

## ACCESS SERVICE

7. Special Access Service7.1 General

Special Access Service provides a transmission path to connect customer designated premises\*, directly, or through a Telephone Company hub or hubs where bridging or multiplexing functions are performed, or to connect a customer designated premises and a WATS Serving Office, or to connect a customer designated premises to a Public Packet Data Network Service. Special Access Service includes all exchange access not utilizing Telephone Company end office switches.

The connections provided by Special Access Service can be either analog or digital. Analog connections are differentiated by spectrum and bandwidth. Digital connections are differentiated by bit rate.

7.1.1 Channel Types

There are seven types of channels 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 channel 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 channels, 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 channel nor to imply that the channel is limited to a particular use. For example, if a customer's equipment is capable of transmitting voice over a channel that is identified as a Metallic Service in this tariff, there is no restriction against doing so.

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\* Telephone Company Centrex CO and CO-like switches and packet switches included in Public Packet Switching Network (PPSN) Service are considered to be a customer designated premises for purposes of this tariff.

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

Following is a brief description of each type of channel:

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

Telegraph Grade - a channel for the transmission of binary signals at rates of 0 to 75 baud or 0 to 150 baud.

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

Program Audio - a channel for the transmission of audio signals. The nominal frequency bandwidths are from 200 to 3500 Hz, from 100 to 5000 Hz, from 50 to 8000 Hz, or from 50 to 15000 Hz.

Video - a channel 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 channel for the digital transmission of synchronous serial data at rates of 2.4, 4.8, 9.6, 19.2, 56.0 or 64.0 Kbps.

High Capacity - a channel for the transmission of isochronous serial digital data at rates of 1.544, 3.152, 6.312, 44.736 or 274.176 Mbps.

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

Detailed descriptions of each of the channel types are provided in 7.4 through 7.10 following.

The customer also has the option of ordering Voice Grade and High Capacity facilities (i.e., 1.544 Mbps, 3.152 Mbps, 6.312 Mbps, 44.736 Mbps and 274.176 Mbps) 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 7.6 and 7.10 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 7.2.1 following.

For example, a customer may order a 3.152 Mbps High Capacity channel from a customer designated premises to a Telephone Company hub for multiplexing to two 1.544 Mbps channels. The 1.544 Mbps channels may be further multiplexed at the same or a different hub to Voice Grade channels or may be extended to other customer designated premises or hubs. Optional features may be added to either the 1.544 Mbps or the Voice Grade channels.

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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 seven categories of Special Access Service. These are:

Service Designator Codes

Metallic	MT
Telegraph Grade	TG
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 specifications packages are described in Section 13. following, optional features and functions are described in this section. Channel interfaces are described in 13.2 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 7.10 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 13.2 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 13.2 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 (F) 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 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 13.2 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)

(E) The Telephone Company will maintain services installed prior to April 1, 1985, at their existing transmission specifications, provided such performance specifications do not exceed the standards listed in this provision. Those services exceeding the standards listed will be maintained at the performance levels specified in this tariff.

(F) All services installed after April 1, 1985 will conform to the transmission specifications standards contained in this tariff or in the following Technical References for each category of service:

Metallic	TR-NPL-000336
Telegraph Grade	TR-NPL-000336
Voice Grade	TR-TSY-000335
	PUB 41004, Table 4
Program Audio	TR-NPL-000337 and associated Addendum
Video	TR-NPL-000338
Digital Data	TR-NWT-000341
For 2.4,4.8,9.6&56.0 Kbps	BellCore Pub 62310 (MDP-326-726)
For 19.2 Kbps	INC Bulletin CB-INC-100
For 64.0 Kbps	AT&T PUB 62310
High Capacity	TR-INS-000342
	TR-NPL-000054
	PUB 62411

7.1.3 Service Configurations

There are two 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 wire center equipped for Frame Relay Access Service, or a customer designated premises and a WATS Serving Office (WSO).

Applicable rate elements are:

