 General (Cont'd)7.1.3 Service Configurations(B) Multipoint Service

Multipoint service connects three (3) or more customer designated premises through one (1) or more Telephone Company hubs. Only certain types of Special Access Service are provided as multipoint service. These are so designated in the descriptions for the appropriate channel.

The channel between hubs (i.e., bridging locations) on a multipoint service is a mid-link. There is no limitation on the number of mid-links available with a multi-point service. However, when more than three (3) mid-links in tandem are provided the quality of the overall service may be degraded.

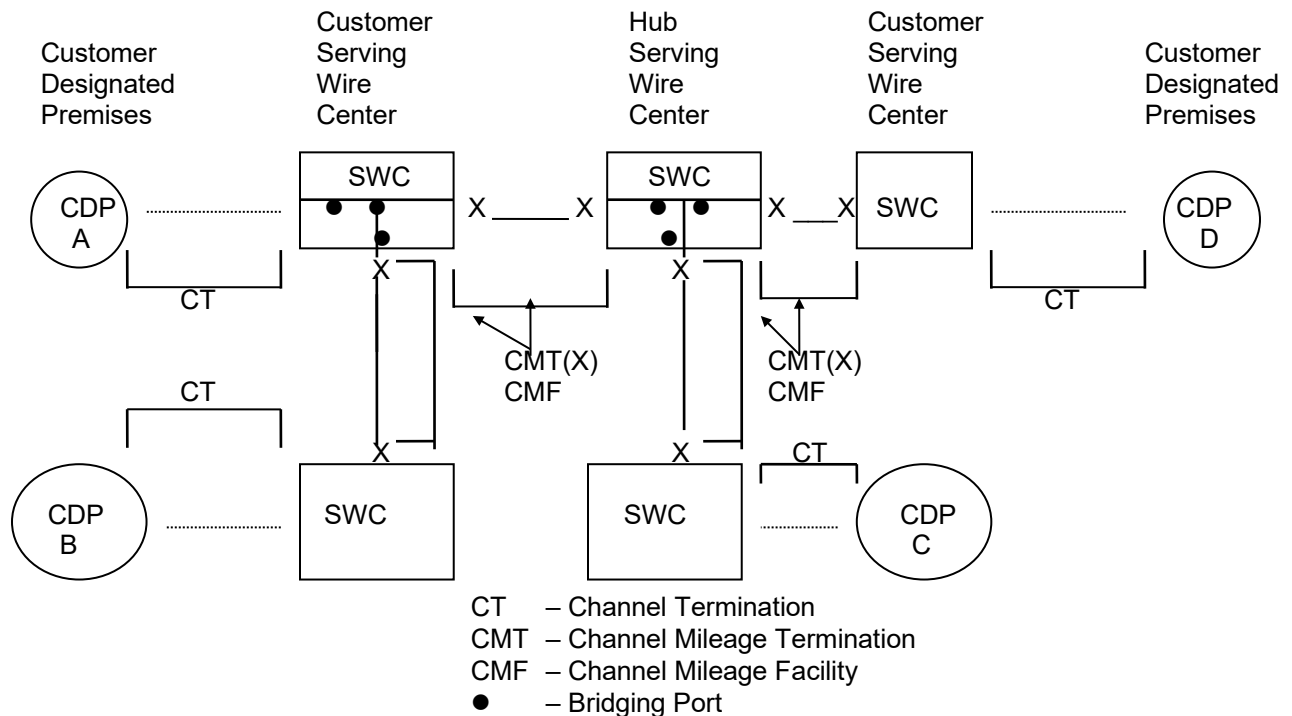
Multipoint service utilizing a customized technical specifications package, as set forth in 7.1.2 preceding and Section 11.2 following, will be provided when technically possible. If the Telephone Company determines that the requested characteristics for a multipoint service are not compatible, the customer will be advised and given the opportunity to change the order.

When ordering, the customer will specify the desired bridging hub(s). NATIONAL EXCHANGE CARRIER ASSOCIATION TARIFF FCC NO. 4 identifies serving wire centers, hub locations and the type of bridging functions available.

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7. Special Access Service (Cont'd)7.1 General (Cont'd)7.1.3 Service Configurations(B) Multipoint Service

The following diagram depicts an example of a Voice Grade multipoint service connecting four (4) customer premises via two (2) customer specified bridging hubs.



Applicable rate elements are:

- Channel Termination (4 applicable)
- Channel Mileage (4 sections-fixed rate plus rate per mile between SWC)
- Bridging (6 applicable, i.e., each bridge port)
- Additional Optional Features and Functions (when applicable)

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7. Special Access Service (Cont'd)7.1 General (Cont'd)7.1.4 Alternate Use

Alternate Use occurs when a service is arranged by the Telephone Company so that the customer can select different types of transmission at different times. A customer may use a service in any privately beneficial manner. However, where technical or engineering changes are required to effectuate an alternate use, the Telephone Company will make such special arrangements available on an individual case basis.

The arrangement required to transfer the service from one (1) operation to the other (i.e., the transfer relay and control leads) will be rated and provided on an individual case basis and filed in Section 20 following. The customer will pay the stated tariff rates for the Access Service rate elements for the service ordered [i.e., Channel Terminations, Channel Mileage (as applicable) and Optional Features and Functions (if any)].

7.1.5 Special Facilities Routing

A customer may request that the facilities used to provide Special Access Service be specially routed. The regulations, rates and charges for Special Facilities Routing (i.e., Avoidance, Diversity and Cable-Only) are set forth in Section 12 following.

7.1.6 Acceptance Testing

At no additional charge, the Telephone Company will, at the customer's request, cooperatively test the following at the time of installation:

- (A) For Voice Grade analog services, the acceptance test will include tests for loss, 3-tone slope, DC continuity, operational signaling, C-notched noise, and C-message noise when these parameters are applicable and specified in the order of service. Additionally, for Voice Grade services, a balance (improved loss) test will be made if the customer has ordered the improved loss optional feature.
- (B) For other analog services (i.e., Metallic, Program Audio, and Video) and for digital services, (i.e., Digital Data and High Capacity), acceptance tests will include tests applicable to the service as specified by the customer in the order for service.

In addition to the above tests, Additional Cooperative Acceptance Testing for Voice Grade service to test other parameters, as described in Section 9.4 following, is available at the customer's request. All test results will be made available to the customer upon request.

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7. Special Access Service (Cont'd)7.1 General (Cont'd)7.1.7 Ordering Options and Conditions

Ordering conditions are set forth in detail in Section 5 preceding. Also included in that section, are other charges which may be associated with ordering Special Access (e.g., Service Date Change Charges, Cancellation Charges, etc.).

(A) Determination of Jurisdiction of Mixed Use Special Access Lines

When mixed interstate and intrastate Special Access Service is ordered, the jurisdiction will be determined as follows:

- (1) If the customer's estimate of the interstate traffic on the physically intrastate line involved constitute 10% or less of the total traffic on that line, the line will be ordered and provided in accordance with the applicable rules and regulations of the appropriate intrastate tariff.
- (2) If the customer's estimate of the interstate traffic on the physically intrastate line involved constitutes more than 10% of the total traffic on that line, the line will be ordered and provided in accordance with the applicable rules and regulations of this tariff.
- (3) For lines in service on the effective date of this tariff, changes will be made in accordance with 7.2.2(D). Existing customers will be allowed 90 days from the effective date of this tariff to certify by letter the jurisdiction of the lines. The customer must submit an ASR for each line changing jurisdiction.
- (4) Lines in service on the effective date of this tariff certified to be jurisdictionally intrastate and having a maximum termination liability associated with them will not be assessed the termination liability. The customer must submit an ASR for each line changing jurisdiction no later than 90 days from the effective date of this tariff to have the termination liability waived.

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7. Special Access Service (Cont'd)7.1 General (Cont'd)7.1.7 Ordering Options and Conditions (Cont'd)(B) Special Access Jurisdictional Verification

If a billing dispute arises or a regulatory commission questions the customer's certification of the jurisdiction of the line the Telephone Company will ask the customer to provide the data used to determine the jurisdiction. The customer shall supply the data within 30 days of the Telephone Company's request. The customer shall keep records of system design and functions from which the jurisdiction can be ascertained and upon request of the Telephone Company make the records available for inspection as reasonably necessary for purposes of verification of the jurisdiction of the service.

7.1.8 Design Layout Report

At the request of the customer, the Telephone Company will provide to the customer the make-up of the facilities and services provided under this tariff as Special Access Service to aid the customer in designating its overall service. This information will be provided in the form of a Design Layout Report. The Design Layout Report will be provided to the customer at no charge, and will be reissued or updated whenever these facilities are materially changed.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.2 Rate Regulations

This section contains the specific regulations governing the rates and charges that apply for Special Access.

7.2.1 Rate Categories

There are four (4) basic rate categories which apply to Special Access Service:

- Channel Terminations (described in 7.2.1(A) following)
- Channel Mileage (described in 7.2.1(B) following)
- Optional Features and Functions (described in 7.2.1(C) following)
- Special Access Cross Connect (described in 7.2.1(D) following)

(A) Channel Termination

The Channel Termination rate category provides for the communications path between a customer designated premises and the serving wire center of that premises. Included as part of the Channel Termination is a standard channel interface arrangement which defines the technical characteristics associated with the type of facilities to which the access service is to be connected at the Point of Termination (POT) and the type of signaling capability, if any. The signaling capability itself is provided as an optional feature as set forth in (C) following. If an IXC's Point of Presence (POP) is collocated in a Company serving wire center, then the POP is treated as a customer premises and two (2) Channel Termination charges apply. Customer transmission facilities and equipment terminated in Telephone Company wire center under EIS, as defined in Section 16, are not considered customer designated premises, and one (1) Channel Termination charge will apply for the loop external to the serving wire center. Connection to Telephone Company provided DS1 or DS3 Circuit Terminations within a serving wire center for customers with EIS will require a Special Access Cross Connect arrangement as described in 7.2.1(D).

Rates for End User Channel Terminations are subject to the rules governing Competitive and Non-Competitive Counties as discussed in Section 10. Where Competitive and Non-Competitive Rates are present the Channel Termination consists of two different rate elements: an End User Channel termination that serves the customer premises and an Interexchange Carrier (IC) POP that is collocated in a Company serving wire center. The customer will be charged for both the End User Channel Termination and the IC Channel Termination.

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7. Special Access Service (Cont'd)7.2 Rate Regulations (Cont'd)7.2.1 Rate Categories (Cont'd)(B) Channel Mileage

The Channel Mileage rate category provides for the end office equipment and transmission facilities between serving wire centers and/or Telephone Company hubs. In addition, when Special Access is used in conjunction with Switched Access Service as set forth in Section 6.3.9 preceding for Switched Access Interface Arrangements, and the end office serving the customer's end user premises is not a WATS Serving Office, Channel Mileage is used to extend the Special Access Channel to a WATS Serving Office. Customer transmission facilities and equipment terminated in Telephone Company wire centers under EIS, as defined in Section 16, are not considered customer designated premises. Connection to Telephone Company provided DS1 or DS3 Channel Mileage within a serving wire center for customers with EIS will require a Special Access Cross Connect arrangement as described in 7.2.1(D).

The Channel Mileage charge is composed of a flat monthly charge known as Channel Mileage Termination plus a per mile charge known as Channel Mileage Facility. The Channel Mileage Termination rate is billed at each end of segment of Channel Mileage. The number of miles used to Channel Mileage Facility is calculated as set forth in Section 7.2.4 of this tariff.

For special access circuits that originate and terminated in the same serving wire center, one Channel Mileage Termination and no Channel Mileage Facility rate will be charged for the equipment required.

The selection of Terminating Option, as defined in 7.1.2(C), is required for terminating the network portion of a Special Access Line at a customer designated premises. Terminating Options provide a clearly delineated interface which facilitates the design, isolation, and testing of the Special Access.

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7. Special Access Service (Cont'd)7.2 Rate Regulations (Cont'd)7.2.1 Rate Categories (Cont'd)(C) Optional Features and Functions

Optional Features and Functions may be added to a basic circuit service to improve its quality or utility to meet the customer's specific communications requirements. These optional features and functions are identifiable with specific equipment, and represent the end result in terms of performance characteristics which may be obtained. These characteristics may be obtained by using various combinations of equipment. Although the equipment necessary to perform a specified function may be installed at various locations along the path of the service, they will be charged for as a single rate element.

Descriptions for each of the available Optional Features and Functions are set forth in Sections 7.4 through 7.10 following. Specific rate applications for multiplexing are set forth in 7.2.6 following.

(D) Cross Connect

The Cross Connect charge provides the communications path between Telephone Company provided DS0, DS1 or DS3 Switched or Special access facilities and a customer's equipment and facilities where the customer is provided EIS as defined in Section 16. The Cross Connect arrangement may be directly connected to Telephone Company provided DS0, DS1 or DS3 services or to a Telephone Company provided multiplexing arrangement. The Cross Connect Charge applies per DS0, DS1 or DS3 connection.

(E) Temporary Videoband Service(1) Type I

The rates and charges for use of facilities for Temporary Videoband - Type I Service are assessed on a per hop basis. A hop is defined as the transporting of a one-way video and associated audio signal(s) in a direct path from a transmitter location to an adjacent receiver location. The distance of a single hop is primarily a factor of the local geographics of the video path, therefore, more than one hop may be required between customer designated premises.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.2 Rate Regulations (Cont'd)7.2.1 Rate Categories (Cont'd)(E) Temporary Videoband Service (Cont'd)(1) Type I (Cont'd)

There are two separate rate categories for a hop which are based on the provisioning of service:

- Video broadcasts which use permanent facilities, and
- Video broadcasts which use nonpermanent facilities.

(a) Use of Permanent Facilities for Temporary Video Broadcast - Type I

Permanent facilities are those in-place facilities that are not removed at the end of a broadcast. Sites where existing permanent facilities are located for temporary broadcast service are listed in 7.2.1(E)(1)(e).

The rates and charges for services provided over permanent facilities are set forth in Section 20. Charges for Temporary Videoband Service - Type I are also described in 7.2.2(D)(5) following.

The Telephone Company does not contemplate constructing permanent facilities to provision future requests for temporary Type I Videoband service. However, in the event that a customer requests this type of provisioning in those states not designated as "NA", as set forth in 20 following, the Telephone Company will provide such facilities under the applicable Interstate Special Construction Tariff. Accordingly, such facilities are deemed to be provided for the sole use of that customer and no other future use of those facilities is planned or expected by the Telephone Company.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.2 Rate Regulations (Cont'd)7.2.1 Rate Categories (Cont'd)(E) Temporary Videoband Service (Cont'd)(1) Type I (Cont'd)(b) Use of Nonpermanent Facilities for Temporary Video Broadcast - Type I

Nonpermanent facilities consist of portable microwave equipment (e.g., transmitter, receiver, antenna, connecting cables and associated equipment) which is set up for the broadcast and subsequently removed after the broadcast.

The rates and charges for services provided over nonpermanent facilities are set forth in Section 20 following. Charges for Temporary Videoband Service - Type I are described in 7.2.2(D)(5) following.

Where multiple hops are required to provide the requested service, the rates and charges will apply to each hop set up for the broadcast. The Technician Standby charge will only apply to the time the Type I Videoband service is provided. The Technician Standby charge is not applied on a per hop basis.

(c) Use of Combined Facilities for Temporary Video Broadcast - Type I

Temporary Videoband Service may require the use of combined facilities to provide the requested service. Where permanent and nonpermanent facilities are used in tandem to provide a Video service, one-half the nonrecurring charge will apply for the permanent facilities while the full nonrecurring charge will apply for the nonpermanent facilities. The hourly charge for both facilities will be applicable. The Technician Standby charge will only apply to the time the service is provided.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.2 Rate Regulations (Cont'd)7.2.1 Rate Categories (Cont'd)(E) Temporary Videoband Service (Cont'd)(1) Type I (Cont'd)(d) Joint Provisioning of Service

Where more than one Telephone Company is involved in the provisioning of a Temporary Videoband Service - Type I, such jointly provided facilities are subject to the rules and regulations outlined in Sections 2.4.5 and 5.3.

When the multiple bill option is employed as set forth in Section 2.4.5(B)(2), the rates will apply as follows: When only nonpermanent facilities are used to provision the service and the service is jointly provided, the rates for the Video service will be one-half the nonrecurring charge and one-half the hourly charge. Where permanent facilities are used to provision the Video service and the service is jointly provided, the rates for the service are the entire nonrecurring charge and the entire hourly charge. Where a combination of permanent and nonpermanent facilities are used in the joint provisioning of the service, the rates for the Video service will be one-half the nonrecurring charge for the permanent and nonpermanent facilities and one-half the hourly charge for the nonpermanent facilities and the entire hourly charge for the permanent facilities.

When a single bill option is employed as set forth in Section 2.4.5(B)(1), the rates will apply as follows: Where any combination of permanent and nonpermanent facilities are used to jointly provide the service, the entire nonrecurring charge and the entire hourly charge will apply.

The entire Technician Standby charge will be applied to the time the service is provided under either a single bill option or a multiple bill option.

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7. Special Access Service (Cont'd)7.2 Rate Regulations (Cont'd)7.2.1 Rate Categories (Cont'd)(E) Temporary Videoband Service (Cont'd)(1) Type I (Cont'd)(e) Permanent Sites for Temporary Video Broadcast - Type I

Sites where permanent facilities are located are listed below for each jurisdiction where such facilities exist:

<u>Jurisdiction</u>	<u>Location City, State</u>
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None at this time

(2) Type II(a) Rate Application

The rates and charges for Videoband Service - Type II are time sensitive and applied based on the duration of the video connection. Only one level of charge will apply to continuous usage, either minute sensitive, daily, weekly or monthly. In no event will the charge for continuous video usage exceed the rate for the next higher time frame level of usage. For example, for two days of continuous usage, two times the daily rate would apply. For three days, the weekly rate is applicable since three times the daily rate exceeds the weekly rate.

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7. Special Access Service (Cont'd)7.2 Rate Regulations (Cont'd)7.2.1 Rate Categories (Cont'd)(E) Temporary Videoband Service (Cont'd)(2) Type II (Cont'd)(b) Shared Use of Videoband Service - Type II

Multiple users may share a Videoband - Type II connection from a specific customer site to a video carrier's location. The Telephone Company will bill the usage to the customer who requests the video connection.

(c) Availability of Videoband Service - Type II

The Telephone Company does not guarantee the availability of access facilities to serve all customers for all possible simultaneous video connection requirements. Customer access will be provided on a first-come, first-serve basis.

(d) Use of Videoband Service - Type II Facilities for Other Than Video Transport

Type II Videoband facilities are designed for the express use of Type II video connections. Use of these facilities for transmission of other than video and the associated audio signals, by the customer, may result in interference or impairment of telephone company facilities and will be subject to the provisions in Section 2.2.1.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.2 Rate Regulations (Cont'd)7.2.2 Types of Rates and Charges

There are three (3) types of rates and charges. These are monthly rates, daily rates and nonrecurring charges. The rates and charges are described as follows:

(A) Monthly Rates

Monthly rates are recurring rates that apply each month or fraction thereof that a Special Access Service is provided. For billing purposes, each month is considered to have thirty (30) days.