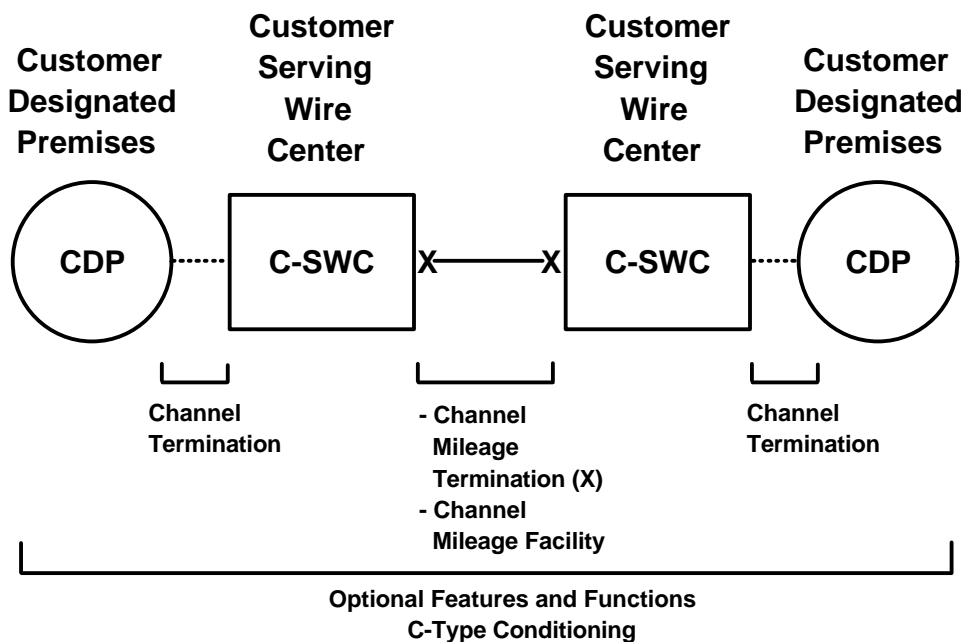
- Channel Terminations
- Channel Mileage (as applicable)
- Optional Features and Functions (when applicable)

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

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

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



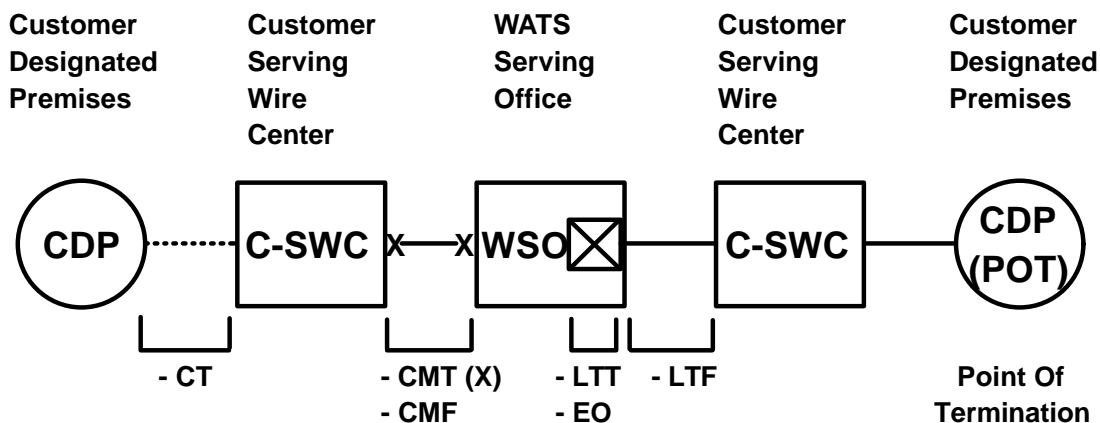
Applicable rate elements are:

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

## ACCESS SERVICE

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

**Special Access**

CT - Channel Termination  
 CMT - Channel Mileage Termination  
 CMF - Channel Mileage Facility

**Switched Access**

LTT - Local Transport Termination  
 EO - End Office Elements  
 LTF - Local Transport Facility

Applicable rate elements for Special Access are:

- Channel Termination
- Channel Mileage
  - . 2 Channel Mileage Terminations plus
  - . 1 section, Channel Mileage Facility per mile
- 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 (Cont'd)(B) Multipoint Service

Multipoint service connects three or more customer designated premises through one 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 multipoint service. However, when more than three 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 13.2 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 F.C.C. NO. 4 identifies serving wire centers, hub locations and the type of bridging functions available.

Applicable Rate Elements are:

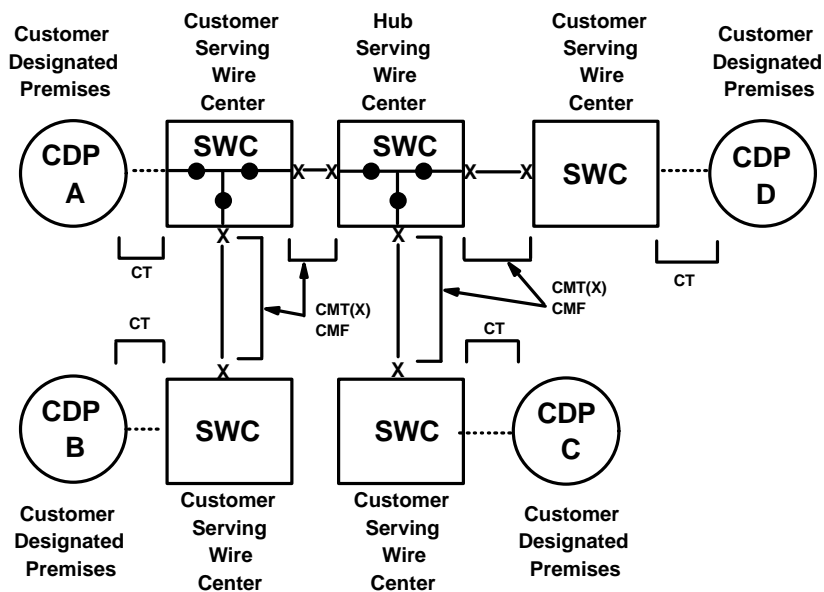
- Channel Terminations (one per customer designated premises)
- Channel Mileage (as applicable between the serving wire center for each customer designated premises and the hub and between hubs).
- Bridging
- Additional Optional Features and Functions (when applicable).

## ACCESS SERVICE

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

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

Example: Voice Grade multipoint service connecting four customer designated premises (CDP) via two customer specified bridging hubs.



CT - Channel Termination  
CMT - Channel Mileage Termination  
CMF - Channel Mileage Facility  
• - Bridging Port

Applicable rate elements are:

- Channel Terminations (4 applicable)
- Channel Mileage
  - o 2 Channel Mileage Terminations per Channel Mileage Facility section for a total of 8, plus
  - o 4 sections, Channel Mileage Facility per mile
- Bridging Optional Feature (6 applicable, i.e., each bridge port)

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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 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 10. following, Specialized Service or Arrangements. 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 9. following.

7.1.6 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 designing 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.

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7. Special Access Service (Cont'd)7.1 General (Cont'd)7.1.7 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, Telegraph, 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 11.3.1(B) following, is available at the customer's request. All test results will be made available to the customer upon request.

7.1.8 Ordering Options and Conditions

Special Access Service is ordered under the Access Order provisions set forth in Section 5. preceding. Also included in that section are other charges which may be associated with ordering Special Access Service (e.g., Service Date Change Charges, Cancellation Charges, etc.).

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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 three 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).

(A) Channel Terminations

The Channel Termination rate category recovers the costs associated with 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 is provided as an optional feature as set forth in (C) following. One Channel Termination charge applies per customer designated premises at which the channel is terminated. This charge will apply even if the customer designated premises and the serving wire center are collocated in a Telephone Company building. For a Special Access Digital Data Service 56.0 or 64.0 Kbps Bit Rate or High Capacity Service Connecting a customer designated premises to a Public Packet Data Network Service as described in Section 14, following, there will be a charge for only one 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)(A) Channel Terminations (Cont'd)

For DS3 High Capacity Service, the Channel Termination rates are made up of the DS3 Capacity Interface rate and the DS3 Channel Installed rate. The Capacity Interface rate is dependent upon the capacity ordered (i.e., Capacity Interface of 1, 3, 6 or 12) and is applicable at each customer designated premises. The capacity ordered is the maximum number of DS3 services that can be terminated on a given service at the customer designated premises (e.g., a capacity of 3 can terminate 1, 2, or 3 DS3 services). One DS3 Channel Installed rate applies per customer designated premises at which the channel is terminated for each DS3 channel that is ordered. These charges will apply even if the customer designated premises and the serving wire center are collocated in a Telephone Company building.

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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 recovers the costs associated with the end office equipment and the transmission facilities between the serving wire centers associated with two customer designated premises, between a serving wire center associated with a customer designated premises and a Telephone Company hub or between two Telephone Company hubs. Channel Mileage rates are made up of the Channel Mileage Facility rate and the Channel Mileage Termination rate.

(1) Channel Mileage Facility

The Channel Mileage Facility rate recovers the per mile cost for the transmission path which extends between the Telephone Company serving wire centers and/or hub(s) or between the Telephone Company serving wire center and another wire center equipped for Frame Relay Access Service.

(2) Channel Mileage Termination

The Channel Mileage Termination rate recovers the cost for end office equipment associated with terminating the facility (i.e., basic circuit equipment and terminations at serving wire centers and hubs). The Channel Mileage Termination rate will apply at the serving wire center(s) for each customer designated premises and Telephone Company hub where the channel is terminated. If the Channel Mileage is between Telephone Company bridging hubs, the Channel Mileage Termination rate will apply per Telephone Company designated hub. If the Channel Mileage is between the serving wire center for a customer designated premises and a WATS Serving Office, the Channel Mileage Termination rate will apply at both the serving wire center associated with the customer designated premises and the WATS

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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 (Cont'd)(2) Channel Mileage Termination (Cont'd)

Serving Office. If the Channel Mileage is between the serving wire center for a customer designated premises and another wire center equipped for Frame Relay Access Service, the Channel Mileage Termination Rate will apply only at the serving wire center for the customer designated premises.