(B) Daily Rates

Daily rates are recurring rates that apply to each twenty-four (24) hour period or fraction thereof that a Program Audio or Video Special Access Service is provided for part-time use. For purposes of applying daily rates, the twenty-four (24) hour period is not limited to a calendar day.

Part-time Video or Program Audio Service provided within a consecutive thirty (30) day period will be charged the daily rate, not to exceed the monthly rate. For each day or partial day after a consecutive thirty (30) day period of service, a charge equal to 1/30th of the monthly rate shall apply.

(C) Hourly Rates

Hourly rates are recurring charges that apply to each 60 minute period, or fraction thereof, that a part-time Videoband Special Access Service is provided. The billing period commences when the video circuit is available for the customer's use and ceases when the customer's use is discontinued. There is a maximum monthly charge that may be assessed to any Temporary Videoband Special Access Service. The maximum charge during any 30 day period will be that amount equal to 100 hours of use.

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7. Special Access Service (Cont'd)7.2 Rate Regulations (Cont'd)7.2.2 Types of Rates and Charges (Cont'd)(D) Nonrecurring Charges

Nonrecurring charges are one-time charges that apply for installation of Special Access Service, installation of optional features and functions, and moves and service rearrangements.

(1) Service Rearrangements

Service rearrangements are changes to existing (installed) services which may be administrative only in nature, as set forth following, or that involve actual physical change to the service. Changes to pending orders are set forth in Section 5.3.2 preceding.

Changes in the physical location of the point of termination or customer designated premises are moves as described below:

(a) Moves

A move involves a change in the physical location of either the customer's premises or a point of termination at the customer's premises. The charges for the move are dependent on whether the move is to be a new location within the same building or to a different building.

(b) Moves Within the Same Building

When the move is to a new location within the same building, the charge for the move will be an amount equal to one-half of the nonrecurring (i.e., installation) charge for the service termination affected. There will be no change in the minimum period requirements.

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7. Special Access Service (Cont'd)7.2 Rate Regulations (Cont'd)7.2.2 Types of Rates and Charges (Cont'd)(D) Nonrecurring Charges (Cont'd)(1) Service Rearrangements (Cont'd)(c) Moves to a Different Building

Moves to a different building will be treated as a discontinuance and a start of service and all associated nonrecurring charges will apply. New minimum period requirements will be established for the new services. The customer will also remain responsible for satisfying all outstanding minimum period charges for the discontinued service.

Changes in the type of Service or Channel Termination which result in a change of the minimum period requirement will be treated as a discontinuance of the service and an installation of a new service.

Changes in ownership or transfer of responsibility from one customer to another will be treated as a discontinuance of the service and an installation of a new service. In the event the change in ownership or transfer of responsibility is as set forth in Section 2 preceding where there is no change in facilities or arrangements, the change will be treated as an administrative change.

Nonrecurring charges are one-time (1) charges that apply for specific work activity (i.e., installation or change to an existing service). The types of nonrecurring charges that apply for Special Access Service are: installation of service, installation of optional features and functions, and service rearrangements. These charges are in addition to the Access Order Charge as specified in Section 20 following.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.2 Rate Regulations (Cont'd)7.2.2 Types of Rates and Charges (Cont'd)(D) Nonrecurring Charges (Cont'd)(1) Service Rearrangements (Cont'd)

Administrative changes will be made without charge(s) to the customer.
Administrative changes are as follows:

- Change of customer name,
- Change of customer or customer's end user premises address when the change of address is not a result of physical relocation of equipment,
- Change in billing data (name, address, or contact name or telephone number),
- Change of agency authorization,
- Change of customer test line number,
- Change of billing account number,
- Change of customer or customer's end user contact name or telephone number, and
- Change of jurisdiction.

All other service rearrangements will be charged as follows:

- If the change involves the addition of other customer designated premises to an existing service, the nonrecurring charge for the channel termination rate element will apply. The charge(s) will apply only for the location(s) that is being added. The charge(s) will be in addition to an Access Order Charge as set forth in Section 20 following.
- If the change involves the addition of an optional feature or function, or if the change involves changing the type of signaling on a Voice Grade service, and for all other changes, the Access Order Charge as set forth in Section 20 following will apply.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.2 Rate Regulations (Cont'd)7.2.2 Types of Rates and Charges (Cont'd)(D) Nonrecurring Charges (Cont'd)(2) Installation of Service

Nonrecurring charges apply to each service installed. The nonrecurring charges for the installation of service are applied per order and per Channel Termination installed. The installation charge per Channel Termination is assessed for each Channel Termination ordered. The nonrecurring charge per order is assessed for each Access service order (ASR) initiated for a given type of circuit. When the same customer requests multiple services of the same type (e.g., Voice Grade or DS1) on the same ASR, to be installed at the same location, only one order charge applies.

(3) Installation of Optional Features and Functions

When optional features and functions are installed coincident with the initial installation of service a nonrecurring charge may be applicable.

The optional features and functions for which installation charges apply are:

- Multiplexing
- Clear Channel Capability

When optional features and functions are installed and changed subsequent to the installation of service, an Access Order Charge as specified in Section 20 following applies per order.

(4) Modifying Existing High Capacity Circuit Configurations

If a customer elects to modify the configuration of an existing high capacity circuit, a Service Order Charge equal to the Channel Termination nonrecurring charge, as described in 7.2.2(D)(2) will apply per customer initiated change.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.2 Rate Regulations (Cont'd)7.2.2 Types of Rates and Charges (Cont'd)(D) Nonrecurring Charges (Cont'd)(5) Installation of Temporary Videoband Service(a) Temporary Videoband Service - Type I

There are two nonrecurring charges set forth in Section 20 for the installation of Temporary Videoband Service - Type I. One nonrecurring charge will be assessed when permanent in place facilities are used to provide the service, and a different nonrecurring charge will be assessed when nonpermanent portable facilities are used to provide the service. A list of permanent facilities by location is provided in 7.2.1(E) preceding. In addition to these charges, the appropriate Special Access Ordering Charge, as set forth in 7.2.2(D)(7) following, will apply.

If the customer orders Temporary Videoband Service - Type I with broadcast intervals of 5 nonconsecutive days or less within a 7-day period, the Telephone Company may, if facilities are available, leave the facilities in place, in which case the associated installation nonrecurring charges would not apply.

(b) Videoband Service - Type II

Initially, an ASR is required from the customer to establish an account for Videoband Service - Type II, prior to a request for video connection. The Special Access Ordering Charge, as set forth in 7.2.2(D)(1), will apply. Thereafter, once the account has been established, the customer may request video connection by contacting the Telephone Company's Video Transport Contact Center. The customer will provide the originating and terminating location(s) for the video connection and the expected duration of the transmission. There is no nonrecurring charge associated with activating this connection.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.2 Rate Regulations (Cont'd)7.2.2 Types of Rates and Charges (Cont'd)(D) Nonrecurring Charges (Cont'd)(6) Design Change Charge

The Customer may request a design change to the service ordered. A design change is any change to a pending ASR for Special Access Service which requires engineering review. Design changes include such things as the addition or deletion of supplemental features or changes in the terminating options. Design changes do not include a change of IC customer designated premises or end user premises when its serving wire center changes or Special Access service type (e.g., 2-wire to 4-wire Voiceband or Voiceband to Program Audio, etc.). Changes of this nature will require the issuance of a new ASR and the cancellation of the original ASR. The cancellation charges apply as set forth in Section 5.3.3 preceding.

The Telephone Company will review the requested change, notify the customer whether the change can be accommodated and specify if a new service date is required. If the customer authorizes the Telephone Company to proceed with the design change, a Design Change Charge will apply.

The Design Change Charge, as set forth in Section 20 following, will apply on a per ASR per occurrence basis, for each ASR requiring a design change.

If a change of service date is required, the Service Date Change Charge as set forth in Section 5 preceding will also apply.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.2 Rate Regulations (Cont'd)7.2.2 Types of Rates and Charges (Cont'd)(D) Nonrecurring Charges (Cont'd)(7) Special Access Ordering Charges

Special Access Ordering Charges are associated with the work performed by the Telephone Company in connection with the receiving, recording and processing of customer service requests. There are two types of service ordering charges.

(a) Initial Ordering Charge - Special Access

This charge applies on a per Access Service Request (ASR) basis, including those requests to add additional terminations to an existing service.

(b) Subsequent Ordering Charge - Special Access

This charge applies on a per ASR basis for modifications to an existing service. This would include activities such as:

- Additions of supplemental features and multiplexing arrangements.
- Changes in the type of transport rate option from Switched Transport to Special Transport for FGA and FGB Switched Access Service as described in Section 6.1 preceding

7.2.3 Minimum Periods

The minimum service period for part-time Video and Program Audio Services is one day even though the service will be provided only for the duration of the event specified on the order (e.g., one-half hour, two hours, five hours, etc.). The minimum period for High Capacity DS3 or OC-3 Service is 12 months. The minimum period for any service provided as a term payment plan or a term contract is the length of the specified payment plan or term contract. The minimum service period for all other special access services is one month.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.2 Rate Regulations (Cont'd)7.2.4 Mileage Measurement

The mileage to be used to determine the monthly rate for the Channel Mileage Facility is calculated on the airline distance between the locations involved, i.e.,

- the serving wire centers associated with two (2) customer designated premises,
- a serving wire center associated with a customer designated premises and a Telephone Company hub,
- two (2) Telephone Company hubs,
- or between the serving wire center associated with a customer designated premises and a WATS Serving Office.

The serving wire center associated with a customer designated premises is the serving wire center from which this customer designated premises would normally obtain dial tone.