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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

The Optional Features and Functions rate category recovers the costs associated with optional features and functions which may be added to a Special Access Service to improve its quality or utility to meet specific communications requirements. These are not necessarily identifiable with specific equipment, but rather 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.

Examples of Optional Features and Functions that are available include, but are not limited to, the following:

- Signaling Capability
- Hubbing Functions
- Conditioning
- Transfer Arrangements

Descriptions for each of the available Optional Features and Functions are set forth in 7.4 through 7.10 following.

A hub is a Telephone Company designated serving wire center at which bridging or multiplexing functions are performed. The bridging functions performed are to connect three or more customer designated premises in a multipoint arrangement. The multiplexing functions are to channelize analog or digital facilities to individual services requiring a lower capacity or bandwidth.

NATIONAL EXCHANGE CARRIER ASSOCIATION, INC. TARIFF F.C.C. NO. 4 identifies serving wire centers, hub locations, hub level (i.e., Hub, Terminus Hub, Intermediate Hub, or Super-Intermediate Hub) and the type of bridging or multiplexing functions available. Additionally, subtending wire centers are identified for Intermediate and Super-Intermediate Hubs.

## 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 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 30 days.

(B) Daily Rates

Daily rates are recurring rates that apply to each 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 24 hour period is not limited to a calendar day.

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

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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)(C) Nonrecurring Charges

Nonrecurring charges are one-time 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 15.3.1 following.

(1) Installation of Service

Non-recurring charges apply to each service installed. The non-recurring charges for the installation of service are set for each channel type as a non-recurring charge for the Channel Termination.

(2) Installation of Optional Features and Functions

When optional features and functions are installed coincident with the initial installation of service, no separate non-recurring charge is applicable. When optional features and functions are installed or changed subsequent to the installation of service, an Access Order Charge as specified in 15.3.1 following will apply per order

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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)(C) Nonrecurring Charges (Cont'd)(3) 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 5.4 preceding.

Changes in the physical location of the point of termination or customer designated premises are moves as set forth in 7.2.3 following.

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 2.1.2(A) preceding where there is no change in facilities or arrangements, the change will be treated as an administrative change.

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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)(C) Nonrecurring Charges (Cont'd)(3) 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 circuit identification,
- Change of billing account number,
- Change of customer test line 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 15.3.1 following.

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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)(C) Nonrecurring Charges (Cont'd)(3) Service Rearrangements (Cont'd)

- If the change involves the addition of an optional feature or function (with the exception of the addition of Clear Channel Capability to an existing service), 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 15.3.1 following will apply.
- When the Clear Channel Capability optional feature is installed on an existing facility, the addition will be treated as a discontinuance and start of service and all associated non-recurring charges will apply.

7.2.3 Moves

A move involves a change in the physical location of one of the following:

- The Point of Termination at the customer's premises
- The customer's premises

The charges for the move are dependent on whether the move is to a new location within the same building or to a different building.

(A) 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. This charge is in addition to the Access Order Charge as specified in 15.3.1 following.

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7. Special Access Service (Cont'd)7.2 Rate Regulations (Cont'd)7.2.3 Moves (Cont'd)(B) Moves To a Different Building

Moves to a different building will be treated as a discontinuance and 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.

7.2.4 Minimum Periods

The minimum service period for all services except part-time Video and Program Audio services and DS3 High Capacity Service is one month and the full monthly rate will apply to the first month. Adjustments for the quantities of services established or discontinued in any billing period beyond the minimum period are as set forth in 2.4.1(F) preceding. The minimum service period for part-time Video and program Audio services is a continuous 24-hour period, not limited to a calendar day. The minimum service period for DS3 High Capacity service is twelve months.

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7. Special Access Service (Cont'd)7.2 Rate Regulations (Cont'd)7.2.5 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 customer designated premises,
- a serving wire center associated with a customer designated premises and a Telephone Company hub,
- a serving wire center associated with a customer designated premises and a wire center equipped for Frame Relay Access Service.
- two 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 F.C.C. 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 Telephone Company is involved in the provision of service, billing will be accomplished as set forth in 2.4.7 preceding.



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7. Special Access Service (Cont'd)7.2 Rate Regulations (Cont'd)7.2.5 Mileage Measurement (Cont'd)

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(B) preceding.

7.2.6 Facility Hubs

A customer has the option of ordering Voice Grade service or High Capacity services (i.e., DS1, DS1C, DS2, DS3 or DS4) to a facility hub for channelizing to individual services requiring lower capacity facilities (e.g., Telegraph, Voice, Program Audio, etc.).

Different locations may be designated as hubs for different facility capacities, e.g., multiplexing from digital to digital may occur at one 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 F.C.C. NO. 4 identifies serving wire centers, hub locations, hub level (i.e., Hub, Terminus Hub, Intermediate Hub, or Super-Intermediate Hub) and the type of multiplexing functions available. Additionally, subtending wire centers are identified for Intermediate and Super- Intermediate Hubs.