Mileage charges are shown with each channel type. To determine the rate to be billed, first compute the mileage using the V&H coordinates method, as set forth in the NATIONAL EXCHANGE CARRIER ASSOCIATION, INC. TARIFF FCC NO. 4, then multiply the resulting number of miles times the Channel Mileage Facility per mile rate, and add the Channel Mileage Termination rate for each termination. When the calculation results in a fraction of a mile, always round up to the next whole mile before determining the mileage and applying the rates. When more than one (1) Telephone Company is involved in the provision of service, billing will be accomplished as set forth in Section 2.4.5 preceding.

When hubs are involved, mileage is computed and rates applied separately for each section of the Channel Mileage, i.e.,

- customer designated premises serving wire center to hub,
- hub to hub, and/or
- hub to customer designated premises serving wire center.

However, when any service is routed through a hub for purposes other than customer specified bridging or multiplexing (e.g., the Telephone Company chooses to so route for test access purposes), rates will be applied only to the distance calculated between the serving wire centers associated with the customer designated premises.

See the service configuration example for multipoint service as set forth in 7.1.3 preceding.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.2 Rate Regulations (Cont'd)7.2.5 Facility Hubs

A customer has the option of ordering Voice Grade service or High Capacity services to a facility hub for channelizing to individual services requiring lower capacity facilities.

Different locations may be designated as hubs for different facility capacities, e.g., multiplexing from digital to digital may occur at one (1) location while multiplexing from digital to analog may occur at a different location. When placing an Access Order the customer will specify the desired hub. NATIONAL EXCHANGE CARRIER ASSOCIATION, INC. TARIFF FCC NO. 4 identifies serving wire centers, hub locations and the type of multiplexing functions available.

Some of the types of multiplexing available include the following:

- from higher to lower bit rate
- from higher to lower bandwidth
- from high capacity to voice frequency channels

Point to point services may be provided on channels of these services to a hub. The transmission performance for the point to point service provided between customer designated premises will be that of the lower capacity or bit rate. For example, when a 1.544 Mbps channel is multiplexed to voice frequency channels, the transmission performance of the channelized services will be Voice Grade, not High Capacity.

The Telephone Company will commence billing the monthly rate for the service to the hub on the date specified by the customer on the Access Order. Individual channels utilizing these services may be installed coincident with the installation of the service to the hub or may be ordered and/or installed at a later date, at the option of the customer. The customer will be billed for a Voice Grade or a High Capacity Channel Termination, Channel Mileage (when applicable), and the multiplexer at the time the service is installed. Individual service rates (by service type) will apply for a Channel Termination and additional Channel Mileage (as required) for each channelized service. These will be billed to the customer as each individual service is installed.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.2 Rate Regulations (Cont'd)7.2.5 Facility Hubs (Cont'd)

Cascading multiplexing occurs when a High Capacity service is de-multiplexed to provide channels with a lesser capacity and one (1) of the lesser capacity channels is further de-multiplexed. For example, 6.312 Mbps High Capacity service is de-multiplexed, to four DS1 channels and then one (1) of the DS1 channels is further de-multiplexed to 24 individual Voice Grade Channels.

When cascading multiplexing is performed, whether in the same or a different hub, a charge for the additional multiplexing unit also applies. When cascading multiplexing is performed at different hubbing locations, Channel Mileage charges also apply between the hubs.

The Telephone Company will designate hubs for Program Audio and Video Services. Full-time or part-time service may be provided between customer designated premises or between a customer designated premises and a hub and billed accordingly at the monthly rates set forth in Section 20 following for a Channel Termination, Channel Mileage and Optional Features and Functions, as applicable. When the service is ordered to a hub, the customer may order a full-time or part-time Video and Program Audio services as needed between that hub and additional customer designated premises. The rate elements required to provide the part-time service (i.e., Channel Termination, Channel Mileage and Optional Features and Functions, as applicable) will be billed at daily rates for the duration of the service requested.

7.2.6 Mixed Use Analog and Digital High Capacity Services

Mixed Use refers to a rate application applicable only when the customer orders High Capacity Special Access facilities between a customer designated premises and a Telephone Company hub where the Telephone Company performs multiplexing/de-multiplexing functions and the same customer then orders the derived channels as Special and Switched Access Services. If the customer has Switched Access Service between a customer designated premises and an end office that is multiplexed at a Telephone Company hub and subsequently orders the derived channels as Special and Switched Access Service, rates and charges will apply as if the service were ordered as mixed use.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.2 Rate Regulations (Cont'd)7.2.6 Mixed Use Analog and Digital High Capacity Services (Cont'd)

Shared use of Special Access Cross Connect and Expanded Interconnection service are not available.

Except as noted above, the High Capacity facility will be ordered, provided and rated as Special Access Service (i.e., Channel Termination, Channel Mileage, as appropriate, and Multiplexing Arrangement). The nonrecurring charge that applies when the mixed use facility is installed will be the nonrecurring charge associated with the appropriate Special Access High Capacity Channel Termination. Rating as Special Access will continue until such time as the customer chooses to use a portion of the available capacity for Switched Access Service. Individual service (i.e., Switched or Special Access) nonrecurring charges will not apply to the individual channels of the mixed use facility.

When Special Access Service is provided utilizing a channel of the mixed use facility to a hub, High Capacity rates and charges will apply for the facility to the hub, as set forth preceding, and individual service rates and charges will apply from the hub to the customer designated premises. The rates and charges that will apply to the portion from the hub to the customer designated premises will be dependent on the specific type of Special Access Service that is provided. The applicable rates and charges will include a Channel Termination and Channel Mileage, if applicable. Rates and charges for optional features and functions associated with the service, if any, will apply for the appropriate channel type.

As each individual channel is activated for Switched Access Service, the High Capacity Special Access Channel Termination, Channel Mileage, and Multiplexing rates will be reduced accordingly (e.g., 1/24th for a DS1 service, etc.). Switched Access Service rates and charges, as set forth in Section 20 following, will apply for each channel that is used to provide a Switched Access Service. Additionally, the Switched Access Service Entrance Facility, Direct Trunked Transport, and Multiplexing charges, if applicable, will be reduced by multiplying their respective rates by the ratio of derived Switched Access Service channels to the total number of Voice Grade channels that can be derived.

The customer must place an order for each individual Switched or Special Access Services utilizing the Mixed Use Facilities and specify the channel assignment for each such service.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.2 Rate Regulations (Cont'd)7.2.7 Early Termination Liabilities(A) Minimum Period of One Month or Less

For services with a minimum period of one month or less, the customer must pay for the minimum period even if service is discontinued earlier.

(B) Expiration of Minimum Service Periods

When a customer retains service(s) for the duration of a minimum service period, the termination liabilities expire. As long as the customer makes no physical changes to the configuration of service(s), the customer will no longer be liable for early termination discontinuance charges regardless of the minimum service period rate level. Should a customer choose to disconnect a service having satisfied the minimum service period termination liabilities, the disconnect steps will still be applied as specified in (E) following.

(C) Discontinuance Without Liability - Minimum Period Greater Than One Month

Should the recurring charges for a customer's service increase, in aggregate, by more than 10% from the original recurring charges during the minimum service period, the customer may, at their option, terminate the service without penalty or liability.

(D) Discontinuance With Liability

When a service is discontinued prior to the end of the minimum service period, other than as described in (C) preceding, the customer will be liable for the total monthly charges for the remaining portion of the minimum service period.

(E) Notification of Discontinuance

Notice of discontinuance must be given by the customer at least thirty days prior to actual discontinuance.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.3 Surcharge for Special Access Service7.3.1 General

Special access services provided under this tariff may be subject to the monthly Special Access Surcharge.

7.3.2 Application

- (A) The Special Access Surcharge will apply to each interstate Special Access Service that terminates on an end user's PBX or other device, where through a function of the device, the Special Access Service interconnects to the local exchange network. Interconnection functions include, but are not limited to, wiring and software functions, bridging, switching or patching of calls or stations. The Surcharge will apply irrespective of whether the interconnection functions are performed in equipment located at the customer's premises or in a Centrex CO-type switch.
- (B) Special Access Service will be exempted from the Surcharge by the Telephone Company upon receipt of the customer's written certification for the following Special Access Service terminations:
- (1) an open-end termination in a Telephone Company switch of an FX line, including CCSA and CCSA equivalent ONALS; or
 - (2) an analog channel termination that is used for radio or television program transmission; or
 - (3) a termination used for TELEX service; or
 - (4) a termination that by the nature of its operating characteristics could not make use of the Telephone Company common lines such as, terminations which are restricted through hardware or software; or
 - (5) a termination that interconnects either directly or indirectly to the local exchange network where the usage is subject to Carrier Common Line charges such as, where the Special Access Service accesses only FGA and no local exchange lines, or Special Access Service between customer points of termination, or Special Access Service connecting CCSA or CCSA-type equipment (inter-machine trunks); or

ACCESS SERVICE

7. Special Access Service (Cont'd)7.3 Surcharge for Special Access Service (Cont'd)7.3.2 Application (Cont'd)

(B) (Cont'd)

- (6) a termination that the customer certifies to the Telephone Company is not connected to a PBX or other device which interconnects the Special Access Service to a local exchange subscriber line.