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7. Special Access Service (Cont'd)7.2 Rate Regulations (Cont'd)7.2.6 Facility Hubs (Cont'd)

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.

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

## ACCESS SERVICE

7. Special Access Service (Cont'd)7.2 Rate Regulations (Cont'd)7.2.6 Facility Hubs (Cont'd)

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 15.2.5 and 15.2.6 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 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.

## ACCESS SERVICE

7. Special Access Service (Cont'd)7.2 Rate Regulations (Cont'd)7.2.7 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.

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 (e.g., Voice Grade, Telegraph, etc.). 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.

## ACCESS SERVICE

7. Special Access Service (Cont'd)7.2 Rate Regulations (Cont'd)7.2.7 Mixed Use Analog and Digital High Capacity Services (Cont'd)

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, 1/672nd for a DS3 service, etc.).

Switched Access Service rates and charges, as set forth in 15.1 following, will apply for each channel that is used to provide a Switched Access Service. The Switched Access Service Entrance Facility charge, if applicable, will be reduced by multiplying its rate by the ratio of derived Switched Access Service channels to the total number of channels that can be derived. If the Telephone Company is providing Direct Trunked Transport, then the Direct Trunked Transport and Multiplexing Charges will be reduced by multiplying their respective rates by the ratio of derived Direct Trunked Transport channels to the total number of channels that can be derived.

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

## 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 function is 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 Telephone Company common lines such as, terminations which are restricted through hardware or software; 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)

- (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
- (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 reterminated 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.

## ACCESS SERVICE

7. Special Access Service (Cont'd)7.3 Surcharge for Special Access Service (Cont'd)7.3.3 Exemption of Special Access Service (Cont'd)

- (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 reterminated 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.

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>Surcharge</u>		<u>Monthly 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 Special Access Surcharge will apply for each termination of a Special Access Channel at an end user's premises.



## ACCESS SERVICE

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

- (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 Metallic Service7.4.1 Basic Channel Description

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

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.

Rates and charges for Special Access Metallic Service are as set forth in 15.2.2 following.

7.4.2 Technical Specifications Packages and Network Channel Interfaces

Technical Specifications Packages are set forth in 13.2.1(A) following. Compatible network channel interfaces are set forth in 13.2.2(C)(1) following.

7.4.3 Optional Features and FunctionsCentral Office Bridging Capability

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

The table set forth in 13.2.1(A) following shows the technical specifications packages with which the optional features and functions are available.

## ACCESS SERVICE

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

Telegraph Grade channel is an unconditioned channel capable of transmitting binary signals at rates of 0-75 baud or 0-150 baud. This channel is furnished for half- duplex or duplex operation. Telegraph Grade channels are provided between customer designated premises or between a customer designated premises and a Telephone Company hub or hubs.

Telegraph Grade Special Access Services are typically used for applications such as teletypewriter, telegraph grade control/remote metering, telegraph grade channel, telegraph grade extension, and telegraph grade entrance facilities. 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 Telegraph Grade Service are as set forth in 15.2.3 following.

7.5.2 Technical Specifications Packages and Network Channel Interfaces

Technical Specifications Packages are set forth in 13.2.1(B) following. Compatible network channel interfaces are set forth in 13.2.2(C)(2) following.

7.5.3 Optional Features and Functions

Telegraph Bridging (two-wire and four-wire)

The table set forth in 13.2.1(B) following shows the technical specifications packages with which the optional features and functions are available.

## ACCESS SERVICE

7. Special Access Service (Cont'd)7.6 Voice Grade Service7.6.1 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 as two-wire or four-wire. 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 or simultaneous two-way), 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 15.2.4 following.

7.6.2 Technical Specifications Packages and Network Channel Interfaces

Technical Specifications Packages are set forth in 13.2.1(C) following. Compatible network channel interfaces are set forth in 13.2.2(C)(3) following.

7.6.3 Optional Features and Functions(A) Central Office Bridging Capability

- (1) Voice Bridging (two-wire and four-wire)
- (2) Data Bridging (two-wire and four-wire)
- (3) Telephoto Bridging (two-wire and four-wire)
- (4) DATAPHONE Select-A-Station Bridging with sequential arrangement ports or addressable arrangement ports

## ACCESS SERVICE

7. Special Access Service (Cont'd)7.6 Voice Grade Service (Cont'd)7.6.3 Optional Features and Functions (Cont'd)(A) Central Office Bridging Capability (Cont'd)

## (5) Telemetry and Alarm Bridging

Split Band, Active Bridging  
Passive Bridging  
Summation, Active Bridging

The rates for these options are set forth in 15.2.4(C)(1) following.

(B) Central Office Multiplexing

Voice to Telegraph Grade. An arrangement that converts a Voice Grade channel to Telegraph Grade channels using frequency division multiplexing.

The rate for this option is set forth in 15.2.4(C)(5) following.

(C) Conditioning

Conditioning provides more specific transmission characteristics for Voice Grade services. The rates for these options are set forth in 15.2.4(C)(2) 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.

## ACCESS SERVICE

7. Special Access Service (Cont'd)7.6 Voice Grade Service (Cont'd)7.6.3 Optional Features and Functions (Cont'd)(C) Conditioning (Cont'd)(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.

(2) Improved Attenuation Distortion\*

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

(3) 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.

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\* 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)7.6 Voice Grade Service (Cont'd)7.6.3 Optional Features and Functions (Cont'd)(C) Conditioning (Cont'd)(4) Data Capability (D Conditioning)

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 15.2.4(C)(2) following.

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

(5) 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 on telephotographic services. The attenuation distortion and envelope delay distortion parameters for Telephoto Capability are delineated in Technical Reference TR-TSY-000335. The rate for this option is set forth in 15.2.4(C)(2) following.

(6) Sealing Current Conditioning

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

## ACCESS SERVICE

7. Special Access Service (Cont'd)7.6 Voice Grade Service (Cont'd)7.6.3 Optional Features and Functions (Cont'd)(D) 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 transmission. The ranges are delineated in Technical Reference TR-TSY-000335. The rate for this option is set forth in 15.2.4(C)(4) following.

(E) Improved Return Loss

- (1) On Effective Four-Wire Transmission at Four-Wire Point of Termination (applicable to each two-wire 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 15.2.4(C)(3) following
- (2) On Effective Two-Wire Transmission at Two-Wire 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 at one POT and two-wire at the other POT. Placement of Telephone Company equipment may be required at the customer's premises with the two-wire POT. The Improved Return Loss parameters are delineated in Technical Reference TR-TSY-000335. The rate for this option is set forth in 15.2.4(C)(3) following.



## ACCESS SERVICE

7. Special Access Service (Cont'd)7.6 Voice Grade Service (Cont'd)7.6.3 Optional Features and Functions (Cont'd)(F) 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 15.2.4(C)(6) 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, DY, 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.

(G) Selective Signaling Arrangement

An arrangement that permits code selective ringing for up to ten codes on a multipoint service. The rate for this option is set forth in 15.2.4(C)(7) following.

## ACCESS SERVICE

7. Special Access Service (Cont'd)7.6 Voice Grade Service (Cont'd)7.6.3 Optional Features and Functions (Cont'd)(H) Transfer Arrangement

An arrangement that affords the customer an additional measure of flexibility in the use of an access channel(s). The arrangement can be utilized to transfer a leg of a Special Access Service to another channel 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 channel, if required, is not included as part of the option. The rate for this option is set forth in 1.5.2.4(C)(8) following.

(I) Public Packet Switching Network (PPSN) Interface Arrangement

An arrangement that provides the interface requirements that permit a Voice Grade service to interface with a Public Packet Switching Network packet switch located in a Telephone Company premises. The interface is compatible with X.25 and X.75 packet switching protocols as defined by the CCITT. This option is provided on an Individual Case Basis as set forth in 15.2.4(C)(9) following.

(J) Four-Wire/Two-Wire Conversions

When a customer requests that an effective four-wire channel be terminated with a two-wire channel interface at the customer designated premises, a four-wire to two-wire conversion is required. The customer will be charged the four-wire Channel Termination rate as set forth in 15.2.4(A) following when an effective four-wire is specified in the order for service. The rate for the conversion is included as part of the basic four-wire Channel Termination rate.

## ACCESS SERVICE

7. Special Access Service (Cont'd)7.6 Voice Grade Service (Cont'd)7.6.3 Optional Features and Functions (Cont'd)(K) Improved Two-Wire Voice Transmission(1) Loss Deviation

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

(2) Attenuation Distortion

The maximum Attenuation Distortion in the 404 to 280 Hz frequency band relative to loss at 1004 Hz is -2.0 dB 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	13.0 dB
SRL	6.0 dB

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

## ACCESS SERVICE

7. Special Access Service (Cont'd)7.7 Program Audio Service7.7.1 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 15.2.5 following.

7.7.2 Technical Specifications Packages and Network Channel Interfaces

Technical Specifications Packages are set forth in 13.2.1(D) following. Compatible network channel interfaces are set forth in 13.2.2(C)(4) following.

7.7.3 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 dB  $\pm$  0.5 dB.

## ACCESS SERVICE

7. Special Access Service (Cont'd)7.7 Program Audio Service (Cont'd)7.7.3 Optional Features and Functions (Cont'd)(C) Stereo

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

The table set forth in 13.2.1(D) following shows the technical specifications packages with which the optional features and functions are available.