7.3.3 Exemption of Special Access Service

- (A) Special Access Services which are terminated as set forth in 7.3.2(B) preceding will be exempted from the Special Access Surcharge if the customer provides the Telephone Company with written exemption certification. The certification may be provided to the Telephone Company as follows:
- at the time the Special Access Service is ordered or installed;
 - at such time as the service is re-terminated to a device which does not interconnect the service to local exchange facilities; or
 - at such time as the service becomes associated with a Switched Access Service that is subject to Carrier Common Line Charges.
- (B) The exemption certification is to be provided by the customer ordering the service. The certification must be signed by the customer or authorized representative and include the category of exemption, as set forth in 7.3.2(B) preceding, for each termination, and the date which the exemption is effective.
- (C) The customer shall also notify the Telephone Company when an exempted Special Access Service is changed or re-terminated such that the exemption is no longer applicable.
- (D) The Telephone Company will work cooperatively with the customer to resolve any questions regarding the exemption certification. In addition, the Telephone Company may withhold exemption of the service until the questions are resolved.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.3 Surcharge for Special Access Service (Cont'd)7.3.4 Rate Regulations

- (A) The surcharge will apply as set forth in 7.3.2(A) preceding, except that a surcharge will be assessed on a per voice grade equivalent basis for Special Access Services derived from High Capacity Special Access Services as illustrated in the following example:

<u>Special Access Service</u>	<u>Voice Grade Equivalent</u>	<u>Monthly Surcharge</u>	<u>Charge</u>
DS1	24 x	\$25 =	\$600.00

The preceding example illustrates the maximum number of surcharges applicable to a DS1. If the customer claims exemption(s) as set forth in 7.3.3 preceding or, is not utilizing all available voice grade equivalents and has spare capacity, the number of surcharges would be reduced accordingly.

In the case of multipoint Special Access Services, one (1) Special Access Surcharge will apply for each termination of a Special Access Channel at an end user's premises.

- (B) The telephone Company will bill the appropriate Special Access Surcharge to the ordering customer for each interstate Special Access Service installed unless exemption certification is provided as set forth in 7.3.3 preceding.
- (C) If a written certification is not received at the time the Special Access Service is obtained, the Surcharge will be applied. Exempt status will become effective on the certification date indicated by the customer, subject to the regulations set forth in (D) following.
- (D) Crediting the Surcharge

The Telephone Company will cease billing the Special Access Surcharge when certification, as set forth in 7.3.3 preceding, is received. If the status of the Special Access Service was changed prior to receipt of the exemption certification, the Telephone Company will credit the customer's account, not to exceed ninety (90) days, based on the effective date of the change as specified by the customer in the letter of certification.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.4 Voice Grade Service7.4.1 Basic Channel Description

A Voice Grade channel is a channel which provides voice frequency transmission capability in the nominal frequency range of 300 to 3000 Hz and may be terminated two-wire (2) or four-wire (4). Voice Grade channels are provided between customer designated premises, between a customer designated premises and a Telephone Company hub or hubs, or between a customer designated premises and a WATS Serving Office (WSO).

Voice Grade Special Access services are typically used for voice and voiceband data applications. Typical examples of voice grade circuits are Foreign Exchange lines (station end only), multipoint private line, voice trunk type, two-point voice grade data (one-way (1) or simultaneous two-way (2)), multipoint voice grade data, and voice grade telephoto or facsimile. These examples of applications are not intended to limit a customer's use of the channel nor to imply that the channel is limited to a particular use.

Rates and charges for Special Access Voice Grade Service are as set forth in Section 20 following.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.4 Voice Grade Service (Cont'd)7.4.2 Technical Specifications Packages and Network Channel Interfaces

Technical Specifications Packages are set forth in the following matrix.
Compatible network channel interfaces are set forth in Section 11.3 following.

	PackageVG													
<u>Parameter</u>	<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>C*</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
Loss Deviation	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Phase Hits, Gain Hits & Dropouts	X													
Phase Jitter	X						X	X	X	X	X	X	X	X
Return Loss														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, gain hits, and phase hits) are delineated in Technical Reference TR-NWT-000334 and TR-TSY-000335. The technical specifications for dropouts, phase hits, and gain hits are delineated in Technical Reference PUB 41004, Table 4.* The desired parameters are selected by the customer from the list of available parameters.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.4 Voice Grade Service (Cont'd)7.4.3 Optional Features and Functions(A) Central Office Bridging Capability

(1) Voice Bridging (two-wire (2) and four-wire (4))

(2) Data Bridging (two-wire (2) and four-wire (4))

(3) Telemetry and Alarm Bridging

Active Bridging
Passive Bridging(4) Telemetry and Alarm Bridging, Split Band-Active Bridging,
Passive Bridging, Summation-Active Bridging

(5) Telephoto Bridging (two-wire and four-wire)

(6) Dataphone Select-A-Station Bridging with sequential
arrangement ports or addressable arrangement ports.(7) Multipoint Data Bridging

This feature provides the capability to derive a multipoint data circuit from a single facility and is normally provided on Voiceband facilities provided for transmission of data signals. This function is provided on a per port basis. Polled multipoint data circuits are a typical application of this feature.

(8) Voice Conference Bridging

Bridging arrangement to connect multiple Voiceband facilities in order that a voice frequency input signal from any location will be reproduced at the output of all other circuit locations. This function is provided on a per port basis.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.4 Voice Grade Service (Cont'd)7.4.3 Optional Features and Functions (Cont'd)(A) Central Office Bridging Capability (Cont'd)(9) Alarm Distribution

Provides polling type bridging capabilities, band splitting filters and conversion of four-wire common terminations up to a capacity of 40 two-wire terminations. This function is offered as two tariff elements. The first element provides all shelving and common equipment for a capacity of 40 two-wire terminations. The second element provides a two-wire port. One common equipment rate element will apply to accommodate up to 40 two-wire terminations. One two-wire port charge will apply to each two-wire Special Access Line terminated in the bridge.

The rates for these options are set forth in Section 20 following.

(B) Conditioning

Conditioning provides more specific transmission characteristics for Voice Grade services. The rates for these options are set forth in Section 20 following.

For two-point services, the parameters apply to each service as measured end-to-end. For multipoint services, the parameters apply as measured on each mid-link or as measured on each end link. C-Type conditioning and Data Capability may be combined on the same service.

(1) C-Type Conditioning

C-Type Conditioning is provided for the additional control of attenuation distortion and envelope delay distortion on data services. The attenuation distortion and envelope delay distortion specifications for C-Type Conditioning are delineated in Technical Reference TR-TSY-000335.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.4 Voice Grade Service (Cont'd)7.4.3 Optional Features and Functions (Cont'd)(B) Conditioning (Cont'd)(2) Improved C-Type Conditioning

Improved C-Type Conditioning options are provided in conjunction with C-Type Conditioning at the rates set forth in Section 20 following. The C-Type Conditioning rate shall apply only once regardless if one or both of the following Improved Options are ordered.

(3) Improved Attenuation Distortion*

Improved Attenuation Distortion upgrades the frequency versus loss limits of the channel. The technical specifications for Improved Attenuation Distortion are delineated Technical Reference TR-TSY-000335. This option is available only when ordered in combination with C-Type Conditioning.

(4) Improved Envelope Delay Distortion*

Improved Envelope Delay Distortion upgrades the frequency versus delay response limits of the channel. The technical specifications for Improved Envelope Delay Distortion are delineated in Technical Reference TR-TSY-000335. This option is available only when ordered in combination with C-Type Conditioning.

* Improved Attenuation Distortion and improved Envelope Delay Distortion will continue to be provided to all customers who were provided with either or both of these optional features in conjunction with C-Type Conditioning prior to May 4, 1988.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.4 Voice Grade Service (Cont'd)7.4.3 Optional Features and Functions (Cont'd)(B) Conditioning (Cont'd)(5) Data Capability (D Conditioning) (Cont'd)

Data Capability provides transmission characteristics suitable for data communications. Specifically, Data Capability provides for the control of Signal to C-Notched Noise Ratio and intermodulation distortion. It is available for two-point services or three-point multipoint services. The Signal to C-Notched Noise Ratio and intermodulation distortion parameter for Data Capability are delineated in Technical Reference TR-TSY-000335. The rate for this option is set forth in Section 20 following.

When a service equipped with Data Capability is used for voice communications, the quality of the voice transmission may not be satisfactory.

(6) Sealing Current Conditioning

Sealing Current Conditioning is provided to help maintain continuity on dry metallic loops. It is usually associated with four-wire (4) DA or NO type network channel interfaces.

(7) Type DA Conditioning

Type DA conditioning of Voiceband facilities provides a facility with the following transmission parameter enhanced to meet the values specified for Type DA conditioning in Technical Reference TR-TSY-000335, in addition to the standard parameters for voiceband circuits.

- (1) Signal to C-notched noise ratio.
- (2) Nonlinear signal to second order distortion.
- (3) Nonlinear signal to third order distortion.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.4 Voice Grade Service (Cont'd)7.4.3 Optional Features and Functions (Cont'd)(C) Customer Specified Premises Receive Level

This option allows the customer to specify the receive level at the Point of Termination. The level must be within a specific range on effective four-wire (4) transmission. The ranges are delineated in Technical Reference TR-TSY-000335. The rate for this option is set forth in Section 20 following.

(D) Improved Return Loss

- (1) On Effective Four-Wire (4) Transmission at Four-Wire (4) Point of Termination (applicable to each two-wire (2) port): Provides for a fixed 600 ohm impedance, variable level range and simplex reversal. Telephone Company equipment is required at the customer's premises where this option is ordered. The Improved Return Loss parameters are delineated in Technical Reference TR-TSY-000335. The rate for this option is set forth in Section 20 following.
- (2) On Effective Two-Wire (2) Transmission at Two-Wire (2) Point of Termination: Provides for more stringent Echo Control specifications. In order for this option to be applicable, the transmission path must be four-wire (4) at one POT and two-wire (2) at the other POT. Placement of Telephone Company equipment may be required at the customer's premises with the two-wire (2) POT. The Improved Return Loss parameters are delineated in Technical Reference TR-TSY-000335. The rate for this option is set forth in Section 20 following.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.4 Voice Grade Service (Cont'd)7.4.3 Optional Features and Functions (Cont'd)(E) Signaling Capability

Signaling Capability provides for the ability to transmit signals from one customer premises to another customer premises on the same service. The rate for this option is set forth in Section 20 following.

The following network channel interfaces for Voice Grade service do not require signaling capability: AH, DA, DB, DD, DE, DS, NO, PR, and TF.

The following network channel interfaces for Voice Grade service require signaling capability: AB, AC, CT, DX, EA, EB, EC, EX, GO, GS, LA, LB, LC, LO, LR, LS, RV, and SF. The signaling capability charge will not apply when used in the provision of WATS access service.

(F) Telephoto Capability

Telephoto Capability provides transmission characteristics suitable for telephotographic communications. Specifically, Telephoto Capability is provided for the control of attenuation distortion and envelope delay distortion of telephotographic services. The attenuation distortion and envelope delay distortion parameters for Telephoto Capability are:

Attenuation Distortion
(1004Hz Reference)Envelope Delay Distortion

<u>Frequency</u> <u>Range (Hz)</u>	<u>Variation</u> <u>(dB)</u>	<u>Frequency</u> <u>Range (Hz)</u>	<u>Variation</u> <u>(mcs)</u>
500-3000	-0.5 to +1.5	1000-2600	110
300-3200	-1.0 to +2.5	800-2800	180

(G) Selective Signaling Arrangement

An arrangement that permits code selective ringing for up to ten codes on a multipoint service.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.4 Voice Grade Service (Cont'd)7.4.3 Optional Features and Functions (Cont'd)(H) Transfer Arrangement

An arrangement that affords the customer an additional measure of flexibility in the use of their access circuits. The arrangement can be utilized to transfer a leg of a Special Access Service to another circuit that terminates in either the same or a different customer premises. A key activated or dial-up control service is required to operate the transfer arrangement. A spare circuit, if required, is not included as part of the option.

(I) Four-Wire (4)/Two-Wire (2) Conversions

When a customer requests that an effective four-wire (4) channel be terminated with a two-wire (2) channel interface at the customer designated premises, a four wire (4) to two-wire (2) conversion is required. The customer will be charged the four-wire (4) Channel Termination rate as set forth in Section 20 following when an effective four-wire (4) is specified in the order for service. The rate for the conversion is included as part of the basic four-wire (4) Channel Termination rate.

ACCESS SERVICE

7. Special Access Service (Cont'd)

7.4 Voice Grade Service (Cont'd)

7.4.3 Optional Features and Functions (Cont'd)

(J) Improved Two-Wire (2) Voice Transmission

(1) Loss Deviation

The maximum Loss Deviation of the 1004 Hz loss relative to the Expected Measured Loss (EML) is -4.0dB to +4.0dB.

(2) Attenuation Distortion

The maximum Attenuation Distortion in the 404 to 280 Hz frequency band relative to loss at 1004 Hz is -2.0dB to + 6.0 dB.

(3) C-Message Noise

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

<u>Route Miles</u>	<u>C-Message Noise</u>
Less than 50	35 dBrnc
51 to 100	37 dBrnc
101 to 200	40 dBrnc
201 to 400	43 dBrnc
401 to 1000	45 dBrnc

(4) Return Loss

The Return Loss, expressed as Echo Return Loss (ERL) and Singing Return Loss (SRL), is equal to or greater than:

ERL	13.0dB
SRL	6.0 dB

The rate for the provision of Improved Two-Wire (2) Voice Transmission is included as part of the basic Channel Termination rate.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.4 Voice Grade Service (Cont'd)7.4.3 Optional Features and Functions (Cont'd)(K) Echo Control(1) Echo Suppression

An arrangement provided at the customer's request to attenuate reflected speech energy on a four-wire facility. This conditioning is generally required on circuits with long propagation delay. Echo suppression is charged on a per Special Access circuit basis. Echo suppression is an obsolete service offering and is applicable only to those circuits equipped with echo suppression prior to January 1, 1987. Any service rearrangements or order activity on the circuits equipped with echo suppression may require a change to echo canceller as described in 7.4.3(K)(2) following.

(2) Echo Canceller

An arrangement provided at the customer's request to cancel reflected speech energy on a four-wire facility. This conditioning is generally required on circuits with long propagation delay. Echo canceller is charged on a per Special Access circuit basis.

(L) Voiceband Facility Switching Arrangement

An arrangement to provide switching between two Voiceband Special Access Services. This arrangement may require a Voiceband control circuit to control the switching arrangement at an additional charge.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.4 Voice Grade Service (Cont'd)7.4.3 Optional Features and Functions (Cont'd)(M) Improved Termination Option

Improved Termination provides for a fixed 600 ohm impedance, an increased range of transmission levels, and simplex reversal (when applicable) on an effective four-wire channel. This optional feature is available with most Voiceband services with a four-wire point of termination. Telephone Company equipment is required at the customer's premises where this option is ordered.

The Improved Termination option will be ordered and rates and charges, as set forth in Section 20 following, will apply on a per channel termination basis. Technical parameters and the applicable Voiceband services are specified in Technical Reference TR-TSY-000335.

(N) Improved Equal Level Echo Path Loss Option - ELEPL-2

This option provides improved echo control parameters for an effective two-wire channel at a four-wire point of termination. Placement of Telephone Company equipment may be required at the customer's premises with the two-wire point of termination.

The term "Equal Level Echo Path Loss" (ELEPL) represents the measure of Echo Path Loss (EPL) at a four-wire interface which is corrected by the difference between the send and receive Transmission Level Point (TLP), i.e., $ELEPL = EPL - TLP(\text{send}) + TLP(\text{receive})$. Improved ELEPL rates and charges will apply on a per channel termination basis at the rates set forth in Section 20 following. Technical parameters are specified in Technical Reference TR-TSY-000335.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.5 Program Audio Service7.5.1 Basic Channel Description

A Program Audio channel is a channel with bandwidth measured in Hz for the transmission of a complex signal voltage. The actual bandwidth is a function of the channel interface selected by the customer. Only one-way transmission is provided. Program Audio channels are provided between customer designated premises or between a customer designated premises and a Telephone Company hub or hubs.

Program Audio Special Access services are typically used in full-time and part-time applications for radio broadcasting, noncommercial educational audio, and wired music. These examples of applications are not intended to limit a customer's use of the channel nor to imply that the channel is limited to a particular use.

Rates and charges for Special Access Program Audio Service are as set forth in Section 20 following.

7.5.2 Technical Specifications Packages and Network Channel Interfaces

Compatible network channel interfaces are set forth in Section 11.3 following.

The following channel interfaces (CIs) define the bandwidths that are available for a Program Audio circuit:

<u>CI</u>		<u>Bandwidth</u>
PG-1	Nominal frequency from	50 to 15000Hz
PG-3	Nominal frequency from	200 to 3500Hz
PG-5	Nominal frequency from	100 to 5000Hz
PG-8	Nominal frequency from	50 to 8000 Hz

ACCESS SERVICE

7. Special Access Service (Cont'd)

7.5 Program Audio Service (Cont'd)

7.5.3 Optional Features and Functions

(A) Central Office Bridging Capability

Distribution Amplifier

(B) Gain Conditioning

Control of 1004 Hz AML at initiation of service to $0 \text{ dB} \pm 0.5 \text{ dB}$.

(C) Stereo

Provision of a pair of gain/phase equalized channels for stereo applications. (An additional Program Audio channel must be ordered separately.)

(D) Zero Loss

Conditioning of Program Audio facilities to provide zero loss at 1000 Hz test frequency. Zero loss is charged on a per Special Access Line basis.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.6 Video Service7.6.1 Basic Channel Description

These facilities are arranged and provided for the transmission of television to be broadcast or used in connection with viewing or recording.

The facilities are furnished for two point transmission in one direction only of United States 525 line/60 field standard monochrome and National Television Systems Committee (NTSC) color television baseband video signals and the associated audio signals.

Videoband Services are provided on a full-time or part-time (temporary) basis. The minimum periods are set forth in Section 5.1.4 and Section 5.3.4 preceding. The monthly rates and nonrecurring charges for full-time Videoband Service will be developed on an Individual Case Basis. The hourly rates and nonrecurring charges for temporary service are those set forth in Section 20 following.

There is a maximum monthly charge that may be assessed to any temporary Videoband Service as described in Section 20 following.

Technician Standby is a non-optional arrangement furnished in conjunction with temporary Videoband Service only. Technician Standby provides for Telephone Company monitoring of the temporary Video broadcast to ensure satisfactory transmission. The telephone company will determine the location of the video technician. At the option of the customer, additional technicians will be made available during the temporary Video broadcast; the customer will be assessed the Technician Standby charge, as set forth in Section 20 following, for each additional technician.