## ACCESS SERVICE

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

A Video channel is a channel with one-way transmission capability for a standard 525 line/60 field monochrome, or National Television Systems Committee color, video signal and one or two associated 5 or 15 kHz audio signal(s). The associated audio signal(s) may be either diplexed or provided as one or two separate channels.

The provision and the bandwidth of the associated audio signal(s) is a function of the channel interface selected by the customer. Video channels are provided between customer designated premises or between a customer designated premises and a Telephone Company hub or hubs.

Rates and charges for Special Access Video Service are as set forth in 15.2.6 following.

7.8.2 Technical Specifications Packages and Network Channel Interfaces

Technical Specifications Packages are set forth in 13.2.1(E) following. Compatible network channel interfaces are set forth in 13.2.2(C)(5) following.

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	15kHz	1 Channel, diplexed
2TV6-2	15kHz	2 Channels, diplexed
2TV7-1	15kHz	1 Channel, diplexed
2TV7-2	15kHz	2 Channels, diplexed
4TV6-5	5kHz	1 Channel, separate
4TV6-15	15kHz	1 Channel, separate
4TV7-5	5kHz	1 Channel, separate
4TV7-15	15kHz	1 Channel, separate
6TV6-5	5kHz	2 Channels, separate
6TV6-15	15kHz	2 Channels, separate
6TV7-5	5kHz	2 Channels, separate
6TV7-15	15kHz	2 Channels, separate

## ACCESS SERVICE

7. Special Access Service (Cont'd)7.9 Digital Data Service7.9.1 Basic Channel Description

A Digital Data channel is a channel for duplex four-wire transmission of synchronous serial data at the rate of 2.4, 4.8, 9.6, 19.2, 56.0 or 64.0\* Kbps. 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 provided as either hubbed or non-hubbed services between customer designated premises or between a customer designated premises and a Telephone Company hub or hubs. The hubs providing hubbed digital service and the wire centers providing non-hubbed digital service are identified in NATIONAL EXCHANGE CARRIER ASSOCIATION, INC., WIRE CENTER INFORMATION, TARIFF F.C.C. NO. 4.

The customer may provide the Channel Service Unit-type equipment or other Network Channel Terminating Equipment associated with the Digital Data channel at the customer premises.

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

Rates and charges for Special Access Digital Data Service are as set forth in 15.2.7 following.

7.9.2 Technical Specifications Packages and Network Channel Interfaces

Technical Specifications Packages are set forth in 13.2.1(F) following. Compatible channel interfaces are set forth in 13.2.2(C)(6) following.

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\* When 64.0 Kbps service is multiplexed on a DS1 High Capacity service, the DS1 must be equipped to provide Clear Channel Capability

## ACCESS SERVICE

7. Special Access Service (Cont'd)7.9 Digital Data Service (Cont'd)7.9.2 Technical Specifications Packages and Network Channel Interfaces (Cont'd)

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	19.2 Kbps
DU-56	56.0 Kbps
DU-64	64.0 Kbps

7.9.3 Optional Features and Functions

The Optional Features and Functions described in (A), (B), and (C) following are only available where Digital Data Service is provided via a hub. The Optional Features and Functions described in (D) following are available where Digital Data Service is provided on a non-hubbed basis.

(A) Central Office Bridging Capability

Bridging is not available on a 64.0 Kbps channel.

(B) Transfer Arrangement

An arrangement that affords the customer an additional measure of protection and/or flexibility in the use of their access channel(s) on a 1xN basis. The arrangement can be utilized to transfer a leg of a Special Access Service to either a spare or working channel 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 channel, if required, is not included as a part of the option.



## ACCESS SERVICE

7. Special Access Service (Cont'd)7.9 Digital Data Service (Cont'd)7.9.3 Optional Features and Functions (Cont'd)(C) Public Packet Switching Network (PPSN) Interface Arrangement

An arrangement that provides the interface requirements that permit a Digital Data Service to interface with a Public Packet Switching Network packet switch located in a Telephone Company premises. The interface is compatible with X.25 and X.75 packet switching protocols as defined by the CCITT.

The table set forth in 13.2.1(F) following shows the technical specifications packages with which the optional features and functions are available.

(D) Public Packet Data Service Interface Arrangement

An arrangement that provides for the interface requirements that permit a Digital Data Service to interface with a Public Packet Data switch located in a Telephone Company premises. The interface is compatible with Frame Relay packet switching protocols. The interface is only available for 56.0 kbps and 64.0 kbps rates.

The table set forth in 13.2.1(F) following shows the technical specifications packages with which the optional features and functions are available.

## ACCESS SERVICE

7. Special Access Service (Cont'd)7.10 High Capacity Service7.10.1 Basic Channel Description

A High Capacity channel is a channel for the transmission of nominal 64.0 Kbps\* or 1.544, 3.152, 6.132, 44.736, or 274.176 Mbps isochronous serial data. The actual bit rate is a function of the channel interface selected by the customer. High Capacity channels are provided between customer designated premises or between a customer designated premises and a Telephone Company hub or hubs.