A customer may request (as an option) an active, alternate temporary Videoband transmission path for use in the event that the primary service becomes inoperative. This is referred to as a "hot standby" facility. The charge for this additional service will be the nonrecurring charges and hourly rates set forth in Section 20 following for Temporary Videoband Facilities. Technician Standby charges are not applicable to the "hot standby" facility.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.6 Video Service (Cont'd)7.6.2 Technical Specifications Packages and Network Channel Interfaces

<u>Parameter</u>	<u>Package TV-</u>		
	<u>C*</u>	<u>1</u>	<u>2</u>
Amplitude vs. Frequency Response	X		
Chrominance/Luminance Inequalities			
Gain	X	X	X
Delay	X	X	X
Chrominance/Luminance Intermodulation	X		
Chrominance Nonlinear Gain	X		
Chrominance Nonlinear Phase	X		
Crosstalk	X		X
Differential Gain	X	X	X
Differential Phase	X	X	X
Dynamic Gain (picture and sync signal)			
Field-Time Distortion	X	X	X
Gain/Frequency Distortion	X	X	X
Gain Stability	X	X	X
Insertion Gain	X	X	X
Line-Time Distortion	X	X	X
Long-Time Distortion	X	X	X
Luminance Nonlinearity	X		
Luminance Signal/CCIR			
Weighted Noise	X	X	X
Short-Time Distortion			
2 T-Pulse	X	X	X
T-Bar Ringing	X	X	X
Signal/15 kHz Flat			
Weighted Noise	X	X	X
Signal/Low Frequency Noise	X		
Stereo Gain Difference	X	X	
Stereo Phase Difference	X	X	
Total Harmonic Distortion	X	X	X
Transient Sync Signal			
Non-Linearity	X		
Video/Audio Delay Difference	X		

* The technical specifications are delineated in Technical Reference TR-NPL-000338 and associated Addendum. The desired parameters are selected by the customer from the list of available parameters.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.6 Video Service (Cont'd)7.6.2 Technical Specifications Packages and Network Channel Interfaces (Cont'd)

The following network channel interfaces (NCIs) define the bandwidth and the provision of the audio signal(s) associated with a Video channel:

<u>NCI</u>	<u>Audio Bandwidth</u>	<u>Provision</u>
2TV6-1	15 kHz	1 Channel, diplexed
2TV6-2	15 kHz	2 Channels, diplexed
2TV7-1	15 kHz	1 Channel, diplexed
2TV7-2	15 kHz	2 Channels, diplexed
4TV6-5	05 kHz	1 Channel, separate
4TV6-15	15 kHz	1 Channel, separate
4TV7-5	05 kHz	1 Channel, separate
4TV7-15	15 kHz	1 Channel, separate
6TV6-5	05 kHz	2 Channels, separate
6TV6-15	15 kHz	2 Channels, separate
6TV7-5	05 kHz	2 Channels, separate
6TV7-15	15 kHz	2 Channels, separate

ACCESS SERVICE

7. Special Access Service (Cont'd)7.7 Digital Data Service7.7.1 Basic Channel Description

A Digital Data channel is a channel for duplex four-wire (4) transmission of synchronous serial data at the rate of 2.4, 4.8, 9.6, 19.2, 56 or 64 Kbps where facilities are available. The actual bit rate is a function of the channel interface selected by the customer. The channel provides a synchronous service with timing provided by the Telephone Company through the Telephone Company's facilities to the customer in the received bit stream. Digital Data channels are only available via Telephone Company designated hubs and are provided between customer designated premises or between a customer designated premises and a Telephone Company hub or hubs.

The customer will provide the Channel Service Unit/Data Service Unit equipment associated with the Digital Data channel at the customer premises.

Rates and charges for Special Access Digital Data Service are as set forth in Section 20 following.

7.7.2 Technical Specifications Packages and Network Channel Interfaces

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 CSU equivalent which is designed, manufactured, and maintained to conform with the specifications contained in Technical Reference PUB 62310.

Compatible Channel Interfaces are set forth in Section 11.3 following.

Voltages which are compatible with Digital Data Service are delineated in Technical Reference PUB TR-NPL-000341.

The following network channel interfaces (NCIs) define the bit rates that are available for a Digital Data Channel:

<u>NCI</u>	<u>Bit Rate</u>
DU-24	2.4 Kbps
DU-48	4.8 Kbps
DU-96	9.6 Kbps
DU-19	9.2 Kbps
DU-56	6.0 Kbps
DU-64	4.0 Kbps

ACCESS SERVICE

7. Special Access Service (Cont'd)7.7 Digital Data Service (Cont'd)7.7.3 Optional Features and Functions

The Optional Features and Functions described in (A) following are only available where Digital Data Service is provided via a hub.

(A) Bridging

Digital data bridging is available on an individual case basis only.

(B) Transfer Arrangement

An arrangement that affords the customer an additional measure of protection and/or flexibility in the use of their access circuit(s) on a 1 x N basis. The arrangement can be utilized to transfer a leg of a Special Access Service to either a spare or working circuit that terminates in either the same or a different customer designated premises. This arrangement is only available at a Telephone Company designated hub. A key activated or dial-up control service is required to operate the transfer arrangement. A spare circuit, if required, is not included as a part of the option.

(C) Digital Data Carrier Multiplexer

An arrangement that multiplexed a single DS1 1.544 Mbps digital circuit to twenty-three DSO digital ports for connection to either a subrate data multiplexer as described in (D) following or 56 Kbps digital circuits.

(D) Digital Data Subrate Multiplexer

Used with cascading multiplexing, the Digital Data Subrate Multiplexer is an arrangement that multiplexes the following quantities of subrate digital data circuits into a single DSO digital port: 1) twenty 2.4 Kbps, 2) ten 4.8 Kbps or 3) five 9.6 Kbps. In turn, the DSO digital port is then multiplexed to a single DS1 digital circuit using the Digital Data Carrier Multiplexer described in (C) preceding.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.7 Digital Data Service (Cont'd)7.7.3 Optional Features and Functions (Cont'd)(E) Digital Data Service Secondary Channel

Secondary Channel is an optional feature associated with a primary Digital Data Service channel(s). This offering will be provided with the new installation of Digital Data Service only, and must be ordered at the same time the primary channel(s) is ordered.

Secondary Channel describes a second, totally independent, lower speed channel operating in parallel with the primary channel of a Digital Data Access Service circuit.

The types of secondary channels offered to provide for the simultaneous, independent two-way transmission of digital signals between two or more customer premises each having Secondary Channels are as follows:

Secondary Channel furnished for digital transmission at a synchronous rate of 133 bps, operating in parallel with a primary 2.4 kbps (DA1) channel (per station).

Secondary Channel furnished for digital transmission at a synchronous rate of 266 bps, operating in parallel with a primary 4.8 kbps (DA2) channel (per station).

Secondary Channel furnished for digital transmission at a synchronous rate of 533 bps, operating in parallel with a primary 9.6 kbps (DA3) channel (per station).

Secondary Channel furnished for digital transmission at a synchronous rate of 2,666 bps, operating in parallel with a primary 56 kbps (DA4) channel (per station).

ACCESS SERVICE

7. Special Access Service (Cont'd)7.8 High Capacity Service7.8.1 Basic Channel Description

A High Capacity circuit is a circuit for the transmission of nominal 64.0 kbps* 1.544 Mbps, or higher rate synchronous serial data. The actual bit rate is a function of the channel interface selected by the customer. High Capacity circuits are provided between customer designated premises or between a customer Designated premises and a Telephone Company hub. High Capacity DS1 and DS3 services may also be connected to customer transmission equipment and facilities where the customer is provided EIS as defined in Section 16.

The customer may provide the Network Channel Terminating Equipment associated with the High Capacity circuit at the customer's premises. The interim program for interconnection of such equipment is set forth in Technical Reference PUB AS No. 1.

<u>Level</u>	<u>Bit Rate</u>	<u>Equiv DS-3s</u>	<u>Equiv DS-1s</u>	<u>Equiv DS0s</u>
DS0	64 kbps--	--	--	1
DS-1	1.544 mbps	--	1	24
DS-3	44.736 mbps	1	28	672
OC-3	155.520 mbps	3	84	2,016
OC-3c *	155.520 mbps	--	--	--

* OC-3c is a means of transporting large bandwidths as a "single entity," as opposed to being treated as separate bits, bytes or time slots. The data is accepted from a customer, optically transported and ultimately delivered as a solid stream of bandwidth. No multiplexing is available for this type of service.

Rates and charges for Special Access High Capacity Service are set forth in Section 20 following.

7.8.2 Technical Specifications Packages and Network Channel Interfaces

A channel with technical specifications package HC1 will be capable of an error-free second performance of 98.75% over a continuous twenty-four (24) hour period as measured at the 1.544 and 44.736 Mbps rate through a CSU equivalent which is designated, manufactured, and maintained to conform with specifications contained in Technical Reference PUB 62411.

* Available only as a circuit of a 1.544 Mbps facility to a Telephone Company Digital Data hub or as a cross connect of two 2.4, 4.8, 9.6, 56.0 or 64.0 kbps circuits of two 1.544 Mbps facilities to a Digital Data hub(s). The customer must provide system and channel assignment data.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.8 High Capacity Service (Cont'd)7.8.3 Channel Interfaces

Compatible channel interfaces are set forth in Section 11.3 following.

7.8.4 Optional Features and Functions(A) Automatic Loop Transfer

The Automatic Loop Transfer provides protection on a 1 x N basis against failure of the facilities between a customer designated premises and the wire center serving that premises. Protection is furnished through the use of a switching arrangement that automatically switches to a spare channel line when a working line fails. The spare channel is not included as a part of the option. This option requires compatible equipment at both the serving wire center and the customer designated premises. The customer is responsible for providing the equipment at its designated premises.

(B) OC-3 to DS-3 Multiplexing

An arrangement that converts a 155.520 Mbps channel to 3 DS-3 channels using digital time division multiplexing.

(C) OC-3 to DS-1 Multiplexing

An arrangement that converts a 155.520 Mbps channel to 84 DS-1 channels using digital time division multiplexing.

(D) DS3 to DS1 Multiplexing

An arrangement that converts a 44.736 Mbps channel to 28 DS1 channels using digital time division multiplexing.

(E) DS1 to Voice Multiplexing

An arrangement that converts a 1.544 Mbps channel to 24 channels for use with Voice Grade Services. A channel(s) of this DS1 to the Hub can also be used for a Digital Data Service.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.8 High Capacity Service (Cont'd)7.8.4 Optional Features and Functions (Cont'd)(F) DS1 to DS0 Multiplexing (T)

An arrangement that converts a 1.544 Mbps channel to 23 64.0 Kbps channels utilizing digital time division multiplexing.

(G) DSO to Subrate Multiplexing

Where facilities are available, the telephone company will provide an arrangement that converts a 64.0 Kbps channel to subspeeds of up to twenty (20) 2.4 Kbps, ten (10) 4.8 Kbps, or five (5) 9.6 Kbps channels using digital time division multiplexing.

(H) Transfer Arrangement

An arrangement that affords the customer an additional measure of flexibility in the use of their access circuit(s). The arrangement can be utilized to transfer a leg of a Special Access Service to either a spare or working circuit that terminates in either the same or a different customer designated premises. A key activated or dial-up control service is required to operate the transfer arrangement. A spare circuit, if required, is not included as part of the option.

(I) Clear Channel Capability (CCC)

CCC provides a Bipolar with Eight Zero Substitution (B8ZS) encoding technique that allows a customer to transport 1.536 Mbps information rate signals over a 1.544 Mbps High Capacity Channel with no restraint on the quantity or sequence of one (mark) and zero (space) bits. This arrangement allows customers to derive 64 kbps clear channels. This service is provided only on 1.544 Mbps High Capacity Channels between two customer designated premises and is subject to availability of facilities. This arrangement requires the customer-provided multiplexing equipment to be compatible with the B8ZS line code as specified in Technical Reference TR-NPL-000054 and Technical Reference PUB TR-NPL-000342.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.8 High Capacity Service (Cont'd)7.8.4 Optional Features and Functions (Cont'd)(J) Automatic Protection Switch

Consists of special switching equipment placed at both ends of a duplicate DS1 facility (i.e., DS1, High Capacity Circuit) for automatic switching to the duplicate (standby) facility in the event the active facility is inoperative.

Duplicate facilities may terminate at a serving wire center, a CDP or both. The option provided under this tariff only includes the APS(s) located at a serving wire center(s). When the duplicate facility terminates at a CDP, the customer will be responsible for providing the associated APS and ensuring it is compatible with the Telephone Company provided switch if appropriate.

The duplicate facilities are not a part of this supplemental feature.

(H) DS3 Multiplexer Cross Connect Arrangement

For DS3 multiplexed services, the DS3 Multiplexer Cross Connect arrangement allows a customer to cross connect digital DS1 channels from one multiplexer to another multiplexer. The rate as specified in Section 20 will apply per cross connect arrangement. If the DS3 multiplexed services are located in different hub wire centers, DS1 special transport will apply in addition to the DS1 cross connect charge. The customer must provide the channel assignments (CFA and SCFA) for both multiplexed services on the ASR. When a customer chooses to order the cross connect arrangement, the Initial Ordering Charge - Special Access will apply.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.9 Metallic Services7.9.1 Basic Circuit Description

A Metallic circuit is an unconditioned two-wire circuit capable of transmitting low speed varying signals at rates up to 30 baud and direct current. Metallic circuits are provided between customer designated premises or between a customer designated premises and a Telephone Company hub where bridging functions are performed. Interoffice metallic facilities will be limited in length to a total of five (5) miles per circuit.

Metallic Special Access services are typically used for applications such as alarm, pilot wire protective relaying, and dc tripping protective relaying. These examples of applications are not intended to limit a customer's use of the channel nor to imply that the channel is limited to a particular use.

7.9.2 Technical Specifications Packages

	<u>Package MT-</u>			
<u>Parameter</u>	<u>C</u>	<u>1</u>	<u>2</u>	<u>3</u>
DC Resistance				
Between Conductors	X	X	X	
Loop Resistance	X			X
Shunt Capacitance	X			X

The technical specifications are delineated in Technical Publication TR-NPL-000336.

7.9.3 Channel Interfaces

Compatible channel interfaces are set forth in Section 11.3 following.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.9 Metallic Services (Cont'd)7.9.4 Optional Features and Functions(A) Central Office Bridging Capability

- (1) Three (3) Premises Bridging - Provision of tip-to-tip and ring-to-ring connection in a central office of a metallic pair to a third customer premises.
- (2) Series Bridging of up to 26 customer premises.

The following table shows the technical specifications packages with which the optional features and functions are available.

	<u>Available with Technical Specifications Package MT-</u>			
	<u>C</u>	<u>1</u>	<u>2</u>	<u>3</u>
Three (3) Premises Bridging	X	X		X
Series Bridging	X		X	

7.10 Individual Case Filings

Certain services set forth in Special Access Service, Section 7 are provided on an Individual Case Basis. Services provided on an Individual Case Basis are set forth in Section 20 following.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.11 Internet Digital Access Service (IDAS)7.11.1 General

Internet Digital Access Service (IDAS) is the Telephone Company's Digital Channel Service offering which is a wholesale business offering to provide one way digital service for Internet Service providers (ISPs). Subject to the terms and conditions set forth herein, the service provides for the establishment of a circuit between the telephone company's serving wire center and a designated ISP premises location. IDAS allows for the termination of end-user-originated switched network calls over a high capacity digital facility terminating to an ISP. The service transmits and receives digital signals between the serving wire center and digital switching equipment located at the ISP's premises or the ISP's designated interface point. Each IDAS service enables ISPs to channel up to 24 voice grade DS0's on a single transport facility. IDAS is comprised of two independent services: Internet Digital Access Port (IDAP), which provides a port in the central office switch, and Internet Digital Access Transport (IDAT), which provides a port and a transport facility connecting the serving wire center and the ISP's premises or designated location. An ISP would order one of these services, but not both.

IDAS is designed to be used by customers with functionality similar to an ISP. All calls carried by the IDAS circuit must be from individual telephone customers in the network at large directed one-way into the ISP's serving wire center (SWC) (or routed to a SWC designated by the Company) and thence by IDAS service to the ISP's designated premises location.

An ISP may order IDAS from a serving wire center other than his designated serving wire center. Rates for IDAS FX service apply in addition to the IDAP or IDAT rates, as shown in Sections 20.1.11, 20.2.11, and 20.4.11, following.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.11 Internet Digital Access Service (IDAS) (Cont'd)7.11.2 Terms and Conditions(A) Availability of Service

IDAS is subject to the availability of facilities and is only offered where technically feasible.

(B) Use of Service

IDAS is intended to fulfill the need of ISPs for fast, efficient one-way connection of calls to the ISP's facilities.

The IDAS customer's equipment must conform to industry standards and connection provisions as specified in "Reference to Technical Publications."

(C) Service Provision Location

IDAS may be provided from the ISP's central office (serving wire center or SWC), subject to the availability of facilities or from a designated central office (SWC).

Internet Digital Access Transport (IDAT) includes Internet Digital Access Port (IDAP) as well as transport facilities to reach the IDAS customer's location external to the SWC. IDAP is a port charge only and includes no transport.

Expanded interconnection (collocation) is not part of the IDAS offering and, if required, must be obtained separately from Section 16 and 20 of this Tariff.

(D) End Office Designation Change

An ISP requested change in the end office designation used to provide IDAS will be considered a disconnection of existing service and a connection of new service.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.11 Internet Digital Access Service (IDAS) (Cont'd)7.11.2 Terms and Conditions (Cont'd)(E) Minimum Block of Service Offerings

IDAS will be provided in increments of whole digital IDAS facilities (T-1 equivalents), each of which is the equivalent of 24 DS0 Circuits. No partial IDAS services will be offered. Four or more digital facilities must be subscribed to whether or not all lines/circuits are to be used within any one digital facility.

(F) ISP Provided Equipment

The ISP is responsible for the installation, operation and maintenance of any and all ISP provided equipment, including terminal equipment and software. The equipment must be compatible with the Company's equipment and facilities. The equipment must conform to industry standards and specifications.

(G) Telephone Numbers Associated with Each Transport Facility

Each IDAS Transport Facility (T-1 equivalent) comes equipped with one local telephone number.

7.11.3 Rate Regulations(A) General Provisions

Monthly rates and nonrecurring charges apply as specified in Section 20 of this Tariff. Optional Term Payment Plans are available for IDAS (TPP-IDAS). See Paragraph 7.11.3 (D) for provisions. At the expiration of a TPP-IDAS period, the Company will automatically renew the service at the same TPP-IDAS terms and rates, unless the ISP notifies the Company and chooses to convert to a different period, convert to month-to-month rates or discontinue service. At least 30 days notice must be given before any of these can take effect.

ACCESS SERVICE

7. Special Access Service (Cont'd)7.11 Internet Digital Access Service (IDAS) (Cont'd)7.11.3 Rate Regulations (Cont'd)(B) Nonrecurring Charges

Nonrecurring charges are the same with or without a TPP-IDAS. Nonrecurring charges are not applicable when service is renewed for an additional term or renewed with a month-to-month payment plan.

(C) Minimum Subscriber Period

The minimum subscriber service period for digital ports and for digital transport facilities is one month. In the case of termination of the ISP's service, the charge for IDAS is based on the date of termination of the ISP's service, but the minimum charge is the established rate for one month. If a TPP-IDAS was selected, then the termination liability identified in Paragraph 7.11.3 (E) applies.

(D) Term Payment Plans for Internet Digital Access Service (TPP-IDAS)

Optional Term Payment Plans are available for IDAS (TPP-IDAS). If the ISP subscribes to a TPP-IDAS, then reduced monthly charges apply as shown in Section 20. When the ISP orders service from a TPP-IDAS, the ISP must designate to the Telephone Company the commitment and term desired

(E) ISP-Initiated Disconnection of Service -Term Payment Plans for IDAS (TPP-IDAS)

In the event that IDAS service under one of the Company's Term Payment Plans for IDAS (TPP-IDAS) is disconnected at the ISP's request prior to completion of the ISP-selected payment period, the ISP will be required to pay a termination liability charge. This charge will be equal to the greater of: (1) the difference between the month-to-month charge for the time period the service was used and the term plan selected by the ISP for the same period or (2) 70 % of the term payments for the remaining time left in the ISP's Term Plan. The ISP-designated payment period and commitment period may not be reduced, unless the ISP selects another Term Payment Plan to complete the term of service obligation.