The customer may provide the Network Channel Terminating Equipment associated with the High Capacity channel at the customer's premises.

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

Rates and charges for Special Access High Capacity Service are as set forth in 15.2.8 following.

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\* Available only as a channel 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 channels 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)7.10 High Capacity Service (Cont'd)7.10.2 Technical Specifications Packages and Network Channel Interfaces

Technical Specifications Packages are set forth in 13.2.1(G) following. Compatible channel interfaces are set forth in 13.2.2(C)(7) following.

The following network channel interfaces (NCIs) define the bit rates that are available for a High Capacity channel:

<u>NCI</u>	<u>Bit Rate</u>
DS-15*	1.544 Mbps (DS1)
DS-27	274.176 Mbps (DS4)
DS-31	3.152 Mbps (DS1C)
DS-44	44.736 Mbps (DS3)
DS-63	6.312 Mbps (DS2)

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\* A 64.0 Kbps channel is available as a channel(s) of a 1.544 Mbps channel to a Telephone Company hub.

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## ACCESS SERVICE

7. Special Access Service (Cont'd)7.10 High Capacity Service (Cont'd)7.10.3 Optional Features and Functions(A) Automatic Loop Transfer

The Automatic Loop Transfer provides protection on a 1xN 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. Equipment at the customer designated premises will be provided under tariff only if it existed in the Telephone Company inventory as of November 18, 1983.

(B) Transfer Arrangement

An arrangement that affords the customer an additional measure of flexibility in the use of their access channel(s). The arrangement can be utilized to transfer a leg of a Special Access Service to either a spare or working channel 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 channel, if required, is not included as part of the option.

## ACCESS SERVICE

7. Special Access Service (Cont'd)7.10 High Capacity Service (Cont'd)7.10.3 Optional Features and Functions (Cont'd)(C) Central Office Multiplexing(1) DS4 to DS1

An arrangement that converts a 274.176 Mbps channel to 168 DS1 channels using digital time division multiplexing.

(2) DS3 to DS1

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

(3) DS2 to DS1

An arrangement that converts a 6.312 Mbps channel to four DS1 channels using digital time division multiplexing.

(4) DS1C to DS1

An arrangement that converts a 3.152 Mbps channel to two DS1 channels using digital time division multiplexing.

(5) DS1 to Voice

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.

(6) DS1 to DS0

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

## ACCESS SERVICE

7. Special Access Service (Cont'd)7.10 High Capacity Service (Cont'd)7.10.3 Optional Features and Functions (Cont'd)(C) Central Office Multiplexing (Cont'd)(7) DS0 to Subrate

An arrangement that converts a 64.0 Kbps channel to subspeeds of up to twenty 2.4 Kbps, ten 4.8 Kbps, or five 9.6 Kbps channels using digital time division multiplexing.

The table set forth in 13.2.1(G) following shows the technical specifications packages with which the optional features and functions are available.

(D) Clear Channel Capability (CCC)

- (1) CCC is an arrangement that allows a customer to transport 1.536 Mbps information rate signals over a 1.544 Mbps High Capacity channel or over a 1.544 Mbps High Capacity channel derived from a multiplexed 44.736 Mbps High Capacity channel with no constraint on the quantity or sequence of one and zero bits. This arrangement requires the customer signal at the channel interface to conform to Bipolar with Eight Zero Substitution (B8ZS) line code as described in Technical Reference TR-NPL-000054 and Technical Reference TR-INS-000342.
- (2) CCC is provided, subject to availability of facilities, on DS1/1.544 Mbps High Capacity channels between two customer designated premises and on multiplexed DS3/44.736 Mbps High Capacity channels or multiplexed DS1/1.544 Mbps High Capacity channels\* between a Telephone Company hub office and a customer designated premises. The wire centers providing CCC are identified in NATIONAL EXCHANGE CARRIER ASSOCIATION, INC., WIRE CENTER INFORMATION, TARIFF F.C.C. NO. 4.
- (3) The CCC optional feature may be ordered at the same time the High Capacity service is ordered or it may be ordered as an addition to an existing High Capacity Service. The customer must agree to out-of-service periods required to add this feature to an existing High Capacity Service. The charges for the CCC optional feature are as set forth in 7.2.2(C)(3) preceding.

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\* Available only on a DS1-to-Digital multiplexed configuration

ACCESS SERVICE

7. Special Access Service (Cont'd)

7.11 Individual Case Filings

Certain services set forth in Special Access Service, Section 7. are provided on an Individual Case Basis. Rates and charges for Special Access Service provided on an Individual Case Basis are set forth in 15.2.9 following.